The Wicked Shift of the West: An Investigation on Regional Variations of the Canadian Shift Within BC

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Abstract

This paper was originally written for Dr. Heather Bliss' LING 282W course *Writing for Linguistics*. The assignment asked students to expand, elaborate, or adapt an earlier assignment from class into a short experimental or argumental paper. This paper uses MLA citation style.

Data sampling in BC English is heavily populated with speakers living in Metro Vancouver and very little from outside of the region. Previous studies found evidence of allophonic variations, such as the degree of pre-velar raising, within provinces outside of major cities. The goal of this paper is to investigate the intensity of the Canadian Shift in the Metro Vancouver region compared to the Okanagan region by measuring the formant values of four speakers: two from the Vancouver region and two from the Okanagan region. A difference in formant values was found, indicating slight variation in the degree of the Canadian Shift between the two regions. This paper provides an idea for the boundaries of Canadian Shift occurrence and insights regarding allophonic homogeneity within BC.

1. Introduction

"Do I say things weirdly?" is a question a friend of mine once asked me.[1] We both recently moved West to Burnaby after spending our entire lives in the Okanagan and noticed that our speech patterns slightly differ compared to the locals—with some even pointing out our odd speech quirks. We knew there was something unique to our speech compared to theirs, but we could never pinpoint what exactly it was.

[1] I would like to sincerely thank Dr. Heather Bliss, my TA, Amber Rynearson, for providing me guidance on this research topic and feedback on this paper. As well, I'd like to thank my friend, Jada Turchak, for proofreading this paper.

BC English is well documented, but little has been investigated regarding regional variations within the province. In literature, BC English is heavily biased with data from speakers living in Metro Vancouver (Cardoso et al. 2). Which means that speakers living in smaller urban communities are often underrepresented in Canadian English comparisons and overlooked due to a presumption that all individuals within a province are geographically homogeneous (Cardoso et al. 12).

Polson (1969) conducted a province-wide questionnaire collecting data regarding allophonic variations within BC. He concluded that there were regional allophonic and lexicon variations among the participants that responded to his questionnaire (Polson 41). Stevenson expanded on Polson's findings in 1976 and tentatively concluded that BC could be mapped into three regions with their own unique allophonic variations: Vancouver Island, Okanagan, and the rest of BC (74). Both studies were conducted 50-60 years ago using outdated methodology—mail-in questionnaires, and their conclusions may not accurately represent the new generation of speakers, as all these regions have undergone significant population changes due to an increase in immigration and enhanced physical connectivity over the years.

Recent studies that have investigated regional variations within provinces observed allophonic differences in pre-velar raising between speakers. Pre-velar raising is a dialectal sound variation observed in North American English where velar consonants, such as the 'g' in in *bag*, causes the prior vowel to be produced with a higher tongue positioning (Onosson 248). This causes the 'a' in *bag* to have a higher acoustic space, which makes the vowel realization sound like the 'e' in *beg;* this phenomenon is also known as *bag-raising*. *Bag-raising* is prominent in most Canadian speech. In Manitoba, Onosson (2022) found that there was an increase in frontedness in the production of /e/ during pre-velar raising realizations in urban Manitobans compared to rural Manitobans (272). As well, Cardoso et al. (2025) observed that females in the Thompson-Okanagan region exhibited an increase in frontedness and raising of their tongues for the vowels /e/ and /æ/ when the vowels were found in front of voiced and voiceless pre-velar consonants compared to those in the Metro Vancouver area (13). Both Cardoso et al. and Onosson's studies highlight recent evidence for allophonic regional differences within provinces, specifically regarding pre-velar vowel raising.

This study will expand previous investigations of regional allophonic differences and connect it to the Canadian Shift. The Canadian Shift is a phenomenon where the short front vowels /i/, /e/, and /æ/ are lowered and retracted compared to the standard pronunciation, pictured in Figure 1 (Boberg 130). A non-Canadian Shift /i/, /e/, and /æ/ sounds like the vowels found in *beet*, *set*, and *bat*, respectively. Lowering and retraction of the tongue during Canadian Shift will cause the acoustic space of /i/ to shift closer to /e/, and /e/ closer to /æ/. Hence, the Canadian Shift would cause the pronunciation of the vowel in *beet* to sound similar to *bet* and *set* sound like *sat*. The degree of lowering and retraction of the tongue can be measured by identifying the first and second formant values in the acoustic properties of the vowels.

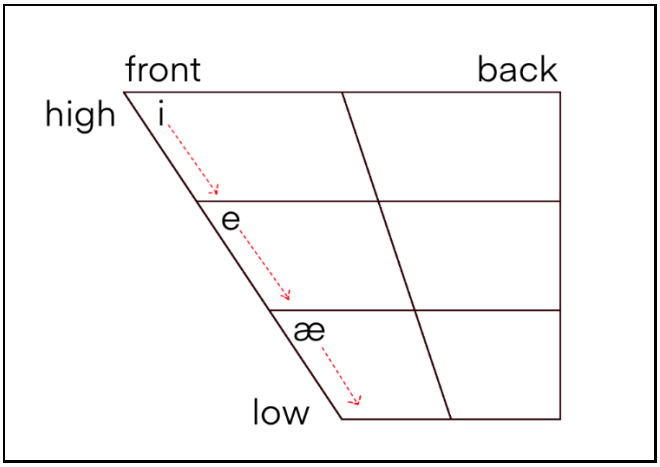

Figure 1. Vowel chart outlining the shift in tongue placement in red during Canadian Shift.

Previous literature found the Canadian Shift to be more prominent in the Vancouver region compared to the rest of Canada and in Seattle (Sadlier-Brown and Tamminga 4; Swan 13). As well, it is found to be more prominent in areas with a relatively higher population density than those with a smaller density, as seen in Vancouver and Halifax respectively (Sadlier-Brown and Tamminga 10-11). This paper inquires whether different regions with different population densities within BC produce a different degree of Canadian Shift.

In this study, the Metro Vancouver and Okanagan regions are investigated for allophonic variations among their speakers. The populations of Metro Vancouver and the Okanagan-Similkameen region differ significantly—2.6 million, and 90 thousand respectively (Statistics Canada). Additionally, Statistics Canada reports

that 85% of the population in the Okanagan reports English as their mother tongue, while in Metro Vancouver that percentage is only 51%; this reveals an increase in language diversity present in Vancouver. So, with the significant increase in population size and larger language diversity present in Vancouver, the speakers from the region have increased exposure to unique speech patterns found in languages other than English in their daily lives compared to speakers from the Okanagan; this makes the two regions ideal for investigating the intensity of Canadian Shift.

Because previous research has shown that vowel realizations can differ across regions and population densities, speakers from a larger urban area, such as Metro Vancouver, are expected to show an increased intensity of the Canadian Shift—specifically greater lowering and retraction of /i/, /e/, and /æ/—compared to speakers from smaller urban areas, such as the Okanagan. If speakers from the Metro Vancouver region produce a significantly higher F1 and lower F2 value for /i/, /e/, and /æ/ than the speakers from the Okanagan, this would indicate regional allophonic variation of the Canadian Shift between large and small regions in BC.

2. Methods

2.1 Participants

Four participants volunteered to have their speech sampled: two from the Metro Vancouver region and two from the Okanagan-Similkameen region[2]. All the volunteers are female, in their early 20s, and born in their target regions. Both Okanagan volunteers spent the entirety of their adolescence in the Okanagan, but both have recently moved away from the Okanagan Valley to pursue their undergraduate education. Both Metro Vancouver volunteers have spent the entirety of their lives in Metro Vancouver and neither reported ever moving out of the region. Additionally, none of the participants self-reported any known speech disorders or hearing loss.

2.2 Procedure

The volunteers were asked to read off a series of sentences that elicit the target vowels that were recorded for analysis. The word material was inspired by a study done by Peterka (2019), where she investigated the Canadian Shift among young

[2] Huge thanks to all four of the volunteers for helping me with this study.

and old speakers living in Ottawa, Ontario (10). She had her participants read off a list of sentences for her study. A small sample of her stimuli words were taken to be used for this study, which are outlined in Table 1.

Table 1. Word material chosen for elicitation.

/e/	/i/	/æ/
ted	needs	pad
beg	pete	slap
debt	cheats	wacked
dead	green	grab
set	beets	cat
deck	peed	matt

A total of nine sentences were formed. Each sentence integrated one to four of the target words. Example (1) shows a list of all the sentences shown to the participant.

(1) a. Ted needs a notepad. So, he asks Pete for one.
b. Georgia gave Arnie a slap on the arm.
c. Harrison cheats on Suzy. She wacked him.
d. Bonnie got herself into debt.
e. Amy burnt her toast. She set the fire alarm off and had to grab the fire extinguisher.
f. "Your cat is so cute," Amy tells Matt.
g. All of Sheryl's plants are dead. She doesn't have a green thumb.
h. Larry begs the cashier for a bag for his beets and bagels.
i. Sandy's dog peed on the deck.

2.3 Analysis

The formant means for all four samples were extracted at the core of the vowel to avoid any interference from the preceding and subsequent consonants using Praat and then graphed using RStudio. To demonstrate if the Canadian Shift occurs in the speakers' speech, the following thresholds of the Canadian Shift are also

graphed: the F1 of /e/ is greater than 650 Hz, and the F2 of /æ/ is less than 1825 Hz (Boberg 130).

3. Results

The individual formant averages of each speaker are outlined below in Table 2. The F1 corresponds with the height of the tongue and F2 to the retraction of the tongue. A low F1 value indicates a high tongue position in the mouth during realization, and a low F2 value corresponds to a farther back retracted tongue position.

Table 2. Individual averages of formants for all 4 speakers.

Vowel	Vancouver 1	Vancouver 2	Okanagan 1	Okanagan 2
/i/ F1	376	369	458	423
/i/ F2	2248	2517	2662	2630
/e/ F1	722	764	739	751
/e/ F2	1979	1957	1896	2039
/ae/ F1	858	1007	911	929
/ae/ F2	1628	1679	1614	1711

The individual speaker averages of all the vowel formants are combined with the other speaker from their region to calculate an overall average for both regional groups. The new mean formant values are then graphed in Figure 2, where the F1 is on the Y axis to illustrate the tongue height and F2 is on the X axis to illustrate the tongue retraction for all three vowels.

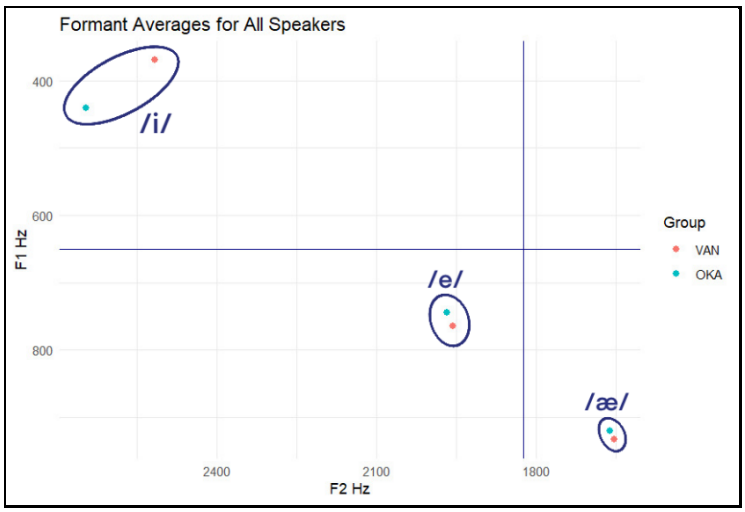

Figure 2. Mean F1 vs F2 of /i/, /e/, and /æ/ for Vancouver (VAN) vs Okanagan (OKA) speakers.

It is observed that Canadian Shift has occurred for both groups of speakers, as seen in /e/ and /æ/ passing their respective thresholds for both groups of speakers. The graph shows further lowering and retraction of /æ/ and /e/ in the Metro Vancouver group compared to the Okanagan group. Additionally, there is a significant degree of lowering of /i/ for the Okanagan speakers and retraction for the Vancouver speakers.

Table 3. Numerical means of F1 and F2 values from both speaker groups, and the difference between both groups.

Vowel	Vancouver (Hz)	Okanagan (Hz)	Difference
/i/ F1	369	440	71
/i/ F2	2517	2646	129
/e/ F1	764	745	19
/e/ F2	1957	1967	10
/æ/ F1	932	920	12
/æ/ F2	1654	1662	10

4. Discussion

It was predicted that the Vancouver speakers would exhibit a higher F1 and lower F2 value. This trend was observed in /e/ and /æ/. However, for /i/ the F1 was observed to be higher in the Okanagan group rather than the Vancouver group.

While we do see the general trend of a higher F1 and lower F2 for /e/ and /æ/ in the Vancouver speakers, the difference between the mean values of the formants is small, as outlined in Table 3. The small difference between the mean formant values signifies a similarity in the degree of Canadian Shift for /e/ and /æ/between the two regional groups. This does not align with the initial prediction. Instead, this indicates that the degree of Canadian Shift for /e/ and /æ/ has progressed to become uniform between the speakers from the two regional groups.

As well, the results of /i/ were unexpected. The difference in the F1 and F2 between both groups was large, as seen in Table 3. The large difference between the mean formant values indicates a greater allophonic variation between the two groups. This indicates that the Canadian Shift is currently progressing in two different ways between the groups; where the Vancouver group is currently retracting their /i/ more, and the Okanagan is lowering their /i/ more. We can infer that the process of Canadian Shifting is currently progressing with different changes to the realization of /i/ in both regions.

Whether the results of this study can be generalized across the entire population is still unknown. Even if the scope of this study is limited due to the small number of speakers investigated, the results uncovered a trend that deserves further consideration and provides a foundation for future studies to expand on.

A possible confounding variable in this study might be that both Okanagan speakers do not currently live in the Okanagan region. Both speakers left the Okanagan after graduating high school and have lived on the BC Coast for 3, and 4 years, respectively. Over the time they have been gone, there is a possibility the progression of the Canadian Shift may have been artificially accelerated in them compared to a speaker who has not left the Okanagan. A more precise study would ideally find speakers currently living in the Okanagan to eliminate this variable.

Additionally, a growing number of Vancouverites are moving from Metro Vancouver into the Okanagan. In 2024, 30% of newcomers moving into Penticton, a city located in the Okanagan, were from Metro Vancouver; an increase from 24% in 2022 (City of Penticton). Relocation theory states that as people migrate or move to new areas, they bring their accent and culture with them (Dorell 12). So, with the increase of Metro Vancouver individuals entering the Okanagan, new speech patterns—like the Canadian Shift—are also being introduced into the community. This may have also influenced the progression of the Canadian Shift into the region.

This study lacks the evidence to firmly conclude a difference in the degree of the Canadian Shift in /æ/ and /e/ between speakers from Vancouver and the Okanagan; but it did reveal two possible progressions of the Canadian Shift currently occurring in /i/ between the two groups. Future studies may continue to investigate Canadian Shift variations in more regions within BC to figure out the distance this speech pattern has diffused throughout the province. Replication of this study may also include more participants from both regions, as well as including speakers of various gender identities to accurately gauge the true variations in the Okanagan versus Vancouver. Importantly, understanding all these small regional variations provides a supplemental repertoire of BC English that accurately represents the entire province of BC, rather than only Vancouver.

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