

Retention of two phonological subsystems in adult speakers

Betsy Sneller ~ University of Pennsylvania

When phonological change such as an allophonic split or restructuring occurs in a speech community, there is some debate about the representation of this change in the individual speakers. Fruehwald (2013) argues that learners may posit a new phonology distinct from their input, and maintain this new phonology throughout their production. Conversely, a theory of phonology that allows cophonologies (Inkelas and Zoll, 2007) would allow for speakers to maintain both the old and the new system. In this paper, we analyze the productions of 15 speakers from a period of phonological restructuring, and find evidence for the maintenance of two phonological subsystems within a single speaker.

Recent work in Philadelphia (author citation) has found a radical shift in the phonology of sections of the population born after 1985. The complex traditional /æ/ allophonic split is being replaced by the supraregional nasal /æ/ allophonic split. Both splits contain a tense allophone and a lax allophone, but the conditioning factors governing which tokens are tense or lax differ between the traditional system and the nasal system. The data for this paper come from sociolinguistic interviews conducted with Philadelphians born after 1985. Interviews were transcribed in ELAN and vowel measurements obtained using the FAVE program. For this paper, we focus on the 15 speakers whose /æ/ productions for their tense and lax categories indicate possible adherence to both the traditional /æ/ system and the new nasal /æ/ system.

Each speaker's /æ/ tokens were classified into "traditional" or "nasal" system, using their unambiguous tokens as training data for a binomial regression classifier. In Figures 1 and 2, the x-axis shows the time (in seconds) that each token occurred during the interview. These tokens are plotted on the y-axis according to which /æ/ system they adhere to: traditional system tokens are plotted at the top of the graph, and nasal system tokens are plotted at the bottom of the graph. Tokens that share conditioning factors are plotted in blue in between. Our data falls into two categories: speakers who adhere to a single phonology throughout the interview but phonetically correct one conditioning factor (Figure 1), and speakers who shift all conditioning factors in tandem, suggesting style-shifting of two different phonologies (Figure 2).

We argue that these style-shifting speakers maintain both the traditional /æ/ subsystem phonology as well as the new nasal system phonology. During the acquisition of phonology, children have been shown to revert to the phonology from previous stages of their development during the production of some words (Becker and Tessier, 2011), suggesting that they maintain knowledge of several phonologies at once. In this paper, we argue that this phonological development during language acquisition is reflected in the behavior of speakers like Maeve. We argue that given mixed input, where the adult targets in the community provide two distinct phonologies, a strategy for resolution is to maintain both phonological subsystems.

Figure 1:
Phonetic
correction in
only one
conditioning

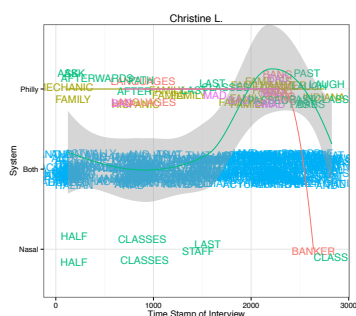
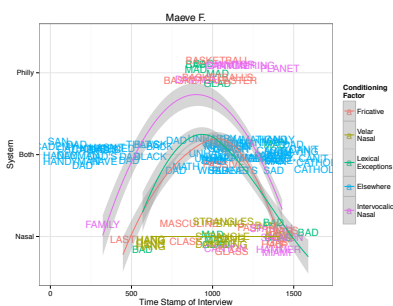


Figure 2:
Style shifting
in 3 out of 4
conditioning
factors



Selected References

Becker, M. and Tessier, A-M. 2011. Trajectories of faithfulness in child-specific phonology. *Phonology* 28: 163-96.

Fruehwald, J. 2013. *Phonological involvement in phonetic change*. PhD dissertation, University of Pennsylvania.

Inkelas, S. and C. Zoll. 2007. Is Grammar Dependence Real? A comparison between cophonological and indexed constraint approaches to morphologically conditioned phonology. *Linguistics* 45: 133-71.