Can heritage speakers innovate allophonic splits due to contact?

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1) Background

- Most studies of heritage speaker phonology show contrast maintenance (Bennamoun et al. 2013) and hence lack of mergers (cf. Tse 2018 for an exception)
- What about allophonic splits influenced by dominant language phonology (cf. Tse 2016)?

2) Toronto Heritage Cantonese Data

- HVC Corpus (Nagy et al. 2009, Nagy 2011) consists of:
  1. Sociolinguistic Interviews (~ 1 hour long spontaneous speech samples following methods discussed in Labov 1966)
  2. Ethnic Orientation Questionnaire
  3. Picture naming task

3) Speakers Analyzed

- Variables:
  - Time in Toronto: Moved to Toronto as adults, lived in Toronto > 20 years
  - English Proficiency: Variable, but Cantonese dominant
  - Age Range: 46-87

4) Methodology

- Step 1: Forced alignment (speech to acoustic segment) using Prosodlab-Aligner (Gorman et al. 2011)
- Step 2: Midpoint F1 and F2 measurements of all usable tokens of /i/ using PRAAT script (Boersma & Weenik 2016), output reviewed for extreme values
- Step 3: Subanize Method for normalization using NORM (Thomas & Kendall 2007)
- Step 4: Mixed-Effects Modeling using R (Johnson 2009)

5) Results from three comparisons to support argument for contact (cf. Nagy 2011)

- **Notable features (cf. Bobberg 2008):**
  - Pre-nasal tensing of /æ/
  - Canadian Vowel Shift (CVS) involving retraction of lax vowels: /ɪ/, /i/, /æ/
- GEN 2 Cantonese speakers participate in the CVS when speaking English (Hoffman & Walker 2010)

6) Conclusion / Next Steps

- To further support argument for contact-induced change
  - Acoustic data needed from the English spoken by GEN 2 Cantonese speakers to determine if Cantonese pre-nasal /i/ is identical to English pre-nasal /æ/
  - Measure other acoustic features that might also characterize the split

7) References

- Lobanov Method for Diatopic Comparison
- Rassegna Italiana di Linguistica Applicata 43.1–23.

8) Acknowledgements

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HLVC Cantonese RRA: See full list at http://projects.chass.utoronto.ca/ngn/HLVC/2_home.php

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