

Lexical Diffusion in the Early Stages of the *Merry-Marry* Merger

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1 Introduction

The conditioned merger or neutralization of mid and low front vowels /e/, /ɛ/ and /æ/ before /r/, which results in homophony for groups of words such as *Mary*, *merry*, and *marry*, is found throughout varieties of English spoken across North America today, with the exception of some varieties spoken along the Atlantic coast. A three-way distinction is maintained most clearly in the Mid-Atlantic states, while in New England and the South a two-way distinction is more common, usually contrasting the low vowel /æ/ with a mid vowel, the result of a merger between /e/ and /ɛ/ in the prerhotic environment (Labov et al. 2006). The city of Montreal, Quebec is also home to a variety of English with such a two-way distinction, although a complete merger is found in surrounding areas, including a largely rural region known as the Eastern Townships (Chambers 2007). This discontinuity in the geolinguistic landscape presents a puzzle to dialectologists, since it contradicts expected models for the diffusion of linguistic change, such as the traditional wave model or the gravity model (Trudgill 1974).

No descriptive evidence of the origin of the *Mary-merry-marry* merger or the mechanism of its diffusion is known to exist, although theories have been advanced regarding its catalyst and development (see Dinkin 2005, Chambers 2007). This paper attempts to shed more light on these questions through a study of the development of the merger in the above-mentioned Eastern Townships, a historically English-speaking rural region of Quebec situated southeast of Montreal along the border with the American states of New Hampshire, Vermont and Maine, straddling the dialect regions of both Eastern and Western New England. In order to examine the early stages of the merger, I present an acoustic analysis of vowels extracted from archived interviews recorded during the 1970s with speakers born in the 1890s–1910s, and compare the results with data from recent studies of Montreal English.

The results of this analysis show that the merger did not originate as a regular change which applied to all phonemes in a given environment simultaneously. Rather, the results are consistent with a theory of sound change via lexical diffusion, wherein a change gradually spreads throughout the lexicon. Lexical diffusion implies a much longer timeline for this change than previously assumed, suggesting its origins may go back many more generations. As such, I suggest that the current discontinuous geolinguistic pattern of the merger may be traced back to the different settlement histories of Montreal and the Eastern Townships.

2 Background

Gregg (1957) first reported a conditioned merger of /eɪ/, /ɛ/, and /æ/ before /r/ in Vancouver. In *The Pronunciation of English in the Atlantic States* (henceforth PEAS), Kurath and McDavid (1961) describe and discuss the data collected from a number of dialect atlas surveys which were conducted in the 1930s–40s. Data is presented on a number of words relevant to the present study, including *married*, *wheelbarrow*, *harrow* and *barrel*; *Mary* and *dairy*; as well as *cherry* and *merry*. They note in particular that *Mary* is homophonous with *merry* /meri/ in the Midland, but not the South. In the North, the pattern is more complicated. /ɛ/ is found throughout the region, but it also competes with /e/, particularly in Eastern New England, where /e/ dominates.

Kurath and McDavid (1961:125) also report that “*married* has the /æ/ phoneme in all parts of the Eastern States, but /ɛ/ competes with it in several areas” including southwestern New England, western New York State, coastal New Hampshire and northern West Virginia, where they remark that “*marry* is often homophonous with *merry* and *Mary*.” This data may represent the earliest

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evidence of a completed *Mary-merry-marry* merger in North America. They further conclude that “the phoneme /ɛ/ occurring in these words [...] seems to have no parallel in British English and may therefore be an American innovation.”

The Atlas of North American English (Labov et al. 2006) shows that merger of *Mary*, *merry*, and *marry* is now the norm throughout the United States with the exception of small areas of the Mid-Atlantic States, Eastern New England, and the Southern States. Boberg (2008) similarly reports that a merger is found across Canada with the exceptions of Montreal and, less consistently, Newfoundland. He notes that three out of four speakers surveyed from communities in Quebec outside Montreal show a merger similar to speakers in the rest of Canada.

Chambers (2007) reports percentage of merger in eight age groups in six regions across Canada, based on a survey of their pronunciation of the word *guarantee*. The results show a near-complete merger in the youngest age groups in New Brunswick (NB), Southern Ontario's Golden Horseshoe (GH), the Ottawa Valley (OV), and Quebec's Eastern Townships (ET), as illustrated in Figure 1. Based on the data from the different age groups, we can chart the course of the merger in apparent time through each region. The merger is most advanced in New Brunswick, where it is the majority answer for all age groups. In the Golden Horseshoe and the Eastern Townships, the merger became the norm about 50 years ago, and in the Ottawa Valley around a decade later. Montreal (Mtl) and Quebec City (QC) differ from the above regions in that the merger has never made any serious headway and is not progressing like a normal change, although it is more common with the younger age groups.

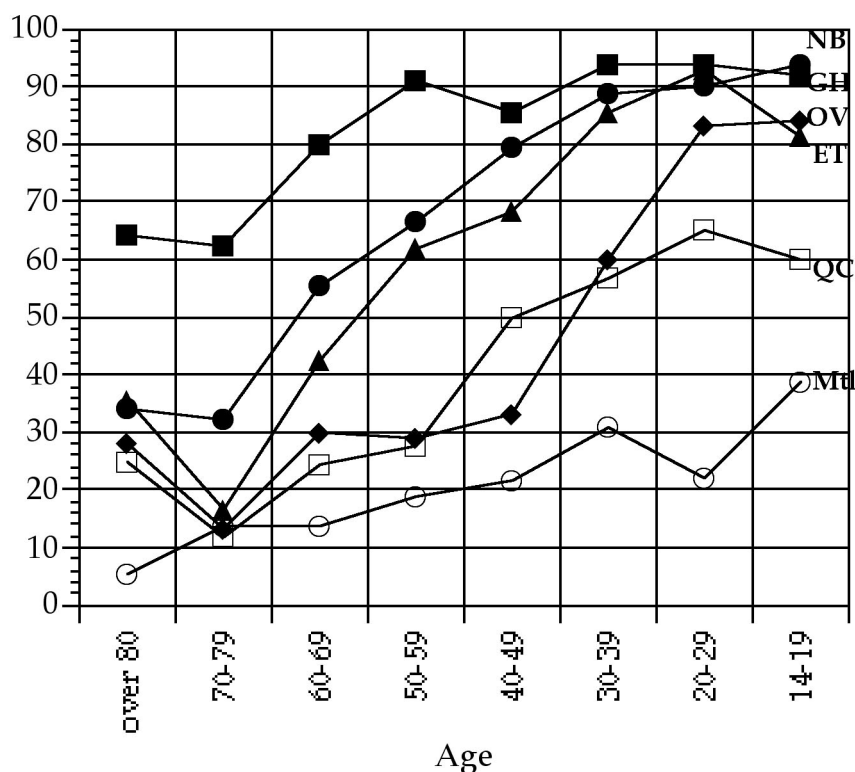


Figure 1: Percentage of vowel merger before /r/ in six regions according to age (Chambers 2007:33).

These results are interesting because they contradict the expected model of linguistic change, the gravity model, wherein a change originates in a city and spreads to other cities before gradually spreading into more rural areas (Trudgill 1974). This would imply a change spreading from Montreal to the Eastern Townships, but instead Montreal and perhaps Quebec City appear to be relic areas impervious to the change taking place all around them, including in the rural Eastern

Townships. This discontinuity is similarly problematic for a wave model of linguistic diffusion, in which a change spreads across geographically adjacent regions.

Boberg's (2004) acoustic study of the vowels of Montreal English clearly shows that while /eɪ/ and /ɛɪ/ are merged,¹ this vowel remains distinct from that of /æɪ/. Furthermore, these vowels tend to be somewhat raised when preceding /r/, as shown in Figure 2.

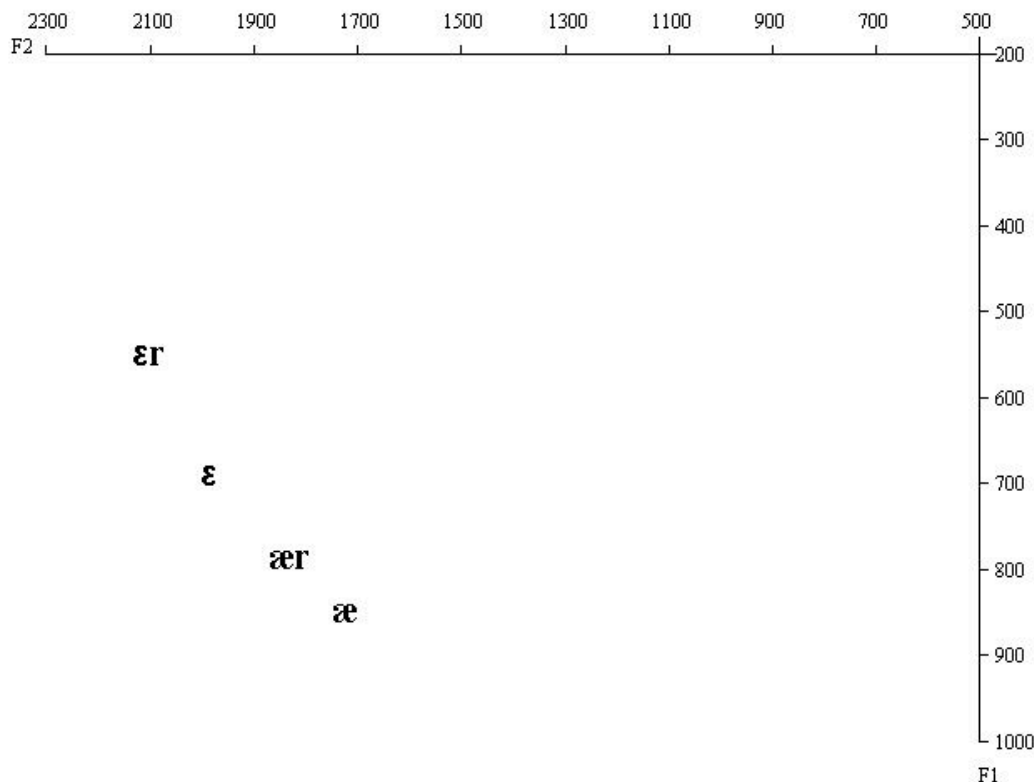


Figure 2: Mean measurements of vowel formants in Montreal English, adapted from data presented in Boberg (2004).

3 Data and Method

The data for the present study comes from recordings of twelve interviews with elderly Eastern Townshippers (6 women and 6 men), conducted in the late 1970s by amateur local historians. Speakers were born between the years 1895 and 1915, presumably making them approximately 20 years older than the oldest speakers surveyed by Chambers (2007). Therefore, we might expect not to find the *Mary-merry-marry* merger in their speech at all, or if it is present, we might expect to find it in its beginning stages.

The recordings were digitized and from these I extracted every token of a word which was historically pronounced with an /æ/ before /ɪ/, for a total of 54 tokens. Of these, 7 were discarded due to noise or similar problems with the recording, leaving 47 tokens, consisting of 10 words. The list of these words is presented in Table 1, along with the number of tokens of each, and the

¹The *Mary-merry* merger is described throughout this paper as resulting in the variant /ɛɪ/ following Boberg (2004) and others, although to speakers who retain a three-way distinction, the pronunciation of this vowel may sound closer to /eɪ/.

number of different speakers who said them. By far the most common word was *married*, which was spoken a total of 23 times and by 8 of the 12 speakers. The next most frequent was the verb *carry*, which was spoken a total of 9 times by 5 speakers, followed by *Larry* and *parents*, with 4 tokens each. The remaining words were singletons, spoken only once. For comparison purposes, 50 tokens each of words historically pronounced with /er/, /ɛr/, and non-prerhotic versions of the vowels /ɛ/ and /æ/ were also extracted from across the speakers.

Word	N tokens	N speakers
<i>arrow</i>	1	1
<i>carrots</i>	1	1
<i>carry, carried, carrying</i>	9	5
<i>Larry</i>	4	3
<i>married</i>	23	8
<i>narrow</i>	1	1
<i>parents</i> ²	4	2
<i>parish</i>	1	1
<i>variation, various</i>	2	1
<i>varicose</i>	1	1
TOTAL N	47	

Table 1: List of words containing historic /æɹ/.

I measured the first and second formants of these vowels by selecting a 30 ms sample from around the midpoint or steady state of the vowel, and then obtaining the mean formant value using the Formant (Burg) option in Praat. In cases where the noisiness of the recording caused the measurements from the Burg option to appear questionable, I visually examined the LPC spectrum and judged which peaks were most likely to correspond to actual formants.

4 Results and Discussion

The results of the acoustic analysis show a virtually complete overlap in the production of /er/ and /ɛr/ by all speakers, suggesting a *Mary-merry* merger has already occurred in this speech community. Thus, this study can shed no light on the origin or development of that merger.

With respect to /æɹ/, on the other hand, acoustic analysis reveals a great deal of variation in the production of these twelve speakers. Based on the means from Boberg (2004) presented in Figure 2, I use as a rough benchmark for merger any production of /æɹ/ that is raised above the mean for the non-pre-rhotic /ɛ/, (that is, has a lower mean value for F1). As such, we find some tokens which are clearly merged with /er/, while in others the two phonemes remain clearly distinct. There are borderline cases where it is difficult to determine whether or not a merger has occurred, but this is unsurprising given that a degree of overlap in the productions of non-prerhotic /ɛ/ and /æ/ is also fairly common in English. What is especially interesting is that not only do we find variation between speakers, but there is also a great deal of intraspeaker variation. That is, a single speaker can vary in their production of /æɹ/ from one word to another, showing merger in some words and not others. However, in cases where a speaker repeats a particular word more than once, they are always consistent in their production of the vowel as either mid (merged) or low (distinct). Results for each word by each speaker are given in Table 2.

Examples from two speakers with different merger statuses are given in Figures 3 and 4. There we can clearly see that for the first speaker, Ethel, merger is present in the word *carry*, while a distinction remains in the word *married*.³ For the second speaker, Marge, on the other

²The word *parents* was included here although the /æɹ/ variant of this word is likely another American innovation (Kurath and McDavid 1961:150). Map 103 in PEAS shows the /æɹ/ variant as spoken across New England and the southern Atlantic states.

³Note that the large difference in F2 can be partly explained by the disparate effects of a preceding velar

hand, we see that a merger is clearly present for the word *married*. In fact this word is raised even above her regular production of /ɛr/, demonstrating an apparent overshoot of the merger for this word. Furthermore, Figure 4 shows that Marge also has a merger for *parents* and *arrow*, and likely *Larry* as well, although this word is more ambiguous.

Speaker	Word	Merger?
Betty	<i>parish</i>	no merger
Bob	<i>carried</i>	ambiguous; possibly unmerged
	<i>married</i>	ambiguous; possible merger
Charles	<i>carry</i>	no merger
	<i>married</i>	no merger
Dick	<i>carrots</i>	no merger
	<i>varicose</i>	merger
Ethel	<i>carry</i>	merger
	<i>married</i>	no merger
Ethna	<i>married</i>	no merger
Eva	<i>Larry</i>	no merger
	<i>married</i>	no merger
Evelyn	<i>parents</i>	ambiguous; possible merger
Fergus	<i>carry</i>	merger
	<i>married</i>	no merger
	<i>narrow</i>	no merger
	<i>variation</i>	merger
	<i>various</i>	merger
Jack	<i>Larry</i>	no merger
	<i>married</i>	no merger
Marge	<i>married</i>	merger
	<i>parents</i>	merger
	<i>Larry</i>	ambiguous
	<i>Arrow</i>	merger
Malcolm	<i>carried</i>	merger

Table 2: Results by speaker.

These results suggest that the /æɪ/-/ɛɪ/ merger was not a lexically abrupt, phonologically conditioned sound change which applied to all phonemes in a given environment simultaneously. Rather, the results are consistent with a theory of sound change via lexical diffusion, wherein a sound change originates within a single word, or a small group of words, and then gradually spreads throughout the lexicon.

From a theoretical standpoint, the discovery that this change was spread via lexical diffusion is somewhat surprising, given that this is not normally expected to occur in cases of vowel merger (Labov 1994:456, 543). Although the data here clearly shows that this merger did not occur as an absolutely regular change, it is perhaps possible that the small size of the data sample may be obscuring some larger pattern of conditioning. However, the differing pronunciations of pairs of

and bilabial respectively, but the crucial difference in F1 cannot.

As can be seen in Table 2, although not entirely homogenous, the larger speech community does in general appear to share norms with regard to which words are or are not merged. Thus, for the verb *carry*, all speakers but one (Charles) have a merger. For *married*, on the other hand, all speakers except one (Marge, discussed above), appear to maintain a distinction. If we assume then that this is true for all words, and that the limited data that we have for certain words is representative of the wider norms of the speech community, we can get some idea of the order in which the sound change filtered through the lexicon, as depicted in Table 3.

	(merged)	← merger continuum →		(unmerged)
Stage	1	2	3	4
Lexical items	<i>arrow</i> <i>variation</i> <i>varicose</i> <i>various</i>	<i>carry</i> <i>parents</i>	<i>Larry</i> <i>married</i>	<i>carrot</i> <i>narrow</i> <i>parish</i>

Table 3: Stages of the merger continuum.

In looking at the ages of the speakers, it emerges that the four stages shown in Table 3 might be representative of generations. In fact, Marge, the only speaker with a merger for the word *married*, is also the youngest speaker in the sample, around 15 years younger than most of the other speakers, and the daughter of two of the older speakers. We might therefore conclude that the merger of the word *married*, labeled above as occurring in Stage 3 of lexical diffusion, began with Marge's generation. Stage 2 might then represent innovations brought in by the previous generation represented by most of the speakers in this sample, including Charles, the lone holdout in the merger of *carry*. With each successive generation, more words from the /ær/ class would have been transferred to the /er/ class, until the merger applied to all /ær/ words.

Since mergers by transfer generally take many generations to complete (Labov 1994:323), it seems fairly likely that the merger was also present to some degree in the speech of generations preceding the ones represented in this data, although we have no evidence for how many generations back we would have to go to find the first evidence of the sound change. It is clear from this data, however, that it very likely began earlier than previously thought.

In fact, it seems probable that the first American immigrants from New England who settled the Eastern Townships at the turn of the 19th century already had some presence of the merger in their speech. This would explain why the progress of the merger in the Eastern Townships is so similar to that in Southern Ontario (represented as GH in Figure 1), since both regions were largely first settled by American immigrant farmers from the Atlantic seaboard and Western New England (Day 1863, McLeod 1841).⁴ It also explains the difference between Montreal and the Eastern Townships, since American immigrants made up only a small part of the original Anglophone population of Montreal, which was instead largely composed of immigrants from the British Isles (Prévost 1993). As described above, British varieties of English show no evidence of a similar merger. Thus, as suggested by Boberg (2008), the mysterious maintenance of a distinction between *merry* and *marry* in Montreal is likely a holdover from British English. Hence, it is not a question of the merger spreading from Montreal to the Eastern Townships, as might previously have been thought, but rather one of the merger spreading from the United States into Canada.

An interesting question raised by the presence of lexical diffusion is whether this change took place above or below speakers' level of consciousness. Merger by transfer, in which words are transferred one at a time from one phoneme class to another, as we see in the data presented here, differs from other mergers in that it usually occurs as change from above, after one form acquires social prestige or stigma (Labov 1994:321). In my experience, however, speakers today appear to have no conscious awareness of the *Mary-merry-marry* merger whatsoever. Eastern Townshippers

⁴For example, some of the oldest towns in both regions were founded by settlers from Massachusetts and Connecticut.

who have a complete merger, for example, are completely puzzled when it is brought to their attention that their close neighbors in Montreal pronounce *marry* differently from *merry*. Conversely, Montrealers who maintain a distinction between such words claim never to have noticed that most English speakers in North America do not.

Perhaps a clue may be found in an archaic pronunciation of certain *marry* class words which has not yet been discussed in this paper. Chambers (2007:34) refers to the pronunciation of certain words like *wheelbarrow* and *barrel* with the open back vowel /ɑ/ as “old-fashioned Canadian English” with the caveat that these pronunciations may still be heard in some regions. In Chambers (2010) he further comments on the presence of this variant in his father’s speech, but not his own (both are natives of Southern Ontario). In PEAS, Kurath and McDavid (1961:125) describe /ɑ/ as present in “folk speech” across much of the Eastern States. In fact they state that in the South, “even middle-class speakers predominantly use /ɑ/ in [*wheelbarrow*], and not all cultured speakers avoid it.” The implication of this statement is of course that in other regions cultured speakers do avoid this pronunciation and it is socially stigmatized. As they comment, “American cultivated usage agrees with Standard British English in having /æ/ in these words, a fact that accounts for the extensive elimination of /ɑ/ in words that are not largely rustic.” Thus, they note that /ɑ/ is more commonly found in the pronunciation of “farm words” like *wheelbarrow* and *harrow* than other words like *married*.

These reports clearly imply that a merger by transfer was already occurring in these words in order to flee the social stigma attached to the /ɑ/ variant by gaining the apparently more socially acceptable /æ/ pronunciation. One hypothesis might then be that the transfer to /ɛ/ began as an accidental extension of this desire of the more socially conscious to distance themselves as much as possible from the pronunciation of the low back vowel. This, combined with the perceptual difficulties in distinguishing vowels before /r/, as well as other constraints on phonotactics,⁵ may have triggered the *merry-marry* merger. Perhaps once the stigmatized /ɑ/ variant was lost, social awareness of this variable as a whole was lost as well.

5 Conclusions

This study has shown that the merger of mid and low front vowels before /r/ did not begin as a conditioned change but rather as a lexically-specific one, which gradually spread to all phonologically similar environments. At a certain point the change may have reached a critical mass and become regularized and rule-governed, applying in all contexts. This is the form of the merger we would probably expect to find across much of North America today, including the Eastern Townships, although this has never been systematically studied. In light of this, we might look back at Figure 1 from Chambers (2007:33), and consider that this data might not represent the course of a conditioned merger but rather only a change in the pronunciation of the word *guarantee*. Similarly, we should be cautious in interpreting data from other regional dialect surveys in which broad generalizations have been made about the state of the *Mary-merry-marry* merger, often based on data from very few words.

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⁵The speech community in this study is also in the midst of transitioning from an /r/-vocalizing to an /r/-pronouncing dialect (Baxter 2008), a change which Dinkin (2005) has argued creates more favorable conditions for the *Mary-merry-marry* merger.

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