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Instability of the [r] ~ [R] alternation in Montreal French: the conditioning of a sound change in progress¹

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1 Introduction.

Until recently, individual trajectories in the course of language change have been relatively unexplored. Surveying past research on sound change in general, we observe that our understanding of the nature of change has most often been made on the basis of either apparent time inferences (Labov 1981) or of trend studies (Labov 1994, Chapter 4). In the case of Montreal (r), apparent time inferences (Santerre 1978, Clermont & Cedergren 1979, Tousignant 1987) combined with trend studies (Cedergren 1988) showed that rapid change was in progress in the community. However, the Montreal corpora collected between 1971 and 1995 offer a unique combination of panel and trend studies providing us with an opportunity to better understand a change in progress. Trend studies are without doubt the most appropriate for establishing real time change. However, panel studies are essential to understanding how change operates at the level of individual speakers, and since there has been a dearth of such research in sociolinguistics, our research aims to contribute to filling this gap. In this article, we draw on both trend and panel comparisons to shed light on the phonological and stylistic conditioning of the change in the use of (r) variants in Montreal.

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Previous studies of sound change have indicated that change tends to proceed incrementally. The many ongoing sound changes in Philadelphia vowels, for example, show a regular progression across generations in the elegant regressions of Labov 2001. Regular, incremental progression also appears to be the order of the day in the massive vowel rotation of the Northern Cities Shift (Labov, Yaeger & Steiner 1972; Labov 1994), in the retrograde shift of the Parisian vowels (Lennig 1978, 1979), in the raising of (o) in Korean (Chae 1995) and many other cases.

With respect to consonants, incremental change seems less obvious. More discrete in nature, consonantal change might be susceptible to more dramatic or rapid change. In the relatively few studies of consonantal change now available, however, the weight of evidence once again points to a state in which a particular alternation present in a community, and in individual speakers, progressively undergoes quantitative alteration such that the innovative form becomes increasingly dominant over time. For example, palatalization in Cairene Arabic (Haeri 1994) is apparently a progressive change, in which the two stages of palatalization compete with unpalatalized variants. Cedergren (1973b, 1988) provides a similar picture of the lenition of (ch) in Panamanian Spanish, and the trend studies of New York City speakers' increasing use of postvocalic (r) between the 1960s and the 1990s show a very slow progression across the three decades (Labov 1994; Becker n.d.).²

This established finding, however, does not imply that sound change *must* operate incrementally. Our research on the replacement of Montreal French apical [r] by posterior [R] in the 1960s – 1990s has indicated a drastically different pattern for the implementation of this change (Sankoff, Blondeau & Charity 2001; Blondeau, Sankoff & Charity 2003; Sankoff & Blondeau 2007). As we will describe in more detail below, we have discovered that in this change from above, many individuals have made dramatic alterations over the course of their lifespans. In particular, many individual speakers have passed from a highly variable use of both [r] and [R], to a stage in which they are categorical or near-categorical users of [R], without having used any phonetically intermediate variants.

In the current paper we examine the behavior of the minority of speakers whose usage pattern is not close to categorical, i.e. is in an *intermediate* range (between 20% and 80% use of [R]) in order to better understand the linguistic and stylistic conditioning of this alternation. Further, since of the speakers we studied, a majority who were in the

² One striking exception to the gradual character of changing relative frequencies in consonantal change is documented in Trudgill's re-study of Norwich, in the merger of /f/ and /th/, and non-initial /v/ and /d/. He found that "not a single speaker in the 1968 sample showed even one instance of this phenomenon, . . . [but] of people born between 1959 and 1973, . . . 41% have the merger variably; and 20% have a total merger, i.e. /Q/ has been totally lost from their consonantal inventories" (1988:43). Many variable consonantal alternations are, of course not involved in change, e.g. the alternation in English of (th) and (dh) with affricates and stops in Philadelphia (Labov 2001, Chapter 3); and Spanish s→h→0 in Panama (Cedergren 1973a).

intermediate range in 1971 shifted to a categorical or near-categorical pattern in 1984, we use our findings about the variability to better understand the nature of the change as a whole, in particular, the unstable state of this adjustment period toward the new norm. We also examine in detail the linguistic behavior of two speakers across the lifespan in order to illuminate the role of stylistic variation in different phases of the change. This detailed analysis allows us to explore the relation between the phonological and stylistic conditioning with regard to the situation of the speaker in the change spectrum.

After providing a summary of our previous research on the [r] → [R] change in Montreal, and explaining our methodology, the article concentrates on individual variability. The first part of the analysis is devoted to the phonological conditioning of the variation and the second part to the stylistic conditioning of the variation.

2.0 Our previous research on the [r] → [R] change in Montreal.

In studying the real-time change from apical [r] to posterior [R] in Montreal French, we have employed both trend and panel comparisons. This was made possible through the use of three corpora, recorded in 1971, 1984 and 1995 (Sankoff & Sankoff 1973; Thibault & Vincent 1990; Vincent et al 1995). Our data on Montreal include 120 speakers recorded in 1971, and 60 of the same people recorded again in 1984. In addition, 12 younger speakers were added in 1984. Of the original speakers, 12 were recorded again in 1995, along with 2 from the younger 1984 cohort.

Our first paper on (r) (Sankoff, Blondeau & Charity 2001) was based entirely on panel comparisons of individuals selected from the three corpora. Making maximal use of the reduced 1995 corpus, we studied the 14 speakers carried through 1995, along with a further 11 for whom comparisons were possible between 1971 and 1984 only, for a total of 62 samples as illustrated in Table 1.

Basic sample composition	1971 speaker samples	1984 speaker samples	1995 speaker samples	Total speaker samples
Long-term Panelists	12	12	12	36
Younger speakers added in 1984	--	2	2	4
Shorter-term Panelists	11	11	--	22
Total speakers/year	23	25	14	62

Table 1. Speaker sample for our original panel study (Sankoff, Blondeau & Charity 2001).

We were surprised in the 2001 study to discover that a sizeable minority of speakers had altered their usage significantly over the years. We decided that an expanded group of subjects was necessary in order to understand the course of the change more fully, as it was implemented by individual speakers. In a second study, we examined the trajectories of several individuals, comparing their implementation of the [r] → [R] change with their adoption of an ongoing morphological change from above

(Blondeau, Sankoff and Charity 2003). In a third study, an enlarged sample was designed to make trend vs. panel comparisons over the 1971-1984 period (Sankoff and Blondeau 2007). This study clearly shows the change as being implemented chiefly by a younger cohort of speakers joining the pool of [R] users, and that change over the lifespan by individual speakers is part of the general movement, but not the driving force.

3.0 Methodology

Our initial goal was to study a minimum of 100 tokens of (r) per speaker per time period, which we assumed (correctly, as it turned out) would be sufficient to establish an individual's basic level of [r] vs. [R] use. However, after our early pilot work, we decided to increase token numbers, especially because the number of vocalized tokens was so great for many speakers (see 4.2 below). For the present study, most speaker samples include at least 150 tokens and for some, we analyzed more than 300 tokens. Our usual method was to begin on page 5 of the transcript (about 10 minutes into the interview) and continue examining all tokens of (r) until we had the required number of tokens. We prepared spreadsheets listing each word on a separate line, and coders worked with these spreadsheets, the transcript of the text, and the audiotape or digitized speech sample. Each sample was coded for the dependent variable, (r), by a minimum of two, often three coders.

The two major variants of interest in the ongoing change are:

- a. the *apical* variant, [r], whether flapped or trilled; and
- b. the *posterior* [R], which included both trills and fricatives, the latter often very weakly articulated.

In addition to these two, we coded for four other variants:

- c. Cases which were too indistinct to hear were coded as *indistinct*, and removed from further consideration. (Of course, individual instances of “indistinct” codings were, as in all other cases, sometimes altered when different coders' versions were reconciled).
- d. In final clusters, many speakers systematically delete (r), even when liaison with the following word might theoretically be possible. Words like *autre*, *notre*, *livre*, *être* and the –dre/-tre infinitives like *prendre* and *mettre* were, for most speakers, invariant in never occurring with final –r. These cases were coded as *deleted*, and were also removed from consideration of the alternation (although we will discuss the phonological conditioning involved in 4.2 below).
- e. A fifth variant was the rather rare *retroflex* known locally as the “American r”, and articulated as in English Canadian pronunciation. Code switches involving English words were sometimes pronounced in the “English” way. For example, when 16-year

old Armand H. complained about the low salary he had been paid as a farm worker the previous summer, he said,

- (1) Des fermiers, les **farmers** ça paie pas. (Armand H., 62'71³)
'Farmers, those **farmers**, they just don't pay'

pronouncing the two instances of (r) in the English word *farmer* with the retroflex. Retroflex (r) also occurred sporadically in the word *Montréal* and a few other lexical items. This variant never exceeded 5% of the total for any speaker, and for most, there were from 0 – 2 instances.

f. The last variant we coded for was *vocalized* (r). This variant, most often found in the coda environment, though not restricted to it, is very frequent in the speech of many Montrealers. For some speakers, it is almost categorical for function words like *sur* and *pour*. As vocalized (r) shades almost imperceptibly into the range of very weakly articulated fricatives, it will be discussed in more detail in section 4.2.3 below.

For each speech sample, we followed Clermont and Cedergren (1979) in calculating the percentage of [r] as a function of all consonantal (r) tokens, according to the formula $[R] / ([R] + [r]) * 100$. We then carried out Chi² analysis to verify whether codings were significantly different, taking the .05 level as our baseline. When two codings were more dissimilar than this, we had a third person re-code, then (in most cases) held a group session in which we reconciled the codings. For a handful of very difficult samples (in some instances because of tape quality), we reconciled the codings ourselves in the course of the analysis necessary for this paper.

The next step was to code for the independent variables we predicted might condition the alternations for the variable speakers. This coding scheme will be described as part of the analysis of phonological conditioning.

4.0 Individual [r] ~ [R] variability

4.1 How typical is [r] ~ [R] variability for individual speakers?

The present paper is concerned with phonological and stylistic conditioning for those speakers located in the mid-range of the change. As shown in Table 2, our subject pool consists of all the speech samples (124) we have coded for (r) variability across all time periods. Because what interests us here is intra-individual variability and its conditioning, the speakers are not separated for Trend and Panel comparisons.

This current phase of our research held another surprise for us. As described above, the general findings on change in progress led us to expect incremental change

³ We use a pseudonym to refer to the speaker followed by an identification number and the year of the recording.

throughout the community. Our research on the 124 speaker samples of Table 2, across the three time periods, reveals that the majority of speakers tend toward categorical use of one of the two variants. Eighty-three of the 124 speech samples (that is, 67%) exhibit categorical or near-categorical behavior on the part of the speakers (if near-categorical is defined as within 10 percentage points of 0% or 100%). Clermont and Cedergren’s findings on the entire 1971 sample had also revealed most of the speakers to be close to 0% or 100%, but we would have assumed that a real-time comparison would show more intermediate speakers, if the change progressed incrementally.

Basic sample composition	1971 speaker samples	1984 speaker samples	1995 speaker samples	Total speaker samples
Original 1971 speakers	64	34	12	110
Younger speakers added in 1984		12	2	14
Total	64	46	14	124

Table 2. All speech samples that form the pool for studying the conditioning of (r) variability.

The current paper, devoted to an exploration of the phonological and stylistic conditioning among variable speakers, will define *intermediate* as those speakers who fall into the 20% - 80% range of use of [R]. In our analysis of phonological constraints, the quantitative comparisons will be based only on these speakers, whose occupation of the intermediate range gives us sufficient tokens of both variants to allow for a comparison of environments. As can be seen from Table 3, this gives us 22 samples to analyze from a total of 17 speakers.⁴ The samples date from all three time periods of the study.

Most of the near-categorical speakers of 1971 stayed that way in 1984, but a majority of the variable speakers moved towards categoriality (Sankoff and Blondeau 2007). Among the 32 panel speakers, only 2 of the 12 “low” range users of [R] in 1971 had moved into the “intermediate” range by 1984. (These two speakers, Lysiane B. and Alain L., are thus the only two low-range 1971 users represented in Table 3.) On the other hand, most of the “intermediate” speakers of 1971 had moved into the “high” range by 1984. That category increased from 12 to 18 speakers by 1984, with more than half of the panelists now having become categorical or near-categorical users of innovative [R].

From the point of view of individuals, then, it seems that being in the intermediate range of [r] ~ [R] variability is a very unstable state, with most intermediate range speakers moving to categoriality over their lifetimes.

In the next section, we will examine both phonological and stylistic factors that condition [r] ~ [R] variability among our intermediate-range speakers.

⁴ One speaker, Laurette R. (#84), has not been included in this paper because we were unable to reconcile the coders’ hearings of her speech.

	SES	Speaker name and i.d.#	Age '71	1971		1984		1995
Speakers recorded in 1971, 1984 and 1995 (pool of 12)	UC	Louis-Pierre R. (#92)	16	78%	<	100%	=	100%
	UC	Christian B. (#25)	27	68%	<	98%	=	100%
	MC	André L. (#65)	27	61%	<	66%	=	69%
	MC	Alain L. (#104)	45	17%	<	66%	>	48%
	WC	Lysiane B. (#7)	24	7%	<	65%	<	75%
Speakers recorded in 1971 and 1984 (pool of 20)	UC	Joseph R. (#75)	53	48%	<	79%		
	UC	Diane R. (#66)	40	72%	<	97%		
	MC	Germain T. (#88)	19	48%	<	100%		
	WC	Lyne L. (#71)	17	73%	<	90%		
Speakers recorded in 1971 only (pool of 32)	UC	Bernard L. (#87)	23	47%				
	MC	Jean B. (#120)	40	47%				
	MC	Armand H. (#62)	17	37%				
	MC	Jean Q. (#21)	39	45%				
	WC	Guy C. (#96)	28	64%				
	WC	Micheline L. (#41)	54	34%				
Speakers recorded in 1984 only (pool of 12)	WC	Yves G. (#130)	12*			34%		
	WC	Éric A. (#132)	3*			72%		

Table 3. All “intermediate” range speech samples (registering between 20% and 80% use of [R]) over all time periods.-- Pools from which speakers were drawn are noted in order to show that for each group of speakers, intermediate range speakers are in the minority. For each speaker, cells enclosed in boxes indicate *intermediate range cells*. Empty cells indicate that that speaker was not recorded in that year.

4.2 Phonological conditioning of [r] ~ [R] variability.

As discussed in section 3.0 above, there are several variants of (r) in addition to the two major consonantal variants. Variants that we could not hear were perforce eliminated, as described above, and retroflex variants occurred too occasionally to retain our attention.

4.2.1. Deleted (r).

A variant that is shared by all members of the speech community, irrespective of their preference in terms of the consonantal variants, is deleted (r).

We coded as “deleted” only those instances of (r) in final clusters where (r) is the second element of the cluster, since this was a categorical deletion environment for many speakers. In fact, some speakers gave evidence of not having any final (r) in their lexical entries for such words. For example, such words may be pluralized as containing the penultimate stop plus plural ending. A case in point is taken from the recording of 16-year old Armand H. in 1971:

- (2) Puis là il-y-a **d'autres** [do:tz] écoles qui sont venues nous chercher.
'And there were **other** schools that came looking for us'

Only a few of our speakers, and even for these, only in a few cases, did we find instances of pronouncing such a word with following schwa, or of resyllabifying the cluster in the environment of a following vowel. We analyzed 345 tokens of (r) from Lysiane B. (#7) in 1984, and of these, 34 were words of this pattern: *autre(s)*, *notre*, *être* (the three most common) and rarer words like *novembre*, *mettre*, *livre*, *chambre*. Of these, the 24 preconsonantal cases all deleted (r); even of the 10 in prevocalic environments, 8 showed deletion of the final (r), in phrases like 'quat(re) et demi', 'vot(re) enfant', and 'liv(res) à colorer'. The two cases that did show liaison were both highly marked stylistically. In (3), Lysiane was about to use the plural, when she explains that she and her husband envisaged a home where they could raise their (plural) children, 'nos enfants', but stops in midstream to correct in view of the fact that they eventually had only one child. In (4), she is citing the careful words of a doctor in a gripping story of her daughter's near-fatal illness.

- (3) Mais notre but [nOtbu] était bien de: d'avoir une maison pour-- une maison familiale pour élever no-- **notre** enfant [nɔtrɑfɑ]. (Lysiane B.7'84)

'But our goal certainly was to have a house to-- a family home to raise our childre--
our child in.'

- (4) "Avez-vous **d'autres** enfants [dotrɛzɑfɑ]?" (Lysiane B., 7'84)
'Do you have any **other** children?'

The clear pattern is that in words ending in stop + liquid clusters, the liquids are almost categorically deleted⁵ -- except in very careful speech. As such, we set all the deleted cases aside as being uninformative for the [r] → [R] change in progress, and retained only those few, in which the (r) was retained and resyllabified. In (3) and (4), the consonantal (r) was in both cases articulated by Lysiane as [r].

4.2.2. The [r] ~ [R] alternation.

Of the three remaining variants, we will turn now to the major consonantal variants, [r] and [R], saving the vocalized variant for discussion in 4.2.3. Studying the competition between these two consonantal variants is the tradition in the literature, and we follow it in this analysis.

On the basis of listening to 2 - 3 minutes per speaker, Clermont and Cedergren studied the phonological conditioning among the 90 variable speakers they analyzed in 1971. They reported a tendency among the 1971 speakers for the [r] variant to occur in onsets, and for the posterior [R] to occur in codas (1979:24-5). This result was confirmed in the detailed examination of phonological conditioning by Tousignant (1987).

⁵ This is also true of clusters with (l) in words such as *table*, *oncle*, etc.

Although Tousignant departed from Clermont and Cedergren in separating the posterior variant into two (velar fricative vs. uvular trill), he did not find any phonetic conditioning of the occurrence of these two variants.

We coded separately four types of onsets, but grouped them together for the purposes of the quantitative analysis.

- a. Word-initial (r): *rester, rappeler, radio, rondelle*
- b. Syllable-initial (r): *carotte, parents, orange*
- c. (r) in word-initial cluster: *fromage, creuser, transfer*
- d. syllable-initial cluster: *affreux, entrer, appris, microbe*

Codas of four types were identified:

- a. Word-internal syllable codas: *garçon, partir, permission, orphelin*
- b. Word-final clusters with r as the first member: *carte, termes, parc*
- c. Word-final single (r): *pour, sur, jour, avoir, alors*
- d. Word-final obstruent + (r) clusters: *notre, offre, encre*

Definitive of word-internal syllable codas was the fact that they were always followed by the consonantal onset of the following syllable (a word-internal single consonant syllabifies as an onset). As far as word-final clusters are concerned, the “obstruent + r” type was already set aside as described above. Lastly, although the fourth type of coda was classified as such in our coding scheme, we are well aware that resyllabification may also take place in such an environment, when the next word begins with a vowel. Nevertheless, this was by no means always the case in our data, for example, when the final r is vocalized. In this regard we can contrast (5), in which Micheline L. vocalizes the final (r) of *pour* before the initial vowel in *avoir* (as she does with the second case of *pour* in this example) and there is no question of resyllabification, with (6), in which Arthur uses apical [r] in both *avoir* and *par*, and uses an intonation curve that makes it sound resyllabified. In (7), however, despite the fact that Christian B. uses a consonantal [R] in the word *mère*, this is a weakly articulated [R] and does not strike our ears as resyllabified.

- (5) On achetait le samedi **pour** [pu] avoir de quoi de frais **pour** [pu] le dimanche puis le lundi. (Micheline L., no.41 , 1971)
‘We used to do our shopping on Saturday **so** we’d have something fresh **for** Sunday and Monday’.
- (6) OK je pourrais **avoir** [r] une job: disons un collet blanc **par** [r] exemple là. (Arthur L., no.65, 1971)
‘I could **have** a job, you know a white collar job for example’
- (7) Disons que du côté de ma **mère** [R] on n'a pas connu ça (Christian B., no.25,1971)
‘Well on my **mother’s** side we didn’t know them’

Because the situation with potential resyllabification is complex, we decided to use the conservative strategy of coding word-final (r) as a coda irrespective of following environment, and then examining the consequences of this decision by comparing these tokens to the others as will be explained below. Thus, as with onsets, all coda types are combined for quantitative analysis.

The relationship between the percentage of [R] in onsets and the percentage of [R] in codas for all individual speech samples is shown in the scattergram of Figure 1. We see that the majority of our speakers conformed to the pattern originally identified by Clermont and Cedergren, whereby posterior variants are used more frequently in codas than in onsets.

It is also clear from Figure 1 that there are three anomalous speakers for whom [R] occurs more frequently in onsets, all recorded in 1971. Full data for all individuals is provided in Table 1. For one anomalous speaker, Armand H. (no.62), recorded at the age of 17, there are no instances at all of [R] in codas. Looking at his data more closely, however, we discovered also that his absolute number of consonantal (r) codas was extremely low -- only 15 tokens as opposed to 62 in onsets, as illustrated in Table 4. What is going on here? The answer is that for Armand, for the other anomalous speakers, and indeed with many other speakers, a majority of coda tokens are in fact vocalized⁶. Armand himself had 66 instances of vocalized codas. Armand H. and Micheline L. (no.41, age 54) were recorded only in 1971, but the third anomalous speaker, Germain T. (no.88), age 19, was also recorded in 1984. By this time he no longer used the apical form at all, and had become a 100% user of [R]. We conclude that in the transitional phase, for speakers who vary between [r] and [R], vocalization is a serious competitor with [R] in coda position, and a full understanding of the [r] → [R] change must take vocalized variants into account.

⁶ Information provided by one reviewer highlighted the fact that in Dutch, apical [r] does weaken to an alveolar fricative.

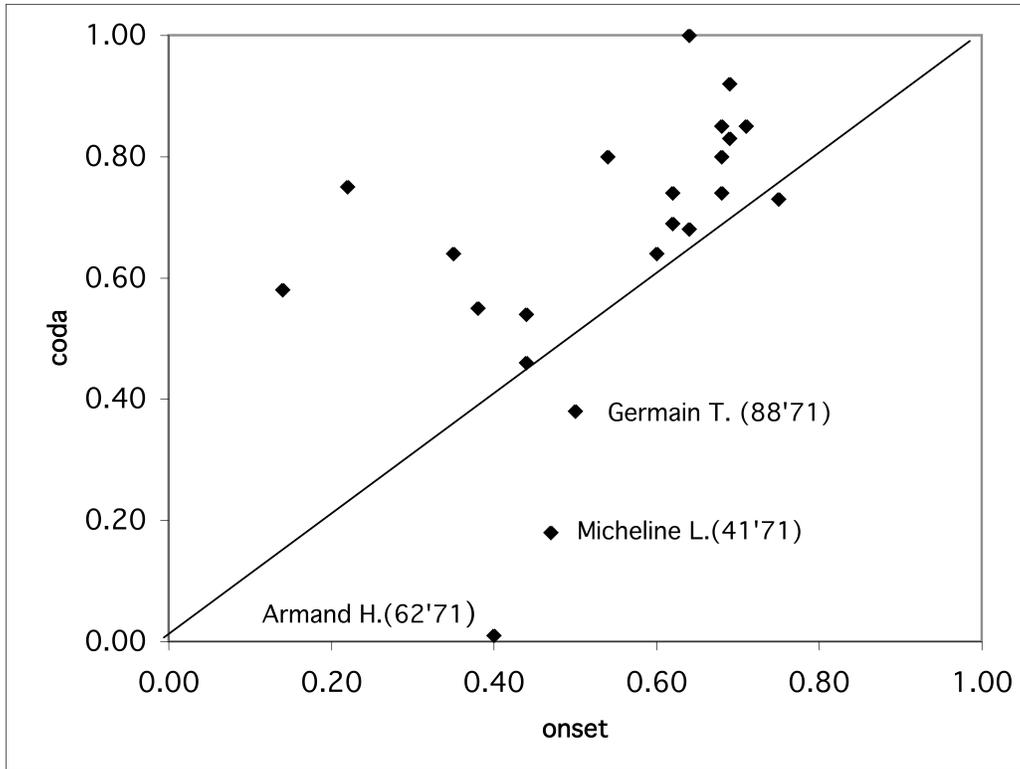


Figure 1. The relationship of posterior [R] percentages in codas and in onsets, in all individual mid-range speech samples from all periods of our study. Speech samples occurring to the left of the diagonal are those in which [R] is used more frequently in codas than in onsets.

Speaker pools	SES	Speaker pseudonym and i.d.#	Date	Age	%R	% [R] onset	% [R] coda
Recorded in 1971, 1984 and 1995 (pool of 12)	UC	Louis-Pierre R. (#92)	1971	16	78%	71% (75)	85% (67)
	UC	Christian B. (#25)	1971	27	68%	62% (68)	74% (43)
	MC	André L. (#65)	1971	27	61%	60% (220)	64% (132)
		André L. (#65)	1984	40	66%	58% (134)	77% (84)
	MC	André L. (#65)	1995	51	69%	68% (73)	74% (69)
		Alain L. (#104)	1984	58	66%	54% (69)	80% (61)
	WC	Alain L. (#104)	1995	69	48%	35% (48)	64% (39)
	WC	Lysiane B. (#7)	1984	37	65%	64% (157)	68% (79)
WC	Lysiane B. (#7)	1995	48	75%	75% (122)	73% (79)*	
Recorded in 1971 and 1984 (pool of 20)	UC	Joseph R. (#75)	1971	53	48%	44% (99)	54% (45)
	UC	Joseph R. (#75)	1984	66	79%	69% (49)	92% (38)
	UC	Diane R. (#66)	1971	40'	72%	64%(55)	100%(15)
	MC	Germain T. (#88)	1971	19	48%	50% (52)	38% (13)
	WC	Lyne L. (#71)	1971	17	73%	68% (63)	85% (27)
Recorded in 1971 only (pool of 32)	UC	Bernard L. (#87)	1971	23	47%	38% (39)	55% (44)
	MC	Jean B. (#120)	1971	40	47%	22% (50)	75% (44)
	MC	Armand H. (#62)	1971	17	37%	44% (62)	0% (15)
	MC	Jean Q. (#21)	1971	39	45%	44% (45)	46% (13)
	WC	Guy C. (#96)	1971	28	64%	62% (61)	69% (13)
	WC	Micheline L. (#41)	1971	54	34%	47% (53)	18% (40)
Recorded in 1984 only (pool of 12)	WC	Yves G. (#130)	1984	25	34%	13% (36)	58% (41)
	WC	Edouard A. (#132)	1984	16	72%	68%(41)	80% (5)

Table 4. Percentage of [R] in onsets vs. codas for all 22 mid-range speech samples (= between 20% and 80%). Data from 17 speakers over the three periods, with a total N of 2677 [r] and [R] tokens. [* Note that 73% is not significantly difference from 75% here, so Lysiane B. in 1995 is considered to have equal rates of [R] in the two environments]

4.2.3. Vocalized (r).

Our three speakers who were anomalous in that they used a higher proportion of [R] in onsets than in codas were by no means unique in their preference for vocalized (r) in coda position. Vocalization of (r) is almost entirely limited to codas, and in particular to word-final position. There is clearly also some grammatical/lexical conditioning in final (r) vocalization. Function words in particular, almost always unstressed and often entering into morphophonological processes with adjacent elements, are particularly susceptible.

For example, in combination with the masculine definite article, the preposition *sur* 'on' usually undergoes simple vocalization as in (8). In (9), however, we see the usual pronunciation of *sur* in combination with the feminine definite article, in which not only is the final (r) elided, but the [l] of *la* is also vocalized (Sankoff & Cedergren 1971), and the two vowels [y:] and [a] become simply a lengthened [a:] as in (9).

(8) Alors nous, les vacances ça se passait **sur le** [sy] trottoir. (Diane R. 66'71)

So for us, we spent our vacations on the sidewalk.

- (9) Et puis eux ils se sont pr[R]omenés **sur la rue** [sa:ry] Out[r]emont. (Diane R. 66'71)
'And they went walking on Outremont Street'

Vocalization is also extremely common in other function words such as *pour* 'for'; *leur* 'their'; *par* 'by' and *parce que* 'because'. Nevertheless, because occasionally people do articulate a consonantal (r), whether [r] or [R], in these words, we have retained them in our data base. Vocalization in function words almost always involves a clearly vocalic coda rather than a weakened [R].

In other codas, however (those not involving function words), tokens we have coded as vocalized may shade imperceptibly into very weakly articulated velar fricatives. Listening to thousands of these tokens, and studying the distribution of the data, we are convinced that vocalization is more closely related to [R] than to [r]. An apical [r] always involves at least one tap, and does not weaken to an alveolar fricative, whereas the posterior [R] seems to occupy a cline of lenition. Often, one of three coders would hear a very weak fricative, while the other two staunchly maintained that the token was simply vocalized. Although in some cases examination of the spectrogram indicated a slight degree of frication, spectrographic evidence itself was inconclusive in many cases and with approximately 1300 vocalic tokens, it was not possible to examine each one closely.

4.3. Stylistic conditioning of [r] ~ [R] variability.

In addition to their sensitivity to phonological conditioning, do speakers who have adopted the innovative [R] in variation with the traditional [r] also show sensitivity to stylistic considerations? Innovative [R] is a change from above, higher values of [R] being associated with women and with higher linguistic market indices (Sankoff, Blondeau & Charity 2001). Thus, it is reasonable to investigate whether speakers associate [R] with formal style, or youth, or women, or higher social class, and on the other hand, whether they associate [r] with being old or old-fashioned, or with intimacy or informality. We have modeled the change as one in which many speakers would have acquired [r] in primary acquisition in the family setting, adopting [R] later in childhood or adolescence under the influence of peers (Sankoff & Blondeau 2007). Thus stylistically, it is possible that speakers who have made such a change over their own lifetimes will associate the [r] variant with family and their own childhood.

Of all the middle-range speakers, we chose two of those who were followed across the 24-year time span of the study for stylistic analysis. Both in their twenties in 1971, they belonged to the first generation of speakers who were at that time adopting innovative [R] as their basic consonantal variant. This was, however, more typical of middle and upper-middle class speakers (Sankoff, Blondeau & Charity 2001), and the two we follow here were from working-class backgrounds.

Lysiane B. (#7) at age 24 in 1971 was newly married, a factory worker who had not finished high school, but she and her husband were already planning a home in the

suburbs and a better life for their family. As described in Blondeau, Sankoff & Charity (2002), Lysiane by 1984 had forged a career in sales, and she, her husband and young daughter were indeed living in their suburban home. By 1995, Lysiane had become a realtor, and projected self-confidence in her own mastery of her course in life, as well as pride in her daughter's accomplishments.

André L. (#65) was 27 in 1971, single, and working in his chosen profession as an actor. He talks of his working-class father's aspirations for his children to achieve white-collar status with some job security, but explains how he himself (having finished high school, and recently graduated from a prestigious acting school) prefers living on a limited income with a meaningful profession. At 40, married with a toddler and a new baby, he was still following this financially unrewarding career path in 1984. By 1995, however, he had had to give up on acting and find a more certain source of income, and had shifted, as he put it, to gerontology, working as an *animateur* in a facility for senior citizens. Even with both himself and his wife working full time, he talks of financial worries supporting a family that now includes a teenager who needs music lessons. However, André comes across as someone who finds much satisfaction in both his work and family life.

What kind of diachronic trajectories do these two speakers have? For Lysiane, her dramatic upward social mobility seems to go hand in hand with a dramatic rise in her use of the innovative [R], from only 7% in 1971 to 65% in 1984, after which she steadily but more slowly continues to increase, registering a value of 75% [R] in 1995 (a statistically significant increase between 1984 and 1995). André, in contrast, was already a middle-range user of [R] in 1971. Though the overall values of [R] reported for him increase slightly, from 61% [R] in 1971, to 66% in 1984, to 69% in 1995, these slight increases were not statistically significant, leading us to conclude that André has been a stable mid-range user of [R] over the 24-year period of the study (a pattern atypical of our sample as a whole).

To study stylistic variation, we increased the sample size for both these speakers, and searched as well for portions of their interviews that might be likely to show the most different behavior. Since Lysiane had close to categorical use of [r] in 1971, with only 7% [R], our stylistic analysis deals with her in 1984 and 1995, and André in 1971, 1984 and 1995.

The results for Lysiane are reported in Table 5. We first studied three segments in her 1984 interview. We expected that a segment in which she recounts a conflict with the administration of her daughter's school might yield a higher rate of [R] than she uses in discussing more mundane topics, and this did prove to be the case. However, we also expected that she might show a significantly lessened use of [R] in the most emotional segment on the tape, one in which she narrates her daughter's harrowing experience with a near-fatal illness. If Lysiane's use of [r] still represents her 'vernacular' in the sense of its being her dominant form throughout childhood and up through at least the age of 24, we reasoned that this very emotional story might lead her toward more vernacular usage. However, [R]-usage in this segment was not significantly different from its use in

Lysiane's recounting of more mundane family history as shown in the first part of Table 5. Only in segment C is [R] use significantly different from the other two segments (whether considered separately or combined).

	No. of [R] tokens	No. of [r] tokens	% [R]/ ([R]+[r])	All tokens
A. Mundane family history	22	21	51%	63
B. Daughter's near-fatal illness	87	45	66%	199
C. Conflict with school authorities	41	14	75%	81
Total 1984	150	80	65%	343
D. Conflicts with her mother	37	18	67%	93
E. Grandmother's death	45	13	78%	97
F. Business decisions	68	20	77%	147
Total 1995	150	51	75%	337

Table 5. [R] and [r] use by topic for Lysiane B in 1984 and 1995.

How can we explain why Lysiane's behavior did not match our expectations in this regard? It may be that we misanalyzed the stylistic nature of segment B – for example, some of it concerns Lysiane's dealing with doctors and hospital authorities, figures who may be parallel to the school authorities in segment B. However, separating this long segment into – for example – the utterances revealing Lysiane's emotional responses from those involving reported conversations with authorities, did not reveal any particular patterning in her use of the two variants. For example, in (10), her use of [R] and [r] follows the general tendency of using [R] in codas and [r] in onsets, but does not obey any stylistic constraints we could identify. (Other coda r's in clusters in this example were deleted as described in 4.2.3 above).

- | | |
|--|---|
| (10) Ça peut être n'impo[R]te qui . . . | It could be anybody who . . . |
| même les membres de la famille qui | even family members who |
| peut être-- être po[R]teurs du mic[r]obe | could be, be carriers of the germ. |
| Puis étant donné qu'elle, | And given that she, |
| elle était en faiblesse là avec ses otites | she was weakened by her ear infections, |
| elle l'a att[r]apé . | she caught it. |

A more likely interpretation of these results is that apical [r] is no longer Lysiane's unmarked, vernacular pronunciation of (r). In her case, it seems that posterior

[R] may yet carry the general implication of a pronunciation associated with authority, education, and formality. The one subsection of her encounter with the school administration in which [R] co-occurs with a hyper-formal⁷ (and hypercorrect) form is in (11). When Lysiane confronts her daughter's teacher about the lunch policy, asking her who exactly set the policy, the teacher's answer is reported as containing a liaison with infinitival [R] – in a sentence where one would have expected the teacher to use a past participle rather than an infinitive. Lysiane continues to report herself as having replied with another infinitival [R]. It would seem almost impossible to have scored this rhetorical coup using an apical [r] in the liaison, yet her emphasis here is on the fact of the liaison itself and not the particular variant of (r) used.

(11) "Suzanne et moi en avons **décidé[R]** ainsi". "Suzanne and I have **decided** that way"

J'ai dit	I said,
"Moi je vais en décide[R] autrement"	"I'm going to decide otherwise"
pour répondre: sur le même " air ".	to reply with the same "air"/ "r".

Overall, however, what we see with Lysiane is that the formal passage contains 75% [R] use, without any individual subsections being particularly marked with [R] – perhaps difficult to do when what would be so "marked" would be the statistically unmarked form. Yet nor did the words in which [r] occurred here – or in her other passages – appear to be stylistically marked in any way. Rather, Lysiane raises her overall level of [R] use in dealing with a topic marked by formality, yet individual tokens are not associated with a particular stylistic force. Even if the variation seems to be conditioned by phonological constraints, Lysiane shows ambiguous behavior regarding the stylistic variation. If stylistic factors seem to constrain the variation in a general way in the relation between topic and formality, we do not observe a clear relation with each individual token associated with a formal topic. This might resemble the situation for the negation in French where *ne* is associated with formality without being used all the time in formal contexts. (Sankoff et Vincent 1977).

In 1995, we again studied three segments from Lysiane as illustrated above in Table 5. In none of these segments does [R] use differ significantly from the others. Her discussion of business decisions and difficulties with opening a dress shop (segment F) shows [R] use on a parallel with her 1984 segment on conflict with the authorities at her daughter's school. However, segments D and E, chosen to tap into Lysiane's most unself-conscious speech, showed [R] usage that is not significantly different from segment F. In D, she recounts how her mother was not happy living with Lysiane's family after being widowed, and in E (a passage which begins so emotionally that the tape recorder is turned off for a few minutes), she tells of her grandmother's death. Both

⁷ Other hyper-formal elements in this short sentence include the object clitic *en* and the use of the first person plural verbal suffix *-ons* (where normally one would find *Suzanne et moi, on a décidé*).

of these passages seem to confirm that [R] is now part of Lysiane’s vernacular. This time, there are a few tokens of apical [r] in words that carry an ironic flavor, especially in the segment about conflict with her mother, but overall, stylistic variation seems not to be characteristic of Lysiane’s use of [R]~[r] in 1995.

André is a different story. Though stable across time, André’s use of (r) variation seems more closely keyed to the use of individual tokens. Classified as a Middle Class speaker due to his high position on the linguistic market index counterbalancing for his working-class family background, André was an interesting case to study. Born in 1944 with several older siblings, we assume from his family background that André also acquired [r] in his primary language acquisition. However, he is unusual in having undergone training as an actor that included specific attention on the part of teachers and coaches from France whose mission it was to teach the Québécois actors to lose their local accents and speak “international” French. In both 1971 and 1984, André speaks at length about his profession and in these segments, [r] is almost entirely absent, as shown in Table 6. Segment C differs significantly from A and B in 1971; Segment F in 1984 is virtually the same as the corresponding stylistic segment in 1971, and differs significantly from Segments D and E. In 1995, André was no longer working as an actor and did not talk about the theatre: Segment I, the most formal topic he discussed, differs significantly from G and H.

	No. of [R] tokens	No. of [r] tokens	% [R]/ ([R]+[r])	All tokens
A. Mundane family history ('71)	48	53	48%	137
B. Finding a position in the workforce ('71)	63	73	46%	185
C. The experience of theatre school ('71)	99	10	91%	134
Total 1971	210	136	61%	456
D. The pleasures of life in the country ('84)	40	30	57%	100
E. Family games and entertainment	36	38	49%	118
F. Life and work in the theatre ('84)	66	5	93%	95
Total 1984	142	73	66%	313
G. Family; financial worries ('95)	60	32	65%	124
H. Parties; dinners; drinking ('95)	30	23	57%	90
I. Policy, politics, work ('95)	71	18	80%	124
Total 1995	161	73	69%	338

Table 6. [R] and [r] use by topic for André L. in 1971, 1984 and 1995.

It is clear that André's stylistic range is greater than that of Lysiane. In the sections devoted to discussion of the theatre, alveolar [r] is almost completely absent. In these sections, he appears to use individual tokens of [r] for stylistic effect, reminiscent of Gumperz' (1982) analysis of metaphorical code-switching. In one 3 1/2 minute segment from section C, there are only 3 alveolar tokens in an otherwise uninterrupted sequence of 80 posterior tokens. Two of the three occur in (12), where André switches from the exaggerated "French French" accent he adopts for the words "*l'accent fRançais*" in the second line, to the common Québécois expression "*s'énerver ben gros*". Both in *énerver* and in *gros*, André uses an apical [r], co-occurring with the usual pronunciation of *bien* without the glide whenever it is used in (this nonstandard) adverbial function.

- | | |
|--|--|
| <p>(12) Tu compRends, le petit foulaRd de côté
 puis le: puis l'accent fRançais
 et puis tout le tRalala tu-sais.
 <i>Moi ça m'énervait ben gros tu sais.</i>
 Bien ' a fallu que j'appRenne à paRler
 le fRançais inteRnational [. . .]
 paRce-que quand tu joues du MolièRe
 avec l'accent québécois là,
 tu es bloqué pas-mal.</p> | <p>Y'know the little scarf on the side
 and the "French" accent
 and all that brouhaha.
 <i>It bugged the hell out of me.</i>
 I had to learn to speak
 International French [. . .]
 because when you play Molière
 with a québécois accent,
 you're pretty much blocked.</p> |
|--|--|

Later on he uses another expression clearly part of the Québécois vernacular when once more he evaluates himself, this time from the standpoint of some of his ambitious theatre school classmates, in the midst of a segment that is otherwise entirely characterized by posterior [R].

- | | |
|---|---|
| <p>(13) AloRs à ce moment là
 ils me disaient que j'étais fou,
 que j'étais <i>pas ben ben brillant</i>.</p> | <p>So at that point
 they told me I was crazy,
 that I was <i>not too too bright</i>.</p> |
|---|---|

Here the phrase *ben ben brillant* uses the colloquial evaluative adverbial 'ben ben', never pronounced with a glide, along with the unique use of apical [r] in *brillant*.

André's use of the traditional Montreal [r] continues, albeit in a less unequivocal form, to be stylistically marked in other discourse that includes a much lower rate of [R] use. He tends to use a higher rate of alveolar [r] in contexts referring to the family and to childhood, whether his own or that of his own children. For example, in 1984, after a set of rather impersonal reflections on why he prefers country living to the city, featuring mainly posterior [R], he suddenly mentions the concrete experience of cross-country skiing with his toddler, saying that he loves to go out with his son on days when he doesn't have to work (all words in bold characters feature alveolar [r]):

- | | |
|--|--|
| <p>(14) Mes skis sont toujours en avant
 puis je pars.</p> | <p>My skis are always in front (of the house)
 and so I leave.</p> |
|--|--|

Puis je vais faire du ski de fond.
Puis là avec le petit,
la **traîne**-sauvage en **arrière**
puis je le **traîne** dans le bois
puis je l'occupe tout un **après-midi**.

And so I go cross-country skiing.
I have the little guy,
with the **toboggan behind**,
and I **pull** him through the woods
and I keep him busy all **afternoon**.

Like Lysiane, in discussions of family history André intersperses apical and posterior variants throughout. But whereas for her, even mini-concentrations of three or four apical r's in a row does not in itself seem to carry any emotional association, in André's speech apical (r) often appears to cluster in utterances (though not necessarily particular words) that are especially imbued with emotion. These are usually positive but sometimes have a wryly ironic flavor as in (12) and (13) above.

By 1995, André has left the theatre and nowhere does there occur a context in his interview in which he uses [R] as exclusively as in 1971 and 1984. His discussion of his work and of politics in segment I produces only 80% [R], a significant decline from the formal contexts of 1971 and 1984. However, we feel certain that were André once more to talk about his acting career, we would see the same more extreme stylistic range he demonstrated earlier in his life.

Our interpretation of these results from André is that, as a trained actor who has been made sharply aware of dialect differences, he probably represents the upper limit of speakers' ability to deploy the two (r) variants stylistically. This stylistic differentiation for André may be part of the explanation for why he remains a variable speaker and does not show evidence of an overall increase in [R] between the age of 27 and 51. That stylistic variation rather than change over time is important for André can be seen from Figure 2, which plots all of André's segments by topic and year. Between age 27 and 51, André maintains a fairly consistent overall level of [R] in the range of 65% - 70%, but he also maintains clear stylistic differences. As can be seen from Table 4 above, his phonological conditioning also remains stable, with codas yielding slightly higher percentages than onsets throughout – a much lesser difference than he exhibits in stylistic range.

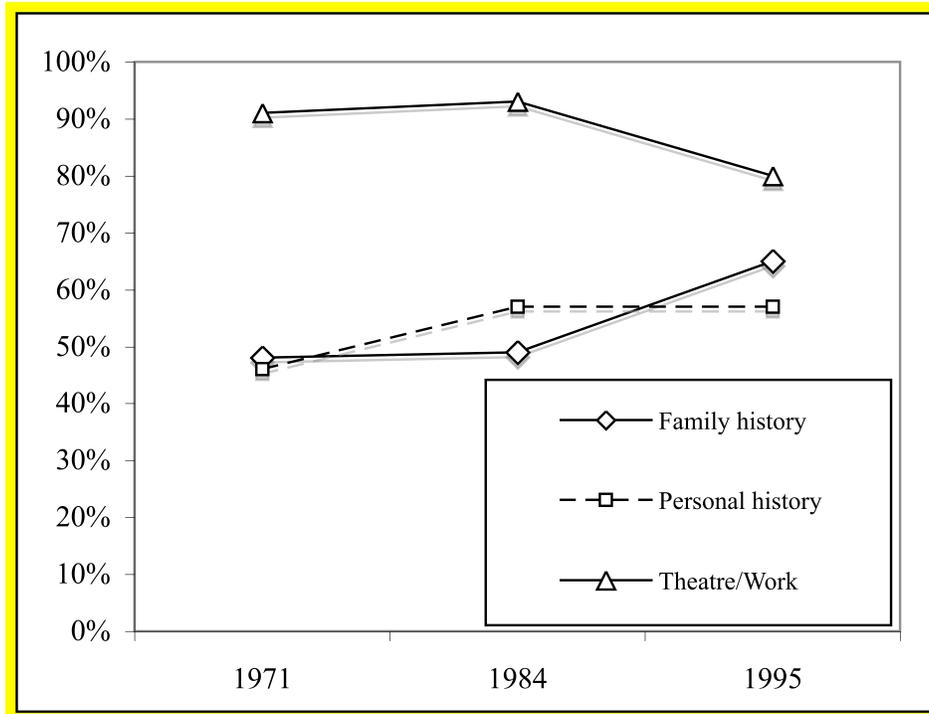


Figure 2. Percentage of [R] for André L. by topic and year.

Comparing Lysiane with André, both speakers from a working-class background, we made the assumption that both acquired [r] as children. This was based on the fact that although some middle- and upper-class speakers in their 20s in 1971 tended to use [R] as their vernacular form, most working-class speakers were predominant users of [r] (Sankoff, Blondeau & Charity 2001). When we met Lysiane in 1971, this was still her pattern at age 24. André at 27, with his theatre-school experience behind him, already showed a great stylistic range and a vernacular pattern in which the two forms were in variation. Over the next 24 years, Lysiane's upward social mobility was accompanied by a dramatic increase in her use of [R], but she shows only slight stylistic conditioning in 1984, and none in 1995 when [R] seems to have replaced [r] in her vernacular. André on the other hand has not experienced upward social mobility and has not changed over time, but continues to show stylistic conditioning.

Conclusions

To date, there have been relatively few panel studies in which data on individuals has been reported over the span of a decade or more. Looking at vowel systems, Brink & Lund (1979); and Labov & Auger (1998) have shown stability in individual speakers, similar to the roughly 2/3 of our speakers who were stable across time (Sankoff & Blondeau 2007). The majority of vowels of the speaker studied by Prince (1987; 1988) were also stable over 4 decades. In the domain of morphology, research on Montreal French auxiliary selection has shown stability in all but one or two of 60 speakers between 1971 and 1994, in the face of community change toward the use of *être*

(Sankoff, Thibault & Wagner 2004). Further work on the alternation between periphrastic and inflected future has found stability for the majority of the same 60 panel speakers, with upper class speakers showing retrograde change, increasing their use of the inflected future across their adult lives (Sankoff and Wagner 2006). In the alternation between *a gente* and the first person plural in Portuguese, Zilles (2005) reports that 11 of 13 speakers in a panel study across roughly two decades were stable in their use of *a gente* to replace the first person plural; the other two speakers showing retrograde change over their lifespans. Ashby (2001) reports that of 10 French speakers followed across a 19-year period, 6 were stable in their use of *ne*-deletion. Of the remaining four, three reduced their use of *ne* (the direction of community change) and one was anomalous in her increased use. A study of noun phrase agreement in Portuguese has also shown that across two decades, a sizeable minority of speakers (5 of 16) substantially increased their use of agreement – the direction of community change (Naro and Scherre 2002).

Taken together, these panel studies demonstrate that although speaker stability in adult life seems to be the majority pattern, we frequently find a sizeable minority of speakers dramatically increasing their use of the innovative variant, with small minorities becoming more conservative as they age.

Several of these studies have, like our study of Montreal (r), included a larger trend component along with a study of a subset of speakers as a panel. The studies of Ashby, Naro and Scherre, and Zilles concur with our research in two important respects: (1) community change outpaces that of individual speakers across their lifespans; and (2) in all these cases where options are binary, with no intermediate forms involved, change for individual speakers is often quite dramatic. It is possible that the fact that options are binary and discrete, in the [r] → [R] case as in the morphological alternations, makes possible the abrupt and rapid character of the change, as opposed to the slow and incremental nature of many of the vocalic changes described in previous research.

The implications of these results in terms of whether individual grammar change in adult life is a matter only of quantitative change, or whether qualitative change is involved, is the topic of Sankoff (in preparation). What we can reliably say on this point at present is that most of those speakers who changed from “intermediate range” use of [r] to categorical or virtually categorical use also went from a grammar where onsets and codas differentially conditioned (r) variation to a grammar that lacked this conditioning.

Our analysis in this paper has concentrated on the middle phase of a very rapid change, investigating the phonological and the stylistic conditioning of the variation. On one hand, the analysis of the variation has shown a clear sensitivity to phonological conditioning. Indeed, the pattern initially discovered by Clermont and Cedergren whereby posterior variants are used more frequently in codas than in onsets was confirmed for the majority of our speakers. We have also demonstrated that vocalized (r) can be viewed as a serious competitor to the consonantal variants in coda position. This finding merits further investigation in the [r] → [R] change.

On the other hand, sensitivity to stylistic conditioning also shows inter-speakers variability, as illustrated by the detailed analysis of the alternation for two speakers across the lifespan. Those two speakers who acquired the apical variant as children are not equally sensitive to the stylistic environment. Our analysis has shown that one of the two speakers already manipulated the alternation of the variants for stylistic purposes at the age of 27 in 1971 due to his personal background as an actor, and maintained this ability in later life. However, the other speaker, who was still using her vernacular [r] pattern at the age of 24 in 1971, changed dramatically toward [R], probably due at least in part to her upward social mobility, with little stylistic variation. In her case, it seems that one variant has replaced the other as the default variant. Further research using a combination of trend and panel study on other variables involved in the process of change is needed-if we seek to better understand the relation between stylistic markedness and the process of change.

* * * * *

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