The persistency of epiphenomenal sound production in foreign accent disguise

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Under appropriate circumstances the overlap of the phonetic correlates of two or more phonological elements can give rise to a seemingly exotic acoustic product, such as a stop release fuelled by an egressive or ingressive velaric or glottalic airstream mechanism (Ohala 1995, 1997). Although often weak in intensity and inaudible against the background of much stronger sound sources, such as vocal fold vibration, ingressive and egressive clicks are acoustically robust even under the impoverished conditions of telephone transmission, thus making them ideal candidates for employment in practical forensic work (Simpson 2007b).

As well as being a widespread phenomenon in a language, such as German (Simpson 2007a, forthcoming), non-pulmonic epiphenomenal sound production has also been shown to be a feature that is of forensic interest due to its persistency in the speech of the same individual across time (Simpson 2007b) as well as across different voicing conditions (Simpson & Neuhauser 2009).

The question arises as to whether the consistency and persistency of epiphenomenal sound production is also present when a speaker disguises his/her voice by attempting to imitate a foreign accent. This study investigates stop releases fuelled by an epiphenomenal velaric airstream in the speech of four female and four male German speakers, comparing two texts spoken in their undisguised German, as well as using a French accent (Neuhauser 2009). Although speakers make several qualitative and quantitative modifications to their voices in an effort to approximate a French accent, velarically fuelled stop releases in nasal-plosive sequences, such as [-md-] (am Dienstag) are both consistently present across both conditions as well as having a similar temporal location with respect to other phonetic features, such as voicing of the nasal [m] or the subsequent pulmonically fuelled release of the apical plosive [d].

References


