

# RELIGION AND SOUND CHANGE IN EASTERN NEW ENGLAND ENGLISH

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## ABSTRACT

There are several ongoing sound changes in the Eastern New England (ENE) English dialect region of the United States, including the backing of *START* and *PALM*, and mergers of *NORTH/FORCE* and *MARRY/MERRY/MARY*. Prior work has suggested that these changes are advancing faster in Northern ENE, particularly New Hampshire, compared to Boston, Massachusetts, which may be due to an ideological urban vs. rural split. The current work examines these changes in the Jewish community in Northern ENE, which has stronger links to the urban centers of both Boston and New York City compared to the non-Jewish community. Jewish speakers are advancing faster on one change, *START* /*PALM* backing, suggesting that a more complex view of intraregional ties and attitudes towards urban centers are needed to explain the changes in Northern ENE.

**Keywords:** sound change, variation, New England English

## 1. INTRODUCTION

Recent work has documented changes in the Eastern New England (ENE) English dialect region in the United States. Geographic factors, ethnicity, and ideological and actual links to Boston, Massachusetts, are affecting the spread of these changes in the region [11, 12, 20]. The current study is a preliminary exploration of the role of (ethno-) religious identity<sup>1</sup> in these changes; specifically, how the Jewish community in areas north of Boston is or is not participating in these changes.

ENE includes New Hampshire (NH), Eastern Massachusetts (MA), and Southern Maine [7, 20]; see figure 1. ENE shows several differences from its neighbors, including New York City (NYC) English. First, ENE merges *LOT* and *THOUGHT*, with the merged category realized as either [a] or [ɒ]. This class is distinct from *PALM* and *START* (which may be rhotic or non-rhotic), which are realized with a frontier [a]. In contrast, NYC English has what Johnson [5] calls the Mid-Atlantic/Inland North sys-

tem, where *LOT* is merged with *PALM*, and is distinct from *THOUGHT*. Both systems represent a change from an older “3-D” system (although some NYC speakers maintain this older system, with *PALM* being higher and backer than *LOT* [13]).

**Figure 1:** Eastern New England



ENE also maintains some pre-rhotic distinctions lost in other dialects of American English. *NORTH* and *FORCE* are distinct, with *NORTH* being lower and/or laxer than *FORCE* ([ɔ] vs. [o]; or [ɒ] vs. [o]; these classes are variably rhotic [20, 9]). In addition, *MARRY*, *MERRY*, and *MARY* are all distinct ([æɹ], [ɛɹ], and [ɛr]). It shares this latter feature with NYC English, but not the former.

Nagy [11] and Stanford et al. [20] have found that these features are undergoing changes in ENE, particularly in areas north of Boston. Nagy [11] found, in a self-report survey, that more people in NH had merged *LOT*/*PALM*, and *MARRY*/*MERRY*/*MARY* compared to people from eastern Massachusetts. Stanford et al. [20], in a production study in Northern NH, found a sharp age divide for *PALM*, with younger speakers having a backer *PALM*, closer to *LOT* /*THOUGHT*. There was less of an age divide for *START* fronting and the *NORTH* /*FORCE* distinction, with younger speakers being more likely to produce, respectively, backed and merged variants, but not significantly so, compared to older speakers. These two changes thus appeared to be slightly less advanced than *PALM* backing. In addition, all

of the younger speakers showed a three-way merger between MARRY/MERRY/MARY, as did a majority of the older speakers, suggesting a more advanced change compared to the others.

Both of these studies proposed that ideological and actual links with Boston, or a broader urban (Boston and MA) vs. rural (NH) distinction, were factors in these changes. Nagy [11] proposed that Southern NH's closer proximity to Boston makes Boston a greater ideological threat than it is in Northern NH, prompting more divergent linguistic behavior in the south compared to the north. Stanford et al. [20] suggested that changes in Northern NH reflect a desire for a "modern Northern New England" identity, distinct from that of both Bostonians and older, rural, "backwoods" people.

The Jewish population in areas north of Boston provide an interesting case study to investigate the role of links with urban centers in sound change in ENE further, as the community there has increased actual and ideological links to Boston, New York City, and urban areas more generally.

Jewish people in the United States overwhelmingly live in urban areas [18]. This is true in ENE, where the bulk of the Jewish population is concentrated in Boston, and in more urban suburbs within the MA-128 Beltway [2]. In NH, the majority of the Jewish population can be found along the more urbanized I-93 and I-95 corridors (which also provide commuter access to Boston) [2]. In Southern Maine, the Jewish population is concentrated in or in the immediate suburbs of the area's largest city, Portland [17].

The Jewish population in Southern NH and Maine also have large numbers of non-locals, from Massachusetts and New York in particular. Recent, formal data is not available (the US Census does not ask about religion), but a survey of Jews in the greater Manchester area in 1983 found high numbers of non-locals, with 53% reporting that their residence in the last 5 years was outside NH [16]. A 2007 survey of the Jewish community in Southern Maine found that only 18% were born there, with greater numbers from MA (19.1%) and New York (18.7%) [17]. In comparison, 66% of Mainers as a whole were born in Maine, with only 8% from MA, and 3% from New York [1].

The Jewish community in Northern ENE thus has a greater number of actual, interpersonal links to people from both MA and New York. There are also likely ideological links as well. Previous work on Jewish English has found features of NYC English used outside of New York by Jews in the United States, based on both production and self-

report data [4, 6]. It has been proposed that, in addition to the presence of New Yorkers in these communities, an ideological link between "New York" and "Jewish" in the US can explain the presence of these features.

Based on claims from Nagy [11] and Stanford et al. [20], greater links with Boston and New York should help preserve the MARRY/MARY/MARY distinction among Jewish speakers. The NORTH/FORCE merger and the backing of START and PALM may be more complicated, with connections with Boston potentially slowing these changes, and with New York accelerating them.

However, the actual behavior of the Boston Jewish population may complicate this picture. A study of Boston English from the 1970s found differences in the vowel used in NORTH, with Jewish speakers being more likely than Irish and Italian speakers to use [o] instead of [ɒ], resulting in a merger with FORCE. A more recent study of Boston [19] likewise found differences between Jewish and non-Jewish White speakers, with Jewish speakers having backer START and PALM, and a greater degree of merger in MERRY /MERRY / MARY and NORTH /FORCE, compared to non-Jewish White speakers. In these cases, links with the Boston Jewish community specifically would accelerate these changes.

This study presents a preliminary study of the Jewish population in Northern ENE to examine whether Jewish speakers, with their increased links to Boston, are leading or lagging in these changes. The result will give us a clue as to which is a greater factor in these changes: links to urban areas more broadly, or links, to specific groups within those urban areas.

## 2. METHODOLOGY

Interviews were conducted in the Seacoast region of Northern ENE, defined as the two coastal counties of NH (Rockingham and Strafford), and neighboring counties in Maine (York and Cumberland) and MA (Essex). The counties are shown in a lighter color in figure 1. The 14 participants examined here were all white, non-mobile ENE speakers who were born, raised, and spent the majority of their adult life in the region. 6 were Jewish (2 male), and 8 were not (4 male); the participants were 18 to 70 years old.

The interviews took the form of a sociolinguistic interview. First, participants talked with the interviewer about their life in the region, and feelings about urban and rural areas. Participants were prompted to tell a narrative of personal experience [8] and narrate a wordless picture book [10].

Participants then read two reading passages (*Comma Gets a Cure*, and a reading passage on New England winters used in [20]), a wordlist, and six sentences (both the same as in [20]). The following is an analysis of the read speech (reading passages, word list, and sentences).

The passages were aligned using FAVE-align [15]. Boundaries of the target vowels were hand corrected, and Lobanov-normalized formant values were extracted from the midpoint of the vowel using FAVE-extract [15]. The maximum number of tokens per participant was 95, for 1,330 possible tokens; however, this included words like *for* and *or* which are variably in the NORTH class. Excluding reduced forms of these words, along with disfluencies, and very short tokens excluded by FAVE, brought the total number of tokens to 1,143.

Linear mixed-effects models were built using lme4 [3] in R [14] comparing (1) the F2 of the low vowels START, MARRY, and LOT; (2) the F1 and F2 of the back vowels, NORTH and PALM and (3) F1 and F2 of the front vowels MARRY, MERRY, and MARY.

Each model initially included fixed effects of gender (binary here), religion (Jewish or not), age (binary here; older or younger than 45), and word class. Two- and three-way interactions between religion, age, and word class were included. A main effect of gender was included, as was an interaction with word class, but gender was not crossed with either age or religion due to the smaller number of men. Random intercepts for subject and word were included. Effects which did not significantly improve the models (assessed via log-likelihood ratio tests) were removed. Where possible, significance was assessed using log-likelihood ratio tests of the model with and without the effect; where not (main effects present in interactions; factors with more than two levels), effects with a  $t$  value of  $> |2|$  were taken to be significant.

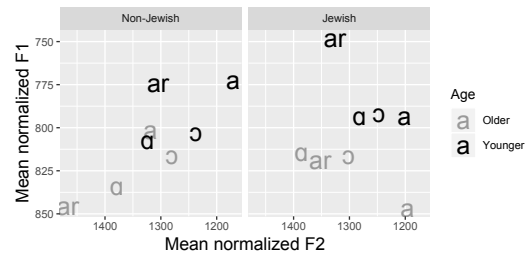
### 3. RESULTS

#### 3.1. Low vowels

Figure 2 shows the low vowels, START [ar], PALM [a], and LOT [ɔ] (with THOUGHT [ɔ] provided for reference).

The final model for F2 for START, PALM, and LOT included a three-way interaction between religion, age, and word class, and random intercepts by participant and word. START was significantly fronter than LOT ( $\beta = 106.64$ ,  $sd = 47.33$ ,  $t = 2.25$ ), but PALM was not ( $\beta = -43.71$ ,  $sd = 59.85$ ,  $t = -0.73$ ). This replicates earlier work suggesting that PALM is backing faster than START [20].

**Figure 2:** F1 x F2 by age, religion; low vowels.

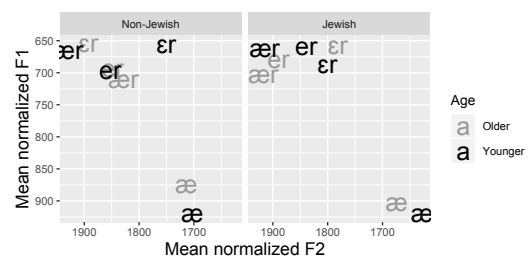


There was a significant effect of religion, with PALM ( $\beta = -141.33$ ,  $sd = 53.34$ ,  $t = -2.65$ ) and START ( $\beta = -129.69$ ,  $sd = 44.74$ ,  $t = -2.90$ ) being backer for Jewish speakers compared to non-Jewish speakers. There was a significant age effect, with the younger speakers also having backer PALM ( $\beta = -104.60$ ,  $sd = 47.03$ ,  $t = -2.22$ ) and START ( $\beta = -117.72$ ,  $sd = 39.67$ ,  $t = -2.97$ ) than older speakers. Finally, there was a significant three-way interaction between age, religion, and word class ( $p = 0.001588$ ) with the difference between older and younger Jewish speakers being smaller than for the non-Jewish speakers for both PALM ( $\beta = 210.70$ ,  $sd = 71.20$ ,  $t = 2.96$ ) and START ( $\beta = 189.11$ ,  $sd = 60.15$ ,  $t = 3.14$ ). As can be seen in figure 2, and from the main effect of religion, this appears to be because the Jewish speakers, particularly the older ones, are more advanced in the backing of both START and PALM than the non-Jewish speakers. This finding shows that Jewish Northern ENE speakers are like their Boston counterparts in being ahead on this change compared to non-Jewish White speakers.

#### 3.2. Front vowels

Figure 3 shows the front vowels, MARY [er], MERRY [er], and MARRY [ær] (with BATH [æ] provided for reference).

**Figure 3:** F1 x F2 by age, religion; front vowels.



Both F1 and F2 were examined for MARRY, MERRY, and MARY. The final model for the front

vowels for F1 included two-way interactions between religion and word class, and age and word class, and random intercepts by subject and by word. Younger speakers had higher MARRY, indicating a more merged production ( $\beta = -37.652$ ,  $sd = 18.218$ ,  $t = -2.067$ ). Jewish speakers had a lower MERRY ( $\beta = 46.011$ ,  $sd = 19.826$ ,  $t = 2.321$ ).

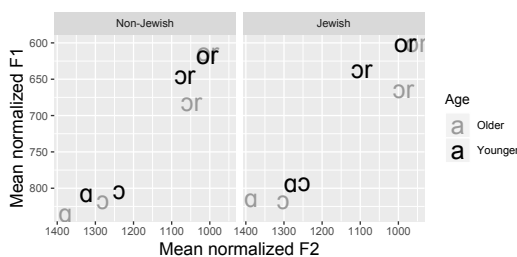
The final model for F2 included a two-way interaction between word class and gender, and a main effect of age. Younger speakers had backer productions ( $\beta = -34.10$ ,  $sd = 16.24$ ,  $t = -2.013$ ,  $p = 0.04388$ ), as did men ( $\beta = -104.08$ ,  $sd = 37.67$ ,  $t = -2.763$ ). The significant interaction between word class and gender ( $p = 0.009641$ ) appeared to be driven by a fronter MERRY from men ( $\beta = 165.86$ ,  $sd = 55.52$ ,  $t = 2.987$ ).

In general, this change appears to be more advanced than START and PALM fronting, as can be seen by the overall lack of a main effect of word class in the models for F1 and F2, and in examining figure 3. The significant interactions from the models can be seen: the older speakers have a lower MARRY compared to MERRY and MARY; the Jewish speakers also have a backer MERRY compared to MARY and MARRY. However, the mean F1 and F2 for all three word classes are quite close for all speakers, with MARRY in particular being quite high, even among older speakers.

### 3.3. Back vowels

Figure 4 shows the back vowels, FORCE, [ɔr] and FORCE [or] (with NORTH [ɔ] and THOUGHT [ɑ] provided for reference).

**Figure 4:** F1 x F2 by age, religion; back vowels.



Both F1 and F2 were examined for NORTH and FORCE. The final model for F1 included main effects by gender and word class. NORTH was lower than FORCE ( $\beta = 49.470$ ,  $sd = 21.544$ ,  $t = 2.296$ ,  $p = 0.02316$ ). Men had overall lower productions ( $\beta = 25.718$ ,  $sd = 6.418$ ,  $t = 4.007$ ,  $p < 0.001$ ). The lack of an age effect suggests a general lack of a change in progress, although figure 4 does appear to show some more merger among younger speakers;

more data may be needed here. None of the fixed effects were significant for F2.

## 4. DISCUSSION AND CONCLUSION

For MARRY, MERRY, and MARY, the change may be too far advanced to see differences based on social factors, with most speakers showing a merged system. Likewise, the NORTH /FORCE split may be too early, with most speakers showing at least some separation between the classes. Alternatively, more data from more speakers may be needed to see these effects.

These data do show that Jewish speakers from Northern ENE are leading on the backing of START and PALM. Increased links with both Boston and New York City may be the cause. Although Boston overall is more conservative in having a more fronted vowel in START and PALM compared to Northern ENE, Jewish speakers from Boston are more advanced on this change compared to non-Jewish speakers. This means that higher numbers of people from Massachusetts, particularly those from Boston or its immediate suburbs, in the Jewish community in Northern ENE may be speeding the change towards backed variants, rather than inhibiting it. The higher numbers of people from New York may also be accelerating this change in the Jewish community. Although some work describes NYC English as having a merged LOT and PALM, other work has suggested that PALM is higher and backer than LOT. Future analyses are planned to examine the vocalic systems of Jewish community members in ENE who are from New York City, to see if they in fact show these characteristics and thus, if those features are available as a linguistic resource for locally-born community members. In addition, these increased links are somewhat speculative and based on the demographic characteristics of the group described in the introduction; a more detailed analysis of attitudes towards and contact with Boston and New York as discussed in the interview is planned for the future.

For the Jewish community of Northern ENE increased links, both personal and ideological, with the urban centers of Boston and New York appear to be accelerating, rather than inhibiting, at least some changes away from traditional ENE features. This is contrast to what has been claimed for the region more generally, where closer links to Boston have been proposed to slow down these changes. A more nuanced view of connections to urban centers is needed here, and potentially, among other groups, to explain the spread of changes in the region.

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<sup>1</sup> The status of Jewish identity in the United States as an ethnic and/or religious one is complex, and beyond the scope of this paper. Prior work on the region has framed it as an ethnic distinction; this paper will refer to it as a religious difference.