Contrast maintenance and innovation in Toronto Heritage Cantonese high vowels

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This presentation expands on Tse's (2015) analysis of four vowels in Toronto Heritage Cantonese by adding formant measurements for two additional vowel categories. The results to be presented are part of a larger project investigating variation and change in the entire monophthong system of a diasporic Yue variety using sociolinguistic methodology. This project addresses two general questions: (1) Are vowel contrasts maintained across two generations of Cantonese speakers in Toronto? (2) Is there influence from contact with Toronto English and if so what is the nature of this influence?

The data for this project comes from the HerLD (Heritage Language Documentation) Corpus, a product of the Heritage Language Variation and Change (HLVC) in Toronto Project (Nagy, 2011). This corpus includes hour-long sociolinguistic interviews, word list readings, an Ethnic Orientation Questionnaire and time-aligned transcripts using the program ELAN (Sloetjes & Wittenburg, 2008). For this study, a total of 17 speakers (seven male and ten female) from the corpus were analyzed including nine from GEN 1 (Canadian immigrants born and raised in Hong Kong) and eight from GEN 2 (grew up in Toronto). For each speaker, the F1 and F2 for 15 tokens of each of 7 contrastive monophthongs were measured for a grand total of 1,785 tokens. Formant measurements were normalized using the Watt & Fabricius Modified method (Fabricius, Watt, & Johnson, 2009). R-brul (Johnson, 2009) was then used on the normalized values for mixed effects modeling.

The results show maintenance of allophonic conditioning of high vowels as well as overall maintenance of phonological contrasts for seven monophthongs among GEN 2 speakers. There is no evidence that any of these vowels are merging. Influence from Toronto English appears to be motivated primarily by phonological factors rather than purely by phonetic assimilation with phonetically similar vowels. For example, GEN 2 speakers (especially female speakers) show a much greater acoustic distinction between the two allophones of /i/ than GEN 1 speakers. This appears to be influenced by English, which has a phonological contrast between two phonetically similar vowels (SEEK vs. SICK). Also, while the fronted /u/ in Toronto English might lead to the prediction that /u/ in Cantonese would also front among GEN 2 speakers, results show the exact opposite. There is a significant positive correlation between age and F2 of this vowel meaning that the youngest speakers are retracting /u/ (p < 0.02). In addition, the youngest speakers are also retracting /y/ (p < 0.01) while maintaining an overall contrast between /u/ and /y/.

When the three high vowels are examined together, the results show evidence in support of generalizations made in previous studies of heritage language vowel systems. In particular Chang et al (2011) have shown that the context of early bilingualism means early exposure to two phonological systems and a greater ability of maintaining both cross-linguistic distinctions and language-internal phonological contrasts than is the case for late bilinguals. Thus, while contrasts in Cantonese are maintained, innovations appear to be mediated by cross-linguistic phonological factors.

References:

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