

SEPARATE PHONEMES /ɔɹ/ MERGING?
THE CORD-CARD MERGER IN REAL TIME

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In sociolinguistics, when analyzing language change across time, studies in apparent time are the norm with the assumption that language does not change in adult speech (Chambers & Trudgill 1998). However, some research has provided evidence that change does occur within the individual during their lifetime (Prince 1987; Harrington, Palethorpe & Watson 2000). This study shows further evidence by analyzing the cord-card merger over 40 years of speech from a Utah native.

Two mergers combine what was historically a three-way distinction of /ɔɹ/, /ɔr/, and /ɑr/ to just two, with /ɔr/ either merging upward in the hoarse-horse merger, or downward in the cord-card merger (Labov, Ash & Boberg 2005). In Salt Lake City, the latter was complete and widespread by the 1930s (Helquist 1970), around the time the speaker for this study was born. Since then, it has been replaced by the more common hoarse-horse merger (Lillie 1998; Bowie 2010).

To determine whether the realization of this merger has changed over time, this study analyzes talks given by the same speaker at semi-annual religious conferences, in 10-year intervals since 1973, totaling six hours of speech. Using FAVE (Rosenfelder et al. 2011), formant values from the midpoint of pre-rhotic /o/ and /a/ were extracted (n=1825). Individual words were then classified as either /ɔr/, /ɔr/, or /ɑr/ based on their historic pronunciations (Walker 1807).

Kolmogorov-Smirnov tests indicate that over forty years, the distribution of the /ɔr/ class has changed significantly. In the 1970s, this class was centered between /ɔr/ and /ɑr/ in the vowel space. Significant raising and backing of /ɔr/ over the next ten years resulted in the first three formants becoming increasingly similar to /ɔr/. While the speaker did not have a complete cord-card merger initially, a hoarse-horse merger was nearing completion after 40 years.

Some vowel raising may be the result of a lengthened vocal tract as an effect of ageing, causing F1 to generally lower (Xue & Hao 2003), and indeed, this speaker's low and back vowels raise over the course of the forty years. But this does not explain why /ɔr/ was affected much more than /ɔr/ and /ɑr/, or why all three formants merged with /ɔr/. Instead of physiological reasons, this is attributed to sociolinguistic factors.

The results of this study provide additional evidence that the language of this individual has changed in a significant way. Like the Queen of England (Harrington, Palethorpe & Watson 2000), this speaker's vowels have likely shifted to match the community around him.

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