

# **The Social and Linguistic Predictors of the Outcomes of Borrowing in the Speech Community of Montréal**

Michael L. Friesner\*

friesner@babel.ling.upenn.edu

**Ph.D. Dissertation Proposal, University of Pennsylvania**

**Defense: November 17, 2006**

## **1 Introduction**

In the field of language contact, questions arise that touch upon many of the subfields of linguistics. For example, a comprehensive, predictive theory of the outcome of linguistic borrowing would need to draw on research in phonology, phonetics, psycholinguistics, sociolinguistics, and second language acquisition. In this dissertation, I attempt to analyze linguistic borrowing from the particular perspective of variationist sociolinguistics, a perspective which allows consideration of the relevant internal and external factors, to evaluate the relative contribution of each. It is hoped that this examination will have relevance to several subfields of linguistics.

Theories of loanword adaptation typically establish a binary distinction between phonological and phonetic adaptation. Paradis and LaCharité (1997) and LaCharité and Paradis (2005), for example, view loanword adaptation predominantly as a process of one-to-one matching of phonemes. Silverman (1992) and Peperkamp and Dupoux (2003) appeal primarily to the phonetic component. For Peperkamp and her colleagues, all loanword adaptation boils down to perception, as opposed to production. Studies within Optimality Theory tend to consider both phonology and phonetics as relevant (*e.g.*, Kenstowicz and Sohn 2001, Smith 2006, to appear), but without offering an explanation for which type of adaptation is likely to occur when.

My aim is to examine empirically the question of the adaptation of loanwords in natural speech<sup>1</sup>. Rather than viewing the distinction as a dichotomy where an analysis must choose between a phonetic or a phonologically based explanation, I will address the question of which social and linguistic factors favor each of these adaptation patterns. In addition to the traditional social factors of social class and gender, I will consider factors particularly relevant to this question, including degree of individual and community bilingualism (*cf.* Poplack and Sankoff 1984, Poplack, Sankoff, and Miller 1988), and design my sample accordingly. Other factors that fall outside these categories, such as orthographic effects (*cf.* Vendelin and Peperkamp 2006) and the distinction between established (conventionalized) loans and nonce or on-the-fly loans will also be considered. My research question is, thus, not whether loanword adaptation is phonological or phonetic, but rather which factors favor its being more or less phonological, phonetic, or something else. In all cases, I will be examining the social and linguistic factors that condition the processes.

This question will be addressed within the French-speaking community in Montréal, through interviews with native Francophones, Anglophones, and Allophones (immigrants), as

---

\* Thanks to Gillian Sankoff, my advisor, as well as Charles Boberg, Damien Hall, Uri Horesh, Daniel Ezra Johnson, Bill Labov, Giang Nguyen, Sharon Peperkamp, Shana Poplack, Pierrette Thibault, and Suzanne Evans Wagner.

<sup>1</sup> My approach is thus different from that of Vendelin and Peperkamp (2004, 2006), who have analyzed quite a bit of data on loanword adaptation judgments in a laboratory setting.

the groups are known in Montréal, examining words in French that come from each of the other language communities represented in Montréal. The methodology employed is designed to elicit a concentration of loanword data within natural speech, a difficulty that is reported in much of the loanword literature (*e.g.*, Poplack and Sankoff 1984, Poplack, Sankoff, and Miller 1988). Interview modules focused on specific subject areas in which loanwords occur in high concentration will be used. These modules will be supplemented with formal methods designed to focus on certain lexical items and phonological features.

The remainder of this proposal will examine the theoretical background of loanword adaptation within phonological and phonetic theory, as well as sociolinguistic theory; the rationale for the selection of the speech community; and the details of the methodology to be employed in the design of the sample and the interviews.

## 2 Previous Work

### 2.1 Phonological analyses of loanword adaptation

The phonological analyses of loanword adaptation generally assume that the process of adaptation involves a one-to-one matching of phonemes, in a more or less conventionalized adaptation pattern. The phoneme selected is most frequently, but not necessarily, the “closest” allowable phoneme in the recipient language.

Paradis and her colleagues (Paradis and LaCharité 1997, LaCharité and Paradis 2005, Paradis and LaCharité, to appear, *inter alia*) are among the strongest proponents of the phonological adaptation analysis. Their particular model, TCRS (Theory of Constraints and Repair Strategies) suggests that loanword segments that violate phonological rules of the recipient language must undergo a “repair strategy” which “inserts or deletes content or structure to ensure conformity to the violated constraint” (Paradis and LaCharité 1997:384). Their prediction is that if more than two repairs would be required for retention of a segment, the segment is generally deleted; otherwise, it is adapted, but to the minimum degree necessary to make the word conform to the phonotactics of the recipient language.

An additional possibility is that the violating segment will be left unadapted, thus being “imported” into the recipient language. This importation of a segment would also tend to be phonological in nature, since presumably the exact phonetic details would not be transferred over even if a normally disallowed segment is permitted. Paradis and her colleagues deem the choice between importation and repair to be predictable by social factors, in particular, by level of community bilingualism. These factors will be discussed in more detail in Section 2.3.

In contrast, these authors do not allow for phonetic adaptation to be predicted by social factors. Paradis and LaCharité (to appear) discuss the concept of “naïve adaptation,” in which a segment would be replaced in adaptation by a sound that is perceptually similar to the phonetic realization of the segment in the context in which it occurs in the source language. An example of naïve adaptation would be for American English intervocalic /t/ to be adapted as /r/ rather than /t/ into a language that has both phonemes in its inventory, because the flap realization of this segment in English is more perceptually similar to [r] than to [t]. Paradis and LaCharité argue that not only is naïve, phonetic adaptation a rare occurrence (2.6% of cases in their numerous corpora) but the rate of naïve adaptation is also not appreciably increased in cases of low community bilingualism.

The question of how to capture the notion that a special set of rules or constraints can apply to loanwords has been addressed by the positing of a lexicon that is organized into core and periphery strata (Itô and Mester 1995a, b). Itô and Mester suggest that foreign words enter the language in the periphery, allowed to violate constraints of the language, and then are nativized in phonological form by approaching the core. Within Optimality Theory, this has been represented as the higher ranking of certain constraints (usually, if not exclusively, Faithfulness constraints) in the periphery (Itô and Mester 1995b, Davidson and Noyer 1998, *inter alia*).

Phonological analyses of loanword adaptation have thus been formulated within Optimality Theory through this notion of reranking of constraints (*e.g.*, Jacobs and Gussenhoven 2000). Smith (to appear) discusses some of the mechanisms that have been incorporated within Optimality Theory to account for loanword adaptation. In particular, Smith finds that cyclic OT cannot account for the Japanese loanword data she considers, while the positing of loanword-specific output-output constraints better captures the data. As I shall mention in the next section, those who favor a more phonetic approach are also able to find mechanisms within Optimality Theory.

Thus, the prediction of a phonological analysis is that there should be three possibilities for the treatment of an illegal segment or sequence. The first possibility is that the segment or sequence is adapted (*i.e.*, nativized) to the segment or sequence that is phonologically most similar within the recipient language, or to a segment or sequence that has been designated as the conventionalized repair. Under this category, we might also include instances in which epenthesis occurs to break up a disallowed sequence. The second possibility is that the illicit segment is simply deleted. The final possibility is that the violating segment or sequence is allowed to remain, and is thus imported.

## 2.2 Phonetic analyses of loanword adaptation

An early phonetic analysis of loanword adaptation is that by Silverman (1992). According to Silverman's model, the loanword input is its phonetic form which is first analyzed perceptually and then phonologically to yield an output. It should be noted that phonetic approaches do not tend to deny that phonology is important; rather, they argue that a perceptual parsing is a necessary stage in loanword adaptation. Yip (1993) and others proceed along this line of reasoning. This type of analysis responds to concerns that phonological analyses might not account for all the data; thus, some other factor must come into play. While perception is a possible explanation in these cases, it is also possible that other factors may be more relevant.

Peperkamp and Dupoux (2003) and Peperkamp (2004) take this line of reasoning a step further by arguing that *all* loanword adaptation is perceptually based. This type of theory is founded upon the observation that there are loanword adaptations that take place which do not follow patterns of the recipient language. Rather than analyzing these as instances of conventionalized repairs, as those who favor a phonological approach might do, these authors argue that the adaptations result from misperceptions. These conclusions are based primarily on psycholinguistic experiments on speakers' perceptions of nonnative sound structures.

The perceptual component has been incorporated into Optimality Theory by such authors as Kang (2003) and Broselow (2004). These approaches incorporate constraints within the theory that account for phonetic mismatches. Thus, they posit an additional component within the grammar, which Broselow (2004) calls the "perception/parsing/decoding grammar." An alternative approach within Optimality Theory would be to argue that the input into the grammar could

be considered to be a phonetically adjusted form, and the phonological constraints of the language would then be said to apply to this already modified form.

### **2.3 Social factors and loanword adaptation**

Although several authors refer to the relevance of social factors as predictors of the outcome of borrowing, few studies address this issue directly. Paradis and LaCharité (1997), for example, suggest that the rate of segment adaptation, as opposed to importation, is determined primarily by social factors. The most notable of these factors, they propose, is the degree of bilingualism of the community. This is because, according to them, bilinguals are the agents of borrowing. This concept of bilinguals as the introducers of loanwords has also been proposed by other authors, including Poplack and Sankoff (1984). Since the bilinguals are never truly in monolingual mode, both languages' grammars are active in borrowing situations, and it is from these bilinguals that monolinguals eventually acquire the loanwords. According to this reasoning, if there is a high level of bilingualism within the community, illicit segments are more likely to be imported, since there would be a larger number of bilinguals who could pronounce these segments faithfully. If there is a low level of bilingualism, loanwords are introduced by a small population of bilinguals and are nativized with more variation in realization within the speech community.

Haugen (1950) was one of the early researchers to notice differences in loanword adaptation that could be attributed to level of community bilingualism. He noted that the changing composition of the speech community of Norwegians in America affected the way loanwords were adapted from English into Norwegian. An earlier generation of Norwegian immigrants adapted loanwords in a form more consistent with the phonology of Norwegian. Later immigrants introduced some of the same loanwords a second time, but they allowed more deviations from Norwegian phonology that were in line with the English forms.

Thomason and Kaufman (1988) propose that there are two kinds of interference: borrowing and interference through shift. In instances in which borrowing occurs, the agents are native speakers of the recipient language who adopt features of a second language. Thus, borrowing is most frequently lexical, and less frequently it may be structural. In terms of loanword adaptation, structural borrowing equates to the introduction of new segments or other phonotactic features. In instances of interference through shift, nonnative speakers impose features of their native language when they use their second language. In these cases, structural interference is expected to be more frequent than lexical interference. In the bilingual speech community, however, this distinction is not as clear cut, as there are many instances in which native language and primary language of daily interaction differ, and a "nonnative" language is often acquired well within the critical period. Also, the politics of the Montréal speech community have led to the English language, the numerical minority, holding a position of power over French (Barbaud 1998, Coulombe 1995). In such a situation, it is not inconceivable that Anglophones introduced English-origin loanwords into French. In the case of immigrant languages, immigrants may have continued using their words for concepts from their native culture that did not exist in French. As these concepts became known to the wider community, these words may have spread into the Francophone community. The question of the role of native and nonnative bilinguals in loanword adaptation will be addressed to some extent in my study inasmuch as the adaptation patterns of these different groups will be compared.

The few empirical studies that have examined social factors have, for the most part, upheld the earlier claims referred to above. One of the most thorough of such studies is that by

Poplack, Sankoff, and Miller (1988). In this study, the authors examined the bilingual speech community of Ottawa-Hull. Through analysis of interviews with a stratified sample of 120 speakers, the authors were able to assess which social factors were relevant to various aspects of loanword adaptation and use. They found that the degree of loanword integration was primarily dependent upon level of individual bilingualism and bilingualism within the neighborhood. Neighborhood bilingualism was, however, deemed to be the more significant factor, as an “individual’s personal ability is operative but is mediated by the norms of his speech community” (98). While the rate of loanword use and type of loanwords used could be predicted in part by social class and sex, this result seemed to reflect an interaction with level of English and degree of contact with bilinguals. Finally, age was found to be only marginally relevant (*contra* Poplack and Sankoff 1984 where there was, however, a larger interaction between age and level of individual bilingualism). As will be seen, these findings have motivated in large part the factors that I have chosen to examine in my research. In particular, the relative importance of individual and community bilingualism is an interesting question, for which the various studies have yielded different results (Poplack and Sankoff 1984 and Friesner 2001 vs. Poplack, Sankoff, and Miller 1988 and what is suggested by Paradis and LaCharité 1997).

## 2.4 Additional considerations

Three additional considerations are relevant. The first of these is the type of loanword to be examined. The important distinction here is between nonce borrowings, established borrowings, and proper names. The second is the consideration of the extent to which loanword adaptations are constrained by L2 phenomena. The third consideration is the possible influence of orthography on loanword adaptation.

Poplack and Meechan (1998), along with the other authors included in that volume, have more or less settled the question of how to distinguish between code-switches and borrowings. Most, though not all, single-word switches<sup>2</sup> are, in fact, instances of borrowing. This has allowed me to pursue other questions, and thus I will not address this question further in the present study. A more important distinction, which is considered in detail by Poplack, Sankoff, and Miller (1988), is that between nonce (on-the-fly) borrowings and established borrowings. We would expect that established borrowings would have a more conventionalized pronunciation and that they would be more integrated phonologically in the recipient language. Poplack, Sankoff, and Miller found that individual bilingualism was a good predictor of the rate of use of nonce borrowings, while the less bilingual speakers favored widespread loanwords. Finally, it is not clear where proper nouns fall on this continuum, since many of them may be quite familiar throughout the speech community. Poplack, Sankoff, and Miller (1988:99, f.n. 8) explicitly excluded proper nouns from consideration, “given that [they] do not necessarily participate in the same processes of integration as do common nouns.” As we shall see, I do hope to examine proper nouns in my study.

The direct comparison of loanword adaptation with L2 phenomena has been suggested by the work of Peperkamp and her colleagues, described above. The work of Paradis, Poplack, and their respective colleagues claims that bilinguals, who have command of both linguistic systems, introduce borrowings. If this is the case, the prediction is that there should be little connection between these two types of phenomena. I plan to examine this implication empirically, as well.

---

<sup>2</sup> I eschew their term “lone word” due to potential confusion with the term “loanword.”

In Friesner (2004), I conducted an initial study to test this line of reasoning by interviewing a bilingual native French speaker from France in both French and English on topics selected to elicit English loanwords in the French data. I compared her L2 pronunciations with her adaptations into French of many of the same tokens in terms of both segments and actual words. I found that her L2 pronunciations of nonnative segments were erratic, phonetic approximations; however, her pronunciation of the loanwords, even in the case of nonce borrowings and proper names, was systematic, phonological, and conventionalized. While in some cases there was more than one potential minimal repair, there was only one possible adaptation pattern for each phoneme into French. I concluded that loanword adaptations could not be the result of an inability to accurately produce or perceive unfamiliar sounds, but rather were conventionalized. This initial result suggests that loanword adaptation is a distinct process from L2 pronunciation. The literature on L2 pronunciation suggests that it involves more than simple phonetic matching, since markedness concerns and interlingual identifications are involved as well. Nonetheless, it seems clear from this body of work that perception plays a major role in second language phonology (cf. Flege 1995, Eckman 2004).

The other relevant effect is the influence of orthography. While it is difficult to know when orthography comes into play in loanword adaptation, there are certainly cases where it must be considered as a possible explanation. Vendelin and Peperkamp (2006) demonstrate the differences in subjects' loanword adaptation judgments when presented with oral as opposed to written input. In examining this factor more closely, I expect to find that many outcomes that were thought to be the result of phonetic influence could also be explained by orthographic effects.

## 2.5 Hypotheses

The loanword literature has revealed a number of unresolved debates in the field, many of which I hope to address in my work. In particular, this body of work has set up some proposals which can be tested empirically:

- What factors, if any, favor phonetic, as opposed to phonological, loanword adaptation?
- What social and linguistic factors favor importation as opposed to adaptation, of illicit segments?
- Are bilinguals the introducers of loanwords?
- How is loanword adaptation similar to or different from L2 pronunciation?
- Are social or linguistic factors better predictors of the outcome of borrowing?
- Is individual or community (neighborhood) bilingualism a better predictor of the phonological shape of loanwords?
- Do other factors such as the nature of the loanword and orthography influence the outcome of borrowing in a significant way?

Thus, my study posits the following testable hypotheses with regard to these debates:

- *If* bilinguals who master the phonology of both languages in contact are the agents of borrowing, *then* loanword adaptation should be phonological.
- *If* loanword adaptation is phonological, *then* segments should be adapted according to a conventionalized pattern, with only minimal differences according to environment.

- *If* loanword adaptation is phonological *regardless of level of individual or community bilingualism*, *then* we would expect phonological adaptation even in the lowest contact case of monolinguals living in a neighborhood with a low rate of bilingualism.
- *If* individual bilingualism is a relevant factor, *then* bilinguals should reproduce loanwords in a form that is more faithful to that of the source language.
- *If* there is a higher level of individual and/or community bilingualism, *then* illicit segments are likely to be imported rather than deleted.
- *If* neighborhood bilingualism is the primary predictor of the outcome of borrowing, *then* we should expect individuals from the same neighborhood to pronounce loanwords in more similar a fashion than speakers from different neighborhoods.
- *If* social class is really a relevant factor, *then* we should find social class differences that transcend neighborhood and linguistic ability (and possibly education)<sup>3</sup>.
- *If* loanword adaptation is *different* from L2 pronunciation, *then* we should expect systematic differences in the way in which specific phonemes are pronounced in second language speech as opposed to in loanwords.
- *If* the nature of the loanword is relevant, *then* we should find consistently different behaviors in nonce borrowings, proper names, and established loans.
- *If* orthography is a relevant factor, *then* we should expect systematic differences in the way loanwords are pronounced according to whether there is written input when they are introduced or produced.
- *If* orthography can explain apparent “exceptions” to the predominant pattern of loanword adaptation, *then* those examples which constitute the minority pattern should have a spelling-based explanation that is as viable as an alternate analysis.

The remainder of this proposal, then, will outline the way in which my study is designed and will be conducted to address these questions.

### 3 The Methodology

#### 3.1 The bilingual speech community selected: Montréal

The importance of examining a bilingual or multilingual speech community to assess the relative effect of social and linguistic factors in loanword adaptation cannot be overstated. The state of stable bilingualism within the community provides an opportunity to compare directly the social position of the language examined across several neighborhoods that nonetheless belong to the same speech community and thus can be expected to adhere to the majority community norms (*cf.* Labov 2001, Patrick 2002). While some interesting findings in the field of language contact have come from comparing different speech communities (*e.g.*, Mougeon and Beniak 1987), only within the same speech community can we hope to distinguish between outcomes that are due to contact and those that simply result from different community norms. The procedure I suggest is similar to that followed in Ottawa-Hull in the study by Poplack, Sankoff, and Miller (1988), described above.

---

<sup>3</sup> A possible explanation for such a finding might be that it is deemed inappropriate in working class contexts to use a more faithful representation of a loanword. The presence of style-related differences in loanword realization might also be indicative of this.

I thus sought out a bilingual speech community that has been studied enough for the behaviors of the control groups involved to be known. I realized that the city of Montréal is particularly suitable in this regard. Both the French and English communities of Montréal have been amply studied, sampled in a number of well-known corpora (*e.g.*, the Sankoff-Cedergren, Thibault-Vincent, and Vincent et al. corpora of 1971, 1984, and 1995 for the French-speaking population, and the Poplack et al. Corpus of Spoken Quebec English—described in Poplack, Walker, and Malcolmson, to appear—and Boberg corpus of English as a Minority Language—described in Boberg 2004—for the Anglophone population). Thus, the community norms for the two dominant linguistic groups within this bilingual speech community are well understood. In addition, contact phenomena have been examined in studies of the speech of English-dominant bilinguals from the Sankoff et al. L2 Corpus of Anglo-Montrealers (*e.g.*, Sankoff et al. 1997, Blondeau et al. 2002). The least studied group thus far in Montréal seems to be the French-dominant bilinguals, which means that while prior studies on Montréal provide an invaluable basis for comparison, there is still work to be done.

An additional component that made Montréal a particularly desirable choice was that it is a large enough city (nearly two million within the city limits and four million in the metropolitan area)<sup>4</sup> to attract a sizable number of immigrants. It is the second most populous city in Canada and attracts the third largest proportion of immigrants. Nearly 28% of the population of Montréal is composed of immigrants. Thus, I can further examine the notion of bilinguals as innovators by directly comparing Francophones' treatment of loanwords with immigrants and their descendants' manner of adaptation of words from their own languages. In addition, by studying loanwords from other languages that are not as widely represented in the community and examining how native speakers of *those* languages introduce and adapt loanwords, there is the opportunity for linguistic comparison in terms of language structure and in terms of the relative social position of immigrant languages in comparison to English. More broadly, despite Montréal's large immigrant population, little is known about the linguistic behaviors of these groups in French.

The immigrant language groups I have chosen to examine—Spanish, Russian, and Vietnamese—are selected in part to allow for varying degrees of linguistic distance from French in terms of descent. In addition, they are chosen because they are well represented in Montréal and, due to the make-up of the neighborhoods and schools involved, are likely to have members who acquire and use French<sup>5</sup>. Russians constitute the tenth largest group of immigrants from 1996 to 2001, while Vietnamese constitute the fifth largest group of immigrants overall. Spanish is the fourth most frequently used home language in Montréal. Finally, I have chosen language groups that are not likely to have had too much exposure to other varieties of French prior to immigration<sup>6</sup>. The language groups I have selected are well represented within Montréal society.

The geography of Montréal provides another advantage in allowing us to distinguish between individual and community bilingualism. The neighborhoods sampled in the Sankoff-Cedergren corpus are those which had a two-thirds majority Francophone population. These are

---

<sup>4</sup> Information about the 2001 census comes from Direction de santé publique de Montréal (2003).

<sup>5</sup> I make this distinction between acquisition and use because all immigrants who began school after 1977 have been required by law to attend schools in which at least half of the school day is conducted in French (Barbaud 1998, Coulombe 1995, Magnet 1995). Actual use of the French language outside of school varies widely, however. Immigrant language shifts to English are said to be down from 80-90% to 50-60%, since the passing of this law (Castonguay 2003).

<sup>6</sup> Hence I avoided some more widely attested language groups, such as Arabic and Haitian Creole.

located almost exclusively on the East End of the island of Montréal<sup>7</sup>. The neighborhoods in the West part of the island are either mixed or predominantly Anglophone. I construct my sample to take account of this distinction. Some maps showing the linguistic and ethnic demographics of various parts of Montréal are included in the appendix to this proposal.

### 3.2 The sample design

I have designed my stratified sample in such a way as to take account of the composition of the neighborhoods and the social factors deemed to be relevant in other studies (particularly Poplack, Sankoff, and Miller 1988). In order to incorporate the specifically linguistic external factors in addition to the other social factors found to be relevant in prior studies, some social factors that are typically examined in variationist sociolinguistic studies will not be considered. In particular, all participants will fall within the “young adult” age range of approximately 20 to 40. Also, sex will not be sampled for particularly, although for the cells that have multiple subjects, I will aim to have at least one of each sex. Social class will be considered because it has been found to be relevant in other studies. I present my sample in two separate grids: one for the Francophones and one for the other speakers to be sampled. The Francophone sample will be constructed as shown in Table 1.

English Proficiency ↓	WEST ISLAND (High Contact)		EAST ISLAND (Low Contact)		TOTALS
	Working Class	Middle Class	Working Class	Middle Class	
Little or No English	4	4	4	4	<b>16</b>
Some English	4	4	4	4	<b>16</b>
Proficient in English	4	4	4	4	<b>16</b>
<b>TOTALS</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>48</b>

**Table 1: Composition of the Francophone stratified sample**

The other speakers include the immigrant groups mentioned above, as well as three Anglophones. I include only a small sample of Anglophones, but these data may be supplemented by the data from some of the 29 speakers of Sankoff et al. L2 Corpus of Anglo-Montrealers, described earlier, which included comparable interviews to the ones I plan to undertake, albeit lacking the formal methods I will employ. The sample is constructed in order to elicit data from bilingual immigrants who are still dominant in their native language (having come after the critical period) (L2 speakers), L1.5 immigrants who came to Montréal before the end of the critical period, and L1 children of immigrants who have retained the language of their family. Although I am primarily interested in the French spoken by these groups, I realize that in Montréal some loanwords may be mediated through English, especially since, as described above, immigrants often gravitate towards Anglophone society. This was even more true historically, before the passing of Bill 101, which required immigrants to attend French-medium schools. I hope to minimize this effect by having a basis of comparison between English-dominant immigrants and French-dominant immigrants. I realize that in some cases, it will be difficult to determine which is the “dominant language” between English and French, since for many immigrants, French is the language used in school and/or at work, but English is the language used outside of these

---

<sup>7</sup> I use the terms “East” and “West” with regard to popular Montréal geography, based upon the flow of the Saint Lawrence River. In fact, what is known as “East” is actually NNE and “West” is SSW.

formal contexts. I may thus have to adjust my schema slightly over the course of my study. These groups are not stratified by neighborhood for the practical reason that immigrants tend to gravitate to neighborhoods in which other immigrants from the same country live, and thus immigrant populations are not so widely distributed throughout the city. Table 2 shows the construction of the non-Francophone sample.

Language Group ↓	L2 Speakers	L1.5 Speakers		L1 Speakers		TOTALS
		Eng.-Dom.	Fren.-Dom.	Eng.-Dom.	Fren.-Dom.	
Spanish	2	1	2	1	1	7
Vietnamese	2	1	2	1	1	7
Russian	2	1	2	1	1	7
Anglophone				3		3
<b>TOTALS</b>	<b>6</b>	<b>3</b>	<b>6</b>	<b>6</b>	<b>3</b>	<b>24</b>

**Table 2: Composition of the non-Francophone stratified sample**

### 3.3 The interview methods

I plan to conduct sociolinguistic interviews with the subjects of the type described by Labov (1984), consisting of interview modules that have been specially designed to elicit natural speech. I realize the “observer’s paradox” may be especially noticeable because I am not a local from the community, but on the other hand being an outsider also allows me the advantage of being an objective observer who is not expected to enter into (or have a predetermined stance within) the complex language politics of Québec society.

I hope to supplement my analysis in a few ways both to yield more natural data and to elicit the specific types of data I desire. One addition involves the recording of group sessions, possibly with some of my subjects and their co-workers. I already have some contacts in a union, which is a predominantly Francophone environment with a large number of Spanish-speaking employees, as well as some Anglophones. I plan to further pursue such contacts, so that I can see how members of different linguistic groups behave when interacting with one another. An additional supplement will come in the form of observations conducted in various establishments in which nonce loans from each of the language groups are likely to be uttered: restaurants specializing in cuisine from places where the languages considered are spoken, dance studios, and supermarkets are some possibilities.

In terms of the sociolinguistic interviews, I will focus on topics selected to elicit a higher concentration of loanwords. Thus, I will consider the semantic fields suggested by many authors (Weinreich 1968, Haugen 1969, Poplack and Sankoff 1984, Poplack, Sankoff, and Miller 1988, Winford 2003). These include food, sports, computers, cinema, music, dance, and transportation. I am designing focused sociolinguistic modules on several of these topics. I will also include modules aimed specifically at questions of interaction amongst different language groups both with the goal of eliciting loanwords and for ethnographic purposes. It is my hope that these modules will be generalizable for later sociolinguistic work looking at language contact. By focusing the interviews on certain semantic fields but not necessarily on specific words, I hope to overcome the difficulty reported in the literature (*e.g.*, Poplack and Sankoff 1984, Poplack, Sankoff, and Miller 1988) of conducting interviews that are both realistic and that allow for the elicitation of a wide variety of loanwords in terms of both tokens and types. The disadvantage of this methodology is that because of the nature of the interviews, I will not truly be able to measure *rate* of

loanword use, since that will depend largely on the turns the conversations take, rather than on actual use of loanwords to be expected in non-focused conversation. However, comparative rate of loanword use in the bilingual French Canadian context has already been thoroughly examined by Poplack, Sankoff, and Miller (1988).

The informal interviews will be followed by a more formal questionnaire on language practices and attitudes, adapted from the questionnaire employed in the collection of the Sankoff et al. corpus. This will be used for gathering social information of various types, but also to verify that the speaker fills the appropriate cell within the grid. Obviously, if an individual turns out to have, for example, more or less English use than was expected, the speaker can be repositioned within the grid or simply included as an additional informant.

Following the questionnaire, I will include formal methods. These will generally include the semantic differentials task, in which subjects are asked to explain the difference in meaning between two words. Because of the possibility of orthography effects described earlier, semantic differentials will be of two types: one in which the words to be distinguished are presented orally (or perhaps only one of the words, to minimize the interviewer's influence on pronunciation), and one in which they are presented visually. A picture-naming task such as that employed by Poplack and Sankoff (1984) will also be used. Additionally, a menu-reading and sports-roster-reading task will be used to elicit specific lexical items that constitute both common and proper nouns. Obviously, if I have a subject who is illiterate in French, I will leave out these tasks, but then that subject's adaptation patterns cannot be directly influenced by orthography in any case.

If speakers are willing and able, I will conclude the interview with a shorter interview conducted in English, in order to assess their English aptitude, as well as the nature of their English. This portion of the interview will focus primarily on language attitudes, although some of the earlier topics may be revisited, as well. If some of the same lexical items occur in this portion of the interview as in the earlier portion conducted in French, I can directly compare how these words are pronounced in L2 English with how they are pronounced as loanwords into French, as I did for one speaker in Friesner (2004).

For other speakers, and for those who are speakers of languages other than English, a reading passage will be presented at the end of the interview as a quick way to ensure the variety of language that will be a basis of comparison. Thus, for all speakers who are capable, there will be a reading passage in English, and for the non-Francophones, there will be a reading passage in the relevant other language: Spanish, Russian, or Vietnamese (in the case of the first two, I may attempt to chat with the interviewee for a bit in the language in question, as well).

This variety of tasks will allow me to assess the necessary dimensions to address the questions posed above. While I hope to be able to conduct entire interviews in one sitting, which should last from one to two hours, it is possible that for some interviewees the interview may need to be divided into two sessions due to time constraints.

### **3.4 Coding and Specific Variables**

I will follow coding practices adapted from those employed by Poplack and her colleagues. However, I will adopt a more fine-grained approach to take into account four possibilities for each illicit segment coded: phonological adaptation, phonetic adaptation, orthographic adaptation, and segment importation. For each of these possibilities, I will give a rating on a three-way scale—'yes', 'no', or 'ambiguous'. For each lexical token, I will then give a percentage range for each of the four possibilities, the high end of which will constitute the largest percentage of ad-

adaptations that *could* be explained by the pattern, and the low end of which will constitute the percentage of adaptations that could *only* be explained by that pattern. Two fictitious examples are given in Table 3 below.

(a) <u>English word:</u> hut /h^t/		<u>French realization:</u> [yt]			
<u>Illicit Segment:</u>	h→∅	<u>Phonological</u> ambiguous	<u>Phonetic</u> ambiguous	<u>Orthographic</u> no	<u>Imported</u> no
	^→y	no	no	yes	no
<b>OVERALL</b>		<b>0%-50%</b>	<b>0%-50%</b>	<b>50%</b>	<b>0%</b>
(b) <u>English word:</u> butter /b^tə/ [b^Də]		<u>French realization:</u> [bɔrə]			
<u>Illicit Segment:</u>	^→α	<u>Phonological</u> ambiguous	<u>Phonetic</u> ambiguous	<u>Orthographic</u> no	<u>Imported</u> no
	D→r	no	yes	no	no
	ə→ə	ambiguous	ambiguous	ambiguous	yes
<b>OVERALL</b>		<b>0%-100%</b>	<b>33%-100%</b>	<b>0%-33%</b>	<b>33%</b>

**Table 3: Coding for the adaptation of two fictitious loanwords<sup>8</sup>**

I may further adapt this procedure in order to highlight the differences between phonological and phonetic adaptation by only counting as ‘ambiguous’ those adaptations that are ambiguous between the two options of phonological or phonetic. I will be able to compile a list of adaptations for each nonnative phoneme from the donor languages to investigate the extent to which various adaptation patterns occur frequently or categorically. Also, I will be able to sort the adaptation patterns by word to examine differences by word type.

Because of this approach to the data, I will not be focusing on particular variables in the analysis of the sociolinguistic interviews, but rather will consider all segments present. However, the words examined in the formal methods section will be selected based on certain phonological features which seem to be interesting. Many of these have been identified as relevant in earlier work I have done (Friesner 2001, 2004) or are otherwise known to be interesting within the Montréal speech community.

*(r) and syllabic consonants*

The first variable I will consider is the adaptation of *r*-like segments from the different languages. The status of /r/ in the French of Montréal has been extensively studied (Clermont and Cedergren 1979, Santerre 1979, Tousignant 1987, Sankoff, Blondeau, and Charity 2001, *inter alia*). There are known to be two predominant variants—the older, apical form [r], which has rapidly decreased in use and can be expected to have disappeared or at least be quite rare among native speakers of the age groups considered in this project; and the newer, posterior (velar or uvular) form. In addition, several of the authors cited above discuss the occasional occurrence of

<sup>8</sup> To avoid the headache of the font compatibility issue, in this table I use /^/ to represent wedge, /D/ to represent an apical flap, /ə/ to represent a syllabic, retroflex *r*, and /r/ to represent a native *r* (more on this in the section on (r)).

a retroflex “American” *r* in the speech of Montrealers, used especially in English origin or English-associated words. I wish to examine whether, as the examples suggest, this variant occurs only in the context in which this *r* is syllabic (or in coda position), or whether it can also occur in other environments. I would also like to examine whether this variant occurs for /r/ in loanwords from other languages. All of the other languages I consider also have some form of /r/. In Spanish, there are two apical *r*’s: a flap and a trill. In Russian there is also an apical *r*. In Vietnamese, there is regional variation as to whether an apical *r* is part of the inventory or not: thus, I will have to select the Vietnamese reading passage in such a way as to make sure I am able to assess which variety of *r* the Vietnamese subjects use natively. None of these other languages has an approximant *r* as in English, but it will be interesting to see if this variant occurs in loanwords from these other languages, which could indicate either that these loanwords came into French through English, or that retroflex *r* has been generalized for use in the nonnative vocabulary.

In addition to syllabic *r*, other sonorants can also be syllabic in English, including /l/, /m/, and /n/. In Friesner (2004), I found that my subject from France invariably realized these as /œ/+consonant sequences in loanwords. I wish to investigate whether the same is true in Canadian French.

(h)

In Friesner (2001), I examined the adaptation of guttural segments from English, Arabic, and Japanese into French. I found that these could be variably realized as “h muet” (the absence of a segment with no phonological reflexes; *i.e.*, the word is treated as vowel-initial), “h aspiré” (the absence of a segment, but with the word behaving as if it were consonant-initial, for which there is also a model in a subset of the native and well-established loan vocabulary), or as a pronounced /h/. I would like to examine the status of /h/ in Canadian French<sup>9</sup>. Since all the language groups I consider have either a glottal /h/ (English, Vietnamese, and some varieties of Spanish) or velar /x/ (Russian and other varieties of Spanish), I can compare the adaptation of these sounds across the languages, as well.

The behavior of “h aspiré” words in the native vocabulary has been noted to be a change in progress, at least in France (cf. Moisset 1996). In Québec, it is known that in the recent past, “h aspiré” has been realized phonetically in some native words, I will also have to elicit some examples of native *h*-initial “h aspiré” words as a control. The data present suggests there may be even more variability with regard to (h) in Canada than in France.

Another phenomenon that has been noted among French speakers when using English words is the tendency to hypercorrect by inserting an /h/-like sound at the beginning of vowel-initial words or syllables (cf. Janda and Auger 1992). This possibility will be considered with the vowel-initial loanwords.

(^)

While the behavior of vowels will be interesting in general, for several of them, analysis will be difficult. For example, in Friesner (2004), I identified the adaptation of /æ/ as an interesting variable; however, since Canadian English, and Montréal English in particular, has an extremely

---

<sup>9</sup> Canada graciously, and against all odds, elected a Prime Minister, Stephen Harper, whose name includes the first two of my variables, a fact which will hopefully yield quite a few analyzable tokens.

back realization of /æ/ (cf. Boberg 2004), and Montréal French exhibits some fronting of /a/, this will be a difficult variable to code unambiguously. The adaptation of /ʌ/, on the other hand, promises to be fruitful. It is difficult to pronounce accurately, even for skilled L2 speakers, and its spelling pronunciation [y] is quite distinct from a phonetic or phonological adaptation. Whether /ʌ/ gets adapted consistently as /ɑ/ or /æ/ (the two possible “minimal repairs”<sup>10</sup>), or whether there is variability, will be an interesting question.

#### *Gender assignment*

Although I focus primarily on phonological variables, the methods used in the assigning of gender constitute an interesting question, which has been examined by several authors with interesting results (e.g., Fisiak 1975, Poplack, Pousada, and Sankoff 1982, Thornton 2003, Repetti 2003, 2006). In addition, consistency in gender assignment has been shown by Poplack and Sankoff 1984, *inter alia*, to be important in determining the degree of integration of a loanword. I do not plan to employ formal methods specifically aimed at gender assignment judgments, but I do anticipate using the gender assignment data I acquire to address the question of the degree of integration of certain loanwords that may otherwise be problematic.

#### *Other possible variables*

There are other variables that I may add to this list as my fieldwork progresses. Two possible candidates are mentioned here. I have a suspicion that examining the various realizations of words spelled with <ch> across the languages, as well as the relation between nasalized vowels and vowel+nasal sequences, will yield interesting results. I do not quite know what to expect with these variables, but I will include some of them in the semantic differentials task, along with words that contain the variables in question (e.g., *What’s the difference between a burrito, a fajita, and an enchilada?*). Certainly, the adaptation of stress and tone into French, an invariably utterance-final stress language, will be of interest, although it is unlikely for single-word switches that do not adhere to this pattern to constitute anything other than code-switches.

## **4 Conclusion**

While the issues related to the social and linguistic factors involved in loanword adaptation are quite complex and multifaceted, this study aims to shed light on many of the issues involved. For some, a definitive answer is possible, while for many others, I can only hope to scratch the surface. Either way, this dissertation will serve as a contribution to the field of contact linguistics. In addition, I aim to bridge the gap to some extent between studies on language contact that have been framed within sociolinguistics, phonology, psycholinguistics, and second language acquisition by addressing the questions empirically in a number of ways. I do not wish to start out with a particular theoretical stance on the issue, but rather to let the data, along with the analysis thereof, speak for themselves.

---

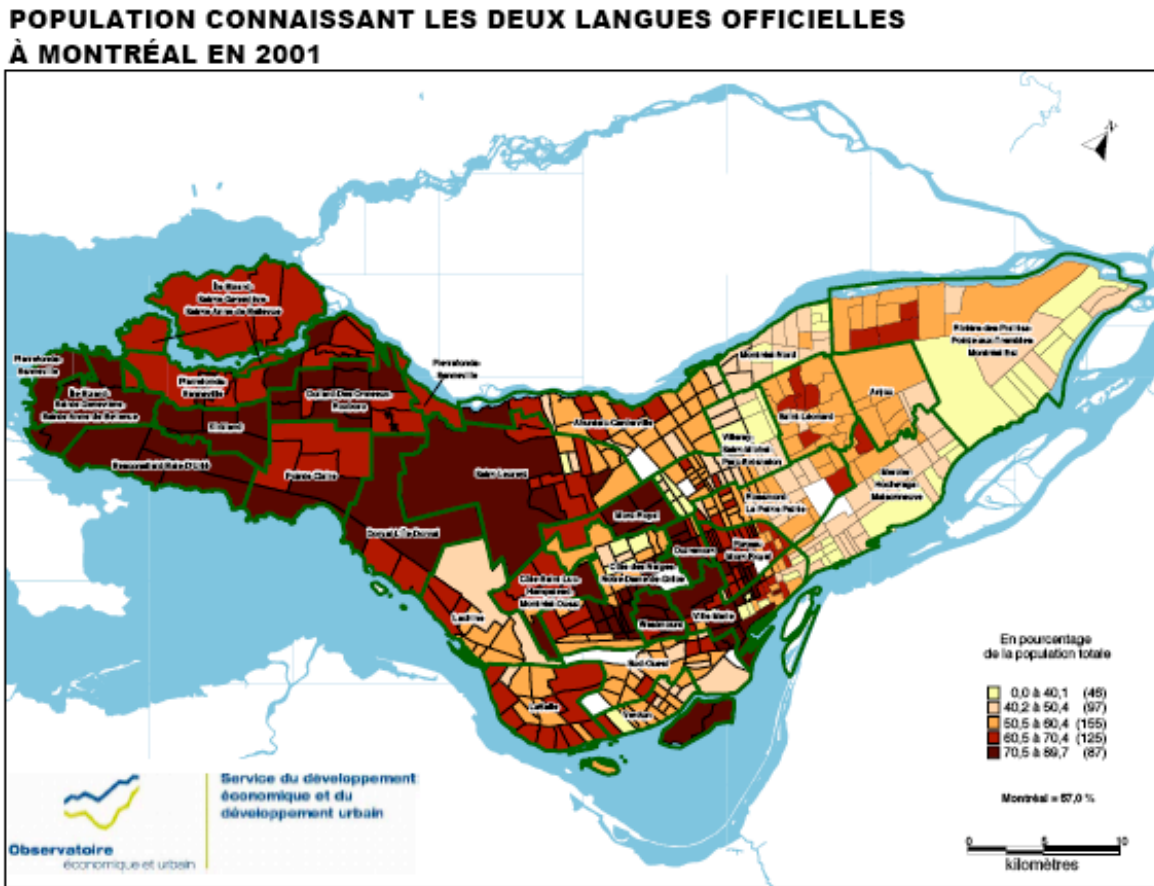
<sup>10</sup> For the speaker studied in Friesner (2004), the usual adaptation of /ʌ/ was, in fact, /a/. This is because many varieties of European French, including that of the speaker studied, have undergone a merger of the vowels /a/ and /ɑ/.

In this proposal, I have highlighted several of the preexisting theories of the nature of loanword adaptation. I have then described the sociolinguistic studies that have addressed the question of the relevant social factors directly. I have discussed some additional factors that I believe have confounded some previous analyses. I have set up some hypotheses that describe what various possible results may indicate about the nature of languages in contact. These hypotheses are as objective as possible, while they do indicate to some extent my expectations for the results. Following these hypotheses, I have explained the reasons for which Montréal is an ideal site to conduct this sort of study. I have described the design of my sample, as well as the interview techniques and formal methods I plan to undertake with my subjects. Finally, I have considered particular variables that I expect to be of interest.

Looking beyond the scope of this dissertation, I hope that the collection of this corpus will provide data that can be analyzed for other purposes later on, both in my own work, and by other collaborators. Aspects I do not plan to address specifically in this dissertation but would like to pursue in later work include the further characterization of second-language phonology, the assessment of the localness of L2 speakers' accents (continuing with work in Montréal by Blondeau et al. 2002, and my own work in Friesner and Dinkin 2006), analysis of the ethnographic content of the interviews, and an examination of more of the structural influences of language contact. The question I address here is, however, a large one: what are the social and linguistic factors that determine when loanwords are adapted phonologically, phonetically, in some other way, or not at all.

## Appendix: Demographic Maps

These maps, taken from *Montréal en statistiques: Atlas démographique et socio-économique de la population montréalaise*, published by the Ville de Montréal in 2003 from the statistics from the 2001 census, provide demographic information about language use and the geographic distribution of various linguistic and cultural groups in Montréal. They indicate clearly the regional distinctions between the East Island and West Island, as well as showing the areas in which immigrants of various groups are represented.



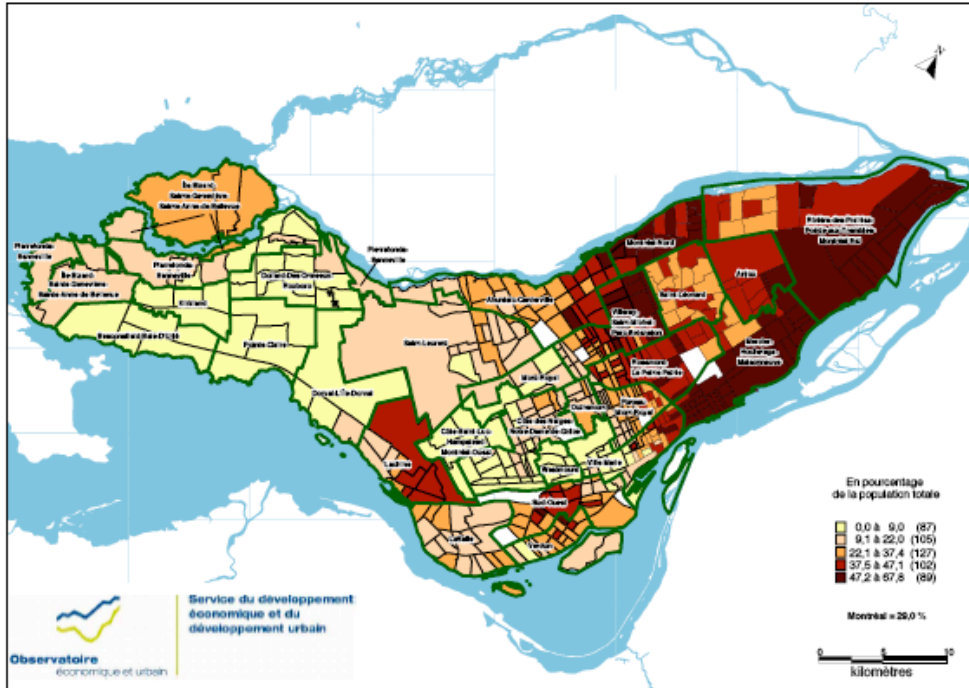
Source: Statistique Canada, Recensement 2001



Atlas démographique et socio-économique de Montréal

Figure 1: Neighborhoods with the highest rate of bilinguals

**POPULATION DONT LA SEULE LANGUE OFFICIELLE CONNUE EST LE FRANÇAIS À MONTRÉAL EN 2001**



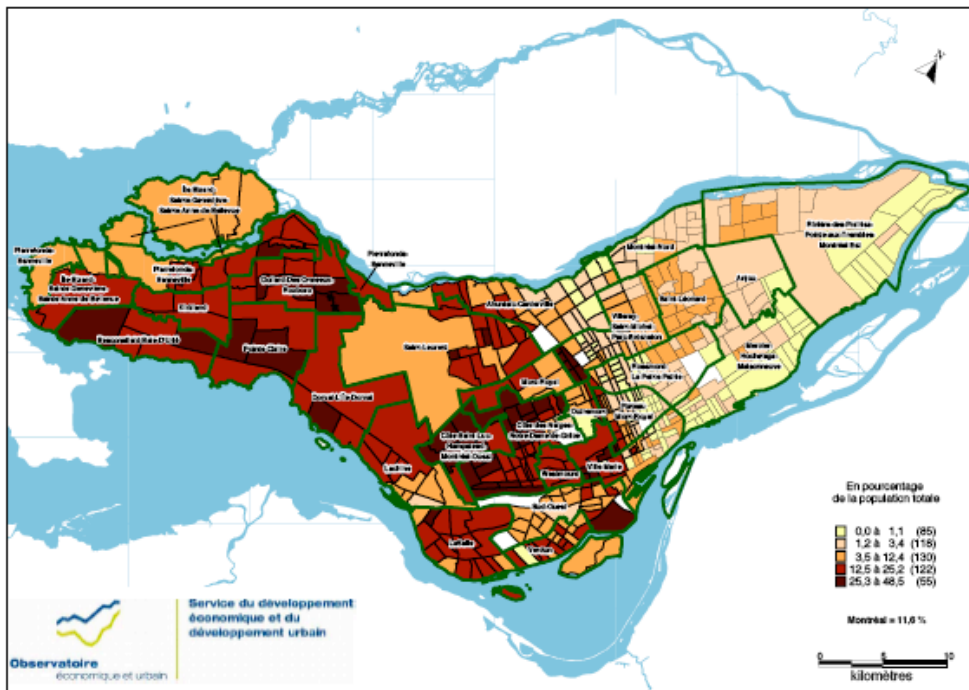
Source: Statistique Canada, Recensement 2001



Atlas démographique et socio-économique de Montréal

**Figure 2: Neighborhoods with the highest rate of monolingual French speakers**

**POPULATION DONT LA SEULE LANGUE OFFICIELLE CONNUE EST L'ANGLAIS À MONTRÉAL EN 2001**



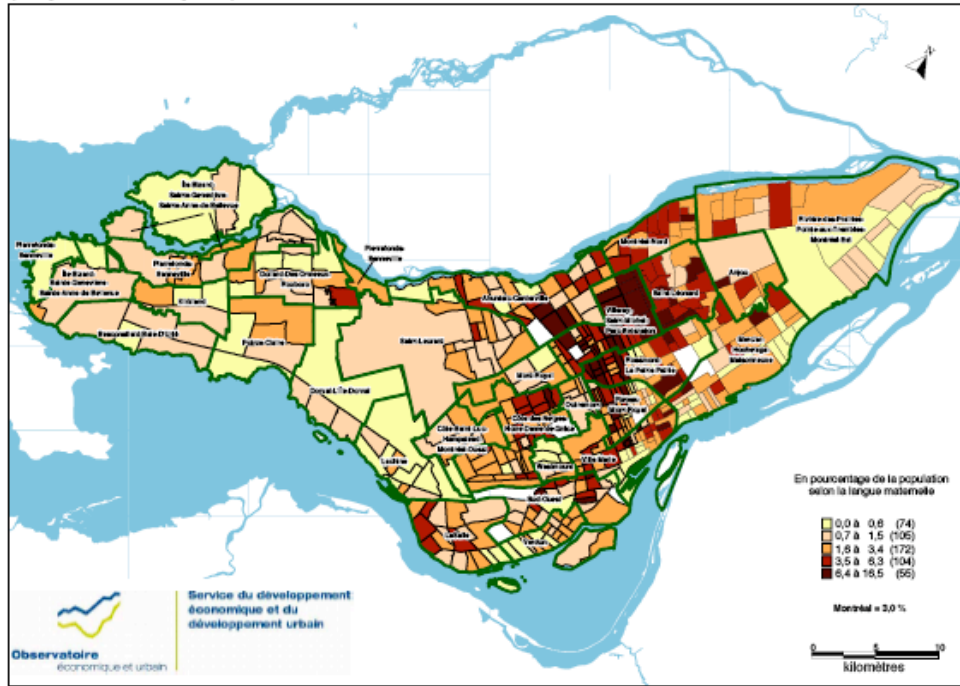
Source: Statistique Canada, Recensement 2001



Atlas démographique et socio-économique de Montréal

**Figure 3: Neighborhoods with the highest rate of monolingual English speakers**

**POPULATION DE LANGUE MATERNELLE ESPAGNOLE À MONTRÉAL EN 2001  
(Réponses uniques)**



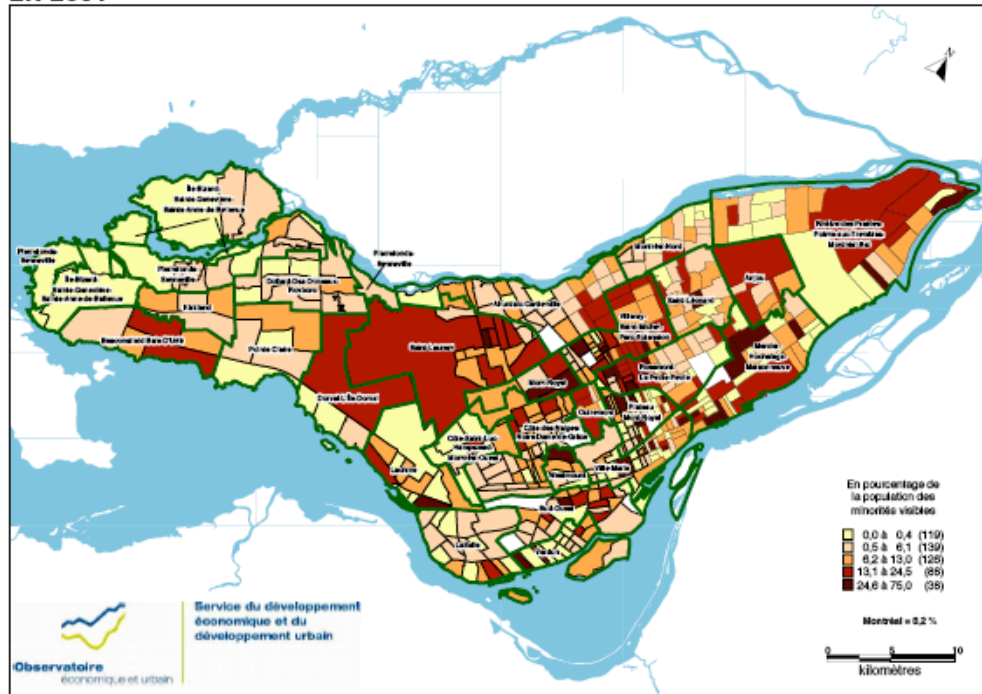
Source: Statistique Canada, Recensement 2001



Atlas démographique et socio-économique de Montréal

Figure 4: Neighborhoods with the highest rate of native Spanish speakers

**MINORITÉS VISIBLES À MONTRÉAL : POPULATION ASIATIQUE DU SUD-EST EN 2001**



Source: Statistique Canada, Recensement 2001



Atlas démographique et socio-économique de Montréal

Figure 5: Neighborhoods with the highest rate of Southeast Asians

## References

- Barbaud, Philippe. 1998. "French in Quebec." In J. Edwards (Ed.), *Language in Canada*. Cambridge, U.K.: Cambridge University Press, 177-201.
- Blondeau, H  l  ne, Naomi Nagy, Gillian Sankoff, and Pierrette Thibault. 2002. "La couleur locale du fran  ais L2 des Anglo-Montr  alais." In J.-M. Dewaele and R. Mougeon (Eds.), *Acquisition et Interaction en Langue   trang  re* 17: 73-100.
- Boberg, Charles. 2004. "Ethnic Patterns in the Phonetics of Montreal English." *Journal of Sociolinguistics* 8: 538-568.
- Broselow, Ellen. 2004. "Language Contact Phonology: Richness of the Stimulus, Poverty of the Base." In K. Moulton and M. Wolf (Eds.), *Proceedings of NELS 34*. Amherst, Mass.: GLSA.
- Castonguay, Charles. 2003. "Politiques linguistiques et avenir des populations de langue anglaise et de langue fran  aise au Canada." In M. Morris (Ed.), *Les politiques linguistiques canadiennes: Approches compar  es*. Paris: L'Harmattan, 174-234.
- Clermont, Jean, and Henrietta Cedergren. 1979. "Les 'R' de ma m  re sont perdus dans l'air." In P. Thibault (Ed.), *Le fran  ais parl  :   tudes sociolinguistiques*. Edmonton, Alta.: Linguistic Research, 13-28.
- Coulombe, Pierre A. 1995. *Language Rights in French Canada*. New York: Peter Lang.
- Davidson, Lisa, and Rolf Noyer. 1996. "Loan Phonology in Huave: Nativization and the Ranking of Faithfulness Constraints." In *Proceedings of WCCFL 15*. Stanford University: CSLI.
- Direction de sant   publique de Montr  al. 2003. *La "nouvelle" statistique*. Available online at <<http://www.santepub-mtl.qc.ca/Portrait/nouvelle>>.
- Eckman, Fred R. 2004. "From Phonemic Differences to Constraint Rankings: Research on Second Language Phonology." *Studies in Second Language Acquisition* 26: 513-549.
- Fisiak, Jacek. 1975. "Some Remarks Concerning the Noun Gender Assignment of Loanwords." *Bulletin de la Soci  t   polonaise de linguistique* 33: 59-63.
- Flege, James E. 1995. "Second Language Speech Learning: Theory, Findings, and Problems." In W. Strange (Ed.), *Speech Perception and Linguistic Experience: Issues in Cross-Language Research*. Timonium, Md.: York Press, 233-277.
- Friesner, Michael L. 2001. *The Representation of French 'h aspir  ' from the Perspective of Loanword Phonology*. B.A. Thesis, Dartmouth College.
- Friesner, Michael L. 2004. "Aspects of Loanword Adaptation in Continental French." Paper presented at the *Penn Working Group in Language, First Symposium*. Philadelphia: University of Pennsylvania, 17 April 2004.
- Friesner, Michael L., and Aaron J. Dinkin. 2006. "The Acquisition of Native and Local Phonology by Russian Immigrants in Philadelphia." *U.Penn. Working Papers in Linguistics* 12.2: 91-104.
- Haugen, Einar. 1950. "The Analysis of Linguistic Borrowing." *Language* 26: 210-231.
- Haugen, Einar. 1969. *The Norwegian Language in America*. Bloomington: University of Indiana Press.
- It  , Junko, and R. Armin Mester. 1995a. "Japanese Phonology." In J. Goldsmith (Ed.), *The Handbook of Phonological Theory*. Cambridge, Mass.: Blackwell, 817-838.
- It  , Junko, and R. Armin Mester. 1995b. "The Core-Periphery Structure of the Lexicon and Constraints on Reranking." *Papers in Optimality Theory. University of Massachusetts Occasional Papers* 18: 181-210.
- Jacobs, Haike, and Carlos Gussenhoven. 2000. "Loan Phonology: Perception, Salience, the Lexicon, and OT." In J. Dekkers, F. van der Leeuw, and J. van de Weijer (Eds.), *Optimality Theory: Phonology, Syntax, and Acquisition*. Oxford: Oxford University Press, 193-210.
- Janda, Richard J., and Julie Auger. 1992. "Quantitative Evidence, Qualitative Hypercorrection, Sociolinguistic Variables—And French Speakers' 'Eadhaches with English h/  .'" *Language and Communication* 12: 195-236.
- Kang, Yoonjung. 2003. "Perceptual Similarity in Loanword Adaptation." *Phonology* 20: 219-274.

- Kenstowicz, Michael, and Hyang-Sook Sohn. 2001. "Accentual Adaptation in North Kyungsang Korean." In K. Hale and M. Kenstowicz (Eds.), *A Life in Language*. Cambridge, Mass.: MIT Press, 239-270.
- Labov, William. 1984. "Field Methods of the Project on Linguistic Change and Variation." In J. Baugh and J. Sherzer (Eds.), *Language in Use: Readings in Sociolinguistics*. Englewood Cliffs, N.J.: Prentice Hall, 28-53.
- Labov, William. 2001. *Principles of Linguistic Change. Volume 2: Social Factors*. Malden, Mass.: Blackwell.
- LaCharité, Darlene, and Carole Paradis. 2005. "Category Preservation and Proximity Versus Phonetic Approximation in Loanword Adaptation." *Linguistic Inquiry* 36.2: 223-258.
- Magnet, Joseph Eliot. 1995. *Official Languages of Canada*. Cowansville, Qc.: Yvon Blais.
- Moisset, Christine. 1996. "The Status of *h aspiré* in French Today." *U.Penn. Working Papers in Linguistics* 3.1: 223-236.
- Mougeon, Raymond, and Édouard Beniak. 1987. "The Extralinguistic Correlates of Core Lexical Borrowing." In K. Denning et al. (Eds.), *Variation in Language: Proceedings of NWAV-XV*. Palo Alto, Calif.: Stanford University Press, 337-347.
- Paradis, Carole, and Darlene LaCharité. 1997. "Preservation and Minimality in Loanword Adaptation." *Journal of Linguistics* 33: 379-430.
- Paradis, Carole, and Darlene LaCharité. To appear. "English Loanwords in Old Quebec French: Fewer Bilinguals Does Not Mean a Great Increase in Naïve Phonetic Approximation." In M. Hale and C. Reiss (Eds.), *Issues in Phonological Theory*. Oxford: Oxford University Press.
- Patrick, Peter L. 2002. "The Speech Community." In J. Chambers, P. Trudgill, and N. Schilling-Estes (Eds.), *The Handbook of Language Variation and Change*. Malden, Mass.: Blackwell, 573-597.
- Peperkamp, Sharon. 2004. "A Psycholinguistic Theory of Loanword Adaptation." *Berkeley Linguistics Society: Proceedings of the Annual Meeting* 30: 341-352.
- Peperkamp, Sharon and Emmanuel Dupoux. 2003. "Reinterpreting Loanword Adaptations: The Role of Perception." *Proceedings of the 15<sup>th</sup> International Congress of Phonetic Sciences*. Barcelona: Causal Productions, 367-370.
- Poplack, Shana, and Marjory Meechan. 1998. "How Languages Fit Together in Codemixing." *International Journal of Bilingualism* 2.2: 127-138.
- Poplack, Shana, Alicia Pousada, and David Sankoff. 1982. "Competing Influences on Gender Assignment." *Lingua* 57: 1-28.
- Poplack, Shana, and David Sankoff. 1984. "Borrowing: The Synchrony of Integration." *Linguistics* 22: 99-135.
- Poplack, Shana, David Sankoff, and Christopher Miller. 1988. "The Social Correlates and Linguistic Processes of Lexical Borrowing and Assimilation." *Linguistics* 26: 47-104.
- Poplack, Shana, James Walker, and Rebecca Malcolmson. To appear. "An English 'Like No Other'?: Language Contact and Change in Quebec." *Canadian Journal of Linguistics*.
- Repetti, Lori. 2003. "Come i sostantivi inglesi diventano italiani: la morfologia e la fonologia dei prestiti." In A.-V. Sullam Calimani (Ed.), *Italiano e inglese a confronto*. Firenze: Franco Cesati, 31-42.
- Repetti, Lori. 2006. "The Emergence of Marked Structures in the Integration of Loans in Italian." In R. Gess and D. Arteaga (Eds.), *Historical Romance Linguistics: Retrospectives and Perspectives*. Amsterdam: John Benjamins, 209-239.
- Sankoff, Gillian, Hélène Blondeau, and Anne Charity. 2001. "Individual Roles in a Real-time Change: Montréal (r->R) 1947-1995." In H. Van de Velde et R. van Hout (Eds.), *r-atics: Sociolinguistic, Phonetic and Phonological Characteristics of /r/*. Brussels: ILVP.
- Sankoff, Gillian, Pierrette Thibault, Naomi Nagy, Hélène Blondeau, Marie-Odile Follosa, and Lucie Gagnon. 1997. "Variation in the Use of Discourse Markers in a Language Contact Situation." *Language Variation and Change* 9: 191-217.
- Santerre, Laurent. 1979. "Les (r) montréalais en régression rapide." *Prothée* 7.2: 117-132.

- Silverman, Daniel. 1992. "Multiple Scansions in Loanword Phonology: Evidence from Cantonese." *Phonology* 9: 289-328.
- Smith, Jennifer L. 2006. "Loan Phonology Is Not All Perception: Evidence from Japanese Loan Doubles." In T. Vance and K. Jones (Eds.), *Japanese/Korean Linguistics* 14. Stanford: CSLI, 63-74.
- Smith, Jennifer L. To appear. "Correspondence Theory vs. Cyclic OT: Beyond Morphological Derivation." In C. Davis, A. Deal, and Y. Zabbal (Eds.), *Proceedings of NELS 36*. Amherst, Mass.: GLSA.
- Thibault, Pierrette, and Diane Vincent. 1990. *Un corpus de français parlé*. Montréal: Recherches Sociolinguistiques.
- Thomason, Sarah Grey, and Terrence Kaufman. 1988. *Language Contact, Creolization, and Genetic Linguistics*. Berkeley: University of California Press.
- Thornton, Anna M. 2003. "L'assegnazione del genere ai prestiti inglesi in italiano." In A.-V. Sullam Calimani (Ed.), *Italiano e inglese a confronto*. Firenze: Franco Cesati, 57-86.
- Tousignant, Claude. 1987. "Les variantes du /R/ montréalais: Contextes phonologiques favorisant leur apparition." *Revue québécoise de linguistique théorique et appliquée* 6.3: 73-113.
- Vendelin, Inga, and Sharon Peperkamp. 2004. "Evidence for Phonetic Adaptation of Loanwords: An Experimental Study." *Actes des journées d'études linguistiques*: 127-131.
- Vendelin, Inga, and Sharon Peperkamp. 2006. "The Influence of Orthography on Loanword Adaptations." *Lingua* 116: 996-1007.
- Ville de Montréal. 2003. *Montréal en statistiques: Atlas démographique et socio-économique de la population montréalaise*. Available online at <[http://ville.montreal.qc.ca/portal/page?\\_pageid=2076,2453911&\\_dad=portal&\\_schema=PORTAL](http://ville.montreal.qc.ca/portal/page?_pageid=2076,2453911&_dad=portal&_schema=PORTAL)>.
- Vincent, Diane, Marty Laforest, and Guylaine Martel. 1995. "Le corpus de Montréal 1995: Adaptation de la méthode d'enquête sociolinguistique pour l'analyse conversationnelle." *Dialangue* 6: 29-46.
- Weinreich, Uriel. 1968. *Languages in Contact*. The Hague: Mouton.
- Winford, Donald. 2003. *An Introduction to Contact Linguistics*. Malden, Mass.: Blackwell.
- Yip, Moira. 1993. "Cantonese Loanword Phonology and Optimality Theory." *Journal of East Asian Linguistics* 2: 261-291.