

Social meaning in archival interaction: a mixed-methods analysis of variation in rhoticity and past tense BE in Oldham¹

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This article uses a mixed-methods approach to investigate the indexical fields of two variables, one phonological (rhoticity) and one morphosyntactic (past tense BE), in oral history interviews with speakers from Oldham (Greater Manchester, UK), born between 1907 and 1929. In a quantitative analysis of the variation, we account for a range of linguistic constraints, and find some evidence suggesting that rhoticity does not tend to cooccur with nonstandard past tense BE. To investigate this further, we employ a modified version of the Lectal Focusing in Interaction method (Sharma & Rampton 2015; Sharma 2018), allowing us to track the speakers' variation in interaction. Using this method, we explore the indexical fields of the variables, which we suggest are potentially in conflict, perhaps explaining the observed pattern of non-cooccurrence. Overall, our analysis demonstrates how the status of rhoticity and past tense BE in relation to prescribed standard English, as well as shifting and stable variables, influences their indexical potential in interaction.

Keywords: sociophonetics, morphosyntax, social meaning, rhoticity, past tense BE

1 Introduction

Research in the 'third wave' (Eckert 2012) of sociolinguistics has moved beyond the traditional approach of correlating linguistic variants to broad macro-social categories, and instead explores the role of linguistic features in the construction of social meaning

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in interaction. Most of this research has focused on phonological variation (see, e.g., Podesva 2011; Drummond 2018; Sharma 2018; Leach 2021), but Moore (2021) argues for the application of stylistic, third-wave approaches to syntactic variation. As summarised by Moore (2021), previous research has assumed that syntactic variation is less likely to accrue social meaning. This is in part due to (some) nonstandard morphosyntax being more subject to overt prescription, particularly in educational contexts, meaning that it is assumed to have less flexibility than phonological variation in the strategic construction of social meaning in interaction. For example, Eckert (2019: 758) notes that morphosyntax often functions as a ‘shibboleth’ with ‘quite fixed social meanings associated with class and ethnicity’. However, Moore (2021) argues that this viewpoint stems from (a) the fact that the majority of variationist research on syntactic variation has focused on the most stigmatised features, and (b) most of this work has focused on what formality and attention to speech can tell us about variation. As such, the complex and strategic use of syntactic variation cannot be understood when viewed through the simplified lens of prestige and stigma. Indeed, studies such as Snell (2010, 2018), Moore & Podesva (2009) and Moore & Spencer (2021) provide nuanced stylistic accounts of socially meaningful syntactic variation in interaction.

Moore (2021) additionally notes that phonological variation is necessarily embedded within syntactic variation and thus advocates for an integrated approach to the study of social meaning. She demonstrates the effectiveness of this approach in an analysis of the clustering of negative concord (e.g. *I didn't say nothing*) with a selection of phonological features and one morpholexical form in a corpus of speech from a Bolton high school. She finds that /h/-dropping and contracted verb forms (e.g. *dint* for *didn't*) were more likely to occur with nonstandard negation than with standard negation, indicating a compatibility of social meanings. In comparison, alveolar (ing) and vernacular variants of /t/ were not more likely to cooccur with nonstandard negation. These variants were found frequently in the speech of even linguistically conservative speakers, suggesting they may not be as associated with prestige as the variants which do cluster with negative concord. This multilayered analysis allowed Moore to demonstrate the subtle and nuanced way that different types of nonstandard forms function in interaction.

In line with this suggestion of a more integrated approach to the study of social meaning across multiple levels of grammar, this article uses a mixed-methods approach to explore stylistic variation in both a phonological variable (rhoticity) and a morphosyntactic variable (past tense BE) in a set of oral history interviews from Oldham, Greater Manchester. Loss of rhoticity (the production of /r/ in non-prevocalic environments) was a change in progress when the interviews were collected in the 1980s, and is now very near completion in the area (Leeman, Kolly & Britain 2018). In comparison, nonstandard (henceforth, NS) past tense BE (the use of *were/weren't* where *was/wasn't* is used in prestige varieties of English, e.g. *I were*, and vice versa, e.g. *we was*) still remains in the area, and has been demonstrated to index (amongst other things) localness, working-class identity and rebelliousness (Moore 2011).

The words *were* and *weren't* can both be rhotic or non-rhotic, as well as standard (henceforth, S) or NS (e.g. *I [wɜː ~ wɜ]* or *we [wɜː ~ wɜ]*). Therefore, the presence of

NS past tense BE in our dataset presents an opportunity to explore the indexical fields (Eckert 2008) of these two features in tandem. This approach considers the ‘constellation of ideologically related meanings’ (Eckert 2008: 454) that may be associated with a linguistic feature, and how they function and form in interaction. We use this approach to construct indexical fields for these two features in the context of 1980s Oldham, considering both how their meanings diverge from, and intersect with, one another.

We follow a recent handful of studies which have begun exploring the indexical meaning of variation in the past using oral history archives (e.g. Moore & Carter 2015; Leach 2021). Compared to explorations of indexical meaning in contemporary speech, there are additional challenges to explorations of indexical meaning in the past (see Ryan, Dann & Drummond 2022 for a full discussion of this). However, there are also benefits, as this research offers a unique insight into social motivations of language change, particularly in the case of changes that are now completed or near completion. To open a window into indexical meaning in the past, we apply a modified version of the Lectal Focusing in Interaction (LFI) method to the oral history interviews (Sharma & Rampton 2015; Sharma 2018; see also Moore & Spencer 2021 for a similar approach). This method tracks a speaker’s variation through the course of an interaction. Their shifts towards or away from certain variants can then be explored in relation to the non-linguistic shifts that are occurring in that interaction, such as changes in the interactional stances they are taking (see, e.g., Bucholtz & Hall 2005), providing insight into the social function of the linguistic feature.

Overall, our analysis demonstrates how the status of rhoticity and past tense BE in relation to prescribed standard English, as well as shifting and stable variables, influences their indexical potential in interaction. We find that the indexical fields of these features appear to diverge regarding meanings associated with rebelliousness and opposition to authority. In addition, while the indexicality of NS past tense BE is influenced by its status in relation to overtly prescribed standard language, its function in interaction is more nuanced than a straightforward continuum between formal and informal. In comparison, as we previously noted in Ryan, Dann & Drummond (2022), rhoticity does not appear to have the same associations with ‘nonstandardness’, and instead is more closely tied with the past and ‘the older way of doing things’. Finally, Moore (2021: 73) states that:

if the social meaning of syntactic variables can be (relatively easily) discerned from the discourse context, then we can use this to start examining the meaning potentials of the phonological forms which vary in-step with them.

With the caveat that this is a study of a very small dataset, so the specific claims cannot necessarily be extrapolated to the wider community, this research suggests that Moore’s approach is particularly effective in analysis of near-completed changes in archival data. Where the indexical meaning of rhoticity was occasionally opaque or unexpected, the function of NS past tense BE in the oral history interviews was more easily discerned. As such, stylistic analysis of the points of cooccurrence and

non-cooccurrence of rhoticity and NS past tense BE provide a more nuanced insight into the role of social meaning in the shift towards non-rhoticity in Oldham.

2 The data

In 1988–9, BBC journalist Alec Greenhalgh conducted a series of oral history interviews, usually in the parish of Saddleworth, Oldham. Oldham is now a borough of the metropolitan county of Greater Manchester, but before the county's formation in 1974, the area was largely in Lancashire, although Saddleworth was part of Yorkshire. Here we focus on his interviews with three speakers from Oldham, accessed from the British Library's *Unlocking Our Sound Heritage* archive. These three speakers, described in [table 1](#), were part of a wider dataset (see Ryan, Dann & Drummond 2022), and were selected for their variable usage of both rhoticity and NS past tense BE.

The interviews, recorded in the participants' homes, are between 1 hour 21 minutes and 2 hours 11 minutes long, and we transcribed between 34 and 41 minutes per speaker from sections matched for topic between the speakers. They focus on the speakers' childhood memories, and the topics covered include education, childhood games, family life, the two world wars, traditions and descriptions of the neighbourhood. The interviews provide a detailed portrait of the speakers' life stories, attitudes, opinions and orientations, as well as life in Oldham in the early twentieth century.

3 Quantitative analysis of rhoticity

In Ryan, Dann & Drummond (2022), we discussed the patterning of rhoticity in a larger dataset (which included Arthur, George and Eugene) from the Oldham oral history archive. We found evidence for a change in progress towards non-rhoticity at the time, with the women leading the change, and the linguistic constraints were in line with other studies of changes in rhoticity. Using the LFI method, we suggested that, in the context of 1980s Oldham, rhoticity may have been ideologically linked to tradition and respect for 'the older way of doing things', with non-rhoticity linked to modernity and mobility. We found that the men and women in the sample tended to orient to these concepts differently in their oral history interviews, potentially shedding some light on the quantitative patterns. As summarised by Barras (2011: 57–66), rhoticity in the North-West has been characterised as a defining feature of traditional Lancashire speech. In addition, despite their geographical proximity to the (non-rhotic) urban centre of Manchester, inhabitants of Lancashire towns such as Oldham and Bolton would rarely have travelled to the city when the interviewees in the present article were young (Shorrocks 1998: 19). Therefore, when the interviews were recorded, Oldham's recent reconstitution as a Greater Manchester borough would only have reinforced these links between rhoticity and 'the older way of doing things'.

To avoid duplicating this discussion here, we will simply provide a brief description of how we measured rhoticity in the oral history archive, and how it patterns in Arthur,

Table 1. *Demographic details of speaker sample*

Pseudonym	Year of birth	Age at the time of recording	Occupation
George	1907	82	Butcher
Eugene	1914	74	Unknown
Arthur	1929	59	Farming

George and Eugene's speech. We follow research such as Love & Walker (2013) and Hay & Maclagan (2012) in measuring rhoticity using minimum F3. Although this is a less common method than the use of auditory analysis to code tokens as either rhotic or non-rhotic (e.g. Barras 2011; Piercy 2012), we attempted both methods and found much higher levels of agreement between the authors for the acoustic in comparison to auditory coding. This method also allows us to measure rhoticity on a gradient scale representing degree of constriction in the vocal tract, which is particularly advantageous where we are exploring subtle changes in production throughout the course of an interaction (see Love & Walker 2013). Therefore, minimum F3 was considered the most reliable and appropriate measure of rhoticity in this study. Minimum F3 measurements were taken by hand by either the first or second author for each non-prevocalic /r/ in the dataset, and each token was additionally coded auditorily as PRESENT, ABSENT or INTERMEDIATE. To account for physiological differences in the vocal tract between speakers as well as subtly differing articulatory strategies, we normalised the F3 measurements by dividing each individual measurement by the speaker's average minimum F3 in prevocalic /r/s.

In total, we measured 1,095 tokens across the three speakers. Figure 1 shows a boxplot with normalised minimum F3 measurements for each speaker, organised from lowest to highest average F3. These are also split according to the auditory code given to the token, demonstrating a strong correspondence between minimum F3 and our auditory perceptions of rhoticity. It shows that all three men use rhoticity variably, but Arthur is generally the most rhotic.

Regarding the linguistic constraints on rhoticity in this dataset, the analysis presented in Ryan, Dann & Drummond (2022) modelled the effect of lexical set of the preceding vowel, word context and preceding vowel reduction on rhoticity. The results of this analysis have implications for the qualitative LFI analysis presented in section 6, as we attempt to account for these linguistic effects when selecting points of high or low rhoticity to explore. Overall, we found that the environments most strongly favouring /r/ were pre-pausal, word-final contexts (e.g. *before* (.) *we*) and following the NURSE vowel (e.g. *learn*). The environments most strongly disfavouring /r/ were following schwa vowels in both unstressed (e.g. *letter*, *certificate*) and reduced (e.g. *were* [wə]) contexts. The other environments neither favoured nor disfavoured /r/.

Although these linguistic effects explain some of the variation in rhoticity for Eugene, Arthur and George, they do not account for all the intra-speaker variation observable in the

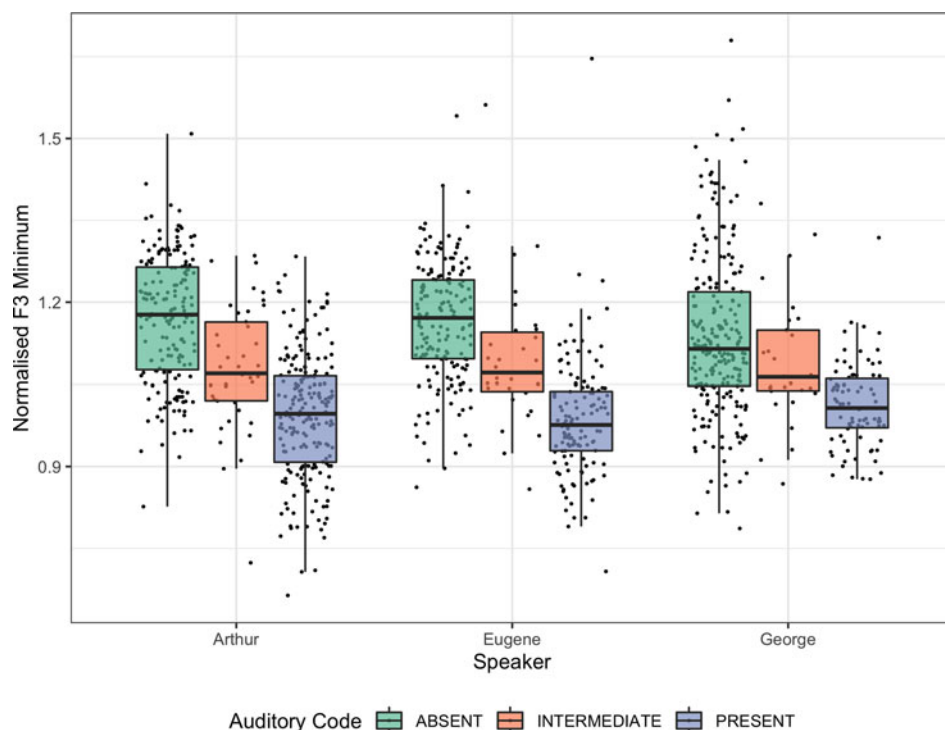


Figure 1. Boxplot showing normalised minimum F3 measurements for each speaker, coloured according to the auditory code

dataset. A further pathway to illuminate the progression towards non-rhoticity in Oldham is to explore how /t/ use patterns with particular interactional stances taken by the three men at different points in the interview, allowing us to construct a potential indexical field for this variable. To do this, we examine how rhoticity converges with (and diverges from) use of nonstandard past tense BE. In the following section, we provide a full analysis of past tense BE in this dataset, before moving on to a statistical analysis of how variants of this variable cluster with rhoticity.

4 Past tense BE

4.1 Previous research on past tense BE

Prestige varieties of English mark past tense BE with plural grammatical subjects (we include both singular and plural *you* in this group) as *were* and singular grammatical subjects as *was*. However, outside prestige varieties, speakers are not restricted to this pattern, and may use NS *were* with singular grammatical subjects and *was* with plural subjects (sometimes referred to as either ‘levelled *were*’ or ‘levelled *was*’). Past tense BE variation is found in many communities across the UK (Cheshire 1982; Anderwald

2001) and the USA (Schilling-Estes & Wolfram 1994). In northern England, York English has been found to be restricted to NS *was* and NS *weren't* (Tagliamonte 1998), while Moore's (2011) research in Bolton, one of the nearby boroughs to Oldham, found speakers restricted to NS *were* and *weren't*.

Moore finds that although NS *were* is robust in her data, NS *was* is infrequent and highly circumscribed; the majority of tokens occurring in existential constructions, where NS *was* also regularly occurs in standard varieties of English (e.g. *there was some people*). Moore notes that this pattern is quite different to those found in other parts of England, and goes on to suggest that 'the stability of levelled *were* in Bolton may be attributable to its utility as a symbol of localness' (Moore 2011: 349), and that 'the form has active sociolinguistic salience' (Moore 2011: 367). Specifically, extrapolating from in-depth ethnographic work and analysis of Community of Practice membership, she suggests that NS *were* is linked to localness, working-class identity and rebelliousness. Geographically and socially, Bolton is very close to Oldham, and both are similarly proximal to the nearby urban centres of Manchester and Salford. In our analysis, we ask whether the social meaning of the variation is similar for our Oldham speakers and Moore's Bolton speakers. We examine how NS past tense BE clusters with rhoticity, exploring what this variation can tell us about where the indexical fields of these variables diverge and overlap.

4.2 Quantitative analysis of past tense BE

We identified and coded by hand all 610 tokens of *was*, *were*, *weren't* and *wasn't* as either S ($n = 505$) or NS ($n = 105$) according to whether the grammatical subject was plural or singular. As we found both levelled *were/weren't* and levelled *was* in our data, we additionally coded for 'past tense BE type' according to whether tokens had 'plural grammatical subjects' (meaning *was/wasn't* is NS) or 'singular grammatical subjects' (meaning *were/weren't* is NS). There were no instances of levelled *wasn't* in our data. An overview of the distribution of these tokens according to speaker can be seen in figure 2. It shows that all the speakers use both levelled *were/weren't* and levelled *was* to some extent, although Eugene has by far the highest rate of the latter.

In order to explore how past tense BE in this dataset is conditioned by a variety of linguistic constraints, we fit conditional inference trees using the `partykit::ctree` function in R (Hothorn, Hornik & Zeileis 2006; Hothorn & Zeileis 2015). We used the default parameters, which specify a stop criterion of $p < 0.05$. Although this approach is a little less robust than, for example, a mixed-effects regression analysis, it was more appropriate for this dataset with its many-levelled variables, low token counts (particularly for the NS tokens) and high levels of collinearity (see Tagliamonte & Baayen 2012). It also has the benefit of being more intuitive to interpret than a mixed-effects model. We followed Moore (2011) in coding for three different linguistic constraints: polarity, grammatical subject and clause type. We do not have space to discuss the intricacies and motivations for this coding here, given that only grammatical subject is found to be significant. However, see, e.g., Moore (2011),

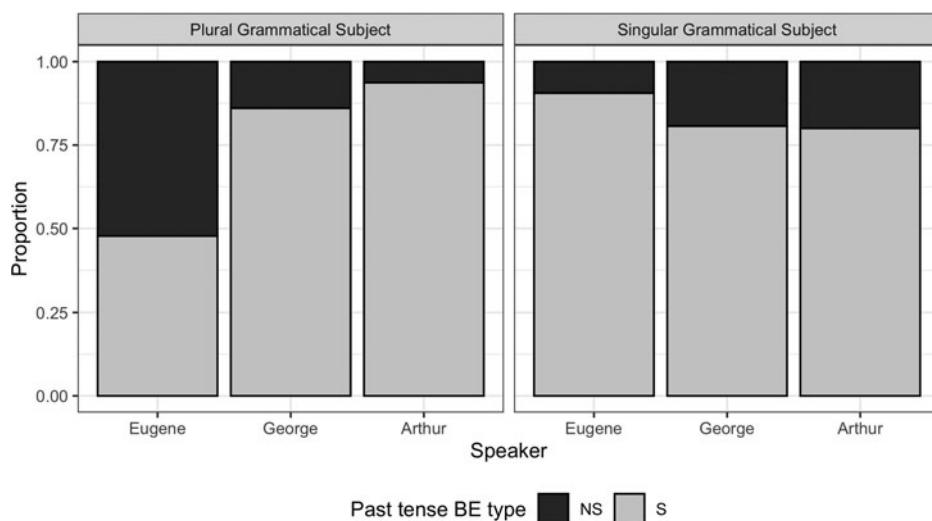


Figure 2. Chart showing the proportion of S vs NS tokens of *was/were* for each speaker according to grammatical subject type

Tagliamonte (1998) and Britain (2002) for a full discussion of the potential linguistic constraints on past tense BE.

Conditional inference trees essentially work by repeatedly splitting the dataset in two according to the specified predictors and performing regression analyses to determine a statistic of the association between a predictor and the outcome. When the strongest predictor has been found, the new subsets are split again, and further regression analyses are performed until all the statistically significant associations are found. In this analysis, we tested the effect of the predictors specified above on past tense BE with singular and plural grammatical subjects separately, with S/NS as the output. Given that the sample is so small, we also included 'speaker' as a predictor to test whether individual speakers pattern significantly differently to one another. The results of this analysis can be seen in figure 3.

The conditional inference trees in figure 3 show that the only linguistic factor affecting past tense BE variation in both singular and plural contexts was grammatical subject. For plural grammatical subjects, 'speaker' was the most significant predictor, where Eugene used the most NS *was*. For Eugene, there were no significant linguistic factors affecting his usage of NS *was*. For Arthur and George, there is an additional split for grammatical subject, where only existential *there* (e.g. *there was at least forty*) favours the NS form. Given that existential *there* with a plural grammatical subject is not generally considered to be fully NS, this suggests that only Eugene generally has a NS system for past tense BE with plural grammatical subjects.

For past tense BE with singular grammatical subjects, the conditional inference tree finds no significant difference between the speakers, and existential *there*, compound indefinites (e.g. *everybody were*), relative pronouns (e.g. *you have, like, potato pie, or*

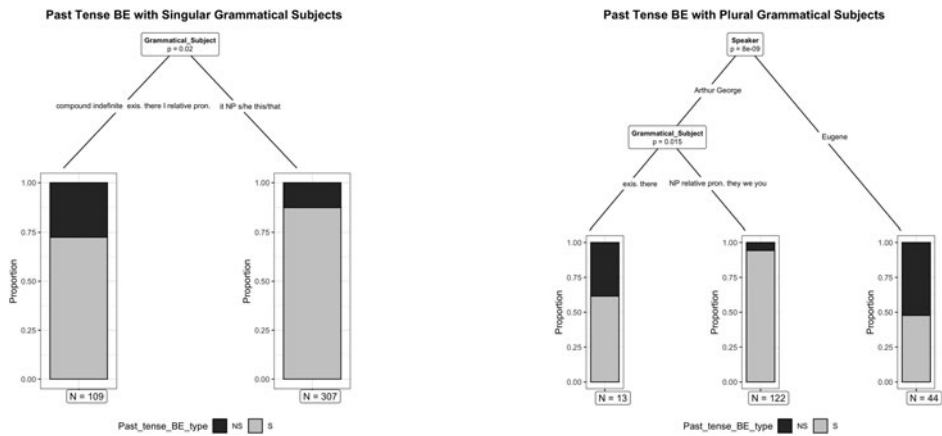


Figure 3. Conditional inference trees of past tense BE variation, with singular grammatical subjects on the left, and plural grammatical subjects on the right

what were going) and ‘I’ (e.g. *I were terrified*) all favour the NS form the most. This is partially in line with Moore (2011), who found that compound indefinites were the grammatical subjects that most favoured NS *were*. She suggests that this is perhaps because they refer semantically to multiple individuals (Moore 2011: 357). In addition, existential *there* and relative pronouns favouring the NS form is not unexpected. These constructions both ‘exhibit ambiguity over the number assignment of the subject’ (Moore 2011: 354), potentially driven by frequent nonadjacency between the verb and the plural/singular (see Tagliamonte 1998; Tagliamonte & Baayen 2012). Finally, first-person grammatical subjects favouring the NS form is not directly in line with previous literature. For example, Moore (2011) and Britain (2002), who both report on patterns including NS *were*, find that first-person contexts favour the S form. However, our result is in line with Tagliamonte (1998), who found that NS *weren’t* is favoured in first-person contexts.

Overall, this analysis shows that Arthur, George and Eugene produce both S and NS past tense BE where the grammatical subject is singular (i.e. NS *were*). They are slightly more likely to produce NS forms where there is some level of ambiguity over the grammatical number of the subject, but they also produce NS forms in more unambiguous contexts. In comparison, only Eugene regularly produces fully NS past tense BE with plural grammatical subjects (i.e. NS *was*), as the few tokens of NS *was* produced by Arthur and George are almost all in the context of existential *there*. In the following section, we turn to an analysis of rhoticity within these *were* and *weren’t* tokens, examining whether NS *were/weren’t* is more or less likely to be produced with rhoticity.

5 (Non-)cooccurrence of rhoticity and past tense BE

Of the 1,095 tokens which could have non-prevocalic /r/ in the dataset, 188 occurred in *were* (n = 171) or *weren’t* (n = 17). If rhoticity and NS past tense BE have similar

indexical fields for these three speakers, we can assume that NS *were/weren* 't would be more likely to have rhoticity than S *were/weren* 't. This is because both NS *were/weren* 't and rhoticity would both become interactionally relevant at the same points in the interview. To test this, we grew further conditional inference trees from this subset of the data. As with the full analysis of past tense BE, this more exploratory approach was more appropriate due to the small size of the dataset. In this analysis, we tested the effect of S/NS *were/weren* 't, preceding vowel reduction, word context (morpheme final and syllable internal, word final and pre-consonantal, or word final and pre-pausal), and speaker on normalised minimum F3 values. The results of this analysis can be seen in [figure 4](#).

The results of the statistical analysis of rhoticity in *were/weren* 't demonstrate an interesting pattern. As expected from the analysis of rhoticity in the full dataset, the first split is for preceding vowel reduction, with unreduced tokens being much more rhotic than reduced tokens. Amongst the unreduced tokens, there is a further split for speaker, with George being less rhotic than the other two. Again, this is an expected reflection of the larger dataset. Most interestingly, there is a split amongst the reduced tokens between S and NS past tense BE, where the NS tokens of *were/weren* 't are less rhotic than the S ones. Given the majority (76 per cent) of these tokens were following reduced vowels and the small size of the dataset, it is difficult to draw conclusions about the fact that this split occurs for reduced tokens only. One possibility is that the reduced [wə] form has been lexicalised as non-rhotic, as is the case for certain words in contemporary Lancashire varieties (Shorrocks 1998: 254). However, if this were the case, it is surprising that the pronunciation of S *were/weren* 't does not appear to be lexicalised in this way.

Overall, this analysis has indicated that rhoticity and NS past tense BE do not tend to cooccur in this dataset. In other words, the points in the interviews where the speakers are using a lot of NS past tense BE may not be the same places where they are particularly rhotic. This suggests that the indexical fields of rhoticity and past tense BE do not entirely overlap, and these two vernacular features may be being used alongside different interactional stances and conversational topics to do subtly different types of social work throughout the interviews. In the remainder of this article, we explore this finding in more detail, taking an LFI approach to guide our qualitative analysis, and using this to construct potential indexical fields for rhoticity and past tense BE.

6 Lectal Focusing in Interaction

To allow us to investigate how past tense BE and rhoticity pattern in interaction, we employ a modified version of Sharma and Rampton's Lectal Focusing in Interaction (LFI) method (Sharma & Rampton 2015; see also Sharma 2018). This method involves tracking how sets of variables associated with different lects shift throughout the course of an interaction to explore which lect a speaker appears to be orienting to at any moment. In our analysis, we do not consider entire lects, but instead track changes in the speakers'

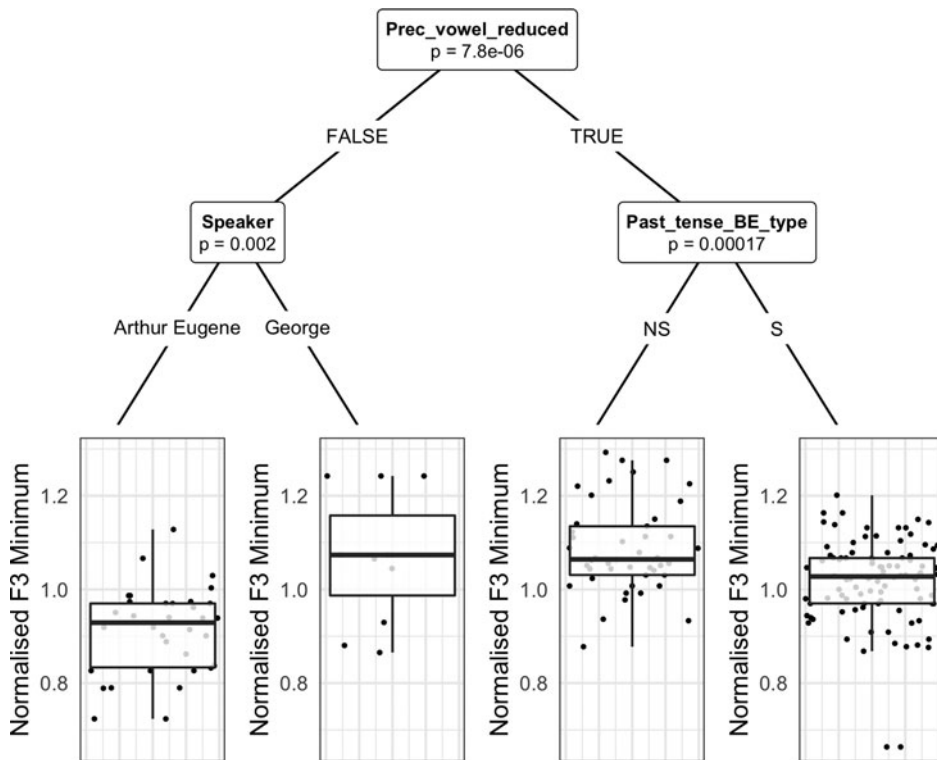


Figure 4. Conditional inference tree of normalised minimum F3 in *were/weren't*

levels of rhoticity and in their use of past tense BE through the course of their interviews. Using time series plots to illustrate these changes (figures 5–7), we can compare variation in rhoticity and past tense BE, allowing us to explore how the variants pattern in relation to one another. The quantitative findings presented in section 5 suggest a pattern of non-cooccurrence, where the rhoticity and NS past tense BE may not generally occur together. Using our modified LFI method, we can investigate this possible pattern further, asking whether, at high-rhoticity moments or moments where they are using a lot of NS past tense BE, the speakers are consistently enacting particular interactional stances.

In identifying moments of interest in the interviews, we attempt to account for the possibility that the changes we see in the variation might be linguistically motivated as opposed to socially motivated, with reference to the quantitative findings presented in sections 3 and 4. For example, where there is a cluster of non-rhotic tokens, we consider whether they are in environments which favour non-rhoticity, such as following reduced vowels. For past tense BE, the analysis in section 4 suggested that where the grammatical subject is potentially ambiguous (existential *there*, relative pronouns and compound indefinites), speakers were more likely to use the NS form. Therefore, in the analysis below we have ensured that the clusters of NS past tense BE

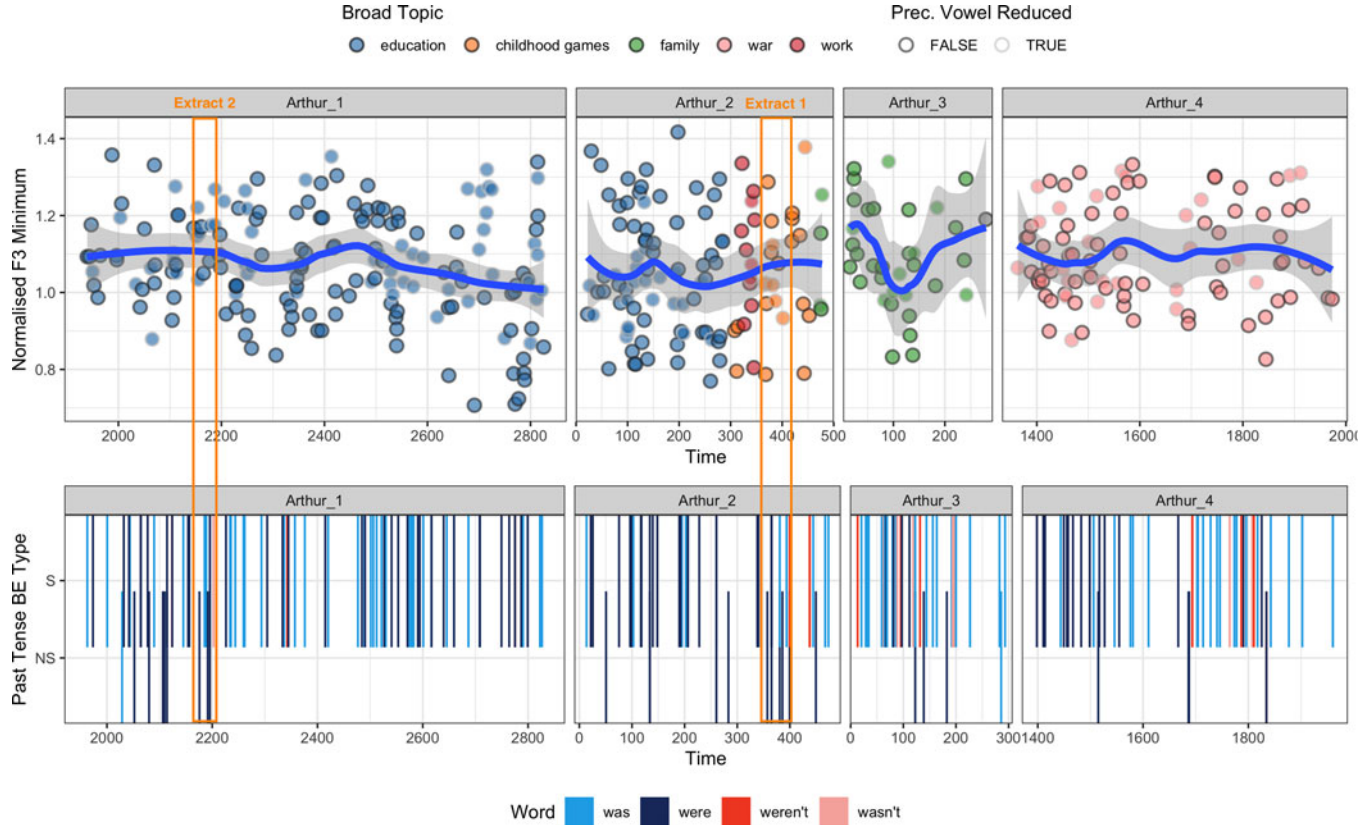


Figure 5. Time series plot showing changes in Arthur's normalised F3 minimum and variation in past tense BE over the course of his interview, with moments of particular interest marked

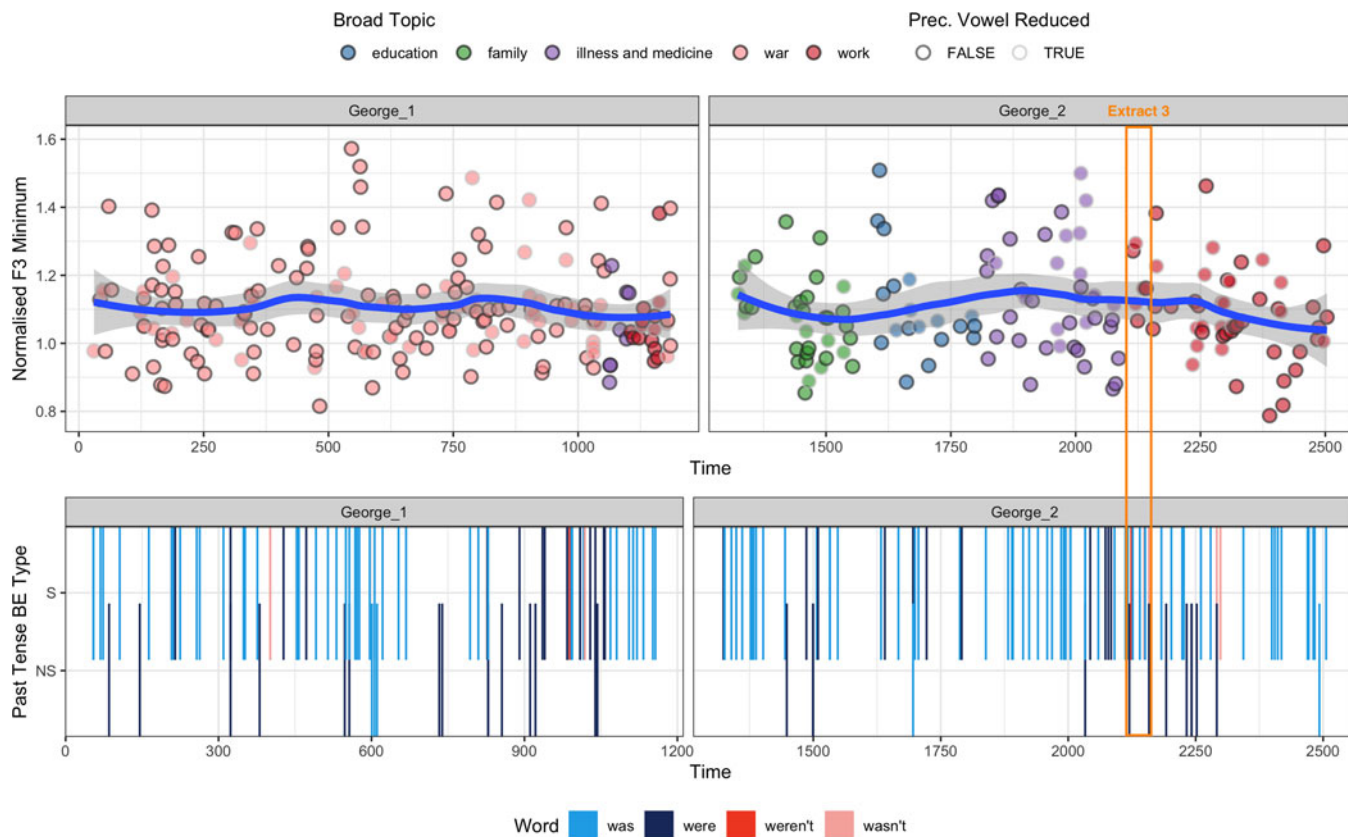


Figure 6. Time series plot showing changes in George's normalised F3 minimum and variation in past tense BE over the course of his interview, with moments of particular interest marked

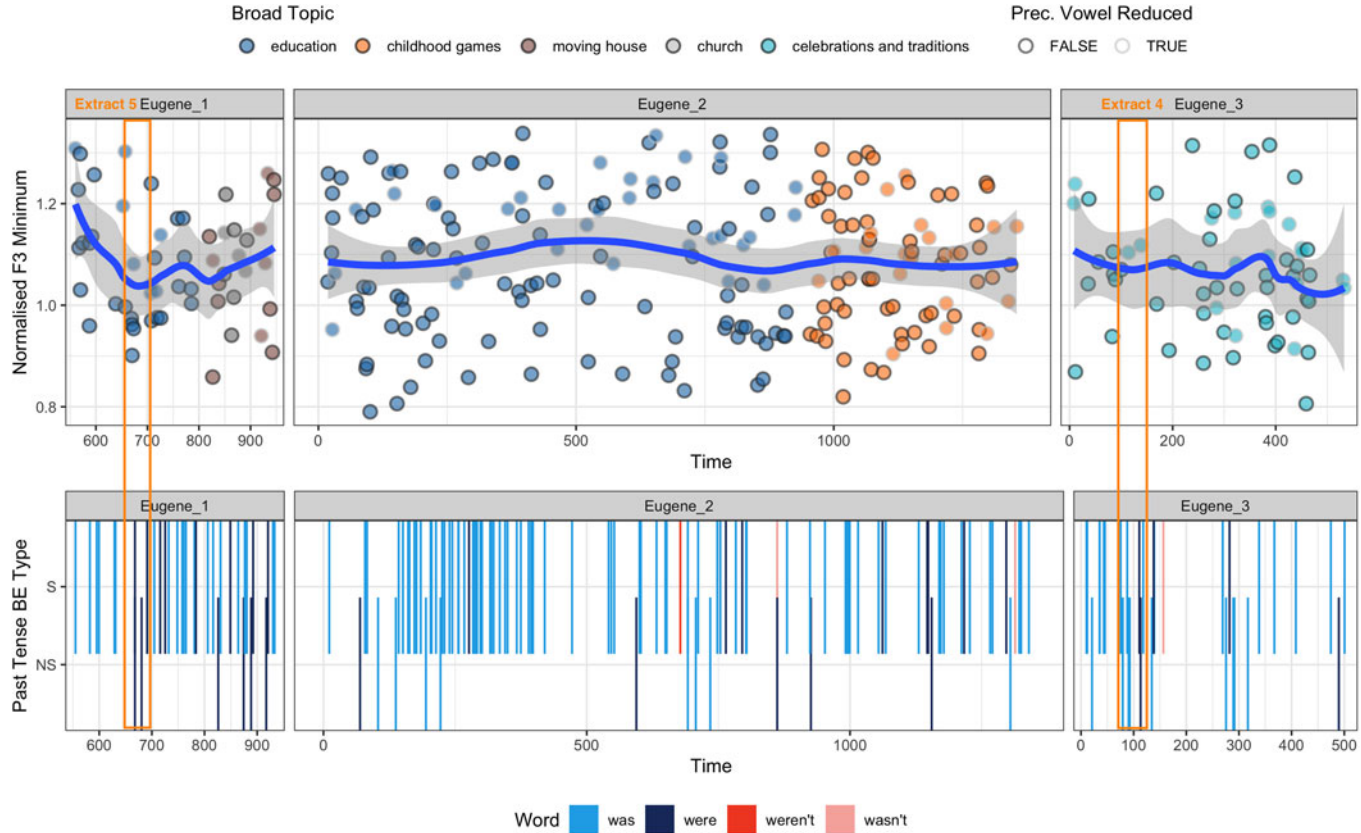


Figure 7. Time series plot showing changes in Eugene's normalised F3 minimum and variation in past tense BE over the course of his interview, with moments of particular interest marked

are not solely driven by ambiguity in number assignment. We have also excluded tokens of past tense BE with plural subjects following existential *there* (e.g. *there was at least forty*), as we assume NS tokens are unlikely to be doing the same indexical work as NS past tense BE in other contexts (see Moore 2011: 348).

In the following sections, we apply our modified LFI method to our oral history data. Having observed that rhoticity and NS past tense BE tend to occur at different points in the interaction, we ask: can a qualitative examination of the variation in interaction offer possible interpretations of this patterning?

6.1 Overall patterning

We begin by presenting a time series plot for each of the three speakers, showing the overall patterning of these two variables through the course of the interviews. These plots enabled us to identify points at which different variants clustered, or where speakers made a notable shift from one variant to another. This then contributed to, and shaped our focus in, the qualitative analysis of the interviews. The extracts we present in this article are marked in orange. With one notable exception (Extract 5), these are the points where NS past tense BE and rhoticity appear to diverge, with clusters of NS past tense BE tokens coinciding with low levels of rhoticity.

Figures 5–7 show the three speakers' time series plots for rhoticity and past tense BE. On each plot, the upper tiers show rhoticity. The individual tokens are shown as points, and the blue line is a LOESS regression line, which computes a locally weighted and smoothed curve through the points, showing general trends in minimum F3 throughout the interviews. Where it drops lower, this suggests tokens are generally more rhotic, where it is higher, tokens are less rhotic. The environment least favouring rhoticity, following reduced vowels, is shown with grey points. Tokens are also colour coded according to the broad topic of conversation at that point in the interview to give a sense of the structure and content of the interview. However, we suggest that it is more fine-grained shifts in stance which are important in relation to the speakers' variation. The separate 'panels' reflect either tape changes or a jump to the next transcribed section. The lower tiers show a binary distinction between the speakers' use of S and NS past tense BE. NS tokens are marked on the lower half of the tier, at the timepoints on the x-axis at which they occur. S tokens are marked on the upper part of the tier. The lines are also coloured according to the past tense BE word.

Across the three speakers, the pattern of non-cooccurrence that was found in the statistical analysis is evident, and we can see this in the wider patterning of rhoticity and past tense BE where the points of high rhoticity do not tend to coincide with increased use of NS past tense BE (we note one point of exception to this, marked as Extract 5 in figure 7, which we will return to in section 6.4). For example, towards the end of Arthur_1 (figure 5), F3 drops low, but there are no NS past tense BE tokens. Both rhoticity and NS past tense BE are variants which do not occur in England's most prestigious speech varieties and might therefore be broadly viewed as 'local',

‘nonstandard’ or ‘informal’ features. However, their lack of cooccurrence indicates that they are in some way different from one another. In the following sections, we consider how and why these variables differ. To investigate this further, we now focus in on the moments of interest marked on the plots in [figures 5–7](#).

6.2 *Rhoticity*

In Ryan, Dann & Drummond (2022), we focused on one of the three speakers, Arthur, and argued that for him, rhoticity has indexical links to respect for both the older generation and for tradition and older ways of life. This is perhaps not surprising, given that non-rhoticity was the incoming variant in his youth. For Arthur, rhoticity may therefore be associated with the older generation and with the older, traditional values they represent to him. At Arthur’s highest-rhoticity moments, he consistently enacts stances of respect for the older generation and traditional values. This general pattern also applies to Eugene and George, although it is clearest for Arthur, who is the most rhotic speaker overall, and has the most variable rhoticity. He is also the speaker who most frequently orients positively towards the older generation, tradition and older ways of life. This repeated stance-taking may partially account for his more variable rhoticity, and his heightened level of rhoticity overall.

In Ryan, Dann & Drummond (2022), we examined in detail the two highest-rhoticity moments in the data, both from Arthur. These were points where the regression line tracking minimum F3 dipped the lowest, accounting for the possible confounding effects of linguistic environment. In one, Arthur discusses discipline at his school, including the use of corporal punishment. In the other, he discusses how maternal relationships were less affectionate in his day, and how people were less sensitive in general. Arthur does not appear to view these childhood experiences as in any way traumatic. Indeed, he appears to nostalgically approve of corporal punishment and unemotional familial relationships. He describes the world of his childhood as being tough, but superior to the contemporary world of the 1980s, where people are too soft and emotional. As well as respect for the older generation and traditional values, there appear to be additional indexical meanings at play at these moments: toughness, resilience, working-class identity and masculinity.

In the present article, we have built upon this analysis with two additional speakers to create an indexical field for rhoticity in this context. In Eugene’s highest-rhoticity moment, the indexical links to toughness, resilience, working-class identity and masculinity appear to be particularly important. At the beginning of Eugene_1, he is relatively non-rhotic when talking about his life at home with his mother before starting school. His description of starting school is one of being plunged into a world of playground fighting and bullying, making these indexical links interactionally relevant, and this shift in tone and topic coincides with a notable increase in rhoticity (we return to this moment in section 6.4).

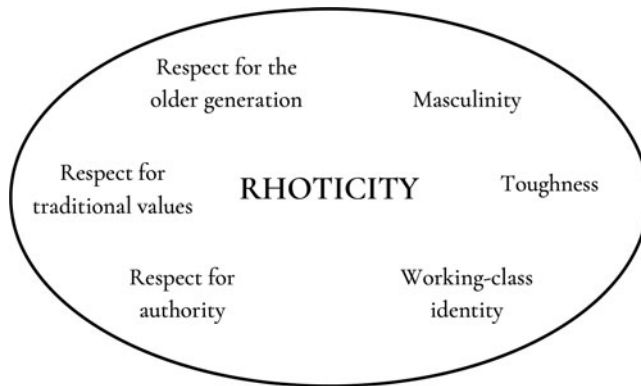


Figure 8. Proposed indexical field for rhoticity

Therefore, after considering the points in the interactions with particularly high or low levels of rhoticity, and examining the topics being discussed and orientations of the speakers, we propose the following ‘constellation of ideologically related meanings’ (Eckert 2008: 454) attached to the feature in this context (figure 8).²

6.3 *Past tense BE*

We now turn to the moments in the interviews where the speakers begin to use more NS past tense BE. In each of the extracts discussed in this section, increased use of NS past tense BE coincides with relatively low levels rhoticity, in line with the quantitative results presented in section 5. We ask whether, at these moments, they are consistently enacting particular interactional stances. If so, do these stances differ from those being enacted at moments of high rhoticity? Note that there are no stretches of talk where a speaker switches to exclusive use of NS past tense BE, only increased use of NS variants alongside S variants. We also consider moments when the speakers stop using NS past tense BE and look for possible explanations for this apparent avoidance. The moments we present by way of example are marked on the time series plots as extracts 1–5. In each extract, the NS forms are **emboldened**, and the S forms are underlined.³ In extract 1, Alec, the interviewer, asks Arthur about games and pastimes in school, at which point Arthur begins to use NS *were* alongside the S variant.

² The question remains whether each of these indexical associations is equally salient. Although this is a difficult question to explore using the methodology and dataset in the present article, it would be an interesting avenue for further study.

³ Transcription conventions used are as follows:

- (i) Pauses are marked with (.)
- (ii) Partial words are marked with ‘-’, e.g. ‘I can remember c- distinctly’
- (iii) False starts are indicated by ‘-’, e.g. ‘Yeah. I – there’s not a –’
- (iv) Non-speech sounds are transcribed in square brackets.

Extract 1

- 1 Alec: What sort of games or pastimes would you have at school?
 2 I – I don't mean organised,
 3 I mean within the sort of group of lads, that –
 4 Arthur: Oh it – it **were** just sitting and talking. [laugh] Chasing.
 5 A fight now and again. You know. Uhm.
 6 [unintelligible] the only thing that we had **were** football.
 7 They were all organised. Most games were organised.
 8 But you used to have a games afternoon you know. Even then.
 9 But you didn't have a – a – a games mister and master and mister.
 10 You know, there **were** one of them said, "right I'll do it,"
 11 and that was it, like St. Trinians, you know,
 12 "I'll be games mistress."
 13 Miss Smith **were** games mistress.
 14 She used to try and teach us how to play football [laugh]
 15 [laugh] dear me. She was great.
 16 "You mustn't push him like that!" [laugh]
 17 Ah, you know, they – they weren't r- it –
 18 it **were** just a matter of playing with a ball.

The stance that Arthur appears to be enacting here is one of rebelliousness, opposition to authority, toughness, playfulness and irreverence. He describes himself and his friends rebelling against the authority of the games mistress, breaking the rules in her presence ("You mustn't push him like that!" [laugh]', line 16) and mocking her (although he says, 'she was great', his laughter suggests a lack of respect, and amusement at her expense). His mentions of illicit pushing on the football pitch and 'a fight now and again' (line 5) hint at a world where playground violence is the norm, and toughness in the face of this everyday violence is expected. Arthur laughs about this playground violence, suggesting that it was a normal and accepted part of life. He is performatively casual about it, indicating that 'a fight now and again' was no big deal to him or his friends.

Extract 1 represents a moment where tokens of NS past tense BE cluster together in Arthur's speech. However, '[i]ndexical meaning can ... arise out of statistical commonality or single instances of use that are salient enough to gain meaning for speakers' (Kiesling 2009: 177). In other words, isolated instances of a linguistic feature can also be socially meaningful. In Arthur_4, he relates two incidents in which he and his friends stole food: once from American soldiers, and once from a local sweet shop. These acts of childhood rebellion are depicted as cheeky and playful, but also justified, in Arthur's eyes, by the injustice and inequalities which became apparent during World War II. On stealing from American soldiers, he says, 'they had everything you could think of that we couldn't buy. And they had i- in profusion. You know the – it were nothing to them.' This complaint goes against the discourse of patriotism and the 'Blitz spirit' often surrounding this period of British history. People were expected to

accept hardships in service of the war effort, and Arthur resists this. It is at a moment of resistance that NS past tense *BE* token occurs. Arthur then goes on to talk about stealing from a local sweet shop. This theft is justified in the same way, but at the same time Arthur laughs at the audacity of his childhood self. Laughing, he evaluates the incident by saying ‘I think that were treasonable, weren’t it?’ Again, NS *were/weren* *ɪ* occurred at a moment when rebelliousness and anti-authoritarianism are relevant. This second example in particular is also evocative of Snell’s (2010, 2018) discussion of NS morphosyntax, where NS forms were often used ‘to construct stances of stylised negative affect of transgression, often tempered by playfulness or a lack of commitment to the utterance’ (Snell 2018: 21). Here, Arthur may also be using NS *were/weren* *ɪ* to temper and add a playful tone to the severity of his act of ‘treason’.

In extract 2, Arthur’s tone is playful and irreverent, as he tells Alec another anecdote highlighting the toughness of his childhood. Here, it is toughness in the face of unplanned tooth extractions in the school staff room. Again, Arthur is performatively casual about these (potentially traumatic) memories, suggesting that to his generation, experiences like this were a normal part of childhood.

Extract 2

- 1 Arthur: But then of course, them days they whipped them out
 2 if there **were** owt wrong [laugh]
 3 Alec: What there and then?
 4 Arthur: Mostly yeah! Needle and (.) out.
 5 There was a cloak room.
 6 There was a staff room where the dentist used to go.
 7 Next to it was the boys’ cloak room.
 8 If anybody **were** having any out, (.) [laugh]
 9 they’d all go and sit in there and –
 10 it **were** – it was mournfully – like a mortu-
 11 they were all sat there, b- chins down, [laugh] steadily –
 12 you know. [laugh]
 13 Oh dear me. It wasn’t unusual for somebody to go,
 14 “I’m going home!”
 15 And away they went! [laugh]

After this point, Alec changes the subject and asks him about the structure of his school. From there, Arthur uses only the S variant, and continues to do so for the following ten minutes, while the focus of the interview remains on the life in the classroom, exams, the school curriculum and discipline at school. Throughout the interview, Arthur tends to avoid using NS *were* when enacting positive stances towards education (for a more detailed discussion of Arthur’s orientation to education, see Ryan, Dann & Drummond 2022). This is perhaps unsurprising given that standard language ideologies tend to be pervasive in classroom environments, and Arthur may have been actively discouraged

from using NS features in the classroom. It appears that NS *were* may be particularly incompatible with positive stances towards education. This may be, as we propose, because it has indexical links to rebelliousness and opposition to authority.

Like Arthur, George also uses very few tokens of NS *were* when talking positively about his experience in school. In extract 3, Alec asks George about the period immediately after he left school, when he began working in his dad's butcher's shop. In this section he begins using NS *were* alongside the S variant.

Extract 3

- 1 George: Oh, well – well I was hanging about. (.) Sort of looking for a job.
 2 Uh, I was in the shop.
 3 There **were** no such thing as, uh, playing about in those days.
 4 If you weren't at school, uh you had to be doing something [breath]
 5 that was, uh, well, uh, using your brains or – or your hands.
 6 Uh, you hadn't to be idle, as such. Not to me, anyway.
 7 What the other lads did, I don't know,
 8 because I was only interested in my own.
 9 Alec: Well, would your father be paying you at that –
 10 George: No, no. No I wasn't being paid, no. I was just [breath] being kept
 11 uhm, sort of, uh, learning.
 12 As long as I was learning something, he wasn't bothered.
 13 As long as I **were** learning.

George's move towards NS *were* coincides (in the narrative of the interview) with his move away from formal education, and into an occupation where he may have been less exposed to standard language ideologies. Here and elsewhere, in George's interview and in Arthur and Eugene's interviews, the use of NS *were* also tends to coincide with moments where the speakers highlight the toughness of life in those days, and the toughness and resilience expected of their generation, for example, 'there were no such thing as, uh, playing about in those days' (line 3).

In extract 3, the link between NS *were* and rebelliousness is not as clear as it is in extract 1. However, elsewhere in the interview, George makes it clear that he had a difficult relationship with his father, which often involved conflict. There may be an undercurrent of this tension running beneath this excerpt: when he says 'you hadn't to be idle, as such. Not me, anyway' (line 6), there is perhaps an implication that his father put pressure on him to begin working in the butcher's shop instead of pursuing the engineering career that he mentions earlier in the interview. Therefore, NS *were*'s indexical links to rebelliousness and opposition to authority may also have underlying relevance in this extract.

As noted in section 4, the only one of the three speakers to frequently use NS *was* in non-existential contexts is Eugene. When he does so, it appears that the indexical links may be similar to those of NS *were*. In extract 4, for example, Eugene tells Alec about Empire Day, an annual celebration of the British Empire with events across the country,

including in Eugene's school. In the previous section of the interview Eugene uses only the S variants, but here he begins to use NS past tense BE (both *was* and *were*) alongside the S variants.

Extract 4

- 1 Eugene Well we still had an empire, a- and everybody was proud of it.
 2 'Cause you **was**, uh, [breath] you **was** taught at school,
 3 or brainwashed, into being proud of this empire.
 4 Never did us any good at all but, uh – [breath]
 5 It was only the empire for the rich in my opinion.
 6 [breath] (.) But we **was** really proud of it.
 7 And er, (.) [breath] we **was** proud of the history.
 8 And the achievement that had been done, uh, in the past years.
 9 All at a terrible expense to the, uh. (.)
 10 to the poorer class in my opinion.
 11 And uh, (.) [breath] I really ca- (.) [breath] I know they were –
 12 (.) [swallow] there **were** a bit of a day that, er,
 13 it was kept up and made a little bit of.

Like extract 2, extract 4 is about education. However, while in extract 2 Arthur orients positively towards education, in extract 4 Eugene orients negatively towards this specific aspect of his. He appears to be enacting a stance of rebelliousness and opposition to authority: both the authority of his teachers ('you was taught at school – or brainwashed', lines 2–3) and the authority of the state ('it was only the empire for the rich in my opinion', line 5). Eugene's working-class identity is also very relevant in this extract, as he implicitly places himself with 'the poorer class' (line 10) in opposition to 'the rich' (line 5). His stance-taking coincides with an increase in the use of NS past tense BE. Note that Eugene's stance in this extract is similar to Arthur's when he rails against material inequalities during World War II ('they had everything you could think of that we couldn't buy [...] it were nothing to them'). This may indicate that NS *was* has similar indexical possibilities to NS *were*.

These extracts are illustrative of wider patterns in the data, where, across all of three interviews, the use of NS past tense BE tends to align with a set of specific stances. Extrapolating from this, we sketch an indexical field for NS past tense BE (figure 9), incorporating the variety of related social meanings that appear to be linked to this feature in this context.

6.4 Interpreting the pattern of non-cooccurrence

Observing the alignment of NS past tense BE and rhoticity with the enactment of particular interactional stances, we have sketched an indexical field for each of the features. Figure 10 shows how these indexical fields may interact with each other.

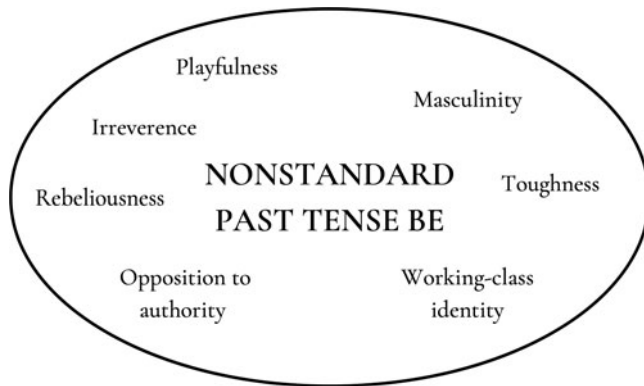


Figure 9. Proposed indexical field for nonstandard past tense BE

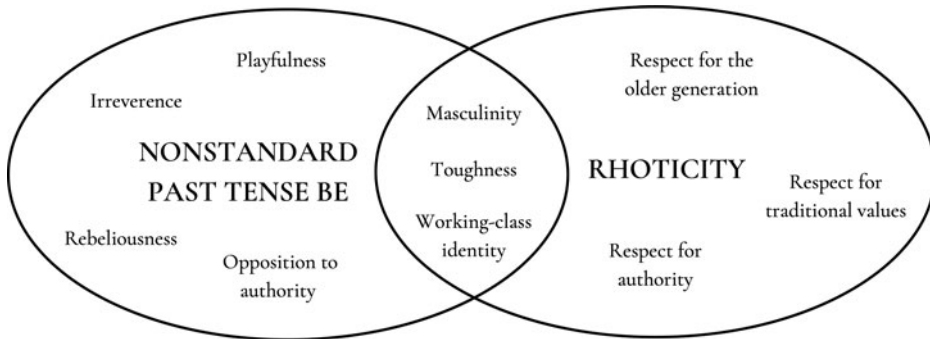


Figure 10. Proposed indexical fields for rhoticity and past tense BE

We suggest that, in this data, the indexical fields of rhoticity and NS past tense BE overlap, with both having potential indexical links to toughness, resilience, masculinity and working-class identity. However, each also carries additional indexical meanings which are potentially in conflict with each other, a potential conflict which may help to explain the pattern of non-cooccurrence we see in the data. It could be that rhoticity and NS past tense BE don't tend to cooccur because when a speaker is enacting a stance of rebelliousness and opposition to authority, they are likely to avoid a feature which has the potential to index respect for authority and the older generation; and vice versa. This isn't to say that rhoticity and NS past tense BE can never cooccur (indeed, there are rhotic tokens of NS *were/weren't* in this data) – just that from an orientation or stance-taking perspective, they may not be entirely compatible with one other, arguably leading to the pattern of non-cooccurrence indicated by the statistical analysis in section 5. There is one moment in the data where a point of heightened rhoticity *does* cooccur with heightened use of NS past tense BE. Extract 5 shows this moment.

Extract 5

- 1 Eugene Well, I went to – went to school and, uh (.) come play time,
 2 you go out at the play time and there's a – a row of lads,
 3 [breath] and each one in their turn used to come
 4 and touch you like that
 5 and say, “can I fight thee?” (.) [breath] And if you said, uh,
 6 “no”, you'd have a set to [laugh]. So – [laugh]
 7 I **we-** I **were** terrified at first, they were –
 8 seeing this line of, er, kids all waited their turn [breath]
 9 to touch me, [breath] uh, that's the touch, (.) “can I fight thee?”
 10 Something like that, (.) they said.
 11 And (.) it **were** er – (.) trying to intimidate you, you see.
 12 And (.) [breath] it went on in those days, in t-
 13 in school like, intimidation. (.) [breath] A- you'd be surprised.
 14 But, uh, once you were accepted it was alright.

In this excerpt, Eugene highlights the toughness required of their generation, and the concept of masculinity appears to be relevant. However, at this moment, he does not appear to be enacting a stance of rebelliousness and opposition to authority, and he does not appear to be enacting a stance of respect for authority and the older generation. Although he is talking about fighting in the playground, which we might expect to be linked to rebelliousness or opposition to authority, the sense is that this was fighting he was forced to engage in without choosing to: an unwilling participant, rather than a rebellious child breaking the rules out of choice. We suggest that, in this extract, not all the potential meanings of rhoticity and NS past tense BE are brought to the fore, allowing the two features to cooccur. Therefore, the cooccurrence of rhoticity and NS past tense BE is possible, but rare, because when the concepts of toughness and masculinity are made relevant, the other, conflicting indexical meanings of the two variables frequently also come into play.

7 Discussion and conclusions

In this article, we analysed rhoticity and past tense BE use amongst three speakers from Oldham in a 1980s oral history archive. We first quantitatively explored the overall patterning of variation between the speakers, as well as how this is influenced by a variety of linguistic constraints. We then considered how the two features cluster together, first by testing statistically whether NS tokens of *were/weren* *t* were more or less likely to be rhotic, and then through a qualitative analysis of the most extreme points of rhoticity/non-rhoticity and S/NS past tense BE. We found a pattern of non-cooccurrence, where NS past tense BE and rhoticity tended to cluster at different points in the interaction. By taking a third-wave approach to the analysis, we were able to demonstrate

that this pattern may have been driven by the variants' contrasting indexical fields. We discuss our interpretations and the implications of these findings below.

The results of this analysis suggest that this approach of simultaneously analysing the function of two different levels of grammar in interaction is particularly effective when working with archival speech. Where both ethnographic (e.g. Eckert 2000; Drummond 2018; Ryan 2018) and experimental (e.g. Campbell-Kibler 2007) approaches have been very effective at exploring the role of social meaning in phonological variation and change, this is very difficult to do with completed and near-completed sound changes. Here, considering rhoticity and past tense *BE* together helped us to shore up our interpretations of the patterns we saw for rhoticity. The function of NS past tense *BE* in interaction was, as suggested by Moore (2021), relatively easy to interpret from the discourse context. Where NS past tense *BE* tended to coincide with stances of playfulness, rebelliousness and opposition to authority, the pattern of non-cooccurrence provided support for our finding that rhoticity is often used where stances of respect for 'the older way of doing things' were enacted (see Ryan, Dann & Drummond 2022). We also found that in exploring the point at which rhoticity and NS *were* did cooccur, analysing these variables in tandem allowed us more nuanced insight into the specific *types* of masculinity indexed by rhoticity.

We suggest that the pattern of non-cooccurrence is driven by the status of the two variables as stable versus shifting, as well as their relation to prescribed standard English. This analysis suggests that changes in progress that are not overtly prescribed may be particularly likely to accrue social meanings linked to the past. In 1980s Oldham, the loss of rhoticity was a change in progress (Leemann, Kolly & Britain 2018). We suggest that as the older variant dies out in the speech of the younger generations, it may have acquired associations with the older generation, and the older, traditional ways of life they represent. Its additional indexical links with toughness, resilience, masculinity and working-class identity may have been acquired as the variable began to distinguish the speech of the local community from the non-rhotic speech of the surrounding areas, and of Received Pronunciation. In the case of NS past tense *BE*, the situation is different, as evidence suggests that it is a stable variable, not a change in progress (Moore 2011). As a result, and in combination with its status as NS grammar as discussed below, NS past tense *BE* was potentially more able to develop associations with youthful rebellion.

It is likely that overt prescriptivism shaped the meanings NS past tense *BE* could have. Eckert (2019: 758) notes that the stratification and overt prescription of morphosyntactic variables such as past tense *BE* lead to 'quite fixed social meanings to do with class and ethnicity'. As a result, she argues that their indexicalities emerge from 'particularly institutional (beginning with educational) orientation, and on to qualities and activities associated with this orientation' (Eckert 2019: 758). In some ways, our article aligns with this argument, as the indexical meanings of NS past tense *BE* in this dataset generally appear to be associated with anti-authority stances. However, this does not tell the entire story. We discussed several examples where NS past tense *BE* appeared to be used in enacting a stance of a kind of playful toughness. For example, where Arthur laughingly tells a story about unplanned tooth extractions at school. While it is likely

that this feature's association with toughness may be linked to its misalignment with standard language ideologies, and resultingly anti-institutional personas and stances, the particular playfulness of Arthur's usage is indicative of more nuanced meaning-making. This is potentially indicative of Snell's (2010: 650) discussion of a 'circular chain of indexicality', where 'meaning flows from local interactional stances to styles, personas and macro-level identity categories, and then back to local interactional use'. While standard language ideologies may have fed into the chain of indexicality, they do not limit the indexical potentials of this variant. Discouragement from using NS past tense BE in, e.g., educational settings may well be related to its use in anti-authoritarian stances, but we suggest that the meaning associated with the variant is not fixed but fluid, with speakers having the ability to build on, alter and change these meanings through usage. The ideology of rebelliousness is related to ideologies of toughness and playfulness, which are likely to often be relevant in the same interactional moments and stances. Over time, the variant may gather additional meanings through its use in interaction.

In summary, this article has employed analysis of linguistic variable clustering across two levels of grammar (phonology and morphosyntax) to explore the social meaning of rhoticity and NS past tense BE in 1980s Oldham. This approach was particularly effective for the analysis of sound changes near completion in archival data, where neither ethnographic nor experimental methods could be used to elucidate the social function of these variables. We found that both the status of these variables as stable and shifting and their relationship to prescribed standard English influenced their meaning in nuanced ways in interaction. Our analysis supports Moore's (2021) suggestion of a more integrated approach to the study of social meaning across multiple levels of grammar, and demonstrates the effectiveness of applying contemporary methods of analysis to non-contemporary data in order to further our understanding of meaning-making processes.

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