Language contact within the bilingual: Adapting a model from sound change to crosslinguistic influence

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ABSTRACT

A recent model of sound change posits that the direction of change is determined, at least in part, by the distribution of variation within speech communities (Harrington et al., 2018). We explore this model in the context of bilingual speech, asking whether the less variable language constrains phonetic variation in the more variable language, focusing on two variable consonant patterns in a corpus of spontaneous speech from early Cantonese-English bilinguals (Johnson et al., 2020), and two monolingual English comparison corpora (North American varieties; Pitt et al., 2005; Swan, 2016). Corpus phonetics methods and mixed-effects models probe crosslinguistic influence and language mode.

As predicted, given the phonetic distributions of stop obstruents in Cantonese compared to English, intervocalic English /b d ɡ/ were produced with less voicing, and word-final English /p t k/ were more likely to be unreleased for Cantonese-English bilinguals, compared to spontaneous speech from the monolingual corpora. English is reportedly highly variable in both of these cases (Davidson, 2011; 2016), where Cantonese is not. First, Cantonese has no categorically voiced obstruents. Second, while Cantonese phonology permits both short-lag and long-lag initial stops, oral stops are unreleased in codas (Bauer & Benedict, 2011). For each study, a second model examined language mode in the bilingual corpus—operationalized as proximity to a code-switch and the order of languages in the corpus interviews. Neither variable was significant, though interview order patterned as expected.

Our results provide evidence that the distribution of phonetic variation within each language shapes bilinguals' productions of speech sounds with a phonological match in the other language. That our results differ from prior lab-based work (Polinsky, 2018) highlights the importance of examining spontaneous speech when making generalizations about behavior. Altogether, this work supports a mechanistic account for why some segments are more susceptible to crosslinguistic influence than others.

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