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The /r/-ful Truth about African Nova Scotian English

James A.Walker
University of Ottawa

1.0. Introduction[1]

In the ongoing controversy over the origins and development of African American Vernacular English (AAVE), (r)-deletion has often been used as an indicator of the extent to which AAVE has diverged from or converged with mainstream English. Thus, studies have generally focussed on the relationship between /r/-lessness in AAVE and /r/-lessness in the surrounding dialect(s). For example, Labov et al. (1968) found that preconsonantal (r)-deletion in the New York City AAVE community correlated with working-class white speakers' patterns of deletion. Myhill's (1988) study of Philadelphia AAVE speakers found that (r)-deletion correlated with the speaker's integration into the White or Black community. In contrast, Bailey and Maynor's (1989) study of Texas AAVE speakers found little indication that they were participating in a rapid increase in /r/-fulness in the surrounding White dialect.

As a contribution to this ongoing debate, this paper details a study of variable (r)-deletion in a variety of AAVE spoken in North Preston, Nova Scotia. I will begin by briefly describing the community from which the corpus is derived. I will then discuss the rule of (r)-deletion itself and detail my findings on the contribution of various factors to the application of (r)-deletion in that community, especially as they relate to the status of postvocalic /r/ as a sociolinguistic variable. I then compare my findings, where possible, to those of Myhill for AAVE in Philadelphia. I will conclude with some inferences that can be drawn from the work on the role of linguistic enclaves in language change.

1.1. The Community

The data on which this study is based were extracted from the corpus of the African Nova Scotian English (ANSE) project directed by Professor Shana Poplack at the University of Ottawa (Poplack & Tagliamonte 1991). ANSE is spoken by the descendants of African American slaves who immigrated to Nova Scotia in the late 18th and early 19th centuries and who were subsequently segregated from the surrounding population (ibid: 302). Although the ANSE community is proximate to a white dialect which is categorically /r/-ful, until relatively recently there has been minimal contact between Blacks and Whites.

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1.2. (r)-deletion

For the purposes of this study, I assume /r/-lessness to result from the application of a rule that performs two types of operation. First, it deletes /r/ when it occurs postvocalically in the coda of a syllable and optionally replaces it with schwa or lengthens the preceding vowel. Although there are various ways of formulating this rule, the consensus seems to be that the rule constrains the occurrence of /r/ to the onset position of the following syllable. Second, the rule deletes /r/ when it occurs as the nucleus of a syllable and replaces it with a central vowel, such as schwa. Myhill (1988: 206) describes the operation as a "deletion of *r*-quality (i.e. conversion of [syllabic [r]] to [3])". There are similarities between these two operations which will allow me, at least initially, to characterize them as one rule.

2.0. Data and Methodology

From the ANSE corpus, I selected 13 speakers, almost evenly divided between males and females. Because of the fact that the ANSE community, especially the generation of speakers studied in this report, has traditionally had restricted access to education (Poplack and Tagliamonte 1991: 313) and the fact that the sample of speakers in the corpus consists overwhelmingly of people over 50 years of age, the degree of stratification of age and education is relatively small.

Making several passes through the original tape-recorded interviews and their transcriptions, I extracted roughly the first 50 potential occurrences of postvocalic or syllabic /r/ for each speaker and determined the phonetic value of each token. The total number of tokens obtained was 634.

2.1. The Variable Context

Each token was coded impressionistically for whether or not it underwent (r)-deletion. The rule was considered to have applied if the token occurred as a central vowel, or (in the case of postvocalic /r/), a lengthening of the preceding vowel or nothing. If I could not reliably determine the phonetic quality of the token after three attempts, it was not included in the dataset.

Two kinds of token were also excluded from the dataset: ambisyllabic /r/ and neutralization contexts. Ambisyllabic /r/, in which the /r/ occurs intervocalically within a word (as in *story* and *merry*), has been excluded from other studies of (r)-deletion (cf. Myhill 1988: 205; Chambers & Trudgill 1988: 61), and, since I observed no deletion in this context in the ANSE data, I followed that practice. Neutralization contexts occur when it is impossible to code the token because of an ambiguous environment, such as when the following word begins with /r/, as in (1), or when the following environment is not comprehensible.

(1) from **here** right downtown (035/160)[2]

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[2] Numbers in parentheses refer to the speaker number and line number in the transcription of the interview in the African Nova Scotian English corpus (Poplack & Tagliamonte 1991).

2.2. Coding and Analysis

The linguistic factors coded included: the quality of the nucleus and the stress of the syllable in which /r/ occurred; the following segment and whether or not that segment was tautosyllabic with /r/; the grammatical category of the word; frequently-occurring lexical items; and whether or not the /r/ occurred at the end of a prosodic word.

The quality of the nucleus was coded for the vowel that occurred as the syllabic nucleus, or as {r} for syllabic [r]. Examples (2)-(8) indicate how individual tokens were coded in this factor group:

(2)	[a]	all kinds of **ca_ds**[3] and	(011/042)
(3)	[r]	for three o-clock **service**	(031/087)
(4)	[i]	I'm four **years** older than Madge	(015/047)
(5)	[e]	right out **the_e**	(030/050)
(6)	[o]	the same brook the **ho_ses** drink out	(035/194)
(7)	[ay]	the big red **fi_e** and things	(011/072)
(8)	[aw]	with some **sour** milk in it	(015/045)

The stress was coded as strong if it was primary or as weak if it was secondary or less.

The segment following the variable was coded for its manner of articulation. In addition, the following segment was coded for whether it was tautosyllabic with /r/, as in (9), or not, as in (10), to determine whether there was a difference in patterning between situations in which /r/ occurred in a heavy coda and those in which /r/ constituted the coda itself:

(9)	in her **arms**	(011/070)
(10)	I was looking like the **war** when	(011/068)

In order to determine whether there was a syntactic effect, the grammatical category of the word was coded. I wanted to see whether the syntactic category of a word, and hence its position in the phrase, affected the application of (r)-deletion. To tackle this question from another angle, I also coded tokens for whether or not they occurred at the edge of a prosodic word. Phonologists have pointed out that rules like (r)-deletion typically occur at the edges of prosodic domains, and there is a difference between the prosodic organization of lexical words and that of function words: lexical words form their own prosodic word, while function words procliticize to the following prosodic word (McCarthy 1993: 177). Therefore, tokens which ended a preposition, conjunction, adverb, determiner or adjective were coded as not ending a prosodic word, and tokens at the end of proper names and nouns were coded as ending a prosodic word. Tokens occurring at the end of a verb and *there* sometimes end lexical words, as in examples (11) and (12), and sometimes end function words, as in (13) and (14):

[3] An underscore indicates application of (r)-deletion.

(11) how could I **remember** that? (030/032)
(12) take me **there** and bring me back (016/038)
(13) them woods **a_e** growed up since then (031/123)
(14) **there** were five of us (023/132)

For this factor group, (11) and (12) would be coded as occurring at the end of a prosodic word, and (13) and (14) would be coded as occurring inside a prosodic word.

The social factors coded included the sex and age of the speaker and the number of years of his/her education. As I mentioned earlier, there is an almost even representation between male (N=6) and female (N=7) speakers. Age was coded in 10-year age groups, ranging from 50 to over 80.

All factors were analyzed first individually and then together by means of GoldVarb 2.1 (Rand and Sankoff 1990), a variable-rule program for the Macintosh.

3.0. Results

Of the 634 tokens, the majority (57%) were /r/-less. This rate of deletion is surprising, considering that it is quite different from the surrounding community in Halifax, in which (r)-deletion does not occur. However, this figure is quite similar to Myhill's (1988: 205) result of 60% deletion for AAVE speakers in Philadelphia.

3.1. Linguistic Effects

The results of the first run are shown in Table 1. Four factors were selected as significant.

First, the quality of the nucleus correlates highly with (r)-deletion. In fact, a hierarchy of syllable nuclei emerges, with [a], [ay] and [o] favouring (r)-deletion most. Syllabic /r/ does not favour (r)-deletion. However, the percentages for [ay] and syllabic /r/ are inconsistent with the factor weights. The discrepancy for [ay] can be explained by the small number of tokens, which is given beside the percentage.

Second, the following segment affects (r)-deletion, with a following vowel or pause disfavouring deletion. However, the percentages for following nasal, liquid and glide do not match their factor weights.

Third, the stress of the syllable is significant: weakly-stressed syllables favour deletion more than strongly-stressed ones.

Finally, the prosodic position is also significant. Occurrence at the end of a prosodic word favours deletion.

Neither the tautosyllabicity of the following segment nor the grammatical category of the word was selected as significant.

Table 1: Contribution of linguistic factors to the probability of (r)-deletion in ANSE.

Corrected mean: .580 TOTAL N: 633 Significance: .394

Syllable Nucleus				**Following Segment**		
[a]	.80	(76%)		Fricative	.63	(65%)
[ay]	.60	(50%)	[N=6]	Liquid	.56	(52%)
[o]	.59	(63%)		Stop	.54	(58%)
[e]	.44	(48%)		Glide	.53	(63%)
[i]	.44	(44%)		Nasal	.49	(52%)
[aw]	.43	(40%)		Pause	.41	(57%)
[r]	.41	(55%)		Vowel	.33	(45%)
Stress				**Edge of Prosodic Word?**		
Weak	.58	(63%)		Yes	.58	(61%)
Strong	.41	(51%)		No	.42	(54%)

Factors not selected: tautosyllabicity, grammatical category.

These results suggest that (r)-deletion is promoted by several linguistic features: a preceding back vowel, a strongly-stressed syllable, and position at the edge of a prosodic word, and is inhibited by a following vowel or pause. In contrast, neither the grammatical category of the word nor the tautosyllabicity of the following segment affect deletion.

However, because of the disagreement in the constraint hierarchies between the factor weights and the percentages for two of the factors, I cross-tabulated all factors to determine whether there was interaction between them that could affect the analysis . The quality of the nucleus was found to interact with the stress of the syllable. For example, some nuclei, such as [ay], never occurred in unstressed syllables. I therefore recoded these two factors as one factor, which I have designated “syllable”. The analysis was run again with the new coding.

The results of this run are shown in Table 2. Note that the only factor now selected as significant is the syllable. We see again the hierarchy of vowel forms I noted before: the back vowels [o] and [a], especially when strongly stressed, favour deletion, whereas the front vowels [i] and [e], whether strongly or weakly stressed, inhibit deletion. This finding reverses that of the previous run, in which weak stress was found to favour deletion. What may account for this reversal is the patterning of syllabic /r/. Whereas the tendency for postvocalic /r/ is for the strongly-stressed form of each vowel to favour deletion and its weakly-stressed form to disfavour deletion, weakly-stressed syllabic /r/ actually favours deletion, while strongly-stressed [r] inhibits it. This reversal of

patterning suggests that syllabic [r] and postvocalic [r] are subject to different constraint hierarchies.

Table 2: Contribution of linguistic factors to the probability of (r)-deletion in ANSE (factor groups collapsed: quality of nucleus and stress).

Corrected Mean: .571 TOTAL N: 632 Significance: .070

Syllable		
[a], strong stress	.74	(79%)
[o], strong stress	.68	(74%)
[r], weak stress	.60	(67%)
[a], weak stress	.55	(62%)
[o], weak stress	.50	(57%)
[e], strong stress	.43	(50%)
[ay], strong stress	.43	(50%)
[aw], weak stress	.43	(50%)
[i], strong stress	.37	(44%)
[e], weak stress	.27	(33%)
[r], strong stress	.12	(15%)

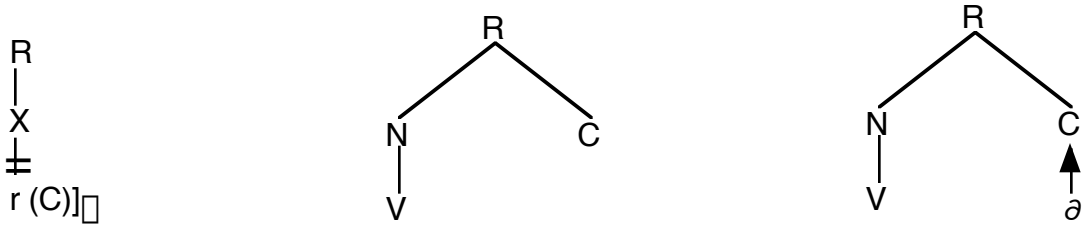
Factors not selected: following environment, grammatical category, edge of prosodic word.

Is this difference between syllabic /r/ and postvocalic /r/ just a feature of ANSE, or does it apply to AAVE more generally? The latter seems to be the case. In Myhill's study in Philadelphia, the same pattern was found: deletion of syllabic /r/ was disfavoured, except in weakly stressed syllables (Myhill 1988: 206). Phonologically, then, these two segments are behaving differently.

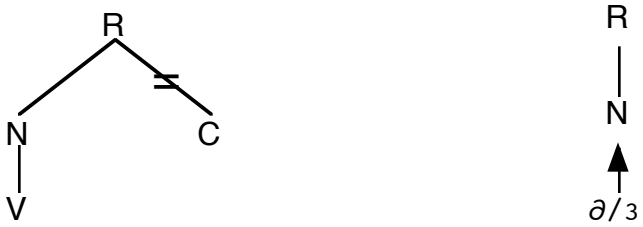
As I said before, the two types of operation performed by (r)-deletion are normally subsumed under one type of phonological rule, but the difference in patterning suggests that, phonologically, postvocalic /r/ and syllabic /r/ are different entities. This difference requires that we re-examine (r)-deletion. In (15a) I have combined several formulations of the deletion rule (Mohanan 1985: 149; McCarthy 1993: 172) into a constraint on the syllabic position of /r/:

(15) (r)-deletion [adapted from Mohanan 1985; McCarthy 1993]

a. b. c.



d. e.



This constraint prohibits the occurrence of /r/ syllable-finally, either as the nucleus or the coda, with optional following consonants. Note that the position occupied by /r/ has consequences for later phonological operations. If the /r/ is in the coda, one of three operations is possible, as shown in (15b-d): the nucleus can spread to coda position (resulting in a lengthening of the preceding vowel), schwa can be filled in by a later rule, or the coda position can be eliminated by the principle of stray erasure (cf. Goldsmith 1990). In contrast, if the /r/ occupies nuclear position, a vowel-slot is left empty and must be filled, as shown in (15e). Thus, we can explain the difference in patterning of deletion as a phonological one.

The tendency of back vowels to favour deletion can be explained in several ways. First, there is a phonetic explanation. The low second and third formants of final /r/ may reduce the distinctiveness of back vowel qualities, which also have low second formants. In non-rhotic dialects, speakers may choose to preserve the pre-final /r/ vowel qualities at the expense of final /r/ (Robert Hagiwara, personal communication). Second, the set of vowels promoting deletion parallels that promoting (r)-*insertion* in other /r/-less dialects. McCarthy (1993: 171) notes that these vowels "are not an arbitrary set: they are precisely the non-diphthongal nuclei that can occur word-finally" in many dialects of English. Thus, it may be possible to think of (r)-deletion in these vowels as being correlated somehow with off-glides in front and high vowels. This feature may in fact be a peculiarity of ANSE, however, because Myhill's findings (1988: 206) in Philadelphia AAVE indicated that "when /r/ was preceded by /a/ ... deletion was disfavored." He notes (1988: 210) that current changes in AAVE, such as monophthongization (by which [ay] -> [a:]), may be inhibiting deletion in these contexts, because a loss of phonemic distinction would occur. Either ANSE is not participating in this change or deletion overrides considerations of phonemic distinction. A more detailed analysis of the vowel system of ANSE is required to confirm these hypotheses.

In summary, although it at first seemed that there was a variety of linguistic factors affecting (r)-deletion, it turns out that the most pertinent ones are the quality of the vocalic nucleus and its stress.

3.2. Social Effects

I now turn to the social factors. In order to overcome the limitations of the relatively small range in the social factors, I collapsed the factor groups, on the basis of the preliminary percentages. For age, the factors were divided into speakers 70 and over (whom I designate as "older") and speakers 50-70 ("younger"). Similarly, speakers were divided into less educated (up to 4 years of schooling) and more educated (5 to 8 years of schooling).

The results of the analysis of the social factors are shown in Table 3.

Table 3 : Contribution of social factors to the probability of (r)-deletion in ANSE.

Corrected Mean: .573 TOTAL N: 633 Significance: .448

Age			**Education**		
Older (70+)	.55	(63%)	Less (<5 years)	.55	(63%)
Younger (>70)	.42	(48%)	More (>4 years)	.41	(47%)

Factors not selected: sex.

Although sex is not selected as significant, both age and education are. Older speakers favour deletion more than younger speakers, and less educated speakers favour deletion more than more educated speakers. However, since these two factors are highly correlated, speakers with more education turn out to be younger speakers, and those with less education are older.

4.0. Discussion and Conclusion

Although I would have liked to make a detailed comparison between Myhill's (1988) study of (r)-deletion in AAVE in Philadelphia and this study of ANSE, such a comparison is deterred by several methodological facts. Myhill provides insufficient information about his coding and analysis to allow me to replicate his findings. Also, his coding for factors such as stress, in which he distinguishes three levels, differs from mine. Nevertheless, I would like to make a few comments on the two communities.

Myhill (1988) does not provide an age- or education-graded analysis, but he does divide his speakers into two groups (ibid.: 208), one with a greater amount of contact with the White community of Philadelphia, the other with less or no contact. He interprets his findings (ibid.: 212) to suggest that the frequency of application of the deletion rule is affected by the degree of contact with the white community, in which deletion generally has a low frequency of occurrence (ibid.: 204). He also notes (ibid.: 212) that although the frequency of rule application is affected by the

frequency of application within the white community, the environments affecting deletion are less subject to external influence. On the basis of what we know about the nature of the ANSE community, we would expect its linguistic behaviour to parallel those Philadelphia AAVE speakers with less contact with whites. In fact, one feature, syllable, was selected as significant for both communities, and the patterning of syllabic /r/ is the same. Other factors differ, though it is not yet clear whether these differences are due to methodological considerations or represent a real effect.

The findings of this study can be summarized in three important points, two linguistic and one social.

First, postvocalic /r/ and syllabic /r/ are subject to different constraints on deletion. In both Philadelphia and Nova Scotia, the finding is the same: syllabic /r/ with weak stress favours deletion, while postvocalic /r/ in a weakly-stressed syllable inhibits deletion. I have argued that syllabic /r/ is not just another type of postvocalic /r/, but a different sociolinguistic variable. This must be taken into account in future studies of (r)-deletion.

Second, the tendency in ANSE for back, non-high vowels such as /a/ and /o/ to favour deletion more than other vowels is a possibly dialectal feature based on phonetic and phonological features of the vowel system of ANSE. In order to determine whether ANSE is in fact participating in changes characteristic of AAVE, such as monophthongization, more work needs to be done on its vowel system.

Third, the role of contact with whites as an explanation of changing rates of (r)-deletion is not as clear-cut as other studies have suggested. Although Myhill's study provides compelling evidence that contact with whites appears to play a role in changing the hierarchies of factors affecting (r)-deletion, the expectation that ANSE speakers would correlate more with his AAVE speakers with less contact with whites was not borne out. If anything, these ANSE speakers show more similarities to the Philadelphians with *more* contact with whites.

This raises questions about what we mean by "contact". The ANSE speakers cannot in any meaningful way be said to "have lived with whites". As Poplack and Tagliamonte (1991) make clear, North Preston is as geographically and socially isolated as it is possible to be, with no economic or social attraction for outsiders, and thus no reason for them to visit. However, they also note (ibid.: 333) that the residents of North Preston must seek employment outside of the community and thus must be able to command a dialect approximating that of standard Canadian English, or at least standard Nova Scotian English. As I noted, white Nova Scotian English is categorically /r/-ful, so the 57% deletion rates we see among ANSE speakers can hardly be construed as due to contact. Thus, the expected similarity between ANSE and the speech with which it comes into contact, standard or nonstandard, is not found. We must therefore be careful to define "contact" in such a way as to distinguish between contact as a by-product of economic necessity and contact as a factor of social identity.

This is the third and most important point of this study, and of other studies currently in progress on ANSE — the importance of enclave communities in the study of language change. Enclave communities are, by definition, geographically and socially isolated, and, as Labov and Harris (1986: 2) note, "there is a close parallel between residential segregation and linguistic segregation." This segregation leads to the preservation of linguistic forms which are no longer current in the mainstream community. Because of their geographic peripherality, these communities are "less exposed than centrally located dialects to influence from mainstream norms" (Milroy 1992: 196) and are characterized by "close-knit networks" (ibid.). It is these close-knit networks, with their strong internal ties and weak external ones, which act to preserve linguistic patterns and prevent the sort of contact which is required for linguistic change to spread.

By the preceding definition, the ANSE community is an enclave community *par excellence*. Thus, any linguistic features which are preserved in the language of the speakers, who have not been influenced by the pressures of the surrounding speech community, must date back to the arrival of the linguistic variety in the area.

The fact that not only the overall rate of deletion, but also the primary factor conditioning deletion, are similar in both the ANSE and Philadelphia AAVE communities, coupled with the fact that the dialects of surrounding white Nova Scotians in particular and Canadians in general, feature nearly categorical /r/-fulness, suggests that (r)-deletion, as well as the phonological system of which it is a part, was brought into Canada at the time of migration and not acquired later. Findings from investigations of the syntactic and semantic components of ANSE grammar (e.g. Poplack and Tagliamonte 1995), provide compelling evidence that, despite over 150 years of evolution in Canada, the basic linguistic system of ANSE has undergone surprisingly little influence from surrounding dialects. This study lends further credence to that conclusion.

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