On the acquisition of variable phonology in L2

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1. Context of the study

This paper is part of a wider study being carried out on Anglophone Montreal French by Pierrette Thibault and Gillian Sankoff, a study which seeks to describe the competence in French of the first generation of Montreal Anglophones in the cohort that had access to French immersion schooling, i.e. young adults who were between the ages of 18 and 33 in 1993.[1] French immersion schools began in the Montreal suburb of St. Lambert in 1965, when 1993's 33-year-olds would have been five years old, and entering kindergarten (Genesee 1987, Lambert & Tucker 1972). Of course, not all English speakers in their twenties today went to immersion schools as children. Rather than having French as a medium of instruction in other subjects, which is the *modus operandi* of immersion schooling, many of these children followed the standard program of French study in the English schools which consisted of studying French as a subject, usually starting in Grade 3, and continuing through high school. Others were sent to French schools, which differed from immersion schooling in several ways, most notably in the children's increased exposure to French due to daily interaction with French peers.

In trying to characterize the competence of these young Anglophones, we are studying not only speech production, but also how native speakers react to the varieties of Anglophone French that they hear, as reported in the paper by Blondeau et al. (this volume). One of the features that we feel is most influential in the impression that natives receive of the Anglophones with whom they interact is their phonology. Does someone identified as having 'un gros accent' make a different kind of impression from someone who, albeit quite identifiable as an Anglophone, nevertheless sounds more native-like? This paper, our first attempt to examine Anglophone French phonology, concerns three phonological features: (l), (r), and (t,d).

The L2 French phonology a speaker is able to produce is a result not only of relative ability as an L2 learner, but also, and we feel more importantly, of the lifelong relationship he or she has had with the French language and its speakers. We recognized that, as members of a minority population in a city with a majority of French native speakers, young Anglophone

adults would have had many different types of social contacts with French speakers during the course of their lives. Some young people grew up in families where there was regular interaction with French-speaking relatives and close family friends; others had no French speakers in their close social environment as young children but made French friends as adolescents. Still others had little or no social contact until adulthood, but now have a spouse or significant other who is a French speaker. We also had to take account of these differences in background in analyzing the French that the Anglophones have acquired. Another major input is schooling, and for this reason we included in our study speakers with the three major types of school background mentioned above: the ordinary French program in English schools; and immersion program in otherwise English schools; and attending French schools.

Partly as a result of the different kinds of experiences they have had with the language and with native French speakers, the young Anglophones we interviewed had a range of attitudes with respect to French, and to their own place within the community. Alicia, for example, in the excerpt cited in (1), feels that it is outside experience that really makes a difference, and that her 10 years of French in school do not compensate for the fact that she lives her private life almost entirely in English, in contrast to her brother.

(1) IV: OK donc tous les trois vous avez fait le même profil académique, puis au niveau du résultat disons en français c'est différent. D'après toi qu'est-ce-qui fait la différence? Pourquoi ton frère est parfait bilingue?

A: Parce-qu'il avait beaucoup d'amis français et son chum maintenant est français et ils ont une enfant maintenant alors c'est, les deux families tu-sais-tu ils l'utilisent constamment tout le temps le français.

IV: *OK, so all three of you have the same academic history, but as far as ability in French, it's different. What do you think made the difference? Why is your brother a perfect bilingual?*

A: *Because he had lots of French friends and his girlfriend now is French and they have a baby now and so the two families, you know, they use French all the time.*

A: Je pense que je-- quelqu'un qui a appris cinq ans de plus en français serait un peu plus fort mais, encore je pense que ça, ça a pas vraiment beaucoup à faire avec l'école. Mais les personnes peut-être qui en avaient seulement l'école secondaire mais qui l'utilisent toujours vont être plus fort que moi qui a appris dix ans mais j'ai pas l'occasion de l'utiliser.

A: *I think that someone who had learned five more years of French would be a little stronger but, again, I think that that doesn't really have much to do with-- with school.*

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But people who had it [French] maybe only in high school but who always use it will be better than me who learned it for 10 years but I don't have the chance to use it.

Like Alicia, Ross feels that school French did not equip him perfectly to conduct his life in French, but focuses on the differences between the school French he learned and the Québecois vernacular, as demonstrated in the quote from him in (2).

(2) Ross: Les mots dans le québécois sont différents le mot des -- en français que je suis--
IV: Que tu as appris?
Ross: j'ai appris à 1'école. Vraiment difficile a-- des fois je dis la même chose puis ils me
           comprend pas
IV: Et là avec tes amis est-ce-que tu penses que tu parles plutôt comme québécois?
Ross: Oui, plus' en plus'.
R: The words in Québécois are different from the words in French that I learned in school. Really difficult. Sometimes I say the same thing but they don't understand me.
IV: And with your friends do you think you speak more Québécois?
R: Yes, more and more.

Finally, there are young adults like Ted whose knowledge of French dates from early childhood and who function well in both languages. In (3) he reports on customers he has to deal with in his job as a waiter, complaining about the intolerance of people who are annoyed with his code-switching on the job.

(3) T: Des fois il-y-a [ya] du monde qui, bon, ils [i] poussent ça trop loin. Comme l'autre jour tu-sais, j'étais [au restaurant] puis je mélangeais mon français mon anglais avec un client. Puis il [i] commence à dire "Ah, moi je comprends juste le français", nanana. il [i] commence à m'engueuler, bon bien je lui [ji] dis "Je m'excuse monsieur, c'est juste une cause [cf. à cause] d'habitude, je voulais pas te faire peur, you know I'm sorry! "
T: Sometimes there's people who, well, they take it too far. Like the other day, I was [at work] and I mixed my French and my English with a customer. And he starts saying, "Oh, I only understand French" bla bla. He starts getting mad at me, so I say to him, "I'm sorry, sir, it's just out of habit, I didn't want to scare you, you know I'm sorry!"

2. Methodology

2.1. Speaker sample

The data presented in this paper are taken from a subset of the sociolinguistic interviews we recorded with young adult Anglophone natives of Montreal in 1993-95. Some speakers, from many areas of Montreal, were recruited through a newspaper advertisement for bilingual subjects, a few through personal networks of members of the research team. A third set of speakers comprise a cohort sample, in which all members of one graduating class of a Montreal area high school are being asked to participate in interviews. This high school is situated on the border between an Anglophone and a bilingual neighborhood which has received an influx of Francophone speakers in the past several decades. It is an English language high school with two levels of French immersion as well as French as a subject for those less advanced in French.[2] Some of the speakers now live and/or work in predominantly Francophone environments.

For the analysis reported in this paper, we selected ten interviews with male and ten with female speakers. All were between the ages of 20 and 33, and all but two were carried out by interviewers who are native speakers of French.[3] All speakers currently live in the Greater Montreal area and speak English with their parents. The speakers differ, however, in their mode of acquisition of French: some attended a French school, some an English school with an immersion program, and some an English school without an immersion program but with French classes.[4] Speakers also vary according to the type of exposure they had to French as children: in personal networks, at school, or in their neighborhood. As young adults, they vary greatly in their degree of contact with Francophones, socially as well as in the workplace, and in the degree to which they use French in their daily lives.

2.2. Data collection

After a speaker had agreed to participate in our study, we scheduled an individual interview in French. These interviews had two aims: to learn as much as we could about relevant aspects of the speakers' social background and history, focusing on their experience with the two

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[2] For those who have attended immersion classes at the elementary level, there is also a post-immersion program, in which the number of subjects taught in English increases; by the last year of high school, only two subjects are taught in French.

[3] Most French interviews were cconducted by Hélène Blondeau, Marie-Odile Fonollosa, and Lucie Gagnon. Two of the French interviews were carried out by Gillian Sankoff, a near-native speaker. Subsequently, interviews with all of these speakers were carried out in English by a native speaker of English, in order to collect additional information on the background, histories, and attitudes of the speakers.

[4] French is a compulsory subject throughout English Canada.

languages; and to elicit a conversational register that would provide us with a sample of their ability to express themselves in French. The questions asked of each speaker were drawn from interview modules dealing with their linguistic history, family, friends, school, childhood and current activities.

Each interview was tape recorded and transcribed in its entirety. Initial transcriptions were checked by a second researcher. For each variable, 100 consecutive tokens were collected from each speaker, starting at page 5 of the transcription. In cases where there were not 100 tokens available following that starting point, earlier tokens were also used. There were a few cases, particularly for (l), where there were not 100 tokens in the entire interview, so fewer were used. Each token was coded independently by two researchers for the independent variables, and by one researcher for the dependent variables. Cases in which there were discrepancies in coding were resolved by re-coding by a third researcher. No acoustic measures were used in this analysis.

2.3. Dependent variables

The first dependent variable is (l), the rate of deletion of /l/ in subject pronouns. The deletion of (l) in the subject clitics *il* and *elle* is a phenomenon recognized in French from the 12th century on. In most dialects today, there is still variation in this regard, and we will compare the Anglophones with native speakers from several different speech communities.

The second is (r), the phonetics of /r/. Although a broad range of phonetic variants exist as realizations of (r) (Santerre 1978), there are two major competing realizations among native speaking Montrealers. Before about 1950, the Montréal dialect had tongue-tip [r], *r roulé,* whereas Québec City and the rest of Eastern Québec had uvular [R], *r grasseillé* (Vinay 1950). As of the 1950s, Montrealers began to change to [R], such that by 1971, most speakers under 25 had uvular [R], not apical [r]. This is especially true of middle- and upper-class speakers (Clermont & Cedergen 1979). Thus, in acquiring a French (r), our Anglophone speakers were faced with two potential targets. We also examine the effect of syllable position for this variable.

The third dependent variable examined is (t,d). Affrication in Québécois is a categorical rule that affricates /t/ and /d/ before high front vowels [i] and [y], as in the words *lundi* 'Monday', *du* 'some', *tu* 'you', *petit* 'small', etc.

2.4. Independent variables

The external factors which we consider in analyzing these three variables are age and sex of the speakers; the first language of the majority of their friends; the language(s) they use at work; the amount and type of French they have been exposed to in school and in their

community; and an independent measure of their level of French competence. Calculation of these values is described in Section 3 and their values are shown in Table 1 for each speaker.

3. Results

Table 1 summarizes our results, giving the value of both dependent and independent variables for each speaker. Speakers are divided by sex and then listed in descending order of their immersion scale values. Following the table, we discuss each dependent variable in more detail.

Table 1. Speaker factors and data

	Age	Friends	Language of Work	Immer. Scale	Grammar Score	Env. Scale	(l) %=Ø	N	(r) %=[R]	N	(t,d) % aff.	N
Liz	3	F	F/E	7	100	6	53	70	86	92	21	53
Sandra	24		F/E	6	100	6	**89**[5]	94	89	103	**95**	97
Joanie[6]	21	F	E/F	5	95	4	**80**	86	91	106	66	100
Kathy	25		F/E	4	100	2	34	111	97	115	73	105
Lynne	21	F	E/F	4	95	0	12	99	77	106	45	109
Janie	21		E/F	4	90	1	65	26	87	31	84	25
Glenda	22		F/E	4	85	0	60	43	28	71	90	48
Alicia	21	F	F/E	4	80	2	8	106	94	100	35	80
Tammy	24	_F_	F	4	75	1	15	102	81	109	87	102
Joan	30	_F_	E/F	2	85	1	**83**	103	38	109	**96**	108
Ted	23	_F_	F/E	7	95	6	**97**	103	94	95	**97**	101
Kurt	22		F/E	5	80	1	54	50	89	115	70	63
Jack	33		E	4	65	0	21	76	76	106	3	65
Ross	22	_F_	F/E	3	90	0	43	99	82	108	21	138
Larry	26		E/F	3	75	0	59	80	65	121	43	109
Tony	26	_F_	E/F	3	75	1	**87**	101	84	104	63	98
Greg	24	F	E/F	3	75	0	57	53	77	106	76	75
Mike	23	F	E/F	3	75	2	38	85	76	102	23	52
Don	34		E	2	75	0	26	69	42	109	36	59
Peter	20		E/F	2	65	0	15	82	94	106	18	105

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[5] **Boldface** numbers indicate values approaching that of native speakers. No boldface is entered for (r), because both uvular and apical are used by native speakers.
[6] Joanie's mother is a Québécois native-speaker; her father, from England, speaks little French. English was the language mainly spoken in the household.

F in the "Friends" column indicates that the person mentions Francophone friends. Underlined F means that a spouse, significant other or current roommate is Francophone.

In the "Language of Work" column, F indicates that the speaker reports using French predominantly, and E English. When both are listed, the language reported to be used more is listed first.

The immersion scale is as follows: 3 points each assigned for attending *French* elementary school and high school; 2 each for attending *immersion* elementary and high school; 1 each for English schools with only the regular French program. Subjects got 1 extra point for post-secondary education in French.

The grammar score indicates the percent of nouns a speaker produced with the correct gender in spontaneous conversation. The number given is the percent correct, out of a set of twenty nouns occurring consecutively in the subject's speech. Only nouns which were unambiguously marked for gender, either by determiners or co-occurring adjectives, were used in this calculation.

The environment scale is as follows: 2 points were assigned to a speaker for having a close French relative in childhood; 2 points respectively for attending a French elementary or high school (on the basis of peer interaction in a French milieu); and 1-2 points for extracurricular activities in French in childhood and adolescence.

3.1. Deletion of /l/ in subject pronouns

In all of the contemporary dialects where (l) has been studied, deletion has been shown to be sensitive to the particular pronoun in question (Sankoff & Cedergren 1971, Pupier & Légaré 1973, Laliberté 1974, Santerre et al. 1977, and Poplack & Walker 1986). Impersonal *il* is subject to the highest rate of deletion, followed by *il* singular and *ils* plural; followed by *elle* singular, with *elles* plural showing the least deletion. In Figure 1, we see rates of (l) deletion, by individual clitic, for native speaker populations in Paris, Tours, Montreal, and Hull-Ottawa, as reported in Poplack and Walker. Note that, for native speakers, there is more deletion for the Canadian dialects than for the European dialects. The pattern for the European cities also differs from that of the Canadian cities in that there is a large difference in deletion rate between personal *il* and impersonal *il* for the European speakers, whereas for the Canadian speakers, the difference is not so great. The heavy black line in Figure 1 shows deletion rates for the L2 speakers in our sample.

We see that, as a group, the L2 speakers resemble European speakers of French more than their Montreal counterparts. The order of deletion frequency in the five forms represented in Figure 1 resembles that of all native speaker populations. However, the mean (l) deletion rate

is lower in all cases than what we see in any native speaker group (except for the Acadians discussed in King & Nadasdi 1995). Deletion of impersonal *il* is the highest, at around 80%, personal *il* (singular and plural) is next, somewhere between 40 and 50%, and *elle* singular is next, very low at only 10% deletion. (l) in the feminine plural is virtually never deleted.

Figure 1. (l) - deletion rates for subject pronouns *il(s), elle(s)* across various native speaker populations (L1 data adapted from Poplack & Walker 1986)
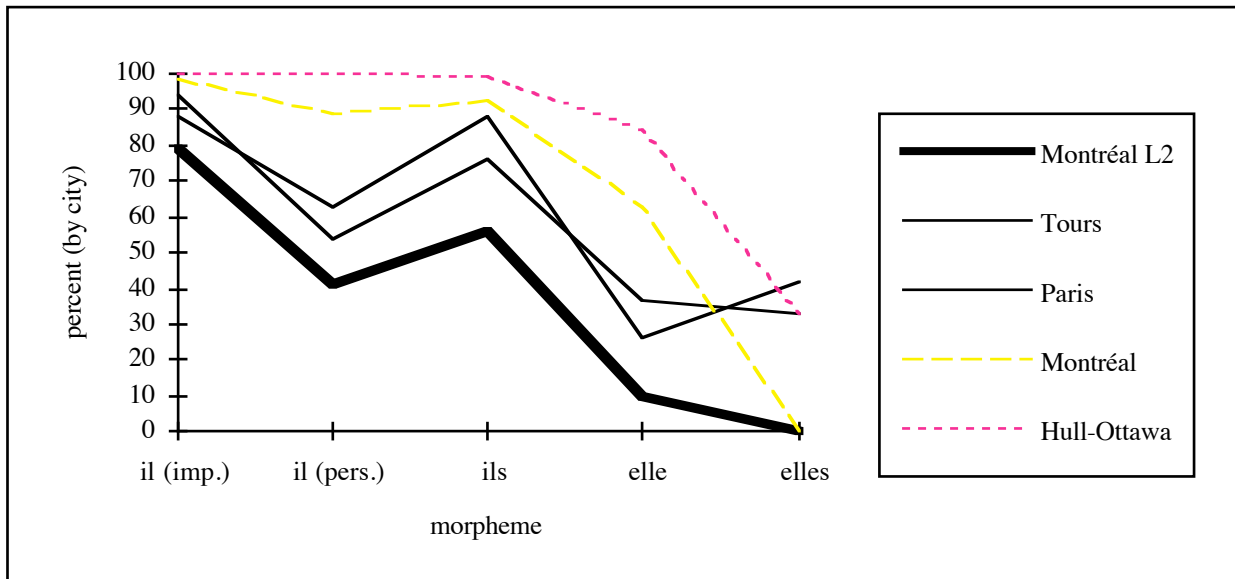
Of course, our twenty speakers differ among themselves with respect to this feature. (l) deletion increases both according to where a speaker is situated on the environment scale as well as where he or she is situated on the immersion scale, as shown in Figures 2 and 3.
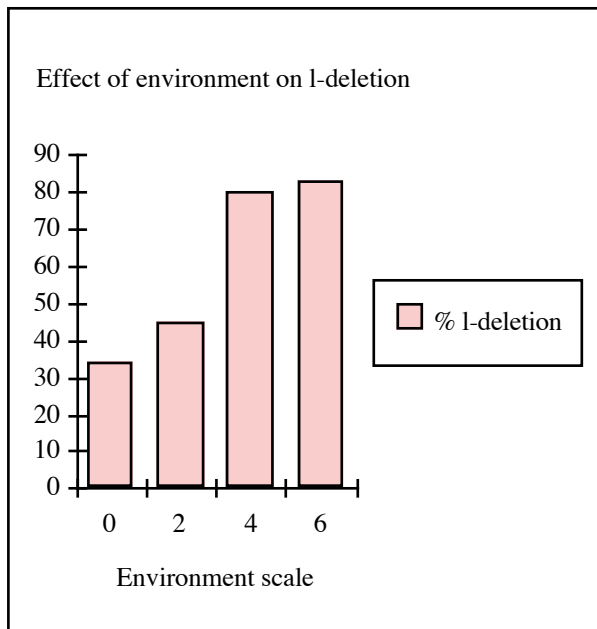
Figure 2.   **Figure 3.**

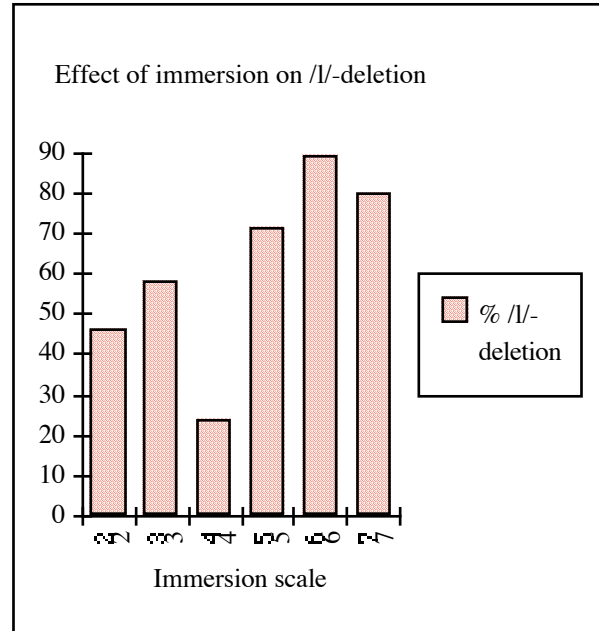Effect of environment on l-deletion

Effect of immersion on /l/-deletion

Figure 2 shows that speakers who had no French in their childhood environment delete (l) overall only about a third of the time, while those with maximal childhood exposure to French register 80% or more. Since all English-speaking Montrealers have had some French in school, we interpret these results to mean that those with only "school French" have minimal l-deletion, compared to those for whom community patterns have had an effect.[7]

Figure 3 shows that the level of immersion also had a consistent effect on /l/-deletion rate. We do not currently have an account for the low rate of deletion in Group 4.

Only 5 of our 20 speakers, three women and two men, show l-deletion rates similar to those of native speakers: Sandra, Joanie, Joan, Ted and Tony, as shown by the bold-face scores in the "(l)" column of Table 1. An excerpt from Alicia, our lowest (l)-deleter at only 8%, is given in (1) above. She says *il avait beaucoup d'amis français*, and *ils ont un enfant maintenant*, with both /l/'s fully articulated, as is typical for her. In contrast, Ted, quoted in (3), has a very high rate of (l)-deletion, going as far as to delete the /l/ of the indirect object clitic *lui*, as is characteristic of native-speaking Montrealers. (We did not study non-subject clitics systematically in this population, as only the most fluent speakers had enough forms to work with, and only our most fluent and highly integrated speakers like Ted deleted /l/ in this context.)

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[7] Joan, who is a member of immersion Group 2, showed a high percent of deletion. This may be due to her present high level of immersion: she, and several of her siblings, are married to Francophones. She is however, a member of Group 2 based on a low level of immersion in adolescence.

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Table 2 provides an implicational scale of the forms in which (l) deletion occurs for our individual speakers. In this table, we have combined singular and plural forms of the person pronouns. We have split the imperson pronoun, categorizing *il-y-a* separately from the other impersonal forms, since it exhibits very different behavior (there is almost categorical l-deletion in *il-y-a* for most speakers). An "X" in a cell indicates that that speaker produced l-deleted forms for that morpheme. A small "x" indicates that only one token of the form was produced by that speaker, and /l/ was deleted. A blank cell means that the speaker did have instances of the form, and did not delete any /l/'s. Dashes indicate that there was no data in the cell.

Table 2. Implicational scale: the acquisition of /l/-deletion by morpheme

	il-y-a	il(s)	il (imp.)	elle(s)
Greg	X	X	X	x
Joanie	X	X	X	X
Tony	X	X	X	x
Joan	X	X	X	X
Ted	X	X	X	X
Larry	X	X	X	X
Liz	X	X	X	x
Kathy	X	X		x
Peter	X	X		X
Lynne	X	X	--	X
Ross	X	X	--	X
Kurt	X	X	--	X
Don	X	x	x	
Sandra	X	X	X	
Glenda	X	X	x	
Mike	X	X	X	
Tammy	X	x		
Janie	X	X	--	
Alicia	X	X	--	
Jack	X		--	

Everyone deletes /l/ in *il y a*, at least some of the time, but not quite everyone shows deletion in personal *il* (singular and plural). In the case of *il y a*, the result of l-deletion in rapid speech is a glide, so we hear [ya] or [iya] for this form, as with native speakers. Similarly, glide formation is

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found in the form *il est,* which may be pronounced either [ye] or [iye]. In the impersonal *il* of *il faut*, *il est évident*, etc., 11 of our speakers deleted /l/, whereas 12 show at least some deletion for one of the *elle(s)* forms.

The shading highlights contradicting sections of the implicational hierarchy. The lightly shaded box indicates two speakers who deleted some (l) in *elle(s)*, but not in the impersonal *il*. The darker shaded box indicates four speakers who deleted some (l) in impersonal *il* but not in *elle(s)*. Though the *il*-impersonal and *elle(s)* forms are not clearly ordered with respect to each other in Table 2, it is clear from the low rates of deletion for *elle(s)* in Figure 1 that this form is the least likely to show l-deletion.

Varbrul weights for the various factors considered in this analysis are given in Table 3. They are: the morpheme, the number of the morpheme, the following phonological environment, the immersion level of the speaker, and the sex of the speaker.

Table 3. Varbrul results for (l), considering immersion level
Application value is production of [l]

Group	Variant	Factor Weight	App/Total	Input & Weight
Morpheme	elle(s)	0.926	0.90	0.93
	il n'y a pas	0.542	0.75	0.56
	il(s)	0.569	0.52	0.59
	il (imp.)	0.465	0.41	0.48
	il y a	0.081	0.17	0.09
Number	singular	0.522	0.52	0.54
	plural	0.413	0.44	0.43
Following environment	C	0.472	0.59	0.49
	V	0.530	0.45	0.55
	liaison /s/	0.398	0.39	0.42
Immersion level	7 (most)	0.101	0.20	0.11
	6	0.140	0.11	0.15
	5	0.176	0.29	0.19
	4	0.877	0.76	0.88
	3	0.285	0.42	0.30
	2 (least)	0.550	0.54	0.57
Sex of speaker	female	0.336	0.53	0.35
	male	0.672	0.48	0.69

Input 0.519
Total chi-square = 359.1727; Chi-square/cell = 3.7414
Log likelihood = -688.741

3.2. Uvular vs. apical variants of (r)

For this variable, we looked at the alternation between uvular and apical /r/, the two allophones present in Montreal French. With nonnative speakers, it was also important to see whether they had been able to leave the retroflex (r) of English behind, and acquire some type of French (r). Although we did code for five types of (r), including the retroflex, we found that there was very little retroflex (r) in our sample, most speakers having only 2 or 3 such tokens among the 100 tokens per speaker that we examined. We report only on the competition between the alveolar and uvular (r), since all other forms were so marginal.

Most of our speakers had opted for the newer uvular (r), along with their native-speaker age-mates. Clermont and Cedergren (1979) had shown that native speaking Montrealers under 20 in 1971 were virtually all uvular (r) speakers, and this is the case for our Anglophone bilinguals as well. However, in this case it is not possible to distinguish a community-based effect from a school effect, since both would have led to the same result. Anglophones would have learned uvular (r) as the correct, international French form, but this is also the (r) that is characteristic of the young native speakers in the community. In Figures 4 and 5, we see that immersion has a slightly more pronounced effect than early environment, but it is still not really possible to separate the two on the basis of this study.

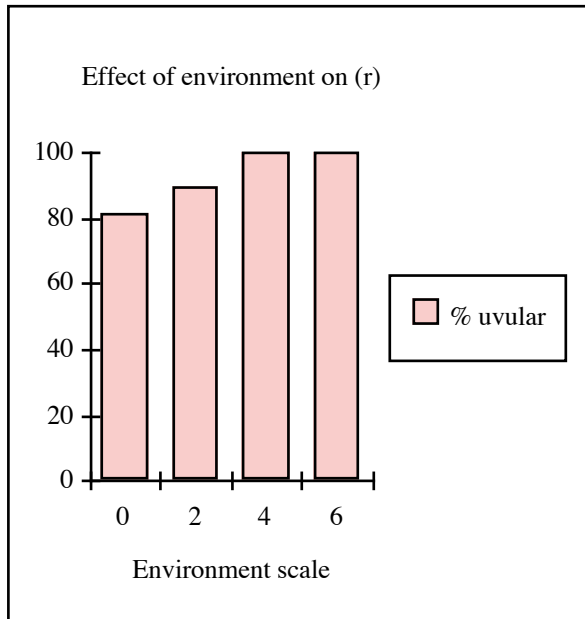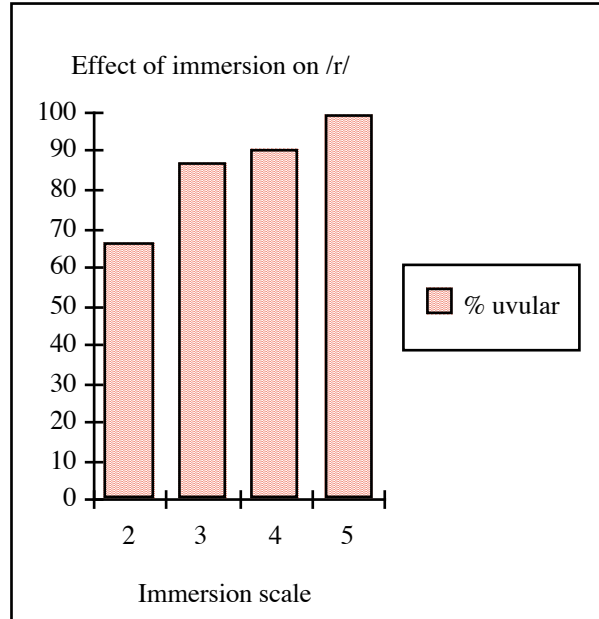**Figure 4.**   **Figure 5.**

We had only two speakers, Joan and Glenda, who showed a high rate of alveolar (r) use. In Table 1, note the figure of 28% uvular (r) for Glenda, and 38% for Joan, meaning that their respective rates of alveolar (r) are 72% and 62% respectively. In Joan's case, it is possible that

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she has acquired it in the context of associating with her Québecois husband's family, which may well contain some older, alveolar (r) speakers. In the case of Glenda, we have no suggestions as to why she differs from our other speakers in this regard, except that she is trying break into the predominantly older francophone management structure of the department store where she is employed as a sales clerk.

Lastly, we look at the phonological context of (r) production and attempt to compare this with the figures reported by Clermont and Cedergen (1979), as shown in Table 4. In making this comparison, it is important to note that the majority of variable speakers among the native speakers studied in 1971 were basically alveolar-(r) dominant, whereas the majority of our anglophones are basically uvular-(r) dominant. We found that in both populations, /r/'s in onsets were slightly less likely to be alveolar than were /r/'s in coda, for the group as a whole. Several of our speakers who seemed to be close to categorical uvular-(r) users produced unexpected alveolar pronunciations in words like *vraiment* 'really'.

Table 4. Percentage of uvular (r) according to syllable position

Speaker Groups	Onset	Coda
Natives 1971	26%	38%
Anglophones 1993-94	87%	96%

A next step will be to test the hypothesis that there is a split in our sample, where speakers who are higher on the environment scale more closely follow the phonological conditioning pattern of native speakers. It is already clear that the degree of immersion has a strong effect on the distribution of (r), as shown by the weights in Table 5.

Table 5. Varbrul weights for (r) considering immersion
　　Application value is uvular /r/

Group	Factor	Weight	App/Total	Input &Weight
Preceding segment	vowel	0.536	0.94	0.95
	word boundary	0.593	0.89	0.96
	stop	0.477	0.81	0.94
	fricative	0.368	0.76	0.91
Following segment	consonant	0.844	0.98	0.99
	# + consonant	0.662	0.96	0.97
	# + vowel	0.477	0.93	0.94
	pause	0.497	0.93	0.95
	vowel	0.317	0.81	0.89
English synonym	no	0.512	0.88	0.95
	yes	0.484	0.88	0.94
	proper noun	0.368	0.79	0.91
Immersion level	5 (most)	0.894	0.99	0.99
	4	0.510	0.90	0.95
	3	0.298	0.87	0.88
	2 (least)	0.118	0.66	0.70
Sex of speaker	female	0.398	0.88	0.92
	male	0.592	0.87	0.96

Input 0.946
Total Chi-square = 632.9801; Chi-square/cell = 4.2769
Log likelihood = -510.687

We also see that the preceding environment has little effect, while a following consonant (either in the same or a different word) favors the uvular form. Although we expected words with English synonyms to be more likely to exhibit retroflex /r/'s, there was not a significant effect of this type.

3.3. Affrication of alveolar stops before high front vowels

　　　　The affrication of /t/ and /d/ is the last feature we report on. There are no quantitative studies of this phenomenon with which to compare our results here, because of its categorical nature among native speakers. However, we will see that it is far from categorical with the Anglophones in our study. Turning to Table 1, we see that only three speakers, Sandra, Joan, and Ted, display rates of (t/d) affrication above 90%, and Jack, arguably our weakest speaker, had only two such tokens, from which we derive a rate of 3%. Someone like Jack has clearly not acquired a rule: he has one lexical item, *petit*, that he seems to have acquired with the affricated form, and he affricates nowhere else. Between Jack on the one hand and Ted on the other, our speakers are spread across the spectrum. Many display affrication for shorter, more common

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words like *petit*, *tu*, and various forms of the verb *dire*, but never use it in longer words like *différent* or *typologie* 'typology'.

Affrication is a feature where school and community influences certainly seem to conflict. Any Québecois teacher would have the feature, but most of the teachers of these students seem to have been from almost everywhere in the Francophone diaspora except Québec. Not all of our speakers were able to report accurately on their teachers' origins, but Québecois teachers seem to have been rare. On the other hand, anyone who walks around in Montreal without earplugs can readily hear affricated (t/d) all around.

What patterns, then, do these Anglophones show? In Figure 6, we see the expected big influence of early environment, but Figure 7 seems to show an equally strong influence of schooling. The strong effect of immersion is also shown in the Varbrul weights given in Table 6. The varbrul run shows that /t/ is more likely to be affricated than /d/, but as yet, we have not investigated the extent to which this result may be due to particular, high frequency lexical items like *petit* and *tu*. It is also shown that women affricate much more frequently than men.
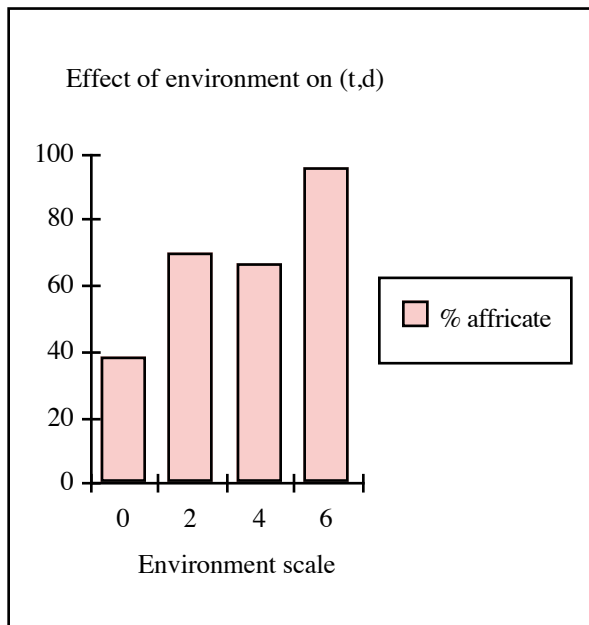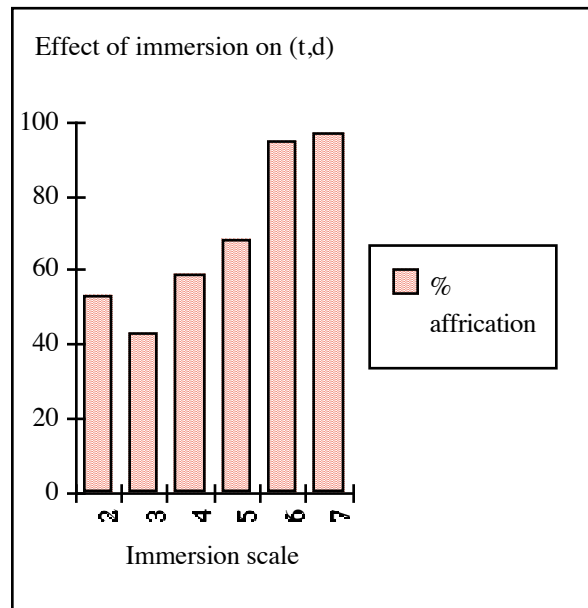
Figure 6.   **Figure 7.**

Table 6. Varbrul weights for (t,d), considering immersion
Application value is affrication

Group	Factor	Weight	App/Total	Input &Weight
Stop	/t /	0.605	0.67	0.73
	/d/	0.390	0.51	0.54
Following vowel	[y]	0.544	0.66	0.68
	[i]	0.475	0.55	0.62
Preceding segment	pause	0.564	0.68	0.70
	not coded	0.546	0.64	0.68
	vowel	0.417	0.56	0.56
	consonant + #	0.421	0.54	0.57
	vowel + #	0.492	0.53	0.64
	consonant	0.418	0.50	0.56
Level of immersion	2 (least)	0.494	0.53	0.64
	3	0.514	0.43	0.66
	4	0.329	0.59	0.47
	5	0.605	0.68	0.73
	6	0.764	0.95	0.85
	7 (most)	0.851	0.97	0.91
Sex of speaker	female	0.730	0.77	0.83
	male	0.237	0.38	0.36

Input 0.643
Total Chi-square = 218.8154; Chi-square/cell = 1.9537
Log likelihood = -867.138

Overall, this variable bears a good deal of further investigation, since it is the only one we looked at that is unique to the Québecois community, and we plan in the future to carry out experiments specifically designed to discover the extent to which this feature may symbolize Québecois identity, both to the Anglophones and to the Francophones themselves. We do have some indication of the fact that Anglophones may not want to "sound like" Québecois. One of our interviewees explained that her parents took her sister out of the local French school and put her into a French-immersion program instead, because playing with the other children in the French school had given her a "bad accent".

4. Discussion

Within the overall goal of trying to characterize the phonological competence of these speakers, the present study has only gone a small part of the way. How do the speakers actually sound? Fluent or disfluent? Native-like or like second language speakers? Like someone

speaking slowly and carefully, or like the seemingly effortless speech production of native speakers in the vernacular? Whether or not the L2 speakers do or can have a vernacular command of a second language is the topic of another paper (Sankoff & Thibault 1995). However, it is surely the case that many aspects of speech production other than segmental phonology are relevant not only to our own judgments about the vernacular competence of L2 speakers, but also to the evaluation that native speakers make about them. To some extent, hesitations and filled pauses contribute to a perception of disfluency (Sankoff & Thibault 1994), especially the pauses filled with English 'um' [Um] rather than French 'euh' [π:] which are produced by speakers like Greg and Jack.

Segmental phonology, however, is central to people's perception of "accent." In the case of the three variables studied here, the one that would be most susceptible of interpretation as an "English accent" would be the retroflex [r], but our speakers generally do not use retroflex [r]. As far as (r) is concerned, they fall within the range of their native speaker peers.

With respect to (l), most of our speakers exhibit very low levels of l-deletion, which places them considerably below any of the native speaker groups. It should be noted, however, that all of them show some l-deletion, and 5 of the 20 do fall into the native speaker range of greater than 80% overall l-deletion. It is worth taking a closer look at these people, to try to understand what it is about their experience that has led them to assimilate to the patterns of the Francophone speech community in this regard. Of the five, Sandra and Ted are two of the three speakers who attended French-medium schools from the time they began school. Liz, however, had the same experience, and at only 53% overall l-deletion, sounds more formal and standard than even upper-class Francophone peers. Liz, whose facility with French led her to be identified overwhelmingly as a native speaker by a sample of 140 native speaker judges (Sankoff & Thibault 1994), is therefore quite anomalous in this regard. Our tentative explanation is that, as an actress working in both English and French, she has an unusual ability to control many aspects of her speech production, and that in the interview, she may have been accommodating to the Parisian speaker who interviewed her. We intend to follow up with further recordings of Liz in other contexts. Of our three remaining speakers who show high l-deletion, Joanie is the only person in our sample to have a native speaker parent, and even though French was not used in the family while she was growing up, she may well have had more early exposure to the vernacular than most Anglophones have had. Joan has been married into a Québécois family for a decade, and uses French on a daily basis with her husband, her son, and other members of her husband's family. Even though her early exposure to the language was minimal, the experience of her adult life has enabled her to absorb the colloquial norm with respect to (l). Tony is a somewhat parallel case, since he currently attends a French speaking university, has a French girlfriend, and spends much more time speaking French than Engish on a daily basis. There are,

however, two other people in Table 1 who have French speaking significant others. Why has this not resulted in assimilation to the local pattern for them? In the case of Tammy, she reports that her native-French speaking fiancé speals such excellent English that she would never dream of using French with him. Likewise, Ross does not report speaking French with his Francophone girlfriend.

In summary, then, we can say that l-deletion is attested for all of our speakers, but that for most of them, frequency of use of this feature is much lower than that of native speakers, yielding an impression of formality or careful, classroom-like speech. This feature does, however, seem to be a relatively good indicator of true social integration into the local community, as it seems from the cases of Tony and Joan that speakers can learn to produce this feature according to native-like patterns as young adults. (Here, however, we note that those few individuals who have meaningful current relationships with native Québécois speakers have indeed assimilated to the local pattern.

Lastly, with respect to (t,d), most of our speakers do not regularly show the Québecois dialect feature of affrication before high vowels. Only Sandra, Joan and Ted behave like native speakers in this regard. Once again, given their individual social histories as discussed above, it is not surprising that they should stand out, nevertheless it would seem that this feature is either more difficult to acquire, or that Anglophones reject using a feature that is so distinctive of Québécois French. Of the two lines of explanation, the former seems perhaps more likely to us, since producing the affricate requires vocal gestures that seem to become automatic once they are acquired. In a study of native Québécois radio announcers on and off the air, Brunel (1971) found that this was one of the few features that was not subject to stylistic variation -- once acquired and part of normal speech production, speakers did not seem able to "turn it off" at will. We hypothesize that for the Anglophones who do not show close to 100% affrication, there is incomplete acquisition rather than some conscious or unconscious effort not to assimilate to the local pattern. This line of thinking appears to be supported by the fact that for the speakers who vary, it is the shorter, more frequently used words in which they tend to show affrication. This phenomenon obviously requires further study, and we hope to follow up this impressionistic analysis with some instrumental analysis of the phonetics involved.

In summary, it is clear that the L2 phonology of these speakers exhibits a great deal of variation. Moreover, for the three features examined here, it is not interference or transfer from L1 that stands out as a problem. Further investigations of our speakers' vowel systems and of their prosody may indeed show more interference. For the three consonantal features, however, the differential exposure of our speakers to native speaker norms, and more broadly, the differential integration of the Anglophones into the wider community, appears to have had the most significant impact.

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