

Chapter 17: The cycle of perception, ideology, and perception in the speech of Memphis, TN

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1. Introduction:

As contemporary research has found, community variation is much more complex than a simple correlation between linguistic forms and the traditional sociological categories routinely explored in early studies. While such methodology has lent insight into the general theory of what motivates sound change by showing, in many cases, similar trends across disparate data samples, researchers such as Coates (1998), Eckert (1989, 2000), Eckert and McConnell-Ginet (1998), Milroy (1980) and Wolfram (1991, 1993) have suggested such a broad and sweeping approach to each community can lose valuable information on how speech choices are functioning and often obscure relationships among socially constructed categories and linguistic variation. Moving research in new directions, studies such as Eckert's in Detroit (1988), Milroy's in Belfast (1980) and Nichol's in Coastal South Carolina (1983) suggested that patterns of variation result from a sensitive balance between socio-culturally established roles and speech. Their research found that the selection of sociolinguistic variables is dependent on the density and overlap of community ties and on the varying use of language as linguistic capital among speakers in these communities. Eckert's exploration of communities of practice (2000) also showed that social meaning is simultaneously constructed and represented by the linguistically and socially symbolic choices made by individuals acting as participants in a larger world of meaning. The spread of linguistic change relies crucially on the ideological vantage point of speakers, the conflicting and complementary ideologies surrounding them and how these are integrated within

the social networks in which speakers participate. Still, while recognizing the role of ideology, most of this research relies exclusively on the description of local production patterns, making essentially educated guesses about the meaning behind patterned variation. Without some method of seeing into speaker's heads as they hear and produce linguistic variants, we have no way of knowing whether, for example, use of backed /ʌ/ variants really signals "urbanness" (and what this constitutes for speakers) just because it is found in higher percentages among urban-oriented youths in Detroit. Recognizing that linguistically and socially meaningful speech is formed within locally defined and constructed communities, other recent research has highlighted the importance of pushing beyond descriptive accounts of local speech to a fuller understanding of the perceptions and attitudes behind speakers' linguistic realizations (e.g., Milroy and Preston 1999). Gaining insight into fundamental questions involving the origin, diffusion and meaning of sound changes requires integrating examination of what speakers do productively, what they hear perceptually and what they believe attitudinally.

In line with this goal of moving toward an integrated analysis, this paper presents the findings of a multi-project study on vowel variation which, through acoustic analysis, perceptual tests and a folk dialectology study, sought to provide a unified account of the production, perception and attitudes surrounding local vowel shifts for Southern speakers from Memphis, TN. Although American dialects generally share the same vowel system, they differ predominately in terms of the phonetic range in which vowel tokens are realized within these prescribed categories. Much work in the variationist paradigm has focused on describing and instrumentally measuring the productive changes affecting the vowels in a variety of American dialects. A recent wealth of such work has lead to a very clear picture of regional differences and similarities, including some fairly dramatic shifts in the relative position of vowels in all

three major dialect regions, the North, South and West. (Eckert 1988, 2000, Feagin 1986, Fridland 2000, 2001, 2003, Fridland and Bartlett 2006, Gordon 1997, Labov 1991, 1994, 2000, Labov et al. 2005, Thomas 1997, 2001).

Based on these regional shifts, several separate, but interlinked, research projects were designed to get a comprehensive picture of what was going on in the Memphis speech community. The first study was designed to investigate how the relative acoustic positions of vowels are shifting productively in Southern American dialects of English. This part of the project set out to examine the degree of phonetic change in the Memphis community and ethnic group participation in any shifts. Following this descriptive account of local speech, socio-phonetic perception tests were designed to better understand how salient these shifts were for local speakers and what social information they carried. This perception portion of the study explored whether the differences emerging in Southern speech symbolize local regional or ethnic identity and which of the changes serve as salient social cues within the region. Following the perception study, a folk-dialectology project directly elicited respondents' beliefs about local and national speech. This attitudinal portion of the study examined how Southern speakers' linguistic self-image played a role in assigning particular values to various aspects of the shift and to regional dialects more globally. Based on the results that emerged from these projects, a final follow-up perception study was designed to investigate how these shifts have become meaningful intra-regional prestige markers.

Overall, this project attempts to provide information not typically available through production studies, perception studies or attitudinal studies alone. By incorporating all three aspects simultaneously within the same community, this research was designed so that, hopefully, each study could inform the others, making the picture of local variation and the

motivations behind it emerge much more clearly. At this point, most of this research has been completed and, while there is much more that needs to be done, each part of this larger project has contributed greater insight into the linguistic choices made by Memphians. The remainder of this paper will briefly summarize the major findings from this work and discuss the next steps projects such as this one need to take. (More detailed methodology and results discussion can be found in Fridland 2000, 2001, 2003a,b, Fridland and Bartlett 2006, and Fridland, Bartlett and Kreuz 2004, 2005)

2. Project description

Before perceptual or attitudinal studies could be performed, it was necessary to determine what Memphians were currently doing in their speech. As the vowel shifts mentioned above are some of the most important changes affecting U.S. regional dialects, the production study was designed to determine the degree to which Memphis natives were affected by the series of vowel shifts characterized as the Southern Vowel Shift (SVS). Figure 1 contrasts the traditional American vowel system with the Southern system affected by SVS shifts. The most characteristic SVS shifts are generally the acoustic reversal of the front tense and lax vowel pairs ($i\sim i$ and $e\sim e$). In addition, many Southerners show evidence of fronting in the high back vowels ($u\sim u$) and, less commonly, a similar shift in the /ow/ class. The changes affecting the front vowel sub-system appear to be the most distinguishing shifts in terms of regional differentiation while back vowel fronting has been widely attested in almost every regional U.S. dialect (Ash 1996, Fridland 2000, 2001, Hagiwara 1997, Labov 1994, 2000, Luthin 1987, Thomas 1989). With the lack of information on the participation of African-American groups in

vowel changes in the South, measuring the participation of African-Americans in the shift was a priority of this project.

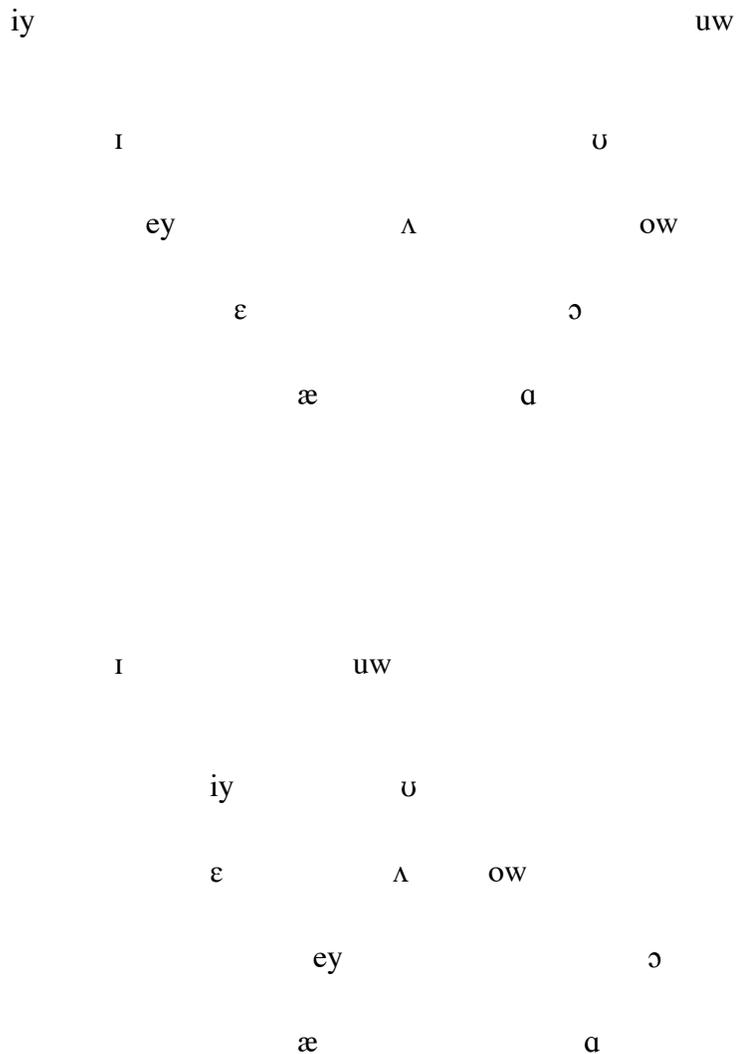


Figure 1: Traditional (above) vs. a Southern shifted system (below)

This examination of the Memphis vowel system was approached through the collection and analysis of both spontaneous and elicited (reading passage/word list) data from 100 native

African-American and European-American Memphians in two broad age categories, under 30 and over 40. Thirty-five of those speaker samples have been analyzed. Acoustic analysis was performed on selected vowel tokens from the reading passage and word list using the Kay Elemetrics Computer Speech Lab (CSL) 4300B at a sampling rate of 10 kHz and a low pass filtering rate of 4 kHz. The analysis of each speaker's system was based on a corpus of about 100 tokens. For each vowel, first, second and third formant readings were selected by examining LPC peaks, spectrograms, energy and pitch of the signal. Vowels were then plotted on F1/F2 grids and relative vowel positions were examined within each speaker's system.

The production study clearly indicated that all Memphians in the sample were affected by at least some aspects of the SVS. Figure 2 illustrates the shape of the vowel system generally found in the Memphis speaker sample. As in this figure, all of the participants showed near or complete reversal of the /ey/ and /ɛ/ classes, but little shift in the /iy/ and /ɪ/ classes. Only older male systems showed even marginal evidence of /iy/ or /ɪ/ shift, while all speakers were strongly affected by /ey/ shift and most speakers, particularly middle aged and older groups, had some shift in the /ɛ/ class (Fridland 2000, 2001). The high back vowel classes, /uw/ and /ʊ/ showed extensive fronting, while the mid-back class, /ow/, was much less often shifted, with significantly more shift in the younger speakers systems ($F(32) = 4.69, p < .05$) (Fridland and Barrett 2006). The fronted prelateral /uw/ token, *tool*, an inhibitive environment for shift, shows the extent to which White Memphians have been affected by fronting. Beyond these shifts, /ay/ glide weakening, a characteristic Southern feature, was found widely in White Memphians' speech, both in the typical pre-voiced and free context and also, less frequently, in the pre-voiceless context (Fridland 2003b). In addition, nuclear distinctions still maintained the division

between the low back vowel classes, and the open (o) class showed no tendency toward diphthongization (Fridland 2004).

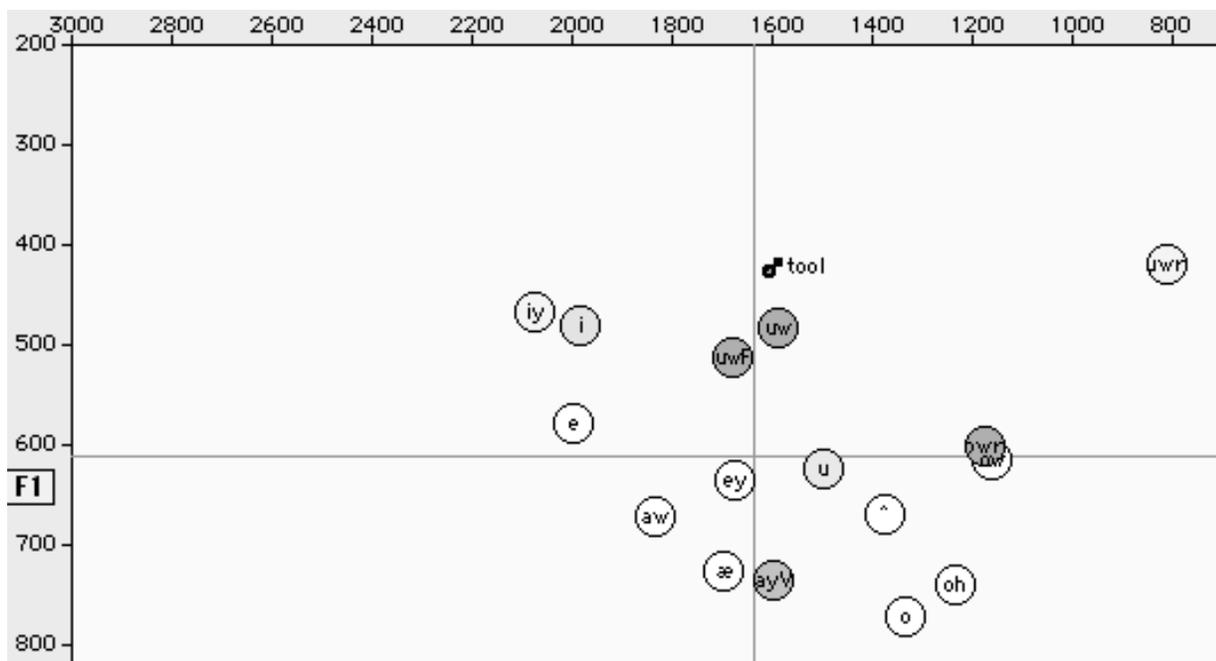


Figure 2: Typical Memphis vowel system (European-American)

The production study also found a great degree of similarity in terms of vowel shift participation between European-American and African-American speakers in Memphis (Fridland 2003a). As depicted in Figure 3, African-Americans also showed reversed /ey/ and /ɛ/ classes and fronted /uw/ and /u/ classes with no /iy/ and /i/ shift and with no strong shifting of the /ow/ class yet visible. In addition, the two groups showed very similar distributions of shifted tokens within vowel categories, with the same environmental conditioning for /ay/ monophthongization (including pre-voiceless contexts) and back vowel fronting. However, pre-lateral back vowel tokens remain backed for African-American speakers suggesting fronting is not as advanced in

their systems compared to European-Americans. In addition, results suggest that the /a/ and /ɔ/ classes potentially locate a subtle Southern ethnic divide, with European-Americans showing less tendency towards diphthongization but more nuclear separation among low-back vowel tokens while African-Americans have greater nuclear overlap but adopt upglides in open (o) to mark the vowel classes' distinction (Fridland 2004).

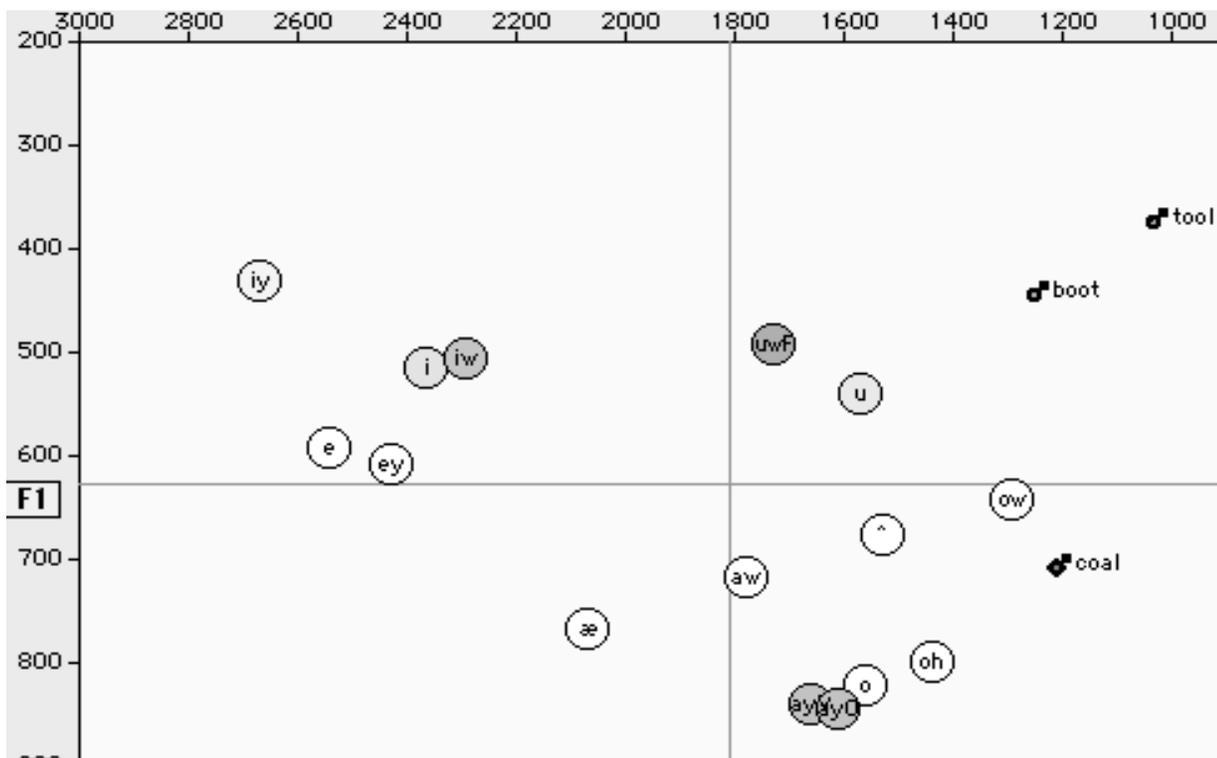


Figure 3: Typical African-American vowel system

Once local production norms were established, a perception study was designed to determine how local speakers interpreted these shifts socially. In this study, Memphians were asked to comparably rate a range of vowel frequencies (within each vowel class) as more or less Southern sounding (Fridland, Bartlett and Kreuz 2004). This study was performed through the

administration of a matched guise test using synthesized vowel tokens manipulated roughly by multiples of 25-50 Hz on vowel height frequencies (F1) and vowel front/back advancement frequencies (F2), respectively. Participants were played two of these slightly altered versions of the same monosyllabic word presented in a two word-set, with each member of the pair having been altered along the first formant (vowel height) or second formant (front/back advancement) dimension. So, for example, the word 'coat,' containing the /ow/ vowel, was played twice for listeners with each pronunciation differing only by how far front the tongue was positioned in the mouth during the vowel's production, a measure which correlates to a specific component frequency in the sound wave that produced that vowel. Thus, by altering the second formant component of the sound wave by adding 100 hertz, it replicates a fronter tongue position during production. All other aspects of the vowel quality were held constant. After hearing the token pair, the participants were asked to determine which pronunciation of the word was the most "Southern" sounding and, in a subsequent test, how educated and pleasant each token sounded.

Even though most subjects reported difficulty hearing differences between each member of the token pair, their responses showed that they were, in many cases, able to accurately select the token most shifted toward Southern norms in each pair. Table 1 shows the overall mean accuracy scores in descending order for the Memphis Sample while Table 2 lists the shifts in each vowel class by the degree to which they are used productively by Memphians and notes whether the shift is exclusive to the South. A higher mean score indicates a higher accuracy rate for selecting the most shifted vowel as the most southern-sounding. Interestingly, their "Southernness" accuracy was highly dependent on which vowel class was involved, with those vowel classes most actively engaged in productive shift locally being more salient as Southern markers. Vowel duration and gliding also appeared to make such selections easier, as the short

vowels showed the lowest overall accuracy rates. Shifts like back vowel fronting that were also found in dialects outside the South appeared to be less socially salient as regional markers than those uniquely used in the South. Relative to their accuracy for the /iy/ and /ey/ classes, participants showed less accuracy picking out the more Southern sounding variant when comparing back vowel variants. However, listeners were better at distinguishing more and less Southern versions of shifted /ow/ variants, a shift that is less common outside the South and one found only in young speakers systems.

Table 1: “Southernness” test mean accuracy scores: Mean score rating the more southern word accurately by individual vowel class and by vowel subgroup.

Vowel Class	Mean*
/ey/	.84
/iy/	.67
/ow/	.62
/uw/	.54
/ʊ/	.51
/ɛ/	.49
/ɪ/	.39

*A higher mean score indicates a higher accuracy rate for selecting the most shifted vowel as the most southern-sounding.

Table 2: Degree of Memphians’ involvement in shifts found in Southern Speech

Front vowels:

<u>Class</u>	<u>Degree</u>	<u>Social aspects</u>	<u>Shift exclusive to South?</u>
iy	Marginal	Older males only	Yes
ɪ	Marginal	Older males only	Yes
ey	extensive	All groups	Yes
ɛ	some	More in Middle/older groups	Yes

Back vowels:

<u>Class</u>	<u>Degree</u>	<u>Social aspects</u>	<u>Shift exclusive to South?</u>
uw	extensive	all groups	No
u	extensive	all groups	No
ow	some	younger group only	Somewhat

Following the “Southernness” test, participants heard a subset of the synthesized tokens presented one at a time (repeated twice) and were asked to rate how educated and pleasant each token sounded on a 3 point scale (Fridland, Bartlett and Kreuz 2005). Results from this task suggested that the more the token had been shifted toward Southern Shift norms, the lower the token was ranked on education and pleasantness (Table 3). Whether shifts were shared across regions or exclusive to the South also had an affect, as front vowels shifted toward Southern norms were rated much lower in both education and pleasantness than back vowels shifted front, as found in Southern speech and elsewhere. Taken together, the production study and the perception study cumulatively suggest that shifts in which Memphians were most active

productively and which were most unique to the South were also those most acoustically salient to listeners as 'Southern' sounding variants. In addition, these locally defining shifts were also those speech samples judged least educated and least pleasant. So, based on these results, it appears that Memphians judge their own speech variety rather harshly.

Table 3: Education and pleasantness mean ratings by shift-type

	Education	Pleasantness
More Southern front vowels	1.67	1.72
Less Southern front vowels	1.86	1.77
More Southern back vowels	2.11	1.89
Less Southern back vowels	2.14	1.99

Such findings are puzzling as to why Memphians would continue to use variants that local listeners rank as less pleasant and less educated than non-Southern variants. The production studies performed in Memphis clearly showed that several of the Southern Shift variants which were rated least educated and least pleasant were widely found across age, gender and ethnic groups in Memphis. So, speakers must find some benefit to maintaining their use of these variants, even if they consider them uneducated and unpleasant compared to non-shifted variants. Without greater access to Memphians' language attitudes, it is difficult to determine what was driving participants' responses.

Hoping to gain insight into these results, a study was performed to examine Memphians' attitudes toward their own speech and that spoken elsewhere in the U.S. to supplement this project. Replicating studies in folk dialectology (e.g., Preston 1989, 1993), participants were

simply asked to rate all 50 states, New York City and the District of Columbia on scales of 1 to 10 for correctness and pleasantness and on a scale of 1 to 4 for degree of difference from their own speech. This perceptual dialectology project, in comparison to the earlier production and perception studies, got at the overt stereotypes and attitudes speakers held toward their own speech and that around them, allowing interesting contrast to their actual speech behavior and their more unconscious speech perceptions.

Table 4a lists mean scores assigned by Memphians about where correct and pleasant speech is spoken regionally. The higher the mean score, the more correct and pleasant the speech found in the area. Not surprisingly, results suggest that the North/South continuum remains very salient to Memphians, particularly in terms of its correlation with 'correct' speech. While Memphians considered each region to be significantly different from the others on correctness scales (Table 4b), the Southern region was considered comparatively most incorrect even by Southerners themselves (Table 5). The Northern region, particularly the Upper North, was rated most correct. In contrast, no regions were considered significantly different in terms of pleasantness. In addition, all regions except the South showed lower pleasantness than correctness scores, pointing to a trade-off between correct and pleasant speech. From such results, it would seem that Memphians find their own speech rather pleasant, even if not correct, pointing to an underlying motivation for the variety's perseverance. However, Memphians' behavior on this study stands in contrast to their behavior in the previously-cited 'Southernness' perception study, where pleasantness and education ratings decreased as degree of shift toward Southern norms increased. Such results suggest that the more Southern one sounds the LESS educated and pleasant they seem. So why this disconnect in language attitudes and speech perception behavior?

Table 4a: Memphis mean scores for each map region

Region	Correctness (0-9)	Pleasantness (0-9)
<i>Southern</i>	4.22 (1.04)	4.94 (1.32)
Upper North	5.88 (1.24)	4.93 (1.35)
All North	5.73 (1.12)	4.94 (1.03)
Midwest	5.32 (1.07)	4.93 (1.03)
West	5.60 (1.13)	5.03 (1.03)

Table 4b: T-tests comparing Memphians' correctness means by region

Correctness	
South - All North*	t (165) = 14.69, p < .01
South - West*	t (165) = 13.25, p < .01
South - Midwest*	t (165) = 12.24, p < .01
South - Upper North*	t (165) = 14.47, p < .01
All North* - West	t (166) = 2.33, p < .05
All North* - Midwest	t (166) = 8.04, p < .01
All North- Upper North*	t (166) = 5.88, p < .01
West* - Midwest	t (166) = 4.86, p < .01
West - Upper North*	t (166) = 3.95, p < .01
Midwest - Upper North*	t (166) = 7.40, p < .01

*indicates the region considered significantly more correct in each pair

Table 5: T-tests comparing Memphians' Southern correctness scores to other regions

	t	df	Sig. (2-tailed)
South - Greater North	-14.680	165	.000
South - West	-13.246	165	.000
South – Mid West	-12.242	166	.000
South – Upper North	-14.400	165	.000

The key to this apparently contradictory behavior may lie in the difference in tasks calling on supra-regional vs. intra-regional identity. The folk dialectology study specifically asked participants to compare speech spoken across the U.S., drawing attention to the long-standing differences between regional dialects, particularly those of the Southern U.S.. In addition, it also asked participants to make intra-regional comparisons, a task which Memphians showed little hesitancy in doing, as is evidenced in their relative downgrading of Mississippi and Arkansas, the largely rural states sitting on Memphis' borders (Table 6). While they viewed these states as significantly less pleasant and educated than their own speech (correctness: MS, $t(167) = 10.95, p < .001$, and AK, $t(167) = 10.41, p < .001$; pleasantness: MS, $t(166) = 9.21, p < .001$, and AR $t(166) = 9.96, p < .001$), they did not find the speech spoken in these two states significantly different from their own on the degree of difference task. Apparently, Memphians had clear opinions about Memphis' intra-regional status even while recognizing a shared dialect.

Table 6: Memphians' comparative ratings of Tennessee, Mississippi and Arkansas

	Correctness	Pleasantness	Difference
Southern U.S.	4.22 (1.04)	4.94 (1.32)	1.40 (.58)
TN	4.26 (2.06)	5.62 (2.46)	.54 (1.06)
MS	2.70 (2.12)	4.15 (2.70)	.86 (1.07)
AR	2.81 (1.98)	3.90 (2.38)	.99 (1.09)

In contrast to this folk dialectology task, the "Southernness" accuracy study made no reference to other regions nor did it make any regional claims about where the tokens listeners heard were from, so, presumably, listeners were not forced to recognize the less Southern sounding tokens as explicitly non-Southern. Thus, in rating these tokens on competence and solidarity scales, listeners may not have used "Northern" versus "Southern" dialect criteria at all, but were perhaps instead using only intra-Southern criteria comparing more rural vs. less rural or more educated vs. less educated sounding tokens. So, when rating tokens with greater degrees of Southern shift, the differences Memphians believe to exist between themselves and inhabitants of other states like Mississippi and Arkansas may be coming into play.

To gain more insight into this contradictory behavior, a final perception study was designed to examine whether intra-regional norms associated with urban vs. rural speech played into Memphians' ratings of synthesized vowel tokens (Fridland and Bartlett 2007). For this study, Memphians were given the same synthesized vowel token perception test used in the previous perception study. This time, instead of rating 'Southernness', listeners were instructed to rate the relative ruralness of Southern shifted and non-shifted tokens, and, in a separate test, how educated and pleasant the tokens sounded. Participants were considered accurate when they selected the token shifted most toward Southern norms in each token-set as the most rural

member of the pair, allowing comparison of ruralness accuracy to Southernness accuracy from the earlier perception study.

Before beginning the test, participants were asked to fill out a brief demographic questionnaire and each participant was asked to define the concept “rural.” In order to ensure we knew what participants were responding to conceptually, the analysis was based on participants' ideas of rurality rather than a set definition which may or may not have matched with that held by participants. On review, the definitions predominately broke down into two different categories, those who equated ‘rurality’ with non-urban, agricultural life and those who had no non-urban association with the term at all. Instead, in this second category, the participants clearly did not have any traditional understanding of what this term meant whatsoever, and their answers were often arbitrary. Since some participants had a very different concept of rurality, the data from those whose definitions involved a contrast with urban life/metropolitan lifestyles and those whose definitions did not fit any traditional understanding of rurality were split and run as two separate groups, the traditional definers and the non-traditional definers. These two groups' results were then compared and the results were also compared to those from the earlier perception studies.

Table 7 show descending mean score results for the traditional and non-traditional definers as well as for the original 'Southernness' accuracy perception test. The comparative runs for traditional vs. non-traditional definers within the ruralness test clearly showed that this definitional distinction affected participants' perception and evaluation of vowel variants. In addition, comparing the results of the traditional defining group on the ruralness test to the participant results from the original Southernness accuracy test show that these two groups are highly similar in terms of picking out the most Southern shifted token as the most rural or

southern sounding tokens, respectively. While both these groups showed accuracy rates significantly different than chance for a number of vowel classes (indicated by asterisks), the non-traditional definers were not significantly different than chance for any vowel class, suggesting that they were quite random in their ratings as would be expected based on their lack of any clear understanding of the term ‘rurality.’

Table 7: Descending means comparison for Ruralness and Southernness studies

R/U Non-Traditional Def.		R/U Traditional Def.		Southernness Accuracy	
ɛ	.55	ey*	.76	ey*	.82
uw	.55	iy*	.68	iy*	.67
ʊ	.54	ow*	.63	ow*	.63
ɪ	.54	ʊ	.52	uw*	.54
ey	.53	uw	.51	ʊ	.52
iy	.49	ɛ	.48	ɛ	.49
ow	.49	ɪ*	.37	ɪ*	.41

*indicates mean score is significantly different than chance

Within the ruralness group, how subjects defined rurality also appeared to affect the ratings of tokens on competence and solidarity measures. Based on their mean ratings on education, participants in the traditional definition group generally found tokens in each class to

sound less educated than those who did not define rurality traditionally. Similarly, non-traditional definers felt the tokens sounded more pleasant than traditional definers. In fact, breaking the vowels down by regional shift-type, non-traditional definers gave higher education and pleasantness scores to all vowel classes regardless of whether the token involved shifts towards Southern or non-Southern norms (see mean scores in Table 8). Such results suggest that participants' beliefs about the ruralness of speech does affect how they evaluate the relative education and pleasantness associated with such speech. Merely going into the test with the concept of rurality defining the task pulls down raters' assessment of speakers' level of education and pleasantness.

Table 8: Traditional/Non-traditional definers Education and Pleasantness Mean Scores

	Education		Pleasantness	
	Traditional Definitions	Non-Traditional Definitions	Traditional Definitions	Non-Traditional Definitions
Very Southern Shifted Tokens	1.57 (.304)	1.62 (.391)	1.55 (.370)	1.65 (.413)
Southern Shifted Tokens	2.31 (.437)	2.34 (.403)	1.92 (.466)	2.10 (.469)
Mildly shifted Tokens	1.94 (.378)	2.03 (.376)	1.94 (.424)	1.99 (.439)
Non Southern Tokens	2.07 (.255)	2.16 (.258)	1.90 (.303)	1.99 (.322)
Very Non	2.26 (.499)	2.41 (.458)	2.00 (.554)	2.19 (.491)

Southern				
Tokens				

Although their ratings were not highly distinct, some differences also emerged when comparing education and pleasantness ratings for the traditional defining group in the ruralness test to those from the Southernness accuracy test (Table 9). With a few exceptions, rural raters tended to be slightly less harsh overall in assigning education and pleasantness ratings compared to Southernness raters. While this difference is generally quite minimal, the trend becomes more apparent when comparing the two groups' ratings of the Southern-shifted tokens on Education and Pleasantness. As can be seen in Table 10, rural study participants gave higher ratings in both categories to the Southern-shifted tokens in the /ey/, /uw/ and /ow/ classes compared to the Southernness study participants. The exception to this trend is the /ɛ/ class, the only class that showed an accuracy score below chance (Table 7), suggesting listeners were not able to discriminate between Southern and Non-Southern pronunciations. Although in general these differences were slight, it may suggest that, while similar, there is not perfect overlap between participants' concepts of Southernness and rurality. Indeed, several participants indicated that rurality could apply to areas outside the South by, for instance, mentioning other rural areas in the U.S.. So, while rurality is not considered a prestigious trait based on this study's results, it is not exclusively found within the Southern region. Clearly, however, the greater the degree of Southern shift pattern a vowel exhibits, the more rural and Southern it sounds to participants and the less educated and pleasant it becomes. Thus, when comparing different degrees of shift between vowels, participants do appear to base decisions on intra-regional criteria of rurality,

among other things, better explaining the seemingly contradictory pattern of results found in the earlier studies.

Table 9: Ruralness test traditional def. means and Southernness Accuracy test means for Education and Pleasantness

	Education		Pleasantness	
	Southernness	Rurality	Southernness	Rurality
/ey/ Tokens	1.61 (.316)	1.70 (.314)	1.73 (.432)	1.76 (.426)
/ɛ/ Tokens	1.89 (.405)	1.88 (.437)	1.72 (.451)	1.64 (.397)
/uw/ Tokens	2.34 (.414)	2.34 (.411)	2.01 (.472)	2.04 (.466)
/ow/ Tokens	2.02 (.296)	2.17 (.312)	1.92 (.382)	2.00 (.417)

Conclusion

This overview merely highlights some of the major findings so far in this research project in terms of how each aspect of the project helped inform and clarify the work preceding it. Next steps include administering these same studies in research sites outside the South which are affected by different vowel shift patterns. Further research also includes the development of more finely-tuned vowel categorization and discrimination tests to determine how regional dialect experience shapes listeners' perceptual vowel space and category goodness tests. While this research integrating productive, perceptual and attitudinal approaches is merely a first step on a long road, it will hopefully suggest avenues of possible research to other investigators seeking to provide a more comprehensive and empirically-based explanation of the language variation and change found in our communities. Such a research synthesis should prove to have

both theoretical and applied benefits, contributing to basic theories about the nature of sound change and the ability of adult language learners to adjust aspects of their phonological system to issues of cross-dialectal comprehension and computer speech and voice recognition technology development.

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