Canadian Raising à la Montréalaise
Henrietta Hung
University of Toronto

1. The Linguistic Variable (aw) in Canadian English
Perhaps the most distinctive trait of Canadian English is the raising of the onset of the diphthongs /aw/ and /ay/ before voiceless consonants in words such as "house" or "ice". This is due to a phonological rule known as Canadian Raising (CR) (see Chambers (1973) and Joos (1942) for more details). Prior to the last two generations, CR was a categorical rule that raised the onset of the diphthongs as follows:

/aw/ → [∧w] / __ voiceless C
/ay/ → [∧y] / __ voiceless C

Chambers (1980) and Chambers and Hardwick (1986) show that the diphthong /aw/ has become a variable among the younger speakers in Toronto and Vancouver, suggesting that there is clear evidence for a linguistic change in progress. Some speakers front the onset of /aw/ in all environments and some speakers fail to raise the onset in the environment of the CR rule. This results in an unprecedented range of variability as shown in the vowel chart below:

ε   æ   ∧
æ   a   ø

Chambers (1980) demonstrates that in Toronto the fronting of the onset of the diphthong /aw/ is the result of a change in progress as this fronting is both age-graded and gender-graded. Chambers and Hardwick
(1986) find that the same change is taking place in Vancouver in spite of the existence of a competing sound change (see Chambers and Hardwick, 1985).

Chambers (1980) suggests that Fronting is a linguistic change which may have its motivation in sociopolitical attitudes and that younger Canadians are linguistically as well as politically heteronomous to the American standards. It seems as if this political heteronomy has pervaded the entire urban middle class population of Canada and that a standard or "norm" will be established for all of North America.

In this paper the studies of Chambers (1980) and Chambers and Hardwick (1986) are replicated for the city of Montreal. I chose to look at the same variable in Montreal for two reasons: (1) any reference to inland Canadian English in the literature has never gone further east than Kingston, Ontario, and (2) Montreal has always been considered an anomaly with respect to the rest of Canada. Whether speakers there are following patterns which are similar to those of their counterparts in other provinces or whether they are behaving in a completely different way makes for an interesting topic of study, given the particular historical and sociopolitical setting of Montreal. (Readers who are interested in knowing more about Montreal may refer to Sancton 1985.)

II. The Investigation of /aw/ - Methodology

Data was obtained from thirteen English-speaking, born and bred Montrealers. The informants were selected from three age groups: 12-year-olds, 22-year-olds, and 45-50-year-olds. Each group consisted of two males and two females, with the exception of the youngest group which had three females.

Subjects were interviewed for approximately forty minutes, the interview being guided by the protocol prepared by Chambers (1980). This
protocol was designed specifically to allow for the systematic study of the linguistic variable (aw) in different speech styles. The interview elicited three speech styles: Interview style (IS), Reading Passage (RP), and Word List (WL). The IS was elicited through an informal interview containing questions which required the use of words containing /aw/: e.g. “Tell me about the housing in the neighbourhood where you grew up.” The RP style was elicited by having the informants read a short children’s story containing fifty /aw/ tokens. The WL style was elicited by having the informants read a list of fifty words with thirty /aw/ tokens interspersed among them. These three styles increase in carefulness from IS to RP to WL, allowing us to investigate the possibility of style-shifting and hence any social markings the variable might possess.

11.1 Scales of Measurement: Quantification of Results
A total of 1,869 tokens of the variable were elicited from the thirteen subjects. All the tokens were transcribed and then sorted according to style (IS, RP, WL) and phonetic environment (before a voiceless C, a voiced C, or a word boundary). For each informant, two indices were calculated: a Fronting Index (FI) and a Non-Raising Index (NRI).

11.1.1 Calculation of the Fronting Index (FI).
The onset of the diphthong is categorized as back, central, or front. As the back variant is assumed to be the standard form, an occurrence of this variant is given a value of 0. The central variant deviates from the standard by one degree, and thus is given an index value of 1, while the front variant is given an index value of 2. As the front variant did not occur in the Montreal data, there were only two variants with respect to Fronting:

(1) (aw)→ 0 [ɔw], [æw]
    (aw)→ 1 [æw], [æw]
Figure 2 shows that all four Montreal adults use the front variant. Of the four, three (RD, BA, and SD) have an FI around 75, indicating that the use of the central variant is more common than the use of the back variant. For these speakers, the phonetic target or norm is clearly central although they do occasionally use the back variant. WB uses the back variant more often than the central variant, but the central variant does occur in his speech. Thus, all four possess the same repertoire of phonetic variants; only the number of occurrences of each variant differs.
The values of all the tokens for one informant are added up and divided by the number of tokens. This total is then multiplied by 100. Thus someone who always uses the back variant would have an FI of 0, while someone who always uses the central variant would have an FI of 100.

II.1.2 Calculation of the Non-Raising Index (NRI).

The NRI is calculated in the same manner as the FI: the raised variant is given a value of 0, and the non-raised variant a value of 1. In calculating the NRI only the onsets of diphthongs before voiceless consonants are considered, and all other occurrences are ignored. This is because before voiced consonants and word boundaries the raised variant is never found. This method of calculation is different from the one used by Chambers (1980), where all tokens of the diphthong were taken into account in calculating the NRI. The variants with respect to the NRI are as follows:

(2)  \( \text{(aw)}-0 \quad [\text{aw}], [\text{aw}] \)

(aw)-1  \( [\text{aw}], [\text{aw}] \)

III. Results of the Montreal Study

III.1 Fronting

Figure 1 shows Fronting by age, sex and style. There is no indication that Fronting is either age-graded or gender-graded and thus no evidence for a sound change in progress. There are, however, some interesting differences within the groups: the 12-year-old males front much less than the 12-year-old females, the 22-year-old females front much less than the 22-year-old males and the 45-year-old males front much less than the 45-year-old females.
Another observation regards the contextual styles. If a linguistic variable carries some social meaning then one would expect a closer approximation to the perceived standard in the most careful styles of speech. In our case the scores deviate from the assumed standard in the RP and move towards it in the IS and WL.

The FI's of the young adults (22 year-olds) are shown in Figure 3. The two 22 year old males (JD and SB) use the central variant almost all of the time. One of the females (DG) consistently uses the back variant, while the other female (SK) regularly uses the central variant. DG's phonetic target is clearly the back vowel, while the others aim for the central vowel.

In terms of style shifting JD and DG seem to exhibit the behaviour associated with a socially marked variable, that is, a progressive shift towards the assumed standard in the more careful speech styles. However, the other two informants do not exhibit any style shifting. Thus far we have come across two individuals who differ significantly from the rest of their group: WM(m), an adult and DG(f), a young adult. I will return to these individuals later.

*Figure 3. Fronting Indices of young Montreal adults*
The results for the 12 year-olds are shown in Figure 4. The same observations can be made for this group: the majority of the group approximates the central variant more often than not, while the minority (in this case AP(f) and JB(m)) approximates the back variant more often than not. There is no evidence of style shifting.

Figure 4. Fronting indices of Montreal 12 year-olds

III.1.1 Fronting in Montreal vs. Toronto and Vancouver

In both Toronto and Vancouver the Fronting change is progressing at about the same rate; this is substantiated by the fact that in both cities Fronting is age- and gender-graded. The only difference is that the Vancouver adults front more than the Toronto adults. Figure 5 shows the Fl's by age for the three cities. It is clear that Montreal is rather different.
As we have seen, Fronting in Montreal is neither age- nor gender-graded and on the average all the age groups use the central variant more than half of the time. The lowest score in the Montreal section of Figure 5 is 54, the highest is 76. Contrast this with the Toronto subgroups where the lowest score is 8 and the highest is 83. Apparently the variation in Montreal is between individuals, regardless of sex and age, whereas in Toronto the variation is between sex and age groups. Montreal adults front significantly more than their counterparts in other cities. Even WB, who trails behind his peers, fronts more than the Toronto adults, although it appears that he could fit quite well into the Vancouver group. The young adults in Montreal also front more than their counterparts although the difference is not quite as dramatic as it was for the older groups. Crucially, the Montreal 12-year-olds however seem to front less than the 12-year-olds in the other cities. The Montreal results do not suggest a linguistic change in progress.
These results seem to indicate that the standard in Montreal may never have been the back variant. All that can be said about Fronting is that Montreal speakers differ from Toronto and Vancouver speakers in that they seem to lack a norm or standard -- a point which will be elaborated upon in the next section.

III.2 Non-Raising

Two different procedures were used to calculate the NRI's: (1) the procedure used in Chambers (1980) for the purpose of comparison; and (2) the procedure described in section II.1.2. The difference between the two sets of scores is in the choice of the denominator and therefore becomes a matter of proportion. The figures in Chambers (1980) and Chambers and Hardwick (1986) are very low and may be somewhat misleading because of the method of calculation.

Figure 6 presents the Montreal Non-Raising scores using Chambers' method of calculation; Figure 7 presents the recalculated scores.

*Figure 6: Non-Raising Indices by Age, Sex and Style (Original calculations)*
Figure 7 displays age-grading, with the youngest group using more of the low variants before a voiceless consonant than the older groups. Gender-grading is evident only for the 22-year-olds. Style shifting seems to be more of an issue worth considering here than it was for Fronting. But first I shall review the results on Non-Raising obtained in the other two cities. Figure 8 presents the overall data (in the original calculations) for all three cities.

Figure 8. Original Non-Raising Indices by Age and Sex
Chambers (1980) found that, in Toronto, Non-Raising scores were relatively low. Although vowel height was involved in the change in progress, it was in a state of flux at the time of the survey. The Vancouver scores, on the other hand, show more coherence in terms of stratification. Although Chambers and Hardwick (1986) recognize that Non-Raising is better defined in Vancouver, they avoid any further conclusions on the grounds that the results are not dramatic enough.

Looking at the Montreal results according to Chambers' calculations (see Figure 6) we see that they are equivalent to the Vancouver scores. If the Vancouver scores are not dramatic enough to warrant further investigation, then neither are the Montreal results. However, the recalculated scores reveal clearly that among the youngest speakers several fail to raise more often than not. Here we see strong evidence for age stratification and some evidence for gender stratification as the 12-year-old females are leading all groups.

The number of times the adult females fail to raise is insignificant (3 out of 135). Figure 7 shows that the males lead the females in the two older age groups, while in the youngest group the females are ahead of the males. One possible explanation for this pattern is that Non-Raising may previously have had a social stigma attached to it, one that young adults and old adults are conscious of, but that has lost its negative connotations among the youngest group.

### III.3 Non-Raising Among Fronters

Earlier on it was pointed out that even within a single subgroup Montreal speakers exhibit a great deal of diversity. For Fronting, one can separate those whose target phonetic variant is central from those whose target is
back. Figure 9 illustrates the FI's for each informant, while Figure 10 shows their NR scores.

*Figure 9. Fronting Indices for each informant by Contextual Style*

(a) 12 year-olds  (b) 22 year-olds  (c) 45 year-olds

*Figure 10. Graphs of Non-Raising for each informant*

(a) 12 year-olds  (b) 22 year-olds  (c) 45 year-olds

It is apparent from the graphs that within each age group there is a division between fronters and non-fronters represented by the dotted line along the fifty mark in Figure 9. Figures 9 and 10 show that among the two younger groups, the non-fronters (those below the dotted line in Figure 9)
hardly ever fail to raise and are located along the abscissa of the Non-Raising graph (Figure 10). This indicates that one must be a fronter in order to be a non-raiser. This finding is supported by Chambers (1980) who found a positive correlation between Fronting and Non-Raising such that the higher the FI, the higher the NRI. This is true except for the 45 year-old females who front a great deal but never fail to raise. Nevertheless the implicational relationship still holds such that Fronting is a necessary condition for Non-Raising. Among Montreal speakers who do front, Non-Raising has become an available option.

Phonologically, Non-Raising produces the low, central variant [aw] before a voiceless consonant much more often than the low, back variant [aw]. In other words one is more likely to find instances of [haws] and [bawt] than [haws] and [bawt]. Thus Non-Raising is not simply lowering regardless of frontness, but rather the realization of the low central variant [aw] as the target vowel. Thus there are very few instances of Non-Raising involving the back variants ([aw] and [aw]), whereas Non-Raising between the central variants ([aw] and [aw]) seems to be where the active change is taking place.

As it appears that Non-Raising is a sound change occurring only among those speakers who front their onsets, we shall now look at the speakers who front to see if more sense can be made out of what is going on in terms of Non-Raising. This means excluding AP(12f), JB(12m), DG(22f), and WB(45m). Figure 11 presents the Non-Raising scores of the fronters.
With the exception of the rightmost bar in Figure 11 (which is effectively RD's score), there is perfect age and gender stratification. This is a more accurate picture of what is happening compared to the results given in Figure 7. However some discrepancies still demand an explanation. Is RD's score aberrant (he's a 45m), or is it just that Non-Raising is highly stigmatized among the older group, causing the older women to avoid it completely? As the results depicted in Figure 10 provide no evidence for style shifting, the linguistic variable would appear to be an indicator of a sound change in progress rather than a social marker.

### III.4 Linguistic Diversity

The most noticeable difference between the results of the Montreal study, on the one hand, and the Vancouver and Toronto studies, on the other, concerns the stability of Fronting across groups. In Montreal, we find that Fronting occurs rather consistently among all three age groups, while in Toronto and Vancouver Fronting is both age- and gender-graded. Therefore, rather than a change in progress, we have a case of stable variation in Montreal.
Chambers (1980) claims that the motivation for the Fronting occurring in Toronto and Vancouver is sociopolitical, referring to the phenomenon as heteronomy. He observes that the sound change is towards a standard American variant and hypothesizes that the changes taking place simultaneously in Toronto and Vancouver are the result of political heteronomy towards the United States. As this change appears to pervade the Canadian urban middle class in Toronto and Vancouver, it would further appear that the Canadian urban middle class forms a linguistic speech community bound together by a common set of norms. The question which arises concerns whether the Montreal anglophone community can be considered as part of this linguistic speech community. Our results suggest that it is not. Although Montreal resembles Toronto qualitatively (i.e. the repertoire of the phonetic variants is the same), it is substantially different quantitatively (i.e. the range of scores within the subgroups is different). Of course, it is possible Fronting hit Montreal earlier than it did either Toronto or Vancouver, which would account for the rather high Fronting scores of the Montreal adults. This would suggest that Montreal was influenced by a wave of Americanization before the other two cities. While this explanation may seem far-fetched, it lends support to the notion that Fronting is a sociopolitically motivated sound change that has as its target the urban middle class as a whole.

A more reasonable explanation for the state of affairs that exists in Montreal is that there may simply be no set of defined norms or standards in the anglophone community in Montreal (at least not with respect to the Canadian Raising rule). The fact that Montreal is not as linguistically homogeneous as Toronto seems to reflect the fact that the anglophones of Montreal are also less culturally homogeneous. There seems to be a cultural
norm that is much more evident in Toronto, and Montrealeans who live in Toronto often remark upon how homogeneous Torontonians are with respect to style, culture and fashion. Whether this is because Toronto is a newer, financially-booming town or whether there is some hidden sociological factor at work, it seems that a wave of change catches on more quickly in Toronto, and that it spreads with more speed.

Why is Montreal so linguistically diverse? If it is due to a lack of a norm, what does this mean? Perhaps its anglophone population is not a community in any real sense, but merely a non-francophone fringe. This suggests that external pressures do not have as great an effect as the internal forces that define a community from within. In effect the anglophones of Montreal do not form a speech community in the same way as Torontonians do. (See Milroy and Milroy (1985) for some interesting observations on the role of norms in a speech community.)

Perhaps the most reasonable interpretation of the results is that Montreal never had as its standard the raised back vowel in words like /haws/. It may be that only recently has a change begun to take place, a change that is going in the direction of the original standard of cities such as Toronto and Vancouver, and thus in a direction opposite to the rest of Canada.
References


List of Contributors

Barbara Brunson is a graduate student in the Department of Linguistics, University of Toronto.

Professor J. K. Chambers is Chairman of the Department of Linguistics, University of Toronto.

Lisa Lai Shen Cheng is a graduate student in the Department of Linguistics, University of Toronto.

John Davison is a graduate student in the Department of Linguistics, University of Toronto.

Henrietta Hung is a graduate student in the Department of Linguistics, University of Toronto.

Lydia Scholten is a graduate of the Department of Linguistics, University of Toronto.

Hitay Yukseker is a graduate student in the Department of Linguistics, University of Toronto.