MARY/MERRY AND HORSE/HOARSE:
MERGERS IN SOUTHERN AMERICAN ENGLISH
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Phonetic mergers in American English have been studied throughout the last half century. Previous research has contributed social and phonetic explanations to the understanding of front and back vowel mergers before /l/, front vowel mergers before nasals and phonetically unconditioned back vowel mergers. Using data from the Linguistic Atlas of the Gulf States (LAGS) and the Linguistic Atlas of the Middle and South Atlantic States (LAMSAS), this thesis examines the spread of the front vowel merger in *Mary* and *merry* and the back vowel merger in *horse* and *hoarse*. The two complementary sources of data allow for a social and phonetic approach to the examination of the merger.
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CHAPTER 1
INTRODUCTION AND REVIEW OF LITERATURE

Introduction

This thesis examines the merger of /ɔ/ and /ɔ/ before /r/ in words like hoarse and horse and the parallel merger of /e/ and /ɛ/ in words like Mary and merry in Southern American English (SAE). It uses data from two linguistic atlases that cover much of the American South to document the progress of the mergers and to explore the motivations for their rise and expansion. In examining these two mergers, the thesis contributes both to our understanding of the mechanism of mergers, which has over the last decade become an increasingly important topic in quantitative sociolinguistics (Labov 1994), and to our understanding of SAE, which has been undergoing rapid and dramatic change over the last half century (Bailey 1997).

Labov (1994) states that mergers are one of three primary types of sound change. The other two types are splits (which are the opposite of mergers and are rare in English) and chain shifts (which are common in English and which Labov uses to define present-day American dialects). Splits involve the development of one phoneme into two (as when the voiced allophones of the Middle English fricatives developed into separate phonemes, so that present-day English now has voiceless and voiced pairs of fricatives such as /ʃ/ and /ʌ/ and /s/ and /z/).\(^1\) By contrast, chain shifts involve systematic rotations of vowels (as in the Great Vowel Shift, for example) These systematic rotations occur when for
some reason a vowel is lost or moves out of its normal position. A second vowel then moves in to assume that position and a third moves to assume the second vowel's position and so on. Thus in the Great Vowel Shift when /i/ was centralized, /e/ was raised so that words formally pronounced with this vowel came to be pronounced with an /i/. In turn /æ/ was raised to /e/, so that words that were formally pronounced with that vowel (for example, mane) came to be pronounced with /e/ as the stressed vowel.

Mergers involve two phonemes becoming one. They are of two types: unconditioned and conditioned. Unconditioned mergers occur when two phonemes fall together in every environment where they both occur, as in the ongoing merger in American English of /ɔ/ and /ʌ/ in words like caught and cot so that both are pronounced with /ʌ/. Conditioned mergers occur when two phonemes fall together only in certain phonetically conditioned environments. A good example is the merger of /əl/ and /ʌl/ in words like pen and pin in SAE. These two phonemes remain distinct in all environments except before nasals; before nasals the distinction is lost.

**Sociolinguistic Research on Mergers**

The systematic study of mergers in quantitative sociolinguistics has its origins in Labov, Yeager, and Steiner’s *Quantitative Analysis of Sound Change in Progress* (1972), a work that also pioneered sociolinguistic examination of chain shifts. Labov, Yeager, and Steiner report on Labov’s exploration of the
caught/cot merger in American English and on pre-/l/ mergers in the American South. Labov first studied the caught/cot merger in 1968 through a survey of telephone operators and found that the merger occurred throughout much of the American West and in a narrow band in the Midwest that extended to Pittsburgh. His work on the pre-/l/ mergers showed that front tense vowel laxing (/i/ and /e/ as in feel/fill and /e/ and /e/ as in sale/sell) occurred most often in the Southeast, apparently spreading toward the Southwest, while back tense vowel lexing (/u/ and /u/ as in pool/pull) occurred most often in the Southwest, spreading toward the Southeast.

During the 1980s and 1990s, members of Bailey’s research team at Texas A&M University and Labov’s research team at the University of Pennsylvania followed up on these findings in some detail. Using data from a Phonological Survey of Texas (PST) and the Linguistic Atlas of the Gulf States (LAGS), Tillery (1989) examined the social and phonological constraints on the caught/cot merger in Texas. She found that the merger was a recent innovation in Texas. It was most frequent among younger, well-educated Texans, and its occurrence was most common in the northwest part of the state and in the Dallas-Fort Worth metroplex. It was least advanced among African Americans and in East Texas, the part of the state that had the greatest affinity with the “old South.” The merger seemed to be diffusing through the state from northwest to southeast and in part seemed to be motivated by the rapid immigration from other parts of the
United States that Texas had experienced since 1970. In addition, Tillery (1989) found that the merger was phonologically constrained, occurring first before voiceless consonants and later before voiced ones.

Herold (1997) explored the /ɔ/-/ɔ/ merger in eastern Pennsylvania, drawing on linguistic atlas data, a telephone survey and additional fieldwork. She found that the caught/cot merger was somewhat older in Pennsylvania than in Texas, owing its origin to the rapid influx of foreign-born immigrants into anthracite coal mining towns between 1880 and 1920. Herold also posited an explanation for why mergers expand at the expense of distinctions (Labov 1994). She suggested that once a merger reaches a certain level in a population, the distinction loses its value even to those who maintain the distinction, since they cannot reliably use it to distinguish words in the speech of others.²

With one exception, conditioned vowel mergers in American English have not been studied at the same level of detail as the caught/cot merger. Bailey, Wikle, Tillery, and Sand (1991; 1993) explored the diffusion of pre-/l/ mergers in time and space within the context of a number of other ongoing changes, but Brown’s (1990; 1991) exploration of the merger of /ʌ/ and /ə/ before nasals in Tennessee is the only detailed analysis of a conditioned merger in American English. Brown used data from LAGS, the Linguistic Atlas of the Middle and South Atlantic States (LAMSAS), and a written source, the Tennessee Civil War Veterans Questionnaires (1985), to examine the evolution of the pen/pin merger in the South. Brown’s work showed that the merger was a relatively uncommon
variant pronunciation in SAE until about 1880 (about 12% of the population used it). After 1880, it began to expand rapidly, so that by World War II, it was the dominant pronunciation – more than 90% of the population had the merger. Brown showed that more educated, urban informants first adopted the merger, and she suggested that it probably began to expand as a consequence of the emergence of urban areas in the American South and of the subsequent migration to those areas.

For the purposes of this thesis, Brown’s work is important in one other way. It shows that LAGS and LAMSAS can be used together to create a historical picture of SAE from the middle of the 19th century to the middle of the 20th. Because the pre-/r/ mergers analyzed here had their origins during this period, the LAGS and LAMSAS data are useful for studying them. A review of the development of linguistic atlases in the United States will provide additional information on atlases as a source for studying sound change.

American Linguistic Atlases

American dialect geography has its origins in the tradition of historical linguistics that developed during the 19th century in Europe. More specifically, dialect geography emerged as an attempt to test the Neogrammariann Hypothesis (which held that sound change, in so far as it was mechanical, was completely regular) and the wave model theory of language diffusion (which held that changes in languages occurred in waves that could be visually represented by overlapping circles). Johannes Schmidt’s assumption in the early 1870’s that
language change could be studied as a process of spatial diffusion using a set of maps led Georg Wenker later in that decade to design a survey to study dialect differences in German. Wenker developed a postal questionnaire that he sent to German school teachers, asking them to “translate” the standard German sentences on the questionnaire into the local dialect. This “indirect method” of studying dialect, which relied on the responses of observers who were not linguists and who were not observing an immediate response to a question, provided a great deal of data. However, Wenker was completely dependent on the responses of third-party observers; he had to accept the school teachers’ translations as accurate representations of the local dialect without ever having heard the individual dialects himself. Wenker presented a portion of his findings on maps in the Sprachatlas des Deutschen Reichs, which was published in 1881.

The French linguist Jules Gilliéron developed a similar project a decade later in France, but he set out to correct a number of weaknesses in Wenker’s approach. Rather than rely on data gathered by untrained observers, Gilliéron trained a fieldworker to conduct interviews and record responses to questions in a fine-grained phonetic alphabet. This “direct method” became the accepted approach in dialect geography and underlies the American linguistic atlas tradition. Like Wenker, Gilliéron published his findings in the early 20th century on a series of maps in his Atlas Linguistique de la France.

In 1929, the American linguistic atlas project began. This was originally conceived as a single continent-wide project, to be called the Linguistic Atlas of
the United States and Canada. Hans Kurath, who was born in Austria but reared in Texas, was named Director of the project. He decided to begin with a pilot study of the New England States (later published as the Linguistic Atlas of New England) because of their compact size and their early settlement, and to use the direct method developed by Gilliéron in France. LANE was based on its French predecessor, Atlas Linguistique de la France. Kurath made a number of modifications to adapt Gilliéron’s methods for data collection in the United States. He expanded the range of informants interviewed, included some interviews in cities as well as rural areas, and modified the format of the questionnaire. Kurath had LANE fieldworkers interview three types of informants: 1) those with little education, reading or social contacts (Type I informants), 2) those with a high school education and somewhat wider social contacts (Type II informants), and 3) those with a college education, broader social contacts and greater cultivation (Type III informants). He further subcategorized informants as aged and/or old-fashioned (Type A) and middle-aged or more modern (Type B). While these six types hardly comprise the full range of social categories that contemporary research examines, they do in fact represent a considerable advance over studies by European predecessors. The fact that at least some of the informants were residents of urban areas is likewise an advance, although in all linguistic atlas work, rural communities have been weighted more heavily than urban ones and older communities represented more frequently than newer ones (Kretzschmar et al.1994). Even so, with 416 informants interviewed in 213
communities, LANE achieved dense spatial coverage of New England in a variety of communities with a comparatively broad range of informants.

Kurath’s other important modification lay in his conceptualization of the questionnaire. Although LANE fieldworkers interviewed informants in the field and recorded their responses in a fine-grained phonetic alphabet, they did not use a standard questionnaire. Rather, they were given 750 target items and told to elicit them in as conversational a manner as possible. Fieldworkers were free to devise their own questions or to use directed conversation if they pleased. The vast majority of target items focused on either the regional lexicon or on pronunciation features that previous research had suggested would show regional differentiation.

Although Kurath initiated fieldwork for the second phase of the American linguistic atlas project as soon as LANE fieldwork was completed in 1933, he made the decision soon thereafter to divide the atlas into a series of related but autonomous projects. The progress of these autonomous projects has been quite uneven, but as Table 1 (adapted from Bailey 1993) shows, most areas of the United States are covered to at least some degree. Fortunately for the purposes of this thesis, the coverage of the American South is quite good. LAMSAS and LAGS include more than 2,200 informants between them, and as Chapter 2 shows, include a broad enough range of informants for sociolinguistic as well as spatial analysis.\(^5\) LANE was published between 1939 and 1943, with informants’ responses provided in phonetic transcriptions on large, oversized
<table>
<thead>
<tr>
<th>Project</th>
<th>Date of Fieldwork</th>
<th>Status of FW</th>
<th>Status of Recordings</th>
<th>Status of Basic Data</th>
<th>Status of Handbook</th>
<th>Status of Atlas</th>
<th>Editor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Regional:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New England (LANE)</td>
<td>1931-33</td>
<td>complete n=416</td>
<td>some</td>
<td>on maps of atlas</td>
<td>pub. 1939</td>
<td>3 vols.</td>
<td>Kurath</td>
</tr>
<tr>
<td>Middle &amp; So. Atlantic (LAMSAS)</td>
<td>1933-74</td>
<td>complete n=1216</td>
<td>some</td>
<td>on microfilm</td>
<td>pub. 1933</td>
<td></td>
<td>McDavid/ Kretzschmar</td>
</tr>
<tr>
<td>North Central States (LANCS)</td>
<td>1938-58</td>
<td>complete n=564</td>
<td>107</td>
<td>on microfilm</td>
<td>in progress</td>
<td></td>
<td>Marckwardt/ Kretzschmar</td>
</tr>
<tr>
<td>Upper Midwest (LAUM)</td>
<td>1947-57</td>
<td>complete n=208</td>
<td>c. 100</td>
<td>on microfilm</td>
<td>pub. 1973</td>
<td>3 vols.</td>
<td>Allen</td>
</tr>
<tr>
<td>Pacific Coast (LAPS)</td>
<td>1952-59</td>
<td>complete n=300</td>
<td>none</td>
<td>on microfilm</td>
<td></td>
<td></td>
<td>Reed/ Metcalf</td>
</tr>
<tr>
<td>Pacific Northwest (LAPNW)</td>
<td>1953-63</td>
<td>incomplete n=49</td>
<td>33</td>
<td></td>
<td></td>
<td></td>
<td>Carlson</td>
</tr>
<tr>
<td>Gulf States (LAGS)</td>
<td>1968-83</td>
<td>complete n=1121</td>
<td>all field records</td>
<td>on tape &amp; microform</td>
<td>pub. 1986</td>
<td>6 vols.</td>
<td>Pederson</td>
</tr>
<tr>
<td>Rocky Mountain Regions (LARMR)</td>
<td>1988-</td>
<td>complete CO,UT, WY</td>
<td>all field records</td>
<td>on tape</td>
<td></td>
<td></td>
<td>Pederson</td>
</tr>
<tr>
<td><strong>State:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colorado</td>
<td>1948-52</td>
<td>complete n=68</td>
<td>15</td>
<td>in manuscript</td>
<td></td>
<td></td>
<td>Kimmerle</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>1960-63</td>
<td>complete n=57</td>
<td>all field records</td>
<td>on tape</td>
<td></td>
<td></td>
<td>Van Ripard/ Southard</td>
</tr>
<tr>
<td>Missouri</td>
<td>complete?</td>
<td></td>
<td>all field records</td>
<td></td>
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<td>Udell</td>
</tr>
</tbody>
</table>

**TABLE 1**

Regional and State Linguistic Atlas Projects

(adapted from Bailey 1993)
maps. The later interpretive volumes based on LANE (e.g., Kurath, 1949) used isoglosses, or lines delimiting the limits of occurrence of linguistic features, to display data on maps. Figure 1 provides an example of a map that uses isoglosses.

Although only one linguistic atlas project is currently being conducted (it covers the Rocky Mountain area), two other projects have extended the study of regional dialects in new directions. During the late 1980s and early 1990s, Bailey and his research teams at Texas A&M and Oklahoma State Universities explored the use of telephone interviews and random sampling to examine the spatial and social correlates of linguistic variation in Texas and Oklahoma (1992). Unlike earlier linguistic atlas studies, the geographic focus of the Phonological Survey of Texas (PST) and the Survey of Oklahoma Dialects (SOD) was on spatial diffusion (which describes how a form is distributed across a population), rather than on spatial distributions (which describe how a form moves in space), and as a result Bailey’s team used choropleth mapping techniques (which use shading to delineate linguistic areas), rather than the isoglosses (which use lines to delineate linguistic areas) that Kurath had used, to display spatial information \(^6\). In addition, because SOD sampling is random, urban informants outnumber rural ones by a wide margin and the whole range of social groups is included in the sample.
Figure 1. LANE Map with Isogloses

Used with Permission, Handbook of the Linguistic Geography of New England, American Council of Learned Societies, 1939.
More recently, Labov, Ash, and Boberg (1994) have used telephone interviews in an attempt to resurrect the notion of a nationwide linguistic atlas. Their TELSUR project forms the basis of a proposed Atlas of North American English (ANAE) and is in some respects a mirror image of traditional atlas work. Whereas traditional atlases focused on rural areas and older informants, ANAE focuses on cities and younger informants. While traditional atlases examine native English speakers with long roots in a community, ANAE selects informants on the basis of perceived ethnic identity to mirror the ethnic make-up and complexity of contemporary American cities. However, ANAE returns to the traditional atlas approach, first developed in Europe and continued in the United States, of using isoglosses to draw boundaries around areas with specific linguistic features as the tool for spatial analysis. As the maps on the website for the atlas indicate, it uses that tool to explore the kinds of mergers that are the focus of this study (e.g., the caught-cot merger and the pen-pin merger).

The Study of Pre-/r/ Mergers

Although the importance of /r/ in creating the distinctiveness of SAE has long been recognized (e.g., the “loss” of post-vocalic /r/ in words like four, fur, and bird and the presence of intrusive /r/ in words like wash), no one has examined the effect of /r/ on preceding vowels. Kurath and McDavid (1961) noted that the South was unusual among American dialects in preserving the distinction between /ɔ/ and /ɔ/ before /r/ in words like hoarse and horse and that a
number of areas of the South still preserved the distinction between Mary and merry that was rapidly eroding elsewhere in the United States. Kurath (1964) is one of the few linguists who has discussed the general effects of /r/ on the American English vowel system. He noted that “the general effect of /r/ was to lower and to centralize the vowel preceding it, especially if it belonged to the same syllable” (27). He pointed out that these effects had led to a number of mergers and realignments in vowel systems and that many varieties of American English had only six vowel phonemes before tautosyllabic /r/ (words where the vowel and the following /r/ occur in the same syllable, such as horse). These are: /ɑl, ɛ/, /æl, ɔl, əl/, and /ɑl/). Historically, at least, the American South was unique in having seven vowels before tautosyllabic /r/ (/ɑl, ɛ/, /æl, ɔl, əl, œ, and /ɑl/), and these seven vowels and /e/ before heterosyllabic /r/ (in words where the vowel and the following /r/ occur in separate syllables, such as the older SAE pronunciation of Mary) occurring in many areas.

This thesis uses linguistic atlas data to show how the mergers of /o/ and /ɔ/ before tautosyllabic /r/ and /e/ and /ɛ/ before heterosyllabic /r/ have realigned and continue to realign the traditional SAE pre-/r/ vowel system to make it more like that of the rest of the United States.
ENDNOTES

1 The discussions of historical sound changes in English come from Baugh and Cable (1992) and from my notes taken in a course on the History of the English Language at the University of Texas at San Antonio taught by Guy Bailey in 2001.

2 In Labov’s (1994) discussion of mergers and “falsely reported mergers,” he summarizes both the work of Herold and Tillery.

3 In fact, the American Atlas fieldworkers were trained by Jakob Jud, a student of Gilliéron’s who had developed a linguistic atlas project in Switzerland, and Paul Scheuermeier, one of Jud’s students.

4 The aged distinctions of “young,” “middle-aged,” and “aged” are not clearly defined either in LANE or in subsequent atlases.

5 Only about half of the 1162 LAMSAS informants are analyzed in this thesis, however, since the focus is on the South.

6 See Bailey and Dyer (1992) for examples of this mapping technique.
CHAPTER 2

METHODOLOGY

Like most work in sociohistorical linguistics, this thesis relies on existing data, in this case the Linguistic Atlas of the Gulf States (LAGS) and the Linguistic Atlas of the Middle and South Atlantic States (LAMSAS).\textsuperscript{7} Taken together, the two atlases provide broad coverage of the American South and a database on SAE that covers more than 100 years. Although both of these are outgrowths of the Linguistic Atlas of the United States and Canada that Kurath proposed in 1929 (see Chapter 1), both are autonomous projects that modify and extend the methods of LANE to some degree.

LAMSAS

Hans Kurath began work on LAMSAS in 1933, immediately after the fieldwork for LANE was completed. LAMSAS fieldwork continued until 1948 (although a few additional interviews were done over the next 20 years), but the editing of the material continues to this day. Guy Lowman, one of the LANE fieldworkers, and Raven I. McDavid, Jr. did almost all of the LAMSAS fieldwork, and Kurath turned over the duties of Director to McDavid when Kurath assumed the editorship of the Middle English Dictionary.\textsuperscript{8} As in LANE, LAMSAS communities were selected according to their historical importance, with a focus on rural, declining communities rather than newer areas (Kretzschmar et al.,
1994). Within these communities, fieldworkers interviewed the same three types and two subtypes interviewed in LANE, providing six social types in all (see table 2 below). Likewise, as in New England, the target population included only whites, although 41 African Americans were later added to the corpus, primarily in Georgia and South Carolina.

Table 2. Social Types in LAMSAS

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Old-fashioned</td>
<td>grade school</td>
<td>high school</td>
<td>some college</td>
</tr>
<tr>
<td>B. modern</td>
<td>grade school</td>
<td>high school</td>
<td>some college</td>
</tr>
</tbody>
</table>

Fieldworkers selected informants through local contacts in the community (such as newspapermen, clergy, and local historians) and used a modified version of the worksheets used for LANE in conducting the interviews. They transcribed informants’ responses to worksheet items in the field in the same phonetic alphabet used in LANE (although the few interviews done after 1950 were tape-recorded and transcribed later). The workbooks of phonetic transcriptions made in the field comprise the basic data of the atlas. Figure 2 shows a sample LAMSAS workbook page. The completed LAMSAS project includes workbooks from 1162 informants in 11 states, New York, New Jersey, Pennsylvania, Delaware, Maryland, West Virginia, Virginia, North Carolina, South Carolina, eastern Georgia, and Florida and Washington, D.C.
Figure 2. Sample LAMSAS workbook page

Used with Permission, Linguistic Atlas of the Middle and South Atlantic States, University of Georgia, 1994.
Data from only the last seven are used in this thesis, however. Figure 3 shows the LAMSAS territory.

Since 1983, Dr. William Kretzschmar has been the Director of LAMSAS. Although Kretzschmar is in the process of computerizing the LAMSAS corpus and making it available on the LAMSAS website, much of the raw data is available only at LAMSAS headquarters in Athens, Georgia. At this point, the only published volume for LAMSAS is the *Handbook* (Kretzschmar 1994), although the interpretive work of Kurath (1949), Atwood (1953), and Kurath and McDavid (1961) all use data from LAMSAS. The LAMSAS data used here was gathered in Athens from the LAMSAS files.

**LAGS**

LAGS began in 1968 under the directorship of Lee Pederson, of Emory University, some 35 years after the LAMSAS fieldwork began. The last of the seven volumes of the atlas was published in 1993. While LAGS is by affiliation part of the American linguistic atlas project, a number of innovations distinguish it from the other atlas projects. These innovations are responses to technological changes during the 35 years that separate LAGS and LAMSAS and to developments in the social sciences during that time. LAGS is a survey of regional and social variation in eight Southern states: Tennessee, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, and eastern Texas. Figure 4 shows the area covered by LAGS. To organize fieldwork in these states, the territory was divided into 18 sectors and 538 grid units based on historical,
Figure 3. LAMSAS Territory

demographic, social, economic factors. Table 3 lists the LAGS sectors, and Figure 5 show the grids. The grids, which are the target areas for fieldwork, are smaller in the eastern sections of the territory and larger in the western sections, largely as a consequence of the longer and more complicated settlement history in the east. Fieldworkers did interviews in the community in each grid that was most typical of that grid’s social history.

Table 3. LAGS Sectors and Their Abbreviations

<table>
<thead>
<tr>
<th>AR- Arkansas</th>
<th>LT-Lower Texas</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT-Middle Tennessee</td>
<td>EF- Eastern Florida</td>
</tr>
<tr>
<td>UA- Upper Alabama</td>
<td>EL-Eastern Louisiana</td>
</tr>
<tr>
<td>UG-Upper Georgia</td>
<td>ET-Eastern Texas</td>
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<tr>
<td>UM-Upper Mississippi</td>
<td>GA- Gulf Alabama</td>
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<tr>
<td>UT-Upper Texas</td>
<td>GM-Greater Mississippi</td>
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<tr>
<td>WF-Western Florida</td>
<td>LA-Lower Alabama</td>
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<tr>
<td>WL-Western Louisiana</td>
<td>LG-Lower Georgia</td>
</tr>
<tr>
<td>WT-Western Tennessee</td>
<td>LM-Lower Mississippi</td>
</tr>
</tbody>
</table>

Within each grid, fieldworkers interviewed at least one white Type 1 informant and one white Type II informant. In every fifth grid, white Type IIIs were interviewed as well. All informants were natives of the communities in which they lived (usually from families that had lived in the same area at least three generations). While this approach is not unlike that of LAMSAS, two other factors in the LAGS sample make it quite different from other atlas projects. First, LAGS considered African Americans, Hispanics, and other ethnic groups as part of the target population as long as English was at least one of
Figure 5. LAGS Grids

their native languages. As a result, African Americans were interviewed in every grid in which they had comprised at least 20% of the population in 1930. The 1930 census was used because it reflects the composition of the population before much of the Southern African American population moved north during the Great Migration. African Americans make up about 20% of the overall LAGS sample. Hispanic, Cajun, and German-American informants were also interviewed in those grids in which they made up substantial parts of the population.

Second, similar to other linguistic atlases, LAGS gives priority to older rural communities, yet, unlike those other atlases it included coverage of most of the cities in the region, with at least eight interviews in every major urban area. Moreover, LAGS includes a special supplemental questionnaire designed for use (along with the regular questionnaire) in the major urban areas. Thus while the LAGS corpus of 1121 informants is by no means a random sample of the Gulf States, it is one of the most diverse samples in American linguistics.

Except for the urban supplement, the LAGS worksheets were much like those used for LAMSAS (with additions to account for linguistic peculiarities of the Gulf States, of course). However, the advent of high-quality portable tape-recorders meant that all LAGS interviews could be tape-recorded in the field. The transcription of worksheet responses (in the same fine-grained phonetic alphabet used in LAMSAS) was done separately from the interview, (unlike LAMSAS and LANE) usually by someone other than the fieldworker. LAGS used a
combination of full-time and student fieldworkers but only eight scribes, all of
whom were trained by Pederson, had extensive work in phonetics, and worked
fulltime for LAGS. The separation of the duties of fieldworker and scribe meant
that the transcriber of an interview could re-listen to a response multiple times,
something which in theory should lead to more accurate transcriptions, and could
transcribe longer passages of phonetic texts. Figures 6 and 7 are examples of
the consonant and vowel charts used in LAGS transcription.

The fact that the entire LAGS corpus was tape-recorded meant that LAGS
could reconceptualize the idea of “basic data.” In LAGS, the tape recordings
themselves are the basic data. Transcriptions of the recordings are “analogues”
of the basic data (Pederson 1974). While most LAGS users work from the
transcribed data, they do so with the understanding that it has been filtered
through the ears of another observer, albeit a highly trained one.

The publication of LAGS was designed to make the transcribed data
available to users in raw form as well as to provide interpretive data on Southern
dialects. As a result in 1981, upon completion of the fieldwork, the LAGS
Protocols (the LAGS equivalent to the workbooks of LANE and LAMSAS) were
published on microfiche and microfilm. Figure 8 is a sample LAGS protocol
page. In addition, one-page phonetic summaries (or Idiolect Synopses) were
published for each informant. The Idiolect Synopses include words that illustrate
each vowel in five phonetic contexts: before voiced and voiceless obstruents,
Figure 6. LAGS Consonant Chart

Figure 7. LAGS Vowel Chart

<table>
<thead>
<tr>
<th>i (y)</th>
<th>I (Y)</th>
<th>ï (u)</th>
<th>u (u)</th>
<th>y (v)</th>
</tr>
</thead>
<tbody>
<tr>
<td>e (ø)</td>
<td>ø</td>
<td>ø</td>
<td>ø</td>
<td>ø</td>
</tr>
<tr>
<td>æ</td>
<td>æ</td>
<td>æ</td>
<td>æ</td>
<td>æ</td>
</tr>
<tr>
<td>a</td>
<td>a</td>
<td>a</td>
<td>d (b)</td>
<td></td>
</tr>
</tbody>
</table>

Table 8
The LAGS Vowel Quadrant

Figure 8. Sample LAGS Protocol Page

before nasals, before /l/, and before /r/. They also provide some morphological and lexical information. Figure 9 is a sample Idiolect Synopsis. Between 1981 and 1993 seven interpretive volumes were published for LAGS: including the Handbook for the Linguistic Atlas of the Gulf States, General index for the Linguistic Atlas of the Gulf States, Technical index for the Linguistic Atlas of the Gulf States and four volumes of statistical summaries and maps. These volumes include a substantial amount of information on the regional and social distribution of the LAGS worksheet items.

Collection and Analysis of Data

Although interpretive volumes exist for both LAGS and LAMSAS, for several reasons this thesis is based on the raw data from these atlases (or in the case of LAGS, on the analogue closest to the raw data). First, the interpretive volumes focus only on regional and social distributions. As will be clear below, this study is concerned with the motivations for, rather than simply the demographic distributions of, the Mary/merry and the horse/hoarse mergers. While social factors may play a role in the mergers, linguistic factors may be more important, especially in the former case. It is necessary to delve into the raw data to sort out these linguistic factors. Second, the interpretive volumes, like most sociolinguistic work, include only pre-set, aggregate social categories. In some cases it may be important to use different parameters for those categories to get at the structure of linguistic variation. For example, the LAGS interpretive
Figure 9. Sample LAGS Idiolect Synopsis

volumes organize age data into four groups, classifying informants by their age at the time of their interview. However, LAGS interviews may have been done as much as 15 years apart, so someone who was 65 in 1968 is categorized with someone who was 65 in 1981 -- someone who would have been 48 in 1968. This system thus puts together people born as much as 15 years apart and conflates “interview time” with “real time.” Research over the last 15 years, however, shows that age is the primary factor impacting variation in the South during the last 125 years (Tillery and Bailey 2003); accurate groupings of informants by date of birth are thus critical to sociohistorical research on Southern dialects.

The data used here comes from the LAMSAS workbooks and the LAGS Protocols. Information on the pronunciation of Mary, merry, horse, and hoarse for each LAGS informant and for each LAMSAS informant in a Southern state was coded into a Microsoft® Excel database. In addition, the database includes for each informant the date of birth, sex, race, sector, and size of the community. For all four words, the coding for pronunciation includes not only information on the vowel, but also information on the phonetic realization of the following /l/. For Mary and merry, the coding for /l/ reflects transcription distinctions between pre-vocalic (transcribed as [i]) and post-vocalic /l/ (transcribed as /l/ /o/ /o/ or /o/), while for horse and hoarse, the coding distinguishes the degree of constriction in the following /l/.
As in most sociolinguistic analysis, this thesis correlates linguistic and social factors in exploring the progress of the mergers under consideration. Unlike most sociolinguistic work, it also examines spatial factors, which in both cases are crucial in explaining the progress of the merger. Finally, it also considers the effects of the following /r/ since pre-/r/ mergers are well established in most varieties of English. Linguistic atlas data, like virtually all sociolinguistic data, does not meet the criteria for inferential statistical tests. However, in light of current practice in sociolinguistics, this thesis includes the results of chi square tests of sociolinguistic correlations.
ENDNOTES

7 The material in Chapter 2 is based largely on the handbooks for LAMSAS (Kretzschmar et al. 1994) and LAGS (Pederson et al. 1986). Additional material comes from Guy Bailey, who was a fieldworker, scribe, and Assistant Editor for LAGS from 1976-81.

8 Originally, Lowman was targeted to do all of the fieldwork; McDavid replaced Lowman in 1938 upon the untimely death of the latter.

9 The worksheets were modified to explore linguistic features that were not relevant in New England. LAGS modified the worksheets still further, but the core of the worksheets has remained the same throughout the history of the American atlas project.
CHAPTER 3

RESULTS

Front Vowel Merger: /ɛ/ and /e/

The merger of /ɛ/ and /e/ before heterosyllabic /r/ (words where the vowel and the following /r/ occur in separate syllables) almost always involves the laxing of the tense vowel in words like Mary. The tensing of the lax vowel in words like merry almost never occurs. The LAMSAS data suggest that this process was well under way by the middle of the 19th century. As Figure 10 illustrates, 44 percent of the informants in the oldest age group (born between 1840 and 1869) have the merger, while 39 percent of the youngest age group (born between 1900 and 1949) do. The merger, however, is not evenly distributed across the LAMSAS territory as Figure 11 indicates. In those areas that are part of the Southern periphery (West Virginia and Maryland, for instance), almost all informants have the Mary/merry merger; in the Deep South (South Carolina and Georgia, for example), almost none of them do. Only in Virginia and North Carolina is there much variation in the pronunciation of Mary, and even there the distribution is regionally constrained, with the Appalachian areas having the merger and the old plantation area maintaining the distinction. To use Kurath’s (1949) terminology, the merger of the vowels in Mary and merry is a South Midland feature, while the distinction is a Southern one.
Figure 10. Merged Vowel in Mary in Apparent Time LAMSAS
Figure 11. Regional Distribution of Merged Vowels in Mary in LAMSAS
The strength of this regional effect is so great that analysis by other sociolinguistic categories is irrelevant. The LAGS data on the Mary/merry merger confirms the regional distinction that appears in LAMSAS, but it also shows that the merger is rapidly expanding in the Deep South as well. As Figure 12 indicates, the merger is most advanced along the periphery of the Gulf States – in Upper Texas, Gulf Mississippi, Western Florida, and Arkansas.\textsuperscript{13} Table 4 provides a legend for Figure 12.

<table>
<thead>
<tr>
<th>AR- Arkansas</th>
<th>LT-Lower Texas</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT-Middle Tennessee</td>
<td>EF- Eastern Florida</td>
</tr>
<tr>
<td>UA- Upper Alabama</td>
<td>EL-Eastern Louisiana</td>
</tr>
<tr>
<td>UG-Upper Georgia</td>
<td>ET-Eastern Texas</td>
</tr>
<tr>
<td>UM-Upper Mississippi</td>
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<tr>
<td>UT-Upper Texas</td>
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<tr>
<td>WF-Western Florida</td>
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<tr>
<td>WL-Western Louisiana</td>
<td>LG-Lower Georgia</td>
</tr>
<tr>
<td>WT-Western Tennessee</td>
<td>LM-Lower Mississippi</td>
</tr>
</tbody>
</table>

The Deep South states of Georgia, Alabama, and Mississippi are most resistant to the merger. Nevertheless, the merger is rapidly expanding everywhere, as Figure 13\textsuperscript{14} suggests. Slightly less than half of the informants born before 1920 have the merger, but the merger begins to expand rapidly after 1920, so that among informants born after 1940, nearly 83% have it. The LAMSAS data, then, suggests that during the 19\textsuperscript{th} and early 20\textsuperscript{th} centuries the Mary/merry merger was simply a regional marker, one of the linguistic aspects that distinguished the South Midland region from the South.
Figure 12. Regional Distribution of Merged Vowels in Mary in LAGS
The LAGS data confirms this regional distribution, but it also suggests that by the 1920s this South Midland feature of /e/ had begun to expand into the South and was spreading rapidly.

Labov (1966; 1972) identified external linguistic factors which play important roles in sound change, including social class, education, residence and sex of the informant. As a change in progress, the Mary/merry merger might be expected to show the same kind of social effects that Labov identified. The data in Figures 14-16 suggest that some of the factors identified by Labov do appear to affect the merger.

The sex of the informant does not have an effect on the front vowel merger in LAGS, with 55.9% of the males and 54.6% of the females having /e/ in Mary. However, three social factors do affect the merger. These are race, rurality, and education. As Figure 14\(^{15}\) shows, African Americans lag behind white informants in the use of /e/ in Mary: 44.6% versus 58.2\(^{16}\). The residence of the informant is equally important with urban informants leading in the change. This is shown in Figure 15.\(^{17}\) The educational level of the informant has a similar effect. As Figure 16,\(^{18}\) shows, Type I informants (those with an elementary school education) show the lowest rate of merger -- 46.4%. However, 56.3% of the Type II informants (those with a high school education) have the merger and 65.6% of the Type III's (those with some college) have it. The educational level of the informant appears to correlate to the use of the merger: informants with
Figure 14. Effect of the Race of the Informant on the Merged Vowel in Mary in LAGS
Figure 15. Effect of the Residence of the Informant on the Merged Vowel in Mary in LAGS

<table>
<thead>
<tr>
<th>Residence of Informant</th>
<th>Percentage of Informants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>49.25</td>
</tr>
<tr>
<td>Urban</td>
<td>64.38</td>
</tr>
</tbody>
</table>
Figure 16. Effect of Education on the Merged Vowel in Mary in LAGS
little education maintain the distinction between /e/ and /e/, but those informants with at least a high school education are more apt to exhibit a merger of the two sounds.

The expansion of /e/ in Mary in Apparent Time in LAGS correlates with one other factor as well – one that might be helpful in explaining why /e/ began to spread in the Lower South. Figure 17\(^9\) below shows Apparent Time information on the type of /rl/ that follows the vowel in Mary in addition to the Apparent Time distribution of /e/ in Mary. Historically in the American South, two types of /rl/ were possible in words like Mary and merry, and these reflected differences in the syllabification of those words. Some Southerners syllabified /rl/ with the second syllable in words like Mary and thus used pre-vocalic /rl/ (phonetically [ɪ]). Other Southerners syllabified /rl/ with the first syllable and thus used an allophone of post-vocalic /rl/ (phonetically [ɔ] or [ʌ]). As Figure 17 suggests, the distribution of /e/ in Mary closely tracks the distribution of postvocalic /rl/ (phonetically, [ɔ]) in that word. The pre-vocalic variant (phonetically [ɪ]), on the other hand, closely parallels the distribution of /e/. As indicated in Chapter 4, the merger of the vowels in Mary and merry may well be in part a response to changes in the syllabication of medial /rl/ and the resulting changes in the phonetic character of that /rl/.
Back Vowel Merger: /o/ and /ɔ/

Phonetically, the merger of /o/ and /ɔ/ before /r/ in words like horse and hoarse is somewhat more complex than the front vowel merger discussed above. In some cases, the merger involves the use of /ɔ/ in both words; in other cases it involves the use of /o/ in both. As the data below suggests, for a significant period of time these two possibilities competed with one another, providing a situation of competing mergers much like that which Thomas and Bailey (1992) identified in words such as lord and lard in Texas. Because the LAMSAS data shows very little evidence of any merger of /o/ and /ɔ/ before /r/, the results below focus on LAGS.

Figure 18,\textsuperscript{20} charts the use of /ɔ/ in hoarse in Apparent Time in LAGS. As that figure shows, /ɔ/ was an occasional variant in hoarse for much of the 90-year period covered by LAGS, but rather than changing over time, it remained a stable variant. In fact, it is most likely now a declining variant, as Figure 19 suggests.\textsuperscript{21} As Figure 20 indicates, there was no real regional pattern to the distribution of /ɔ/; it was simply a stable variant across the LAGS territory. The situation with /o/ in horse is quite different, however. When this feature is charted in apparent time (see Figure 21\textsuperscript{22}) two things become immediately clear. First, while /o/ in horse has always been an occasional variant, it was originally not as common as /ɔ/ in hoarse.
Figure 18. Unmerged Vowel in Apparent Time in *Hoarse* in LAGS
Figure 19. Unmerged Vowel in *Hoarse* in Apparent Time in LAGS 1940-1965
Figure 21. Merged Vowel in Horse in Apparent Time in LAGS

Decades of Birth

Percentage of Informants

1870-1899 1900-1919 1920-1939 1940-1965

5.23 5.28 7.45 18.83
Among the two oldest groups of LAGS informants, /ɔ/ occurred almost three
times as frequently as did /o/. Second, unlike the use of /ɔ/ in horse, the use of
/o/ in horse began to expand after World War II and now seems to be an
expanding variant. Figure 22 confirms the idea that this is a change in
progress, although one that has only recently begun to diffuse. The data shown
on Figures 21 and 22, then, suggests that the horse/hoarse merger with /o/ as
the vowel is an incipient change which began to spread after World War II, and
that this change is continuing to increase rapidly.

As an incipient change, the merger of /o/ and /ɔ/ in horse before /ɔ/ had yet
to develop clear social significance during the time of the LAGS fieldwork.
Education is the only social category that affects the change, as Figure 23,
shows. Type II and Type III informants (those with high school and college
educations, respectively) are more likely to have the merger than are Type I
informants (with an elementary school education.) More urban than rural
residents have the merger (8.3% versus 6.3%) as do more whites than African
Americans (8.0% versus 5.7%), but the differences for these two factors are not
significant.

As with the Marie/merry merger, however, a clear geographic pattern
emerges in regard to the use of /ɔ/ in horse. This is seen in Figure 24. This
feature seems to be most advanced in the eastern section of the LAGS territory
Figure 22. Merged Vowel in *Horse* in Apparent Time 1940-1965
Figure 24. Regional Distribution of the Merged Vowel in Horse in LAGS
and least advanced in the west. A look at the use of /o/ in horse among the oldest LAGS informants suggests an even more specific regional concentration. Of the 17 people with /o/ in horse who were born between 1870-1899, 10 were residents of Upper Georgia. Of the 23 of the informants born between 1900 and 1920 who had the merger, 14 were residents of Georgia, Alabama, or Florida. This geographic correlation with Georgia in LAGS, and especially with the Georgia piedmont, is confirmed in LAMSAS. In LAMSAS the use of /o/ in horse is quite rare, with only nine informants having the feature. However, six of the nine were Georgia residents. Historically then, the merger of horse and hoarse with /o/ as the preferred vowel seems to have emerged on the Georgia piedmont and spread outward from there.

A comparison of the regional distribution of /o/ in horse and /ɛ/ in Mary in LAGS shows another interesting pattern. Their spatial patterns are almost in a kind of complementary distribution: where the percentage of /ɛ/ in Mary is high the percentage of /o/ in horse is generally quite low and vice versa. Figure 25 shows that for those regions in which over 50% of the informants have the merger of /ɛ/ and /ɛ/, the informants in that same region have 12% or less use of /o/ in horse. Although the reasons for this distribution are not entirely clear, the following discussion will offer a hypothesis.
Figure 25. Regional Distribution of Merged Vowels in Mary and Horse in LAGS
(Merged Vowel values >50%)
ENDNOTES

10 Informants born 1840-1869 n=121; 1870-1899 n=130; 1900-1949 n=23.

11 Although it would appear at first glance that the merger is declining in LAMSAS, this is actually a result of when the interviews were done. The young informants are slightly disproportionately distributed in South Carolina and Georgia (areas where the merger did not occur) since those interviews were done after World War II. Most of the rest of the LAMSAS interviews were completed before World War II.

12 Although the figures showing Florida also suggest substantial variation, there are too few informants in Florida to make firm generalizations. Of nine total informants, eight responded to Mary.

13 The data in Figure 12 shows Eastern Louisiana ranked between Western Florida and Arkansas; however, the percentage of informants with the merger is conflated by New Orleans.

14 Informants born 1870-1899 n=126; 1900-1919 n=163; 1920-1939 n=97; 1940-1965 n=119.

15 African American informants n=90; white informants n=415.

16 Chi-square tests were completed for informants’ race, residence and educational level for Mary (all of which were found to be statistically significant variables) and for residence of informant for horse (which was found not to be statistically significant). The probabilities were calculated using the .05 probability level.

17 Rural informants n=196; urban informants n=275.

18 Type I informants n=155; Type II n=188; Type III n=162.

19 Informants born 1870-1899 n=130; 1900-1919 n=169; 1920-1939 n=75; 1940-1965 n=106.

20 Informants born 1870-1899 n=33; 1900-1919 n=52; 1920-1939 n=21; 1940-1965 n=23.

21 Informants born 1940-1949 n=10; 1950-1959 n=10; 1960-1965 n=3.
22 Informants born 1870-1899 n=17; 1900-1919 n=23; 1920-1939 n=12; 1940-1965 n=29.


24 Type I informants n=19; Type II n=36; Type III n=26.
CHAPTER 4

DISCUSSION and CONCLUSIONS

Discussion

The results presented in Chapter 3 are surprising in many respects. What they indicate about the relationship between the merger of /e/ and /a/ before /r/ in words like *Mary* and *merry* and the merger of /ɔ/ and /o/ before /r/ in words like *horse* and *hoarse* is particularly unexpected. Common sense would suggest that the mergers of /e/ and /e/ before /r/ and of /ɔ/ and /o/ before /r/ would be related or at least parallel linguistic processes. In fact, they probably are not. A number of things lead to this conclusion. First, both the spatial and temporal diffusion of these mergers is quite different. The *Mary/merry* merger was a common South Midland (Upper Southern) feature (in fact, it was the dominant form in the South Midland) that spread into the Lower South, beginning about 1920. The spread of the merger was motivated at least in part by internal migrations that affected the South after 1880. As industry (especially the textile and timber industries) moved to the South during the last decades of the 19\textsuperscript{th} and first decades of the 20\textsuperscript{th} centuries, people from the Appalachians migrated to the Lower South, and especially to the piedmont, to find work. Migrants from the Upper South populated entire sections of Southern cities in the piedmont (e.g., Cabbagetown in Atlanta), while they provided virtually the entire population of some of the
Southern mill towns that sprung up in the Lower South after 1880 (Ayers 1992). As they moved into the Lower South, they brought the Mary/merry merger with them. The typical case in language is for mergers to expand at the expense of distinctions (Labov 1994); once the Mary/merry merger had become established in the Lower South, it began to expand rapidly.

The horse/hoarse merger with /ɔ/ as the merged vowel, on the other hand, began to spread after World War II – after many years as an extremely rare variant that was largely localized in Georgia (especially the Georgia piedmont) and contiguous areas. The fact that this merger began to spread at all is quite surprising since it was never a high-frequency variant in any part of the South. In fact, it was much less common, even in Georgia, than the merger of horse and hoarse with /ɔ/ as the merged vowel. Again, common sense might suggest that if either merger were to expand, it would be the one with /ɔ/ as the vowel. Two factors probably account for the emergence of /ɔ/ as the vowel in the horse/hoarse merger. The first involves the changing status of /ɔ/ in the American South. Historically, /ɔ/ was an upgliding diphthong in the South – phonetically [ɔʊ] or [ɔu] (see Thomas 2001; Tillery and Bailey, forthcoming). This stereotypical older Southern feature was often represented as dawg in dialect literature. After World War II, the upglide began to disappear, however, and as it did, /ɔ/ began to merge with /ɑ/ since in SAE the two vowels were already very close in phonetic space (Thomas 2001). The merger of horse and hoarse with
/o/ as the vowel was promoted by still another factor; the movement of non-Southerners into the South after World War II (see Bailey, Wikle, Tillery, and Sand, 1996). Migration into the South from the Upper Midwest and Midwest brought many residents who had the /ɔ/-/o/ merger, and they amplified the spread of a merger that already had phonetic motivation. That phonetic motivation lay in close proximity or overlapping distribution of /ɔ/ and /o/ in phonetic space. These same migrants brought with them a horse/hoarse merger with /o/ as the vowel as well. The emergence and spread of the /ɔ/-/o/ merger, of course, eliminated /ɔ/ as a possibility in hoarse (and in horse as well), and the new migrants increased the pool of people who had the horse/hoarse merger with /o/. These demographic and phonetic factors insured both the rapid expansion of the horse/hoarse merger and the use of /o/ as the vowel.

The horse/hoarse merger suggests that phonetic/phonological factors may be as important as social ones in the diffusion of mergers. While the Mary/merry merger clearly has a sociolinguistic dimension, spreading from the Upper South to the Lower South, the spread of this merger may well have been a response to other phonological changes as well. As the data in Chapter 3 shows, the Mary/merry merger closely tracks changes in the phonetic realization of /r/ from [u] to [ə]; this phonetic change, in turn, is clearly a response to changes in the syllabification of /r/. Historically in the Lower South, medial /r/ in words like Mary was usually syllabified with the second syllable. Since the
1920s, the syllabification has changed so that it is now typically syllabified with the first. The change in syllabification and the consequent change in the phonetic realization of /r/ (from the pre-vocalic to the post-vocalic allophone) created a phonological context similar to that of single syllable words ending in /r/ (e.g., bear, chair). The effects on the preceding vowel are much like those Kurath (1964:27) discussed for other vowels before tautosyllabic /r/: the preceding vowel is lowered – from /e/ to /ɛ/ in this case. Like the horse/hoarse merger, the Mary/merry merger, then, may have been strongly influenced by phonetic and phonological factors, but those factors were quite different. In the former, the diffusion of the merger was almost certainly amplified by the unconditioned merger of /ɔ/ and /ʌ/, while in the latter the merger may have been motivated by (or, at the very least, its diffusion amplified by) changes in syllabification of medial /r/.

Although the temporal and spatial dimensions and the phonetic motivations of the Mary/merry and horse/hoarse mergers are quite different, and the horse/hoarse merger is in its incipient stages and most of the sociolinguistic constraints are not statistically significant, the mergers have similar sociolinguistic profiles in several ways. Better-educated, urban, white informants lead in the use of the merger in both cases. The fact that urban residents lead in both mergers is not surprising, since internal migration in the South and external migration to the South over the last century was primarily to Southern cities (Bailey, Wikle, Tillery, and Sand 1996). The fact that better-educated, white
informants led in the mergers seems more surprising at first, but closer
examination suggests a logic for it. For one thing, the /ɔ/-/o/ merger is clearly a
prestige merger in most of the United States (Labov 1994; Tillery 1989). Those
migrants from the Midwest who bring it with them (and who also bring the
**horse/horse** merger with /o/ as the vowel) are usually white and better
educated, and they typically move to Southern cities. Those same migrants have
the **Mary/merry** merger too. Additionally, upgliding /ɔ/, the context which serves
as an absolute barrier against the /ɔ/-/o/ merger, has been preserved largely
among less-educated, rural, and African American Southerners (Tillery and
Bailey, forthcoming; Thomas 2001). The syllabification of /ɔ/ with the second
syllable in words like **Mary** is also preserved most often among the same groups
of Southerners (Tillery and Bailey, forthcoming). In this context, then, the social
profiles of the **Mary/merry** and **horse/horse** mergers make sense, and most
likely they are now prestige features of SAE.

Finally, the **Mary/merry** and **horse/horse** mergers are alike in one other
way: they contribute to the realignment of the SAE vowel system before /ɔ/,
making it more like that of other Americans. For those Southerners who have the
mergers there are now only six vowels before tautosyllabic and heterosyllabic /ɔ/:
/ʌ/, /ɛ/, /æ/, /ɔ/, /ɒ/, and /ɑ/. Even though these two mergers are unrelated
processes, they affect the SAE vowel system in similar ways, thus aligning the
SAE vowel system more closely with that of the rest of the country.
Conclusions

The data from the Linguistic Atlas of the Gulf States (LAGS) and the supplemental data used from the Linguistic Atlas of the Middle and South Atlantic States (LAMSAS) suggest a number of conclusions. First, it is evident that the data from LAGS and LAMSAS can be used together as complementary corpora. Although researchers must be alert to variation that might result from methodological differences, the two atlases, when taken together, provide a 100-year window on SAE. Also, linguistic atlases are particularly useful in tracing the development of mergers, such as the merger of /e/ and /e/ and the /o/ and /a/ examined in this thesis. Moreover, the linguistic atlases allow researchers to explore phonetic motivations for mergers, as well as the social and linguistic constraints on mergers since raw phonetic data is available.

The data used in this thesis shows that the Mary/merry merger is older than the horse/hoarse merger. It also suggests that the Mary/merry merger is the result of a change in the syllabification, and that it is also strongly motivated by regional and demographic issues. The horse/hoarse merger is the more recent of the two mergers and is connected to phonetic changes in the /a/ and /o/ phonemes. While it too has a demographic component, it had not yet developed a clear social meaning by the time the LAGS interviews were done. However, somewhat surprisingly, the atlas data is helpful in pinpointing the early regional distribution of the /a/-/o/ merger in the Georgia piedmont.
There are several limitations to the use of LAGS and LAMSAS. First, although informants born in the decades between 1850-1950 are well-represented by the corpora, the data does not include many informants born after World War II. The relative absence of African American informants in the LAMSAS sample complicates the ability to make racial comparisons. Additionally in LAMSAS, the lack of urban informants makes comparisons based on the informants' residence difficult. Because the data collection for LAGS and LAMSAS focused on interviewing informants who were native to the region they were interviewed in, it is unclear from the data how the interactions of non-natives living in the regions surveyed affect the SAE vowel system.

There are several ways the study of SAE could be expanded to lead to a better understanding of the SAE vowel system. An examination of the front vowel merger of /ɛ/ and /æ/ which is now taking place in merry and marry would contribute to the understanding of front vowel mergers in SAE. Also, a comparison of the effects of /ɜ/ and /ɪ/ on preceding vowel mergers would further the understanding of how and why vowel mergers occur.
WORKS CONSULTED


