

Reversal of the Northern Cities Shift in Syracuse, New York

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Labov, Yaeger and Steiner (1972) describe the Northern Cities Shift (NCS) in Upstate New York. This chain shift, involving the six lax vowels /æ/, /o/, /oh/, /e/, /ʌ/, and /ɪ/, is found in regions surrounding the Great Lakes, including northern Ohio, Michigan, northern Illinois, eastern Wisconsin, and western and central New York. The Atlas of North American English (ANAE, Labov et al. 2006) hypothesizes that the shift began with the raising of /æ/ when speakers from regions with varied /æ/ vowel systems came together in cities like Syracuse and Buffalo along the newly built Erie Canal (Dinkin 2009). Syracuse, located in the center of New York State, can therefore be seen as a potential eastern boundary and possible historical origin point for the NCS, but no in-depth studies of the NCS have been conducted in Syracuse thus far (ANAE had 2 data points for Syracuse). On the basis of 54 new recorded interviews in the Syracuse area, our study finds that the NCS is undergoing a sharp reversal in Syracuse: The classic NCS shifts in /æ/, /o/, /e/, /ʌ/, and /ɪ/ are all reversing among younger speakers. We frame these results in light of Sankoff's (2013) notion of "age vectors."

Methods: In the city of Syracuse and surrounding suburbs, we recorded wordlists and reading passages with local speakers representing both genders and a wide range of ages (18-89). We extracted 14,026 tokens (Praat, Forced Alignment Vowel Extraction, Rosenfelder et al. 2011). The data was normalized in R using the Lobanov method (Kendall & Thomas 2010). Social factors analyzed included birth year, gender, and rurality (urban/inner suburb/outer suburb). We conducted linear regression, graphical analyses, and linear mixed effects with speaker as a random effect (Rbrul, Johnson 2009).

Results: First, our dataset shows clear evidence of the NCS in Syracuse as a whole. In particular, /æ/ is raised and /e/ is lowered for many speakers. However, older speakers raised /æ/ significantly more than younger speakers ($p < 0.0001$, $r^2 = 0.17$). Relative to older speakers, the younger speakers lowered and backed /æ/, fronted /e/ and /ʌ/, backed /o/, and moved /ɪ/ forward and up. We note that all of these movements are exact reversals of NCS shifts. For all of these shifts, birth year was the only significant factor. There were no significant factors for /oh/.

Discussion: This study makes a unique contribution to the study of the NCS by demonstrating reversal of the shift in apparent time from Syracuse, New York: Young speakers are reversing five of the six vowel shifts in the NCS. Sankoff argues that each generation in a community is aware of "age vectors" appropriate for their cohort. Our study shows how the different cohorts of a large speech community are all following their age- appropriate vectors of change, resulting in a major reversal of a chain shift.