

## LINEAR INCREMENTATION AND CURVILINEAR REVERSAL: 100 YEARS OF SOUND CHANGE IN PHILADELPHIA

New techniques of automatic alignment and vowel measurement have made it possible to investigate the path of sound change with increasing accuracy and detail. The FAVE (Forced alignment and vowel extraction) program was applied to a very large corpus of neighborhood studies in Philadelphia, carried out yearly from 1973 to 2010, yielding over a million vowel measurements for 325 speakers with dates of birth ranging from 1890 to 1990. Several sound changes show a pattern of continued linear incrementation, tightly correlated with date of birth: the raising of /ey/ in closed syllables in *made, pain, date*, etc.; and the centralization of /ay/ before voiceless consonants in *right, sight, like* etc. However, a third change that was found to be “new and vigorous” in the 1970s now shows clear evidence of reversal for those born in 1960s and later: the raising and fronting of /aw/ in *down, south, loud*, etc. This reversal appears to be correlated with increasing social salience for /aw/, paralleled by the increasing retraction of two stereotypes of the Philadelphia dialect, the raising of tense short-a in *mad, man, last*, etc. and the raising of long open –o in *water* and *daughter*. The reversal of these sound changes is led by community members with higher education, a social dimension that has no effect upon the sound changes with linear incrementation.

Previous studies indicate that as long as sound change remains below the level of social awareness, it is promoted by the highest status speakers in the local community. If the level of social consciousness is raised high enough, this social relationship may be reversed, and eventually the sound change itself may be reversed for the community as a whole. The current findings in Philadelphia also indicate that some sound changes may go to completion without such a reversal taking place. When and where a sound change becomes salient is a matter of social history, an aspect of the actuation problem that lies outside of the study of linguistic structure