Vowel Dynamics of the Elsewhere Shift: A Sociophonetic Analysis of the English in Cowlitz County, Washington

Joey Stanley

Dissertation Defense December 4, 2019



So, I mean we *must*. I mean, *we must* have a different dialect. But how it would compare to others...?

- "Shane"

The "Elsewhere Shift"





Seattle Caucasians do not participate in the retraction of /æ/BAT and /ε/BET... Additionally, we do not see the lowering of the /i/BIT and /ε/BET vowels.

- Wassink (2016:84)

It is curious that Canadian and California English should display such a similar trend while not being geographically contiguous neighbors of each other, since there is currently no evidence documenting the same type of shift in the geographic space between them.

– Swan (2016:30–31)

Methods

Data Collection

When Summer 2016
Recruitment face-to-face, business cards, snowball, family
Method Traditional sociolinguistic interviews (Labov 1984)

Speakers54Audio45h 16mCorpus size350,000 wordsVowels analyzed128,370

Data Processing

TranscriptionManuallyForced-AlignmentMontreal Forced Aligner (McAuliffe et al. 2017)Formant ExtractionPraat (Boersma & Weenink 2018)

FilteringMahalanobis distance (Mahalanobis 1936)NormalizationANAE method (Labov, Ash, Boberg 2006; cf. Nearey 1978)TransformationBarks (Zwicker 1961, Traunmüller 1990)

Software R (R Core Team 2018), tidyverse (Wickham 2018) Visuals ggplot2 (Wickham 2015)

Data Analysis

There is a growing consensus in the field that dynamic measurements of vowels provide a more complete view of vowel characteristics, and they avoid a necessarily arbitrary choice of selecting a specific time point where the measurements are taken.

– Strycharczuk & Scobbie (2017:330)



See Wood (2017), Sóskuthy (2017), Gahl & Baayen (2019), Renwick & Stanley (to appear)

```
mdl_seed <- mgcv::bam(anae_bark ~</pre>
```

```
formant_sex_gen +
  s(percent, by=formant_sex_gen, k=4) +
  log(dur) * formant_sex_gen +
    s(word, formant, bs="re") +
    s(speaker, formant, bs="re"),
  data=df, discrete=TRUE)
```

rho <- start_value_rho(mdl_seed)</pre>

mdl <- update(mdl_seed, rho=rho, AR.start=df\$start_event)</pre>

Results







BAT

- Continuous and relatively constant change over 4(+) generations.
- First half (onset–midpoint) lowered and then retracted.
- Women consistently ahead of the men.



BET

- Women are lowering and retracting.
- Everyone is changing trajectory shape.
- Change started with Boomers.



BIT

- Women retract somewhat.
- Men show little change.





The Elsewhere Shift in Montreal—and Cowlitz County. From Boberg (2005:149)



The Elsewhere Shift in Montreal—and Cowlitz County. From Boberg (2005:149)

BAN

- Phonetically, raised and quite dynamic.
- Women were stable, then lowered, then drastically raised.
- Men gradually raised it.









The Elsewhere Shift in Montreal—and Cowlitz County. From Boberg (2005:149)

Discussion

Generational Divide

I mean, downtown Longview back in the day was fun. There was really a lot to do.

- "Kevin" b. 1967

We're boring. Kelso's boring. Like, honestly, I think Kelso sucks. Just, Kelso is so boring like I want to change Kelso so badly.

- "Jessica" b. 1998

Portland

"Is Portland as weird as it seems on Portlandia?"

Portland's weird...yeah, Portland is, um, very eclectic. Very eclectic... Growing up as a kid I don't remember thinking that Portland was all that weird... [or] being quite as odd as it has become as now, yeah.

– "Shane" b. 1971

[laughs] Yeah, definitely, oh yeah. Yep. Yeah, I love that. I love that about Portland, that it's as weird as it is. Uh, I don't know, it just seems like- it almost seems like it's another hub of the world, right?

- "Sean" b. 1985

Changing Community → Changing Vowels

Vowels	LOT and THOUGHTget very close.	BAT-shifting —	?		
			BET-shifting –	BIT-shifting ——— BAN-raising ———	
-	1850s	1920s	1950s	1980s	2010s
Community	Settlers from all over move to Cowlitz County.	Longview founded		Recession, people leave, timber industry changes	
		Р	eople love the area	People love Portland	

Conclusions

Contributions

- The Elsewhere Shift is in Washington (and has been for a while).
- In Cowlitz County, the Elsewhere Shift is a pull chain, beginning with the (near) merger of LOT and THOUGHT, ultimately triggered and aided by:
 - major events and their subsequent demographic shifts
 - place reorientation from inward to outward
- It didn't (straightforwardly) spread from California or Canada
 - possibly independently developed
 - possibly from the same source as California and Canada
 - its spread northward helped though
- Methodologically, GAMMs illuminated variation and change in trajectories in the Elsewhere Shift.

References

Bar-El, Leora, Laura Felton Rosulek, and Lisa Sprowls. "Montana English and Its Place in the West." In Speech in the Western States, Volume 2: The Mountain West, edited by Valerie Fridland, Alicia Beckford Wassink, Tyler Kendall, and Besty E. Evans, 107–38. Publication of the American Dialect Society. 102. Durham, NC: Duke University Press, 2017. DOI: 10.1215/00031283-4295299.

Boersma, Paul, and David Weenink. *Praat: Doing Phonetics by Computer* (version Version 6.0.37), 2018. http://www.praat.org/.

Brumbaugh, Susan, and Christian Koops. "Vowel Variation in Albuquerque, New Mexico." In Speech in the Western States, Volume 2: The Mountain West, edited by Valerie Fridland, Alicia Beckford Wassink, Tyler Kendall, and Besty E. Evans, 31–58. Publication of the American Dialect Society. 102. Durham, NC: Duke University Press, 2017. DOI: 10.1215/00031283-4295200.

Clarke, Sandra, Ford Elms, and Amani Youssef. "The Third Dialect of English: Some Canadian Evidence." *Language Variation and Change* 7, no. 2 (July 1995): 209–28. <u>https://doi.org/10.1017/S0954394500000995</u>.

Eckert, Penelope. "Where Do Ethnolects Stop?" International Journal of Bilingualism 12, no. 1–2 (2008): 25–42.

- Fridland, Valerie, Tyler Kendall, Betsy E. Evans, and Alicia Beckford Wassink, eds. Speech in the Western States: Volume 1: The Coastal States. Publications of the American Dialect Society 101. Durham, NC: Duke University Press, 2016.
- Fridland, Valerie, Alicia Beckford Wassink, Tyler Kendall, and Betsy E. Evans, eds. Speech in the Western States, Volume 2: The Mountain West. Publications of the American Dialect Society 102. Durham, NC: Duke University Press, 2017.

Gahl, Susanne, and R. Harald Baayen. "Twenty-Eight Years of Vowels: Tracking Phonetic Variation through Young to Middle Age Adulthood." *Journal of Phonetics* 74 (May 1, 2019): 42–54. https://doi.org/10.1016/j.wocn.2019.02.001.

Hagiwara, Robert. "Dialect Variation and Formant Frequency: The American English Vowels Revisited." The Journal of the Acoustical Society of America 102, no. 1 (July 1, 1997): 655–58. https://doi.org/10.1121/1.419712.

- Hinton, Leanne, Birch Moonwomon, Sue Bremner, Herb Luthin, Mary Van Clay, Jean Lerner, and Hazel Corcoran. "It's Not Just the Valley Girls: A Study of California English." In Proceedings of the Thirteenth Annual Meeting of the Berkeley Linguistics Society, 13:117–128, 1987.
- Holland, Cory. "Shifting or Shifted? The State of California Vowels." PhD dissertation, University of California, Davis, 2014.
- Kennedy, Robert, and James Grama. "Chain Shifting and Centralization in California Vowels: An Acoustic Analysis." American Speech 87, no. 1 (February 1, 2012): 39–56. <u>https://doi.org/10.1215/00031283-1599950</u>.
- Labov, William. "Field Methods of the Project on Linguistic Change and Variation." In *Language in Use: Readings in Sociolinguistics*, edited by John Baugh and Joel Scherzer, 28–53. Englewood Cliffs, NJ: Prentice-Hall, 1984.
- Labov, William, Sharon Ash, and Charles Boberg. The Atlas of North American English: Phonetics, Phonology and Sound Change. Berlin: Walter de Gruyter, 2006.

Mahalanobis, Prasanta Chandra. "On the Generalized Distance in Statistics." Proceedings of the National Institute of Sciences of India 2, no. 1 (April 15, 1936): 49–55.

McAuliffe, Michael, Michaela Socolof, Sarah Mihuc, Michael Wagner, and Morgan Sonderegger. "Montreal Forced Aligner: Trainable Text-Speech Alignment Using Kaldi." *Proceedings of the 18th Conference of the International Speech Communication Association*, 2017.

McLarty, Jason, Tyler Kendall, and Charlie Farrington. "Investigating the Development of the Contemporary Oregonian English Vowel System." In Speech in the Western States, Vol. 1: The Pacific Coast, edited by Valerie Fridland, Tyler Kendall, Betsy E. Evans, and Alicia Beckford Wassink, 135–157. Publication of the American Dialect Society 101. Durham, NC: Duke University Press, 2016. doi: 10.1215/00031283-3772934.

Moonwomon, Birch. "Sound Change in San Francisco English." PhD dissertation, University of California, Berkeley, 1991.

Nearey, Terrance Michael. "Phonetic Feature Systems for Vowels." Dissertation, University of Alberta, 1978.

Podesva, Robert J. "The California Vowel Shift and Gay Identity." American Speech 86, no. 1 (February 1, 2011): 32– 51. https://doi.org/10.1215/00031283-1277501.

R Core Team. R: A Language and Environment for Statistical Computing. Vienna, Austria: R Foundation for Statistical Computing, 2018. <u>http://www.R-project.org.</u>

Renwick, Margaret E. L., and Joseph A. Stanley. "Modeling Dynamic Trajectories of Front Vowels in the American South." To appear in the *Journal of the Acoustical Society of America*.

Sóskuthy, Márton. "Generalised Additive Mixed Models for Dynamic Analysis in Linguistics: A Practical Introduction." Manuscript. University of York, March 10, 2017. <u>http://arxiv.org/abs/1703.05339</u>.

Stanley, Joseph A. "Changes in the Timber Industry as a Catastrophic Event: BAG-Raising in Cowlitz County, Washington." University of Pennsylvania Working Papers in Linguistics 24, no. 2 (2018).

Strycharczuk, Patrycja, and James M. Scobbie. "Fronting of Southern British English High-Back Vowels in Articulation and Acoustics." *The Journal of the Acoustical Society of America* 142, no. 1 (July 1, 2017): 322–31. https://doi.org/10.1121/1.4991010.

Traunmüller, Hartmut. "Auditory scales of frequency representation." The Journal of the Acoustical Society of America 88, no. 97 (1990). https://doi.org/10.1121/1.399849.

Wassink, Alicia Beckford. "Sociolinguistic Patterns in Seattle English." Language Variation and Change 27, no. 1 (March 2015): 31–58. <u>https://doi.org/10.1017/S0954394514000234</u>.

Wassink, Alicia Beckford. "The Vowels of Washington State." In Speech in the Western States: Volume 1: The Coastal States, edited by Valerie Fridland, Tyler Kendall, Betsy E. Evans, and Alicia Beckford Wassink, 77–105. Publication of the American Dialect Society 101. Durham, NC: Duke University Press, 2016. <u>10.1215/00031283-3772912</u>.

Wickham, Hadley. ggplot2: Elegant Graphics for Data Analysis. 2nd ed. Use R! New York: Springer, 2015.

- Wickham, Hadley. *Tidyverse: Easily Install and Load the "Tidyverse"* (version R package version 1.2.1), 2017. https://CRAN.R-project.org/package=tidyverse.
- Wood, Simon N. Generalized Additive Models: An Introduction with R. 2nd ed. Chapman and Hall/CRC, 2017. https://doi.org/10.1201/9781420010404.
- Zwicker, Eberhard. "Subdivision of the Audible Frequency Range into Critical Bands (Frequenzgruppen)." The Journal of the Acoustical Society of America 33, no. 2 (1961): 248–248. <u>https://doi.org/10.1121/1.1908630</u>.

Thanks for attending!

A current version of this study can be found at joeystanley.com/dissertation

Thanks to the UGA Graduate School Dean's Award for funding fieldwork.

Bonus Slides

SPEECH IN THE WESTERN STATES Volume 1: The Coastal States

> Edited by VALERIE FRIDLAND TYLER KENDALL BETSY E. EVANS ALICIA BECKFORD WASSINK

Publication of the American Dialect Society 101

Regardless of what we uncover as we move forward, it is clear that speech in the West is dynamic and changing, and there will be plenty to keep dialectologists busy in the coming years.

◀ Fridland et al. (2016:164)

So, now the vowels of the West are perhaps not so wild as we once thought, but there is much left along the Western frontier for future generations of dialectologists to explore.

Fridland et al. (2017:173) ►

SPEECH IN THE **WESTERN STATES** Volume 2: The Mountain West

> Edited by VALERIE FRIDLAND ALICIA BECKFORD WASSINK TYLER KENDALL BETSY E. EVANS

Publication of the American Dialect Society 102 Supplement to *American Speech*, Volume 92

Cowlitz County residents' places of origin over time

Based on the 1930 census







Data Analysis

[T]he quality of most English vowels can be adequately represented by the frequency of their first and second formants, reflecting their height and advancement, respectively.

– Labov, Ash, & Boberg (2006:37)

Generational Divide

It appears that the town is divided into two groups... The older generation grew up in a beloved, picturesque small town while the younger generation grew up in a town of unemployment, drug abuse, and an aging population. – Stanley (2018: 144)

I grew up in good times. The sixties was a good era, the seventies was good, eighties. And then it started going down the tube. - "Ed" b. 1949

