



# ETHNOLINGUISTIC VOWEL DIFFERENTIATION IN MANITOBA ENGLISH

Sky Onosson & Nicole Rosen

University of Manitoba



University  
of Manitoba

## 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/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
- In 1870, two "Mennonite Reserves" established in Manitoba, attracting nearly 40% of ≈18,000 late 19th C. Mennonites migrating from Imperial Russia to N. America (Loewen, 2001)
- 25% of all Canadian Mennonites reside in Manitoba (Statistics Canada, 2016)
- German is the second-most widely-spoken L1 in Manitoba at 63,825 speakers

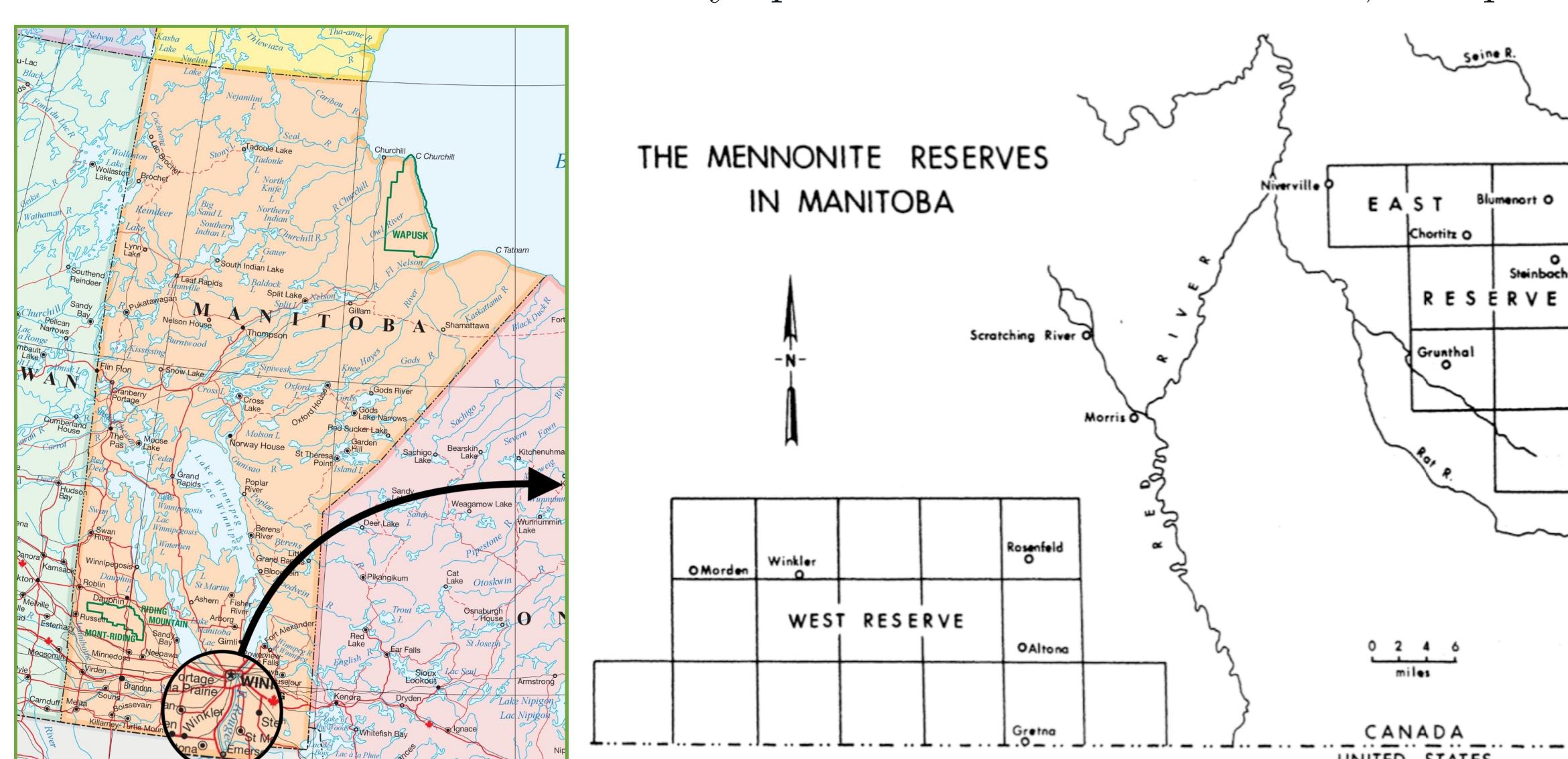


Fig. 1: The Mennonite Reserves in Manitoba (Ledohowski, 2003)

## 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 the second-most widely-spoken L1 in Winnipeg at 48,530 speakers

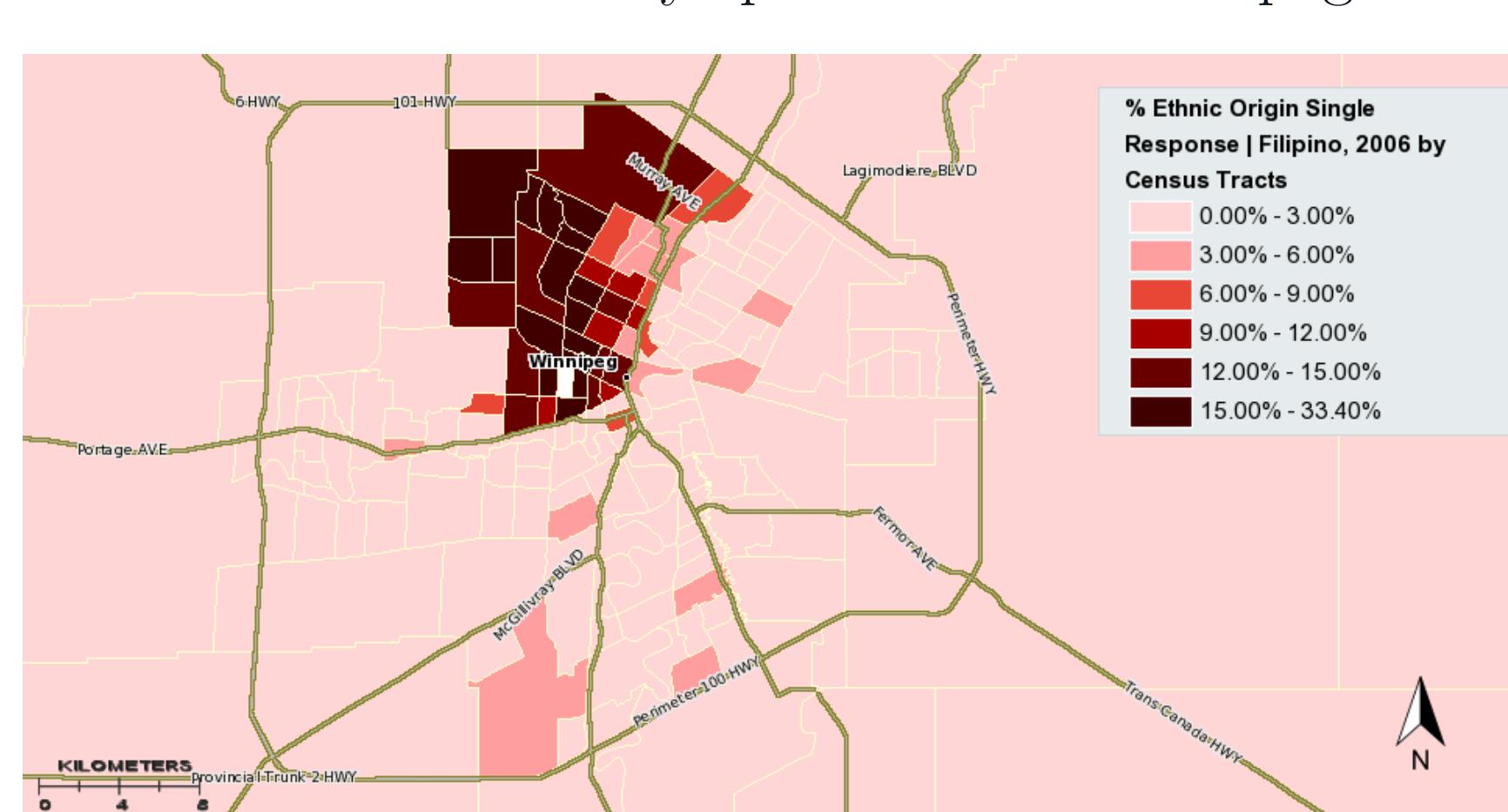


Fig. 2: The Filipino Population in Winnipeg (Kelly, 2007)

## 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 processing in FAVE (Rosenfelder et al., 2014) yielded  $n = 505,870$  vowel tokens
- Statistical analysis conducted in R (R Core Team, 2019)
- Plots generated with ggplot2 (Wickham & Winston, 2019)

## /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] ( $F=9.823, p<0.05$ ) but not [Kuw]
- Post-hoc test: **greater post-coronal fronting among Mennonites by +45 Hz ( $p<0.05$ )** vs. Europeans; Filipinos show no sig. difference from other ethnicities

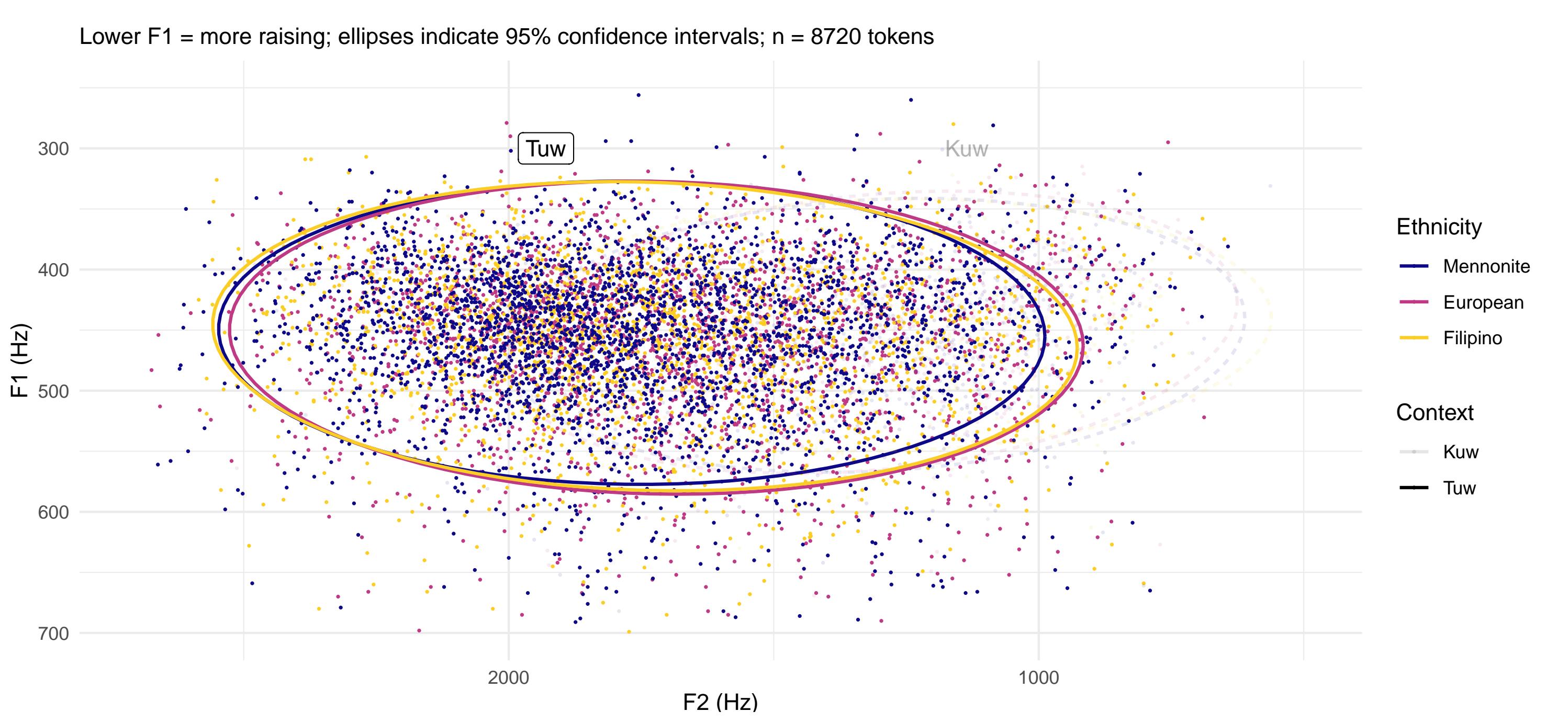


Fig. 3: Plot of /uw/ tokens by ethnicity

## /æ/-raising

- Unique Prairie /æ/ pattern: pre-velar F1 < pre-nasal F1 (i.e. more raised; Boberg, 2008)
- ANOVA of /æ/ F1 by *coda segment*:  $F=628.5, p<0.05$ 
  - Post-hoc testing: nasals /m, n, ɳ/ all sig. different from each other; "**pre-nasal**" = /n/
  - Voiced velars /g, ɳ/ not sig. different; "**pre-velar**" = /g/ or /ɳ/
- ANOVA of /æ/ F1 by *ethnicity* significant ( $F=19.67, p<0.05$ ) for coda /n/
  - **Mennonites: less pre-nasal /æ/-raising vs. Europeans;** F1 +10.2 Hz ( $p<0.05$ )
  - **Filipinos: less pre-nasal /æ/-raising vs. Europeans;** F1 +15.8 Hz ( $p=0$ )

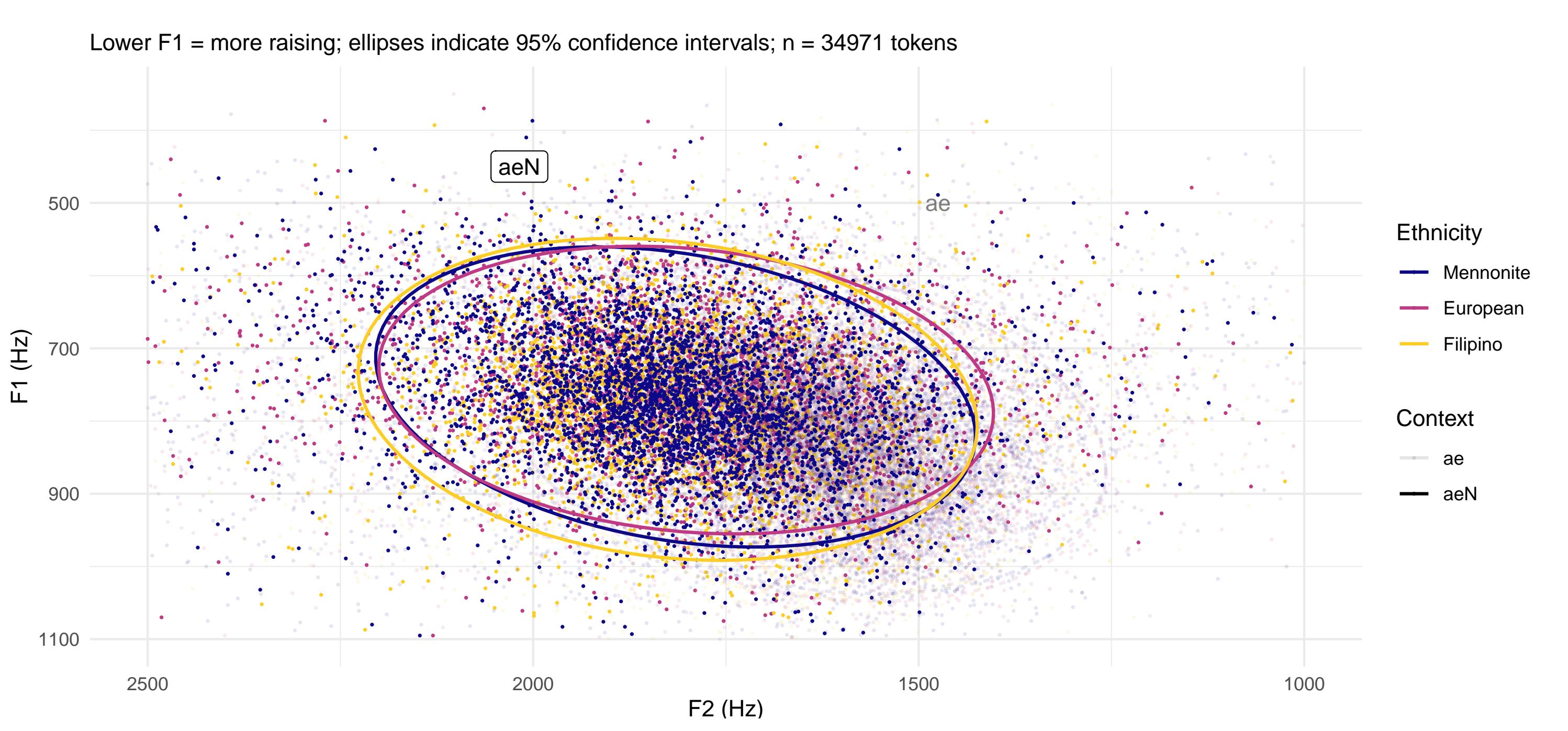


Fig. 4: Plot of /æ/ tokens by ethnicity

## 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 /aw/ F1 trajectories
- **Mennonites exhibit the greatest degree of /aw/-raising (lower F1), and Filipinos the least; Europeans fall in between**

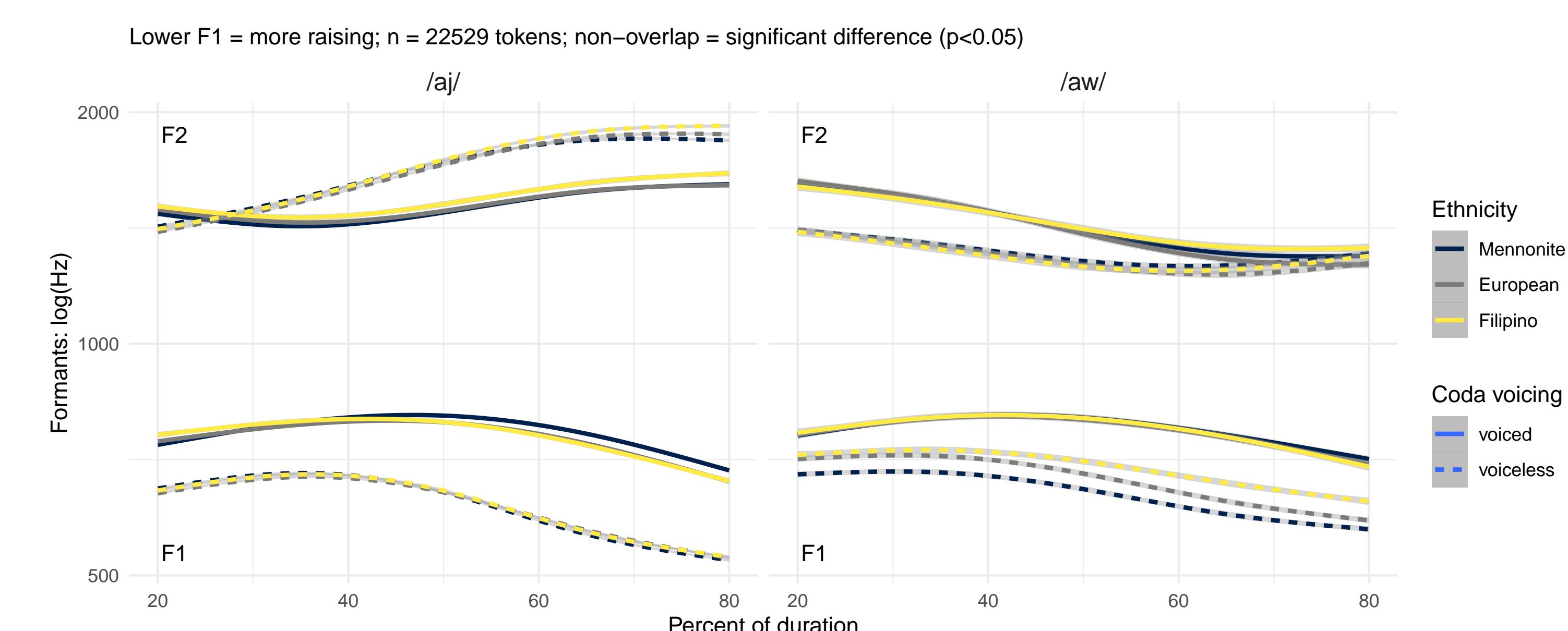


Fig. 5: GAMs comparison: Formants of /aj, aw/ by speaker ethnicity and coda voicing; 95% CIs

## 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)
  - European-ancestry speakers lead on /æ/-raising, lag on /uw/-fronting

## References

- Böberg, C. (2008). Regional Phonetic Differentiation in Standard Canadian English. *Journal of English Linguistics*, 36(2), 129–154.  
 Böberg, C. (2014). Ethnic divergence in Montreal English. *Canadian Journal of Linguistics/Revue canadienne de linguistique*, 59(1), 55–82.  
 Hastie, T. J., & Tibshirani, R. J. (1990). *Generalized Additive Models*. New York: Chapman and Hall.  
 Hoffman, M. F., & Walker, J. A. (2010). Ethnolects and the city: Ethnic orientation and linguistic variation in Toronto English. *Language Variation and Change*, 22(1), 37–67.  
 Kelly, P. (2007). *Filipino Migration, Transnationalism and Class Identity*. Asia Research Institute Working Paper Series, 90.  
 Labov, W., Ash, S., & Boberg, C. (2006). *The Atlas of N. American English: Phonetics, Phonology and Sound Change*. New York: Mouton de Gruyter.  
 Ledohowski, E. M. (2003). *The Heritage Landscape of the Crow Wing Study Region of Southeastern Manitoba: A Pilot Project*. Historic Resources Branch: Manitoba Culture, Heritage and Tourism.  
 Loewen, R. (2001). *Hidden Worlds: Revisiting the Mennonite Migrants of the 1870s*. Winnipeg: The University of Manitoba Press.  
 Onosson, S., Rosen, N., & Li, R. (2019). Ethnolinguistic Differentiation and the Canadian Shift. In *Proceedings of the 19th International Congress of Phonetic Sciences*.  
 R Core Team (2019). R: A language and environment for statistical computing. Programming language. <https://www.r-project.org/>  
 Rosen, N., & Skriver, C. (2015). Vowel patterning of Mormons in Southern Alberta, Canada. *Language and Communication*, 42, 104–115.  
 Rosenfelder, I., Fruehwald, J., Evanini, K., Seyfarth, S., Gorman, K., Prichard, H., & Yuan, J. (2014). FAVE (Forced Alignment and Vowel Extraction). Program suite. <https://github.com/sofruhwld/FAVE>  
 Smith, J. G. (2018). *Sociophonetic Variation and Change in Northern Ontario English Vowels*. Ph.D. thesis, University of Toronto.  
 Statistics Canada (2016). Census Profile, 2016 Census. <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>  
 Umbal, P. (2016). *The Canadian Shift among Filipinos in Metro Vancouver*. Master's thesis, Simon Fraser University.  
 Wickham, H., & Winston, C. (2019). Create Elegant Data Visualisations Using the Grammar of Graphics. Package 'ggplot2', 3.2.1. <https://cran.r-project.org/web/packages/ggplot2/ggplot2.pdf>

## Acknowledgments

This research was supported by the *Social Sciences and Humanities Research Council of Canada* through an Insight Grant (Dr. Rosen) and a Postdoctoral Fellowship (Dr. Onosson), and by Dr. Rosen's *Canada Research Chair* in Language Interactions.

Social Sciences and Humanities Research Council of Canada Conseil de recherches en sciences humaines du Canada

Canada Research Chairs Chaires de recherche du Canada

Canada