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Abstract

This paper, based on a community study of 100 speakers, aged 8-90, representing the socioeconomic spectrum of the city, reports on the extent to which the dialect of Charleston, South Carolina, has been affected by the defining characteristic of Southern phonology, that is, the Southern Shift. The shift consists of the monophthongization of /ay/ (PRICE) and of the laxing and lowering of the nuclei of the front upgliding vowels /iy/ (FLEECE) and /ey/ (FACE) (Labov, Ash and Boberg 2006).

The degree of /ay/-monophthongization is measured impressionistically for 100 speakers. This is supplemented by a rapid and anonymous survey conducted in downtown Charleston, in which tokens of /ay/ were elicited by asking passers-by the time of day at around 5:25 pm. The second linguistic variable is the laxing and lowering of the nucleus of the front upgliding vowel /ey/ (FACE), which was measured acoustically as the distance between the nuclei of /ey/ and /e/ (DRESS) and their relative positions in phonetic space for 43 speakers.

These results were subjected to a series of multiple regression analyses in which the age, gender, and social class of the speakers were entered as independent variables. The level of /ay/-monophthongization in Charleston is very low in comparison with the Inland South. It is inversely correlated with social class. Age is also a significant factor: /ay/-monophthongization appears to be decreasing in apparent time. There is very limited laxing and lowering of /ey/ (FACE) in Charleston in comparison with the Inland South. Similarly, social class and age are correlated with this feature, indicating that the Southern Shift is in retreat, and confirming the results of other studies, such as Labov, Ash, & Boberg (2006), Fridland (1999, 2001), and Thomas (2001). In conclusion, Charleston shows little involvement in the Southern Shift and as such remains a marginal Southern dialect.

The study provides evidence for the lack of a structural relation between the chain shifting of the front upgliding vowels (the Southern Shift), also found in a number of other English dialects, such as Cockney, Australian English, and New Zealand English, and the fronting of the back upgliding vowels /uw/ (GOOSE), /ow/ (GOAT). Charleston is a dialect which resists the Southern Shift, though it is in close contact with dialects affected by it; yet it shows advanced fronting of /uw/ and /ow/. Furthermore, while the highest-status social group is leading in the fronting of the back upgliding vowels (Baranowski 2006), it lags behind the rest of the community in the chain-shifting of the front upgliding vowels, which is in turn most advanced in the lowest social class. This provides support for treating the two processes as separate phenomena.

Cover Page Footnote

I would like to thank Bill Labov, Sherry Ash, Corky Feagin, Gillian Sankoff, Peter Trudgill, and Malcah Yaeger-Dror for comments and advice. Support from the British Academy is gratefully acknowledged.

The Southern Shift in a marginally Southern dialect

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1 Introduction

Charleston, South Carolina's dialect has been long known for a very distinctive sound system: Its traditional form was different not only from most Northern dialects of American English, but also from the rest of the South. Among the distinctive features of the dialect were a lack of distinction between the vowels in *beer/bear*, *fear/fair*, etc., Canadian Raising for both /ay/ and /aw/, and monophthongal and ingliding long mid vowels; both front, as in *pay* and *paid*, and back, as in *day* and *date* (Kurath and McDavid 1961; McDavid 1955; Primer 1888).

Over the last few decades, these distinctive features have largely disappeared (Baranowski 2006, 2007; O'Cain 1972). This retreat is not entirely unexpected, as it seems to be part of a process operating in both North America and Europe known as dialect leveling, or, as it is often referred to in American English, regionalization, whereby the small local dialects are disappearing and becoming part of the larger regions. One might expect then that as Charleston becomes regionalized, it is becoming part of the South phonologically, but this is not what seems to be happening. It turns out that the dialect still lacks the defining feature of Southern phonology, that is, a set of structurally connected vowel shifts known as the Southern Shift (Figure 1), and in that it is not becoming part of the South but of something new entirely.

The shift begins with the monophthongization of /ay/, which leaves the subsystem of front upgliding vowels and in this way triggers the laxing and lowering of the other front upgliding vowels, beginning with /ey/, as in *bait*, and then followed /iy/, as in *beat*. This is accompanied by the tensing and raising of the short front vowels, whose nuclei become tense and ingliding, along a peripheral track. There is no evidence of Charleston's traditional dialect showing any of these features, and now that the distinctive traditional system has largely disappeared, one interesting question is if and to what extent the dialect has been affected by the Southern Shift. In trying to answer this question, we shall focus on the two most important elements of the shift: /ay/-monophthongization, the triggering event for the whole shift, and the laxing and lowering of /ey/.

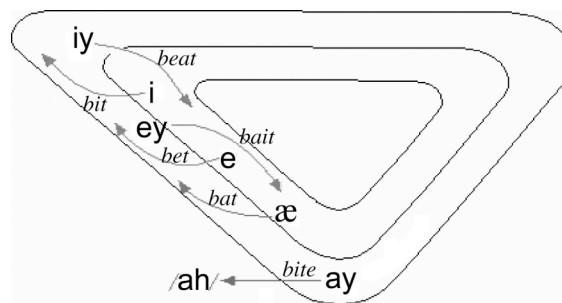


Figure 1: The Southern Shift

2 Methods

This report is based on the speech of 100 speakers aged 8 to 90 representing five social classes covering the socio-economic spectrum of the city (see Baranowski 2007). They were recorded during sociolinguistic interviews, and 43 speakers have been acoustically analyzed, using the normalization proposed by Nearey (1977). A rapid and anonymous survey for /ay/-monophthongization was also conducted in downtown Charleston, in which tokens of /ay/ were

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elicited by asking passers-by the time of day at around 5:25 pm.

The degree of /ay/-monophthongization is measured impressionistically for 100 speakers; the rate obtained for each speaker is the proportion of clearly monophthongal tokens (before a voiced consonant and word finally) to the total number of /ay/ tokens in those environments produced during the interview. The degree of /ey/-laxing and lowering is measured acoustically and is described further below. The results obtained for the two variables have been subjected to a series of multiple linear regression analyses in which the age, gender, and social class of the speakers were entered as independent variables; only those factors which are significant are reported below.

3 Monophthongization of /ay/

The average level of /ay/-monophthongization before voiced obstruents and word finally is very low at 6.2%. Importantly, for the vast majority of sampled speakers, there are no monophthongal tokens of /ay/, that is, the rate of /ay/-monophthongization is 0% (Figure 2). A very similar result was obtained from the rapid and anonymous survey conducted in downtown Charleston. A total of 52 tokens of /ay/ were elicited: 30 from women and 22 from men. Only one of those produced by women was monophthongal (3.33%), and two of the ones produced by men (9%), which results in the rate of 5.8% for the whole sample. Given the complementary sources of error of the two methods of elicitation, the sociolinguistic interview and the rapid and anonymous survey obtaining very similar results, both showing a very low level of /ay/-monophthongization, gives us added confidence in the accuracy of the findings.

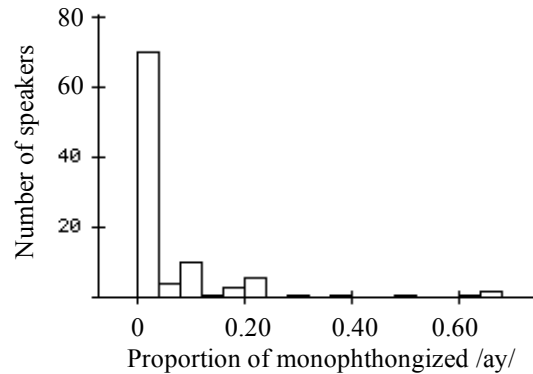


Figure 2: Rate of /ay/-monophthongization before voiced obstruents (*tide*) and word-finally (*tie*)

In addition, these results corroborate the findings of the *Atlas of North American English* (Labov, Ash and Boberg 2006, henceforth ANAE). Map 18.2 of ANAE shows how the lack of /ay/-monophthongization sets Charleston apart from the rest of the South: The three Charleston informants seen in the map show no /ay/-monophthongization, as opposed to close to between 50% and 100% monophthongization shown for the rest of the South. The present study confirms this result, emphasizing the effectiveness of the ANAE methods in capturing the character of a city of a hundred thousand inhabitants with just three or four speakers. Larger samples are of course needed to obtain information on any social conditioning involved, that is, the role of social factors such as gender, social class, age, etc. This way we can find out if the variable in question is undergoing change, and if so, who is leading it and in what direction.

Regression analysis reveals that two social factors play a role in the level of /ay/-monophthongization in Charleston: age and social class (Table 1). The value of the age coefficient is positive, indicating that the level of /ay/-monophthongization is decreasing in apparent time: for each successive generation of 25 years the rate of monophthongization can be expected to fall by 4.8%. This decrease in apparent time is consistent with the ANAE for the South as a whole, where /ay/-monophthongization has also been found to be falling in apparent time at the rate of 12.7% per 25 years. Similar results have been reported by Fridland (1999, 2001) for the Southern Shift in Memphis and by Thomas (2001). The Southern Shift appears to be slowly receding.

R^2 (adjusted) = 11.5%

Variable	Coefficient	<i>p</i> -value
Constant	0.098	0.0058
Age × 25	0.048	0.0259
Social class	-0.031	0.0007

Table 1: Analysis of /ay/-monophthongization before voiced obstruents and word-finally

There is also a social class effect. The coefficient is negative, indicating that the higher the social class, the lower the level of /ay/-monophthongization expected. The effect is fairly weak, as the expected difference between the lowest and the highest of the five social classes is 15%, but it does suggest that that phonological features characteristic of the South, such as the *pin/pen* merger (Baranowski 2007) and /ay/-monophthongization, can be expected to be highest in the lowest-status social group, or that the highest-status social groups lag behind in the acquisition of marked Southern features such as /ay/-monophthongization.

Figure 3 presents the mean rates of /ay/-monophthongization for each of the five social classes. The level of /ay/-monophthongization is generally very low, but it is slightly higher for the two lowest-status social groups. Figure 4 presents the distribution of the 100 speakers across ages and social classes (working combined with lower-middle, and upper-middle combined with upper class). There is a clear downward trend in apparent time, and most speakers are at 0%. While there are quite a few speakers who do show some /ay/-monophthongization, for most of them it is below 35%. As indicated by the regression analysis above, they tend to represent the lowest-status social group: The four outliers in Figure 4 are working-class Charlestonians. Even for this social group, however, there is a downward trend in apparent time.

The phonetic realization of /ay/ in Charleston is different from that of most other dialects of American English. The rates of monophthongization before voiced obstruents and word finally discussed above are based on the proportion of tokens which are clearly monophthongal. While the other tokens are not steady monophthongs, they do not show the full upglides common in non-Southern dialects, either. At the same time, they are also rather different from the most common realizations found in the South, that is, monophthongs (as in the speech of Steve S. in Figure 5) or, less commonly, shortened glides. For Charlestonians, the majority of /ay/ tokens at end of a word or before a voiced obstruent have an exceedingly long nucleus, followed by a short but distinct upglide, as in the speech of Kate A. in Figure 5.

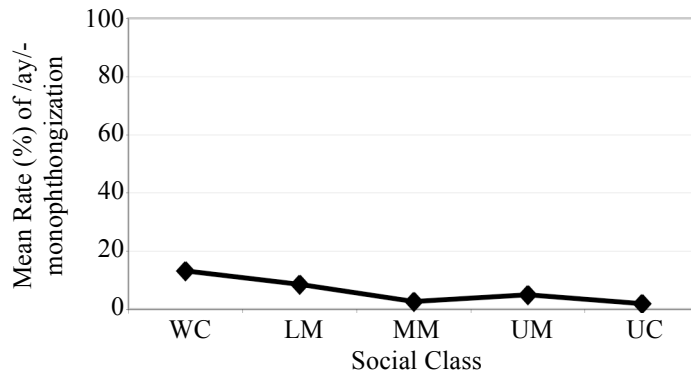


Figure 3: /ay/-monophthongization before voiced obstruents and word-finally by class

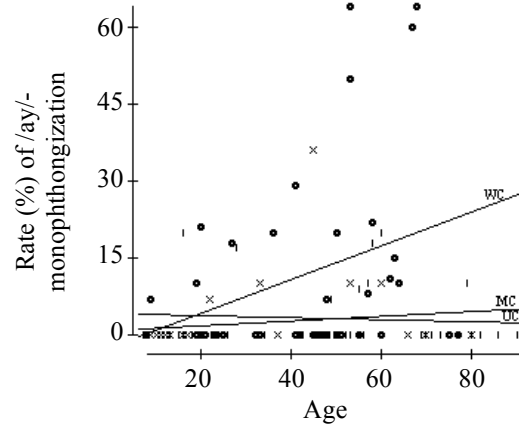


Figure 4: Proportion of /ay/-monophthongization before voiced obstruents and word finally vs. age for 3 social classes; Working Class: circles, Middle Class: crosses, Upper Class: bars.

At the same time, Charleston shares the allophonic conditioning of /ay/ found in most of the South in that there is a distinction between /ay/ before voiceless consonants, and before voiced consonants and word finally. With the exception of the region known as the Inland South (ANAE: Map 11.5) and lower-class speakers throughout the South (Bernstein, Gregory and Bailey 1993, Feagin 1994), there is usually no /ay/-monophthongization before voiceless consonants; the vowel upglide is present. This is the realization in Charleston as well, and it differs from the realization of /ay/ word finally and before voiced obstruents in that the glide is more pronounced and the nucleus is shorter. This can be seen in the spectrogram of the word *sight* as pronounced by Kate A. (Figure 6): There is a clear and distinct upglide, and the vowel nucleus is much shorter when compared with her pronunciation of *tide* in Figure 5.

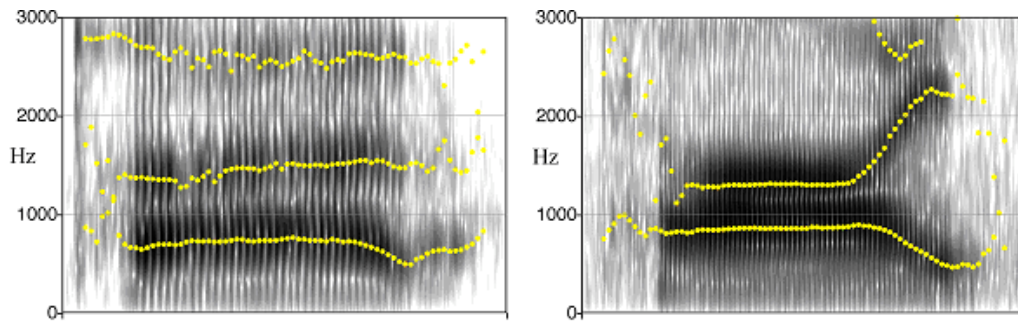


Figure 5: *tide*; left: Steve S., 42, Greenville, S.C., lower-middle class; right: Kate A., 42, Charleston, lower-middle class.

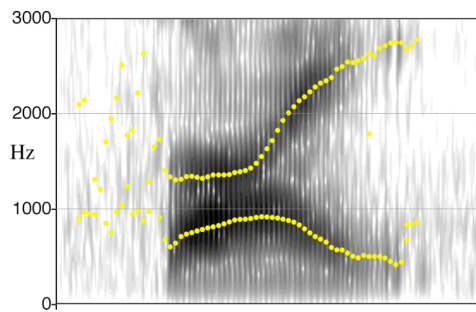


Figure 6: Kate A., 42, Charleston, lower-middle class: *sight*.

4 Laxing and lowering of /ey/

The monophthongization of /ay/ triggers the laxing and lowering of /ey/, which moves to low position, formerly occupied by /ay/, which is no longer an upgliding vowel (Figure 1). In their canonical positions, the nucleus of /ey/ is higher and fronter than /e/. The positions of the two vowels can be reversed in the speech of an advanced Southern Shift speaker, with /ey/ being lower and backer than /e/—this is Stage 2 of the Southern Shift (ANAE: Ch. 18). While for a few speakers in the sample there is overlap or even reversal of the positions of the two vowels (for example, Christine D., in Figure 7), for the vast majority of the informants the two vowels are in their canonical positions, with little evidence of any laxing and lowering of /ey/, as in the speech of Vincent J. (Figure 8).

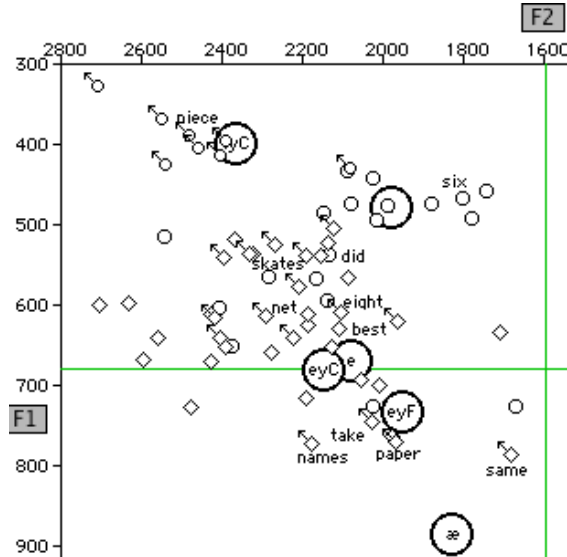


Figure 7: Christine D., 57, Charleston, working class: /e/ as in *pet*, and /ey/ as in *pay*, *date*

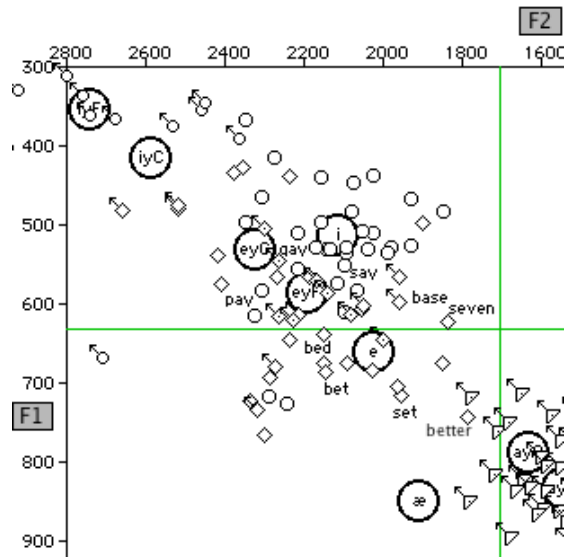


Figure 8: Vincent J., 33, Charleston, SC, lower-middle class: /e/ as in *pet*, and /ey/ as in *pay*, *date*

The relative positions of the two vowels and the distance between them in phonetic space can be expressed quantitatively for each speaker by means of the EEY measure (ANAE: 251) determined according to the following formula: $EEY = (F_2(/e/) - F_2(/ey/)) + (F_1(/ey/) - F_1(/e/))$. The value of the EEY index is negative when the vowels are in their canonical positions, it is positive when /ey/ is fronter and higher than /e/, and it equals zero when the two nuclei overlap.

Figure 18.6 of ANAE shows the distribution of the EEY measure across Southern and non-Southern speakers. The Southern speakers show a positive mode around 250, whereas speakers from the rest of the country show a negative mode of -450. The value of EEY is positive (the positions of the two vowels reversed) for 58% of the speakers in the South, whereas it is negative for only 1.6% of speakers in the rest of North America. In other words, for the vast majority of speakers from outside the South, /ey/ is higher and fronter than /e/.

As Figure 9 shows, this is also the case for Charleston: EEY for /ey/ in open position (*pay*, *day*, etc.) is only positive for 20% of the speakers and EEY for /ey/ in checked position (*paid*, *date*, etc.) is only positive for 7% of the speakers whose speech has been analyzed acoustically. In other words, for most Charleston the two vowels show a pattern opposite to the one found in the South.

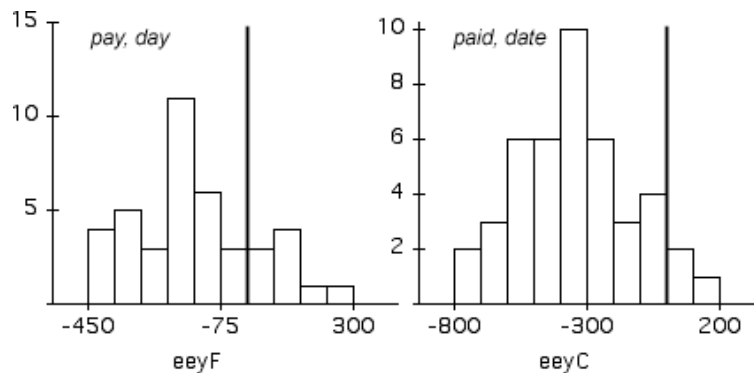


Figure 9: Distribution of EEY measure for 43 Charleston speakers; left: /ey/ in free position, as in *pay*, *day*; right: /ey/ in checked position, as in *paid*, *date*. y axis: number of speakers.

Some speakers in Charleston seem to be rather different then, in that for them the two vowels either overlap in phonetic space or are even reversed in their positions, displaying a pattern commonly found in the rest of the South. It turns out that their distribution is not entirely random, as age and social class play a role in the extent of the laxing and lowering of /ey/. The positive value of the age coefficient (Table 2) indicates that the Southern Shift, however little advanced in Charleston overall, is receding in apparent time. With each successive generation of 25 years, the EEY measure can be expected to fall by around 187 Hz. This downward trend in apparent time can be seen in the scatterplots in Figures 10 and 11, showing the oldest speakers to have the most overlap between the two vowels, or in other words, the most advanced laxing and lowering of /ey/. Social class emerges as another significant factor in the relative positions of /e/ and /ey/. The social class coefficient is negative, which means that the higher the social class, the lower the expected value of EEY, that is, the higher the social class, the less affected it is by the Southern Shift.

R^2 (adjusted) = 55.5%		
Variable	Coefficient	p-value
Constant	-421	< 0.0001
Age × 25	187	< 0.0001
Social class	-58	0.002

Table 2: Regression coefficients for EEY (/eyC/, as in *paid*, *date*) for speakers up to 65.

Table 3 presents the results of the regression analysis of EEY for /eyC/ which considered social class as three separate factors: working class (as the residual; combined with the lower-middle class), middle class, and upper class (combining upper-middle and upper class). The negative coefficient of -165 Hz means that members of the upper-middle and upper classes can be expected

efficient of -165 Hz means that members of the upper-middle and upper classes can be expected to have the EEY measure lower by 165 Hz in comparison with the working class in Charleston, again showing that the highest-status social groups are least affected by the Southern Shift.

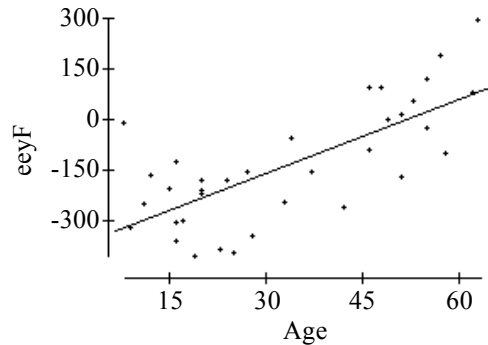


Figure 10: Scatterplot of EEY for /eyF/, as in *pay*, *day*, against age up to 65

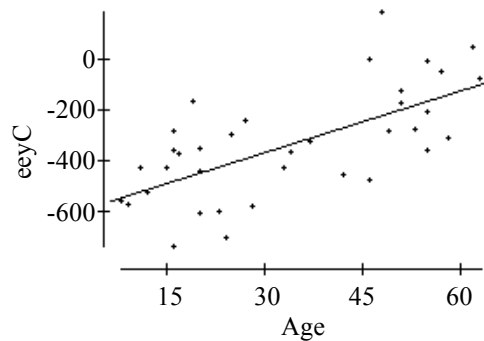


Figure 11: Scatterplot of EEY for /eyC/, as in *paid*, *date*, against age up to 65

R^2 (adjusted) = 55.1%		
Variable	Coefficient	p -value
Constant	-543	< 0.0001
Age \times 25	200	< 0.0001
Upper Class	-165	0.002

Table 3: Regression coefficients for EEY (eyC, as in *paid*, *date*) for speakers up to 65

In summary, the level of /ay/-monophthongization in Charleston is very low in comparison with the Inland South. It is inversely correlated with social class, with the lowest-status group showing the highest rate of this feature. /ay/-monophthongization is decreasing in apparent time, even for the lowest social class. There is only limited laxing and lowering of /ey/; this feature is also decreasing in apparent time, indicating that the Southern Shift is in retreat. Finally, the laxing and lowering of /ey/ is most advanced in the lowest social class, as is /ay/-monophthongization, which provides suggestive evidence for a causal link between the two elements of a shift: the triggering event and the structural consequences. The social groups that have the lowest level of /ay/-monophthongization also happen to show the lowest level of the laxing and lowering of /ey/.

5 The Southern Shift and the fronting of back upgliding vowels

The regionalization of Charleston has resulted in the loss of the traditional features, but it has not led to it becoming part of the South phonologically. However little Charleston may have been affected by the Southern Shift, it is losing it and is becoming part of an emerging super-region called the Southeastern (ANAE: Map 11.11). The region is defined by the lack of marked Southern fea-

tures, such as /ay/-monophthongization before voiced obstruents and word finally, and, most important, by the advanced fronting of /ow/, as in *so* and *goat*.

Charleston with its sound changes provides evidence for the lack of a structural connection between the Southern Shift, defined as the laxing and lowering of the front upgliding vowels, and the fronting of the back upgliding vowels, /uw/, /ow/, and /aw/, as in *goose*, *goat*, and *mouth*, respectively. This fronting process is found in many, if not most, dialects of English today, and it usually occurs at the same time as the chain shift involving the front upgliding vowels, that is, the Southern Shift. Charleston is also affected by this fronting process and is very much at the forefront of it in comparison with most other dialects of North American English (Baranowski 2007). The South as a whole is also very advanced (ANAE: Ch. 12). Charleston shares with it the advanced fronting of /uw/ and /ow/, yet it lacks the defining Southern characteristic, i.e., the chain shift of the front upgliding vowels (the Southern Shift).

Furthermore, the social distributions of the two processes are rather different. The fronting of /uw/ and /ow/, which is a very recent but very vigorous change in the Charleston, is being led by the highest-status social group (Baranowski 2006), as shown in Figure 12. But that is the group that is least advanced in the Southern Shift, that is, the chain shift of the front upgliding vowels, triggered by the monophthongization of /ay/.

In other words, although historically there may have been a structural connection between the fronting (and lowering) of the back upgliding vowels on the one hand, and the chain-shifting of the front upgliding vowels on the other, there does not seem to be one now. The presence of one of the changes does not presuppose the operation of the other. In fact, at least in present-day Charleston, one seems to preclude the other. This provides support for treating the two processes as separate phenomena.

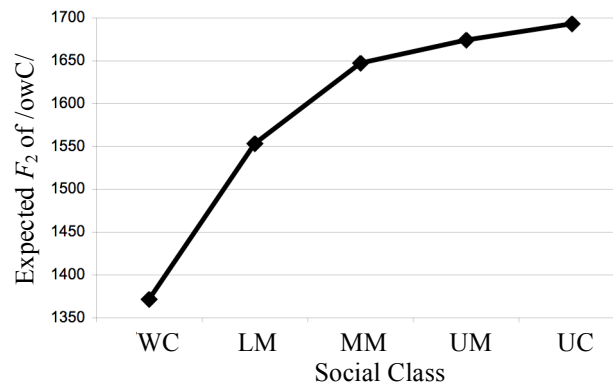


Figure 12: Expected F_2 of /owC/ (as in *boat*, *code*) by social class for speakers up to 65 years of age (before the effect of age)

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