

# **Social class, convergence, and the vowel systems of Columbus, OH AA(V)E and EAE**

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## **1. Introduction**

In previous research, the types and extent of phonetic and phonological variation in African American vowel systems, as distributed by socio-economic class among middle and working class speakers, have largely remained understudied. In addition, their similarities and differences to equivalent European American systems in communities throughout the United States have also remained under-explored, despite sociolinguists' detailed knowledge of general comparative patterns of variation among the groups in regards to morphosyntax, and more recently, regional phonological and phonetic patterns. In fact, in terms of published investigations that approach the issue along the lines of the study we discuss today, we have only found one previous study in the literature—Pederson's (1965) impressionistic study of lexical and phonetic variation in Metropolitan Chicago.

Given the lack of previous studies, the present study attempts to begin a discussion of social class and ethnic variation via the instrumental exploration of data obtained from speakers living in Columbus, OH. Columbus provides an informative context for exploring contrasts and similarities between both working class and middle class African American and European American vowel systems for several reasons. Columbus is a metropolis located in the heart of the North American Midland, as it is has been defined on the basis of both lexical and phonological features by Carver (1987) and Labov, et al. (2006). As of the 2000 census, Columbus has a population of 1.6 million residents in the Columbus Consolidated Metropolitan Statistical Area. Among the population, roughly 25% are African American and roughly 68% are European American (U.S. Census Bureau, 2000). In the urban core, there is frequent contact between

working class European Americans and African Americans, resulting from migration patterns among both ethnic groups tracing back to the late 19th century and early-to mid 20th century. Furthermore, there is frequent contact between middle class European Americans and African Americans in areas at the periphery of the core and in surrounding suburban space, as a result of recent changes to Columbus's socio-geographic landscape beginning in the 1970s.

Taking these attributes into account, we will present the results of a pilot study comparing middle class African American and European American speaker vowel systems, as well as looking at how these systems compare to previously documented systems of working class African American and European American speakers, via data collected in Columbus in several studies. We will also briefly consider the relationship of our findings in Columbus to other recent studies of vowel variation in AAVE, and the social motivations for the class-based patterns of convergence and divergence among middle class and working class African Americans and European Americans in our data.

## **2. A brief social history of African Americans in Columbus**

To understand the context of contact among European Americans and African Americans in Columbus, it is first instructive to look briefly at the community's social history, particularly since the years directly following the Civil War. During this time, and again in the post-World War I and World War II periods, a significant number of African Americans moved to the southern and eastern parts of the urban core to pursue industrial jobs in factories. Some migrated directly from the South and Appalachia, while others moved first to eastern cities such as Philadelphia and Pittsburgh and later resettled in Columbus (Bryan, 1983; Murphy, 1970). In most cases, African Americans migrated to areas in the urban core, where they found themselves

in daily contact with recent European American migrants of predominately Upper Southern, Lower Northern, and Appalachian backgrounds, as well as long time Columbus residents, whose families had began settling in Columbus since the late 1700s (Lentz, 2003).

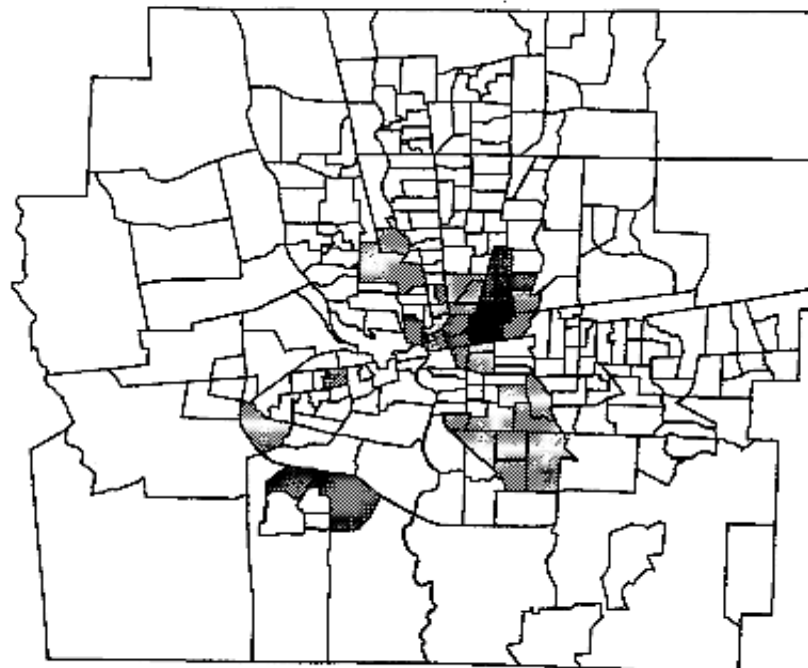
Until the 1970s, most African Americans in Columbus were working class, as a result of Columbus being a predominately “separate but equal” community, essentially since the founding of Columbus in 1803 (Jacobs, 1994; James, 1972). Since the end of the Civil War, this led to decades of discrimination in hiring practices by local businesses, as well as housing segregation, due to de facto segregation resulting from restrictive deed covenants and the displacement of members of the African American community during the 1960s due to the construction of Interstates 70 and 71 (Orideo, 1982; Burgess, 1994). As a result, these factors prevented African Americans from obtaining higher skilled labor positions in the community, either physically, due to geographic distance, or socially, due to job accessibility limitations.

During the late 1960s, however, the situation began to change, as a result of the civil rights movement and the passage of the Civil Rights Act of 1968, which put an end to enforcement of overt housing and employment discrimination practices in the community (Jacobs, 1994). In conjunction with these changes, the Columbus Public Schools underwent changes from a system that was strongly characterized as “separate but equal” to one that was, at first, voluntary desegregated, as in the late 1960s, but later court ordered to desegregate via the use of busing, in 1979 (Foster, 1997). However, even with these changes in place, present-day Columbus continues to remain strongly socio-geographically stratified by social class, with race playing a significant role as a secondary factor in the process, given the history of the community.

We can see the effects of these patterns on the Columbus landscape over the period 1950-

1990, via maps 1 and 2. Map 1 shows the areas of Columbus that were predominately African American populated in 1950. The darkest areas are those where African Americans were most heavily concentrated at the time. Map 2 shows the community in 1990. It uses the same conventions as map 1, and shows the impact of displacement and housing segregation practices in the community.

Census Tract Map of Franklin County, Ohio Shaded by Percentage Black, 1950\*

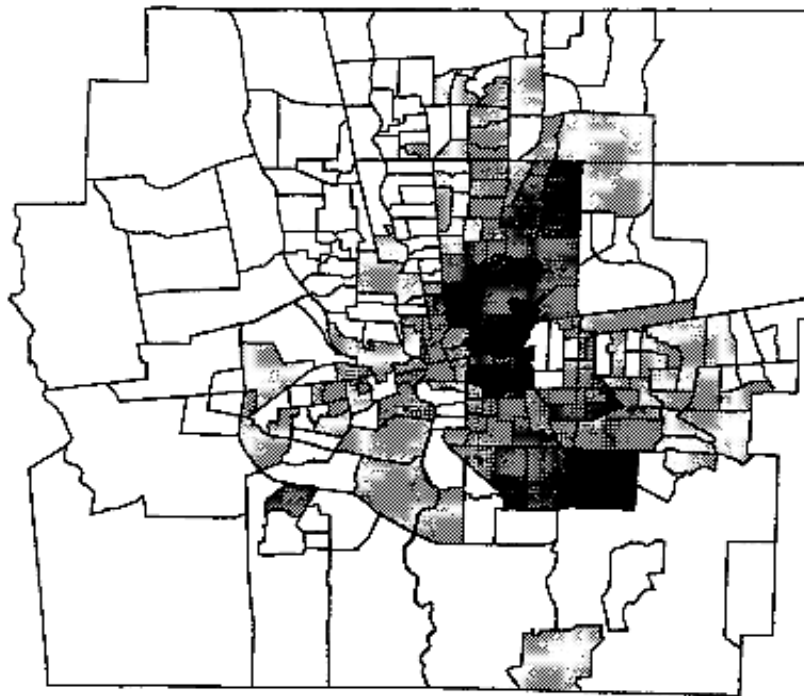


Legend

Percent Black	Shading	Percent Black	Shading
0-5%		51-80%	
6-10%		81-90%	
11-20%		91-100%	
21-50%			

Source: U.S. Bureau of the Census, Decennial Census of Population and Housing: Census Tracts for Columbus MSA (Washington, D.C.: GPO, 1950).

Census Tract Map of Franklin County, Ohio: Shaded by Percentage Black, 1990<sup>4</sup>



Legend

Percent Black	Shading	Percent Black	Shading
0-5%		51-80%	
6-10%		81-90%	
11-20%		91-100%	
21-50%			

Source: U.S. Bureau of the Census, *Decennial Census of Population and Housing: Census Tracts for Columbus MSA* (Washington, D.C.: GPO, 1990).

In present day Columbus, a growing middle class African American population tends to reside in more socio-economically and racially mixed parts of Columbus—either in areas at the periphery of the core to the West and North, to the Northeast of the core in the neighborhood known as North Linden, or in nearby dormitory suburbs. At the same time, a significant portion of the African American population remains working class and living in areas closely

surrounding the urban core, due to the lack of economic opportunity to move elsewhere. As a result, contact among many working class European Americans and African Americans continues to occur in areas closest to the core, such as the southeast and east sides, while in areas further from the core, contact between middle class European Americans and African Americans now occurs. These trends are matters we will return to later in our discussion.

### **3. A brief discussion of historical dialect patterns in Columbus speech**

The dialect features of Columbus speech that emerged during this period are a complex mixture of Northern and Southern features and are strongly Midlands in character. As Thomas (2001) has discussed, Columbus speech of the early 20th century particularly European American varieties, included features typically associated with the Southern Shift, such as the frontward movement of the nuclei of BOUT, BOAT, PUT, BOOT, and SHOES and historically North Midland features, such as r-fulness, the backing of BOT, and the merger of the NORTH and FORCE classes. Less diachronic information about Columbus AAVE is available, however. Features traditionally assumed to be most strongly affiliated with more Southern or older supra-regional AAVE were a strong element of AAVE in Columbus in the early 20th century. Some of these features include r-lessness; glide-weakening of BITE in open syllables and before voiced consonants (similar to the pattern found in Southern speech); and the tendency for BOOT, SHOES, BOAT and BOUT to remain back (Thomas, [1989]/1993).

### **4. A comparative analysis of present-day Columbus AA(V)E and EAE vowel systems**

During the second half of the 20th century, however, these patterns of difference between ethnic groups appear to have diminished. Among working class African Americans and

European Americans, this can be seen via the results of two recent studies of working class vowel systems in Columbus. The first is Thomas' ([1989]/1993) primary impressionistic study based on data collected during the 1980s from working class African Americans and European Americans born from 1968-1970. The second is Durian et al's (to appear) primarily instrumental study that analyzed speech among 4 working class African Americans and 4 working class European Americans belonging to two age cohorts. One group was older speakers who were born from 1950-1960, while the other is younger group of speakers who were born from 1969-1985. Both studies found not only the decreased presence of the historical AAVE features we discussed earlier, but also provided evidence that Columbus African American speakers have begun to realize a partial merger of BOT/BOUGHT before /t/ and the frontward movement of the nuclei of BOUT, BOAT, PUT, BOOT, and SHOES. The frontward movement of these non-low back vowel classes indicated evidence of convergence with European American speakers, who show similar fronting trends. In particular, these trends were generally stronger among young speakers of both ethnic groups than among older speakers.

In addition to these results, Durian, et al. (to appear) also found some evidence of nucleus lowering for BOAT among some older female and younger male African American speakers, which is not found as pervasively among our working class European American speakers. Furthermore, we found tendencies among our African American speakers towards raised BIT, BET, and BAT articulations, lowered PUT realizations, and fronter realizations of BOT and BOUGHT. These patterns indicate evidence of divergence from European American patterns for these vowel classes. Our working class European Americans, in comparison, showed tendencies toward backer articulations of BOT and BOUGHT, non-lowered PUT realizations, and either non-raised or mildly lowered BIT and BET realizations. In addition, our African Americans

tended to show evidence of more robustly raised BUT-realizations when compared to European Americans. The majority of these patterns of convergence and divergence were found to have stronger tendencies among younger speakers than older speakers, suggesting change in progress may be occurring.

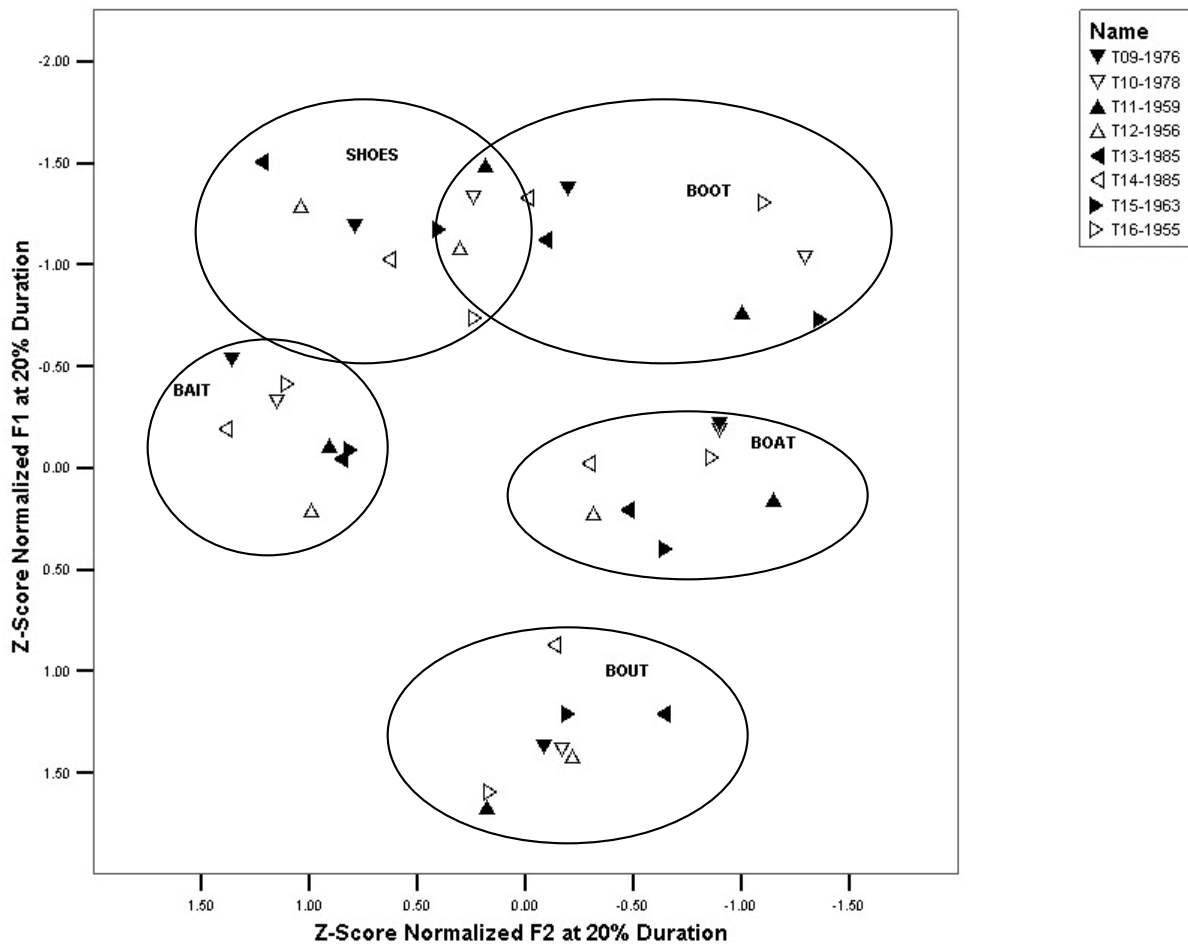
Now, as we mentioned earlier, previous studies comparing African Americans and European Americans in Columbus speech have focused only on working class speakers, and no previous studies have presented data on middle class African American speech. However, in plots 1 and 2, we are now able to present data for this group. These plots present normalized comparative data for middle class African American and European American vowel systems, with 1 male and 1 female plotted for each age and ethnicity group, for a total of 8 speakers.

As with the working class study, two age cohorts were analyzed and plotted. Older speakers were born from 1955-1963, while younger speakers were born from 1969-1985. Socioeconomic status for all speakers in our plots was determined using the occupation level of adult informants and mean household income of the area in which informants were raised (if known) during the time of their childhood. In addition, data for African American speakers were elicited via sociolinguistic interviews by African American field workers, while data for European American speakers were elicited via interviews by a European American field worker.

The data presented in these figures were normalized using the Labanov (1971) z-score formula, after the raw Hz values were first transformed into ERB using the formula provided in Moore & Glasberg (1987). 10 tokens per vowel class were measured for our analysis, with the value of each class plotted representing the mean. These values are plotted using a modified version of Wells's (1982) notation system, with a *B\_T* context word representing the mean nucleus value for a given class. For all vowel classes, no tokens with a preceding or following /r/

or /l/ were used, and tokens with a following nasal were also excluded. In addition, following velars and nasals were excluded for the BAT class. No more than 3 instances of a particular lexeme were extracted for inclusion in our mean measurements, and all data was extracted using a custom-scripted routine in PRAAT. Data were normalized using measurements extracted across an entire speaker's vowel system. Measurements for diphthong nuclei were taken at 20% of a vowel's duration, while measurements for the nuclei of monophthongs were taken at 50% of a vowel's duration. BEET is plotted as a monophthong since our measurements have indicated BEET tends towards being more strongly monophthongal in Columbus.

Figure 1: Normalized Diphthong Nuclei for 4 Middle Class European American and 4 Middle Class African American Talkers



As the data in figure 1 shows, like our working class African Americans, our middle class African Americans show evidence of a similar trend towards convergence with European Americans for the fronting of the nuclei of SHOES, BOOT, PUT, BOAT, and BOUT. This can be seen most clearly by focusing in on BOAT. In these plots, women's means are indicated by down arrows for young women and up arrows for older women. Left arrows are young men, and right arrows are older men. Black arrows are African Americans, while white arrows are European Americans. The general pattern for BOAT fronting among middle class European Americans in Columbus is that younger speakers typically show fronter articulations than older speakers (Durian & Smith, 2005). Among our men, this pattern is illustrated by our older European American male speaker compared to our younger European American male. In the case of our women, the two speakers we have plotted appear to show a reverse pattern in this plot. However, this is simply because the younger woman is more conservative for her age cohort, while the older woman is fairly innovative for hers.

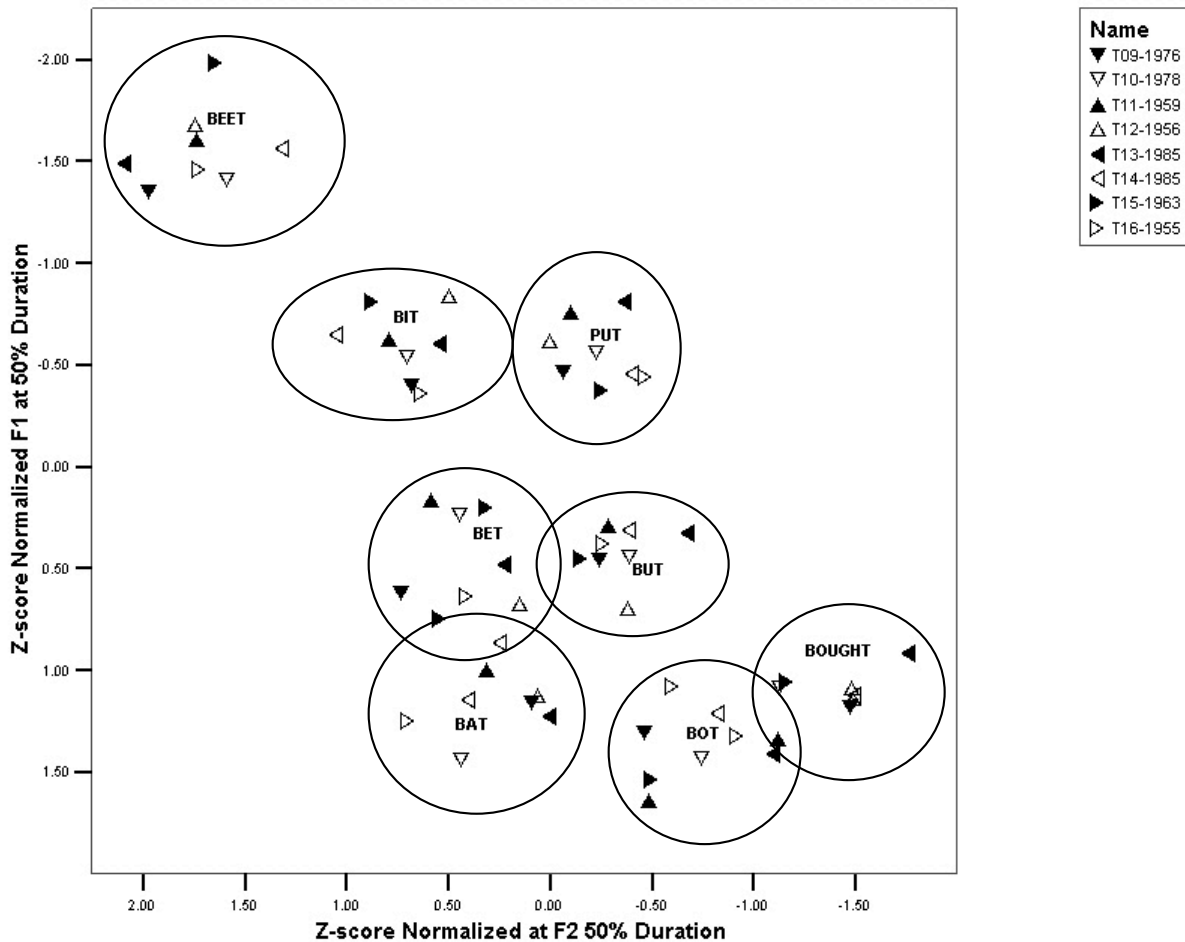
Among the middle class African Americans, we see the same trend among these speakers by age—younger speakers are, on average, are fronter than older speakers. The older man is backer than the younger man, and the older woman is backer than the younger woman, As the overlap between triangles between the younger African American and European American women suggests, it would appear that younger African Americans among the middle class are becoming more like conservative European American speakers of similar age—hence our inclusion of the more conservative younger European American woman, to highlight this point.

Zooming out, we see the same sort of pattern of convergence, with stronger trends for younger speakers across ethnic groups, typifies the rest of the back diphthongs—SHOES, BOOT, and BOUT. For BOUT, the convergence is shown via fronting with retraction of the

nucleus of BOUT for younger European American and African American speakers. As figure 2 also shows, our middle class informants show the kind of fronting trend for PUT.

Looking at other patterns in figure 2, you'll also notice that unlike their working class counterparts, our middle class African Americans appear to show little evidence of the raising of the nuclei of BIT, BET, or BAT, and fronting of the nucleus of BOUGHT is also less pervasive. Like the middle class European Americans, our middle class African Americans generally show non-raised or mildly lowered BIT and BET realizations, and backer articulations of BOUGHT. BOT, on the other hand, shows a similar trend of fronter articulations among middle class

Figure 2: Normalized Monophthong Nuclei for 4 Middle Class European American and 4 Middle Class African American Talkers



African Americans as we saw among working class African Americans, while BAT contrasts with the European American pattern of generally lowered realizations by showing signs of retraction as well as mild lowering tendencies among all but the oldest African American speaker. Middle class African Americans generally show similar tendencies towards raised articulations of BUT, but they are less pronounced than among working class African Americans. As with the diphthong data in figure 1, more similarity in vowel articulations is found among our younger speakers than our older speakers between middle class African Americans and middle class European Americans.

Taken together, the trends revealed in figures 1 and 2 suggest convergence between middle class African Americans and European Americans not only for the non-low back vowels, but also for BIT, BET, and BOUGHT. This contrasts with the working class data, where we find convergence between African Americans and European Americans for fronting of the nuclei non-low back vowels, but then divergence for the nuclei of BIT, BET, BAT, BOUGHT, and BOT. As mentioned earlier, African Americans show BIT, BET, and BAT raising, and BOUGHT and BOT fronting, while European Americans show backer articulations of BOUGHT and BOT and non-raising or mild lowering of BIT, BET, and BAT. These trends are summarized in table 1.

Working Class AAVE vs. EAE	Middle Class AAE vs. EAE
Convergence with Working Class EAE for: -Fronting of the nucleus of SHOES, BOOT, PUT, BOAT, and BOUT  Divergence with Working Class EAE for: -Raised Articulations of BIT, BET, and BAT -Fronter Articulations of BOT and BOUGHT -Raised Articulations of BUT	Convergence with Middle Class EAE for: -Fronting of the nucleus of SHOES, BOOT, PUT, BOAT, and BOUT -Non-raised or mildly lowered articulations of BIT and BET - Backer Articulations of BOUGHT  Divergence with Middle Class EAE for: - Lowered and Mildly Retracted BAT Articulations - Fronter Articulations of BOT

*Table 1: Comparison of results among middle and working class AA(V)E and EAE speakers*

For our working class speakers, divergence of the BIT and BET classes appears to be a result not only of changes in speech norms among African American speakers, but perhaps among European American speakers as well. This is particularly noticeable when we compare the working class and middle class European American data and note tendencies toward mild lowering for BET and BIT among both groups. Overall, considering not only the number of vowels showing stronger similarities, but also the degree of similarity found between middle class speakers versus working class speakers, our middle class African Americans show stronger convergence with the vowel systems of the middle class European Americans than our working class African Americans show with working class European Americans.

## **5. The cross-regional and social implications of vocalic variation in Columbus**

With regard to the relationship of Columbus African American speech to African American speech elsewhere, it would appear that, over time, the non-low back vowels of both our working class and middle class Columbus African Americans are become more strongly aligned with local Columbus speech norms. This alignment makes the patterns in Columbus more like those described recently for certain other communities, namely Hyde County, North Carolina (Thomas & Wolfram 2002), Texana, North Carolina (Childs, et al. 2007), and Memphis, Tennessee (Fridland 2003, Fridland & Bartlett 2006). In these communities, similar tendencies towards back vowel fronting among African Americans and European Americans have been found. This is perhaps unsurprising, since historically, these vowels have typically shown evidence of this Southern Shift like-tendency in each of these areas, although the influence in Columbus may actually be from western Pennsylvania instead of the South proper.

The trends found among our working class African American speakers for the raising of

BAT, BET, and BIT, and the fronting of BOT, also resemble those found in Memphis by Fridland & Bartlett (2006), as well as a variety of locales (including Brooklyn, New York; Austin, Texas; and Cleveland Heights, Ohio) by Thomas (2007). This suggests that working class African American speech in Columbus may be showing stronger alignment with more recent supra-regional AVVE norms than middle class speech for these vowel classes. On the other hand, the tendency towards non-raising or mild lowering of BIT and BET among our middle class African Americans suggests middle class AAE shows stronger alignment with local Columbus norms<sup>1</sup>, given their occurrence as well among at least some middle class European Americans. Interestingly, BUT-raising and BOT-fronting seem to be the strongest feature shared by both African American groups, which suggests that these may be the variables showing the strong signs of alignment with super-regional AVVE norms overall in our study. However, based on the small sample size of this pilot study, these findings clearly require further research to confirm their robustness.

Turning to an exploration of potential social motivations for the patterns of convergence and divergence by social class in our study, it is important to consider the context in which contact between African Americans and European Americans in Columbus occurs. This situation may be leading to a complex situation of “home” vs. “school” language influence impacting the patterns shown in our study. For instance, the pattern of back diphthong convergence, especially among our young speakers may be best explained by considering the impact of Columbus’s school desegregation policies in the late 1960s-mid 1990s. Our older speakers went to school either before desegregation occurred or during the period when desegregation was purely

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<sup>1</sup> Note that Dodsworth (2005) finds evidence of retraction and lowering for BAT among younger middle class speakers in the Columbus suburb of Worthington. Although the middle class speakers we have plotted do not show retraction in addition to lowering, this may simply be an artifact of the speakers we chose to analyze for this pilot study. Thus, it is quite possible that BAT among middle class AAE speakers is also showing alignment with local European American norms. This issue will be investigated further as more data becomes available.

voluntary. This led to a situation where only small groups of students actually changed to attending more desegregated schools. On the other hand, following the implementation of busing in 1979, schools typically became strongly desegregated, such that schools that may have been 80% African American previously were now roughly 50% African American. Thus, there was much higher face-to-face daily contact among black and white speakers during the “busing era” as a result, which have lead to this pattern of shift among realizations.

And although students may have now been attending more racially mixed schools during the day, after school, in their home community, many working class students returned to areas that was majority African American. This would continue to facilitate strong daily face-to-face interaction among African Americans, which might also lead to an increase in usage of more variables that may be somehow more ethnically marked. Hence, we see a simultaneous increase in the use of variables marked by divergence, such as raised articulations of BIT, BET, and BAT, as well as fronting of BOT and BOUGHT among our younger speakers. Considering that both class groups show strong patterns of convergence for the back vowel diphthongs, this suggests these variables may not be ethnically marked, perhaps due to their have less perceptual saliency as markers of ethnic identity among community members. Such a contrast would explain why working class speakers show contrasting patterns of convergence and divergence, dependent on the vowel subsystem under discussion.

The general pattern of convergence for both the front and low back vowels, as well as the back vowel diphthongs, among middle class speakers, seems more straightforward to explain. The areas in which middle class African Americans live are more strongly integrated than the areas in which most working class African Americans reside. It seems quite plausible that the frequency of daily face-to-face interactions between ethnic groups would be increased in this

setting. As a result, this stronger integration among speaker may be leading to stronger patterns of convergence.

Clearly, given the complexities of the social situation in Columbus, these are issues that require a more detailed study for conformation. For now, we find the results of our pilot study, which remains very much a work in progress, have provided us simply with some possible explanations for these patterns. These issues, as well as the more robust documentation of the comparative patterns of vowel variation noted, are matters we hope to explore in a future study.

### **Acknowledgements**

We wish to thank Yolanda Holt and Tinisha Tolbert for conducting interviews with middle class African American informants; and Rick Jones and Tammy Snow for conducting the working class African American fieldwork. In addition, we wish to thank: Don Winford for access to the African American data; Cynthia Clopper, Mary Beckman, and Erik Thomas for vowel plotting advice; and the OSU Changelings and Phonies discussion groups for comments that strengthened our analysis. Funding for this presentation was provided by the OSU Department of Linguistics *Language Files* Travel Fund and the OSU Department of Speech and Hearing Science *Ruth Becky Irwin Fund for Support of Student Research*.

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