

RHOTIC AND NON-RHOTIC ENGLISH IN THE EARLY REPUBLIC

Social and geographical distribution

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Abstract – This article discusses the distribution of rhotic and non-rhotic English in the United States between 1770 and 1849. For the study, handwritten documents belonging to individuals from different social classes were inspected to identify misspellings that deviated from conventional spelling patterns (if compared to dictionaries and spellers of the time) regarding <r> or the previous vowel. The investigation shows that during the period <r> elision was never the most frequent occurrence. In fact, the results indicate that it was the quality of the previous vowel that underwent significant oscillations. Regarding the distribution of rhotic and non-rhotic English in the United States, the evidence suggests that r-lessness happened mostly in states that are predominantly non-rhotic today. In terms of social variation, there was a tendency for the middle classes to produce more non-rhotic misspellings than other classes. Lastly, the data indicates a strong possibility of a rapid expansion of non-rhotic English after 1850.

Keywords: elision; metathesis; non-rhotic; rhotic; vowel quality.

1. Introduction

During the 18th and 19th centuries, many authors described a variable distribution of rhotic and non-rhotic English in the United States (henceforth the U.S.). In Benjamin Franklin's *Phonetic Writing* (1768), it is possible to infer that he was describing rhotic English. Webster, in his *American Spelling Book* (Webster 1783, p. 15) says that <r> was never silent, but in his *Dissertations of the English Language* (henceforth *Dissertations*), he remarks that "some of the southern people, particularly in Virginia, almost omit the sound of r as in ware, there", but that "any plain countryman, whose pronunciation has not been exposed to corruption by mingling with foreigners [...] pronounces the letters t, r, u, th" (Webster 1789, p. 110). Still, Grandgent (1899) claims that the non-rhotic expansion took place in America during the latter part of the 18th century and the first years of the 19th century.

Accordingly, this investigation focuses on the chronology and the geographical extension of the rhotic and non-rhotic varieties in the U.S. during the late 18th century and the beginning of the 19th century to contribute to the discussion of the development of rhoticity in the U.S. To do so, the paper first presents an overview of investigations that examine the development of rhoticity in the U.S. Then it provides a description of the method used to analyze differences from conventional spelling that would flag sound differences. The subsequent sections discuss the results in terms of diachronic, geographical and social distribution of <r> in the post-independence U.S.

2. Development of rhotic and non-rhotic English in the U.S.

2.1. Descriptions from the 18th and 19th centuries

Nowadays, rhoticity is more common in the U.S. than non-rhoticity, but at the end of the 19th century the non-rhotic variety was present in all major U.S. cities along the Atlantic coast (Labov *et al.* 2006, p. 47). Indeed, evidence from different descriptions indicates that the realization of /r/ was variable (Webster 1780, 1783, 1789; Grandgent 1899; Krapp 1925; Schneider 2005).

For example, in a letter written in 1768, Benjamin Franklin characterizes <r> as a sound produced with “the forepart of the tongue against the roof of the mouth” (Franklin and Vaughan 1779, p. 468) and formed like <n>, i.e., with “the tongue more forward in the mouth” than for [ŋ] but with “the tip of the tongue a little loose or separate from the roof of the mouth, and vibrating” (Franklin and Vaughan 1779, p. 470).

However, in the *Dissertations of the English Language* (1789), Webster stresses that people in Virginia almost omitted the <r> sound in *ware* and *there* (Webster 1789, p. 111) and that the yeomanry of America pronounced ‘marcy’ while the upper classes pronounced ‘murcy’ for *mercy* (Webster 1789, p. 106). Additionally, he reports that ‘herd/hurd’ for *heard* was an innovation because it became common in the capital towns after the Revolutionary War (Webster 1789, p. 127). Still, Webster’s descriptions indicate that there was geographic –New England vs. South– and social variation –upper classes vs. common people (Webster 1789, p. 1793).

Other textbook writers and grammarians from the 18th and 19th centuries report, both, rhotic and non-rhotic English in the U.S. Among the writers who report variation between rhotic and non-rhotic English, Mackintosh (1797) mentions that *harslet* and *worsted* were pronounced with no <r>. Bingham (1808) lists the pronunciation of *apron* as ‘apun’ and *birth* as ‘beth’ among the improprieties of New England (NE) pronunciation. Kirkham (1834) mentions that <r> had a rough sound (in *Rome, river, rage*) and a smooth sound (in *bard, card, regard*). Brown (1851, p. 151) describes a ‘mute’ sound for <r>, but does not provide examples. Furthermore, Stearns lists the pairs *awe, or; harsh, hash; lord, laud; marsh, mash* as having the same pronunciation (Stearns 1858, p. xiii). Still, he advises the readers to “sound the ‘r’ distinctly in a syllable when it is preceded by a vowel” (Stearns 1858, p. lxxv). Likewise, Soule and Wheeler (1861, p. 28) warn the readers never to produce a trilled sound and never to suppress or put ‘r’ where it did not belong. Also, Soule and Campbell (1873, p. xi) advise the readers not to omit the sound of ‘r’ after a vowel (ex. *door, start, dark*) and not to add ‘r’ to a final vowel or diphthong.

On the other hand, Worcester (1848; 1849, p. xviii) holds that <r> was never silent. He mentions that according to Johnson, Kenrick, Sheridan, Perry, Jones, Jameson, and Knowles <r> had only one sound in English. Yet, he acknowledges that Walker describes a rough and a smooth sound. In fact, during the mid-17th century, the articulation of <r> was probably stronger in onset position and weaker in coda (Krapp 1925; Erickson 2008) which may explain the ‘rough’ and ‘smooth’ sounds described by Walker. Anyway, Krapp (1925, p. 32) points out that “when the early grammarians said that r was never silent, they were making a statement which was not true; and which many of them who took the pains to examine their statements knew was not true.”

Other authors claim that only non-rhotic English was common. Ellis (1874) states that the omission of <r> was prevalent in America and England. He describes an American preacher from Virginia using r-less English and a highly-educated American lady producing English without <r>. Moreover, he does not agree with the idea that the first

settlers took <r> to the U.S. and that their descendants largely reinforced a yet stronger <r>. He holds that the statement is incorrect because he had never heard a trilled <r> in American English.

All in all, according to the descriptions, rhotic as well as non-rhotic varieties of English were present in the U.S. in the late 18th and early 19th centuries. Under those circumstances, examining documents that are representative of the everyday speech of members of the community (Schneider 2002) may shed light on the rhotic distribution at the time. Furthermore, since the formation of regional and social varieties happened during the first half of the 19th century (Montgomery 2004), knowing what the distribution of rhotic and non-rhotic English was at the time may be beneficial for a better understanding of the present distribution of the varieties.

3. Method

3.1. Documents

English has been characterized as having deep orthography because the relation between the spoken and the written language is opaque (Katz and Frost 1992). That lack of grapheme-phoneme correspondence makes spellers think about how words sound and try to translate those sounds into letters. Indeed, according to Treiman *et al.* (1997), writing is a linguistic process and spelling errors indicate the phonological knowledge that people bring to the task. Consequently, speakers of different dialects of the same language may show different kinds of spelling errors. Moreover, since semi-literate people have a tendency to write phonetically, misspelled words written by them may provide evidence of pronunciation

The written material was collected from digitized documents available in digital collections from: the Harvard Library, the National Archives Catalog, the New York Public Library Digital Collections, and from several university collections (see complete list in the References section). To minimize the problems listed by Bergs and Brinton (2012), it was attempted to investigate a large number of documents and to inspect material that resembled spoken language as closely as possible. Only handwritten documents that were representative of the everyday speech of the community were considered (see Schneider 2002). It was essential to know who the author of each piece was so the document could be associated with the correct place and social group and to make sure that no scribe was involved.

As such, diaries, recipe books, and personal letters, which focus on the content, not on the form, and that are written in a less conscientious form, were given the most attention (see Schneider 2002). Also, ledgers, mainly those that recorded the trade of retailers or individual artisans, were examined. Lastly, even though historical documents (for example, town records) are highly standardized and normally represent only part of the population (Montgomery 2004), they were investigated because the research sought spelling errors, not morphosyntactic evidence.

Under those conditions, the corpus consisted of letters (70), personal journals (19), notebooks (9), petitions (23), ledgers (23) and miscellaneous records (series of 18). The states that are better represented are Connecticut, Massachusetts, New York, and Pennsylvania. Since the investigation intended to examine only documents written by people born in the localities, records from many states are not present because of historical reasons. For instance, Texas was admitted into the U.S. in 1845 and California was ceded

to the U.S. in 1848. For those reasons, until 1848, when Mexico and the U.S. signed the Treaty of Guadalupe Hidalgo, what corresponds to the southwestern U.S. today was mostly inhabited by Spanish-speaking people who had established there since the sixteenth century.

3.2. Cataloging non-conventional spelling

Deviations from the spelling recommended in dictionaries and spellers of the time that indicate changes in the realization of <r> or in vowel quality before <r> were collected. They were grouped into 9 categories. According to Treiman (1991) and Treiman and Kessler (2014), in an initial consonant cluster, children tend to omit stops and liquids indifferently but usually represent the first C and omit the second C. Consequently, the omission of <r> as the second element in a consonant cluster (ECC) was later considered not relevant for the study, i.e. ‘book’ for brook. In the case of elision before a vowel (EVC), all words that presented no <r>, even if there was a vowel in its place, were considered as no <r> instances, i.e., ‘Richaad’ for Richard and ‘wouk’ for work. Lastly, if a word presented two types of misspellings, i.e., ‘peticula’, two tokens were considered: change in vowel quality (V) and elision of <r> (EVC).

3.3. Sociocultural grouping

Since socioeconomic aspects like age, gender, social class, literacy level influence language diffusion and language change, it was necessary to develop a system of social identification that could apply to the informants and that considered their social class and educational background. To characterize the informants, the study followed Gilbert (2011), Kurath (1939), Main (1965), and Meirelles (2021). The adopted system consists of six classes:

- lower-lower class – no formal education and minimal reading skills that included slaves, white servants, landless laborers and tenant farmers;
- upper-lower class – marginal farmers and artisans who had very little formal education and minimal reading skills;
- lower-middle class – clerks, small merchants, small farmers and prosperous artisans who had better, but still deficient formal education;
- upper-middle class – manufacturing leaders and large farm owners with better education and wider reading skills;
- lower-upper class that had formal education and wider reading skills and that included people from the industrial and commercial sector, officers, and politicians;
- upper-upper class composed of bankers, wealthy farmers, and high-level politicians who had a superior education, cultured background and wider reading skills.

4. Data

4.1. Individuals

The distribution in the sample roughly matches the social situation in post-Revolutionary America. At that time, the largest and most important group was the middle class that consisted of prosperous artisans, small farmers and small merchants (Maine 1965).

Another trait of the period is reflected in the proportion of male informants (only four women). Since formal schooling was not always available, literacy was less common among women than among men (Kaestle 1985). In fact, white female illiteracy was commonplace until at least the second half of the nineteenth century (Herndon 1991).

Of the 225 individuals, 15 individuals belong to the upper-lower class, 104 belong to the lower-middle class, 71 people belong to the upper-middle class while the lower-upper class is represented by 35 individuals. It is true that the most valuable information for this investigation could have come from semi-literates because they could have provided instances that are nearer to speech in terms of pronunciation. However, given that semi-literate citizens belong mostly to the lower classes, it was difficult to find documents written by them. At the same time, it was (wrongly) considered that examining documents from the upper-upper class would not bring interesting results because, due to their educational level, documents written by them might not present many spelling errors (see section 5.3.1).

The towns, cities and places in general were registered as if belonging to the present configuration of the country. For example, Maine was initially part of Massachusetts and became a separate state in 1820, so locations there were recorded as Maine for the whole period of investigation (1770-1849). Also, Kentucky was originally part of Virginia and was made a state in 1792, but all occurrences were considered as if in Kentucky.

It is important to emphasize that in 1830, the U.S. was a rural country. According to the Bureau of the Census, the population in 1800 was 5,308,483 people and 93.9% lived in rural areas; in 1820, it was 9,638,453 of which 92.8% was rural; in 1830, 91.2% of the 12,860,702 inhabitants lived in rural areas; in 1840, there were 17,063,353 people, 89.2% living in rural areas, and, in 1850, 84.6%, of the 23,191,876 inhabitants, lived in rural areas (U.S. Census Bureau 1801, 1821, 1832, 1841, 1853). In 1830, New York was the only city with 200,000 inhabitants and Cincinnati was the largest city in the West (25,000 inhabitants).

The data from this investigation represents the distribution above since most individuals come from small towns or rural areas (215 people out of 225). The informants from larger cities are ten: four from Boston, three from Philadelphia, two from Baltimore and one from New York.

A drawback is that the distribution of documents by state does not represent the number of inhabitants per state at the time. For example, in 1790, Pennsylvania was the most populated state followed by Virginia, North Carolina and Massachusetts. In 1850, New York was the most populated, followed by Pennsylvania, Ohio, Virginia, Tennessee, and Massachusetts (U.S. Census Bureau 1793, 1853). In total, the investigation gathered 72 documents from Massachusetts, 28 from Virginia, 22 from Pennsylvania, 20 from New York, and 19 from North Carolina.

4.2. Tokens

A total of 1632 tokens were analyzed. No misspelled words by members of the upper-lower class were detected in 1770, 1820 and 1830.

As Figure 1 (below) shows, the most common misspelling is associated with changes in vowel quality. Indeed, in no decade did the other misspellings match or challenge the predominance of vowel quality misspellings. Elision of <r> is present in all decades, but it is never the most frequent misspelling.

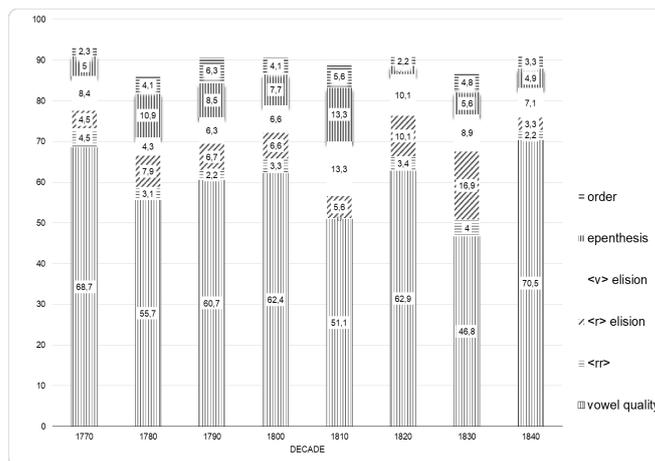


Figure 1
Type of misspelling.

The following sections present the analysis of the misspellings that may indicate rhotic or non-rhotic predominance: epenthesis (Ep), <r> elision (EVC), misordered word (O), and changes in vowel quality (V).

5. Discussion

Since spelling is phonologically mediated, the first concern was to evaluate if the word was phonologically accurate. Phonological errors render phonetically inaccurate spellings which indicate that the writer needs better instruction on the identity of consonant and vowel phonemes. However, orthographic errors indicate that the individuals may be aware of phonemes, but may lack knowledge or understanding of the phoneme-grapheme correspondence system of English. Accordingly, those errors indicate the person is trying to establish a direct relation between sound and grapheme.

The misspellings were analyzed following Treiman *et al.* (1997) and Treiman and Barry (2000) who concluded that speakers of rhotic and non-rhotic varieties of English made different kinds of errors. For example, in the case of children speakers of non-rhotic British varieties, Treiman *et al.* (1997) mention that *bath* could be spelled ‘barth’ because of the word *card* and *dawn* could be spelled ‘dorn’ because of the word *corn*. Those are examples of over generalization. In other words, the speller is not noticing sub regularities of the system and is extending a rule to a context in which it would not apply. For the same reason, *china* could be written as ‘chiner’ or ‘chinr’ by British children because they learn that that /ɜ/ and /ə/ are often spelled with a vowel plus ‘r’ (<v+r>) (Treiman *et al.* 1997).

On the other hand, American children may spell <ar> just with <r>, as in ‘cr’ (*car*) and ‘dkr’ (*dark*) (Treiman *et al.* 1997). According to the authors, the spelling indicates that the sequence <v+r> is perceived as a single element rather than as a sequence. The children know there is a vowel somewhere, but they cannot distinguish the sequence. Consequently, they are not sure where they should put the vowel in spelling. That perception could lead to another misspelling: misordering words (‘grel, gril’ for *girl*).

The authors also show that there is less intrusion of <r> (ex. ‘pandr’ for *panda*, ‘piser’ for *pizza*) in the spelling of American children than in the spelling of British children. In fact, they found less than 2% of intrusion in the spelling of American children.

At the same time, they mention that it is more common for British children (of non-rhotic varieties) to omit <r> and for American children to omit the vowel before the <r>. For example, for the word *doctor*, it would be more common for British children to spell ‘docto’ while American children would more frequently spell the word as ‘doctr’. Additionally, they found that “dialect effects are not confined to words that the two groups pronounced differently but also to words that are pronounced the same but that differ in their relation to other words within the dialect” (Treiman *et al.* 1997, p. 235). For example, they found that, for American children, it would be more common to omit the vowel in *hurt* and *card* but to omit the <r> in words like *corn*.

5.1. Vowel quality

As Figure 1 above shows, the misspellings that indicate changes in vowel quality are always the most frequent ones. As a matter of fact, many descriptions from late-eighteenth century complain at length about the mispronunciation of vowels before <r> or bring examples that indicate changes in the quality of the vowel before <r>. Mackintosh (1797), for instance, mentions that *honor, cat, car, perfume, former, herb, card* were pronounced with the same vowel. Bingham (1808) records the pairs *auger, augur; their, there; berry, bury; fir, fur; and manner, manor* as having the same vowels. Kirkham (1834) lists the mispronunciation of *beard* as ‘bard’, *fearful* as ‘ferful’ and *mercantile*, as ‘murkanteel’. Other writers like Worcester (1830), Stearns (1858), Grandgent (1899) and Read (1923) describe what could be considered a merger (when two phonemes become indistinguishable).

Worcester (1830) mentions that <r> influences the sound of previous vowels. In 1848 and 1849, the author reports that the vowels in “fare, mere, ure, poor” do “not have the same identity as those in fate, mete, cube, pool” (1849, p. xviii). Indeed, Pilch (1980) describes a number of historical changes in quality in vowels that come before <r> while Wells (1982, p. 484) mentions that “a following /r/ has a lowering rather than a raising effect on a preceding vowel”. Thus, the fact that 18th-century authors devoted such effort to describing and correcting what they considered were mistakes in pronunciation evidences that changes in vowel quality were common at the time.

Indeed, in the development of English, most dialects experienced vowel changes that affected vowels that are or were historically followed by <r>. In present-day rhotic English, vowels that precede <r> are r-colored. However, in non-rhotic varieties, the vowel before a historical <r> may have gone through compensatory lengthening or diphthongization, but mergers in the same positions as rhotic dialects are also possible. Still, it is more common for rhotic American English to have mergers

The investigation shows that if only EVC and V are weighed up, V is considerably more common during the whole period (see Figure 2). Perhaps for that reason, the authors above dedicated significant attention to the mispronunciation of vowels before /r/.

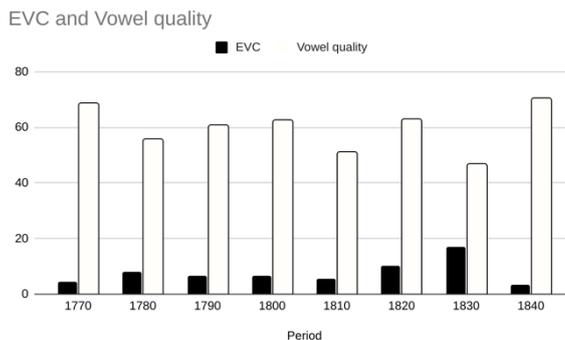


Figure 2
EVC vs V.

Since the deviations from conventional spelling that indicate changes in vowel quality do not always indicate variation in the pronunciation of <r>, those will be examined in a future work. Therefore, following Treiman *et al.* (1997), only EVC and Ep will be considered non-rhotic features while NV (vowel elision) and O will be considered rhotic features. Figure 3 (below) presents the four indicators for the decades under consideration (percentage from total). Changes in vowel quality are not indicated in the chart due to the reasons previously mentioned. The results reveal that the decade with more EVC is 1830 while the decade with less EVC is 1840.

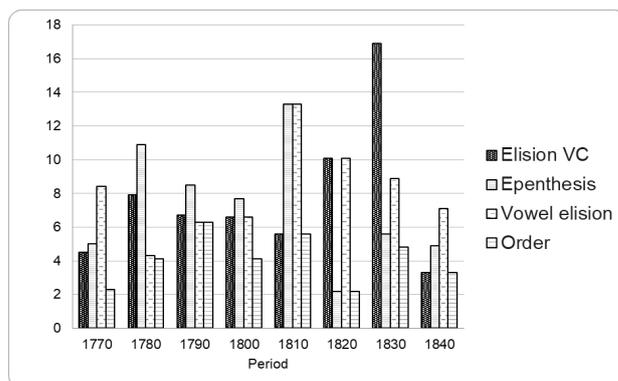


Figure 3
Indicators for Rhotic and Non-rhotic spellings.

5.2. Vowel Elision and Order

Figure 4 (below) shows the percentage of O and NV that correspond to each period (calculated from the total occurrences). If all the rhotic misspellings are considered, the decade with fewer rhotic misspellings is 1780 to 1789 (12.4%) and the decade with more rhotic misspellings is 1810 to 1819 (18.2%). For the whole period, NV was more common than O.

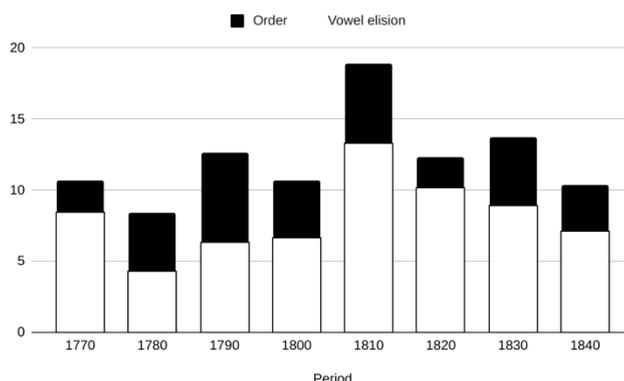


Figure 4
Rhotic misspellings (percentage from total occurrences).

5.3. Elision and epenthesis of <r>.

Since non-rhotic varieties of English are those, whose speakers do not pronounce <r> immediately after a vowel, the most important context to be observed was the post-vocalic. Treiman *et al.* (1993; 2014) found that children tend to omit more letters in word final position than in syllable final position, so the fact that there are much more internal <r> omissions is significant because it indicates a non-rhotic pronunciation rather than just a common misspelling.

The figures below (Figures 5 & 6) show the total misspellings in the initial decade (1770) and the final decade (1840). It is worth mentioning that in four decades Ep and NV were more common than EVC (1770, 1790, 1810, 1840).

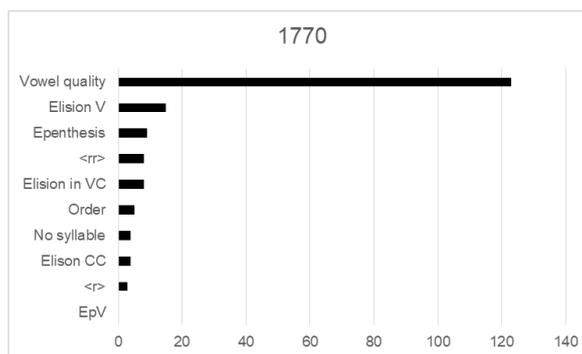


Figure 5
Misspellings in 1770.

As mentioned before, the comparison indicates that 1840 to 1849 is the decade with the least EVC (3,3%).

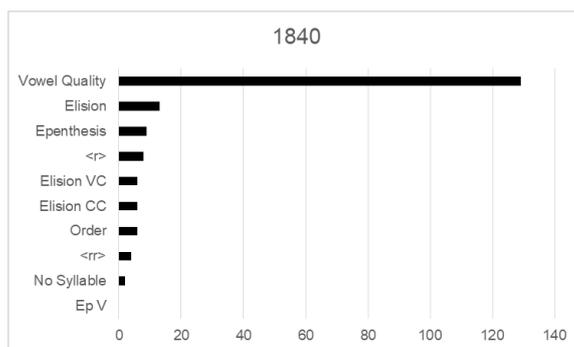


Figure 6
Misspellings in 1840.

If the non-rhotic misspellings (EVC and Ep) for the whole period (1770-1849) are considered, the decade with fewest non-rhotic misspellings is 1840 to 1849 (8.2%) while the period with the most non-rhotic misspellings is 1830 to 1839 (22.5%) (see Figure 7).

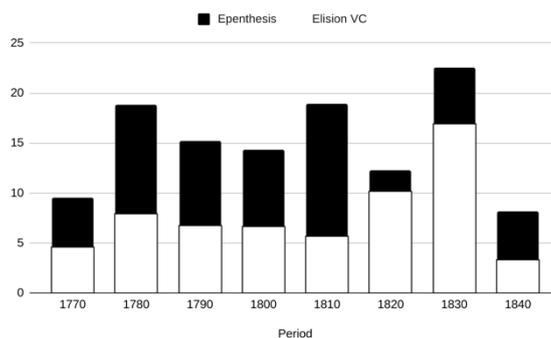


Figure 7
Non-rhotic misspellings (percentage from total).

If the rhotic features (NV and O) and non-rhotic features (Ep and EVC) are compared (Figure 8 below), 1810 and 1820 present the same values for rhoticity and non-rhoticity. The decade with the biggest difference favorable to non-rhoticity is 1780 to 1789 (10.4% difference) while the largest difference favorable to rhoticity is in 1840 to 1849 (2.2% difference). Consequently, during the examined period rhoticity was, apparently, never considerable.

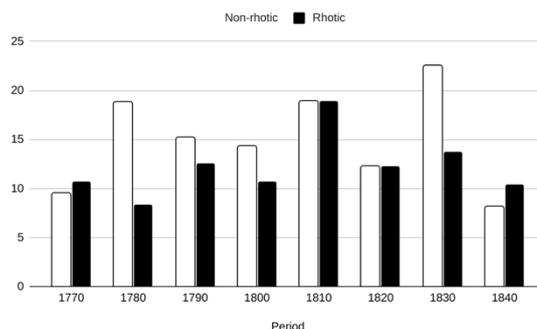


Figure 9
Non-rhotic vs rhotic features (percentage from total).

5.3.1. Distribution by state

Lastly, the percentage of EVC registered by state is given in the table below. It is interesting to observe that EVC was more frequent in three states: Massachusetts, New York, and Pennsylvania. In other states, EVC was registered only in one of the decades: Connecticut, Delaware, Maine, Maryland, Missouri (MO), New Jersey (NJ), and West Virginia (WV).

	Conn.	Dela.	Kent.	Main.	Mary.	Mass.	MO	NJ	NY	NC	Ohio	Penn.	Va.	WV
1770	28.6				14.3	28.6			28.6					
1780						13.3			86.7					
1790				20		10						70		
1800			26.1			4.3			39.1	26.1	4.3			
1810			20			60						20		
1820		20				30			10		10	20	10	
1830										21.1		52.6	21.1	5.3
1840							16.7	83.3						

Table 1
Percentage of occurrence of EVC in each state by decade.

By the end of the 19th century, Grandgent (1899) reports non-rhoticity in Eastern New England and in the American South. On the other hand, Krapp (1925) claims that the loss of <r> occurred in the Eastern and Southern speech well into the 19th century. Yet, Labov *et al.* (2006, p. 47) hold that by the end of the 19th century the non-rhotic variety was present in all major U.S. cities along the Atlantic coast (Labov *et al.* 2006, p. 47). The present investigation revealed that, at some point between 1700 and 1849, EVC was present in Connecticut, Delaware, Maryland, Massachusetts, Maine, New Jersey, Pennsylvania, New York, North Carolina, Virginia, Kentucky, Missouri, Ohio, and West Virginia, which today are rhotic states. In other words, EVC was present in states that today are totally or partially non-rhotic, but also in states that today are rhotic states (see Map 1 below).

For Present-day-English, Kurath & McDavid (1961) claim that all dialects on the Atlantic coast have alveolar <r> before vowels, but that after a vowel (ex. *ear*, *poor*, *care*) <r> is restricted. They mention that post-vocalic <r> is preserved in all the midlands (from New Jersey and Pennsylvania to the north of Georgia), in the north and in North Carolina (to a considerable extent). At the same time, Labov *et al.* (2006) mention that the South is r-full while Labov (2006, p. 24) claims that final <r> is not consistent in New York.



Map 10: Non-Rhotic Areas in the U.S.
[After Cassidy 1982: 202]

Map 1

Non-rhotic areas in the U.S. nowadays (Lass 1987).

The distribution of rhoticity and non-rhoticity developed over time. As a matter of fact, Kurath (1949) holds that the patterns of American dialects along the Atlantic were determined by the settlement history and modified by the trading areas of the major cities. Initially, Massachusetts and eastern NE were r-less while Western New England and New York were r-full because of the settlement of r-pronouncing people and because the inhabitants had less contact with London (Wolfram & Schilling 2015). Hickey (2004) also highlights the lack of Irish English influence (r-pronouncing people) on the speech of the eastern U.S. while it was considerable in midland U.S.

On the other hand, as stated by different authors, the middle states had a mixed origin –Germans, Scots-Irish, French, and Swedish immigrants– (Algeo 2001; Hickey 2004; Wolfram & Schilling 2015). Some of the Scots-Irish immigrants were in Delaware and Pennsylvania for some time, but later moved to the mid-Atlantic and American South highlands (Algeo 2001; Wolfram & Schilling 2015).

Lastly, according to Wolfram & Schilling (2015), r-lessness expanded in the 17th century in lowland Virginia (especially in Richmond) while in the 18th century, speakers from r-pronouncing regions established in the uplands of Virginia (Scots-Irish). Schneider (2005) claims that non-rhotic English spread from Virginia through North Carolina while McDavid (1948) associates the expansion of r-lessness with the expansion of the plantation system in the South. Besides, in the 1780s, immigrants from NE moved to what is now Ohio and, in the beginning of the 19th century, farmers from Virginia and Kentucky moved to Missouri. Thus, r-lessness must have spread with them, too. On the other hand, Kentucky and West Virginia were originally part of Virginia. Kentucky became a state in 1792 while West Virginia split from Virginia only in 1863. So, even though the four states (Kentucky, Missouri, Ohio, West Virginia) are rhotic today, there might have been non-rhoticity at the beginning (as the data in this investigation shows).

Nevertheless, Krapp (1925) claims that migration only could not account for the different varieties because, for example, the West was settled by people from NE and it did not maintain non-rhotic English. Consequently, he indicates that other facts should be considered. Trudgill (2000, p. 43) mentions that speakers acquire the linguistic characteristics of those they live in contact with, but that the spread of language features does not depend only on proximity (Trudgill 2000, p. 150). The author holds that there is dominance of the city over country, which means that innovations usually spread first from one urban area to another and only later to the countryside (Trudgill 2000, p. 147-

149).

For those reasons, it is important to mention that the 10 informants from large cities (Baltimore, Boston, New York, Philadelphia) produced 22.2% of the total EVCs. That is, the results suggest that, by the mid-nineteenth century, r-lessness was more common with the middle classes and in cities (see section 5.3.1), which might account for its later prevalence. If by the end of the 19th century, r-lessness was more common than r-fullness (Grandgent 1899; Krapp 1925; Labov *et al.* 2006), then there might have been a rapid expansion of r-lessness after 1850.

A possible explanation would be that the distribution of the variables before and after 1850 was influenced not only by internal migration and social distribution of the variables, but also by historical circumstances. One possibility is that after the American Civil War, states limiting, but that had not been part of the Confederate States of America, might have moved away from r-lessness to r-fullness in order not to be associated with the Confederacy. Actually, it is predictable that states that maintained two state governments (one Unionist and one Confederate) during the Secession War (1861–1865), like Kentucky and Missouri, wanted to move away from being identified with the Confederacy when the war was over. On the other hand, the maintenance and expansion of r-lessness in the states of the Atlantic coast, for instance, Connecticut and Massachusetts could be related to the fact that as they had won the war, they unconsciously reinforced their traits.

Thus, the change from r-lessness to r-fullness in places that were initially related to Southern states might be associated with the desire to distance from those states. Yet, the rapid expansion of r-lessness after 1850 could be correlated, first, with the fact that variables that are preferred by middle classes and in cities tend to expand, and, second, with the desire to praise the traits of the states that had won the war.

5.3.1. Social distribution

As has already been mentioned, it was not possible to find material from individuals from the upper-lower class for all the decades. For that reason, the results that correspond to the social distribution are presented in two groups. Figure 9 (below) corresponds to the decades of 1770, 1820 and 1830 and brings no data from individuals from the upper-lower class. Anyway, the results indicate a tendency for the middle classes (lower and upper) to produce more EVC than the lower-upper class.



Figure 9
Occurrences by social class 1770, 1820, 1830.

The second group is constituted by all social classes investigated in the examination. The results in Figure 10 (below) confirm the tendency for the middle classes to be r-less.

Significantly, no EVC misspellings, corresponding to the upper-lower class, were recorded in 1790 and 1810.

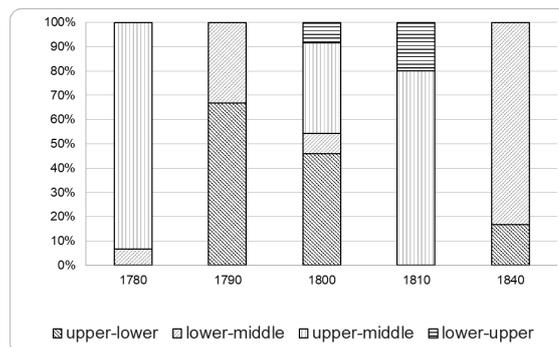


Figure 10

Occurrences by social class 1780, 1790, 1800, 1810, 1840.

As a matter of fact, the results are interesting not because of the omission of <r> by the upper-lower class, but because of the omissions of <r> in documents written by the middle class. Considering that the middle classes are better educated than the lower classes, the high number of omissions by the middle class is revealing. It indicates a tendency for the middle classes to be non-rhotic during the whole period.

Yet, given the small number of informants from the upper-lower class, to corroborate the results, a complementary study investigating a greater number of documents written by individuals from the upper-lower class should be carried out.

5.4. Expansion of the varieties

The results of the investigation indicate, among others, that during the period there was no expansion of non-rhotic English in the U.S. First, r-lessness and r-fullness were roughly uniformly distributed in the examined period. Second, the omissions indicate a slightly higher tendency towards rhoticity in the 1840s (2.2%). Third, non-rhoticity was found in states that are mostly non-rhotic today, but also in four states which today are considered rhotic. Fourth, the fact that the documents belonging to the middle classes presented a high number of EVC was considered significant because it could indicate that non-rhoticity was common with those classes. In essence, the results point to a scenario where there was no predominance of one variety over the other, but where vowel quality changes were predominant over both (rhotic and non-rhotic varieties). That fact may explain the grammarians' insistence on correcting and listing mispronounced vowels. It is true that many of them also mentioned silent <r>, but that was not universal among them and their descriptions show that no variety was predominant over the others (see section 2).

Therefore, the results of the present study suggest that the fact that r-lessness was more common with the middle classes and in cities might account for its later prevalence. Still, the distribution of the variables before and after 1850 could also have been influenced by historical circumstances.

6. Conclusion

This investigation revealed that rhotic and non-rhotic English were evenly distributed in the U.S. between 1770 and 1849. The results showed that the most common misspellings were the ones that indicate changes in vowel quality. The occurrences of EVC were registered mostly in present-day non-rhotic areas, but they were also documented in states that are non-rhotic today. The expansion of rhoticity in those areas might be the result of a tendency to move away from southern traits. Significantly, almost one fourth of the instances of EVC were registered in urban areas, which is meaningful once the expansion of variants takes place from urban areas. That would suggest that the growth of r-lessness might have been rapid since by the end of the 19th century r-lessness was more developed than r-fullness. Another, suggestive result is the fact that the middle classes were the ones who were apparently encouraging non-rhotic English. Yet, that last finding needs to be confirmed by further study.

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