

## Heritage language obstruent phonetics and phonology: American Norwegian stop duration

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A vast literature investigates speakers' (in)ability to produce native-like L2 speech sounds (Flege 1987, Piske, McKay & Flege 2001). This work often focuses on obstruent laryngeal distinctions in what are called 'voicing' versus 'aspiration' languages in the view known as laryngeal realism (e.g. Iverson & Salmons 1995). Similar research is only beginning on the productions of heritage speakers. Notably, Kochetov & Nagy (2011) provide data suggesting that Russian and Ukrainian heritage speakers in Toronto increase the lag in voice onset time in initial stops vis-à-vis homeland speakers, adjusting toward the English pattern. No work known to us has yet investigated a fuller picture of laryngeal phonology and phonetics in heritage speakers, a gap which we begin to fill in here. This study reports work on acoustic differences in obstruents spoken by heritage speakers whose L1 and L2 are both 'aspiration' or long-lag VOT languages, namely Norwegian and American English, but which differ phonologically in other ways.

For example, Norwegian and its dialects have geminate stops (i.e., a durational contrast), while modern English lacks them. We explore whether heritage speakers' Norwegian patterns match European Norwegian and whether their English patterns are like reported American English patterns. Pilot results to date suggest that our speakers do indeed maintain Norwegian durational contrast, so that /k/ ≠ /k:/ closely match our measurements from a number of other speakers across a variety of dialect areas: Single /k/ is ca. 86 ms. while geminate /k:/ is ca. 125 ms. The English values for medial /k/ are ca. 70 ms., longer than the 48-61 ms. range reported for American English by Lavoie (2001:112) and Umeda (1977), suggestive of L1 influence on the speaker's English. This will be further investigated in the coming months, along with other related patterns of duration and spread of voicelessness.

This complements evidence for changes in the heritage language itself, such as those documented by Kochetov & Nagy (2011): Low-level changes may take place in the L2, English, as it becomes the community's dominant language. We are currently expanding the data from a set of three speakers from the Upper Midwest, and preparing to gather data from monolingual English speakers in formerly Norwegian-speaking communities.

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