

## More on The Pittsburgh Chain Shift

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The description of vowel variation in the Pittsburgh area was advanced considerably by the description of 13 residents of the city and the surrounding region in Labov et al. 2006, which describes a rotation of vowels in the lower central and back regions identified as the Pittsburgh Chain Shift (PCS). This shift is characterized by a merger of (o) and (oh), as in many dialect regions of the US to the west of Pittsburgh. However, in the Pittsburgh area the vowels merge higher and further back – on (oh) – than the more common merging on (o). This essentially backward movement of (o) leaves space open the central lower short vowel space, and becomes part of a chain shift as (ʌ) moves into this space:



In addition, the Pittsburgh area is home to /aw/-monophthongization, and is unique in American dialects in this feature. Labov et al. argue that durational differences between monophthongized /aw/ and (ʌ) keep the phonemes distinct. This characterization of the PCS suggests that the relative location of (ʌ), (o) and (oh) should correlate, and that /aw/ and (ʌ) should exhibit significantly different durations.

In this paper, we test these predictions on a larger, systematically stratified sample of Pittsburgh-area speakers. We use data from 80 sociolinguistic interviews conducted in three neighborhoods in and around Pittsburgh. Results are based on formant measurements of each speaker's entire vowel system. If the Pittsburgh chain shift is in fact real, one would expect that there would be a significant negative correlation between F1 of (ʌ) and (o), and between F1 of (ʌ) and F2 of (o). Preliminary analysis shows this not to be the case. In addition, we expect to find a clear durational difference between (ʌ) and (aw), and that this difference persists even if monophthongization is controlled for (so the longer duration of (aw) persists for both diphthong and monophthong articulations). Preliminary analysis of these measures suggests that the duration difference does hold.

In addition, we explore the social patterning of the PCS. The sample is stratified by age, gender, class, and neighborhood. Based on previous findings, we hypothesize that the strongest of these social measures will be class (especially occupation) and gender, but that the PCS will not be sensitive to age, reflecting a stable status. In addition, we have created a "local orientation index," which will be used to measure the degree to which a speaker's life experience, lifestyle, and attitudes are oriented to the city. We predict that we will find a lower (uh) and more back (o) if the index indicates a speaker has a more local orientation.

### Reference

Labov, William, Sharon Ash and Charles Boberg. 2006. *the Atlas of North American English: Phonetics, Phonology, and Sound Change*. New York: Mouton de Gruyter.