CANADIAN RAISING:
/au/ in FREDERICTON, NEW BRUNSWICK[1]

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ABSTRACT

The objective of this study was to find out how language is spoken in a particular region; in particular, it was to investigate aspects of Canadian Raising in Fredericton, New Brunswick. The study was limited to instances of /au/ as produced by informants differing in age, education and sex. These factors were examined to determine their possible influence on variation in this diphthong.

INTRODUCTION

Canadian Raising consists in the use of a nuclear vowel above the lower low level, as the vowel symbols are described in Kurath (1939/1973: 123-29), in the diphthongs /ai/ and /au/ when either diphthong is followed by a voiceless consonant. As Wells (1982: 494) noted, 'these allophones are diphthongs with a mid starting-point (half-open or somewhat closer); [əi] (or more precisely [ei]) and [ʌu] respectively.'

These allophones occur in words such as *pipe, white, like, life, nice, out, couch, south,* and *house.* One can hear the phenomenon clearly when comparisons are made of pairs like *write* [rəit] versus *ride* [raid], *lout* [lʌut] versus *loud* [laud], *knife* versus *knives,* and *house* (n.) versus *house* (vb.). Thus, to cover the topic fully, one would have to elicit /ai/ and /au/ before each voiceless consonant that has a homorganic voiced equivalent. However, such an undertaking would have been unfeasible in terms of time and economics. The linguistic bounds of the topic were therefore nar-

rowed down to the treatment of /au/ only. The object of the study was to formulate some sort of hypothesis to answer the following questions:

(1)   Does age group make a difference in the informants' responses?

(2)   Does having a university education make a difference in the responses of the mature adults?

(3)   Do males and females respond differently from each other?

Reviewing the principal literature on Canadian Raising, one notes that Gregg (1973: 144) questions whether it is raising at all. Scargill (1977: 45) points out that Middle English did not have diphthongs in our words *out*, *loud*, *write*, and *ride*. Words such as *out* and *loud* were pronounced with a long /u/ whilst *write* and *ride* were pronounced with a long /i/. In Early Modern English, these words were pronounced with diphthongs. However, these were not the diphthongs we now have in *loud* and *ride*; the modern diphthongs did not develop until the very end of the eighteenth century. Scargill (1977: 45-46) concludes, 'It was the early eighteenth-century stage in the development of these two diphthongs that settlers from the British Isles brought to Canada during the early nineteenth-century period of immigration and that fact accounts for the distinctive Canadian pronunciation of the diphthongs in such words as *out*, *lout*, *write* and *slight* in contrast with the diphthongs in *loud*, *ride* and *slide*.' Much the same point is made by Pyles and Algeo (1982: 173). De Wolf (1992: 84) supplements this view by hypothesising, 'Historic evidence, i.e., the settlement history of North America in the early seventeenth century near the end of the Elizabeth's reign, indicates that the modern day variants must also have existed, so that a diphthong such as /əi/ would have the variant form [aɪ], and, at a somewhat later date, perhaps an alternate variant for /ʌu/, that is [aʊ], must also have existed.' However, as this present study is synchronic, the authors are not concerned with the historical origins of Canadian Raising; the word *Raising* is used herein to denote a current phenomenon, not a historical process.

Chambers (1973) adverted to the possible influence of stress on the distribution of raised vowels. In a further study, (Chambers 1980), he concludes that Canadian Raising of /au/ is undergoing a change, at least among younger speakers in North Toronto; the onset seems to be becoming more fronted, incidentally, it is the females who are leading the way. Davey (198 used one informant from Harvey Station, New Brunswick, for a study of Canadian Raising in the area; he compared the vowels of the Harvey Station area with those of Central/Prairie

Canadian English without the intention of distinguishing between [ɐu] and [ʌu]. In fact, Davey's informant had two occurrences of [ʌu], in *bout* and *souse*, and one of [ɐu], in *mouth*, used as a noun (Davey 1985: 29). However, comparing the data from only one informant from Harvey Station to the data from the other studies cited above will hardly be conclusive. De Wolf (1992: 85-91) in her very thorough study of the variable (ʌu) is likewise not concerned to distinguish between [ʌu] and [ɐu]. The need for further research on Canadian Raising east of Ontario is obvious and this paper seeks to provide at least a little of this.

THE STUDY

Statistics Canada (1992: 152) showed Fredericton, New Brunswick, as a city of approximately 46,000 inhabitants of whom approximately 3,000 were francophone, leaving 43,000 anglophone inhabitants. The organisations that employ most people are the Provincial Government, the New Brunswick Electric Power Commission, the hospital, the Government of Canada, and the University of New Brunswick.[3] To select the informants, the fieldworker visited Albert Street Junior High School for informants in the 13-14 age group and there selected 6 informants, 3 males and 3 females. For informants in the 15-18 age group, the fieldworker visited Fredericton High School.[4] For adults with university education, the fieldworker selected 10 from among computer science technicians, teachers in Albert Street Junior High School and Fredericton High School, librarians, and a graduate student. For adults without university education, the fieldworker went personally to university secretaries and support staff – a custodian and a janitor. As shown in the right column of Table 1, there were 25 informants in all, 12 males and 13 females. Of the 25 informants, 10 were teenagers (ages 13 to 18) and 15 were adults (ages 25 to 65).

Of the adults, eight had a university education and seven had not. In considering which of the informants fell in the 'with university education' group, the authors decided that anyone who had completed more than half of the university program, even had that person then dropped out of university, was in the category of those 'with university education.'

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[3]This information comes from Mr. Dale Carle in a telephone conversation with Kinloch. Mr. Carle is is the local Labour Market Information Analyst with the Canada Employment Centre in Fredericton.

[4]The authors are grateful to the principals of Albert Street Junior High School and of Fredericton High School for their help and cooperation.

Table 1: The informants by category

Age	13–18	25–65		
Education		No University	University	
Sex males	5	3	4	12
females	5	4	4	13
	10	7	8	25

For our questionnaire, we settled on a reading list of words containing comparable minimal or quasi-minimal pairs. Some of the words originally intended for inclusion later had to be removed from the list, as the informants did not know or use them. The words finally chosen were *pout, proud; lout, loud; bout, bowed; shout, shroud*, arranged in the order *bowed, shout, loud, proud, bout, lout, pout, shroud*. With a total of 25 informants each offering eight tokens, the total number of tokens available to the authors was 200, being 100 pre-[d] and 100 pre-[t]. Mistakes and misunderstandings reduced this total to 94 pre-[d] tokens and 96 pre-[t] tokens.

We recorded each interview and analysed the tapes to provide the data on pronunciation.[5] When we came to analyse the data, we decided to abandon the simple raised/non-raised dichotomy. Instead, we decided to classify each response by the quality of the nuclear vowel, categorising each response as mid (Md), upper low (UL), or lower low (LL), depending on the position of the nuclear vowel as described in Kurath et al. (1939/1973: 123-29). Based on Kurath's vowel chart (p. 123), these categories indicate the following unrounded vowels, from front to back:

Mid (Md)	ɛ	ə	ɐ	ʌ
Upper Low (UL)	æ	ɐ		
Lower Low (LL)	a	ɑ		ɑ

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[5]The informants were interviewed by Ismail, who also did the initial phonetic transcription. This was then checked against the field tapes by Kinloch and Klinck. The field notes are lodged in the Harriet Irving Library, University of New Brunswick, under the authorship and title of Fazilah M. Ismail, 'Field notes for a study of Canadian Raising: /au/ in Fredericton, New Brunswick.' The field tapes are lodged in the Walter S. Avis Collection of Recordings of Canadian English, in the department of Audio-Visual Services in the University of New Brunswick, with the (temporary) catalog numbers of C200 to C212.

IPA symbols are generally the same except /ɑ/ is (lower) low back unrounded, not central. A number (9) of Md responses were so fronted as to approach [ə], but the authors decided that the difference between [ə] and [ʌ] was insignificant for the present study. Responses in [æ] the authors treated as LL, seeing the [æ] as a reflex of an earlier [a].

The conclusions of the study are presented as a series of tables, with a continuing commentary following each table.

Table 2: All responses of all informants.

		Pre-/d/		Pre-/t/	
		N	%	N	%
Occurrences		94			
Responses	LL	94	100		
	UL			23	24
.	Md			73	76

Table 2 shows that, beyond all doubt, in a segment ending in /d/, the LL vowel is the canonical realisation of /au/ in Fredericton. There is not one example of any other vowel occurring in this position. Conversely, in segments ending in /t/, no LL vowel ever occurs. Strikingly, one informant mispronounced *shroud* as [šrʌut] and, despite the presence of the grapheme <d>, thus produced a Md vowel for the realisation of /au/. None the less, there is quite a strong tendency (24%) for informants to use a UL vowel rather than a Md vowel to realise /au/ before /t/. This may indicate that a possible sound change in the phoneme /au/ is in process of development, namely Md>UL before /t/.

Table 3. Adults' and teenagers' responses compared.

		Adults				Teenagers			
		Pre-/d/		Pre-/t/		Pre-/d/		Pre-/t/	
		N	%	N	%	N	%	N	%
Occurrences		57		60		37		36	
Responses	LL	57	100			37	100		
	UL			18	30			5	14
	Md			42	70			31	86

Table 3 indicates that UL responses are about twice as common (30%) among adults as they are (14%) among teenagers. The table helps in the answering of our first question: does age group make a difference in informants' responses? Obviously it does. And yet the distribution of the UL responses does seem slightly strange; one would expect the UL responses

to be more widespread among the teenagers than among the adults. However, the parameter of university education may influence the results just recorded and Table 4, giving results for adults with and without university education, must be considered here.

Table 4: Responses of those with university education compared to responses of those without.

	With university education					
	Male		Female		Total	
	Pre-/d/	Pre-/t/	Pre-/d/	Pre-/t/	Pre-/d/	Pre-/t/
	N %	N %	N %	N %	N %	N %
Occurrences	20	20	16	16	36	36
Responses LL	20 100		16 100		36 100	
UL		7 35		10 63		17 47
Md		13 65		6 37		19 53

| | Without university education | | | | | |
| | Male | | Female | | Total | |
| | Pre-/d/ | Pre-/t/ | Pre-/d/ | Pre-/t/ | Pre-/d/ | Pre-/t/ |
	N %	N %	N %	N %	N %	N %
Occurrences	6	8	15	16	21	24
Responses LL	6 100		15 100		21 100	
UL		0		1 6		1 4
Md		8 100		15 94		23 96

As Table 4 shows, UL responses are much more common among those with university education (47%) than among those without (4%). It is true that there were two informants with university education who had only Md vowels before /t/, but the other informants with university education all had at least one UL response.

From Table 4 there emerges also the fact that of the 18 responses showing a UL vowel in the pre-/t/ position, 17 are the responses of adults with a university education. Thus it would seem to be the possession of a university education that accounts for the distribution of UL responses noted in the comment on Table 3.

Because Table 4 is relatively complex, its relationships are perhaps easier to comprehend when they are displayed graphically as in Figure 1, where the sex differences (indicated as M and F) and the education differences (indicated as U and non-U) are th   ocial dimensions and the occur-

rence of UL (æ, ɐ) or Md (ɛ, ʌ) vowels in voiceless environments (Pre-/t/) is the linguistic dimension.

Figure 1: Differences in vowel height of /au/ onset for men and women with and without university education in Fredericton.
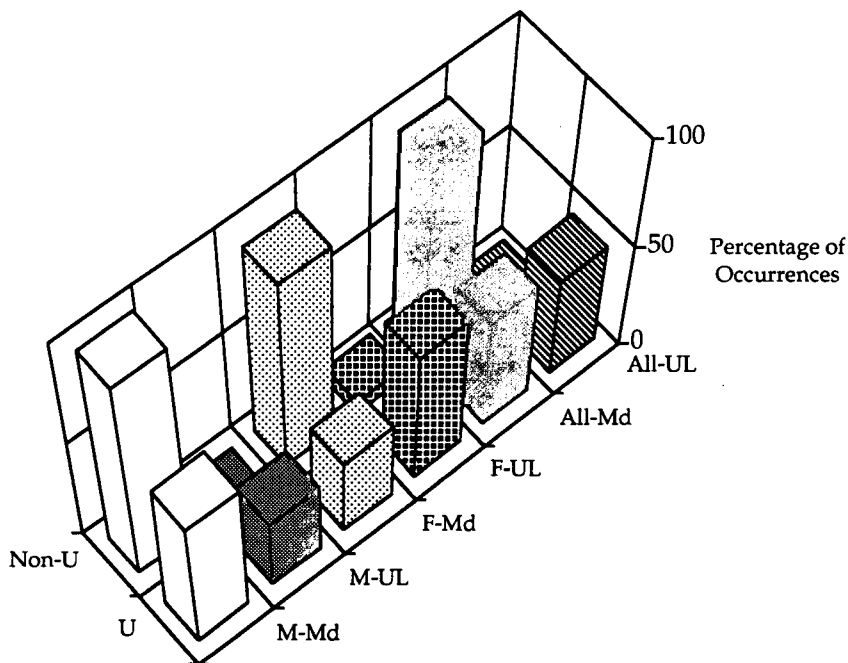
The three-dimensional display in Figure 1 sharply contrasts the difference in vowel heights between the university-educated adults and the others. The U group, in the front row, sometimes have upper-low onsets and sometimes have mid onsets; the women actually prefer the upper-low onsets but the men do not, and the average for both sexes is very similar. The non-U group, however, show a sharp distinction, preferring the mid onset almost categorically, and having very few instances, both women and men, for the upper-low onset. These differences suggest a significant difference between U and non-U groups, which is perhaps correlated with middle-class and working-class differences, although we would need to undertake further research to make this claim confidently.

Table 5: All informants' responses by sex.

		Males				Females			
		Pre-/d/		Pre-/t/		Pre-/d/		Pre-/t/	
		N	%	N	%	N	%	N	%
Occurrences		44		44		50		52	
Responses	LL	44	100			50	100		
	UL			7	16			16	31
	Md			37	84			36	69

It is obvious from Table 5 that a larger percentage (31%) of females have an UL vowel before /t/ than do males (16%), and, it follows, a larger percentage of males (84%) have an LL vowel before /t/ than do females (69%). Our third question was: do males and females respond differently from each other? Plainly, as Table 5 shows, they do. This may indicate that, if a sound change is in progress, the females are leading the way. This conclusion matches well with the conclusion in Chambers (1980) and in Woods (1979) (quoted in De Wolf 1992: 85) that it is the females who are leading the way in this particular sound change.

It seemed worthwhile to check whether this frequency of occurrence of the UL vowel in the responses of females occurred both in adults and teenagers, and so Tables 6 and 7 were created to answer this question.

Table 6: Adults' responses by sex.

		Males				Females			
		Pre-/d/		Pre-/t/		Pre-/d/		Pre-/t/	
		N	%	N	%	N	%	N	%
Occurrences		26		28		31		32	
Responses	LL	26	100			31	100		
	UL			7	25			11	34
	Md			21	75			21	66

Table 7: Teenagers' responses by sex.

		Males				Females			
		Pre-/d/		Pre-/t/		Pre-/d/		Pre-/t/	
		N	%	N	%	N	%	N	%
Occurrences		18		16		19		20	
Responses	LL	18	100			19	100		
	UL			0	16			5	25
	Md			16	100			15	75

Thus both among the adults and the teenagers, the percentage of UL responses is greater among the females than it is among the males, which reinforces the conclusion that, if a sound change is in progress, then it is definitely the females who are leading it.

This study indicates the need for further research along two lines: (1) a more extended survey of the realisation of /au/ before /d/ and /t/; (2) a similarly extended survey of the realisation of /ai/ before /d/ and /t/.

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