Ethnolinguistic vowel differentiation in Manitoba English

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Research Goal & Study Foci

GOAL: To document vowel production differences among ethnic groups in the English dialect spoken in Manitoba, Canada.

Phonological processes investigated:

1. Post-coronal /uw/-fronting
2. Pre-nasal and pre-velar raising of /æ/, i.e. *ban*– and *bag*–raising
3. *Canadian Raising*

Research Context

- While ethnolinguistic research in Canada is a growing area of study, the Canadian Prairies (Manitoba, Saskatchewan & Alberta) remain under-researched
- Prior research (Onosson et al., 2019) established that Filipinos in Winnipeg exhibit more lowered and retracted productions of the *Canadian Shift* vowels /æ, ε, ɪ/ than other Winnipeggers, but similar to larger centres e.g. Toronto

Mennonite Manitobans

- One of Manitoba's most important historical ethno-religious groups
- Two "Mennonite Reserves" established in 1870, attracting nearly 40% of ≈18,000 Mennonites migrating from Imperial Russia to North America in late 19th C. to settle in Manitoba (Loewen, 2001)
- 25% of all Canadian Mennonites reside in Manitoba (Statistics Canada, 2016)
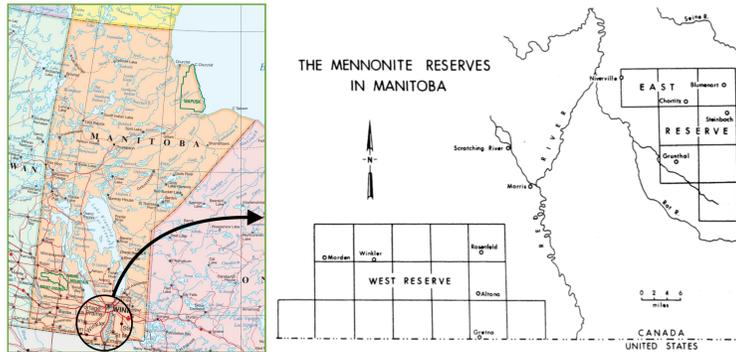- German is Manitoba's second-most widely-spoken L1 at 63,825 speakers

Fig. 1: The Mennonite Reserves in Manitoba (Ledohowski, 2003)

Filipino Winnipeggers

- One of the largest ethnic groups in Manitoba's capital, Winnipeg
- Regular migration from the Philippines began in late 1960s; remaining the current #1 source of migrants to the province
- 9.7% of Winnipeg's population (cf. 2.3% nationally), with the largest concentration in the north-west quadrant of the city
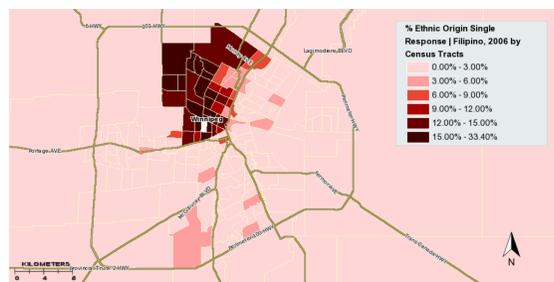- Tagalog is Winnipeg's second-most widely-spoken L1 at 48,530 speakers

Fig. 2: The Filipino Population in Winnipeg (Kelly, 2007)

Data & Methods

- $N = 108$ **sociolinguistic interviews** with Manitobans in the *Languages In the Prairies Project* (LIPP; Onosson et al., 2019) corpus: 60 Mennonites; 29 Filipinos; 19 undifferentiated European ancestry
- Audio processed in FAVE (Rosenfelder et al., 2014) yielding $n = 505{,}870$ **vowel tokens**
- Statistical analysis conducted in R (R Core Team, 2019); all results significant at $p < 0.05$
- Plots generated with `ggplot2` (Wickham, 2016)

/uw/-fronting

- Manitoba speakers lag behind N. American /uw/ F2 averages (i.e. more retracted; Labov et al., 2006) by –97 Hz for non-post-coronal [Kuw], –81 Hz for post-coronal [Tuw]
- ANOVA: sig. diff. in /uw/ F2 by *ethnicity* for [Tuw] ($F{=}9.823$) but not [Kuw]
  - **Greatest degree of post-coronal fronting among Mennonites by +45 Hz** vs. Europeans; Filipinos show no sig. difference from other ethnicities
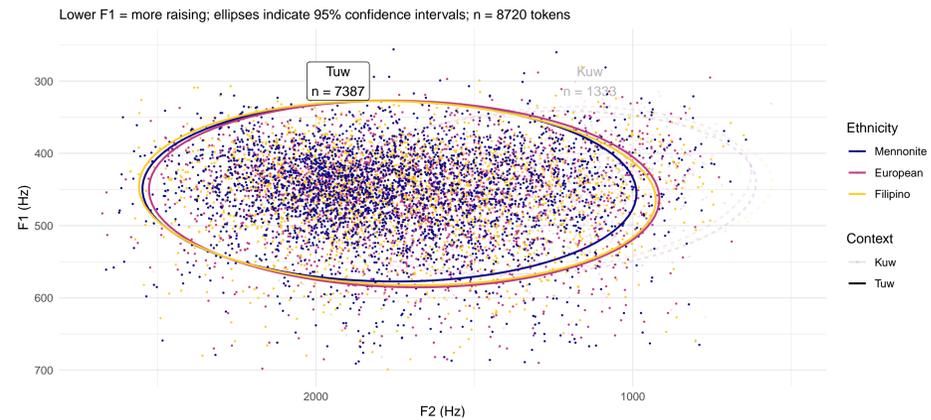

Fig. 3: Plot of /uw/ tokens by ethnicity

/æ/-raising (and fronting)

- Unique Prairie configuration (Boberg, 2008): pre-velar F1 < pre-nasal F1 (i.e. more raised)
- ANOVA of /æ/ formants by *coda segment* significant for F1 ($F{=}628.5$), F2 ($F{=}1237$):
  - Nasals /m, n, ŋ/ all significantly different from each other; **"pre-nasal" = only /n/**
  - Voiced velars /g, ŋ/ *not* significantly different; **"pre-velar" = both /g/ and /ŋ/**
- ANOVA of /æ/ formants by *ethnicity*, sig. (F1: $F{=}19.67$; F2: $F{=}6.27$) only for pre-nasal (pre-velar = low n); Mennonites & Filipinos distinct from Europeans but not each other:
  - **Mennonites: pre-nasal /æ/ lower (F1 +10.2 Hz), fronter (F2 +15 Hz)**
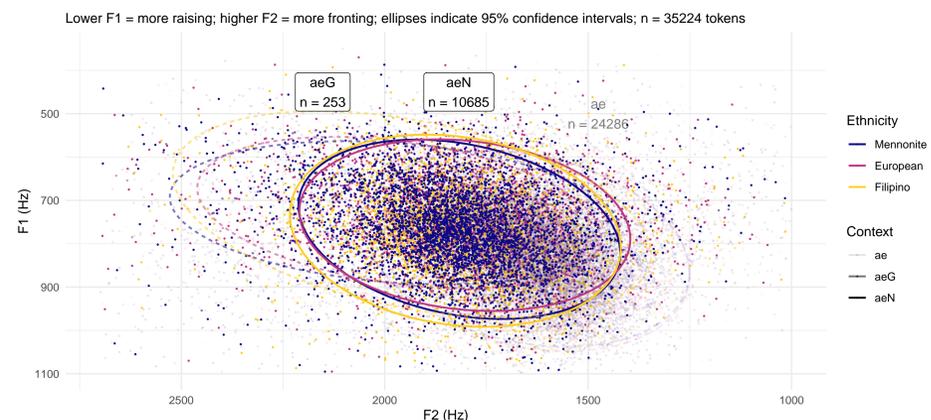 - **Filipinos: pre-nasal /æ/ lower (F1 +15.8 Hz), fronter (F2 +16.3 Hz)**

Fig. 4: Plot of /ae/ tokens by ethnicity

Canadian Raising

- Formant trajectory differences compared using GAMs (Hastie & Tibshirani, 1990)
- Canadian Raising of pre-voiceless /aj, aw/ observed for all groups
- Robust ethnolinguistic differentiation only for pre-voiceless /aw/ F1 trajectories
  - **Mennonites have greatest degree of /aw/-raising, Filipinos the least**
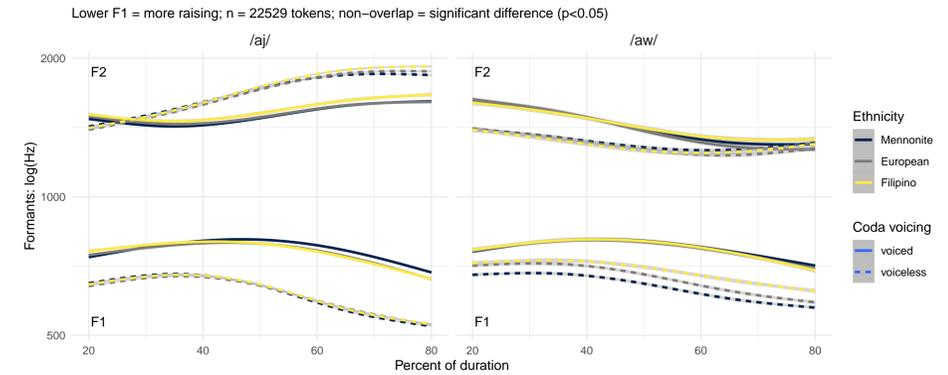 - European & Filipino /aw/ nuclei similar, transition & off-glide target distinct

Fig. 5: GAMs comparison: Formants of /aj, aw/ by speaker ethnicity and coda voicing; 95% CIs

Conclusion

- Ethnolinguistic studies in Eastern Canada have connected variation to expression of ethnic identity (Hoffman & Walker, 2010), high rates of bilingualism (Boberg, 2014)
- Studies in other regions (Umbal, 2016; Smith, 2018) find more ethnic homogeneity
- In The Prairies, Rosen & Skriver (2015) argue that strong religious networks influence conservative productions among southern Alberta Mormons
- Manitoba's ethnolinguistic situation appears to be both unique & complex:
  - Mennonites *least* conservative group for /uw/-fronting, more so for /æ, aw/-raising
  - Filipinos aligned more with *national* trends vs. *local* variants for /æ, aw/-raising, in line with previous findings (Umbal, 2016; Onosson et al., 2019); /uw/-fronting less conclusive
  - Europeans innovative on /æ/-raising, conservative on /æ, uw/-fronting

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