Linguistic flexibility and phonemic awareness in sound change

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Phonetic convergence, observed when a speaker becomes more similar to their interlocutor, has been suggested as a plausible mechanism for the propagation of sound change (Auer & Hinskens 2005, Nguyen & Delvaux 2015). Similar laboratory tasks that induce adjustments in phonetic production after perception of experimental stimuli have also been suggested to play a role in sound change (Stewart & Ota 2008, Yu 2010, Kingston et al. 2015). Synthesizing this work, Yu 2013 posits that aspects of personality and cognitive style underlie individual differences in both linguistic flexibility and social network position, thereby linking social structure to the spread of sound change. This paper correlates individuals' convergence in a shadowing task with their production of an active sound change in conversational speech, and suggests that the correlations are mediated by metalinguistic phonemic awareness.

Twenty white Philadelphian women aged 18-25 were recruited in friendship pairs and asked to participate first in recorded dyadic conversation without an interviewer present and second in an experimental battery that included shadowing and phonemic awareness tasks (piloting a larger project). The shadowing task is a replication of Experiment 2 from Shockley et al. 2004, in which participants produce longer voiceless stop voice onset times (VOTs) relative to their own baselines when shadowing a voice that has been manipulated to have its natural VOTs extended by 100%. Metalinguistic phonemic awareness is assessed using the phoneme reversal task from Moran & Fitch 2001. The sound change measured from the conversational speech is /ey/-raising before consonants, so that "plate" sounds like "pleat." This change is progressing vigorously in Philadelphia without attracting social attention (Labov et al. 2013). At first glance, there is no evidence for a relationship between /ey/-raising and phonetic convergence ($r=-0.06$, $p=0.80$). However, when participants are grouped by phonemic awareness scores using a median split, there emerge countervailing correlations between convergence and /ey/-raising on either side of the split. It appears that flexibility (as evidenced by phonetic convergence) may correlate with conservatism (low /ey/) in this sound change, as Yu predicts, only for individuals with low phonemic awareness; for individuals with high phonemic awareness, amount of convergence is positively associated with an individual's degree of advancement in the sound change. We speculate that the most advanced individuals in a sound change include both leaders and followers: individuals who are linguistically inflexible and metalinguistically oblivious as the influencers, per Yu's suggestion, and individuals who are metalinguistically sensitive and linguistically flexible as the eager adopters.

Though preliminary, these results provide some support for the relevance of Yu's suggestions and motivate further inquiry into the role of linguistic flexibility in sound change, while emphasizing the importance of testing such hypotheses on actual sound changes. However, they also complicate the notion of linguistic flexibility by suggesting that it interacts with metalinguistic awareness. Ongoing work aims to both replicate this effect with a larger group of participants and extend the analysis to change from above and phonetically-motivated change.