FRONT VOWEL PATTERNING IN THE INTERLAKE REGION OF MANITOBA, CANADA

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ABSTRACT

This study investigates vowel patterning in the Interlake region of Manitoba, a rural community in the Canadian Prairies. Results suggest the Low Back Merger Shift is in progress: middle age speakers retract /æ/ and /ɛ/ while young speakers lower /ɪ/. However, contrary to the shift, the young speakers are fronting /æ/. Young and non-professional speakers also had significant overlap between /e/ and /i/. Furthermore, /æg/-raising is present, particularly in middle-and-young speakers and non-professionals. The recurring pattern of younger and non-professional speakers as drivers of change in rural communities suggests that more research in rural areas is important for our understanding of language change across different communities.

Keywords: Canadian English, Low Back Merger Shift, phonetics, sociophonetics, Pre-velar raising

1. INTRODUCTION

While Canadian English has been an area of sociophonetic interest for several decades, very little work has focused on the speech of rural areas of the country, and even less in the rural areas of the Canadian Prairies. These regions, however, are of particular interest due to the settlement patterns that differed from those in the East. The Interlake region discussed here is what were marginal agricultural lands west of Lake Winnipeg, settled primarily by Ukrainians and Icelanders over several decades starting in the 1890s.

The goal of this paper is to document the phonetics of the speech of the region. Anecdotally, rural Prairies speech is distinctive, especially as compared to urban speech, but no phonetic studies have been conducted to quantify these differences. This work is situated within a recent sociolinguistic literature (e.g. [1, 2]) conducted in rural areas, which find social meanings and identities to be developing differently than in the urban areas most often studied.

In this paper, we focus on the three features which emerge from the data: low back merger shift, overlap between /e/ and /i/, and pre-velar /æ/ raising. The Low-Back-Merger Shift (LBMS) [3] is a widespread pull-chain shift in North America said to have occurred due to instability in the English short vowel system whereby the front vowels retract and lower. /æ/-lowering is the first step in the pull-chain, with /ɛ/ and /ɪ/ normally following in turn. Pre-velar /æ/-raising (/æg/-raising) is a process where /æ/ is raised before /g/. It has been acoustically documented to occur across Canada (e.g. [4]), as well as in the Pacific Northwest (e.g. [5], Upper Midwest (e.g. [6]) and California [7] regions of the US. Pre-velar raising of /ɛ/ also occurs before /g/ (e.g. [8]), and some have proposed that these vowels are merging with each other and /e/ in this context in some regions [5]. In addition to these well-known phonetic features, we found substantial overlap between /i/ and /e/, particularly among the youngest speakers in the corpus.

2. METHOD

2.1. Speakers

25 residents of the Interlake region participated in the study. Age and gender distribution are given in Table 1. Speakers were also coded for socio-economic status (professional vs non-professional; hereafter SES). For more details, see Rosen [9].

Age Group	Year of Birth	Male	Female
Younger	1990-2000	1	5
Middle	1963-1972	4	4
Older	1925-1956	4	7
Total		**9**	**16**

Table 1: Participant Age and Gender

2.2. Stimuli

A word list based on Boberg [4] and Wassink [10] which included vowel tokens comprising the full vowel system of Canadian English was used.[1]

2.3. Procedure

Participants were recruited and recorded in 2019 by a student research assistant local to the area. Recordings were sociolinguistic interviews made in participants' homes using an H4N Zoom recorder with external lavalier microphones. The interviews included one repetition of the word list.

2.4. Analysis

We limit the current analysis to the word list data (172 to 296 tokens per model). Recordings were force aligned in FAVE [11] and manually corrected in Praat [12]. F1 and F2 measurements were taken at the midpoint of each vowel and z-score normalized. /e/-/i/ overlap was measured using Pillai scores [13].

Linear regression models were constructed in R [14] using either the *lm*() function (/e/-/i/ overlap) or the *lmer*() function (low back merger shift, /æg/-raising) from the lme4() package [15]. Mixed effects regression models were constructed with F1 or F2 as response variables for the low back merger shift vowels (/ɪ ɛ æ/), and with F1 as the response variable for /æg/-raising. A multivariate model with Pillai score as the response variable was constructed for /e/-/i/ overlap. All models included age, gender, and socioeconomic status as predictor variables. The models for /æg/-raising also included coda consonant (/g/ vs non-/g/ obstuents) and its interaction with the other three variables. Mixed effects models included random intercepts for participant and item.

Gender, coda consonant and socioeconomic status were simple coded with female, non-/g/ obstruents and non-professional as -0.5 and male, /g/ and professional as 0.5, respectively. Age was coded for comparisons between older (+) and middle (-) and between middle (+) and younger (-).

3. RESULTS

In this section we examine our findings for front vowel patterning among Interlake speakers.[1] A summary of significant effects from the regression models can be found in Table 2.

3.1. Low Back Merger Shift

The Interlake speakers appear to participate in the LBMS, as the vowel plots in Figure 1 show. Looking at each of the vowels in the LBMS individually, we see that for /æ/, the middle age group is statistically more retracted than the older group, while the younger group retracts less than the middle group.
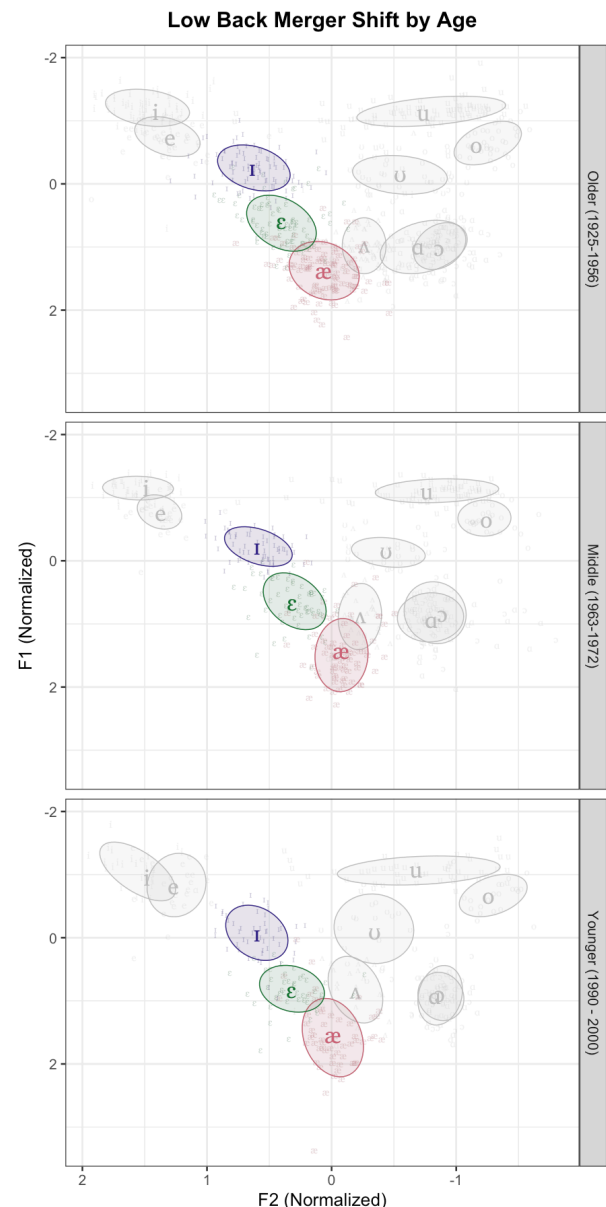

Figure 1: Low Back Merger Shift by Age

Women also retract more than men. For /ɛ/ and /ɪ/, we find non-significant trends in that the middle age group retracts /ɛ/ more than the older group while the younger group retracts /ɪ/ more than middle age group. Socioeconomic status did not have a significant effect on participation in the LBMS.

3.2. Overlap of /e/ and /i/

Interestingly, this analysis found a large degree of overlap between /e/ and /i/ for some Interlake speakers. This seems to be predictable by age, where the youngest speakers have the highest degree of overlap as seen in Figure 2, though this difference is only significant at the 0.1 level. Non-professional speakers also appear to have more overlap than

Variable	Predictor/ Interaction	Est.	*SE*	t	p	
LBM Shift ɪ F1	*Age* (*Y*(-) *v M*(+))	-0.13	0.08	-1.73	0.1	
ɛ F2	*Age* (*M*(-) *v O*(+))	0.11	0.05	1.96	0.07	.
æ F2	*Gender* (*M* (*0.5*) *vs F* (*-0.5*))	0.15	0.04	3.51	0.002	**
	Age (*Y v M*)	-0.13	0.056	-2.27	0.03	*
	Age (*M v O*)	0.17	0.047	3.64	0.001	**
BAG-raising (F1)	*Coda* (*g*(.5) *v Obs*(-.5))	-0.40	0.22	-1.80	0.08	.
	*Coda * Age* (*M v O*)	0.32	0.12	2.77	0.006	**
	*Coda * SES* (*NP*(-.5) *v P*(.5))	0.23	0.11	2.11	0.04	*
e-i (Pillai)	*Age* (*Y v M*)	0.25	0.13	1.86	0.08	.

Table 2: Significant and Trending Effects

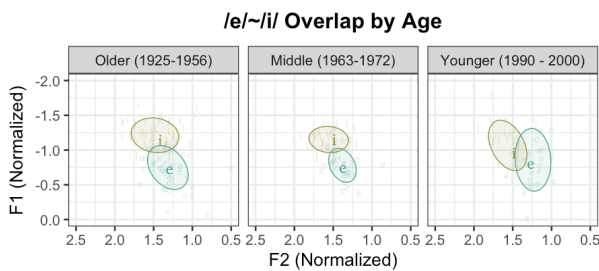professional speakers (Figure 3), though, unlike age, SES was not a significant predictor in the regression model.
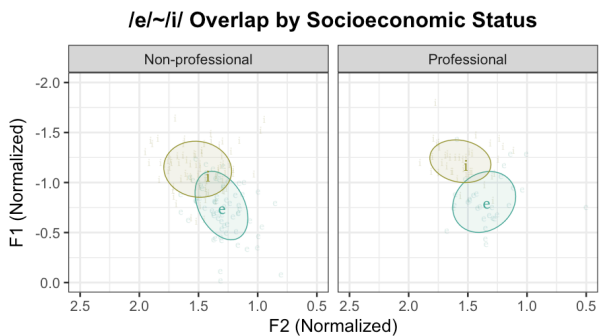

Figure 2: /e/ - /i/ Overlap by Age

Figure 3: /e/ - /i/ Overlap by SES

3.3. Pre-velar /æ/-raising

Figures 4 and 5 show the Interlake speakers' production of /æg/, /ɛg/, /æ/ and /ɛ/ broken down by participant age and socioeconomic status, respectively. Both /ɛg/ and /æg/ appear to be raised relative to /ɛ/ and /æ/ for all groups of speakers, but they remain distinct from each other. The statistical

analysis shows two patterns for /æg/-raising: the middle age group raises more than the older group, as seen in Figure 4, and non-professionals raise more than professionals, as in Figure 5.
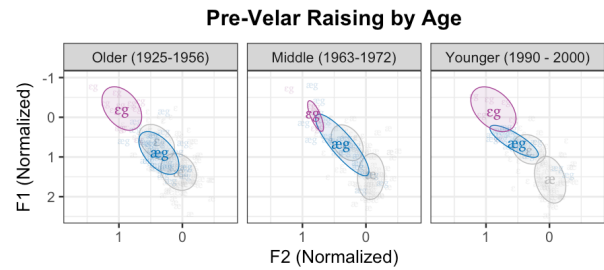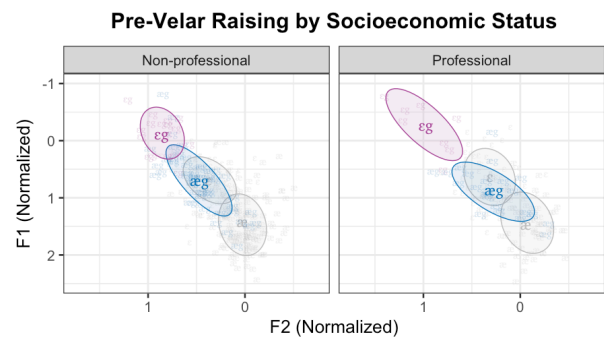

Figure 4: /æg/-Raising by Age

Figure 5: /æg/-Raising by SES

4. DISCUSSION

4.1. Low back merger shift (LBMS)

Apparent-time analysis suggests that Interlake speakers participate in the LBMS mostly as would be expected. Middle-aged speakers retract /æ/ more than the older speakers, and women retract more than men; both differences suggesting a change in progress towards more retraction and reflect studies elsewhere (e.g. [16, 17, 18]). Furthermore, the next two vowels in the pull-chain trend similarly, with middle age retracting /ɛ/ more than the older speakers, and the younger speakers retracting /ɪ/ more than the middle generation. We interpret this to mean that /ɪ/-shifting has just begun in this youngest Interlake generation.

Of particular interest, however, is the fact that the youngest speakers appear to be initiating a reversal of the LBMS, with /æ/ in a more front position than for older speakers. This effect could be due simply to the low number of younger speakers in the sample. However, given the gender imbalance within the younger speakers skewing female, and the tendency for women to drive change, we expect that

the fronting found within our data to be reflective of change presently occurring within the community. This reversal of the retraction found elsewhere could be interpreted as moving away from 'city' pronunciation. This interpretation becomes more interesting as we see similar effects in /e/-/i/ overlap (4.2) and /æg/-raising (4.3).

4.2. /e/-/i/ overlap

The degree of overlap found between /e/ and /i/, to our knowledge, has not been reported elsewhere, but, there is some preliminary evidence supporting /i/-/e/ overlap as a locus of variation in the area. Onosson [19], for example, found that Manitobans of Filipino descent had a more raised and front /e/ than those of Mennonite descent. Similar overlap of high and mid vowels was also found in the Metis French spoken in the area [20], attributed to influence of the nearby Algonquian languages.

It is interesting to note that it is the youngest speakers with the most overlap, and so this may be evidence of a change in progress. Such an overlap has not been observed in 18 to 35 year olds in Ontario or Colorado [18], whose degree of overlap is similar to that of the older and middle-age Interlake speakers. Although we cannot speak definitively on /e/-/i/ overlap as a change in progress, this is an area worth developing for future research. It is furthermore interesting to note that this overlap is predictable not only by age but by SES, where younger and non-professional speakers are overlapping more than older and professional. This pattern is one we will return to in the next section.

4.3. Pre-velar /æ/-raising

Overall, there is substantial /æg/-raising among the speakers in the region, consistent with findings elsewhere in the Canadian West [21, 22, 23, 24, 19, 25, 26]. On the other hand, we do not find the BEG-BAG merger or overlap documented by Freeman [5], and there is less overlap than in Onosson [19]'s findings among the urban Filipino Manitobans.

Recall that while both /ɛg/ and /æg/ are raised relative to /ɛ/ and /æ/ for all groups of speakers, the statistical analysis shows two /æg/-raising patterns: the middle and younger speakers raise more than the older group, as in Figure 4, and non-professionals raise more than professionals, as in Figure 5. This is the same patterning together of younger and non-professional speakers as we just saw with the /e/-/i/ overlap. This change towards raising is consistent with Swan [26]'s work in Vancouver, and Rosen & Skriver [25]'s in Southern Alberta,

both of which showed more raising among younger speakers. However while the Interlake pattern is consistent with a change occurring in apparent-time, beginning with the middle age group, the socio-economic differences are particularly intriguing.

Linguistic changes in progress are often associated not only with younger speakers in apparent-time, but also women, and professional women in particular, with the explanation that young upwardly mobile women have particular incentive to adopt changes as a way to gain status in the linguistic marketplace. However in this case, there is a) no gender effect, and b) younger speakers and non-professionals are /æg/-raising more. Although more research is needed, we suggest that this may be a rural effect as found in Stanley [2]'s study of /æg/-raising in rural Cowlitz County, Washington, in the Pacific Northwest. Stanley found that 'higher tokens of BAG are correlated with degree of connectivity and positive feelings about the Pacific Northwest while lower tokens are a result of time away from the community and more education' ([2]:142). It may be that /æg/-raising is doing similar social work in the Interlake region, an area where it is not a social advantage to talk like 'city people.' In the Interlake case, we find that non-professionals are raising more than professionals, suggesting that it may be developing into a local rural marker, differentiating from the city. More research is necessary to determine whether this is the case, however.

5. CONCLUSION

Overall, we found that while Interlake speakers participate actively in the LBMS, there appears to be a reversal of this shift at the beginning stage among the youngest speakers in the sample. In addition, we found a significant degree of overlap of /e/ and /i/ not previously reported for Canadian English, and lastly, that there is a pattern of æg-raising in the community.

Of particular interest is the pattern of movement away from upwardly-mobile urban features found across the three features. Specifically, the non-professional and younger age groups are patterning together for both æg-raising and /e/-/i/ overlap. When added to the potential movement away from the LBMS among the younger speakers, this recurring pattern is worthy of further investigation to find out whether the drivers of change in rural communities are different than in the urban communities more commonly studied in sociolinguistics.

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[1] For a complete wordlist and full size figures, see lisasullivan.ca/lipp/icphs2023