

A FOUNDATIONAL SAMPLE OF EL PASO ENGLISH

by

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(Under the Direction of William A. Kretzschmar)

ABSTRACT

This dissertation describes the sampling method and results of analysis of the El Paso English Survey, a survey of lexical and phonetic features of forty European-American El Pasoans who came of age during World War II. Three-hour interviews were conducted yielding over twenty minutes of conversational speech (the basis for phonetic analysis) and three-hundred lexical features. The informants are upper-middle-class, ten rural and thirty urban, with equal numbers of men and women in each group. Analysis involved Kruskal-Wallis tests for correlation of linguistic variants with the social variables: sex, rurality, parental origin, and occupation. Results show variation both between individuals and within individual speech, but indicate features general to the speech of the sample as a whole and features correlated with social variants. Correlation of a large number of linguistic variants with parental origin demonstrates the influence of parents on developing speech habits. Evidence from the El Paso English Sample challenges the notion of merger of the vowels in *caught* and *cot*, suggesting simple unrounding of the vowel in *caught*. Variation in the sample is considered within the framework of the Founder Principle advanced by Salikoko Mufwene (2001).

INDEX WORDS: Linguistic Geography, Dialects, Sociolinguistics, El Paso, Texas, Anglo, European American, English, Language study, Founder Principle, Kruskal-Wallis

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DEDICATION

This dissertation is dedicated to my husband Scott and my dog Sarge, who had to live with me while I wrote it, and to the memories of my grandfather, Andrew David Hamilton, and of my colleague Beth Johnson.

“We are an island in the desert.” — Jeanmarie Hamilton, 2003.

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CHAPTER 1

INTRODUCTION

This dissertation presents the results of the analysis of a foundational study of phonetic and lexical language variation among forty European-American men and women, native to El Paso County, Texas, who came of age during World War II. The sample contains ten rural and thirty urban informants, with equal numbers of men and women in each group. Presence or absence of linguistic features is counted and linguistic variants are tested for associations with social variants by application of the non-parametric Kruskal-Wallis H statistic. Both similarities and differences in the speech of the El Paso informants are explored, and the behavior of the El Paso English Sample as a whole is compared with behaviors of other regional groups from earlier studies of regional variation.

El Paso, Texas has attracted newcomers from the United States and Mexico since it became an army outpost in the mid-nineteenth century and then burgeoned with the arrival of the railroad in 1881. The welcoming character of El Paso's population is symbolized by its official nickname, the Sun City, and its long-time modern mascot, a smiling sun with cowboy hat and boots, the Amigo Man. Ironically, El Paso's welcoming nature has caused it to be largely ignored as a site for English language variation studies by dialect geographers and sociolinguists alike: wars and business fluxuations have made it difficult to locate people who have lived in El Paso all their lives whom sociolinguists would consider to be speakers of the vernacular, and in particular men older than sixty, a popular target group for traditional dialect studies.

Nonetheless, a few studies have attempted to address linguistic features characteristic of El Paso. William Labov has conducted interviews with three El Pasoans via telephone for his *Phonological Atlas of North America* (also known as the forthcoming *Atlas of North American English*) (http://www.ling.upenn.edu/phono_atlas/home.html). Lee Pederson's proposed dialect atlas of the Western states (see Pederson 1996, "LAMR/LAWS and the Main Chance") will represent the speech of El Paso with a similar number of informants, to be selected from the interviews I conducted for my research. In addition, there have been a small number of studies which focused on only a few linguistic features of El Paso English. However, the complexity of language variation resulting from a continuous influx of people from language communities near and far cannot be captured by studies of individual features, nor by large area research in which El Paso is represented by only a handful of informants.

El Paso is a hotbed of language contact, with its sister city Juárez, Chihuahua, Mexico just across the Rio Grande River. Often outsiders make the assumption that because El Paso boasts a majority of Mexican Americans, everyone from El Paso must speak Spanish. On the contrary, many if not most European Americans and Mexican Americans in El Paso do not learn Spanish. I recently spoke with a Mexican-American woman from El Paso who said she was learning Spanish as a way to connect with her roots. Non-Mexican-American El Pasoans often have altruistic motivations for learning Spanish too — one friend of mine viewed it as a way to get along.

While knowledge of Spanish is not necessary for daily life in El Paso, employers increasingly view knowledge of Spanish as a benefit at the customer contact level. For example, I worked briefly as an assistant manager for a retail business in El Paso in the early nineties. The business hired a few bilingual Spanish speakers as cashiers, but none of the managers were bilingual. In spite of the fact that Spanish is not viewed as a necessary skill for many positions, particularly in upper level management, it is not uncommon to hear out-of-work monolingual English speakers complain about preferences for bilingual Spanish/English speakers in hiring. Race relations in El Paso are more strained than politicians would portray, symptomatic of broad cultural changes that are rooted in two events: increased immigration from Mexico since World War II, and increased immigration from other parts of the United States, particularly in the 1990s. Native El Pasoans are fiercely proud of their city and the desert Southwest, and do not take kindly to Gringos who settle in El Paso only to complain about the flora and fauna.

Interestingly, as Mexican-American influence grew in El Paso in the 1980s and 90s, social barriers apparently broke down to a large extent between Mexican-American and European-American groups. The new social relationships are reflected particularly in the speech of teenage European Americans, who are unconsciously adopting features of the local Mexican-American variety of Spanish-influenced English. Apparent time analysis of El Paso English, which would compare the speech of different generations to estimate change in speech features over time, promises a unique opportunity to observe a rapid process of dialect change. But apparent time studies cannot begin without a foundational informant base with which to compare the younger generations. What is

needed is a corpus of data for future comparative studies which provides substantial evidence of the contributions of the founder population of El Paso.

The founder population of a community are the first settlers who are able to create a successful, lasting society. They heavily influence the culture of the community and contribute, generally more than later groups, to the linguistic base of the community. Since El Paso is a new city, the grandchildren of its founder population are still present. They are the generation whose language developed by selecting features from the coalescent pool of features provided by the founder population and their children. Study of the language legacy of the founder population of El Paso is especially important now, while we still have access to the speech of first and second generation El Pasoans who were around during El Paso's first rapid growth stages. During the course of this research, begun in 1999, three of the forty informants have passed away.

The ability of the founder population to influence dialect formation was explicated by Raven I. McDavid, Jr., who completed field work for the Linguistic Atlas of the Middle and South Atlantic States. He explained dialect differences as the result of a number of forces relating to migration and social influence. His first tenet predicts that "(any) large or influential element in the early population of an area can be expected to contribute materially to the speech of that area, whether in pronunciation, grammar, or vocabulary" (McDavid 1958, 483).

The linguistic impact of the earliest group to arrive in a region is not limited to dialect variation. Building in part on principles of dialect formation advanced by linguistic geographers, Salikoko Mufwene has argued for a "Founder Principle" of creole

formation which emphasizes the initial and sustained influence of homesteading populations of non-standard English speakers in regions which later became plantation land (Mufwene 2001, Chapters 2-3). He explains language as a complex adaptive system changed many times during transmission from one group of speakers to another; language can lose or gain features or “exhibit different statistical distributions of the same features within its system, owing perhaps to changes in the relative weights of factors regulating the distribution of competing variants” (2001, 25). For Mufwene, language change amounts to ‘restructuring,’ accomplished through spontaneous communication, and changes spread from communication networks (2001, 26).

Mufwene relates his notion of the Founder Principal to Zelinsky’s ‘Doctrine of First Effective Settlement,’ according to which:

the specific characteristics of the first group able to effect a viable, self-perpetuating society are of crucial significance to the later social and cultural geography of the area.... (In) terms of lasting impact, the activities of a few hundred...initial colonizers can mean much more for the cultural geography of a place than the contributions of tens of thousands of new immigrants generations later. [Zelinsky 1992, 13-14]

In support of the Founder Principal, Mufwene presents ethnographic evidence in addition to structural evidence, such as the selection of a particular language as the local lingua franca, which eventually becomes the vernacular and displaces or replaces other languages: in North America, English prevailed at the expense of African, Native-American, and other European languages (2001, 62). Mufwene doubts language ever remains static when it is acquired by another group or generation of speakers (2001, 76).

He explains that the Founder Principal does not preclude later influence, but he asserts that features of the founder variety often had a selective advantage (2001, 76). During the homesteading phase, the population is increased by birth and moderate immigration of settlers and labor; each new group of speakers who adopts the locally evolving vernacular increases the number of transmitters of the founder population speech (Mufwene 2001, 60).

Key to the restructuring Mufwene posits for creole formation and formation of new noncreole varieties is the notion of a ‘feature pool’ from which speakers may select competing features. Mufwene explains, “While interacting with one another, speakers contribute features to a pool from which they make their selections that can affect the evolutionary trajectory of a language” (2001, 18). Features that distinguish geographically distinct dialect varieties from each other compete with each other in the speakers’ minds (Mufwene 2001, 31). The feature pool is also where similar, but not necessarily identical features, reinforce each other, resulting in modified variants in emergent varieties (Mufwene 2001, 4).

Elizabeth Gordon also addresses the influence of the founder population in her assessment of the descriptive accuracy of written records of language features in New Zealand (1998). She compares written evidence of the development of New Zealand speech and spoken evidence from recordings made by the Mobile Disc Recording Unit of Radio New Zealand in the 1940s of 250 New Zealanders born between 1850 and 1900. New Zealand is, like El Paso, a region with a rather recent settlement history. Settlement in New Zealand began with the Treaty of Waitangi, signed by representatives of the British crown and Maori chiefs in 1840 (Gordon 1998, 62). From that time, the non-

Maori population increased from 2000 to 80,000 in 1860 and 470,000 in 1881, driven by the discovery of gold in the 1860s and by immigration assisted by the government of New Zealand (Gordon 1998, 62). Most immigrants came from England, half as many came from Scotland and Ireland, and a relative few came from Australia, Wales, Europe, and other places. Like El Paso, New Zealand was settled quickly with immigrants from a variety of English speaking regions, receiving quite an influx of immigrants speaking non-standard varieties of English, including a few Americans. Twenty years after the Treaty of Waitangi, in 1860, less than half the population had been born in New Zealand (Gordon 1998, 63).

Gordon reports that the development of characteristic New Zealand speech features is “a matter of interest and speculation” (Gordon 1998, 64). Early comments about New Zealand pronunciation tend to be favorable, referring for example to the so-called “purity” of the New Zealand accent in 1887 (Gordon 1998, 64-5). However, criticism begins barely a decade later, citing the “colonial twang” heard from New Zealand children (Gordon 1998, 65). Gordon deduces that the development of a distinctive New Zealand accent had its origins in the preceding period of heavy immigration (1998, 65). While written criticism of New Zealand speech at the turn of the century refers to a distinctive New Zealand accent, what is most interesting about the development of New Zealand speech is what Gordon discovered listening to the 1940s recordings:

Some of the speakers in the Mobile Unit archive analyzed so far, though born in New Zealand, still have features of British dialects. Others sound more like old New Zealanders. The existence of a considerable amount of variation must

be taken into account when considering the figures from spoken data. [Gordon 1998, 70]

Gordon reveals that written records of nonstandard phonological features did not contain description of variable use of features (1998, 81). Based on Gordon's analysis of the Mobile Unit archive, it is clear is that the first native non-Maori generation of New Zealanders had not developed a unified system of pronunciation, in spite of the tendency of critics to describe it as such, and that features of New Zealand pronunciation were still nascent. Given the pattern of enormous influx of competing phonological features from foreign lands in the latter nineteenth century, this is perhaps not surprising.

Following her comparison of spoken and written records, Elizabeth Gordon has, with Peter Trudgill (1999), demonstrated that the first generation of native-born New Zealanders spoke with features they term "embryonic variants," derived from the regionally various contributions of English colonists, which would later become characteristic of New Zealand speech (Gordon and Trudgill 1999, 112). Detailed auditory analysis of the Mobile Unit archive by Trudgill revealed that nine percent of the sample have nearly identical phonetic realizations for words rhyming with 'ear' and 'air' (Gordon and Trudgill 1999, 113). Parentage of the nine percent who merge /ir/ and /er/ is diverse, including parents from Scotland, Ireland, England, the Channel Islands, Australia, New Zealand, and the Maori nation (Gordon and Trudgill 1999, 113). Given the range of backgrounds, it seems illogical to posit that merger of /ir/ and /er/, which is generally associated with New Zealand speech today, resulted from the influence of any particular geographical or ethnic group causing sudden change. Rather, what would become a widespread feature of New Zealand English manifested in a small ethnically diverse

group of speakers at an earlier stage than Gordon and Trudgill expected (Gordon and Trudgill 1999, 113).

The “embryonic variants” which Gordon and Trudgill identified in the Mobile Unit archive are few in number, and Gordon and Trudgill point out these variants might easily be dismissed as statistically insignificant: they are exhibited in some cases by less than ten percent of the entire sample (1999, 115-16). In answer to the question of how such little used variants survived, Gordon and Trudgill suggest that intra-speaker variability may “camouflage individual variants, thus rendering them unremarkable and so enabling not only their survival but their eventual victory” (1999, 117). While some “embryonic variants” survived, other more common features disappeared, such as rhoticity and h-dropping (widely condemned by school masters in the late nineteenth century) (Gordon and Trudgill 1999, 117). Gordon and Trudgill suggest that “features which are not closely associated with any one regional group or dialect will be more likely to survive, while variants more directly associated with particular dialects will be more likely to disappear during dialect leveling” (1999, 118). For instance, in the nineteenth century, rhoticity would have been associated with nonstandard forms of British English such as Scottish and Irish varieties (Gordon and Trudgill 1999, 118). Likewise, while h-dropping was not regionally marked, it was associated with low-class speech (Gordon and Trudgill 1999, 118). “Embryonic variants” which did survive, such as centralized /ɪ/, were not strongly associated with any particular regional area or social class (Gordon and Trudgill 1999, 118). The most important outcome for Gordon and Trudgill is the knowledge that features which ultimately characterize a speech variety appear early in its development, and that these features appear in the speech of both men

and women in different places and at different times (1999, 121). No common British regional factor is associated with the features that survive (Gordon and Trudgill 1999, 121). Gordon and Trudgill emphasize that unusual and exceptional trends should not be overlooked in sociolinguistic studies (1999,122).

Compared with the origin of New Zealand colonists, the precise origins of North American colonists are relatively difficult to determine, but William Kretzschmar explains that since the Elizabethan population was highly mobile, and massive migration to London occurred at the same time as emigration to North America, seventeenth century colonists would have originated from various regions of Britain, speaking different varieties of English (Kretzschmar 2002, 230). Mortality in the colonies was also high, so increases in the population would have come primarily from new immigration rather than births (Kretzschmar 2002, 230). Kretzschmar asserts that each location in the colonies was likely to possess speakers from all parts of England, who would have contributed a full range of English phonetic, lexical and grammatical features to the linguistic feature pool (Kretzschmar 2002, 230). In each location, the growing native born population would have acquired features from the linguistic pool that would come to be generally shared by the speakers of each locality (Kretzschmar 2002, 230). Kretzschmar argues, following Gordon and Trudgill (1999), that the first generation of native-born American colonists, composed of regionally diverse groups of non-standard speakers primarily from England and Europe, would have had “embryonic variants” of speech features that characterize those regions today (2002, 230). Development of local dialect varieties might have been stunted by the high mortality and immigration rates at first, but by the second generation, Kretzschmar asserts, just as in New Zealand, it is possible that native born

speakers would have begun to use features that would later characterize their localities (2002, 231). Unfortunately, since the tape recorder was not invented until the twentieth century, the best we can do is attempt to reconstruct colonial American English indirectly based on dialect variation along the East Coast. As we struggle to understand how American colonial dialects developed, it is easy to appreciate the importance of New Zealand's Mobile Unit archive.

The Mobile Unit archive of New Zealand is particularly valuable because it provides first hand evidence of the speech of first generation natives. As in creole theories, one of the tenets of dialect geography is that regional varieties begin to form as those who were born in a speech community grow up talking with each other. Comparison of the speech of first and second generation natives of a recently settled speech community reveals how speech features coalesce or fail to develop. Such rare evidence is also available from El Paso, where we find another nascent speech variety. Most of El Paso's oldest native citizens are first generation natives. Their speech preserves features from other regions in the United States and forms the pool of features from which their children created a speech variety characteristic of El Paso. For example, over half the informants in the El Paso English Sample produce the phone [ɔ] in the words *law* and *daughter*. But some of the informants produce [ɑ] in *law* and *daughter*, and several informants produce [ɔ] and [ɑ] variably in *law* and *daughter*. A relic of the Eastern States, [ɔ] has been replaced in the speech of El Paso baby boomers and their children by [ɑ], a phenomenon predicted for the Western states in general by Labov and evidenced by Labov's telephone survey of three younger El Pasoans (see http://www.ling.upenn.edu/phono_atlas/tsdata/).

Although it is impossible precisely to determine the original European groups who colonized North America, it is easy to determine most of the regional and national origins for the founder population in El Paso, those who came west and built El Paso's trade and industry when the railroad was new. The 1880 U.S. Census of Population reveals a portion of the ethnic character of El Paso's population just prior to the arrival of the railroad. The overwhelming majority of United States citizens in 1880 El Paso were born in Texas, followed close behind by immigrants born in Mexico. Table 1.1 lists state and national origins accounted for by the 1880 U.S. Census of Population.

In 1880, the population of El Paso County was a mere 3,845; in 1890, nine years after the railroad reached El Paso County, the population had quadrupled to 15,678 (U.S. Census of Population 1880-1890). A third of the population of El Paso in 1890 was "foreign born," meaning born outside the United States (U.S. Census of Population 1890). Table 1.2 demonstrates the general growth of El Paso stimulated by the arrival of the railroad and ensuing industrialization with figures from the census years 1880 to 1930, including the population born in Mexico. Additionally, Table 1.2 shows the relative stagnation in growth of the African-American population in El Paso.

By the turn of the century, El Paso County boasted nearly 25,000 citizens, including almost 10,000 "foreign born" residents. Of the 1900 "foreign born" population, 8,368 were born in Mexico, 314 were born in Germany, 162 were born in England, 143 were born in Canada, 296 were born in China, and 145 were born in Ireland, with a relative few hailing from other countries (U.S. Census of Population 1900). In the censuses before and after 1930, Mexican immigrants and Mexican Americans were classified as "white." In 1930, Mexican Americans and Mexican immigrants were

Table 1.1: State and National origins of El Pasoans in the 1880 U.S. Census of Population

| | | |
|--------------------------------------|-----------------|-------|
| Total Population for El Paso County: | | 3,845 |
| Born in the state of: | Texas | 2,445 |
| | Alabama | 3 |
| | Tennessee | 7 |
| | Mississippi | 5 |
| | Georgia | 7 |
| | Missouri | 10 |
| | Arkansas | 1 |
| | Louisiana | 6 |
| | Kentucky | 11 |
| | Virginia | 8 |
| Born in the country of: | British America | 8 |
| | England/Wales | 6 |
| | Ireland | 17 |
| | Scotland | 4 |
| | German Empire | 26 |
| | France | 4 |
| | Sweden/Norway | 1 |
| | Mexico | 1,082 |

combined and classified as “Mexican,” a group numbering 77,389 in El Paso County. The result is that the true population of immigrants cannot be calculated. The 1930 census counts 3,356 foreign born whites in El Paso County, of which only 467 came from Mexico. Table 1.3 lists national origins for groups of foreign born which had reached over 100 members in El Paso County in the census years 1890 to 1910. It is instantly apparent from Table 1.3 that Mexico was the greatest contributor to the rising foreign

born population, but it is interesting to note the increases in the populations of other national groups.

Table 1.2: U.S. Census of Population Data for El Paso, Texas (1880-1930)

| U.S. Census of Population Date | 1880 | 1890 | 1900 | 1910 | 1920 | 1930 |
|---|-------|--------|--------|--------|---------|---------|
| Population of El Paso City | 736 | 10,338 | 15,906 | 39,279 | 77,560 | 102,421 |
| Population of El Paso County | 3,845 | 15,678 | 24,886 | 52,599 | 101,877 | 131,597 |
| Total Foreign Born Population in El Paso County | 1,152 | 5,399 | 9,797 | 18,594 | 42,513 | 3,356 |
| Number in El Paso County born in Mexico | 1,082 | 4,294 | 8,368 | 16,114 | 38,625 | 467 |
| “Mexicans” | NA | NA | NA | NA | NA | 77,389 |
| African Americans in El Paso County | 47 | 377 | 620 | 1,562 | 1,548 | 1,970 |

Table 1.3: Major Foreign National Origins of El Pasoans from 1890 to 1910

| U.S. Census of Population Date: | | 1890 | 1900 | 1910 |
|---|---------|-------|-------|--------|
| Total Foreign Born Population for El Paso County: | | 5,399 | 9,797 | 18,341 |
| Born in the country of: | Mexico | 4,294 | 8,368 | 16,114 |
| | Germany | 327 | 314 | 520 |
| | England | 133 | 162 | 311 |
| | China | 204 | 296 | 253 |
| | Canada | 81 | 143 | 245 |
| | Ireland | 143 | 145 | 191 |
| | Russia | 12 | 28 | 184 |

While the population of those born in China appears to decline by 1910, this El Paso group actually remained fairly stable and represents in 1910 almost half of the entire Chinese population in Texas, which had declined from 836 in 1900 to 595 in 1910 (U.S. Census of Population 1910). In particular, note the sudden increase in the German and Russian born populations in 1910. German and Russian communities continue to grow in El Paso for reasons somewhat different from the first wave of immigration, which was generally a response to economic opportunity in booming El Paso. German businessmen have recently been drawn by NAFTA, and German soldiers have been stationed at Fort Bliss for training as part of our cooperation with the German military. A German restaurant at Fort Bliss is enjoyed by civilians and military personnel alike. There is even a German language news program in El Paso that began in the 1990s. As for the Russian community, in the latter part of the twentieth century, particularly in the 1970s and early 1980s, El Paso became a safe haven for Russian Jews escaping Soviet oppression.

While the population of Mexican immigrants is accounted for by the early census data, the population of Mexican Americans remains a mystery. We only catch a glimpse of the possible size of the Mexican-American community from the 1930 census, which counted all those of Mexican ethnicity alike whether they were born in Mexico or the United States. The 1930 census shows that individuals of Mexican heritage were the majority ethnicity, constituting 59% of the population. However, because the majority of Mexicans was not financially powerful in early El Paso, and perhaps because the Mexican majority caused the European-American community to feel threatened, the segregation of European Americans and Mexican Americans was institutionalized as El Paso boomed. The Ku Klux Klan made inroads in El Paso and took over the School Board briefly in the

early 1920s. But even after the Klan was ousted from the School Board in 1923, segregation remained. El Pasoans born in the 1920s and 1930s describe public schools that were “all white,” or parents who pulled strings to get their kids out of Mexican-American schools, and complaints are common from this generation regarding the “surge” in Mexican immigration following World War II (personal observation). Such complaints are somewhat surprising considering that immigration from Mexico was already quite heavy before World War II. It is probable that segregation and the unequal education that inevitably accompanies it were traditional from the beginning of El Paso’s growth. As early as 1910, census data reported that almost a third of foreign-born whites over the age of ten were illiterate, compared with less than a tenth of European Americans and African Americans in El Paso County.

European Americans trickled in from the Eastern States and poured in from the rest of Texas at the turn of the century and began to conduct business primarily with each other. Physical, cultural, and to some extent commercial separation from the Mexican-American founder population, would have led European Americans to form their own foundational set of linguistic features, what Mufwene terms a “feature pool” (2001, 30), from which characteristic features were adopted by successive native generations, a pool of features largely devoid of Spanish influence. Mufwene has likewise argued against the continuous influence of European-American speech on slaves, citing the tendency towards segregation on plantations beginning early in the eighteenth century (2001, 48).

When I began my research, I was not sure what to expect, but due to segregation in El Paso during the youth of my target population, I did not expect to find many Spanish influenced features. Middle-class European-American El Pasoans are often perceived by

visitors to El Paso as having unmarked speech. This observed homogeneity is worth questioning. Sociolinguistic studies generally study multiple classes, ethnicities, and age groups, so my group of retirement-age middle-class European Americans is relatively homogeneous, which puts me in a position to examine the fit between perceived and actual homogeneity in speech features. From my experience with regional dialect studies, I expected some variation in the speech of urban and rural informants, so I designed my sample to include both groups. However, as I conducted my interviews, I was impressed by the amount of variation I encountered, both lexical and phonological, which did not seem linked to rurality, and I wanted to know if I could explain any of that variation using the few social variables that were present, namely biological sex, occupation, and parental origin.

In the review of literature I will contextualize my study of El Paso English within the traditions of dialect geography and sociolinguistics and review research on regional varieties of English in the United States, and El Paso in particular. I will further develop my approach to the study of El Paso English in the chapter which follows, The Brief History of El Paso, Texas. The methodology chapter will explain my sampling methods, analysis procedure, and statistical approach. In the phonetic and lexical analysis chapters which follow, I will identify and analyze lexical and phonetic variables in terms of rurality, biological sex, occupation, and parental origin. I will examine the variability of both lexical and phonetic features and indicate social variables that help explain variation in the speech of individuals and within the sample as a whole. Further, I will compare my results to previous research on El Paso English and North American dialects with an eye toward confirming or challenging earlier descriptions of El Paso English. I will reexamine

the results from both analysis chapters in order to determine what features characterize my target population as a whole. And, of course, because the original thrust of my survey was comparison of urban and rural El Pasoans, I will examine the extent to which urban and rural informants share phonological and lexical features. In the conclusion, I will consider Gordon and Trudgill's notion of "embryonic variants" (1999) and Salikoko Mufwene's notion of the "Founder Principle" in terms of the development of El Paso's unique variety of American English.

CHAPTER 2

A FOUNDATIONAL SAMPLE OF EL PASO ENGLISH

Origins of Language Variation Research

In 1735, Francis Moore traveled to the colony of Georgia and wrote an account of his voyage that included a disparaging remark about the English spoken in America:

“...I took a view of the town of Savannah. It is about a mile and a quarter in circumference; it stands upon the flat of a hill, the bank of the river (which they in barbarous English call a bluff)....” [Matthews 1931, 13]

Though interest in American English is thus documented since the early eighteenth century, evidence of regional and social speechways has accumulated in a piecemeal fashion from live interactions and emerging regional literature through the beginning of the twentieth century. Systematic historical study of language emerged in the late eighteenth century, spurred by Sir William Jones’s comparative study of Latin, Greek, and Sanskrit, but regional variation was not a focus until the end of the nineteenth century.

Systematic empirical research of regional dialects in Europe was initiated in 1876 by Georg Wenker. Leonard Bloomfield, in his history of the field, says that the focus of comparative linguistics had been literary and upper class standard languages, which had been assumed to faithfully represent older forms since they were not corrupted by the masses (Bloomfield 1933, 321). According to Bloomfield, Wenker tested the emerging assumptions that it was instead local varieties of a language that faithfully preserved older features that the standard language had lost over time, and that local varieties would

resemble each other phonemically. Wenker began with personal interviews, but eventually abandoned this method in order to cover all of Germany. He sent over forty thousand questionnaires, largely to local schoolmasters, asking them to translate forty test sentences (Bloomfield 1933, 322). Wenker marked the responses on maps to show geographic distribution, posthumously published in *Der Deutscher Sprachatlas* (1927). The variety of responses led Wenker to conclude that local dialects were no more homogenous than standard languages (Bloomfield 1933, 322-3).

According to dialect geographer Raven I. McDavid, Jr., Wenker's study was comprehensive, but his survey method yielded an unreliable representation of the local dialects since it relied on the perceptions of school teachers (McDavid 1958, 487). In addition, responses were recorded by the school teachers in ordinary German orthography. In order to address these issues, French linguist Jules Gilliéron employed a trained phonetician, Edmond Edmont, to travel the French countryside by bicycle, conducting interviews with representative speakers from each community. Each interview was conducted with a single informant, with a questionnaire of around two thousand words and phrases, recorded in phonetic notation. Edmont conducted interviews in around six hundred rural communities, far fewer than the number amassed by Wenker, but of more consistent quality, since they represented the responses of individuals recorded by a single field worker. Gilliéron's *Atlas linguistique de la France* was published with a supplement for Corsica from 1902 to 1910 (McDavid 1958, 487). Another important advance in methodology was made by the Swiss scholars Karl Jaberg of Berne and Jacob Jud of Zurich, students of Gilliéron, who surveyed urban informants

in addition to rural informants in their survey of Italy and Southern Switzerland, *Sprach- und Sachatlas Italiens und der Südschweiz* (1925-1940) (McDavid 1958, 487).

Jaberg and Jud's project took almost three decades to complete, hindered, according to dialect geographer Lee Pederson, by financial difficulties, war, and Italian nationalism (Pederson et al. 1974, 7). However, the delays provided time to develop an extensive questionnaire and revise it four times (Pederson et al. 1974, 7). In a departure from their mentor Gilliéron, they organized a group of field workers, which included Paul Scheuermeier in Switzerland, North Italy and Central Italy, Gerhard Rolfs in South Italy and Sicily, and Max Leopold Wagner in Sardinia (Pederson et al. 1974, 7). Their most important innovation, the inclusion of a number of urban interviews, proved that dialect was not limited to folk speech and that folk speech was not limited to the countryside. Almost thirty years after its inception, *Sprach- und Sachatlas Italiens und der Südschweiz* comprised eight volumes with over 1700 maps, and a volume devoted to ethnographic information with wood engravings and photographs (Pederson et al. 1974, 7).

In contrast to efforts on the European continent, dialect research in Great Britain was less systematic, though no less productive in its own way. Joseph Wright's *English Dialect Dictionary* (1895-1905) was produced primarily by volunteers for the English Dialect Society, many of whom had little training, who contributed particular items inconsistently. Another tack was adopted in 1952 by Angus MacIntosh as he began work on the Survey of Scottish Dialects. As in Wenker's survey of Germany, the first phase of research was a postal questionnaire distributed to all the schools in Scotland (Chambers and Trudgill 1998, 20). While it is never possible to confirm the identity of the

respondent to a postal questionnaire, MacIntosh did make the effort to specify who should answer the questionnaire: a person with at least one parent born in the same district (Chambers and Trudgill 1998, 29). *The Linguistic Atlas of Scotland* was published over twenty years later in two volumes, edited by J. Y. Mather and H. H. Speitel (1975, 1977).

In 1948, Eugen Dieth of Zurich and Harold Orton of Leeds began the Survey of English Dialects (SED), eventually published in several volumes from 1962 to 1978 (Chambers and Trudgill 1998, 19). They divided England into four regions and conducted around eighty interviews in each, for a total of 313, using a long questionnaire which elicited about 1200 items. Because dialect maps were expensive to produce, Orton first published comprehensive lists of informant responses in a series of volumes organized by region (Orton et al. 1962-8). Mapped responses were published later as the *Phonological Atlas of the Northern Region* (1964) by Edouard Kolb, *A Word Geography of England* (1974) by Orton and Nathalia Wright, and *The Linguistic Atlas of England* (1978) by Orton, Stewart Sanderson and John Widdowson. Harold Orton passed away in 1975, but a decade later, volumes based on the SED continued with *Word Maps* (1987) by Clive Upton with Sanderson and Widdowson, the *Dictionary and Grammar* (1994) by Upton, David Parry and Widdowson, and *An Atlas of English Dialects* (1996) by Upton and Widdowson.

Language Variation Research in the United States

At the turn of the century, the study of American speech varieties lagged behind advances in European research. The first aim of the American Dialect Society was to

produce an American dialect dictionary comparable to Joseph Wright's (McDavid 1958, 488). Frederic G. Cassidy explains in his introduction to the *Dictionary of American Regional English: Volume I* (1985, xi) that the American philologists who founded the American Dialect Society (ADS) intended to gather materials for an American dialect dictionary, just as the English Dialect Society had done for Wright. Wright's work was the first model considered by the ADS from its inception in 1889 (McDavid 1958, 488). North American scholars had ambitious goals to cover the United States and Canada using trained professionals rather than volunteers, but no one in Europe had undertaken research of such a large area, and the cost of such an enterprise was discouraging. Raven I. McDavid, Jr. explains that a linguistic atlas of the United States and Canada based on the European atlas models was not only more feasible than an American version of Wright's *English Dialect Dictionary*, but would also aid its creation by identifying areas requiring the greatest devotion of effort (McDavid 1958, 488). (The fruits of this initial goal of the American Dialect Society are almost realized: *Volume IV* of the *Dictionary of American Regional English (D.A.R.E.)*, P - Sk, was published in 2002.) When the coordinated study of the linguistic geography of America finally began in 1929, the American Council of Learned Societies limited research to New England as a pilot study (Kretzschmar et. al. 1994, 1).

Research was based on the model of European linguistic atlases, particularly Gilliéron's *Atlas linguistique de la France* (1902-1910), and Jaberg and Jud's *Sprach- und Sachatlas Italiens und der Südschweiz* (1925-1940). Following the procedure of Jaberg and Jud, Kurath hired several scholars as field workers with fellowship support from Brown University and the University of Vermont. Jakob Jud and Paul

Scheuermeier, who had done field work for the linguistic atlas of Italy and Southern Switzerland, trained the staff in interviewing techniques, phonetic transcription, and the aims of linguistic geography for six weeks at the Linguistic Institute of 1931 (Kurath et al. 1939, xii). Raven I. McDavid, Jr. explains that Kurath built on European principles of dialect study to account for typically American cultural phenomena, such as geographical and social mobility, the immigration of foreign-language groups, and the lack of a single prestigious form of speech considered to be a national standard (McDavid 1958, 488).

The basis of Kurath's survey method is the selection of a network of communities based on the economic and cultural history of each region. The need to choose communities at even intervals is balanced with the need to represent population density proportionally. In New England, the communities were primarily townships. For the collection of data, Kurath employed principally Guy S. Lowman, Jr., an investigator with a general background in linguistics and intensive experience in phonetics, rich knowledge of the history and culture of the region, and an ability to work patiently with informants. Interviews were conducted using a questionnaire, designed to provide comparable phonetic, syntactic, and lexical data. Questionnaire items targeted commonly used words and phrases that were easy to elicit in conversation and known or expected to have regional or social variants. In order to reflect the vast amount of features common to folk and cultured speech in the United States, at least two informants were interviewed in every community, ideally one older informant with a minimum of formal schooling, travel and reading, the other a middle-aged informant with approximately a high school education and less insular. In addition, cultured informants were interviewed in a fifth of the communities surveyed, providing the largest body of comparable data on so-called

‘Standard American English.’ A finely graded phonetic alphabet was designed for impressionistic transcription during interviews. The interview was to be conducted in a conversational manner so that the informant would not be cautious about avoiding ‘incorrect’ speech (McDavid 1958, 488-494). Field work in New England was completed in 1933, and the *Linguistic Atlas of New England* (LANE) was published in three volumes and a handbook from 1939 to 1943. Subsequent work on a unified Linguistic Atlas of the United States and Canada has followed Kurath’s original guidelines, but has not proceeded as smoothly.

Funding and scholarship were lost to the Great Depression and World War II, and soon after, support became scarce as proponents of transformational grammar and sociolinguistics became powerful voices against older models of linguistics. But Atlas projects covering other regions continued with the aid of volunteers, using the same methodology established by Kurath, based on the work of Jaberg and Jud and Gilliéron. Communities were selected to compose a representative regional grid. Within those communities, individuals were selected to represent the communities. Field workers conducted interviews in as informal a situation as could be obtained using a questionnaire designed to elicit everyday speech, and recorded responses in fine phonetic notation. Although these methods could not completely describe the structure of American English and variation within the language, they have provided a huge corpus of data on the speech of a sample of Americans during the time of the interviews.

Though the *Handbook of the Linguistic Atlas of the Middle and South Atlantic States* (LAMSAS) was published rather recently in 1993, LAMSAS was the first regional study to commence following LANE, and represents speakers from New York to Florida.

Raven I. McDavid, Jr. completed the field work that was begun by Guy Lowman before Lowman's untimely death in 1941, covering much of New York, South Carolina, and Georgia. Long before the *Handbook* was produced, three seminal studies were based on the data. The first, Kurath's *Word Geography of the Eastern United States*, published in 1949 and based solely on data gathered by Guy Lowman, investigates lexical variation along the Eastern Seaboard. The second, E. Bagby Atwood's *Survey of Verb Forms in the Eastern United States* (1953), investigates morpho-syntactic data. The third, Kurath and McDavid's *The Pronunciation of English in the Atlantic States* (1961) investigates phonological patterns of cultured informants, and included McDavid's supplementary field work.

Kurath's *Word Geography* was the first study to systematically analyze lexical features in the Eastern United States, including eastern Ohio in addition to the coastal states. Over 1200 informants provided the data on which Kurath based his analysis. Nearly every county in the Eastern States is represented by two informants, one unschooled and the other middle-class with a grade school or high school education. Larger cities are also represented by one or more cultured informants. Kurath bases his claims about lexical dissemination entirely on evidence from LAMSAS. Kurath followed German models of analysis, charting isoglosses on feature maps to indicate geographical boundaries for dialects (Kretzschmar forthcoming, 1). These maps illustrate the problems involved in drawing isoglosses, geographical limits of feature occurrence. However, Kurath remains supportive of the use of isoglosses to represent regional variation, arguing:

The precise localization of words and the determination of their dissemination in folk speech, common speech, and cultivated speech gives us the necessary foundation for historical interpretations. The geographic and social distribution of words results from population movements, the development of trade areas and transportation systems, the growth of cultural centers and institutions, and the stratification of society. [1949, v]

One can see a shift in linguistic thought from the nineteenth century paradigm of Wenker. Whereas Wenker studied language variation in order to understand historical processes of language change, Kurath analyzed cultural and geographical phenomena in order to understand language variation. Lee Pederson asserts that Kurath's interest in the relationship of words to artifacts comes directly from the influence of Jaberg and Jud, who were proponents of a research focus on *Wörter und Sachen*, literally *words and things*. The *Wörter und Sachen* approach to word history emphasized that it is necessary to know the cultural history of artifacts to understand the history of words (Pederson et al. 1974, 8). In line with trends in anthropological research, language variation became worth studying for its own sake for what it could tell us about human systems.

Kurath argues in *Word Geography* for a Midland speech area that could be considered distinct from the Northern and Southern speech areas with which it shares features. Kurath claimed that sharp linguistic boundaries corresponded to midland settlement areas, and denied the existence of a "linguistic Mason and Dixon's Line separating 'Northern' from 'Southern' speech" (1949, vi). More significantly in modern

terms, given the still current perception that a Standard American English exists, is Kurath's assertion that:

The widely accepted assumption that there is a "General American" type of English proves to be equally unfounded in fact; no Southerner or New Englander would ever have made such a generalization. [1949, vi]

Kurath's research of urban areas led him to conclude what Jaberg and Jud had concluded: language varies even among people who supposedly speak the 'standard language.' Kurath's two arguments, for a Midland speech region and against the notion of an American standard, were supported by E. Bagby Atwood in his *Survey of Verb Forms in the Eastern United States* (1953).

Atwood focused on uneducated speech in order to study non-standard verb forms. However, he asserts that not even the speech of cultured informants is free from variation (Atwood 1953, 41). Overall, Atwood finds that the regional dissemination of morphosyntactic variants follows the same basic pattern Kurath established for lexical variants, namely that verb forms are associated with the North, the Midland, and the South. He also identifies verb forms associated particularly with subdivisions of these areas, such as northeastern New England, the coastal South, the Virginia Piedmont, and the southern upland. Thus, he confirms that the concept of a uniform American grammar is false.

Atwood concerns himself only with synchronic morphological variation, avoiding historical interpretation. He provides frequency of verb forms by means of simple fractions, admitting that they are not exact because LAMSAS had not been definitively

edited, and some of the records were likely to be eliminated. Nevertheless, Atwood argues that his estimates of relative frequency are accurate and provide a more systematic view of synchronic usage than random observation (Atwood 1953, 4). Atwood's use of relative frequency foreshadows the focus on statistical analysis that began to develop more clearly in the 1960s with the advent of computer based corpus studies.

Atwood's assessment of geographical complexity draws attention to the difficulties inherent in using isoglosses to represent regional variation in usage. The geographical lines, he notes, are indefinite. He draws attention to the fact that usage of recessive forms is light in some areas and robust in others (Atwood 1953, 38). Areas which tend to preserve older forms are northeast New England, and the coastal and mountainous regions of the South and South Midland (Atwood 1953, 38). However, enough verb forms correspond somewhat clearly in their distribution to the major settlement and culture areas of the East, that Atwood remains rooted in the isogloss paradigm and uses distribution of verb forms to argue for limits of regional speech areas. As Kurath did with lexical features in his *Word Geography*, Atwood presents a table matching groups of regions with representative verb forms (Atwood 1953, 40). He ends with a series of Linguistic Atlas style maps, using symbols to indicate competing verb forms across the Eastern United States.

Following his analysis of lexical features, Kurath was concerned with two sets of problems: a) a description of regional and social dissemination of features of pronunciation (phonemic, phonic, and incidental (distributional)); and b) comparing dialects on the basis of pronunciation in an orderly manner. Toward that end, Kurath

assigned phonemic symbols to the syllabic sounds (stressed vowels) for presenting phonemic, phonic, and distributional differences between regional and social dialects on the Atlantic coast. With Raven I. McDavid, Jr., using supplemental data gathered by McDavid in South Carolina, Georgia, and New York State, he presents a phonetic and phonemic analysis of cultured speech in each location along the Atlantic Seaboard in *The Pronunciation of English in the Atlantic States* (1961). Phonemic analyses are enabled by phonetic synopses of features for representative informants.

The phonetic synopses resemble the arrangement of an articulatory phonetics chart, with [i] data at the top left, [a] data at bottom central, and [u] data at top right. Lexical forms which provided the phonetic data are listed in columns on the left and right, and phonemes are listed across the top. Representative phonetic realizations produced by the informant are located within the chart to the right or left of the associated lexical form, and underneath the corresponding phoneme. Though the chart is basically visually organized to resemble the articulatory phonetic chart of tongue height and front/back position, the chart does not attempt scale accuracy, and for several sounds does not approximate tongue placement in any way.

Theoretical arguments against his phonemic analysis were, of course, expected, but Kurath defends the ability of his phonemic representations to enable comparison of regional varieties in an orderly manner (Kurath and McDavid 1961, v, 2). Kurath asserts that American dialect surveys have been from the beginning designed to gather sufficient data for a full description of the phonemic and phonic systems of each informant. While he admits that “schemes of phonemicization are to some extent arbitrary in view of the present state of our knowledge of the segmentation of utterances” (Kurath and McDavid

1961, 2), he insists that “all features of pronunciation must of course be presented from a phonemic point of view.” Moreover, Kurath held that phonemic heteroglosses, bundles of isoglosses that occur together, were of greatest value in determining the degree of difference between dialects and in evaluating the relevant importance in boundaries between speech areas (Kurath and McDavid 1961, 2).

Kurath and McDavid begin with an examination of the extent to which phones are systematized and the extent to which dialects and idiolects tolerate oddities that are not part of the system. They discuss the regional types of cultivated speech based on the performance of 157 speakers and configurations of phonemic and phonic features that characterize the dialects of Eastern New England, the Lower Connecticut Valley, Metropolitan New York, Upstate New York, Western New England, Pennsylvania, the South Midland, the Upper South, and the Lower South. Kurath asserts that the speech of the middle class and folk rarely deviates from cultivated usage in phonemic structure, though phonetic differences may be very marked (Kurath and McDavid 1961, v).

Centrally, Kurath and McDavid draw attention to pronunciation differences linked to regional differences. Kurath admits that whether a regional difference in pronunciation is regarded as allophonic, phonemic, or exhibiting divergence in the incidence of phonemes depends on one’s conception of the phonemic system. Difficulties in determining phonemes for stressed vowels before /r/ and corresponding unsyllabic /ə/ are also addressed. In addition to phonological processes, Kurath and McDavid discuss lexically based phonetic variation as characteristic of regional and social dialects. Kurath emphasizes that lexically based phonetic variation is of considerable importance in American English study, particularly because structural differences are so few. Most

illustrative comparisons are covered on full-page maps, with any differences between cultivated usage and middle class or folk usage indicated on an insert. Connections to southern counties in England are also pointed out in small-scale maps.

LAMSAS data continues to contribute to American dialect research as part of the Linguistic Atlas Project. McDavid and O’Cain produced two fascicles of LAMSAS data in a planned series, published by University of Chicago Press in 1980, the remainder of which was put off until steady production could be resumed with the aid of computers (Kretzschmar forthcoming, 9). But LAMSAS and other Atlas projects and materials were nearly lost after the death of Raven I. McDavid, Jr. in 1984, when the University of Chicago decided not to keep the collection. Fortunately, due to the effort of John Algeo, the University of Georgia accepted the collection and hired its new Editor in Chief, William A. Kretzschmar. It is also fortunate that McDavid had arranged a means of perpetuating Atlas work as the Linguistic Atlas Project (LAP) with an endowment, the Kurath Fund, administered by the American Dialect Society (ADS). The endowment, originally funded by McDavid with smaller contributions from other dialectologists, has sustained basic preservation and a limited amount of processing of Atlas collections. The agreement created in LAP gives ADS a role in the archival maintenance of the Atlas collections and the selection of the LAP director (Kretzschmar forthcoming, 4).

Editorial work on LAMSAS resumed in the late 1980s when computer methods were developed by Kretzschmar. Though the fascicle series begun by McDavid and O’Cain was canceled by the University of Chicago Press, the Press agreed to publish the LAMSAS *Handbook* (Kretzschmar et al. 1993). Entry of LAMSAS data into a computerized database was supported for two years in the early nineties with funding

from the National Endowment for the Humanities (NEH). Though funding was difficult to obtain later, the National Science Foundation (NSF) did fund data entry for all the African-American informants in LAMSAS and the Gullah informants interviewed by Lorenzo Turner. William A. Kretzschmar emphasizes that a significant amount of LAMSAS, 25% overall, has thus been stored in digital form (Kretzschmar forthcoming, 9-10).

The most important study based on LAMSAS data in recent times is Ellen Johnson's diachronic study of *Lexical Change and Variation in the Southeastern United States, 1930-1990* (1996). She interviewed informants in the communities originally covered by Guy Lowman in North Carolina, South Carolina, and Georgia, using a subset of 150 lexical variables taken from the LAMSAS questionnaire. By comparing her modern survey to LAMSAS data, Johnson was able to make conclusions which may be startling to both linguistic geographers and the laity. She found that, contrary to suppositions that modern communication systems such as radio and television act as a homogenizing force to reduce dialect variation in America, lexical variation is instead as complex and prevalent as ever, though it correlates less with region, education, and rurality than the LAMSAS data. Johnson notes that only the variable "region," which describes the geographical divisions into coastal, piedmont, and mountain areas, showed a pronounced decline in importance (Johnson 1996, 94). While 6.35% of words elicited in the 1930s interviews were correlated with region, only 1.45% of the words elicited in 1990 correlated with region (Johnson 1996, 94). The number of words correlating with education and rurality also declined by 1990 from over 4% to 2.89% (Johnson 1996, 94). Johnson suggests that the decrease in lexical forms correlating with region, education,

and rurality is perhaps a factor of increased educational opportunities, improvements in transportation, industrialization, and the militarization of the nation (Johnson 1996, 101).

While change in lexicon associated with change in social patterns might be expected, more surprising is Johnson's discovery of more lexical variation overall in the 1990 sample compared with the 1930 sample. Johnson relates that few researchers have explored "multiple synonymy," one meaning expressed by many words, but that Antilla (1972) implies that multiple synonymy is the primary cause for loss of vocabulary (Johnson 1996, 76). According to Antilla's theory, when a set of synonyms becomes too large, some of them drop out of use (Johnson 1996, 76). Antilla's theory is not supported by Johnson's results. On the contrary, the average number of responses to all 150 prompts in Johnson's study increased from 6.7 in 1930 to 9.4 in 1990 (Johnson 1996, 77).

Complementing a wealth of LAMSAS material, other surveys completed after World War II are becoming accessible on the LAP website as funding allows, including the *Linguistic Atlas of the North-Central States* (LANCS), the *Linguistic Atlas of the Upper Midwest* (LAUM), and the *Linguistic Atlas of the Gulf States* (LAGS), in addition to other smaller Western surveys such as William R. Van Riper's *Linguistic Atlas of Oklahoma*.

Albert H. Marckwardt initiated LANCS in 1938 to survey Wisconsin, Michigan, Illinois, Indiana, Kentucky, Ohio, and Southwestern Ontario. Fifteen fieldworkers contributed to a collection of around 350 field records by 1958, but most of the research was conducted by Raven I. McDavid, Jr., Frederic G. Cassidy, A. L. Davis, Harold B. Allen, and Roger W. Shuy (Pederson et al. 1974, 11). Short work sheets from LANE were enlarged to include about 525 targets. In addition, Alva L. Davis experimented with a

postal questionnaire which gathered data on a hundred lexical items from the LANE short work sheets from about 300 respondents, and he interpreted the data in his dissertation, *A Word Atlas of the Great Lakes Region* (1949).

Harold B. Allen organized LAUM in 1947 to investigate speech in Minnesota, Iowa, North Dakota, South Dakota, Nebraska, and the border communities of Ontario, Manitoba, and Saskatchewan. Allen completed half the field work himself, but was assisted by H. Rex Wilson, Raven I. McDavid, Jr., Virginia McDavid, Robert Weber, Frank Hanlin, and Virgil Peterson (Pederson et al. 1974, 11). They gathered 208 field records in a decade using work sheets that were longer than those used in LANCS, but shorter than those used in LANE and LAMSAS. LAUM inaugurated use of the audio tape recorder in the field as opposed to the earlier disc recorder. The results of LAUM appear in three volumes (1973, 1975, 1976). Utilizing the bounty of this survey and LANCS, Virginia McDavid based her dissertation, *A Survey of Verb Forms in the North-Central States and the Upper Midwest* (1956), on the model of Atwood's study of verb forms (McDavid 1958, 496).

The Linguistic Atlas of the Rocky Mountains (LARMS) was begun in 1950, directed by Marjorie Kimmerle of the University of Colorado, with T. M. Pearce as associate director. Kimmerle was assisted by Raven I. McDavid, Jr., Elizabeth Jackson, Clyde Hankey, and John McKendrick. Together they collected 50 field records and many check lists (as in the postal survey administered by Alva L. Davis, these are forms listing vocabulary items that ask recipients to mark or write in words they used) in Colorado (Pederson et al. 1974, 12). Limited financial resources and greater area prevented systematic and complete coverage, but field work was completed in Colorado and Utah.

Also in 1950, T. M. Pearce began investigating the speech of New Mexico with check lists, eventually collecting more than 500.

Work on the Pacific Coast proceeded more rapidly thanks to generous research grants gained by David Reed of the University of California and Carroll Reed of the University of Washington (McDavid 1958, 497). The Linguistic Atlas of the Pacific Coast (LAPC) began as two separate projects under David Reed in California and Nevada, and under Carroll Reed in Washington, Oregon, and Idaho. About 300 field records and 1500 check lists were completed in California and Nevada, and about 50 field records and 1000 check lists were collected in the Pacific Northwest (Pederson et al. 1974, 11-12).

Smaller regional surveys in the Midland include the *Linguistic Atlas of Missouri*, directed by George Pace and Gerald Udell, the *Linguistic Atlas of Kansas*, directed by Albert S. Cook, and the *Linguistic Atlas of Oklahoma*, directed by William R. Van Riper, who completed field work in 1960. Of these three surveys, only the *Linguistic Atlas of Oklahoma* is accessible to scholars. Van Riper's work sheets are almost as large as those used for LAMSAS and his survey represents the first statewide survey recorded entirely on audio tape (Pederson et al. 1974, 12).

Lexical data began to be gathered in Texas at the same time by students, compiled by E. Bagby Atwood, which eventually formed the basis of his *The Regional Vocabulary of Texas* (1962). Atwood's report of Texas includes data gathered in Louisiana by Mima Babington and in New Mexico by T. M. Pearce. As surprising as it may seem today, given the immense interest in Southern dialects and culture, the South remained largely ignored as a site for dialect geography in the 1950s.

Finally, in the 1970s, research of regional dialects in the South was completed by Lee Pederson, who remained committed to Kurath's methods of research design, but introduced innovations which improved the interview content, presentation of data, and representation of language variation. Included in Pederson's *Linguistic Atlas of the Gulf States* (LAGS) are Tennessee, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, and East Texas. Designing his survey in 1968, Pederson drew from the wealth of knowledge gained in prior Linguistic Atlas research, in particular the experience of Raven McDavid, Jr., and made good use of the newly available portable tape recorder and microphotography, the Dialect Survey of Rural Georgia, and criticism of previous Atlas work (Pederson et al. 1986, 1). Pederson based his interviews on Kurath's "Work Sheet for the Linguistic Atlas of the Middle Atlantic and South Atlantic States," but added additional entries from other surveys, and created an urban supplement. Since Kurath's informants were generally rural, old, European-American males, Pederson made it a point to sample proportionally more women and African Americans than had been interviewed in the past, as well as relatively more middle age and urban informants.

As in previous Atlas projects, the selection of communities is central to Pederson's survey organization. Pederson identified communities as units in a field work grid. Pederson divided the Gulf region into 176 units based on geographical features and social history. All LAGS data is organized according to the divisions of the grid: four zones, longitudinal boundaries representing state boundaries for the most part; 16 latitudinal sectors within the zones; and units within the sectors framing different types of communities. The three types of industrial centers and three types of agricultural centers are described in terms of urban identity and growth characteristics of the population. Such

a typology enables comparison of communities which have similar economic characteristics and patterns of urban development (Pederson et al. 1986, 1-2).

Pederson selected informants to represent the social groups identified by the grid and build a sample comparable to LANE and LAMSAS (Pederson et al. 1986, 16). At least one elderly European-American folk informant and one middle-class European-American common informant were included in each grid unit. African-American informants were interviewed in communities where they formed more than twenty percent of the population in 1930 (Pederson et al. 1986, 16). Regarding cultured informants, Pederson exceeded Kurath's guideline of including cultured informants from at least a fifth of the communities. Cultured informants were interviewed in 125 of Pederson's 176 grid units and cultured African-American informants were included in 30 units (Pederson et al. 1986, 16). In metropolitan centers, field workers attempted to represent four generations of both European-American and African-American populations (Pederson et al. 1986, 16). Additionally, distinctive ethnic groups were included where they formerly prevailed or currently endure, such as the Salzburgers in Georgia and the Mexicans, Germans, and Czechs in Texas (Pederson et al. 1986, 21). Pederson's informant selection in the late sixties and early seventies reflected then nascent shifting interests in language variation study which have matured into greater interest in non-European-American varieties and a perceived but elusive 'Standard American English' associated primarily with urban areas and highly educated individuals.

Pederson emphasizes nonetheless that informant selection for LAGS adhered to the requisites of local nativity, adequate regional coverage, and balance of social types, and that local nativity was understood by field workers to be the primary criterion in the

choice of all subjects (Pederson et al. 1986, 21). According to Pederson, informants in LAGS averaged three generations of local residency (Pederson et al. 1986, 21). Pederson says that he did not examine the speech of the geographically and socially mobile, because his survey was designed to be foundational, a basic reference (Pederson et al. 1986, 21). Pederson notes that he followed Raven I. McDavid, Jr.'s advice regarding informant selection and interviewing techniques: informants with deafness, speech impediments or senility were excluded, and wherever a choice was necessary, older informants were preferred to younger informants, uneducated informants were preferred to educated informants, and rural informants were preferred to urban informants (Pederson et al. 1986, 22). Localities were chosen to best reflect the history and social make-up of the community unit (Pederson et al. 1986, 22). Pederson's criteria and methods of informant selection reflect the traditional historical orientation of the survey, which aims to "record the usage of the oldest generation and to identify the sources of its oral tradition in every community" (Pederson et al. 1986, 22). If the informant sample were instead based on population statistics, a greater proportion of younger informants and non-native speakers would have to be included, and such a sample would not be comparable with the preceding surveys. Still, the LAGS sample comes much closer to modern survey research methods than any other Atlas.

Differences in population sampling aside, where Pederson truly diverges sharply from LANE and LAMSAS research is in the realm of presentation of results. Instead of interpreting his data for others, Pederson utilized emerging computer technology in the 1980s to enable researchers to perform their own analyses of social and regional correlations and draw their own conclusions. He provides only a few maps of dialect

areas that seem to be indicated by a few lexical patterns, including maps for the variants *pullybone/wishbone*, *redbug/chigger*, and the subregional variants *burlap bag* and *dragonfly* (Pederson et al. 1986, 73-77). Nonetheless, these maps present a complex picture of variation in the South that defies simple divisions.

Pederson indicates that rivers and cities affect lexical distribution, but in his most marked divergence from traditional dialectology, he eschews discussion of isoglosses. In the final four volumes of LAGS, Pederson includes one or more transparencies for the user to lay on top of computer generated maps in order to see how variant distribution matches state and natural geographical boundaries. Michael Montgomery, in his guide to LAGS, explains that only indications of rough correlations between linguistic forms and geographical areas are intended by Pederson (Montgomery 1998, 38). Montgomery emphasizes that rather than postulating isoglosses based on competing forms and multiple features, Pederson aims to present individual word geography (Montgomery 1998, 38). His regional volumes do not map competing forms, though investigators can accomplish such maps if they wish using the LagsMap software (Montgomery 1998, 36).

Having finished LAGS, Pederson made plans to complete field work in the western states. He began in 1988 with a pilot study of folkspeech in Wyoming, and trained Michael Madsen as the primary field worker. His approach was the same as for LAGS, but he altered the worksheets to cut the interview time in half from six hours to three and to address western subjects. Pederson used the Wyoming pilot study to test his plan to automate manipulation of data. Following the Wyoming experiment, his goal was to “compose electronic protocols to transmit complete field records as ASCII files, organized in an operational concordance that sorts, registers, and maps information as

soon as it enters the system” (1996, 234). Ultimately, Pederson hopes to unite all American Linguistic Atlas databases using his automatic atlas in microform as the central component of research design (1996, 234).

One of Pederson’s goals was to chart phonemics using a systematic approach in the form of a register of fifteen American English stressed vowels in five preconsonantal environments (before a voiceless consonant, a voiced consonant or open juncture, a nasal, a loose lateral <l> and a tight lateral <r>), in order to produce at minimum a set of dialect synopses. The system also produces data about twenty-four consonants in initial, interior, and final syllable position (1996, 235). As in LAGS, he intends to index and illustrate regional and social markers that describe the distribution of linguistic forms, corresponding in LAGS to the Regional and Social Matrices and Patterns (LAGS Volumes 4-7)(1996, 235). Pederson envisions uniting all American Atlas databases in a single register, organized in a geographical grid. But his work in the Western states will not gather all the data that was gathered for previous Atlases.

In order to make the interview more relaxed to obtain uninhibited responses, Pederson has reorganized and revised the traditional American Atlas worksheets into four 45 minute programs each consisting of three worksheets with thirty targets a piece, for a total of 360 targets. Morphosyntactic focus targets, essentially various verb tenses, were largely eliminated. Topic divisions move from familiar and concrete to unfamiliar and abstract units of information to encourage uninhibited speech from the beginning of the interview. Worksheets are organized according to semantic fields. The first program is autobiographical and includes worksheets to gather personal data, information about the house and home, and names for household goods and clothing. The second program asks

about food, the farm and ranch, and farm animals and enclosures. The third program elicits names for wild animals, aspects of the weather and names of plants, and aspects of the landscape. The last program asks questions about society, people, and time and distance (Pederson 1996, 241-243).

In 1990, Pederson extended the project to Colorado and Utah in order to supplement the collections already gathered there. The project remains unfinished, but field work continues, particularly through the efforts of Lamont Antieau in Colorado. Pederson and Kretzschmar have agreed to collaborate on a Linguistic Atlas of the Western States, which will continue field work in the West.

Language Variation Research in El Paso, Texas

Perhaps not surprisingly, given the lack of funding for western dialect study, El Paso English has been the subject of but a few limited focus dialect and sociolinguistic studies, several theses and a dissertation. There are four studies that sample a few El Paso English speakers as part of large area research. The earliest was a lexical study of Texas by E. Bagby Atwood, which included six interviews from El Paso, conducted by students in the 1950s.

Atwood observed that Alva L. Davis had obtained data for his dissertation, *A Word Atlas of the Great Lakes Region* (1949), by mailing out a check list of vocabulary items and asking recipients to mark or write in words they used. With funds for dialect study diminishing, Atwood reasoned that highly trained field workers were not required for the collection of lexical data. Trained in the Gilliéronian tradition, he resisted the idea of a mail survey, and instead encouraged senior graduate students to try field work in

their own communities. He developed a survey of 246 items based on Linguistic Atlas work sheets, personal observation, Ramon Adams's *Western Words* (1944) and *Cowboy Lingo* (1936), and Harold W. Bentley's *Dictionary of Spanish Terms in English* (1932). Student field workers were lightly trained in the use of indirect questioning and educated about questionnaire items that were unfamiliar to them. Interest in the project spread to other colleges and universities in the Southwest and the collection of lexical field records grew (Atwood 1962, 30-31).

Atwood notes that finding older natives was difficult because many areas of Texas were recently settled. In the older areas, lifelong residence was usually a requirement. Selection focused on rural informants "old enough to remember the nonmechanized days" (Atwood 1962, 32). Uneducated speakers were highly preferred in order to diminish the homogenizing effects of education. Some younger informants were included, but informants younger than 40 make up only 15% of the survey. The survey was limited to "Anglo American" informants who were native English speakers and speakers of German background (Atwood 1962, 32).

Summary results of the Texas data are published in Atwood's *The Regional Vocabulary of Texas* (1962). Most unfortunately, socioeconomic information was not linked to particular responses, which makes the data useless for sociolinguistic analysis. Based on Atwood's numbers for the entire Texas survey, probably less than twenty percent of his informants were in the generation that came of age during World War II, and the education level of the Texas survey is low, with less than half having continued beyond elementary school. Ironically, it is primarily because Atwood's informant selection was based more closely on the tradition of European dialect geography, in order

to elicit as much variation as possible, that his survey diverges from and is less representative of cultured speech relative to Linguistic Atlas surveys.

The next large area study to sample El Paso was the nationwide survey conducted for the *Dictionary of American Regional English, D.A.R.E.*, which had been the original goal of the American Dialect Society at its beginning in 1889. Though based in part on research for the Linguistic Atlas of the United States and Canada, data collection for *D.A.R.E.* was envisioned differently, based on research in Wisconsin.

It was the Wisconsin English Language Survey (WELS), a mailed questionnaire which returned a great number of variant responses, that provided the model for *D.A.R.E.* The WELS survey was developed by analyzing the semantic categories in the word lists of the American Dialect Society's *Dialect Notes* and *Publication of the American Dialect Society*, and constructing questions based on the most fruitful semantic categories. *D.A.R.E.* was designed as a national survey based on a series of questions asked uniformly in all areas to ensure comparable results. The WELS questions were converted to a form usable in oral interviews, and field workers were instructed not to alter phrasing. Almost all the field workers were graduate students, though some of the interviews were completed by undergraduates and professors. Like the Linguistic Atlas, *D.A.R.E.* gathered detailed socioeconomic information from informants and a description of the community. Also as in Linguistic Atlas research, field workers noted responses that were suggested or questionable for other reasons (Cassidy 1985, xii).

D.A.R.E. obtained just two interviews from El Paso County. One informant was a rural college educated male rancher from El Paso born in 1910, the other a rural college educated female homemaker from Clint born in 1895. The advantage of the *D.A.R.E.* data

is extensive lexical coverage combined with socioeconomic data. Though data from only two informants does not constitute a reliable representation of El Paso speech, as part of the enormous corpus of *D.A.R.E.* the two informants provide important incremental evidence for a wide range of semantic fields in the American lexicon.

In 1988, Guy Bailey and Cynthia Bernstein initiated the *Phonological Survey of Texas*, to gather data about the extent of phonological variation and change in Texas (Bailey and Bernstein 1989, 6). They had noticed differences in the speech of younger and older informants in peer groups and individual interviews among African Americans and European Americans in four Texas communities, such as a loss in the distinction between /ɔ/ and /ɑ/. The differences were not common innovations in data provided by the Linguistic Atlas of the Gulf States, so Bailey and Bernstein questioned whether the age based differences were a rapid phonological change in progress or local variants that had not been reported by LAGS (Bailey and Bernstein 1989, 6). They set out to test whether geographic, social or other explanations might account for the differences, with a broad based sample of high school and college students throughout Texas (Bailey and Bernstein 1989, 7).

Because interviews were designed to be conducted quickly and easily by high school and college student field workers, they consisted of taped recordings of three reading tasks: a list of minimal pairs, a five-hundred-word passage, and a sentence completion exercise (Bailey and Bernstein 1989, 7). Bailey and Bernstein were also able to obtain data from around 1000 informants via the Texas Poll survey, a random survey of adult Texans who have telephones that asks questions on behalf of a variety of public policy agencies, private businesses and academic researchers, and offers the option of

recording responses. Age and ethnic data correspond closely to population figures for Texas, but women are overrepresented and Mexican Americans and African Americans may be underrepresented, because the survey is limited to households with phones (Bailey and Bernstein 1989, 8). The questions on the poll elicited information about ten phonological variables: the merger of /ɔ/ and /ɑ/; the merger of /ɪl/ ~ /ɪl/, /eɪ/ ~ /ɛɪ/, and /ul/ ~ /ʊl/; monophthongization of /aɪ/ before voiceless consonants; the loss of /j/ after alveolars; intrusive /r/; and the loss of postvocalic /r/. These phonological targets were obtained from short answer questions that elicited one-word responses. The general survey questions were recorded as well to provide a wide range of phonological variables (Bailey and Bernstein 1989, 9).

Bailey and Bernstein are able to make several generalizations about Texas innovation based on their data, but not about particular cities. For instance, Texas Poll data indicate that innovation is most likely to occur in the North and West, and is least likely in Central and Eastern regions (Bailey and Bernstein 1989, 10). El Paso data was supplemented by short interviews with seventeen high school students in El Paso conducted by Beverly Kerr Mattox (1989). As the data is quite limited in scope, it does not constitute a foundational sample of El Paso speech. A particular problem with the El Paso interviews is the limited demographic information available for each informant: ethnicity, sex, and age. Also, as mentioned above, the interviews are limited to three reading tasks: a list of minimal pairs, a 500-word passage, and a sentence completion exercise. The lack of demographic information and conversational speech limits the conclusions possible.

More recent is William Labov's *Telsur Project*, initiated in the early 1990s at the University of Pennsylvania (http://www.ling.upenn.edu/phono_atlas/home.html), a telephone survey of the phonological systems of urban dialects and the advance of sound changes in progress (Labov et al. 1997, 1). The sampling strategy for Telsur was designed to represent the largest possible population across the United States with special attention to speakers who live in urban centers, since they are expected to be the most advanced in processes of linguistic change (Ash, 1). A sampling grid was established based on Zones of Influence, Central Cities, and Urbanized Areas. Counties were associated with a Central City if the circulation of newspapers from that city is greater than the circulation of any other city designated a Central City, according to the *1992 County Penetration Reports of the Audit Bureau of Circulations*. Central Cities are places with a population of at least 200,000 in the associated Urbanized Area, according to the 1990 census. Low population in some areas required designation of smaller cities as Central in order to provide well-motivated geographic coverage (Ash, 1). An Urbanized Area is a Central City (which may be one or more actual cities) and the surrounding densely settled territory. Speakers who are natives of any place within the Urbanized Area of a Central City are taken to be linguistically representative of the Central City's speech community (Ash, 1). In Urbanized Areas with a population over one-million, at least four speakers were interviewed; at least two were interviewed in less populated Urbanized Areas. Additionally, at least one speaker from each City was required to be a woman between the ages of twenty and forty (Ash, 2). Labov chose informants who were born and raised in their Urbanized Area (Labov et al. 1997, 1). Researchers conducted recorded

interviews designed to collect particular phonological data by eliciting minimal pairs and target forms (Labov et al. 1997, 1). The end result is his soon to be published Atlas of North American English (ANAE).

Labov's rationale for creating ANAE is partly the lack of support that lexical analyses lend to dialect boundaries. He argues against the notion that there are no discrete dialect boundaries, claiming that his phonological data "show clear and distinct dialect boundaries, delineating areas with a high degree of homogeneity" (Labov et al. 1997, 2). He divides the United States into four major dialect regions: Inland North, South, West, and Midland. In spite of his assertions of homogeneity, he acknowledges that the Midland is a "residual domain with much greater diversity, where most individual cities have developed dialect patterns of their own" (1997, 2).

The complete data set provides enough points to make general statements about English spoken in the United States and possibly about the speech patterns of Labov's major regional divisions. However, statements comparing individual urban areas are suspect because of small sampling sizes; at most only six people represent the larger Cities. Sampling coverage was also not uniform across geographic areas. Because of current interest in establishing dialect boundaries in the North Central and Midland states, Labov obtained data for a number of smaller communities with populations of twenty- to fifty-thousand residents. He admits to "inadequate coverage of the large populations of California and the Pacific Coast" and "minimal coverage of the South" (Labov et al. 1997, 3). Labov's mapping software draws input from eighteen demographic variables, eighteen impressionistically encoded items, and 164 items of acoustic information based

on F_1 and F_2 means of thirty-two vowel classes and statistical comparisons of the means and allophones (Labov et al. 1997, 3).

It is important to remember that Labov does not divide the United States into regions based on the data collected by Telsur. He mentions that the three major dialect regions he identifies – Inland North, South, and West – correspond to the three vowel patterns presented in his article, “The Three Dialects of English” (Labov 1991). While he claims to have designed his study to measure change in progress, he begins with the assumption that nothing has changed over the past century in the Eastern States: Telsur gathered little data for regions in the Atlantic States and the South (Labov et al. 1997, 3). As for the West, Labov asserts it is developing its own phonological system (Labov et al. 1997, 5). Most obvious to Labov is the merger of /ɔ/ and /ɑ/ so that ‘cot’ and ‘caught’ are pronounced the same way (Labov et al. 1997, 14). The only exception in the twenty-four western speakers interviewed by Telsur is one person in Denver. Labov reports further that the West shows the greatest internal consistency in this merger (Labov et al. 1997, 14). He argues that the West has developed a “characteristic but not unique phonology” closest to the South Midland in /ɔ/ and /ɑ/ merger and in the fronting of /u/ (Labov et al. 1997, 14).

Three informants out of the twenty four Western representatives are from El Paso, ages 21, 27, and 38. Again, it is because Labov’s goal is to represent ongoing phonological change that the average age of informants is far lower than that of traditional dialect studies, just as the focus of his survey is urban centers, rather than isolated rural areas. The information that is available online is limited to demographic information for an informant and data on perception and production of six variables

thought to be undergoing merger in North America. Data from only three young informants can say little about an urban metropolis such as El Paso, but as part of Labov's wider survey of American English, it nonetheless forms an important contribution to dialect variation study.

The only surveys focusing directly on El Paso English have been Master's theses and a dissertation. Elizabeth Wheeler's thesis *Attitudes toward Three Varieties of English in El Paso* (1988) measures reactions to a West Texas, El Paso, and Hispanic accent using semantic differential scales. It does not attempt to describe El Paso English but begins with the assumption that three basic varieties can be identified. She finds that European Americans in El Paso do not believe that they have an accent, but that Hispanics are likely to describe European-American El Paso speech as a West Texas accent. She also reports that Hispanics consider the European-American El Paso accent to be the most favorable of the three accents.

The remaining studies of El Paso English are primarily descriptive rather than perceptual. Mariaelena Tapia-Godinez's thesis *Chicano English in El Paso, Texas* (1989) attempts to describe elements of Chicano English syntax and examines the potential influence of Spanish language on Chicano English. Of particular value to description of variation in El Paso is the fact that she draws attention to the complexity of describing Chicano English as an entity, since speakers variably employ features associated with the label. This variability in production is expounded in Amanda Doran's dissertation, *Language Use and Identity in a Bilingual Community: Re-examining the English of Mexican Americans* (2001), a sociolinguistic case study of linguistic features and Mexican-American identity in one English dominant family. Her research documents the

heterogeneous nature of the Mexican-American speech community in El Paso, but demonstrates ways in which members distinguish themselves linguistically from both Spanish dominant speakers and non-Mexican Americans.

The first description of European-American English is Gerald Eugene Smith's *Preliminary Survey of Native El Paso Anglo English Speech* (1990), a small lexical questionnaire survey of twenty native European-American El Pasoans, fourteen between the ages of 18 and 29 and six from 49 to 59 years. Smith intentionally delimited the age ranges in order to focus on lexical variation from one generation to another. Smith developed his sample based primarily on Atwood's in order to compare his data with Atwood's Texas survey and *D.A.R.E.* data, but he added a few questions to test for knowledge of lexical features associated with the North. His results suggest some lexical change, mostly in the sense that older informants were familiar with some lexical features found in Atwood with which the younger informants were unfamiliar, such as *coal oil*, *clabber*, *roasting ears*, and *pully bone* (Smith 1990, 65). In contrast, Smith's younger informants responded with the corresponding lexical variants *kerosene*, *buttermilk*, *corn on the cob*, and *slingshot*. Overall, he found that fifty percent of El Paso responses agreed with Atwood's findings for Texas as a whole, but that almost all expressions for which El Paso matched the Atwood survey were items common to Standard American usage (1990, 66). Smith defines Standard American loosely as "lexical items found in the mass media...not marked as "dialectal" in [Carver's 1987] *American Regional Dialects*" (1990, 70). Smith concludes that El Paso lexicon is more similar to Standard American than Atwood's sample of Texas lexicon (1990, 70), but his assumption of a Standard American variety is fundamentally flawed. His careless assignment of lexical features to

Standard American is made clear by his unsupported and illogical assertion that Standard American “expressions are universally recognized and tend to be regarded as the least marked ‘standard’ terms, especially by urban people” (1990, 70). Furthermore, he does not consider the fact that older words naturally go out of use over time. His conclusions are severely limited by his small sample size, which discouraged him from addressing phonological or sociolinguistic issues and performing statistical tests.

The only other study to address European-American El Paso English is Kenneth Dean Kelley’s *Looking for Big Bird: Stress Change in El Paso Anglo English* (1992), which suggests that variation in prosody of European-American El Paso speech is due to Hispanic English influence. He interviewed thirty European Americans aged 25 to over 75 using sociolinguistic style interviews and gathered data on stress patterns in noun-noun and adjective-noun phrases, such as ‘big bird’ and ‘Big Bird.’ He noted the Hispanic English stress pattern, which places primary stress on the first syllable of ‘big birds’ in the descriptive but noncomparative phrase ‘a flock of big birds,’ was more prevalent in the speech of the younger informants, suggesting that Hispanic speech is influencing European-American speech more now than in the past. Though his data does suggest change in the speech of El Paso European Americans, he does not support his claim with evidence of social networks. Since Southern varieties of European-American English also exhibit such a prosody, and many features of El Paso speech derive from Southern origins, it would be worthwhile to study and document changes in social interactions between European-American and Hispanic English speakers to support claims of dialect feature transmission from one group to another. Indeed, given the

history of El Paso, there is more than a suggestion that social barriers between European Americans and Hispanics are breaking down.

CHAPTER 3

THE BRIEF HISTORY OF EL PASO, TEXAS

Cultural geographer Wilbur Zelinsky characterizes North American settlement as a result of major waves of immigration loosely associated with each century and marked by ethnic composition. The first settlement period, during the seventeenth century, is marked by primarily British settlement in New England and the Middle Atlantic coastal regions (Zelinsky 1992, 24). Immigrants during the eighteenth century were more ethnically diversified: groups of Dutch, French, Spanish, Italian and German settlers arrived, as well as Africans, both free and slave (Zelinsky 1992, 25). Landing in the coastal areas, they streamed northward, inland, and southward. The Scotch-Irish pushed the frontier across the Appalachians. Military movement suspended immigration to a degree between 1775 and 1820, after which immigration largely from Northwestern Europe resumed, and included the famine stricken Irish (Zelinsky 1992, 25). After 1870, immigration from Northwestern Europe was joined by immigration from Scandinavia and Eastern and Southern Europe (Zelinsky 1992, 25). Immigration from Canada, Latin America, China, and Japan also increased after 1870 (Zelinsky 1992, 25). Though Spain was the first to colonize North America, they lost their possessions because they could not effectively protect their settlements from Native Americans and other immigrant groups. By the time North American settlement reached the Midwest and what would become Texas, Spain had lost control of Mexico.

In his study of Texas lexicon, E. Bagby Atwood relates the major events in the colonization of Texas and the ethnic diversity which resulted from the influx of

Europeans, European Americans, Mexicans, and African Americans. What is now Texas was once land that was part of “New Spain” from the early sixteenth century until the Independence of Mexico in 1821 (Atwood 1962, 4). During that period, Spain attempted settlement by establishing missions, a method which had in the past proved successful in areas of sparse population. In Texas, however, the mission system met with only limited success, due mostly to Native American uprisings, and thin military protection. In 1821, Spanish settlers numbered less than five thousand, and a thousand were in the military. However unsuccessful the Spanish mission system of settlement proved, the legacy of Spanish conquest lives on in many place names, including El Paso, San Antonio and Amarillo, among others.

After achieving independence from Spain in 1821, Mexico took an active role in settling Texas by replacing the mission system of settlement with the empresario system. Under the empresario system, an individual contracted with the Mexican government to settle a certain number of families within a given area. The empresario system drew a diverse collection of ethnicities to Texas, including German, Czechoslovakian, Dutch, Norwegian, and Irish settlers in addition to groups from within the United States. According to Atwood, most settlers apparently came from the Southern States, though few came from the Coastal South (Atwood 1962, 8). For example, over half of the men who fought at the Battle of San Jacinto in 1836 were born in Tennessee, Kentucky, Alabama, Georgia, and Virginia (Atwood 1962, 8). Atwood finds that only twenty percent of the men who fought at San Jacinto were born in states north of the Potomac and Ohio rivers (Atwood 1962, 8).

While Atwood reminds us that there were many long settled Latin American families in Texas before Mexico instituted the empresario system, he explains that the majority of Latin Americans arrived in the latter half of the nineteenth century and the early part of the twentieth. The Mexican-American population became heavily concentrated only in the southern and western extremities of Texas (Atwood 1962, 10).

Atwood points out that in spite of initial objections to slavery, many slaves were brought to Texas in the early days of colonization (Atwood 1962, 10). After the Republic of Texas became independent from Mexico in 1836, slavery continued to flourish. Atwood notes that by 1860, about thirty percent of the population were slaves (Atwood 1962, 10). Although less than twenty-eight percent of the settlers owned slaves, the influence of these families led Texas to join the Confederacy during the Civil War. The heaviest concentration of African Americans in Texas has remained the eastern part of the state. Atwood explains that when planters moved to West Texas, their slaves did not go with them (Atwood 1962, 14).

Culturally as well as ethnically, East and West Texas contrast. East Texas has retained ties to the Southern states, particularly in regard to religious affiliation and fervor. West Texas, separated from the East by vast stretches of open road, was naturally isolated from East Texas during the beginning of settlement and remains culturally isolated today. East Texas has long been the seat of political and economic power, while West Texas suffers from low population density and lack of rain. Indeed, the only urban areas west of Midland/Odessa are Lubbock to the northwest in the pan handle, and El Paso, on the western tip. Perhaps the most glaring contrast between West and East Texans is their speech features. El Pasoans generally lack features associated with a "Texas

accent,” the result of a somewhat different mix of settlers, effective isolation from East Texas, and greater contact and cultural identification with the Western States.

El Paso County lies at the northern end of the Chihuahuan Desert at an altitude of 3900 feet. Wrapped around the southern tip of the Rocky Mountains, the county is geographically separated from Ciudad Juárez only by the Rio Grande River, which sustained the early inhabitants of the region and encouraged European and European-American settlement. Based on the discovery of stone tools and projectiles, archeologists date the settlement of the El Paso region earlier than 6000 B.C.E. Sophisticated agricultural villages developed from the beginning of the Common Era to 1400 C.E., but diminished before the arrival of the Spanish explorers. Around 1535, Cabeza de Vaca found only non-sedentary hunting and gathering tribes living in small villages of only a hundred people, using primitive agricultural methods (Timmons 1990, 3-4).

The Spaniards named the river Río del Norte, and in 1598, Juan de Oñate took official possession of the entire area drained by the Río del Norte for Phillip II of Spain (Timmons 1990, 13-14). A number of missions were established along the river, from what is now El Paso to northern New Mexico. In 1680, the El Paso area became a refuge for Spaniards and Native Americans fleeing the Manso Pueblo Revolt in Taos and Santa Fe, New Mexico (Timmons 1990, 17). The Spanish settlements in the El Paso region were consolidated around 1684 for defense purposes, and by 1700 only five main settlements remained, including what is now Ciudad Juárez, and the villages of Ysleta, Socorro, and San Elizario, which eventually became part of the United States (Timmons 1990, 20-21). After the suppression of the Manso revolt and the reacquisition of New Mexico, the Spanish settlers constructed dams and irrigation canals to better support

agriculture and stock animals. Farms and ranches proliferated along both sides of the river (Timmons 1990, 25).

Because the missions needed sacramental wine, vineyards became popular and supplied wine, vinegar, brandy and raisins to the Chihuahua region, south of the river, and New Mexico. Farms also produced corn and wheat, and gardens featured figs, peaches, apples, and pears (Timmons 1990, 28). The El Paso area was strategically located at about the midway point on the Camino Real, which connected Mexico City with Santa Fe and Taos. In the early eighteenth century, El Paso grew beyond its missionary beginnings to become an important trade center. However, settlements in the El Paso area faced a new challenge: Apache raids.

Responding to the need for more efficient military protection of missions and settlements, the Spanish crown issued the Reglamento of 1729 to create uniform military units and reduce fraud. Perhaps not surprisingly, the Reglamento actually endangered the frontier settlements by reducing the number of frontier posts and men in an effort to streamline operations and cut costs. According to Spanish estimates in the 1750s, Apaches killed more than 800 people within a 200 mile radius of Chihuahua, causing the abandonment of ranches, farms, and missions, and the closing of silver mines (Timmons 1990, 34). Nevertheless, settlement of the El Paso area was persistent, and by 1760, over 4,500 people lived in the region (Timmons 1990, 40). Most of the population resided in El Paso del Norte, which is the current site of Ciudad Juárez, south of the river. Relatively few people lived north of the river, in settlements such as Ysleta and Socorro, which only held a few hundred people of mostly Spanish and Native American descent.

When Mexico won its independence from Spain in 1821, thanks to the leadership of revolutionary Benito Juárez, it created a federal republic somewhat akin to the government of the United States. The El Paso area settlements were incorporated into the state of Chihuahua, and land owners and merchants of El Paso del Norte dominated local politics. Agriculture, stock raising, and commerce provided self-sufficiency to the region (Timmons 1990, 73).

In the 1840s, only around fifty Americans were conducting business in Chihuahua, mining, or merchandising (Timmons 1990, 82). Less than a quarter of them lived in El Paso del Norte; a few of them became prominent El Paso pioneers, such as James Magoffin and Hugh Stephenson. The lack of Americans in the El Paso area was due in part to the Mexican Law of 1830 prohibiting further American immigration to Texas. The treatment of Americans during this period is indicated by the experience and actions of James Magoffin. He married a Mexican woman from San Antonio and was popular among Mexicans. Like Magoffin, many of the American businessmen in Chihuahua had become wealthy and had married Mexican women from prominent and influential families. Through marriage, they acquired Mexican citizenship and held public offices in state and local government. By 1835, Magoffin was mining copper in addition to merchandising, and he had built a profitable trade (Timmons 1990, 85). In spite of the Americans' contributions to trade and their efforts to comply with Mexican regulations, Mexican officials suspected the American merchants of violating prohibitions against the sale of arms, ammunition, and alcohol to the Apaches and threatened the merchants. When war broke out between Texas and Mexico in 1835, the American merchants in El Paso del Norte were summarily imprisoned (Timmons 1990, 85).

When Mexican General Santa Anna was defeated in 1836, the Treaty of Velasco called for a withdrawal of all Mexican forces from Texas beyond the Rio Grande (Timmons 1990, 36). Mutual fear and suspicion between Texans and Mexicans grew after the establishment of the Republic of Texas. Mexicans were afraid that the Texans intended to take New Mexico. Their fears were not unfounded, but the Texas expedition to take New Mexico was a failure. American merchants in Chihuahua were victims of further discrimination after 1836. Magoffin moved his family to Missouri for a time in 1844, perhaps due to increasing Mexican regulation and growing tension that his Mexican citizenship did little to ease (Timmons 1990, 84).

Tensions over boundaries simmered until 1846, when the Mexican calvary attacked American soldiers in disputed territory, President Polk was able to convince Congress to declare war on Mexico. James Magoffin negotiated a surrender of Santa Fe and attempted to negotiate a surrender of El Paso del Norte, but was taken prisoner. Colonel Alexander Doniphan and his Missouri volunteers beat a Mexican force twenty-eight miles northwest of El Paso del Norte. In El Paso del Norte, Doniphan seized control of the mills and stationed his army. John T. Hughes, the historian for the Doniphan expedition, echoed colonial sentiments when he suggested that the economic potential of the region was hardly realized by the current population:

If this valley were cultivated by an energetic American population, it would yield, perhaps, ten times the quantity of wines and fruits at present produced. Were the wholesome influences and protection of our Republican Institutions extended to the Río del Norte, an American population, possessing American feelings, and speaking the American language, would soon spring up here. [Timmons 1990, 96]

Hughes' sentiments demonstrate that modern day language prejudice in the United States had its beginnings long ago.

In 1848, the Treaty of Guadalupe Hidalgo ceded what is now the American Southwest to the United States. At the same time, reports of gold in California led a stream of adventurers through El Paso, including what is reportedly the first European-American woman resident, a six-foot tall woman known as "the Great Western" (Timmons 1990, 103). Travelers to California camped on the northern, American side of the river. The region became a treasured oasis for those who braved the Chihuahuan desert. Prices of goods soared in reaction to the arrival of emigrants, and the native Mexican population began to hoard provisions, straining relations (Timmons 1990, 105). A number of new arrivals remained in the area and built ranches, stores, and mills on the American side of the river.

The previously Mexican settlements of Ysleta, Socorro, and San Elizario were declared within the jurisdiction of the United States, since the river flowed between them and the rest of Chihuahua. Mexican protests led to United States military occupation of the disputed settlements and United States seizure of communal land holdings. Segregation in El Paso began to take shape. By the end of 1848, the United States decided to establish a military post on the Rio Grande in order to defend the new boundary, protect settlers against Apache attacks, and maintain law and order among the California emigrants. This military presence would eventually become Fort Bliss, which has occupied various sites in the El Paso area over time (Timmons 1990, 106).

The actual site that developed into El Paso was originally Benjamin Franklin Coons's Ranch. Colloquially, this settlement was called "Franklin," but officially became

known as El Paso when the post office was established in 1852 (Timmons 1990, 111). In 1858, John Butterfield established his Overland Mail to transport mail and travelers from the end of the railroad in Missouri to San Francisco in twenty-five days via El Paso. The Butterfield system spanned the longest distance over which coach service had ever been attempted: 2700 miles. Before the intercontinental railroad system was completed, the Butterfield service produced the biggest impact on El Paso. When the first Butterfield stage left Missouri, a mail bag was dispatched from St. Louis to New York by train to be carried by ship around the Horn of South America to California. The Butterfield stage reached San Francisco six days before the ocean going mail, demonstrating the advantage of the Butterfield service. El Paso received incoming mail twice weekly from Butterfield stages traveling east and west (Timmons 1990, 143).

Anson Mills, one of El Paso's famous pioneers, arrived in El Paso a few months before the Butterfield stage. In his autobiography, *My Story*, he describes his reaction to the El Paso region:

[W]hen I arrived at the bluffs overlooking the valley of the Rio Grande, I thought it was the most pleasant sight I had ever seen. When we drove into the town, which consisted of a ranch of some hundred and fifty acres in cultivation in beautiful grape, apple, pear, and peach orchards, watermelons, grain, wheat and corn, it seemed still more beautiful, especially when, under the shade of the large cottonwood trees along the acequias, ...we saw Mexican girls selling fruits of all kinds grown on the opposite side of the river at what was known as Paso del Norte. [Timmons 1990, 143]

Mills was contracted by the Butterfield company to build its station, which he completed by the time the first stage arrived. The building and corrals occupied half a city block and constituted the largest and best equipped station on the Butterfield Trail. There were only around 300 people living then in what is now El Paso, and only forty of them were European Americans. Anson's brother, William Wallace Mills, arrived six months after Anson. Regarding relations with the Mexicans, he wrote:

Common trials and dangers united the two races as one family, and the fact that one man was a Mexican and another an American was seldom mentioned, and I believe as seldom thought about. Each man was esteemed at his real worth, and I think our estimates of each other's characters were generally more correct than in more artificial societies. Spanish was the language of the country, but many of our Mexican friends spoke English well, and often conversations, and even sentences, were amusingly and expressively made up of words or phrases of both languages.

[Timmons 1990, 146]

Residents new to El Paso before the Civil War were motivated to learn and use Spanish because it was the language of commerce and politics. The Mills brothers used their educated knowledge of politics and nurtured a relationship with the Mexican-American population to control elections.

By 1860, the population had increased to 428, but the Civil War and Reconstruction stunted growth and development in the region until the completion of the intercontinental railroad in 1881. According to Owen White, in the period preceding the Civil War in 1861, the male European-American population of El Paso was 44. By the time hostilities ended in 1865, El Paso had become deserted by civilians and was

essentially remote and uninhabited (Cunningham 1978, 5). There were only three European-American women in El Paso in 1860, and they probably did not remain in El Paso during the Civil War. It is known that one of them, Susan Shacklett, moved with her children to Sherman, Texas during the Civil War while her husband served the Confederacy (Hamilton 1976, 28). The Mexican-American majority showed little interest in the Civil War, but the European Americans were almost unanimously Confederate, though only a few owned slaves. The Confederate sentiment was in part supported by the identification of Jefferson Davis, president of the Confederate States, with the southern transcontinental railroad route and its implications for El Paso's strategic importance. The Mills brothers cast the only two votes opposing secession in El Paso (Timmons 1990, 147).

At the start of the war, the Union commander in Texas ordered all posts surrendered to Confederate authority, so for a time Fort Bliss was under Confederate control. Anson Mills left to serve the Union in Washington, D.C., and his brother William went to serve the Union commander in New Mexico. The Confederates extended their control over New Mexico and Arizona, but were driven back in 1862 by the Union's California Volunteers. The Confederates in the southwest had failed to win support from Mexico, which was engaged in its own war with the French. Threatened by an overwhelming force and insufficient supplies, the Confederates abandoned Fort Bliss (Timmons 1990, 149-150).

During the occupation of El Paso and New Mexico by the California Volunteers, many citizens were indicted for treason and their property seized. The United States Supreme Court enabled Confederate sympathizers eventually to recover their properties,

but they still met with opposition and frustration locally. Simeon Hart, an early El Paso pioneer, received a presidential pardon, but still had to battle William Mills for his property. Probably due to the stress of contention, Hart died a year after reaching an agreement with William Mills in 1873 (Timmons 1990, 151). Another El Paso pioneer, James Magoffin, also received a presidential pardon. The provincial governor of Texas gave Magoffin the right to reorganize county government in El Paso, but Magoffin was prevented from taking action by the Union commander at Fort Bliss. Magoffin moved to San Antonio, where he died in 1868. Title to his property was given to his son Joseph, and though challenged, was ultimately upheld (Timmons 1990, 151).

The end of the Civil War brought to El Paso not only previous residents but also newcomers from the North, South, and Midwest. In 1869, Fort Bliss was partially staffed by the Buffalo Soldiers, the African American 24th Infantry (Metz 1993, 57). Men who were unmarried before the Civil War afterward brought wives across the desert to El Paso. During the 1870s there were about thirty European-American women in El Paso and a few European women (Cunningham 1978, 2). An exemplary frontier woman who came after the Civil War was Mary Hamilton Mills.

Mary Hamilton married William Mills in 1869 and traveled with him from Austin to El Paso with an escort of ten infantry men and a government wagon and team. Their trip took twenty-three days and was uneventful, though they passed several scenes of bloodshed along the way (Cunningham 1978, 5). She made this journey many times more since Mills conducted political business in Austin on occasion. The fortitude of Mary and the other women who came to “Sin City” in the 1870s is impressive, particularly considering the many gun fights occurring just a few blocks away from their homes.

Though they lived in a lawless environment, they managed to introduce culture and refinement to El Paso. Mary Mills and a small group of women who came to El Paso during the 1870s later started, in 1894, what would become the Woman's Club of El Paso.

When Mary Mills arrived in El Paso, there were no schools, churches, or organizations. Judge Gaylord Clarke, who had arrived from New York with his family in 1867, conducted church services in his home. In 1868, Clarke's wife began teaching in order to provide education to her daughter Anna and other neighboring children (Cunningham 1978, 6). Mrs. Clarke attracted about twenty pupils in 1868, including several Mexican-American children. She taught reading, writing, arithmetic, history, and Latin (Hamilton 1976, 44). In 1870, Reverend Joseph Tays arrived in El Paso and established a small Episcopal church in a building on Main Street. He also established a mission day school there for ten European-American children and a few Mexican-American children in town. In spite of the general vice and lawlessness that characterized 1870s El Paso, Tays attracted seventy-five to his congregation (Cunningham 1978, 6). In these makeshift schools and churches of the late 1860s and 1870s we see the beginnings of a self-sufficient and somewhat insular European-American community, promoting traditional European-American religious and educational values in addition to the use of English as the primary language, not only to European-American children, but also to the children of Mexican Americans. There were already English speakers among the prominent Mexican Americans, and as the new European-American community flexed its commercial muscles, motivation to speak English could only increase.

A List of Registered Voters in El Paso from 1867 to 1869 totals 741 in the county (Timmons 1990, 157). Table 3.1 details the ethnicities of the voters.

Table 3.1: Registered Voters in El Paso from 1867 to 1869

| Group | Population |
|-------------------|------------|
| El Paso County | 741 |
| European-American | 69 |
| Mexican-American | 659 |
| African-American | 2 |
| European | 11 |

Only eighty-two were not Mexican Americans. Eleven of the eighty-two were European, two were labeled “colored,” and the remainder were European-American men primarily from New England and the Midwest. Only nineteen of the sixty-nine European Americans had lived in El Paso for more than three years. In contrast, 145 Mexican-American voters had lived in El Paso for more than forty years. The political party led by William Mills took advantage of the Mexican-American constituency by conducting county business in Spanish and electing a few local Mexican-American leaders to less important offices (Timmons 1990, 157). However, in 1877 the Mills group showed their true colors when they laid claim to salt flats that historically had been freely accessible to the Mexican Americans in the Lower Valley communities of Ysleta, Socorro, and San Elizario. This action sparked the Salt War between rival business interests, six months of bloodshed that was ended only by the reestablishment of Fort Bliss, which had been shut

down. Ultimately, the title obtained by the Mills group was found to be defective and the salt beds remained public land (Timmons 1990, 158).

El Paso was first incorporated as a city in 1873 with a population of 800. Local ordinances included maintenance of the irrigation ditches, and moral prohibitions against swearing, carrying firearms, gambling, stealing, and starting a riot, punishable by fine. Little money was collected, however, reflecting lack of enforcement that would later contribute to the free-for-all violence of the Salt War. Interestingly, the main issue in the mayoral election of 1874 was whether dogs should be restrained or allowed to roam free (Timmons 1990, 161). Limited interest in city government caused El Paso to become unincorporated until the approach of the intercontinental railroad in 1880. County politics continued uninhibited.

Before the arrival of the railroad, El Paso remained a village of only 800, perhaps a hundred of whom were European Americans. When the railroads approached El Paso, a transient element arrived in the winter of 1880-1881 that doubled the population, consisting largely of Texans and Midwesterners. Lawman James B. Gillett described the scene:

Bankers, merchants, capitalists, real estate dealers, cattlemen, miners, railroad men, gamblers, saloon-keepers, and sporting people of both sexes flocked to town. They came in buggies, hacks, wagons, horseback, and even afoot. There was not half enough hotel accommodations to go around, so people just slept and ate at any old place.... A saloon was opened on almost every corner of the town with many in between, but if one wished a seat at the gaming tables he had to come early or he could not get within thirty feet of them. [Timmons 1990, 167]

Property values doubled as well, and rents became unreasonable. Many newcomers slept in tents and hundreds slept in the saloons (Timmons 1990, 167). On May 26, 1881, the Southern Pacific railroad was completed, linking Texas and the rest of the United States to California (Timmons 1990, 167). In the first speech to celebrate the completion of the railroad, Judge Allan Blacker proclaimed, “Here cities will spring up on both sides of the river, and together with the railroads they will, to a considerable extent, handle the commerce of the world” (Timmons 1990, 168). He regarded El Paso as “the pleasantest place in which God in his providence has cast our lots,” and related that the governor of Texas had described El Paso as the best and last place in the United States to make a fortune in a single lifetime (Timmons 1990, 168).

El Paso’s population grew rapidly after the arrival of the railroad to a city of over 80,000 in four decades. Newcomers were attracted by business opportunities including cattle ranching, mining, and trade. Victims of tuberculosis were attracted by El Paso’s mild, dry climate. Fort Bliss imported men from all over the United States during each military conflict, many of whom remained. Farmers in particular were attracted by the construction of Elephant Butte Dam in New Mexico, completed in 1916, which provides controlled access to water for crops in both the United States and Mexico (Timmons 1990, 169, 200). European-American religious and educational values and the use of English as the primary language in El Paso became institutionalized with the arrival of the railroad and the ensuing rapid urbanization of El Paso.

In 1881, El Paso was a typical frontier town, a “Sin City” known for its saloons, dance halls, gambling halls, and opium dens. Ladies of the night occupied an entire street, some in palatial residences (Timmons 1990, 172). Many businessmen felt that El Paso’s

reputation for vice was one of its one of its principle assets, a view hardly challenged until the rise of Protestant and Catholic churches in El Paso. There were no church buildings in El Paso until 1881. Catholics attended services in missions either in Mexico or in the newly American settlements of Socorro and Ysleta. By the end of 1882, El Paso had four churches (Timmons 1990, 173).

Among other rapid developments taking place in the early 1880s was the establishment of the public school system in 1883. The first school was a small one-room adobe building. By 1884, a separate school for African Americans had been established, and in 1887, Olivas V. Aoy organized a school for Mexican-American children with his own money. He taught the children English, among other subjects, so they could attend the public schools (Timmons 1990, 173-174).

Particularly because of El Paso's transportation facilities and proximity to the mining operations in Arizona, New Mexico, Texas, and Chihuahua, El Paso became an important mining center. In 1887, Robert Stafford Towne built a custom smelter which became the most important in the Southwest: ASARCO (Timmons 1990, 176). The influence of mining on El Paso is documented in the early name of the University of Texas at El Paso: the College of Mines and Metallurgy (Timmons 1990, 205).

Until 1888, much confusion was caused by the similarity of the names El Paso del Norte, Chihuahua, and El Paso, Texas. The governor of Chihuahua, Lauro Carrillo, suggested that the village El Paso del Norte become Ciudad Juárez to honor the efforts of revolutionary Benito Juárez. The designation of Ciudad politically upgraded Juárez from village to city status, encouraging the growth of an infrastructure that would enable it to become El Paso's sister city (Timmons 1990, 183).

One of the most significant events in El Paso's economic growth was the removal of the county seat from Ysleta, a largely Mexican-American community, to El Paso, where European-American businessmen took control. In order to take advantage of the much larger Mexican-American constituency, minor city and county positions were given to cooperative Mexican Americans, who exchanged their political support for ethnic protection (Timmons 1990, 175).

From the beginning of El Paso's incorporation, segregation was apparent. New Yorker Rudolf Eickemeyer observed in 1893 that Mexican and American parts of El Paso were divided by Second Street. Mexican Americans, African Americans, and Chinese immigrants lived to the south of Second Street in hundreds of one-story adobe houses with only one to two rooms. English speaking European Americans lived in brick and stone structures in fashionable residential areas. The social and economic disparity of the two groups shocked Eickemeyer, who reported that he crossed the river to Juárez by way of a "two-legged ferryboat," on the back of a Mexican at the cost of a little more than a penny. Eickemeyer compared the fertile El Paso river valley to that of the Nile and compared the Mexican peasantry with their flat roofed adobe buildings to the Egyptian peasantry (Timmons 1990, 184-185).

As El Paso developed, it became an important center for mining, transportation, and cattle. By 1890, the population was greater than 8,000, and it increased to almost 16,000 by 1900. Most of the newcomers in the 1880s were European Americans, but heavy immigration of Mexicans to El Paso in the 1890s resulted in a Mexican-American majority by the turn of the century. El Paso's economic opportunities made it the main arrival terminal for Mexican immigrants, whose labor built the city.

Mexican immigration increased dramatically in 1912 and 1913, during the Mexican Revolution. Political persecution, violence and destruction drove both rich and poor refugees to the United States. Among them were around 1500 Mormons who had settled in Mexico (Timmons 1990, 217). Many of the wealthy Mexicans managed to salvage their riches and settled in the affluent neighborhoods of El Paso. The relationship between the United States and Mexico deteriorated during the confusion of the Revolution, and the threat of race riots led El Pasoans to demand more troops at Fort Bliss. In this way, the Mexican Revolution contributed to the growth of Fort Bliss, which was becoming one of the largest military posts in the nation (Timmons 1990, 220). When the United States backed Carranza's government instead of Pancho Villa's, Villa's men killed sixteen mining engineers in Mexico in January of 1916 and two months later massacred the village of Columbus in New Mexico. When the mining engineers were killed, a race riot erupted in south El Paso, and all available police had to be sent to prevent further attacks on Mexican Americans. When Columbus was attacked, riots were quelled by the knowledge that General John J. Pershing had been ordered to pursue Villa into Mexico (Timmons 1990, 221).

There was no immigration policy in El Paso until 1917, and even then, the 1917 immigration law requiring a head tax and a literacy test was suspended because the demand for Mexican labor was so great. In 1919, twice as many Mexicans immigrated to the United States than in any previous year since 1900, initiating a trend that continued through the 1920s. The population of El Paso doubled each decade after 1900, and more than half the population were new residents from Mexico. While after 1940, most of the Mexican Americans were born in El Paso, before 1940, most Mexican Americans in El

Paso were born in Mexico. Most Mexican immigrants arriving after 1900 brought their families (Timmons 1990, 186).

Many of the 1200 Chinese laborers who built the railroad returned to China, but around 300 remained in the 1890s, and had banded together to form a Chinatown in the heart of El Paso's business district. Since exclusion laws prohibited Chinese immigrants from bringing their wives to the United States, the Chinese population in El Paso consisted overwhelmingly of adult males. In spite of the early success of Chinese businesses in El Paso, discrimination against the Chinese by the Immigration Service curtailed the formation of a Chinese community. After 1900, the Chinese population in El Paso stagnated as the rest of the population grew, resulting in the non-appearance of a "Chinatown" (Timmons 1990, 188).

Two other non-English speaking immigrant groups also significantly impacted El Paso in its early growth stages. Jewish pioneers from Germany and Austria came seeking economic and political freedom. Some started their businesses in Ciudad Juárez before moving to El Paso, in order to take advantage of the duty-free trading zone established by the Mexican government along the border in 1885 (Timmons 1990, 190). Syrians came to El Paso because they were turned away at Eastern ports. They landed in Mexico and learned to speak Spanish in order to pass themselves off as Mexican at the border (Timmons 1990, 191). Many prominent businesses in El Paso bear their names, including the clothing manufacturer Farah and the automobile dealership Shamaley Ford.

Because El Paso was known as a healthful place to live, several hospitals and sanatoriums were established early on. Hotel Dieu Hospital was finished in 1894, Providence Memorial Hospital in 1902, and the Albert Baldwin Health Resort, the largest

of the sanatoriums, in 1907 (Timmons 1990, 193). The sanatoriums attracted victims of tuberculosis from all over the United States. El Paso's climate was likewise a draw for victims of gas attacks during World War I. A baby sanatorium was created north of El Paso in Cloudcroft, New Mexico by the Woman's Club of El Paso. Founded in 1894 by Mary Stanton, the Woman's Club also started the first public library with monetary assistance from Andrew Carnegie.

While the population of European Americans in El Paso rose dramatically in the 1880s, with an overall growth factor of fourteen for the city population, the population of African Americans in the city of El Paso grew just over half as much, with a growth factor of eight, to 361 by 1890 (Timmons 1990, 188). County population figures for African Americans are listed in Table 3.2.

Table 3.2: Growth Factors Related to the Arrival of the Railroad in El Paso

| U.S. Census of Population Date | 1880 | 1890 | Growth Factor |
|---|-------|--------|---------------|
| Population of El Paso City | 736 | 10,338 | 14 |
| Population of El Paso County | 3,845 | 15,678 | 4 |
| Total Foreign Born Population in El Paso County | 1,152 | 5,399 | 4 |
| Number in El Paso County born in Mexico | 1,082 | 4,294 | 4 |
| African Americans in El Paso County | 47 | 377 | 8 |

Table 3.2, a modified version of Table 1.2 from the introduction, shows that the African-American population increase outpaced Mexican immigration during the 1880s,

proportional to original numbers, but failed to match proportionately population gains by other groups. Nevertheless, the small African-American community developed early, and the first African-American school was founded in 1883 and named after the famous African-American leader, Frederick Douglass. It was incorporated into the public school system in 1886, but remained segregated until 1954 (Timmons 1990, 188). Perhaps because the population of African Americans was low relative to the rest of the population, they were not generally perceived as a threat, and a number of them were able to amass wealth. Modern politicians are fond of claiming that El Paso is a “color-blind” city, but the social standing of African Americans in El Paso never rose to meet their financial standing. One prominent African-American businessman who came to El Paso during the Civil War, a former slave named John Woods, was eventually killed by a policeman in a shooting incident that had no witnesses. The policeman claimed he had shot Woods in self-defense, but Woods had been shot in the back of the head. The policeman was nevertheless soon released. In spite of the bigotry that led to her husband’s death, John’s widow Mary, also a former slave, successfully managed leases on their property, building an estate valued at \$160,000 by the time of her death (Timmons 1990, 189).

Prejudice against African Americans, though present, did not contribute much to the brief rise of the Ku Klux Klan in the early 1920s. By 1920, El Paso County had over 80,000 citizens and business was booming; however, there was a growing concern among Protestant congregations that values and traditions were slipping. El Paso had long been known as a “Sin City,” a reputation that endured in spite of Prohibition. Ironically, it was Protestant concerns about moral law and order that provided an opportunity to the Klan.

Public statements from the Klan advertised that it was neither racist nor intolerant, but was composed of “decent, respectable American citizens from practically every walk of life,” whose sole purpose was “to make El Paso a better and cleaner city, a better place in which to live and raise our children” (Timmons 1990, 231-232). The Klan continued with vocal attacks on prostitution, car theft, residential burglary, and other law violations. The Klan secured the support of some Protestant ministers and capitalized on the fears of the Protestant clergy that the Roman Catholic Church was trying to gain control of El Paso public schools (Timmons 1990, 232). El Pasoans failed to unite against the Klan, including the two major newspapers: the El Paso Herald supported the Klan ticket for the school board, while the El Paso Times backed the opposition (Timmons 1990, 232). The Klan gained control of the school board in May 1922 and voted numerous “improvements” for the schools, including renaming proposed and existing schools after Texas war heroes, such as Bowie and Austin. Though the Klan soon lost power, many of the names remain.

The Klan-controlled school board generated an explosion of protest when it removed three principals who were Catholic women. This event gave the El Paso Times the opportunity to denounce the Klan in an editorial, asserting:

The 11 months since the Klan announced its existence cover the worst period in all El Paso’s history....The old El Paso spirit of enterprise, cooperation and neighborly good will, the spirit that built on the sun-baked desert a mighty city, has been well nigh strangled. Religious intolerance, hate, suspicion and anger have entered into every civic activity, from the deliberations of the Chamber of Commerce to the political primary.... [Lay 1985, vii]

The mayoral election then resulted in a loss for the Klan which was followed by a succession of defeats in a school board election, a city general election, and a bond issue for street improvements. By the summer of 1924, the Klan could no longer exert a significant influence within the political and social spheres of El Paso (Timmons 1990, 234).

El Paso's population stagnated in the 1930s and fell during the Depression and World War II, increasing again with postwar development. El Paso's growth during the twentieth century is shown in Table 3.3.

Table 3.3: Population Figures for the City of El Paso: 1900 to 2000

| Year | Population | Growth Factor |
|------|------------|---------------|
| 1900 | 15,906 | 1.54* |
| 1910 | 39,279 | 2.47 |
| 1920 | 77,560 | 1.97 |
| 1930 | 102,421 | 1.32 |
| 1940 | 96,810 | 0.95 |
| 1950 | 130,003 | 1.34 |
| 1960 | 276,687 | 2.13 |
| 1970 | 339,615 | 1.23 |
| 1980 | 425,259 | 1.25 |
| 1990 | 515,342 | 1.21 |
| 2000 | 563,622 | 1.09 |

*The population of El Paso city in 1890 was 10,338.

When the United States entered World War II in 1941, Fort Bliss was the third largest military post in the country, occupying 436,000 acres. Military tourism and the increased demand for raw materials, goods, and workers during the war rescued Ciudad Juárez as

well as El Paso from the considerable economic hardship they had endured during the Great Depression. Demand for Mexican labor fueled a mass migration from the interior of Mexico that more than doubled the population of Ciudad Juárez between 1940 and 1950. The Bracero program, a contract labor agreement between the United States and Mexico initiated in 1942, drew 2000 Mexican laborers a month for the cotton industry. By 1950, almost three quarters of the Mexican population of El Paso was native born (Timmons 1990, 242).

Following complaints from the Mexican government that the wages in the Bracero program were too low (\$1.50 for one-hundred pounds of cotton picked), the program was canceled in 1947. In 1948, the United States began pressing illegal immigrants into service in the cotton fields. In response, the Mexican government stationed troops on the bridges to stop illegal immigration. In 1949, a new Bracero agreement was reached, prohibiting the recruitment of workers in border cities, limiting the length of labor contracts to six months, and providing the workers additional protection. The agreement, however, was not enforced, as local politicians and officials looked the other way and allowed unrestrained illegal immigration. Local labor unions and the Mexican government both complained that illegal immigration had lowered wages to deprivation levels. Finally, the Eisenhower administration took notice and launched a massive illegal immigrant round-up, deporting 35,000 immigrants in El Paso to Mexico in one week in 1954. Illegal immigration, though present to various degrees before the Bracero Program, has been a major issue in United States-Mexican relations ever since (Timmons 1990, 246).

The 1950s also saw an influx of newcomers escaping the Snowbelt. El Paso's industries by that time included transportation, trade, oil refining, natural gas, construction materials, metal working, real estate, finance and tourism. These industries continued to contribute to El Paso's growth and were joined by a 33% increase in the military population as a result of Cold War tension. Jobs in public utilities, government, retail sales, services, and manufacturing increased substantially. Several landmark skyscrapers were constructed during the 1950s, including the eighteen-story El Paso Natural Gas Company building, topped by a flame shaped light that shines blue when the weather is clear and yellow when the weather is overcast (Timmons 1990, 248).

While race relations in El Paso have always been rough, El Paso nevertheless led the way for African-American rights in Texas. In 1944, after a twenty year fight all the way to the Supreme Court, Dr. Lawrence A. Nixon, an African-American physician, was allowed to cast his ballot in the Democratic primary in El Paso, which had traditionally been reserved for European Americans. Dr. Nixon's triumph was followed by the elimination of segregation in public spaces and in El Paso public schools in 1954. In 1955, Thelma White was admitted to Texas Western College (now University of Texas at El Paso), becoming the first African American admitted to a European-American public college in Texas (Timmons 1990, 251).

Riding the wave of the Civil Rights Movement, the 1960s ushered in an era of Hispanic cultural pride in the form of the Chicano Movement, which sought to dramatize the institutionalized injustices against Mexican Americans and promote a better life for the Mexican-American community. In the Southwest as a whole, the Chicano Movement was more important than any other protest movement (Timmons 1990, 257-258). Not all

Mexican Americans were willing to be labeled “Chicano” or participate in the movement. This was particularly true in El Paso, far from the Southern California origin of the movement. In her study of Chicano English syntax in El Paso, Mariaelena Tapia-Godinez reports that nine of eleven participants who self-identified as Mexican-American would not ever identify themselves as Chicano (Tapia-Godinez 1989, 17). However, the movement sparked an effort to enhance the opportunities and political power of Mexican Americans that has remained strong in El Paso. Otherwise, radical movements largely failed to take hold. Fort Bliss once again burgeoned with soldiers from all over the United States as the Viet Nam War escalated, and El Paso experienced only one isolated Viet Nam War protest.

In the 1970s, residents and newcomers fueled the expansion of El Paso’s suburbs and shopping malls. The downtown area remained the financial center and retained businesses that catered to Mexican consumers. In the 1980s, restoration and rehabilitation began and preserved many downtown El Paso landmarks, including the Paso del Norte Hotel built in 1912, with its huge Tiffany stained glass dome. Older affluent neighborhoods retained their value and one, Sunset Heights, from which early El Pasoans watched the revolution in Mexico, experienced regentrification. Nevertheless, expansion of the suburbs continued, culminating in the building of superstores and a shopping mall on the west side of town that effectively reduced business in the central and east side of town. The 1990s saw the implementation of NAFTA, which initiated a partnership with Mexico to transfer manufacturing jobs to Mexican plants where labor is cheaper. Easy access to maquiladoras, the partner manufacturing facilities in Mexico, drew more

temporary residents from the United States and Europe, fueling further suburban sprawl on both the west side and east side of town.

It is important to note that not all Latinos in El Paso are Mexican Americans, as revealed by the 2000 census results, shown in Table 3.4, which reveals that three-quarters of the population of El Paso are Hispanic and one-quarter are non-Hispanic. Of the quarter who are non-Hispanic, European Americans outnumber other groups four-to-one.

Table 3.4: Ethnic Breakdown from U.S. Census of Population 2000 for El Paso City, Texas

| Ethnicity | Population | Percentage |
|----------------------------------|------------|------------|
| Total Population | 563,662 | 100.0 |
| Hispanic or Latino (of any race) | 431,875 | 76.6 |
| Mexican | 359,699 | 63.8 |
| Puerto Rican | 3,660 | .6 |
| Cuban | 476 | .1 |
| Other Hispanic or Latino | 68,040 | 12.1 |
| Not Hispanic or Latino | 131,787 | 23.4 |
| White alone | 103,422 | 18.3 |

Numbers of Asian and African Americans remained low during the twentieth century in spite of El Paso's purported "color blindness." In Table 3.5, we see that the majority of ethnically Hispanic/Latino El Pasoans list themselves as "White," though a little less than a third of them list themselves as "Some other race." The deduction that Hispanic/Latinos account overwhelmingly for "Some other race" is supported by the ethnic breakdown in Table 3.5.

The continual infusion of newcomers to El Paso from all parts of the United States and Mexico has led to rapid change in language features adopted by its children. The influence of Southern and Texas features waned during the twentieth century as Spanish-influenced features gained currency, a reflection of greater contact between European- American and Mexican-American groups and the growth of the population and influence of the Mexican-American community in El Paso since the 1950s. But the influence of El Paso's European-American founder population, primarily Texans and Midwesterners who came with the railroad in the 1880s, settled and raised families, is still audible in the voices of their grandchildren.

Table 3.5: U.S. Census of Population 2000, Race Alone or in Combination with One or More Other Races*

| Race | Population | Percentage |
|----------------------------------|------------|------------|
| White | 430,142 | 76.3 |
| Black or African American | 19,998 | 3.5 |
| American Indian/Alaska Native | 6,483 | 1.2 |
| Asian | 8,563 | 1.5 |
| Native Hawaiian/Pacific Islander | 1,054 | .2 |
| Some other race | 117,234 | 20.8 |

*In combination with one or more of the other races listed. The six numbers may add to more than the total population and the six percentages may add to more than 100 percent because individuals may report more than one race.

CHAPTER 4
METHODOLOGY

Sampling

In order to represent the European-American founder population of El Paso, I interviewed forty European-American informants born between 1914 and 1934, including even numbers of men and women, and ten rural and thirty urban informants, as shown in Table 4.1.

Table 4.1: Basic Characteristics of the El Paso English Sample

| | Total | Men | Women | Urban | Rural |
|---------|-------|-----|-------|-------|-------|
| Number | 40 | 20 | 20 | 30 | 10 |
| Percent | 100 | 50 | 50 | 75 | 25 |

I chose an unequal number of rural and urban informants because I wanted primarily to represent the speech of El Paso as a whole and did not want to overrepresent the rural population relative to the urban population. The one-to-three proportion of rural to urban El Pasoans approximates the proportion of rural to urban inhabitants of El Paso County represented in the 1930 census. Rural inhabitants represented 28% of the population of El Paso County in 1930 (U.S. Census of Population 1930). Table 4.2 shows that the 2000 census counted close to 60,000 inhabitants of El Paso County between the ages of 65 and 85 (Profile of General Demographic Characteristics, 2000). The 2000 census calculates that 17% of the population of El Paso County is European-American,

Table 4.2: Calculation of El Paso English Sample Population Coverage
based on U.S. Census of Population 2000 Data for El Paso County

| | Actual | Rounded |
|-----------------------------------|--------|---------|
| Inhabitants Aged 65 - 84 | 59,888 | 60,000 |
| Percentage European American | 17% | 17% |
| European Americans Aged 65 - 84 | 10,181 | 10,000 |
| El Paso English Sample Informants | 40 | 40 |
| Ratio of Coverage | 1:254 | 1:250 |

not of “Hispanic/Latino” origin. Assuming equal age distributions among the ethnicities, which is not a certainty, the 2000 European-American population of El Paso County between the ages of 65 and 85 is around 10,000. That gives me a 1:250 coverage ratio for my target population.

The El Paso English Sample was originally conceived to allow statistical comparison of rural and urban groups while approximating proportions of rural and urban European-American, upper middle class speakers from El Paso County who were in their teens or twenties during World War II. The sample is limited to native El Pasoans who are native English speakers born between 1914 and 1934, ethnically European-American, and upper middle class. Figure 4.1 shows the birth year distribution of informants. For the purpose of this research, native El Pasoans are defined as anyone who has lived in El Paso County since the age of six, the age when most children began attending school.

As Table 4.3 shows, only seven of the informants were not born in El Paso. The woman born in Guanajuato, Mexico is from a family of European-American ranchers from north Texas who were only in Mexico a few years before they fled from kidnapers. Fluent Spanish speakers were included as long as Spanish was not their first language. I

did not attempt to study Spanish fluency or sample it purposefully, but four informants, three urban and one rural, demonstrated that they were comfortable speaking Spanish.

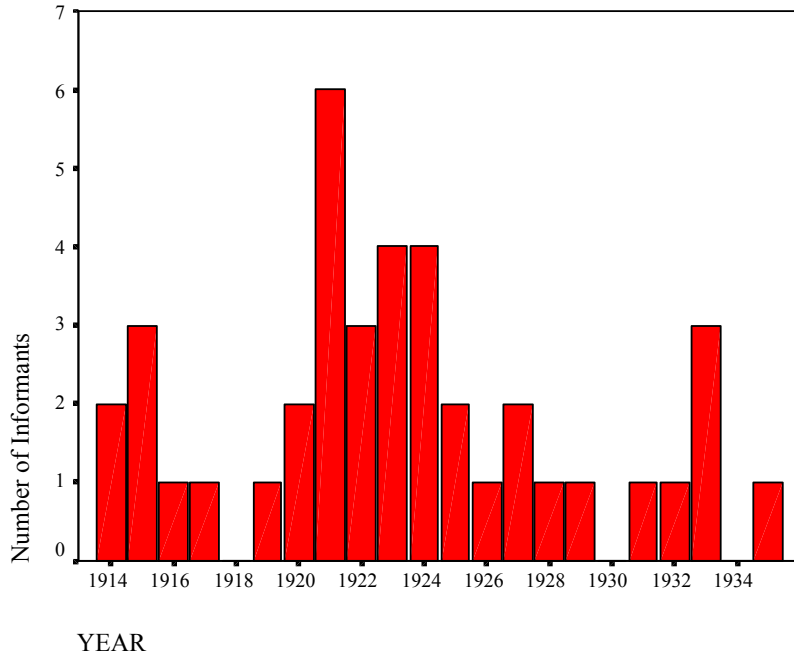


Figure 4.1: Age of Informants

Table 4.3: Birthplace of Informants

| Birthplace | Number of Informants | Age at arrival in El Paso |
|--------------------|----------------------|---------------------------|
| El Paso, Texas | 33 | 0 |
| Guanajuato, Mexico | 1 | 4 |
| Fort Davis, Texas | 1 | 6 |
| Pennsylvania | 1 | 5 |
| Jefferson, Texas | 1 | 3 |
| Sherman, Texas | 1 | 1 |
| Beaumont, Texas | 1 | 3 |
| Marfa, Texas | 1 | 2 |

The sample is a quota sample rather than a random sample because identification of the entire population matching my age and nativity constraints cannot be accomplished. I generated a list of potential informants based on referrals from my family and family friends, primarily from my father and maternal grandmother who are active in community affairs. The list consisted only of upper middle class European Americans without Hispanic/Latino cultural background, as far as could be determined by the referrer. When I telephoned each prospective informant, I confirmed that they matched the constraints of my sample (date of birth between 1914 and 1935, El Paso County nativity, and English as first language) and explained that I was gathering data for my dissertation and would like to conduct an interview about family history and daily life in El Paso. I explained that the interviews were about three hours long, and that we could complete the interview in either one or two visits. If the prospect was willing to meet, we scheduled an interview. I knew personally only five of the informants I interviewed, but most of the prospective informants were happy to help with my research. Each completed interview filled a space in my quota of urban and rural men and women. I kept interviewing qualified candidates as they became available until I filled my quota for each of the four groups. I did not reject interview candidates for any reason other than my established sampling and quota constraints. Biographical data about each of the informants appears in Appendix A.

I have chosen the retired upper middle class as my informant base against which other socioeconomic and age groups may be compared for two reasons: 1) the limitation of informants to a single class will enable stronger conclusions about the speech of that class; and 2) the upper middle class has been largely ignored by sociolinguists and

linguistic geographers, because they assume that those classes speak a ‘standard’ form of English, and they are interested in what seems most different from standard varieties of American English. Study of the variety and complexity of speech feature variation in the upper middle class speech of El Paso will enable a test of the assertion that educated European-American southwesterners speak a homogenous standard English.

My interviews are three hour modified linguistic atlas interviews, based on Lee Pederson’s pilot survey for the Linguistic Atlas of the Western States (1996), that obtain traditional lexical, phonological, and morphosyntactic data, along with free conversation which provides a rich sample of variable feature production by individuals. The semantic categories covered by the interview include personal data, the house, household goods and clothing, food, the farm and the ranch, farm animals and enclosures, wild animals and vegetation, weather and vegetation, landscape, society, people, and time and distance. The full interview text, including the way the questions were generally asked, appears in Appendix B. The procedure for conducting the LAWS questionnaire encourages asking questions that elicit conversational tokens of targets. The prompt-and-response technique is then used to gather targets not acquired during conversation. An example of the family background questions and questions adopted from the first section of the LAWS questionnaire appears in Figure 4.2. Because many of the phonetic targets of the Personal Data section of the LAWS questionnaire naturally occur in conversational responses to the Family Background section, such as the phonetic target ‘mother,’ they were not directly elicited during the prompt-and-response section. In such cases, the prompt-and-response section was used to elicit multiple lexical types associated with a target. I began each interview with the conversational prompt, “I’d like to know how your family came

to El Paso,” and followed up with questions about family background and birth and informant origin data to elicit over twenty minutes of conversational speech. In the LAWS portion of Figure 4.2, target response items are followed by a hypothetical prompt.

Figure 4.2: Questions to Informants at the Beginning of the Interview

Family Background:

1. I'd like to hear about how your family came to El Paso.
2. When were you born?
3. Tell me about your education.
4. What's your religion?
5. What kinds of jobs have you had?
6. What organizations do you belong to?
7. Now tell me about your mother. What was her education like? Did she work? What about your father?
8. What is your ultimate ancestry in Europe?

LAWS Prompt and Response Questionnaire

1. MOTHER + (Capital letters indicate a pronunciation target. + indicates the need to elicit synonyms.)
What did you call your mother? What names did you have for your mother?
2. FATHER +
What did you call your father? What names did you have for your father?
3. PARENTS +
Your mother and father, what do you call them?
4. Grandmother (lower case letters indicate the need to obtain only synonyms)
What did you call your grandmother? What names did you have for your grandmother?
5. Grandfather
What did you call your grandfather? What names did you have for your grandfather?
6. CHILDREN +
What do parents usually take care of?
7. RAISED +
What did your parents do with you? When you were in school and you wanted to speak, what did you do?
8. looks like
If your features were similar to your parent's, how would you say that?
9. HOSPITAL
When a woman is ready to have a baby, where does she go?

Figure 4.2, continued

10. midwife

If a woman did not go to the hospital, who would come to help with the birth?

11. HUSBAND +

What was your father to your mother?

12. WIFE +

What was your mother to your father?

13. MARRIED +

When a woman and a man want to spend the rest of their lives together, what do they do?

14. CHURCH

Where do people usually get married?

15. SERMON

In church, what does the pastor preach?

16. GOD

Who do we pray to?

17. MATTHEW; 18. JOHN

Can you name the Gospels?

19. EDUCATION

What do we obtain by going to school?

20. COLLEGE

What's another name for a university?

21. LIBRARY

Where do we go to check out books?

22. DAUGHTER

What is your sister to your mother?

23. NEPHEW

What do you call your sister's son?

24. AUNT

What do you call your mother's sister?

25. UNCLE

What do you call your mother's brother?

26. WOMAN teacher ("woman" is a phonetic target. "woman teacher" is a lexical target.)

Were there different names for teachers in the old days based on gender?

27. best man

Who stands up for the groom at a wedding?

Figure 4.2, continued

28. bridesmaid

What do you call one of the women who supports the bride?

29. relatives

What do you call people who are related to you?

30. not related

What do you call people who are not related closely to you?

Because of the unpredictability of a conversational interview, the questions were not always asked the same way; the questions shown in Figure 4.2 represent only one possible form of the prompts, in some cases the one that worked best overall. Better questions might be formulated but they still might be confusing to some informants. For many targets having to do with ‘the house’ I was able to point at physical objects during prompt-and-response and elicit the target by saying simply, “What do you call that?”

I used a Marantz PMD 221 Portable Cassette Recorder and its internal microphone to record the interviews on Maxell XLII CrO₂ tapes. Using cassette tapes as opposed to the higher quality digital audio tapes (DAT) was necessary because a Panasonic cassette transcription machine was required to transcribe the conversational part of each interview in a timely manner. Recording quality was quite good, enabling clear discernment of phonetic variants. I decided not to use a lavalier microphone because I was concerned that it would inhibit relaxed conversation. In the future, however, I will use a lavalier microphone, because it provides more consistent volume, especially if the informant shifts during the interview.

The typical interview took almost three hours to complete, though many interviews took only two-and-a-half hours and a few were over three-and-a-half hours long, as shown in Table 4.4.

Table 4.4: Number of Interviews at Given Lengths of Time

| Length of Interview | Number of Informants |
|---------------------|----------------------|
| More than 3 hours | 3 |
| 2 to 3 hours | 36 |
| less than 2 hours | 1 |

Interviews took place in a variety of settings, depending on the preference of the informant. I did not require informants to complete the interview under extremely controlled conditions, such as in a sound proof room, because I was concerned that the interviews should be relaxed. Allowing informants to meet in a setting convenient to them contributed to a relaxed atmosphere and fostered conversation. Table 4.5 juxtaposes the number of interviews conducted in a relaxed atmosphere to the number of interviews conducted under challenging environmental conditions.

Table 4.5: Number of Relaxed Versus Difficult Interviews

| Interview Atmosphere | Number of Informants |
|----------------------|----------------------|
| Relaxed | 33 |
| Difficult | 7 |

The seven interviews that are classified ‘Difficult’ were less good for a number of different reasons. One was the first interview I did, with informant UF01, which was naturally awkward as I was still getting used to the lengthy questionnaire. This first

interview was nevertheless conversational. Some other ‘Difficult’ interviews were not very conversational throughout for a variety of reasons. In two cases, UF07 and RF04, the informants were in a hurry because they had other appointments to keep. In one case, UF15, the informant was bright and quick, responding rapidly to the prompts, but succinct in answering open ended questions. In another case, RF05, the informant was easily tired and hard of hearing, so conversational speech was largely limited to the opening family questions, and the responses to prompts were not always accurate. Another informant, UM12, presented the same problem, though not to the extent of RF05. Whereas the interview with RF05 took two visits to complete, the interview with UM12 was completed in one afternoon. In the final case, RM03, the informant was anxious to finish the interview quickly, though he was patient with all the questions. The recording of this interview was further challenged by a chorus of barking dogs and a vocal parrot. In contrast, the relaxed interviews were at least somewhat conversational throughout, even during prompt and response. At the extreme end, RM04 treated each prompt as a conversation starter. While that interview provided a wealth of conversational speech, it ran over four hours and had to be ended when the prompt and response was only two-thirds complete. Most of the interviews took place at informants’ homes, but a few took place at offices, as shown in Table 4.6.

All of the interviews were completed within three visits, and most within one, as shown in Table 4.7. The only interviews that were not completed were those with RM03 and RM04. As mentioned above, in the case of RM04, the interview ran too long and a follow up interview was not scheduled because so much good conversational data was generated. In retrospect, it would have been better to complete the prompt-and-response

portion of the interview, since I did not get data on a few interesting lexical features. In the case of RM03, the parrot and dog challenged interview, the interview was so rushed that one of the twelve questionnaire sections was inadvertently skipped. Again, it would have been wiser to schedule two visits.

Table 4.6: General Locations of Interviews

| Place of Interview | Number of Informants |
|--------------------|----------------------|
| Informant's Home | 33 |
| Interviewer's Home | 2 |
| Office | 5 |

Table 4.7: Number of Informants Requiring a Particular Number of Visits

| Number of Visits | Number of Informants |
|------------------|----------------------|
| One | 34 |
| Two | 5 |
| Three | 1 |

Most interviews took place in quiet environments, but a few took place in the presence of outdoor noises. In the case of the cacophony of dogs and a parrot at the interview with RM03, nothing could be done to remedy the situation. During the other interviews, it was not difficult to shut a window and eliminate the noise. In the two interviews that took place in apartments, the interviews with UF05 and UF13, hammering from construction

occurred sporadically, but did not interfere measurably with data collection. In spite of occasional noise on some of the interview recordings, clarity was generally excellent, enabling full transcription of the conversational part of the interview and acquisition of target lexical tokens from the prompt and response part of the interview. Table 4.8 compares the number of interviews having excellent sound quality with the number having poor sound quality.

Table 4.8: Quantity of Excellent Versus Poor Recordings

| Quality of Recording | Number of Informants |
|----------------------|----------------------|
| Excellent | 38 |
| Poor | 2 |

One of the interviews with ‘Poor’ sound quality was, of course, the interview with RM03. The other one, the interview with UF03, is rather faint, though otherwise of excellent quality. UF03 has a very soft voice, and the recording would have been improved if a lavalier microphone had been used. I did not use a lavalier microphone because I wanted to reduce the observer’s effect whereby conversational speech is inhibited by visual reminders that speech is being observed and recorded. Even in the two cases where recording quality was poor, the interviews were largely usable and did not warrant deviating from the sampling frame and rejecting the interviews for a reason other than the quota. Another aspect of the interview environment that some researchers feel may inhibit conversational speech is the Human Subjects permission form.

Informed consent of the participants in any research project is necessary for both ethical and legal reasons. I found that the participant benefits from knowing up-front what to expect during the interview and what will be done with the results of the interview, and participates more willingly as a result. Each interview I conduct begins with a request for the informant to read and sign the Human Subjects permission form required by the University of Georgia. The form explains the interview procedure and assures the informant that the procedure is not harmful. The process of reading and signing the form requires only a couple minutes at the beginning of the interview, and I felt it did not make the interviews more formal and stilted. A copy of the form appears in Appendix C. Both the informant and the interviewer must sign two copies of the permission form before beginning the interview. The informant keeps one copy and the interviewer keeps the other. The permission form includes the telephone number of the Human Subjects office in case the informant has questions about participation. I did not experience any problems in gaining permission from informants, and I have not had any negative feedback. In fact, some of my informants who know my family show a continuing interest in the progress of my research. When the electronic version of the dissertation is available through the University of Georgia, I will notify informants by mail with instructions concerning access to it.

After the permission forms were signed, the tape recorder was turned on and the interview began with the request, "First of all, I'd like to hear about how your family came to El Paso." This opener invited a long monologue, which I verbally encouraged. I made an effort not to interrupt with questions until the informant had finished telling me as much family history as he or she wanted to tell me, but I did ask for clarification when

the need arose and opportunity presented itself. As my experience grew, I was able to encourage longer responses from informants and I interrupted less frequently.

During the interview I referred to a list of questions and target forms. In each interview, I used approximately the same prompt to elicit a certain target form, but it was often necessary to phrase prompts in different ways to elicit the target. An example of a prompt for the target 'chimney' is, "Smoke goes up the" A few targets, such as the phonological target name "Nelly," were nearly impossible to elicit, and so I ended by asking the informant to pronounce the target. I do not analyze such targets here. I did not attempt to hide from my informants the fact that I was studying their speech, because the nature of the prompt and response portion of the interview makes that obvious anyway. In order to get the prompt and response portion to proceed smoothly, I had to explain my procedure to some of the informants, saying, "I'm going to try to get you to say certain words, but whatever you say is fine." Without that explanation, some informants were confused by the prompt and response procedure. Even with the explanation, one informant, RM04, engaged in conversation about each of the prompt and response topics. As mentioned above, some prompt and response topics had to be skipped in order to complete the better part of that interview. Some informants felt embarrassed when they could not immediately respond to a prompt, and I was quick to reassure them that the interview was not a test. Because the prompt and response portion feels like an intelligence test, it hinders the relaxed atmosphere of the interview. The prompt and response portion of the interview is nonetheless a necessary evil if we hope to obtain a broad range of lexical features in the space of three hours. While conversation on topics

can produce a few of the target lexical features, it can never elicit all of those needed for comparison to previous studies of American English.

Some informants showed a degree of interest in dialect research and demonstrated their skill in mimicking Texas accents or showed me dialect books or tapes. One informant, RF04, showed me a book about old fashioned farming tools, which calls to mind Jaberg and Jud's anthropological interest in studying the history of artifacts along with the language variation. Another informant, UF15, had bought, on a trip to North Carolina, an audio tape of folk tales told in the Gullah dialect. A few informants responded to some prompts with imitation, usually affecting an East Texas accent but then repeated the target in non-imitational speech. Only non-imitational responses are studied here.

For most of the interviews, I interviewed a single informant. In two cases, it was impossible to isolate the informant from a spouse because either the informant requested the presence of the spouse or it would have been awkward to ask them to leave because the informant did not ask for my preference, and the implied assumption was that the extra person would like to stay. In one interview, with RM05, I encouraged participation from an auxiliary informant because she did not interfere with the primary informant's participation and she promised to be an enthusiastic contributor. However, I do not analyze her responses, nor the speech of any of the other few auxiliary respondents here. In none of the interviews did the auxiliary informant hinder the participation of the primary informant.

Of interest for future research, I was able to sample communication between a couple of informants and their Mexican maids. Such communication might provide a

unique avenue for studying the extent to which both middle class European Americans and working class Mexicans modify their speech in order to communicate with one another. Both of the informants sampled talking with their maids spoke comfortably in Spanish with appropriate intonation and phonetic production. These informants were college educated, came from highly educated families, and showed a high degree of interest in languages and prescriptive rules. Analysis of Spanish spoken during interviews is not included in this report.

Data Preparation

For phonological analysis, I transcribed the conversational part of each interview and highlighted words in the interview that contained phones of interest. The conversational part of the interview consists of the family background questions plus the first of the twelve LAWS questionnaire sections (see Figure 4.2). Then I listened to the interview and transcribed the target phone in the highlighted words as I heard them. Impressionistic transcription is an established method of linguistic geography. Field workers have been trained in transcription for work on each of the American Linguistic Atlas projects, beginning with the course taught by Jakob Jud and Paul Scheuermeier at the Linguistic Institute of 1931 (Kurath et. al. 1939, xii). A course in phonetics and phonology and a course in transcription taught by Lee Pederson at the University of Georgia prepared me to transcribe phones reliably. While my recording method was fine for impressionistic transcription, it did not provide the noise-free clarity desired for immediate acoustic analysis, so acoustic analysis was not attempted. This is not to say that acoustic analysis would be impossible given more time and resources. Indeed, using

sound editing software, it is possible to reduce machine and random environmental noise to the extent that acoustic analysis of the recordings, while not ideal, might be attempted in the future. For an example of acoustic analysis made possible by sound editing, see Schwannenflugel and Hamilton (2004). After transcribing target phones on transcripts, I noted each target realization on a Quattro Pro spreadsheet and then noted the phonological variants on a vowel chart based on the phonemic synopses in Kurath and McDavid's *Pronunciation of English in the Atlantic States* (1961).

For lexical analysis, I listened to each of the complete interviews and recorded target lexical features in a spreadsheet as I heard them. Since the interviews proceeded in a uniform fashion, with most of the interview simple prompt and response, all lexical tokens could be reliably counted. For the conversational part of the interview, listening was accompanied by word processor searches of the text to ensure that I accounted for all variants.

Analysis

I compared lexical and phonological variables with social variables in order to determine whether or not relationships existed between them. Statistical analysis of Linguistic Atlas data is constrained by a number of issues relating to sampling procedures and the nature of the interview. Kretzschmar and Schneider (1996) urge linguistic scientists to choose statistical procedures based on the limitations of their data set. The most important limitations associated with Linguistic Atlas style interviews is the fact that responses are qualitative or nominal rather than continuous or scalar, and that multiple responses are possible for each prompt. Recognizing the inappropriateness of

multinomial analysis, since informants provided multiple responses, I limited my analysis to binomial presence or absence of variants, following Kretzschmar and Schneider (1996, 38-48).

As I cannot assume that my data set is normally distributed, it is best to use non-parametric rather than parametric statistics for analysis, because non-parametric statistical methods are not constrained by assumptions of normality. Non-parametric tests do not use observed frequencies, but an arrangement derived from them (Kretzschmar and Schneider 1996, 90). Following Johnson (1996, 40), I tested for significant relationships using the Kruskal-Wallis H statistic, a non-parametric test based on rank rather than frequency. As a non-parametric test, Kruskal-Wallis does not assume a normal population distribution; unlike the non-parametric Chi-Square test based on frequency, Kruskal-Wallis is not subject to the Cochran Restriction on empty cells and low frequencies common to small data sets and 2 x 2 tables. In addition, unlike the equivalent Wilcoxon Rank Sum Test, Kruskal-Wallis enables comparison of scores for more than two groups, speeding analysis.

My social variables included biological sex, rural or urban identity, occupation, and parental origin. I categorized informants according to the types of work they had done using separate binomial variables for each type of work, and some of my informants were represented by more than one category, such as a farmer who had spent the latter half of his working life in a business office. Each of the categories has enough members to represent a statistically viable portion of the sample. The lowest number of members in any group is four, in the variable "Trades" which I created in order to represent some informants who had done blue collar sorts of work.

I divided parental origin into five national regional divisions, North, South, Midwest, North and Midwest combined, and West, and three Texas divisions, North Texas, South Texas, and West Texas, not including El Paso. I created a separate category for parents who grew up in El Paso, and a category for informants with parents from anywhere in Texas, including El Pasoans. As with the other social variables, all parental origin variables are binomial. Table 4.9 lists parental origin categories.

Table 4.9: Parental Origin Categories

| National Categories | Texas Categories | Other Categories |
|---------------------|--------------------------|---------------------------|
| | | |
| North | North Texas | El Paso |
| South | South Texas | Texas (including El Paso) |
| Midwest | West Texas (not El Paso) | |
| North or Midwest | | |
| West | | |

My threshold for statistical significance is $p < .05$, the standard accepted significance level in social sciences. For nominal data, the Kruskal-Wallis test determines whether or not the rows and columns are independent; this means that a significant result implies a relationship between the rows and columns which must then be interpreted by the analyst. I used SPSS to calculate Kruskal-Wallis H. The Kruskal-Wallis H statistic establishes relationships between variables but does not say anything about those relationships. In order to determine what characterized the relationships, I supplemented the Kruskal-Wallis test with cross-tabulations. Cross-tabulations allow a

determination of whether two variables are positively or negatively correlated and the degree of correlation, as a percentage of social category members using a linguistic feature, or as a percentage of tokens of a linguistic feature provided by members of a social category.

Robust statistical tests such as Kruskal-Wallis are able to produce correct inferences from relatively nonnormal or skewed distributions (Kretzschmar and Schneider 1996, 90). It is therefore less likely that one will mistakenly reject the null hypothesis using a non-parametric test and report an erroneous correlation between variables. However, it is more likely that one will miss relationships between variables using non-parametric methods, what is referred to as Beta or Type B error. Kretzschmar and Schneider argue that because linguists are mostly interested in the positive assertion of probable association between linguistic and social variables rather than the denial of associations, Beta error does not require much attention (1996, 51). They note further that the logic of argument from significant results concerning the null hypothesis supports the positivist approach (1996, 51). I have chosen not to report results outside the 95% confidence interval; but that does not mean there are not trends in the data that do not quite rise to that level of significance. Further research on El Paso English could very well establish relationships between linguistic and social variables not illuminated by my current analysis.

CHAPTER 5
PHONETIC ANALYSIS OF STRESSED VOWELS
IN THE EL PASO ENGLISH SAMPLE

Production of phonetic features is usually not categorical for individuals. Variable production has been extensively studied by sociolinguists, who are able to demonstrate that frequency of feature production may correlate significantly with socioeconomic variables (for example, see William Labov's seminal work, *The Social Stratification of English in New York City*, 1966).

Variable pronunciation is the norm rather than the exception. In Kurath and McDavid's *Pronunciation of English in the Atlantic States* (1961), individual variability is indicated in the phonetic synopses by listing variant types separated with a comma. For example, Kurath and McDavid report in the phonetic synopsis for the informant from Burlington, Vermont two variants of /ε/ in head: [ε] and [εə̃] (1961, 47). There are few such instances, a fact probably attributable to the prompt and response style used in LAMSAS, which elicited primarily one word responses and thus single tokens of a target pronunciation feature. Appendix D contains simplified phonetic synopses for each El Paso informant based on the arrangement of those developed by Kurath and McDavid. The El Paso phonetic synopses list each phonetic type that occurs in conversation, separated by a comma on the chart as in Kurath and McDavid. The elicitation of multiple tokens of each phonetic target in conversational speech, as in the El Paso English Sample, is more conducive to the discovery of variability in individual speech. Thus, the El Paso synopses present more variability than Kurath and McDavid were able to show in their

phonetic synopses. In order to emphasize major patterns within the El Paso English Sample, I note variable production by individual informants according to presence or absence of variants, and draw attention to variable feature production in the speech of individual informants. For a full list of tokens of phonetic targets gathered for each informant, see Appendix E.

The phonetic system used to describe the speech of the El Paso English Sample is based on the International Phonetic Alphabet, published by the International Phonetic Association (IPA). The most widely used system for transcribing the sounds of a language, the International Phonetic Alphabet is a contrastive system of symbols based on articulatory differences between sounds that may distinguish words from one another. Each vowel is described according to whether tongue placement is high, mid, or low in the mouth and whether tongue placement is front, central, or back. Additionally, vowels are described according to whether or not they are produced with tension and lip rounding. In English, tension is usually accompanied by lengthening and diphthongization of the vowel, particularly evident in the vowels /e/ and /o/, realized [eɪ] and [oʊ] as in the words *rate* and *wrote*. The short, lax monophthongs corresponding in tongue placement to /e/ and /o/ are /ɛ/ and /ɔ/, as in *Rhett* and *wrought*.

Though the IPA provides diacritic symbols for indicating fine distinctions such as vowel length, I did not use them in my phonetic analysis of the El Paso English Sample. I employ a limited set of IPA symbols which represents the basic phonetic distinctions observable in the El Paso English Sample. These symbols and their approximate articulatory arrangement relative to one another are presented in Figure 5.1.

| | Front | Central | Back |
|-------------|-------|---------|------|
| High | i | | u |
| | ɪ | | ʊ |
| | e | | o |
| Mid | | ə ɜ | |
| | ɛ | | ʌ ɔ |
| | æ | | |
| Low | a | | ɑ |

Figure 5.1: El Paso English Survey Phonetic Symbols

Because I did not have the benefit of long experience including calibration with earlier field workers, the broader transcription used here more accurately represents my level of transcription experience. The basic phonetic realizations of vowels include [ɪ, ɪ, e, ɛ, ɜ, æ, ɑ, ɔ, o, ʌ, u, and ʊ], as in the words *three*, *six*, *eight*, *ten*, *church*, *half*, *John*, *law*, *know*, *son*, *good*, and *two*. There is disagreement over the value of the rhotic vowel symbol /ɜ/. Kurath and McDavid treat the stressed vowel in *church* and *thirty* as a unit phoneme, noting that they use [ɜ] “whether it is constricted, as in areas that have postvocalic /r/ ... or unconstricted, as usually within the areas that lack postvocalic /r/” (1961, 115). Charles Kenneth Thomas, on the other hand, distinguishes between /ɜ/ and a hooked version of the symbol, the first used when speakers lack postvocalic /r/ and the hooked version used when speakers possess postvocalic /r/ (1958). For the El Paso English Sample, /ɜ/ is intended to represent /ʌ/ with constricted /r/. I chose to represent

the sound uniformly with r-coloring because there are not any speakers that lack postvocalic /r/ in the El Paso English Sample.

Phonologically Based Variation

In their analysis of pronunciation by cultured informants in the Atlantic states, Kurath and McDavid describe variation in terms of classes of vowels that tend to vary in similar ways. The macro distinction they make is between free vowels and checked vowels.

Checked vowels are stressed vowels that never occur word-finally. Checked vowels include /ɪ, ε, æ, ʌ, ɑ, ʊ/ and appear in such words as *six, ten, bag, sun, crop,* and *wood* (Kurath and McDavid 1961, 5). Kurath and McDavid report that checked vowels are often monophthongal, but have ingliding allophones and diaphones (Kurath and McDavid 1961, 4). Table 5.1 shows all the lexical types from which checked vowel data were obtained. Tokens of each type are shown in Appendix E.

Free vowels /i, e, ɜ, ɔ, ai, au, ɔi, o, u/ are stressed vowels that can occur both at the end of a word, as in *three, way, fur, law, high, sow, boy, know,* and *two,* and in checked position, as in *grease, eight, sermon, frost, five, down, oil, road,* and *tooth* (Kurath and McDavid 1961, 4). Kurath and McDavid report that they are usually upgliding diphthongs, but that they have monophthongal allophones and diaphones (Kurath and McDavid 1961, 4). Tables 5.2 and 5.3 show all the lexical types from which free vowel data were obtained. For tokens of each type, see Appendix E.

Table 5.1: Checked Vowel Lexical Types Used for Phonetic Analysis

| ɪ | ɛ | æ | ʌ | ɑ | ʊ |
|-----------|--------------|-------------|------------|------------|--------------|
| | | | | | |
| 26 | 1910 | after | brush | adopted | bull(s) |
| 36 | ahead | agriculture | crushed | all | could |
| 46 | area | aunt(s) | flush | armored | full |
| 56 | aware | bragging | fun | Army | full-blooded |
| 64 | bear | calf | gun | Barney | full-time |
| 66 | care | Catholic(s) | lung | belong(ed) | good |
| 67 | dead | class | mother('s) | borrowed | goodness |
| 86 | downstairs | classmate | run | calmly | hardwood |
| 1836 | egg(s) | dad('s) | son(s) | charge | Leonardwood |
| 1886 | fare | Daddy | sun | Clopton | plywood |
| 1906 | friends | drag | Sunday(s) | college | pulled |
| 1916 | grandparents | gap | Sunset | copper | Pullman |
| 1926 | head | glass | usher | crop | woods |
| 1936 | headmaster | half | | drop | would |
| 1946 | headquarters | last | | farm(s) | |
| 1956 | headwind | Mass | | farmers | |
| 1966 | instead | math | | farmhouse | |
| 3706 | Morehead | nags | | farming | |
| 1860s | overhead | pass | | father | |
| Clint | parent(s) | passed | | garden | |
| did | read | tag | | gone | |
| fifty | scared | Vasser | | hard | |
| kid(s) | spread | | | John | |
| six | stead | | | Johnny | |
| sixteen | ten | | | long | |
| sixteenth | tenth | | | marm | |
| sixth | then | | | palm(s) | |

Table 5.1, continued

| ɪ | ɛ | æ | ʌ | ɑ | ʊ |
|---|----------|---|---|------------|---|
| | | | | | |
| | upstairs | | | pharmacist | |
| | | | | Pop | |
| | | | | Pops | |
| | | | | Popular | |
| | | | | schoolmarm | |
| | | | | shop(s) | |
| | | | | started | |
| | | | | stop | |
| | | | | stopped | |
| | | | | tomorrow | |
| | | | | top | |

Table 5.2: Free Vowel Lexical Types Used for Phonetic Analysis [i, e, ɜ, ɔ, ɔɹ]

| i | e | ɜ | ɔ | ɔɹ |
|--------------|-------|--------------|---------------|-------------|
| | | | | |
| 23 | 18 | 31 | Boston | 41 |
| 33 | 28 | 32 | bought | 42 |
| 43 | 38 | 33 | brought | 43 |
| 53 | 48 | 34 | caught | 44 |
| 73 | 58 | 35 | cost | 45 |
| 83 | 78 | 36 | daughter(s) | 46 |
| 93 | 80 | 38 | dog(s) | 48 |
| 300 | 83 | 39 | draw | 49 |
| 1873 | 84 | 930 | drawing | 1840 |
| 1893 | 85 | 1832 | drawn | 1940 |
| 1923 | 87 | 1836 | frost | 1941 |
| 1933 | 88 | 1839 | granddaughter | 1942 |
| 1943 | 98 | 1932 | grandma | 1943 |
| 1993 | 800 | 1933 | grandpa | 1944 |
| degree | 1680 | 1934 | in-laws | 1945 |
| ear | 1839 | 1934 | law | 1946 |
| grease | 1852 | 1935 | laws | 1947 |
| least | 1862 | 1936 | law school | 1949 |
| need | 1887 | 1938 | log | 45-hundred |
| pleased | 1890 | 1939 | lost | airborne |
| police | 1893 | 3706 | prairie dog | born |
| street | 1908 | 1830s | pre-law | corner |
| teach | 1928 | church | sauce | cornerstone |
| three | 1938 | Europe | saw | cornmeal |
| three-thirty | 1958 | sermon(s) | Stillwater | Cornwall |
| | 8000 | thirty | taught | forms |
| | 1830s | three-thirty | thought | Fort |

Table 5.2, continued

| i | e | ɜ | ɔ | ɔr |
|---|---------------|---|----------|-------------|
| | | | | |
| | 1918s | | water | forth |
| | 82nd | | x-in-law | forty |
| | eight | | | horse(s) |
| | eight o'clock | | | horseback |
| | eighth | | | horsemen |
| | estate | | | horse-thief |
| | hate | | | longhorns |
| | mid-1800s | | | morning(s) |
| | state | | | short |
| | straight | | | sort(s) |
| | weight | | | sworn |
| | | | | torn |

Table 5.3: Free Vowel Lexical Types Used for Phonetic Analysis [aɪ, aʊ, ɔɪ, o, u]

| aɪ | aʊ | ɔɪ | o | u |
|-------------|------------|-------------|------------|----------------|
| 25 | accounting | avoiding | 24 | 22 |
| 35 | clout | bellboy | 34 | 32 |
| 45 | down | boil(ing) | 44 | 42 |
| 55 | downstairs | boy | 54 | 52 |
| 65 | downtown | boys | 64 | 62 |
| 75 | flower | choice | 74 | 72 |
| 85 | hours | coin | 84 | 1832 |
| 95 | now | cowboy | 1774 | 1852 |
| 125 | out | cowboys | 1874 | 1862 |
| 500 | out-laws | destroy | 1904 | 1902 |
| 1885 | power | destroying | 1924 | 1922 |
| 1925 | sour | Detroit | 1934 | 1932 |
| 1935 | town | enjoy | 1944 | 1942 |
| 1945 | | enjoyed | 4000 | 1952 |
| 1955 | | Five Points | ago | 2000 |
| 1985 | | join(ed) | boat | Lutheran |
| (side)iron | | joiner | dome | move(d) |
| (side)irons | | joining | door | too |
| 45-hundred | | noises | door locks | two |
| acquired | | oil | floor | two-forty-five |
| admire | | point | four | World War II |
| alive | | pointing | four-star | youth |
| alright | | soil | goat | |
| arrive | | | home(s) | |
| died | | | homestead | |
| fire(d) | | | know | |
| five | | | known | |

Table 5.3, continued

| ai | au | ɔi | o | u |
|-------------|----|----|----------|---|
| | | | | |
| Five Points | | | loan | |
| Heights | | | railroad | |
| hire(d) | | | road(s) | |
| ice | | | rode | |
| ice-cream | | | throat | |
| Ireland | | | U-boat | |
| iron | | | | |
| life | | | | |
| lives | | | | |
| midwife | | | | |
| miles | | | | |
| nice | | | | |
| night | | | | |
| price | | | | |
| required | | | | |
| retire(d) | | | | |
| retirement | | | | |
| rice | | | | |
| right | | | | |
| side | | | | |
| side(iron) | | | | |
| side(irons) | | | | |
| time | | | | |
| tired | | | | |
| tires | | | | |
| twice | | | | |
| vice | | | | |
| while | | | | |

Table 5.3, continued

| ai | au | ɔi | o | u |
|----------|----|----|---|---|
| | | | | |
| wife | | | | |
| wire(s) | | | | |
| wireless | | | | |

Kurath and McDavid note that vowel upglides and inglides are clearly realized under heavy stress, particularly at the end of a phrase or utterance, where they are likely to be lengthened; they are less apparent before voiceless stops and more apparent before voiced stops, fricatives, and sonorants (Kurath and McDavid 1961, 4). Kurath and McDavid add that the upglide of free vowels is most apparent in word-final position (Kurath and McDavid 1961, 4).

The following analyses of the El Paso English Sample include for comparison reports of Kurath and McDavid (1961), based on LAMSAS data, and LAGS percentages of linguistic feature production by age, sex, and Texas topographical regions. Phonetic data from Texas comparable to phonetic variation analyzed in the El Paso English Sample, including data gathered for the Atlas of North American English (Labov 2003) and data from the Phonological Survey of Texas (Bailey et al. 1989), provide additional material for comparison.

Checked Vowels

Checked high and mid vowels, as in *six*, *ten*, *sun*, and *wood* are described generally by Kurath and McDavid as monophthongal in the North, ingliding in the South

and South Midland and either monophthongal or ingliding in the North Midland (Kurath and McDavid 1961, 101). For the lexical target *ten*, the monophthongal variant is transcribed [tɛn] and the ingliding variant is transcribed [tɛə̯n]. Both monophthongal and ingliding variants occur in the El Paso English Sample, and ingliding is a variable feature within individual speech, a fact alluded to in Kurath and McDavid's observation that inglides are more pronounced under heavy stress, at the end of an utterance where they are likely to be lengthened, and in environments preceding voiced stops, fricatives and sonorants (Kurath and McDavid 1961, 4). Individual variability is not analyzed here, but noted where it occurs.

Kurath and McDavid report that monophthongal and ingliding /ɪ/ are disseminated regionally (Kurath and McDavid 1961, 101). The monophthongal variant [ɪ] is in general use in the North, while the ingliding [ɪə̯] is prevalent in the South and South midland, except in coastal cities (Kurath and McDavid 1961, 102). Both monophthongal and ingliding /ɪ/ are present in the El Paso English Sample. Almost 18% of the sample, seven out of 38 informants, produced the ingliding variant [ɪə̯] before a voiced stop, as in the words *Clint* and *kid*. In the El Paso English Sample, production of the inglide did not correlate with any social variables at $p < .05$. Production of the inglide is not categorical for all individuals, as shown in Table 5.4.

Table 5.4: Variable Production of Ingliding /ɪ/

| | [ɪ] | [ɪə̯] | Both |
|--------------------------------|-----|-------|------|
| Number of Informants N = 38 | 35 | 7 | 4 |

LAGS inglide data is not available for /ɪ/, though it is available for comparison with the other checked vowels.

Monophthongal and ingliding /ɛ/ are reported by Kurath and McDavid to be in regional dissemination similar to that of /ɪ/, but the inglide is predominant in northeastern New England and occurs sporadically throughout the North (Kurath and McDavid 1961, 102). The inglide is almost universal in the South, except in coastal cities (Kurath and McDavid 1961, 102). In the El Paso English Sample, presence of inglides [ɛə] in words such as *ten* and *head* makes up only 12% of the sample; five out of forty informants produce the inglide, and inglide production does not significantly correlate with any of the social variables. As shown in Table 5.5, there are no El Paso informants who produce only the /ɛ/ inglide.

Table 5.5: Number of Informants with /ɛ/ Inglide

| | [ɛ] | [ɛə] |
|----------------------|-----|------|
| Number of Informants | 40 | 5 |

While there are no LAGS targets indicating the inglide on /ɪ/ there are two targets indicating the checked vowel inglide on /ɛ/, *deaf* and *instead*, and one target indicating a checked vowel upglide, *head*. The proportion of informants in each of four social categories (*younger*, *older*, *male*, and *female*) that produced [ɛə] in *deaf* and *instead* and [ɛɪ] in *head* are shown in Table 5.6. Values indicate the proportion of European-

American upper class informants who produced each variant, which amounts to 312 LAGS informants. Of the European-American upper class informants, there are 185 aged 13 to 65 years, 127 aged 66 to 99 years, 144 females, and 168 males. Proportion tests were used to test for significance at $p < .05$. Significant differences between the responses of younger and older informants and between the responses of males and females are denoted by the word *yes* in the “Sig?” column which follows each pair of variables.

Table 5.6: / ϵ / Glide Production by Upper Class LAGS Informants

| Phonetic Target | % Ages 13 to 65 | % Ages 66 to 99 | Sig? | % Male | % Female | Sig? |
|-----------------|--------------------|--------------------|------|---------|----------|------|
| | N = 185 | N = 127 | | N = 168 | N = 144 | |
| DEAF: | 61 | 43 | yes | 49 | 59 | no |
| INSTEAD: | 17 | 18 | no | 16 | 19 | no |
| HEAD: | 23 | 13 | no | 9 | 15 | no |

The only significant difference is between younger and older groups’ production of the glide in *deaf*. The younger informants produce the glide more than older informants, suggesting an increase in the production of the inglide over time.

The distribution of / ϵ / glides in the portions of Texas sampled by LAGS is given in Table 5.7 along with the percentage distribution in the LAGS sample as a whole and the distribution of forms in El Paso. An asterisk indicates a significant difference between the topographical variable and the LAGS sample as a whole. Because the sample size of the topographical regions is less than 30, I used t-distribution values to establish

significance at $p < .05$. LAGS covers only the eastern half of Texas, which it divides into four topographical regions. The Western Piney Woods, which I refer to as East Texas, represents the easternmost part of Texas adjacent to Arkansas and Louisiana. The Middle Western Plains, which I refer to as North Texas, represents north central Texas, the region north of Austin, encompassing Dallas-Fort Worth. The Lower Western Plains, which I refer to as South Texas, represents south central Texas, the region from Austin to the Mexican border, encompassing Austin and San Antonio. The West Gulf Coast, which I refer to as the Gulf Coast, represents the coastal region of Texas, encompassing Houston, Galveston, and Corpus Christi.

Table 5.7: LAGS Percentages of / ϵ / Glides for Texas Topographical Regions

| Phonetic Target | % East Texas | % Middle Western Plains | % South Texas | % Gulf Coast | % All of LAGS |
|-----------------|--------------|-------------------------|---------------|--------------|---------------|
| | N = 27 | N = 23 | N = 29 | N = 21 | N = 914 |
| DEAF: | 41 | 43 | 31 | 38 | 46 |
| INSTEAD: | 11 | 0 | 10 | 10 | 14 |
| HEAD: | 15 | 4 | 10 | 29* | 11 |

Production of the inglide on / ϵ / for *deaf* in Texas regions is somewhat less than the average 46% production for the entire LAGS sample, but not significantly less. As shown in Table 5.1, El Paso informants did not produce / ϵ / in conversation before voiceless obstruents, so there is really no El Paso data available to compare to LAGS data for *deaf*. The only significant difference between a LAGS topographical variable and LAGS is

between production of the upglide in *head* in LAGS as a whole and production along the Texas Gulf Coast. 23 El Paso informants uttered /ɛ/ prior to a voiced obstruent, including and comparable to the LAGS targets *instead* and *head*. Only one of the El Paso informants produced the inglide in that environment, which is not surprising in light of the low LAGS percentage of /ɛ/ glides for *instead* and *head*. Most of the El Paso inglides occur prior to nasals such as *ten*, but unfortunately LAGS data for the phonetic target *ten* does not indicate the presence or absence of inglides, and is therefore not comparable to *ten* data from the El Paso English Sample.

While Kurath and McDavid describe /ʊ/ as predominantly [ʊ] in the North and [ʊə] in the South and Southern Appalachians (1961, 102), the El Paso English Sample does not show such variation in its pronunciation of words such as *good* and *pull*, where pronunciation is categorically monophthongal. However, lexically based variation in /ʊ/ does occur in the word *school*, where the realization may be [ɪʊ, ʊ, ʊə]. Lexically based phonetic and phonemic variation will be discussed in more detail later.

Even in the South, where Kurath and McDavid cite the occurrence of [ʊə], there does not appear to be much production of the inglide. The LAGS target *pull* is the only target to indicate an inglide on /ʊ/, and only a quarter of the upper class informants produce the inglide, as shown in Table 5.8. The distribution of /ʊ/ inglides in the portions of Texas sampled by LAGS is given in Table 5.9. Production of [ʊə] in the Texas regions mirrors the low production of [ʊə] in LAGS as a whole. The average inglide production over the total LAGS sample is 22 %. Production of [ʊə] exceeds the LAGS average in

North Texas and the Gulf Coast region of Texas, but these regions are not significantly different from the LAGS sample as a whole.

Table 5.8: /u/ Inglise Production by Upper Class LAGS Informants

| Phonetic Target | % Ages 13 to 65 | % Ages 66 to 99 | Sig? | % Male | % Female | Sig? |
|-----------------|-----------------|-----------------|------|---------|----------|------|
| | N = 185 | N = 127 | | N = 168 | N = 144 | |
| PULL: | 25 | 21 | no | 21 | 26 | no |

Table 5.9: LAGS Percentages of /u/ Inglides for Texas Topographical Regions

| Phonetic Target | % East Texas | % North Texas | % South Texas | % Gulf Coast | % All of LAGS |
|-----------------|--------------|---------------|---------------|--------------|---------------|
| | N = 27 | N = 23 | N = 29 | N = 21 | N = 914 |
| PULL: | 22 | 30 | 21 | 38 | 22 |

Kurath and McDavid describe /ʌ/ as predominantly monophthongal in the North and diphthongal in the South and South Midland, which follows the basic regional dissemination of the other checked high and mid vowels (Kurath and McDavid 1961, 103). The El Paso English Sample shows variation in its monophthongal realization of /ʌ/ only in the speech of one informant, RM04, who had a raised and somewhat diphthongal variant [ʊʌ] in the lexical type *brush*. The absence of [ʌə] in El Paso may result from the scarcity of lexical types in the conversational part of the interview which are likely to exhibit the glide, such as the targets *brush* and *gums* elicited in LAGS.

The LAGS target *brush* indicates an upglide, [ʌɪ], for /ʌ/, and the target *gums* indicates an upglide/inglide, [ʌɪ] or [ʌə], for /ʌ/, but does not distinguish between the upglide and inglide. Age and sex comparisons for upper class LAGS informants are shown in Table 5.10.

Table 5.10: /ʌ/ Upglide Production by Upper Class LAGS Informants

| Phonetic Target | % Ages 13 to 65 | % Ages 66 to 99 | Sig? | % Male | % Female | Sig? |
|-----------------|--------------------|--------------------|------|---------|----------|------|
| | N = 185 | N = 127 | | N = 168 | N = 144 | |
| BRUSH: | 5 | 8 | no | 5 | 8 | no |
| GUMS: | 38 | 35 | no | 36 | 38 | no |

There is no significant difference between the behavior of younger and older informants nor between the behavior of male and female informants in LAGS. We may surmise from Table 5.10 that the /ʌ/ upglide is more common prior to a voiced phone. The distribution of /ʌ/ upglides in the portions of Texas sampled by LAGS is given in Table 5.11.

Production of the upglide/inglide on /ʌ/ in *gums* in North Texas and along the Gulf Coast is greater than but not significantly different from the LAGS average.

Of the checked high and mid vowels, /ɪ/ and /ɛ/ are the phonemes which reveal the ingliding variant identified as Southern by Kurath and McDavid in the El Paso English Sample. They do not reveal much about the behavior of the sample except to say that the ingliding variants of /ɪ/ and /ɛ/ which Kurath and McDavid characterize as Southern appear in the speech of some of the informants.

Table 5.11: LAGS Percentages of /ʌ/ Upglides for Texas Topographical Regions

| Phonetic Target | % East Texas | % North Texas | % South Texas | % Gulf Coast | % All of LAGS |
|-----------------|--------------|---------------|---------------|--------------|---------------|
| | N = 27 | N = 23 | N = 29 | N = 21 | N = 914 |
| BRUSH: | 7 | 0 | 7 | 10 | 8 |
| GUMS: | 26 | 57 | 24 | 48 | 40 |

Table 5.12 lists occupations and parental origins of the informants who produced inglides for /ɪ/ and /ɛ/.

Table 5.12: Informants Producing Ingletes for Checked High and Mid Vowels

| Informant | Occupation | Parental Origins |
|-----------|--------------------|--------------------------|
| RF03 | secretary/farmer | north Texas |
| RF04 | teacher/rancher | north Texas; west Texas |
| RM01 | electrician | south Texas |
| RM02 | businessman/farmer | north Texas; south Texas |
| UM01 | medical doctor | North; El Paso |
| UM06 | lawyer | North; El Paso |
| UM13 | medical doctor | Midwest; West |
| UM14 | businessman | West |
| UM15 | military officer | South; west Texas |

It is immediately obvious from Table 5.12 that inglides on high and mid checked vowels are not limited to rural informants. Ingletes were produced by both sexes and by

informants from a variety of professions. Further examination of Table 5.12 reveals that all these informants have at least one parent from Texas or from the West. One might infer that Texas parental origin would correlate with production of the inglide in high and mid checked vowels. However, a test of correlations between the social variables *sex*, *rural identity*, *profession*, and *parental origin*, and the linguistic variable *presence of inglides in high and mid checked vowels* produced no significant results. In the case of Texas parental origin, the lack of a significant correlation is due to a number of informants with a parent from Texas who did not produce the inglide on high and mid checked vowels. Who the inglide producing informants are as a group becomes clearer when we examine production of the remaining checked vowels.

Kurath and McDavid note that pronunciation of /æ/ does not vary simply by region like the high and mid checked vowels, but varies more markedly than the high and mid checked vowels in terms of the following environment (Kurath and McDavid 1961, 103). Monophthongal /æ/ prevails not only in the North and Midland, but also in the greater part of the South when followed by the voiceless velar stop, as in *sack* (Kurath and McDavid 1961, 103). Before a voiceless stop, ingliding [æə] predominates only in limited Southern regions, such as in the Low Country of South Carolina and adjoining parts of Georgia. Conversely, before a voiced velar stop, as in *bag*, the inglide is more widespread in the South (Kurath and McDavid 1961, 104). An upgliding variant of /æ/ is also found frequently in New England, but does not occur in the Midland (Kurath and McDavid 1961, 104). Although the distribution of /æ/ is more complicated than that of the high and mid checked vowels, we see that when the phonetic environment is favorable, the inglide occurs in Southern speech. Words illustrating variation in /æ/ in the

El Paso English Sample include *half*, *class*, and *aunt*. Presence of inglides in such words correlates positively with rural identity at $p < .05$. In Table 5.13, N is less than 40 because one informant did not produce any /æ/ targets during the conversational portion and first part of the twelve-part prompt and response interview.

In Table 5.13, the columns headed by [æə] show the number of informants who produced at least one phonetic token of the inglide; the column headed by Rural shows the number of rural informants who produced the /æ/ inglide, the percentage of rural informants who produced the /æ/ inglide, the percentage of inglides that were produced by rural informants, and the indication that the correlation of rurality and the inglide is positive, meaning that more rural informants than expected used the inglide. I use the word *correlation* in the normal statistical sense, rather than the restricted meaning of the sample correlation coefficient r . Tables such as this one are used for each of the analyses presented here and in the lexical analysis chapter that follows.

Table 5.13: Correlation of Rurality with /æ/ Inglide [æə]

| Lexical Variant | [æə] (N = 15) | |
|--------------------------|----------------|----------------|
| Social Variable | Rural (N = 10) | Urban (N = 29) |
| Number of Informants | 8 | 7 |
| % of Social Variable | 80 | 24 |
| % of Linguistic Variable | 53 | 47 |
| Correlation | positive | negative |

Of the rural informants, 80% produced the inglide, and rural informants make up over half the group who produced the inglide. The rural informants who produced the inglide do not pattern significantly with any parental origin variable, which is to say that their parents came from many different regions. Thus, the rural correlation is not directly comparable to Kurath and McDavid's notes concerning regional distribution of the inglide.

No LAGS targets indicate an inglide on /æ/, but three LAGS targets indicate an upglide [æɪ]: *calf*, *glass*, and *half*, as shown in Table 5.14.

Table 5.14: /æ/ Upglide Production by Upper Class LAGS Informants

| Phonetic Target | % Ages 13 to 65 | % Ages 66 to 99 | Sig? | % Male | % Female | Sig? |
|-----------------|--------------------|--------------------|------|---------|----------|------|
| | N = 185 | N = 127 | | N = 168 | N = 144 | |
| CALF: | 12 | 20 | no | 17 | 14 | no |
| GLASS: | 11 | 17 | no | 14 | 14 | no |
| HALF: | 6 | 9 | no | 10 | 6 | no |

Table 5.14 shows that here is no significant difference between the responses of younger and older informants nor between the responses of men and women. The distribution of /æ/ upglides in the portions of Texas sampled by LAGS is given in Table 5.15.

Table 5.15 shows that significantly more informants from East Texas than from the LAGS sample as a whole produce [æɪ] in *calf* and *half*. The word *calf* was not elicited during the initial conversational portion of the El Paso interview, but the words or

words similar to *half* and *glass*, like *math* and *class*, occurred often. The El Paso percentages in Table 5.15 are enclosed in parentheses to reflect that they are not responses restricted to the forms *glass* and *half*.

Table 5.15: LAGS Percentages of /æ/ Uplides for Texas Topographical Regions

| Phonetic Target | % East Texas | % North Texas | % South Texas | % Gulf Coast | % All of LAGS | % El Paso English Sample |
|-----------------|--------------|---------------|---------------|--------------|---------------|--------------------------|
| | N = 27 | N = 23 | N = 29 | N = 21 | N = 914 | N = 40 |
| CALF: | 41* | 22 | 7 | 14 | 20 | NA |
| GLASS: | 33 | 22 | 14 | 19 | 18 | (10) |
| HALF: | 26* | 4 | 3 | 5 | 11 | (13) |

Kurath and McDavid treat variation in the low back vowel /ɑ/ separately from the high and mid checked vowels because of the range of nucleus pronunciations from region to region. Differences in the place of articulation of the nucleus aside, Kurath and McDavid note that the checked /ɑ/ of *rod*, *crop*, and *college* is often lengthened in the North and Midland and noticeably ingliding in the South Midland and parts of the South (Kurath and McDavid 1961, 104). Except in the case of one informant who produced the inglide before a voiceless stop, and syllabification of /r/ in words like *farm*, the only environment in which the El Paso informants produced the inglide was before a nasal, as in the word *John*. Analysis of inglides in the word *John* alone shows no correlation with social variables. Analysis of inglides in either *John* or *farm*, however, shows significant correlation of the inglide with rural informants, as shown in Table 5.16. Even though

most of the inglides were produced by urban informants, the number produced by urban informants is below the expected value, which results in a negative correlation. Only a third of urban informants produce the inglide as opposed to all but two of the rural informants. It is possible that the very inclusion of the lexical type *farm* resulted in a rural correlation, since a greater proportion of the rural informants said the word *farm*, but the proportions of the offglide among the urban and rural informants who said *farm* are approximately equal: 5 out of the 7 rural informants who said *farm* produce the offglide, and 7 out of 8 urban informants who said *farm* produce the offglide.

Table 5.16: Correlation of Rurality with /ɑ/ Inlide: [ɑə] or [ɑɜ]

| Lexical Variant | [ɑə] or [ɑɜ] (N = 19) | |
|--------------------------|-----------------------|----------------|
| Social Variable | Rural (N = 10) | Urban (N = 30) |
| Number of Informants | 8 | 11 |
| % of Social Variable | 80 | 37 |
| % of Linguistic Variable | 42 | 58 |
| Correlation | positive | negative |

As for LAGS, the target *crop* is the only target to indicate an inglide, [ɑə], as shown in Table 5.17. Production of the /ɑ/ inglide by LAGS informants is evenly distributed between males and females and between the two age groups. The distribution of /ɑ/ inglides in the portions of Texas sampled by LAGS is given in Table 5.18. Oddly, production of the /ɑ/ inglide along the Gulf Coast of Texas is greater than the 22% average production of the LAGS sample as a whole, but the difference is not significant.

Table 5.17: /ɑ/ Inlide Production by Upper Class LAGS Informants

| Phonetic Target | % Ages 13 to 65 | % Ages 66 to 99 | Sig? | % Male | % Female | Sig? |
|-----------------|-----------------|-----------------|------|---------|----------|------|
| | N = 185 | N = 127 | | N = 168 | N = 144 | |
| CROP: | 22 | 22 | no | 22 | 22 | no |

Table 5.18: LAGS Percentages of /ɑ/ Inlides for Texas Topographical Regions

| Phonetic Target | % East Texas | % North Texas | % South Texas | % Gulf Coast | % All of LAGS |
|-----------------|--------------|---------------|---------------|--------------|---------------|
| | N = 27 | N = 23 | N = 29 | N = 21 | N = 914 |
| CROP: | 19 | 22 | 14 | 33 | 22 |

On a phoneme by phoneme basis then, presence of inlides affects only a few checked vowels of the El Paso English Sample: /ɪ, ε, æ, ɑ/. The phonemes /ʌ/ and /ʊ/ are virtually invariant for the El Paso informants. The presence of inlides on individual checked vowels in the El Paso English Sample correlates positively with rural identity in the case of /æ/ and /ɑ/, and nothing in the case of /ɪ/ and /ε/. But if the inlides in checked vowels are considered together as a group, just over half of all El Paso English Sample informants produce inlides, as shown in Table 5.19. Again, we see that rural identity correlates positively with inlide production. However, the inlide is not absent from urban speech, as the inlide production of twelve urban informants attests. It is possible that rural El Paso informants are preserving a form that urban informants are losing through greater daily contact with newcomers.

Table 5.19: Correlation of Social Variables with Checked Vowel Inglides as a Group

| Lexical Variant | Checked Vowel Inglides (N = 21) | |
|--------------------------|---------------------------------|----------------|
| Social Variable | Rural (N = 10) | Urban (N = 30) |
| Number of Informants | 9 | 12 |
| % of Social Variable | 90 | 40 |
| % of Linguistic Variable | 43 | 57 |
| Correlation | positive | negative |

Free Vowels

In contrast to checked vowels, free vowels can appear word finally. Kurath and McDavid describe the free vowels as generally upgliding diphthongs, except in certain regions (Kurath and McDavid 1961, 105). The free vowels analyzed in the El Paso English Sample are /i, e, ə, aɪ, aʊ, ɔɪ, ɔ, o, u/.

Kurath and McDavid note that three types of /i/ are current in the Eastern States: an upgliding diphthong [ɪj], a monophthong [ɪ], and an ingliding diphthong [ɪə]. The El Paso informants do not vary in their pronunciation of /i/, and their realization sounds more like an elongated monophthong than a diphthong. Tokens of /i/ in the El Paso English Sample were recorded as simply [ɪ]. Kurath and McDavid remark that [ɪj] is the predominant Southern variant, excepting the Low Country of South Carolina and coastal Georgia and Florida (Kurath and McDavid 1961, 105). The other two variants, monophthongal and ingliding, occur in predominantly Northern and Coastal regions (Kurath and McDavid 1961, 105). The transcription of /i/ as [ɪ] in the El Paso English Sample is not meant to imply northern influence, nor deny southern influence on this

particular feature of El Paso speech. LAGS notation does not distinguish between types of /ɪ/ either, except to note one occurrence of an upgliding [aɪ] in the target *three*.

Kurath and McDavid compare the vowel /u/ to /ɪ/, reporting that /u/ is also realized as an upgliding diphthong, a monophthong, or an ingliding diphthong in various regions (Kurath and McDavid 1961, 105). Kurath and McDavid represent the Southern variant as a high centralized monophthong or upgliding variant, neither of which are produced by the El Paso informants (Kurath and McDavid 1961, 105). For simplification in analysis, and because its production is categorical, /u/ is represented as [u] in the El Paso English Sample. LAGS distinguishes between three values, not corresponding exactly to those mentioned by Kurath and McDavid. The values of /u/ in *two* and average production across the LAGS region are shown in Table 5.20. The LAGS variants [ɛu] and [ʊ] did not occur in the El Paso English Sample.

Table 5.20: Variants of /u/ in Two and Average LAGS Production

| Phonetic Variant | % All of LAGS |
|------------------|---------------|
| [ɛu]: | 18 |
| [ʊ]: | 1 |
| [u]: | 88 |

Another phoneme which is invariant in the El Paso English Sample is /ɜ/, featured in the words *church* and *sermon*. The El Paso informants pronounce /ɜ/ as a monophthong with constriction. Kurath and McDavid report that constricted varieties of

/ɜ/, whether monophthongal or diphthongal, predominate in the North except for New England, Metropolitan New York, and Western Pennsylvania, and in the South Midland, the Valley of Virginia, and most of North Carolina (Kurath and McDavid 1961, 106). They note that unconstricted forms of /ɜ/ are limited to four geographically separated coastal areas: Eastern New England, Metropolitan New York, Eastern Virginia, South Carolina, and Georgia (Kurath and McDavid 1961, 107). The El Paso informants clearly produce the constricted variant of /ɜ/ associated with Northern speech. The LAGS results for *sermon* show little variation in the vowel nucleus. Only 1% of the LAGS sample deviates from the [ɜ] variant, producing [ɛɹ] instead.

Kurath and McDavid report three variants of /e/, upgliding, monophthongal, and ingliding, of which the upgliding variant is predominant in most of the Eastern States (Kurath and McDavid 1961, 106). The monophthongal variant is limited to coastal areas and in the Pennsylvania German area, where it reflects German pronunciation. Less than 1% of the LAGS informants produced a vowel nucleus variant other than [eɪ]. El Paso informants exhibit only the upgliding variant.

Likewise, the pronunciation of /o/ in El Paso is categorically upgliding [ou]. As with /e/, Kurath and McDavid report prevalence of the monophthongal variant of /o/ only in coastal regions and as a German influenced variant in Eastern Pennsylvania; they note that upgliding /o/ is in general usage in most of the Eastern States region (Kurath and McDavid 1961, 106). Interestingly two El Paso informants variably produced [ɔ] in *four*. Such variability appears to be conditioned by the following rhotic environment, because no such variability occurs in *ago*, *road*, or *home*. LAGS also reports the occurrence of [ɔ]

in *four*, by 1.5% of informants. Variants other than [oʊ] or [ɔ] in *four* were produced by less than 1% of LAGS informants. No occurrences of [ɔ] are reported for LAGS in *ago*. Graphophonemic files used to tabulate occurrence of phonetic tokens are not available in LAGS for *road* and *home*. LAGS does report that three informants produced [ɔ] in the word *throw*. The LAGS file for *throw* is a grammatical file, but, unlike other grammatical files, lists responses in graphophonemic form, making phonetic analysis possible. One informant in the Upper Cumberland Plateaus of Tennessee and two coastal informants in Florida produced [ɔ] in the word *throw*.

The phoneme /aɪ/ as in *five* has two variants in El Paso, a diphthongal realization and a monophthongal realization. Kurath and McDavid do not use the term monophthong in reference to the /aɪ/ phoneme, preferring instead to describe the typical Southern variant as a slow (lengthened) diphthong with a vanishing glide (Kurath and McDavid 1961, 109). They report that the lengthened nucleus followed by either a short upglide or inglide predominates before voiced consonants and word finally in all the South and South Midland, except in the Low Country of South Carolina and coastal Georgia and Florida. I choose to describe the variants as diphthongal and monophthongal because that dichotomous taxonomy more clearly represents the distinction in the phones that was audible to me. Correlation of social variables with production of the monophthongal variant in any environment is shown in Table 5.21. Of the rural El Paso informants, 60% produce the monophthongal variant. So there is some indication of greater feature preservation in rural El Paso, but since 40% of those producing the monophthong were Urban informants, it is clear that rurality is not necessary for feature preservation. Texas parental origin and West Texas parental origin also correlated with production of the

Table 5.21: Correlation of [a] with Social Variables in the El Paso English Sample

| Phonetic Variant | [a] (N = 10) | | | |
|--------------------------|----------------|----------------|-----------------|--------------------|
| Social Variable | Rural (N = 10) | Urban (N = 30) | Parental Origin | |
| | | | Texas (N = 24) | West Texas (N = 7) |
| Number | 6 | 4 | 9 | 4 |
| % of Social Variable | 60 | 13 | 38 | 57 |
| % of Linguistic Variable | 60 | 40 | 90 | 40 |
| Correlation | positive | negative | positive | positive |

monophthong at $p < .05$. Of those informants who produced the monophthong, 90% had a parent from Texas. The influence of parental origin is clearly a factor in preservation of monophthongal /aɪ/.

For /aɪ/ there are only two analyzable LAGS targets, the phonetic files for *rice* and *right ear*. As shown in Table 5.22, production of the monophthong among upper class speakers in LAGS averages about 20% for /aɪ/ prior to a voiceless obstruent. There is no significant difference in the production of the /aɪ/ monophthong by older and younger LAGS informants nor between male and female LAGS informants. The distribution of monophthongal /aɪ/ in Texas is provided in Table 5.23.

Table 5.22: /aɪ/ Monophthong Production by Upper Class LAGS Informants

| Phonetic Target | % Ages 13 to 65 | % Ages 66 to 99 | Sig? | Male | Female | Sig? |
|-----------------|-----------------|-----------------|------|---------|---------|------|
| | N = 185 | N = 127 | | N = 168 | N = 144 | |
| RICE: | 18 | 23 | no | 20 | 20 | no |
| RIGHT ear: | 18 | 16 | no | 15 | 20 | no |

Table 5.23: LAGS Percentages of /aɪ/ Monophthongization for Texas Topographical Regions

| Phonetic Target | % East Texas | % North Texas | % South Texas | % Gulf Coast | % All of LAGS |
|-----------------|--------------|---------------|---------------|--------------|---------------|
| | N = 27 | N = 23 | N = 29 | N = 21 | N = 914 |
| RICE: | 33 | 17 | 3* | 14 | 24 |
| RIGHT ear: | 30 | 9 | 3* | 14 | 21 |

The only significant difference in [a] production is between South Texas and LAGS. Bailey et al. reveal the reason for this difference in their ethnic analysis of Texas phonology (1992, 254). They find that monophthongal /aɪ/ is a feature of European-American speech. South Texas has the heaviest concentration of Mexican-American speakers, who, according to Bailey et al. do not produce the monophthongal variant. It is therefore not surprising that we find in LAGS a lower concentration of the monophthong in South Texas.

While monophthongal /aɪ/ is at best current only in the speech of rural older El Pasoans, Bailey et al.'s Phonological Survey of Texas (PST) suggests that among European-American native Texans, the feature is gaining currency (1992, 250). Bailey et al. show greater glide-shortened /aɪ/ production among 18- to 29-year-olds, and 10% greater production in the Phonological Survey of Texas (PST) than in LAGS Texas regions (1992, 254-5). They find that Texas subregions do not differ significantly in the use of glide-shortened /aɪ/, and that native Texans are more likely to use it than nonnatives. In the PST, 27 % of native Texans produce glide-shortened /aɪ/. Apparent time data from the PST enables Bailey et al. to conclude that glide-shortened /aɪ/ is expanding, but only among European-American natives (1992, 254).

Kurath and McDavid describe a variety of initial qualities for the phoneme /aʊ/ as in *down*, but there are only two types of nuclei in the El Paso English Sample, [aʊ] and [æʊ]. Kurath and McDavid report that [aʊ] is generally a North and North Midland feature, but that [æʊ] may also be found in Upstate New York and New England, particularly in folk speech (Kurath and McDavid 1961, 110). In contrast, [æʊ] predominates in the South Midland and South when followed by a voiced consonant or word finally, except in the greater part of South Carolina and the coastal regions of North Carolina and Georgia (Kurath and McDavid 1961, 110). There are very few informants in the El Paso English Sample who produce [æʊ], only 15%, and one informant produced [æa], a variant Kurath and McDavid do not address. No social variables correlated with the /aʊ/ variants in the El Paso English Sample.

The LAGS variant comparable to [æu] is termed a raised onset. As shown in Table 5.24, the only LAGS /au/ target indicating the raised onset is *cow*. Females marginally outpace males in /au/ onset raising, and younger speakers marginally outpace older speakers but neither difference is significant.

Table 5.24: Raised Onset Production in *Cow* by Upper Class LAGS Informants

| Phonetic Target | % Ages 13 to 65 | % Ages 66 to 99 | Sig? | % Male | % Female | Sig? |
|-----------------|-----------------|-----------------|------|---------|----------|------|
| | N = 185 | N = 127 | | N = 168 | N = 144 | |
| COW: | 46 | 43 | no | 43 | 47 | no |

The distribution of the raised onset in Texas is provided in Table 5.25. Regarding Table 5.25, it appears that the raised onset for /au/ in *cow* is marginally greater in East Texas and the Gulf Coast, while North Texas and South Texas behave more like the rest of the LAGS sample, which averages 36% onset raising. However, neither East Texas nor the Gulf Coast are significantly different from the rest of LAGS.

Table 5.25: Raised Onset Production in *Cow* for Texas Topographical Regions

| Phonetic Target | % East Texas | % North Texas | % South Texas | % Gulf Coast | % All of LAGS |
|-----------------|--------------|---------------|---------------|--------------|---------------|
| | N = 27 | N = 23 | N = 29 | N = 21 | N = 914 |
| COW: | 44 | 35 | 34 | 44 | 36 |

At a production rate of 15% [æʊ], El Paso exhibits only half the level of production of the raised onset found in LAGS. Bailey et al. describe [æʊ] as an ethnic marker in Texas primarily occurring in the speech of European Americans (1992, 250). They describe it as stable, neither expanding nor contracting. The low incidence of [æʊ] in El Paso compared with the rest of Texas may reflect the cultural and physical separation of El Paso from the rest of Texas and it may even be a result of greater contact in El Paso between European Americans and Mexican Americans. Bailey et al. report that neither Mexican Americans nor African Americans in the Phonological Survey of Texas produced [æʊ] (1992, 253).

The diphthong /oɪ/ has two main variants, [ɔɪ] and [oɪ], but Kurath and McDavid report that the variant predominant across the Eastern States is [ɔɪ] (Kurath and McDavid 1961: 111). In the Low Country of South Carolina [oɪ] predominates and [oɪ] is also common on Delaware Bay, on upper Chesapeake Bay, and in parts of eastern New England (Kurath and McDavid 1961: 111). Variation is also present in the El Paso English Sample, and the production of some informants is variable, as shown in Table 5.26.

Table 5.26: Production of [ɔɪ] and [oɪ] in the El Paso English Sample (N = 35)

| Variants of /ɔɪ/ | Number | Percent |
|------------------|--------|---------|
| [ɔɪ] alone | 9 | 26 |
| [oɪ] alone | 17 | 49 |
| [ɔɪ] and [oɪ] | 9 | 26 |

Thirty-five informants provide tokens. Just over half the El Paso informants who produce tokens produce [ɔɪ], but 75% produce [oɪ]. Only sex correlates with production of [ɔɪ], as shown in Table 5.27.

Table 5.27: Correlation of Male and Female with [ɔɪ] in Words like *Boy*

| Phonetic Variant | [ɔɪ] (N = 27) | |
|--------------------------|---------------|-----------------|
| | Male (N = 20) | Female (N = 15) |
| Informants | 14 | 4 |
| % of Social Variable | 70 | 27 |
| % of Linguistic Variable | 78 | 22 |
| Correlation | positive | negative |

In LAGS data, there are no targets which indicate a distinction between [ɔɪ] and [oɪ], so the correlation between male informants and [ɔɪ] unfortunately cannot be explored further in LAGS.

The variants for /or/ in El Paso, like the variants for /oi/, include [or] and [ɔr]. Though Kurath and McDavid report that /or/ words like *forty* and *horse* generally assume the variants [ɔ] and [ɒ] as in *law* throughout the Eastern States, they note that some speakers in Upstate New York and Eastern New England seem to merge the vowel of *forty* and *horse* with the /o/ of *four* and *hoarse* (Kurath and McDavid 1961, 121). They

also report this phenomenon in Pennsylvania, Maryland and New Jersey, North Midland states. As for /**or**/ in the El Paso English Sample, male biological sex correlated positively with [ɔ**r**], as shown in Table 5.28. In the El Paso English Sample, 85% of men and only 42% of women produced [ɔ**r**]. This dichotomy between male and female production mirrors that of [ɔ**ɪ**] shown in Table 5.27.

Social variable correlations with the nucleus [ɔ] in words like *boy* and *horse* are shown in Table 5.29. As expected, given the separate results for [ɔ**ɪ**] and [ɔ**r**], more men than women produce the nucleus [ɔ]. This time, however, an additional significant result obtains: fewer than expected informants with a parent from the Midwest produce [ɔ] as the nucleus for /**or**/ and /**oi**/ types combined. Likewise, in spite of the high number of informants with a South Texas parent who produced the [o] nucleus, the number is fewer than expected, resulting in a negative correlation, as shown in Table 5.30.

Table 5.28: Correlation of Male and Female with [ɔ**r**] in Words like *Horse*

| Phonetic Variant | [ɔ r] (N = 27) | |
|--------------------------|------------------------|--------------------|
| | Male (N = 20) | Female (N = 19) |
| Informants | 17 | 8 |
| % of Social Variable | 85 | 42 |
| % of Linguistic Variable | 68 | 32 |
| Correlation | positive | negative |

Table 5.29: Correlations of Social Variables with [ɔ] in Words Like *Boy* and *Horse*

| Phonetic Variant | [ɔɪ] or [ɔɪr] (N = 27) | | |
|--------------------------|------------------------|--------------------|------------------------------------|
| Social Variable | Male (N = 20) | Female (N = 19) | Midwest Parental Origin (N = 8) |
| Informants | 19 | 8 | 3 |
| % of Social Variable | 95 | 42 | 38 |
| % of Linguistic Variable | 70 | 30 | 11 |
| Correlation | positive | negative | negative |

Table 5.30: Correlations of Social Variables with [o] in Words Like *Boy* and *Horse*

| Phonetic Variant | [oɪ] or [oɪr] (N = 36) |
|--------------------------|-------------------------------------|
| Social Variable | South Texas Parental Origin (N = 8) |
| Informants | 6 |
| % of Social Variable | 75 |
| % of Linguistic Variable | 17 |
| Correlation | negative |

It is difficult to interpret these findings in light of the limited information available from Kurath and McDavid's study of the Eastern States, but the Midland result could be related to the merger of the vowel in *forty* with the /o/ of *four* in the North Midland states. The negative South Texas result is likely a function of the correlation of male biological sex with [ɔ], since seven out of eight informants with a parent from South Texas are male. 92% of the El Paso English Sample produced [oɪr] in words like

horse. Table 5.31 reveals that variable production by individuals in the El Paso English Sample is greater than categorical production of either variant, [ɔɾ] or [oɾ].

Table 5.31: Variant Production for Words Like *Horse* in El Paso (N = 39)

| | Number | Percentage (N = 39) |
|---------------|--------|---------------------|
| [ɔɾ] alone | 3 | 8 |
| [oɾ] alone | 14 | 36 |
| [ɔɾ] and [oɾ] | 22 | 56 |

Production of [oɾ] outpaces production of [ɔɾ] by 28 % in the El Paso English Sample.

Table 5.32 lists the total number of informants producing [oɾ] or [ɔɾ], accompanied by the results of a proportion test for significance. The proportion test reveals that the 28% difference between production of [oɾ] and production of [ɔɾ] is significant.

Table 5.32: Percentage of El Paso informants producing [oɾ] or [ɔɾ], N = 39

| | Percentage who produce [oɾ] | Percentage who produce [ɔɾ] | Percentage Difference | Sig? |
|------------------------|-----------------------------|-----------------------------|-----------------------|------|
| El Paso English Sample | 92 | 64 | 28 | yes |

A similar result shows up in LAGS data, as shown in Table 5.33. As for the LAGS informants, production of [oɾ] is greater than production of [ɔɾ] by 10% to 23%. Table

5.34 shows percentages of informants from LAGS who produced [ɔɾ] in *forty*, *horse* and *morning*.

Table 5.33: [ɔɾ] Versus [ɔɾ] Production in Words Like *Horse* by LAGS Informants

| | Percentage who produce [ɔɾ] | Percentage who produce [ɔɾ] | Percentage Difference | Sig? |
|----------|-----------------------------|-----------------------------|-----------------------|------|
| FORTY: | 59 | 36 | 23 | yes |
| HORSE: | 63 | 53 | 10 | yes |
| MORNING: | 55 | 43 | 12 | yes |

Table 5.34: [ɔɾ] Production in Words Like *Horse* by Upper Class LAGS Informants

| Phonetic Target | % Ages 13 to 65 | % Ages 66 to 99 | Sig? | % Male | % Female | Sig? |
|-----------------|-----------------|-----------------|------|---------|----------|------|
| | N = 185 | N = 127 | | N = 168 | N = 144 | |
| FORTY: | 64 | 61 | no | 64 | 60 | no |
| HORSE: | 69 | 65 | no | 67 | 67 | no |
| MORNING: | 63 | 56 | no | 63 | 58 | no |

Males marginally outpace females in production of [ɔ], a result opposite from that obtained in El Paso, and younger speakers produce [ɔ] marginally more than older speakers, but the differences are not significant at $p < .05$. The distribution of [ɔ] in Texas topographical regions is provided in Table 5.35.

Regarding Table 5.35, the production of [ɔ] in East Texas is significantly less than production of [o] in the entire LAGS sample for the target *horse*. The nucleus [o] is prevalent in El Paso, agreeing with the results from LAGS overall.

Table 5.35: LAGS Percentage of [ɔ] in Words Like *Horse* for Texas Topographical Regions

| Phonetic Target | % East Texas | % North Texas | % South Texas | % Gulf Coast | % All of LAGS |
|-----------------|--------------|---------------|---------------|--------------|---------------|
| | N = 27 | N = 23 | N = 29 | N = 21 | N = 914 |
| FORTY: | 41 | 52 | 66 | 62 | 59 |
| HORSE: | 41* | 74 | 69 | 57 | 63 |
| MORNING: | 48 | 57 | 52 | 43 | 55 |

The vowel in *law* and *daughter* exhibits some interesting variation in El Paso. Kurath and McDavid describe three basic phonic types prevalent in the Eastern States: a rounded monophthongal raised low back variant that is usually lengthened, which corresponds to [ɔ] in the El Paso English Sample; a less rounded low back variant [ɒ], which corresponds roughly to unrounded [ɑ] in the El Paso English Sample; and an upgliding diphthong with progressive lip rounding [ɒɔ], which corresponds roughly to a diphthong with an unrounded onset [ɑɔ] in the El Paso English Sample (Kurath and McDavid 1961, 106). According to Kurath and McDavid, the rounded raised low back variant [ɔ] predominates in the North, except for Western Pennsylvania and Eastern New England, where the less rounded low back variant [ɒ] predominates. They report that

upgliding [ɔɔ] is common not only in the South, but also in New England, particularly in words with velar following environments, such as *dog*, and *salt* when pronounced with velarized /l/ (Kurath and McDavid 1961, 107). El Paso informants produce primarily [ɑ] or [ɔ], and there were even occurrences of [ɑɔ] in the speech of some informants, as shown in Table 5.36.

Table 5.36: Distribution of Variants in Words Like Daughter for the El Paso English Sample (N = 40)

| Features Produced | Number | Percentage |
|--------------------|--------|------------|
| [ɔ] alone | 11 | 28 |
| [ɑ] alone | 8 | 20 |
| [ɔ] and [ɑ] alone | 13 | 32 |
| [ɑɔ] and [ɔ] alone | 4 | 10 |
| [ɑɔ], [ɔ] and [ɑ] | 4 | 10 |

In the El Paso English Sample, [ɔ] occurs in the speech of 80% of the informants, while [ɑ] occurs in the speech of only 62% of informants. It must be noted that production of [ɑ] or [ɔ] is not categorical; 42 % of the El Paso English Sample exhibit variable production of [ɑ] or [ɔ]. Also interesting is the connection between production of [ɑɔ] and [ɔ]. Every informant who produced [ɑɔ] also produced [ɔ].

Table 5.37 shows correlations of [ɔ] production with El Paso parental origin and Texas parental origin. Fewer than expected informants with parents from El Paso and with parents from Texas produced [ɔ] in words such as *daughter* and *law*. In contrast, [ɑ]

patterned positively with rural identity, Texas parental origin, and the subgroups North Texas parental origin and West Texas parental origin, as shown in Table 5.38. Variable production of [ɑ] and [ɔ] correlates significantly with rural identity, as shown in Table 5.39. The positive correlation of rural identity with variable production does not mean that variable production is limited to rural informants, but that variability is more strongly associated with rural identity than with urban identity.

Table 5.37: Negative Correlation of [ɔ] in Words Like *Daughter* with Social Variables

| Phonetic Variant | [ɔ] | |
|--------------------------|--------------------|-------------------|
| Social Variable | Parental Origin | |
| | El Paso (N = 5) | Texas (N = 24) |
| Number | 2 | 16 |
| % of Social Variable | 40 | 67 |
| % of Linguistic Variable | 6 | 50 |
| Correlation | negative | negative |

Table 5.38: Correlation of Social Variables with [ɑ] in Words Like *Daughter*

| Phonetic Variant | [ɑ] (N = 25) | | | | |
|--------------------------|-------------------|-------------------|-------------------------|-----------------------|-------------------|
| Social Variable | Rural (N = 10) | Urban (N = 30) | Parental Origin | | |
| | | | North Texas (N = 11) | West Texas (N = 7) | Texas (N = 24) |
| Informants | 9 | 16 | 10 | 7 | 20 |
| % of Social Variable | 90 | 53 | 91 | 100 | 83 |
| % of Linguistic Variable | 36 | 64 | 40 | 28 | 80 |
| Correlation | positive | negative | positive | positive | positive |

Table 5.39: Positive Correlation of Rural Identity with Variable Production of [ɑ] and [ɔ]

| Phonetic Variant | [ɑ] and [ɔ] (N = 17) | |
|--------------------------|----------------------|-------------------|
| Social Variable | Rural (N = 10) | Urban (N = 30) |
| Informants | 8 | 9 |
| % of Social Variable | 80 | 30 |
| % of Linguistic Variable | 47 | 53 |
| Correlation | positive | negative |

While rural informants prefer the unrounded version of /ɔ/, their speech is also the most variable. El Paso informants with diphthongal [ɑɔ], especially in words such as *daughter* and *law*, make up only twenty percent of the sample, and the diphthongal variant does not correlate with any of the social variables.

The fact that [ɔ̃] is still current in the El Paso English Sample suggests a more complex picture of Western speech than that alluded to by Labov's generalization of complete merger in the West. Indeed, the two younger informants interviewed in El Paso for Telsur produced minimal pairs which were close but not the same. Twenty-one year old Daisy F.'s pronunciation of the minimal pairs *sock* and *talk*, and *Don* and *Dawn*, is close but not the same. Twenty-seven year old Sylvia B.'s pronunciation of *sock* and *talk* is likewise close but not the same. Interestingly, thirty-eight year old Eli S.'s pronunciation of these minimal pairs is the same. If we are to accept that a survey of three can serve as an apparent time study, it appears that the distinction between words like *Don* and *Dawn* might be making a comeback in El Paso.

While there is variation in the *daughter* word class, there is no corresponding tendency toward [ɔ̃] in the *father* word class, which we would expect if merger were taking place. The only instance of [ɔ̃] in a word that would normally be considered part of the *father* word class was in the lexical type *farm*, uttered by a single informant, RF05. The phenomenon of [ɑ ~ ɔ̃] variation in VRC (vowel, /r/, consonant) sequences is well documented (Walsh and Mote, 1974; Bailey et al., 1992). Walsh and Mote (1974, 42) describe the variation as a coalescence of [ɑ] and [ɔ̃] before /r/ "into a low-back slightly rounded, and heavily retroflex [ɹ], or in some cases into a more rounded and slightly raised [ɔ̃]." Bailey et al. (1992) consider VRC merger, which in Texas causes the word *forty* to sound more like *farty*, to be a relic feature that is disappearing and separate from the changes the *daughter* word class is undergoing. Bailey et al. find that, on the contrary, the *daughter* word class is changing in the direction of [ɑ] (1992, 250). Indeed, because

only one word class is affected, that of *daughter* and *caught*, there is no reason to posit merger of /ɑ/ and /ɔ/; the variability in the *daughter* class may be simply a natural phonological change affecting only one word class, an unrounding of a rounded vowel.

Table 5.40 shows percentages of informants from LAGS who produced [ɔ] in *daughter*, *dog*, *log*, *law*, *loss*, and *water*. Significantly more older informants than younger informants produced [ɔ] for *daughter*, *dog*, *log*, and *water*. Significantly more male informants than female informants produced [ɔ] for *dog* and *log*. The distribution of [ɔ] in Texas regions is provided in Table 5.41. Significantly fewer informants from East Texas than from the entire LAGS sample produced [ɔ] in *water*. Significantly fewer informants from South Texas than from the entire LAGS sample produced [ɔ] in *loss*. Conversely, [ɔ] production in *log* was significantly greater in the Gulf Coast region than in the entire LAGS sample.

Table 5.40: [ɔ] Production in Words Like *Daughter* by Upper Class LAGS Informants

| Phonetic Target | % Ages 13 to 65 | % Ages 66 to 99 | Sig? | % Male | % Female | Sig? |
|-----------------|--------------------|--------------------|------|---------|----------|------|
| | N = 185 | N = 127 | | N = 168 | N = 144 | |
| DAUGHTER: | 74 | 84 | yes | 82 | 74 | no |
| DOG: | 69 | 90 | yes | 86 | 67 | yes |
| LOG: | 47 | 64 | yes | 63 | 43 | yes |
| LAW: | 122 | 70 | no | 63 | 60 | no |
| LOSS: | 53 | 52 | no | 53 | 52 | no |
| WATER: | 50 | 65 | yes | 57 | 56 | no |

Table 5.41: LAGS Percentage of [ɔ] in Words Like *Daughter* for Texas Topographical Regions

| Phonetic Target | % East Texas | % North Texas | % South Texas | % Gulf Coast | % All of LAGS |
|-----------------|--------------|---------------|---------------|--------------|---------------|
| | N = 27 | N = 23 | N = 29 | N = 21 | N = 914 |
| DAUGHTER: | 74 | 74 | 76 | 90 | 77 |
| DOG: | 81 | 83 | 79 | 86 | 81 |
| LOG: | 67 | 65 | 45 | 81* | 57 |
| LAW: | 63 | 17* | 38 | 52 | 54 |
| LOSS: | 48 | 26 | 21* | 48 | 46 |
| WATER: | 33* | 35 | 41 | 52 | 56 |

Table 5.42 shows percentages of informants from LAGS who produced [ɑ] in *daughter*, *dog*, *log*, *law*, *loss*, and *water*. Production of [ɑ] was generally low in LAGS, though relatively abundant in *law* and *water*. Significantly more younger informants than older informants produced [ɑ] in *water* and significantly more female informants than male informants produced [ɑ] in *log*. The distribution of [ɑ] in Texas topographical regions is provided in Table 5.43. Significantly fewer informants from North Texas than from the entire LAGS sample produced [ɑ] in *law*. Significantly more informants from South Texas than from the entire LAGS sample produced [ɑ] in *dog* and *water*.

Table 5.42: [ɑ] Production in Words Like *Daughter* by Upper Class LAGS Informants

| Phonetic Target | % Ages 13 to 65 | % Ages 66 to 99 | Sig? | % Male | % Female | Sig? |
|-----------------|--------------------|--------------------|------|---------|----------|------|
| | N = 185 | N = 127 | | N = 168 | N = 144 | |
| DAUGHTER: | 17 | 8 | no | 7 | 22 | no |
| DOG: | 5 | 4 | no | 4 | 6 | no |
| LOG: | 22 | 16 | no | 12 | 28 | yes |
| LAW: | 61 | 35 | no | 49 | 52 | no |
| LOSS: | 3 | 1 | no | 2 | 2 | no |
| WATER: | 56 | 32 | yes | 46 | 47 | no |

Table 5.43: LAGS Percentages of [ɑ] in Words Like *Daughter* for Texas Topographical Regions

| Phonetic Target | % East Texas | % North Texas | % South Texas | % Gulf Coast | % All of LAGS |
|-----------------|--------------|---------------|---------------|--------------|---------------|
| | N = 27 | N = 23 | N = 29 | N = 21 | N = 914 |
| DAUGHTER: | 19 | 22 | 24 | 10 | 13 |
| DOG: | 0 | 4 | 10* | 0 | 3 |
| LOG: | 15 | 9 | 21 | 14 | 15 |
| LAW: | 48 | 17* | 34 | 38 | 44 |
| LOSS: | 4 | 0 | 3 | 5 | 2 |
| WATER: | 59 | 61 | 62* | 43 | 43 |

In her multivariate analysis of PST data, Bernstein showed that age differences are clearly a significant factor affecting the production of [ɑ] in *lost* and *walk*, accounting for

19% of the explained variance (from Bernstein 1991, reported in Bailey et al., 1992, 250). Gender accounted for 16% and ethnicity and subregional residence within Texas each accounted for 15%. But the most important variable turned out to be length of residence in Texas, accounting for 23% of the variance. Data from the El Paso English Survey supports the relative importance of length of residence in Texas. Recall that El Paso and Texas parental origins correlated negatively with [ɔ], and that North Texas, West Texas and Texas parental origins correlated positively with [ɑ] in the *daughter* word class (Tables 5.37 and 5.38).

Table 5.44 shows percentages of informants from LAGS who produced [ɑɔ] in *dog*, *log*, *law*, and *loss* (no unrounded onsets are indicated in LAGS for the targets *daughter* and *water*).

Table 5.44: [ɑɔ] Production in Words Like *Daughter* by Upper Class LAGS Informants

| Phonetic Target | % Ages 13 to 65 | % Ages 66 to 99 | Sig? | % Male | % Female | Sig? |
|-----------------|-----------------|-----------------|------|---------|----------|------|
| | N = 185 | N = 127 | | N = 168 | N = 144 | |
| DOG: | 25 | 6 | yes | 8 | 28 | yes |
| LOG: | 22 | 15 | no | 15 | 24 | yes |
| LAW: | 14 | 6 | yes | 5 | 17 | yes |
| LOSS: | 23 | 5 | yes | 13 | 19 | no |

Significantly more younger informants produced [ɑɔ] in *dog*, *law*, and *loss*. Significantly more female informants than male informants produced [ɑɔ] in *dog*, *log*, and *law*. The

distribution of [ɑɔ] in Texas topographical regions is provided in Table 5.45.

Significantly more informants from East Texas than from the entire LAGS survey produced [ɑɔ], and that is the only significant difference between Texas topographical regions and the LAGS survey as a whole. Therefore, Texas generally behaves like the rest of the South with regard to [ɑɔ] production.

Table 5.45: LAGS Percentages of [ɑɔ] in Words Like *Daughter* for Texas Topographical Regions

| Phonetic Target | % East Texas | % North Texas | % South Texas | % Gulf Coast | % All of LAGS |
|-----------------|--------------|---------------|---------------|--------------|---------------|
| | N = 27 | N = 23 | N = 29 | N = 21 | N = 914 |
| DOG: | 15 | 17 | 10 | 10 | 14 |
| LOG: | 15 | 22 | 7 | 5 | 16 |
| LAW: | 11 | 4 | 17 | 10 | 8 |
| LOSS: | 22* | 4 | 7 | 5 | 9 |

Lexically Based Variation

As mentioned earlier, the checked vowel /ʊ/ was sampled only in the environment preceding a voiced obstruent, and there it is uniformly [ʊ]. However, there is considerable lexically based variation in the word *school*, as shown in Table 5.46. Variants include nuclei of [ʊ], and [ʊ] with onglides such as [ʊ] and [ɪ] and offglides such as [ə] and [ʊ] and individual production is variable. The full range of variants is described in Table 5.47 and listed in order of variants having the greatest to least number

of informants. Table 5.47 clearly demonstrates the predominance of [ʊ] in *school* in the El Paso English Sample. There are no directly comparable data in LAGS, LAMSAS, or ANAE. However, PST results show that [ʊ] in school is an innovative form in Texas, produced by only about 17% of informants aged 62 to 95 years, markedly offsetting El Paso from the rest of Texas (Bailey et al., 1991, 211).

Table 5.46: Phonetic Variants Produced in the Word *School*

| Rural Informants | | Urban Informants | | | |
|------------------|----------------|------------------|-----------|------|--------------|
| RF01 | ʊ | UF01 | ʊ | UM01 | ʊ, ʊə |
| RF02 | ʊ, uʊ | UF02 | ʊ | UM02 | ʊ |
| RF03 | ɪuʊ, uʊ | UF03 | ʊ | UM03 | ʊ |
| RF04 | ʊ, u, ɪu | UF04 | ʊ, ɪu, ʊə | UM04 | ʊ |
| RF05 | ʊə | UF05 | ɪu | UM05 | ʊ, ʊə, u |
| RM01 | ʊ, ʊə | UF06 | ʊ | UM06 | ʊu, u, ʊə |
| RM02 | ɪuə, ɪu | UF07 | ʊ, ɪu | UM07 | ʊ, ɪu |
| RM03 | ʊ | UF08 | ɪu | UM08 | ʊ, ʊə |
| RM04 | ʊə, ʊ, ʊu, ɪuə | UF09 | ʊ, ʊə | UM09 | ʊ, ʊə |
| RM05 | ʊ | UF10 | ʊ, ʊə, ɪu | UM10 | ʊ, ɪu |
| | | UF11 | ʊ, ɪu | UM11 | ʊ |
| | | UF12 | ʊ | UM12 | ʊ |
| | | UF13 | ʊ | UM13 | ʊ, ʊə |
| | | UF14 | ʊ | UM14 | ʊ, ʊə, uʊ |
| | | UF15 | uʊ | UM15 | ʊu, u, ʊ, uʊ |

Table 5.47: Description of Phonetic Variants in the Word *School*

| Variant | Description of Vowel | Number of Informants | Percentage of Informants |
|---------|---|----------------------|--------------------------|
| [ʊ] | high, back, unrounded, lax | 32 | 80 |
| [ʊə] | high, back, unrounded, lax nucleus with a central lax offglide | 13 | 33 |
| [ɪʊ] | high, front, unrounded, lax onglide with a high, back, unrounded, lax nucleus | 9 | 23 |
| [uʊ] | high, back, rounded, tense nucleus and a high, back, unrounded, lax offglide | 5 | 13 |
| [u] | high, back, rounded, tense | 4 | 10 |
| [ʊu] | high, back, unrounded, lax onglide with a high, back, rounded, tense nucleus | 3 | 8 |
| [ɪʊə] | high, front, unrounded, lax onglide with a high, back, unrounded, lax nucleus and a central lax offglide | 2 | 5 |
| [ɪu] | high, front, unrounded, lax onglide with a high, back, rounded, tense nucleus | 1 | 3 |
| [ɪuʊ] | high, front, unrounded, lax onglide with a high, back, rounded, tense nucleus and a high, back, unrounded, lax offglide | 1 | 3 |

Little conversational data was gathered for *poor*, but informants produced both [pʊr] and [pouɹ]. Kurath and McDavid locate [pʊr] in the North Midland and North, except for northeastern New England, and locate [pouɹ] in the South and Maryland west of Chesapeake Bay (1961, 119). El Paso resembles the South with respect to *poor*.

Lexically based variation in *married* was demonstrated by a few El Paso informants who produced [æɹ] rather than predominant [ɛɹ]. Table 5.48 shows frequencies for each variant in El Paso. Data from Labov's sample of three El Pasoans for

ANAE show categorical production of [ɛr]. The predominance of [ɛr] in El Paso sets it off from LAMSAS, where Kurath and McDavid report only a few regions in which [ɛr] predominates: northern West Virginia, southwestern New England, western New York State, and northeastern Pennsylvania.

Table 5.48: Phonetic Variants in the Word *Married* (N = 40)

| | Number | Percentage |
|-------------|--------|------------|
| [ɛ] alone | 30 | 75 |
| [æ] alone | 4 | 10 |
| [ɛ] and [æ] | 6 | 15 |

Most of the informants produced [ɛr], but a quarter of the informants produced [æɹ].

Table 5.49 shows frequency of [ɛr] and [æɹ] in *married* in the LAGS sample as a whole, compared with El Paso.

Table 5.49: Comparison of El Paso and LAGS Frequencies of [ɛr] and [æɹ] in *Married*

| Phonetic Variant | El Paso (N = 40) | | LAGS (N = 914) | |
|------------------|------------------|------------|----------------|------------|
| | Number | Percentage | Number | Percentage |
| [ɛr] | 36 | 90 | 190 | 21 |
| [æɹ] | 10 | 25 | 746 | 82 |

The difference between the El Paso English Sample and LAGS is striking: [æɹ] is clearly predominant in LAGS. Data from LAGS for *Mary*, however shows basic agreement with the limited evidence from El Paso: the predominant variant in both cases is [ɛɹ] rather than [eɪɹ]. Table 5.50 reveals the considerable variation in LAGS with regard to *Mary*. Though other variants are evidenced in LAGS, only the frequency of [ɛɹ] and [eɪɹ] are listed in Table 5.50.

Table 5.50: LAGS Production of [ɛɹ] and [eɪɹ] in *Mary* (N = 914)

| Phonetic Variant | Number of Informants | Percentage of LAGS |
|------------------|----------------------|--------------------|
| [ɛɹ] | 449 | 49 |
| [eɪɹ] | 328 | 36 |

Though the target *Mary* was not formally elicited during the initial conversation for the El Paso English Sample, one informant who said *Mary* during conversation produced [eɪɹ] rather than the more generally heard [ɛɹ]. Again, Labov's three ANAE El Paso informants support the predominance of [ɛɹ] in *Mary* with categorical production.

Evidence of other lexically based phonetic variation is relatively lacking from the initial conversational part of the El Paso interview. As with *Mary*, there were few informants who produced the target *care* during conversation, but one informant produced [eɪɹ] rather than the more generally heard [ɛɹ]. Only one informant produced [əɪɹ] in *eight* rather than the more generally heard [eɪɹ]. In contrast, I elicited the target

aunt from each informant, but there is no variation in pronunciation: the nucleus of *aunt* is categorically [æ] for all El Paso informants.

Summary

The El Paso informants do not represent one region of the United States more than another in their phonetic production. El Paso does not generally match LAGS or PST in its frequency of marked features, though there are similarities in which variant, marked or unmarked, is more frequent relative to the other variant. Table 5.51 compares relative production of marked and unmarked features in El Paso to available data from LAGS, LAMSAS, PST, and ANAE. A plus sign indicates that the associated variant is predominant, while a minus sign indicates that the associated variant is less common. Relative frequencies for my El Paso survey, LAGS and PST are based on actual tabulations. While Thomas and Bailey (1992) indicate that both [ɔɾ] and [ɔʀ] variants occur in Texas in words like *horse*, they do not provide frequency data from PST, so no comparison of El Paso data with PST data is possible for the *horse* word class. Data for LAMSAS are estimated from Kurath and McDavid's account in *The Pronunciation of English in the Atlantic States* (1961). The speech of the Atlantic States is only approximately represented by division into North, Midland, and South, and uniformity within these regions should not be assumed. The LAMSAS data is included only for basic comparison. A period appears where there is no information available about a feature. Since the data available for El Paso in Labov's Atlas of North American English is limited to three informants, relative frequency is not descriptive. For ANAE, a plus sign indicates the variant that occurs in the speech of the three informants and a zero indicates

the variant that does not occur. The question mark indicates the possibility of the occurrence of [ɔ] in the speech of the two youngest ANAE El Paso informants, since the associated minimal pairs, *sock / talk* and *Don / dawn*, were perceived during analysis to be ‘close’ rather than ‘same.’

With regard to checked vowels among upper middle class informants, it appears that inglides are disappearing, since the predominant variants in LAGS are monophthongal. Other variants which Kurath and McDavid associate with Southern speech, such as monophthongal /aɪ/ and raised or fronted /aʊ/ also exhibit low frequency in LAGS relative to the unmarked variants [aɪ] and [aʊ]. However, PST data show that [æʊ] is actually predominant among European Americans in Texas. Data from El Paso and LAGS shows that [o] is predominant in words like *boy* and *horse*, a marked difference from LAMSAS data which shows that [ɔ] is predominant in the Atlantic States. While [ɑ] in words like *caught* is thought to have achieved dominance in the west, [ɔ] is still more common in both El Paso and PST data, in addition to the older LAGS data for Texas.

Data from El Paso for the lexically based phonetic variants is sparse, but one general trend is that *married* and *Mary* are both pronounced with [ɛ]. In this respect, the El Paso informants resemble the LAMSAS Northern informants. Labov’s El Paso informants also produce [ɛ] in *married* and *Mary*. With respect to *married* El Paso differs from LAGS, where the predominant variant is [æ].

Table 5.51: Summary Comparison of Phonetic Variants in Regional Variation Surveys

| Marked Phonetic Variants | El Paso English Sample | LAGS | LAMSAS | | | Phonological Survey of Texas | ANAE El Paso Informants |
|------------------------------|------------------------|------|--------|---------|-------|------------------------------|-------------------------|
| | | | North | Midland | South | | |
| Checked Vowel Glides | – | – | – | + | + | . | . |
| Checked Vowel Monophthongs | + | + | + | – | – | . | . |
| | | | | | | | |
| Monophthongal /ai/; [a] | – | – | – | + | + | – | . |
| Diphthongal /ai/; [aɪ] | + | + | + | – | – | + | . |
| | | | | | | | |
| Raised or fronted /au/; [æʊ] | – | – | – | + | + | + | . |
| Unmarked /au/; [au] | + | + | + | – | – | – | . |
| | | | | | | | |
| ɔɪ | – | – | + | + | + | . | . |
| oɪ | + | + | – | – | – | . | . |
| | | | | | | | |
| ɔr | – | – | + | + | + | . | 0 |
| or | + | + | – | – | – | . | + |
| | | | | | | | |
| ɔ | + | + | – | + | + | + | ? |
| ɑɔ | – | – | – | + | + | . | 0 |
| ɑ | – | – | + | – | – | – | + |
| | | | | | | | |
| [æ] in ‘married’ | – | + | – | – | + | . | 0 |
| [ɛ] in ‘married’ | + | – | + | + | – | . | + |
| | | | | | | | |
| [eɪ] in ‘Mary’ | – | – | – | – | + | . | 0 |
| [ɛ] in ‘Mary’ | + | + | + | + | – | . | + |

CHAPTER 6

LEXICAL ANALYSIS

The lexical data gathered in the El Paso English Sample provide an indication of the variety of forms used by retirement-age European American native El Pasoans. The survey elicited one or more lexical types from each informant for each lexical target feature. For example, the lexical target *corn on the cob* elicited the lexical types *roasting ears*, *corn*, *ear(s)*, and *ear(s) of corn* in addition to *corn on the cob*. In the analyses which follow, the number of informants who produce each lexical type indicates the general behavior of my targeted sample. In addition to an examination of the number of informants producing each lexical type, I examine correlations between lexical features and social variables in order to make some general observations about the responses of my sample. Here, as in the phonetic analysis chapter, I use the word *correlation* in the normal statistical sense, rather than the restricted meaning of the sample correlation coefficient *r*. Additionally, I make comparisons to earlier studies where possible, including Kurath's analysis of LAMSAS data, presented in *A Word Geography of the Eastern United States* (1949), Atwood's analysis of Texas, presented in *The Regional Vocabulary of Texas* (1962), T. M. Pearce's survey of New Mexico as reported in Atwood (1962), and LAGS data.

Forms of Address for Mother and Father

The two most popular addresses for mother and father in the El Paso English Sample are *Mother* and *Daddy*. Table 6.1 presents each variant for the targets *Mother* and *Father* along with the number of informants who produced it.

Table 6.1: Variant Type Quantities for the Lexical Targets *Mother* and *Father*

| Mother (N = 40) | | Father (N = 40) | |
|-----------------|----------------------|-----------------|----------------------|
| Types | Number of Informants | Types | Number of Informants |
| Mother | 20 | Daddy | 19 |
| Mom | 16 | Dad | 16 |
| Mama | 4 | Father | 3 |
| Mommy | 2 | name | 2 |
| name | 2 | Papa | 1 |
| nickname | 2 | Pop | 1 |

In Table 6.1, the number of informants producing each lexical type is given instead of the frequency; since informants could produce more than one lexical type, frequencies would not add to 100% and therefore would be misleading.

In *The Regional Vocabulary of Texas*, Atwood lists *Mother* and *Daddy* as used most by the group aged 20 to 49, which represents the age group of my survey, since Atwood's data was gathered in the 40s and 50s (122). Atwood says that *Mother* and *Daddy* replaced the older forms *Ma*, *Mama*, *Pappy*, *Pa*, and *Papa* (115). As it happens, there were four informants in the El Paso English Sample who said *Mama* and one who

said *Papa*. After *Mother* and *Daddy*, the next most popular types in the El Paso survey are *Mom* and *Dad*, each representing 40% of the sample. Other variants included *Father*, *Mommy*, *Pop*, and a parent's name or nickname. Correlations of *Mother* and *Father* types with social variables are listed in Table 6.2.

Table 6.2: Significant Correlations of *Mother* and *Father* Lexical Types with Social Variables

| Lexical Variant | Daddy (N = 19) | | Dad (N = 16) | | | Mama (N = 4) |
|--------------------------|-----------------|-------------------------------|---------------|-------------------------------------|----------------|---------------------------------|
| | Female (N = 20) | North Parental Origin (N = 7) | Male (N = 20) | South Texas Parental Origin (N = 8) | Trades (N = 4) | Midwest Parental Origin (N = 9) |
| Informants | 16 | 0 | 13 | 6 | 4 | 3 |
| % of Social Variable | 80 | 0 | 65 | 75 | 100 | 33 |
| % of Linguistic Variable | 84 | 0 | 81 | 38 | 25 | 75 |
| Correlation | positive | negative | positive | positive | positive | positive |

Females are significant users of *Daddy*; males, on the other hand, are significant users of *Dad*. Although there are only four members of the Trades variable, all of them said *Dad*, producing a statistically significant result. South Texas parental origin also correlated with *Dad*. It is possible that Trades and South Texas parental origin pattern with *Dad*

because the membership of these two groups is largely male. Three out of the four Trades members and seven out of eight South Texas parental origin members are male. Two other regional groups patterned significantly with other variants. No informants with a parent from the North said *Daddy*. The variant *Mama* may have a Midwest origin, as nearly all occurrences came from informants with a Midwest parent. No other addresses for *mother* and *father* patterned significantly with the social variables tested.

The social distribution of LAGS variants comparable to El Paso forms of address for *mother* and *father* are presented in Table 6.3. Values indicate the proportion of European American upper class informants who produced each variant, which amounts to 312 LAGS informants. Of the European American upper class informants, there are 185 aged 13 to 65 years, 127 aged 66 to 99 years, 144 females, and 168 males. Proportion tests were used to test for significance at $p < .05$. Significant differences in the responses of younger and older informants and in the responses of males and females are denoted by the word *yes* in the “Sig?” column which follows each pair of variables.

The order of frequency of types in LAGS is similar to the order of frequency of types in El Paso, except that in LAGS, *Papa* is a more popular address form than *Father*, and *Mama* is more popular than *Mom*. Bringing to mind the correlations of *Dad* with men and *Daddy* with women in the El Paso English Sample, 10% more male than female upper class LAGS informants produced *Dad*, and 7% more female than male upper class LAGS informants produced *Daddy*. However, these differences in male and female usage in LAGS are not significant at $p < .05$ and we therefore cannot reject the null hypothesis that they are due to chance. *Mother*, *Daddy*, *Mom*, *Dad*, and *Pop* all show significant associations with informants under 65 in LAGS. Only *Pop* was of low incidence in the El

Paso English Sample, which mirrored its 5 % incidence in the LAGS sample as a whole. Variants significantly associated with informants older than 65 in LAGS were *Papa* and *Father*, which showed low incidence in the El Paso English Sample. In fact, the one informant in El Paso who responded *Papa* had parents who adopted her as a baby in 1925 when they were in their forties. So it appears that the age range represented in the El Paso English Sample behaves like the age range in LAGS from 13 to 65 years old. This is not surprising since LAGS data was collected in the seventies when the El Paso English Sample informants were all under the age of 65.

Table 6.3: White Upper-Class Social Distribution of *Mother* and *Father* Forms in LAGS

| Lexical Variant | % ages 13 to 65 | % ages 66 to 99 | Sig? | % Male | % Female | Sig? |
|-----------------|-----------------|-----------------|------|---------|----------|------|
| | N = 185 | N = 127 | | N = 168 | N = 144 | |
| Mother: | 35 | 20 | yes | 25 | 33 | no |
| Mom: | 28 | 8 | yes | 18 | 21 | no |
| Mama: | 53 | 61 | no | 51 | 63 | yes |
| Mommy: | 5 | 1 | no | 4 | 3 | no |
| Daddy: | 65 | 40 | yes | 52 | 59 | no |
| Dad: | 44 | 22 | yes | 40 | 30 | no |
| Father: | 5 | 13 | yes | 8 | 9 | no |
| Papa: | 18 | 57 | yes | 34 | 33 | no |
| Pop: | 9 | 3 | yes | 6 | 8 | no |

The percentage distribution of forms for *Mother* and *Father* in Texas topographical regions is shown in Table 6.4 along with the percentage distribution in the LAGS sample as a whole and the distribution of forms in El Paso. An asterisk indicates a significant difference between the topographical variable and the LAGS sample as a whole. Because the sample size of the topographical regions is less than 30, I used t-distribution values to establish significance at $p < .05$. LAGS covers only the eastern half of Texas, which it divides into four topographical regions. The Western Piney Woods, which I refer to as East Texas, represents the easternmost part of Texas adjacent to Arkansas and Louisiana. The Middle Western Plains, which I refer to as North Texas, represents north central Texas, the region north of Austin, featuring Dallas-Fort Worth. The Lower Western Plains, which I refer to as South Texas, represents south central Texas, the region from Austin to the Mexican border, featuring Austin and San Antonio. The West Gulf Coast, which I refer to as the Gulf Coast, represents the coastal region of Texas, featuring Houston, Galveston, and Corpus Christi.

Regarding LAGS data in Table 6.4, Texas regions behave similarly to the LAGS sample as a whole, with a few exceptions. Production of *Mom* in South Texas and along the Texas Coast is greater than that of the LAGS sample as a whole. Production of *Dad* in South Texas is greater than that of the other regions of Texas and nearly twice that of the LAGS sample as a whole, supporting the significant correlation of South Texas parental origin with *Dad* in the El Paso survey. *Father* is also produced more in South Texas than in the LAGS sample as a whole. The Texas Coast beats the LAGS sample as a whole in production of *Pop*.

Table 6.4: Texas Topographical Distribution of *Mother* and *Father* Forms in LAGS

| Lexical Type | % East Texas | % North Texas | % South Texas | % Gulf Coast | % All of LAGS | % El Paso English Sample |
|--------------|--------------|---------------|---------------|--------------|---------------|--------------------------|
| | N = 27 | N = 23 | N = 29 | N = 21 | N = 914 | N = 40 |
| Mother: | 22 | 30 | 24 | 19 | 24 | 50 |
| Mom: | 19 | 17 | 38* | 29 | 14 | 40 |
| Mama: | 59 | 57 | 66 | 71 | 60 | 10 |
| Mommy: | 4 | 4 | 0 | 5 | 3 | 5 |
| Daddy: | 67 | 70 | 48 | 57 | 58 | 48 |
| Dad: | 41 | 35 | 45* | 33 | 26 | 40 |
| Father: | 15 | 13 | 21* | 0 | 7 | 8 |
| Papa: | 33 | 30 | 48 | 33 | 38 | 3 |
| Pop: | 4 | 4 | 3 | 19* | 5 | 3 |

The El Paso results for the target *Mother* closely resemble overall LAGS results only in the cases of the lexical type *Mommy*, which exhibits low frequency in both El Paso and LAGS, and the lexical type *Mom*, which most resembles production in South Texas, the San Antonio region. The production of *Dad* in El Paso is similar to the production of *Dad* in the Texas regions, rather than the production of *Dad* in LAGS as a whole. Production of *Daddy* in El Paso is lower than production of *Daddy* in LAGS and in each of the Texas regions except for South Texas. Production of *Father* in El Paso does not differ from production of *Father* in LAGS overall, but is actually lower than production of *Father* in all regions of Texas but the Coast, where *Father* did not occur. El Paso production of *Papa* is dramatically lower than production of *Papa* in the rest of

Texas and LAGS, most likely because informants older than those in the El Paso survey are included in the topographical totals for Texas and LAGS as a whole, and in LAGS *Papa* is associated with the older age group. Production of *Pop* was as low in El Paso as in all areas of Texas except the coast and LAGS as a whole. Table 6.5 highlights significant differences between the El Paso English Sample and social categories in the LAGS sample for the four most common lexical types: *Mother*, *Mom*, *Daddy*, and *Dad*.

The El Paso results for the type *Mother* do not match LAGS results closely. Only production of *Mother* by LAGS males and production of *Mother* in the Dallas region are not significantly different from production in El Paso, which is significantly greater than LAGS production by members of the other social categories. Production of *Mom* by females in LAGS is not significantly different from production by females in the El Paso English Sample. Production of *Mom* by younger informants in LAGS is not significantly different from production of *Mom* in El Paso as a whole. Texas production of *Mom* in LAGS resembled production in El Paso, but production of *Mom* in the entire LAGS survey was significantly less than production of *Mom* in El Paso. Production of *Daddy* and *Dad* by LAGS males was significantly different from production by El Paso males: LAGS males used the name *Daddy* more and El Paso males used *Dad* more. The entire El Paso English Sample produced *Dad* significantly more than the older LAGS informants, but the younger LAGS informants outpaced El Paso informants in the production of *Daddy*. Only *Daddy*, however, showed a significant difference in behavior between the white younger upper class LAGS informants and the El Paso English Sample, their generational cohorts. *Mother*, *Mom*, and *Dad* show significant differences between white older upper class LAGS informants and the El Paso English Sample.

Table 6.5: Significant Differences between LAGS and the El Paso English Sample for Address forms for *Mother* and *Father*

| Lexical Type | LAGS Social Category | El Paso Social Category | Production Greater in: |
|--------------|---------------------------|-------------------------|------------------------|
| Mother | White Female Upper Class | Female | El Paso |
| | White Older Upper Class | Entire Sample | El Paso |
| | East Texas | Entire Sample | El Paso |
| | South Texas | Entire Sample | El Paso |
| | Texas Gulf Coast | Entire Sample | El Paso |
| | Entire Sample | Entire Sample | El Paso |
| Mom | White Male Upper Class | Male | El Paso |
| | White Older Upper Class | Entire Sample | El Paso |
| | Entire Sample | Entire Sample | El Paso |
| Daddy | White Male Upper Class | Male | LAGS |
| | White Younger Upper Class | Entire Sample | LAGS |
| Dad | White Male Upper Class | Male | El Paso |
| | White Older Upper Class | Entire Sample | El Paso |

Generally, with regard to the most common El Paso responses for *Mother* and *Father*, the El Paso English Sample appears to behave like the younger LAGS informants, female LAGS informants, and Texas subregions. Thus, patterns of occurrence for *Mother* and *Father* variants in El Paso and LAGS are more similar than one might

expect considering the physical distance between the LAGS sample and El Paso. Within LAGS, there were more significant differences between the production of younger and older informants; only the variant *Mama* exhibited a significant difference in production between men and women. Conversely, in Table 6.2 we saw that within the El Paso English Sample men and women differ in their choice of forms for *Father*, and that parental origin patterned significantly with both *Mother* and *Father* variants. It is surprising that production of *Father* variants in LAGS was not significantly different for men and women. Such a difference between the El Paso English Sample and LAGS may indicate a cultural difference not highlighted by significant differences in variant production overall.

Corn on the Cob

The most popular form for the ‘kind of corn that you pick up and eat’ was *corn on the cob*, given by 58% of El Paso informants. Table 6.6 presents each variant for the target *corn on the cob* and the number of informants who produced it.

Table 6.6: Variant Type Quantities for the Lexical Target *Corn on the Cob*

| Corn on the cob (N = 38) | |
|--------------------------|----------------------|
| Types | Number of Informants |
| corn on the cob | 22 |
| roasting ears | 6 |
| corn | 5 |
| ear(s) | 4 |
| ear(s) of corn | 3 |

Variants other than *corn on the cob* occurred at low frequency. *Roasting ears* accounts for only 16% of the responses. Kurath remarked that *roasting ears* was associated with the Midland and South, and this is the only variant that he discusses. Correlations of *corn on the cob* types with social variables are listed in Table 6.7.

Table 6.7: Correlations of *Corn on the Cob* Lexical Types with Social Variables

| Lexical Variant | Corn (N = 5) | Roasting Ears (N = 6) | Ear of Corn (N = 3) |
|--------------------------|--|-----------------------------------|----------------------------------|
| Social Variable | South Texas Parental Origin (N = 8) | Public School Teachers (N = 7) | North Parental Origin (N = 7) |
| Informants | 3 | 3 | 2 |
| % of Social Variable | 38 | 43 | 33 |
| % of Linguistic Variable | 60 | 50 | 67 |
| Correlation | positive | positive | positive |

43% of public school teachers said *roasting ears*, and they account for half of those who replied with *roasting ears*. Atwood reported a decline in the incidence of *roasting ears* among the generation I interviewed, but it was still 62% for Atwood. A handful of my informants simply replied *corn*. The relatively sparse *corn* variant nonetheless patterned significantly with informants who had a south Texas parent. There were only three informants who produced *ear(s) of corn*, but two of them had a parent from the North, a

significant correlation. Correlations which involve variants of low incidence, as these do, suggest rather than confirm associations between variables.

The social distribution of LAGS variants comparable to El Paso forms of address for *corn on the cob* are presented in Table 6.8. Only *corn on the cob* and *corn* exhibit significant differences between older and younger informants, and only *corn on the cob* exhibits a significant difference between male and female usage. More informants under 65 produced *corn on the cob*, and more informants over 65 produced *corn*. More female than male informants produced *corn on the cob*.

Table 6.8: White Upper-Class Social Distribution of *Corn on the Cob* Forms in LAGS

| Lexical Variant | % ages 13 to 65 | % ages 66 to 99 | Sig? | % Male | % Female | Sig? |
|------------------|--------------------|--------------------|------|---------|-------------|------|
| | N = 185 | N = 127 | | N = 168 | N = 144 | |
| corn on the cob: | 39 | 19 | yes | 25 | 38 | yes |
| roasting ears: | 49 | 56 | no | 54 | 49 | no |
| corn: | 16 | 31 | yes | 26 | 18 | no |
| ear(s): | 1 | 1 | no | 0 | 2 | no |
| ear(s) of corn: | 1 | 2 | no | 2 | 1 | no |

Distribution of *corn on the cob* variants in the Texas regions of LAGS is shown in Table 6.9. There are no significant differences between the behavior of Texas regions and the rest of LAGS. While *corn on the cob* is the preferred variant in El Paso, *roasting ears* is the clear favorite in LAGS, and East Texas shows the highest occurrence of *roasting ears* among the Texas regions.

Table 6.9: Texas Topographical Distribution of *Corn on the Cob* Forms in LAGS

| Lexical Type | % East Texas | % North Texas | % South Texas | % Gulf Coast | % All of LAGS | % El Paso English Sample |
|------------------|--------------|---------------|---------------|--------------|---------------|--------------------------|
| | N = 27 | N = 23 | N = 29 | N = 21 | N = 914 | N = 40 |
| corn on the cob: | 15 | 39 | 38 | 29 | 22 | 58 |
| roasting ears: | 74 | 57 | 45 | 48 | 58 | 16 |
| corn: | 37 | 48 | 31 | 24 | 28 | 8 |
| ear(s): | 0 | 0 | 0 | 0 | 1 | 13 |
| ear(s) of corn: | 4 | 0 | 3 | 5 | 1 | 10 |

The variants ear(s) and ear(s) of corn are low in both LAGS and the El Paso English Sample, but production of corn is higher in LAGS than in El Paso. Other significant differences in LAGS and El Paso production of the three most common forms of *corn on the cob* are illustrated in Table 6.10. Production of *corn* by the younger informants, age cohorts of the El Paso English Sample, is not significantly different from production of *corn* in the El Paso English Sample. Older LAGS informants produce *corn* more than the El Paso English Sample. All Texas regions produce *roasting ears* significantly more than the El Paso English Sample. However, production of *corn on the cob* in North and South Texas and production of *corn* along the Texas coast and in South Texas is not significantly different from production of these variants in El Paso. The behavior of the entire LAGS sample is significantly different from that of El Paso for each of the three most common *corn on the cob* forms.

The fact that portions of Texas show a greater affinity with El Paso than the entire LAGS sample is not surprising. Additionally, analysis of LAGS shows that the decline of *roasting ears* in Texas was not as steep as might have been expected from comparison of the 16% El Paso English Sample production with Atwood's counts from the 1950s. It is possible that *roasting ears* was of much lower incidence in El Paso than in the rest of Texas early in its history. Aside from such speculation, *corn on the cob* demonstrates a marked difference between El Paso and the South.

Table 6.10: Significant Differences between LAGS and the El Paso English Sample for *Corn on the Cob*

| Lexical Type | LAGS Social Category | El Paso Social Category | Production Greater in: |
|-----------------|--|-------------------------|------------------------|
| corn on the cob | White Female Upper Class | Female | El Paso |
| | White Male Upper Class | Male | El Paso |
| | Both Older and Younger White Upper Class | Entire Sample | El Paso |
| | East Texas | Entire Sample | El Paso |
| | Texas Gulf Coast | Entire Sample | El Paso |
| | Entire Sample | Entire Sample | El Paso |
| roasting ears | White Female Upper Class | Female | LAGS |
| | White Male Upper Class | Male | LAGS |
| | Both Older and Younger White Upper Class | Entire Sample | LAGS |
| | Each Texas Region | Entire Sample | LAGS |
| | Entire Sample | Entire Sample | LAGS |
| Corn | White Older Upper Class | Entire Sample | LAGS |
| | North Texas | Entire Sample | LAGS |
| | East Texas | Entire Sample | LAGS |
| | Entire Sample | Entire Sample | LAGS |

Sick __ the Stomach

The three most common prepositions that can occur after *sick* in the phrase *sick __ the stomach* are *to*, *at*, and *in*. The fact that Atwood does not mention *sick __ the stomach* suggests it was not part of his survey. Kurath's analysis of the phrase suggests a Northern affiliation for *sick to*, a North Midland affiliation for *sick at* and a coastal Southern affiliation for *sick to*, reflecting the Northern influence on the coastal South. In my survey, *sick __ the stomach* produced primarily *sick to* and *sick at*, and only one instance of *sick in*, as shown in Table 6.11. I was unable to elicit the phrase from a couple informants who instead replied with *nauseated* and *upset stomach*.

Table 6.11: Variant Type Quantities for the Lexical Target *Sick __ the Stomach*

| <i>sick __ the stomach</i> (N = 40) | |
|-------------------------------------|----------------------|
| Types | Number of Informants |
| at | 23 |
| to | 14 |
| in | 1 |
| (another phrase) | 2 |

The variants did not pattern significantly with any social variables in the El Paso survey. *Sick to* represented 35% of the responses, while *sick at* represented 57%. This result could perhaps reflect the larger non-Northern associated component of influence in my sample population, but no regional affiliation through parental origin was indicated in my statistical analysis. Table 6.12 shows age and sex results from LAGS corresponding to the

variants found in El Paso. Note that LAGS percentages appear low because there is a greater variety of forms in LAGS and 167 LAGS informants gave no response. The other forms appearing in LAGS are *from*, *of*, *on*, and *with*.

Table 6.12: White Upper-Class Social Distribution of *Sick _ the Stomach* Forms in LAGS

| Lexical Variant | % ages 13 to 65 | % ages 66 to 99 | Sig? | % Male | % Female | Sig? |
|-----------------|--------------------|--------------------|------|---------|----------|------|
| | N = 185 | N = 127 | | N = 168 | N = 144 | |
| at: | 50 | 48 | no | 42 | 58 | yes |
| to: | 22 | 3 | yes | 12 | 17 | no |
| in: | 15 | 19 | no | 17 | 16 | no |

More female than male informants in LAGS produced *at*. The fact that more younger than older LAGS informants produced *to* suggests an increase in the use of *to* over time. Table 6.13 shows the distribution of the variants in Texas, compared to the entire LAGS sample and to the El Paso English Sample. The Texas regions do not significantly differ from the distribution across the entire LAGS sample. Table 6.13 points out that *in* is a more popular variant in LAGS than in the El Paso English Sample, and *to* is more popular in the El Paso English Sample than in LAGS. However, the production of *at* in El Paso is similar to the production of *at* in LAGS. In fact, as shown in Table 6.14, there is only one significant difference in *at* production between El Paso and the Texas regions.

Table 6.13: Texas Topographical Distribution of *Sick __ the Stomach* Forms in LAGS

| Lexical Type | % East Texas | % North Texas | % South Texas | % Gulf Coast | % All of LAGS | % El Paso English Sample |
|--------------|--------------|---------------|---------------|--------------|---------------|--------------------------|
| | N = 27 | N = 23 | N = 29 | N = 21 | N = 914 | N = 40 |
| at: | 52 | 52 | 31 | 33 | 45 | 58 |
| to: | 15 | 9 | 3 | 10 | 8 | 35 |
| in: | 19 | 17 | 34 | 24 | 21 | 3 |

Table 6.14: Significant Differences between LAGS and the El Paso English Sample for *Sick __ the Stomach*

| Lexical Type | LAGS Social Category | El Paso Social Category | Production Greater in: |
|--------------|--|-------------------------|------------------------|
| at | South Texas | Entire Sample | El Paso |
| to | White Male Upper Class | Male | El Paso |
| | White Older Upper Class | Entire Sample | El Paso |
| | North, South, and Gulf Coast Texas | Entire Sample | El Paso |
| | Entire Sample | Entire Sample | El Paso |
| in | Both Older and Younger White Upper Class | Entire Sample | LAGS |
| | All Texas Regions | Entire Sample | LAGS |
| | Entire Sample | Entire Sample | LAGS |

South Texas exhibits the lowest *at* production of any region in Texas, low enough to be significantly different from the El Paso English Sample. This is an unexpected result, since El Paso shows affinity with South Texas for other variables (see discussion of monophthongal /aɪ/ on pp. 129-132). However, it is important to note that the South Texas results for LAGS are not limited to white upper-class informants, the profile of the El Paso English Sample. Another interesting result indicated in Table 6.14 is that East Texas production of *to* is not significantly different from production in El Paso, though East Texas production of *to* is lower than production in El Paso. The greater production of *to* in El Paso relative to LAGS is perhaps predicted in LAGS by the greater production of *to* among younger LAGS informants, who are age cohorts with the El Paso English Sample.

Window Coverings on Rollers

Kurath provides evidence of Northern influence on the coastal South with forms for *window coverings on rollers*. The three variants of interest are *curtains*, *shades*, and *blinds*. Kurath argues that *curtains* has currency particularly in New England and along the coastal South. *Curtains* makes a limited appearance in my sample as well, at 8%, as shown in Table 6.15. Kurath associates *blinds* with the Midland, noting that *shades* is found generally throughout the North and Midland. This lexical variable does not enable much regional comparison between my data and Kurath's except to note that *shades* is the most popular response in my survey, at 55%, followed by *blinds* at 28%, perhaps reflecting the more limited occurrence of *blinds* in the Eastern States as a whole.

Table 6.15: Variant Type Quantities for the Lexical Target *Window Coverings on Rollers*

| Window Coverings on Rollers (N = 40) | |
|--------------------------------------|----------------------|
| Types | Number of Informants |
| shades | 22 |
| blinds | 11 |
| curtains | 3 |
| (another phrase) | 4 |

Other responses in El Paso included *awning* and *drapes*. Atwood reports that most of his Texas informants responded with *shades* or *window shades*, followed by *blinds* (1962, 45). Atwood does not list *curtains* as a variant. This hierarchy of variants matches that in the El Paso English Sample.

There are a few associations of social variables with lexical variants in the El Paso English Sample, shown in Table 6.16. The low response rate of *curtains* suggests rather than confirms the association between North/Midwest parental origin and *curtains*. The negative correlation of North parental origin with *shades* is unexpected in light of Kurath's assertion that *shades* is found generally throughout the North and Midland. It is also difficult to find an explanation for the fact that no informants who are farmers or ranchers offered *blinds*, which Kurath associates with the Midland. However, the absence of *blinds* in this group may result from the fact that there is only one farmer/rancher with a Midwest parent.

Table 6.16: Correlations of *Window Coverings* Lexical Types with Social Variables

| Lexical Variant | Blind(s) (N = 11) | Shade(s) (N = 22) | Curtain(s) (N = 3) | |
|-----------------------------|-------------------------------------|-------------------------------------|-----------------------|---------------------------|
| Social Variable | Farmers and Ranchers (N = 10) | North Parental Origin (N = 7) | Parental Origin | |
| | | | North (N = 7) | North/Midwest (N = 15) |
| Informants | 0 | 1 | 2 | 3 |
| % of Social Variable | 0 | 14 | 29 | 20 |
| % of Linguistic Variable | 0 | 4 | 67 | 100 |
| Correlation | negative | negative | positive | positive |

The hierarchy of production in Atwood's survey of Texas and the El Paso English Sample is reproduced in LAGS, as shown in Table 6.17. Significantly more white upper-class women than men in LAGS produced *shades*, a result that is difficult to explain. Table 6.18 shows the LAGS distribution of *window coverings on rollers* in Texas.

Table 6.17: White Upper-Class Social Distribution of *Window Covering* Forms in LAGS

| Lexical Variant | % ages 13 to 65 | % ages 66 to 99 | Sig? | % Male | % Female | Sig? |
|-----------------|--------------------|--------------------|------|---------|----------|------|
| | N = 185 | N = 127 | | N = 168 | N = 144 | |
| shades: | 82 | 80 | no | 74 | 90 | yes |
| blinds: | 16 | 12 | no | 16 | 13 | no |
| curtains: | 1 | 5 | no | 2 | 3 | no |

Table 6.18: Texas Topographical Distribution of *Window Covering* Forms in LAGS

| Lexical Type | % East Texas | % North Texas | % South Texas | % Gulf Coast | % All of LAGS | % El Paso English Sample |
|--------------|--------------|---------------|---------------|--------------|---------------|--------------------------|
| | N = 27 | N = 23 | N = 29 | N = 21 | N = 914 | N = 40 |
| shades: | 96 | 91 | 79 | 86 | 81 | 55 |
| blinds: | 15 | 9 | 21 | 19 | 11 | 28 |
| curtains: | 4 | 0 | 3 | 5 | 3 | 8 |

There are no significant differences between production of *window coverings* forms in Texas regions and the entire LAGS survey. As Table 6.18 shows, production of *shades* in El Paso is lower than that in LAGS and production of *blinds* in El Paso is higher than that in LAGS. As Table 6.19 indicates, production of *curtains* in El Paso is not significantly different from production in LAGS as a whole. The only significance difference involving *curtain* is between production in El Paso and production by younger white upper-class LAGS informants. This significant result suggests rather than confirms the difference in production since there were only three occurrences of curtains in El Paso and one in LAGS. What is most clear from Table 6.19 is that the differences between LAGS and El Paso production of *shades* and *blinds* are significant. While El Pasoans maintain the hierarchy of popularity of variants indicated by Atwood's Texas survey and LAGS, the El Pasoans are nonetheless forging a new path with higher production of the variant Kurath associates with the Midland.

Table 6.19: Significant Differences between LAGS and the El Paso English Sample for *Window Coverings on Rollers*

| Lexical Type | LAGS Social Category | El Paso Social Category | Production Greater in: |
|--------------|--|-------------------------|------------------------|
| shades | White Female Upper Class | Female | LAGS |
| | Both Older and Younger White Upper Class | Entire Sample | LAGS |
| | All Texas Regions | Entire Sample | LAGS |
| | Entire Sample | Entire Sample | LAGS |
| blinds | White Female Upper Class | Female | El Paso |
| | White Older Upper Class | Entire Sample | El Paso |
| | Entire Sample | Entire Sample | El Paso |
| curtains | Younger White Upper Class | Entire Sample | El Paso |

The lexical targets described above, *address for mother and father*, *corn on the cob*, *sick__the stomach*, and *window coverings on rollers*, show both affinities and differences from previous studies of American English. El Pasoans appear to assert their Texas allegiance with forms like *Mother* and *Daddy* but deviate clearly from their Texas roots with lower production of *roasting ears* and *shades*, and higher production of *corn on the cob* and *blinds*. In fact, Texas informants in LAGS generally behave more like the rest of LAGS than they behave like the El Paso English Sample.

It is also clear from correlations between social variables and lexical variants in the El Paso English Sample that parental origin is a salient social variable. The following

analyses of lexical variables, presented alphabetically, are limited to comparison with Kurath and Atwood and focus on correlations between social variables and lexical variants within the El Paso English Sample in order to highlight the importance of parental origin to feature production.

Chest of Drawers

The three most popular choices in the El Paso English Sample for ‘a piece of furniture that you put your socks in’ were *chest of drawers*, making up half of the responses, followed by *dresser* and *bureau*. Table 6.20 shows the variant quantities for those forms, along with the less frequently occurring *chifferobe*, *chiffonier*, and *highboy*.

Table 6.20: Variant Type Quantities for the Lexical Target *Chest of Drawers*

| Chest of Drawers (N = 40) | |
|---------------------------|----------------------|
| Types | Number of Informants |
| chest of drawers | 20 |
| dresser | 12 |
| bureau | 9 |
| chiffonier | 6 |
| chifferobe | 4 |
| highboy | 1 |

Kurath does not explore the regional distribution of *chest of drawers* in his Word Geography. However, the distribution of *chest of drawers* in LAMSAS is available on the

Linguistic Atlas of the United States and Canada website (<http://us.english.uga.edu/>). None of the variants, listed under the target *bureau* on the LAMSAS site, display any regional affiliation in LAMSAS. However, the hierarchy of production of variants in LAMSAS is different from that in the El Paso English Sample, as shown in Table 6.21. (Only the quantity of the most common form of the variant in LAMSAS is given. Morphological variants, few in number, are not counted.)

Table 6.21: Comparison of Variant Proportions for the Lexical Target *Chest of Drawers* in LAMSAS and El Paso

| Chest of Drawers (N = 1162) | | | |
|-----------------------------|-------------------|-------------------|--------------------|
| Types | LAMSAS Informants | LAMSAS Percentage | El Paso Percentage |
| chest of drawers | 223 | 19 | 50 |
| dresser | 343 | 30 | 30 |
| bureau | 1,036 | 89 | 22 |
| chiffonier | 20 | 2 | 15 |
| chifferobe | 16 | 1 | 10 |
| highboy | 21 | 2 | 3 |

LAMSAS production of *chest of drawers*, *bureau*, *chiffonier*, and *chifferobe* is significantly different than production in the El Paso English Sample. *Bureau* is the most popular LAMSAS choice, followed distantly by *dresser* and *chest of drawers*. There is little evidence of either *chiffonier* or *chifferobe* in the Linguistic Atlas of the Middle and South Atlantic states (only two percent of the LAMSAS informants provided *chiffonier*).

Atwood describes *chiffonier* as an obsolescent term, but reports 22% occurrence in his Texas survey. Interestingly, only one El Paso informant who responded with *chiffonier* indicated that the form was old fashioned, which may indicate preservation of the variant in El Paso. Table 6.22 points out correlations of social variables in El Paso with lexical variants.

Table 6.22: Correlations of *Chest of Drawers* Lexical Types with Social Variables

| Lexical Variants | Chiffonier (N = 6) | | Bureau (N = 9) |
|--------------------------|-----------------------|-----------------------|--|
| Social Variable | Parental Origin | | North Texas Parental Origin (N = 11) |
| | South (N = 8) | West Texas (N = 7) | |
| Informants | 3 | 3 | 5 |
| % of Social Variable | 38 | 43 | 46 |
| % of Linguistic Variable | 50 | 50 | 56 |
| Correlation | positive | positive | positive |

Half of the tokens of *chiffonier* were elicited from informants with parents from the South and parents from west Texas. Finally, over half of those who said *bureau* had a north Texas parent. *Bureau* is by far the most ubiquitous of the variants found in LAMSAS, making up 89% of responses. Yet *bureau* only patterned significantly with the north Texas parental origin. Nearly half of informants with a north Texas parent said *bureau*.

Another difference between LAMSAS and the El Paso English Sample is the frequency of *chest of drawers*. While in El Paso, *chest of drawers* is the most prevalent form, given by half of all informants, it makes up less than 20% of the LAMSAS sample. Atwood also reports that *chest of drawers* is less common in Texas than *bureau* and *dresser* (1962: 44). Table 6.23 shows percentage of production of variants in Atwood's Texas survey, compared with percentage of production in the El Paso survey and LAMSAS.

Table 6.23: Comparison of Atwood's Results for *Chest of Drawers* with El Paso

| Types | Atwood % | LAMSAS % | El Paso % |
|------------------|----------|----------|-----------|
| chest of drawers | 28 | 19 | 50 |
| dresser | 40 | 30 | 30 |
| bureau | 40 | 89 | 22 |
| chiffonier | 22 | 2 | 15 |
| chifferobe | 14 | 1 | 10 |
| highboy | 12 | 2 | 3 |

Atwood's results show production of *chiffonier*, and *chifferobe* higher than that in LAMSAS, and more similar to production in the El Paso English Sample. However, *chest of drawers* occurs in Atwood's survey with a frequency more similar to LAMSAS than to El Paso. Atwood reports occurrence of *bureau* at twice the rate of occurrence in the El Paso English Sample, but at less than half the rate of occurrence in LAMSAS. He lists *bureau* along with *chiffonier* and *chifferobe* as obsolescent, citing *chest of drawers* as the newer term (1962,112). Since the El Paso informants are age cohorts of Atwood's

younger informants, it appears that the high rate of *chest of drawers* in El Paso supports Atwood's prediction of obsolescence for the older forms, but the El Paso English Sample also solidly preserves Atwood's so-called obsolescent forms. Allison Burkette finds a similar pattern of obsolescence and preservation of core variants in her study of *chest of drawers* (Burkette 2001, 140-141). El Paso seems determined to forge its own pattern separate from the Eastern States and the rest of Texas.

Corn Husk

My informants were evenly split between *husk* forms and *shuck* forms. I divided this lexical feature into six test variables: four variables accounting for singular and plural *husk* and *shuck* and two variables accounting for both singular and plural forms of *husk* and *shuck*. Table 6.24 presents each variant for the target *husk* and the number of informants who produced it.

Table 6.24: Variant Type Quantities for the Lexical Target *Corn Husk*

| Corn Husk (N = 40) | |
|--------------------|----------------------|
| Types | Number of Informants |
| husk | 12 |
| husks | 8 |
| shuck | 4 |
| shucks | 16 |

Hans Kurath listed *corn shucks* as a general Southern word in his *Word Geography of the Eastern States* (1949). Atwood observed only 13% *husks* and 91% *shucks* in his Texas

sample (1962, 82-83). Correlations of *Corn Husk* types with social variables are listed in Table 6.25. Correlations of *Corn Shuck* types with social variables are listed in Table 6.26.

Table 6.25: Correlations of *Corn Husk* Lexical Types with Social Variables

| Lexical Variants | Husk (N = 12) | Husks (N = 8) | | Husk(s) (N = 20) |
|--------------------------|------------------|------------------|-------------------|----------------------------|
| Social Variable | Male (N = 20) | Parental Origin | | West Parental Origin |
| | | West (N = 8) | Texas (N = 24) | |
| Informants | 9 | 5 | 2 | 7 |
| % of Social Variable | 45 | 62 | 8 | 88 |
| % of Linguistic Variable | 75 | 62 | 25 | 35 |
| Correlation | positive | positive | negative | positive |

Table 6.26: Correlations of *Corn Shuck* Lexical Types with Social Variables

| Lexical Variants | Shuck (N = 4) | | Shucks (N = 16) | | Shuck(s) (N = 20) |
|--------------------------|------------------|-------------------|--------------------|--|--|
| Social Variable | Male (N = 20) | Rural (N = 10) | Female (N = 20) | North Texas Parental Origin (N = 11) | North Texas Parental Origin (N = 11) |
| Informants | 4 | 3 | 12 | 8 | 9 |
| % of Social Variable | 20 | 30 | 60 | 73 | 82 |
| % of Linguistic Variable | 100 | 75 | 75 | 50 | 45 |
| Correlation | positive | positive | positive | positive | positive |

Husk or *husks* was produced by 88% of informants with a parent from the West, and plural *husks* was offered by 62% of informants with a parent from the West. By contrast, only 25% of informants with a Texas parent said *husks* and 82% of informants with a North Texas parent said *shuck* or *shucks*. These results accord with Atwood's observation of only 13% *husks* and 91% *shucks* in his Texas sample (1962, 82-83). As with the address for father, sex became a significant social variable: 75% of singular *husk* users were men, and singular *shuck* was only offered by men. 75% of men who said singular *shuck* were also rural. In contrast, plural *shucks* was provided by 60% of women, and they made up 75% of *shucks* users as a whole.

Gutters

In spite of the fact that El Paso enjoys a dry climate, most of my informants knew the name of the fixture used to divert rain water coming off the roof. Table 6.27 shows variant quantities in the El Paso English Sample.

Table 6.27: Variant Type Quantities for the Lexical Target *Gutters*

| Gutters (N = 38) | |
|------------------|----------------------|
| Types | Number of Informants |
| (rain) gutter(s) | 28 |
| spout | 6 |
| drain | 6 |

Gutters, which figured heavily in all of Kurath's regions, was provided by 60% of my informants. Kurath distinguishes regions with less ubiquitous variants: *eaves troughs* or *troths* are associated with the North; *eaves spouts* are a transitional form found in the North Midland; *spouting* and *spouts* is associated with the Midland; but only *gutters* has any currency in the South. There were no *eaves troughs* or *troths* in my sample, though Atwood reports 6% occurrence of *eaves troughs* in Texas, but *spout* in various forms and combinations was provided by 16% of my sample. There are no correlations which support strong assertions of association of any of the El Paso variants with a social group. The variant *rain gutters*, of which there were three occurrences, correlates positively with South Texas parental origin and farmers/ranchers, as shown in Table 6.28. However, the low rate of occurrence limits the conclusions possible.

Table 6.28: Weak Associations of Rain Gutter with Social Variables in El Paso

| Lexical Variants | Rain Gutter (N = 3) | |
|--------------------------|--|----------------------------------|
| | South Texas Parental Origin (N = 8) | Farmers and Ranchers (N = 10) |
| Informants | 2 | 3 |
| % of Social Variable | 25 | 33 |
| % of Linguistic Variable | 67 | 100 |
| Correlation | positive | positive |

Headquarters

Another form which I expected to correlate with rural identity was the *main ranch house*. As it turned out, a good number of urban informants provided the rancher's term, *headquarters*, for the main ranch house. Table 6.29 shows variant quantities in the El Paso English Sample.

Table 6.29: Variant Type Quantities for the Lexical Target *Headquarters*

| Headquarters (N = 38) | |
|-----------------------|----------------------|
| Types | Number of Informants |
| ranch house | 16 |
| headquarters | 13 |
| farm house | 6 |
| the house | 4 |
| hacienda | 4 |

Ranch house was produced by 40% of the informants, while *headquarters* was produced by 32%. The numbers of informants associated with each of the remaining variables is much lower: 15% produced farm house (not unexpected given the preponderance of farms rather than ranches in rural El Paso); 10% responded with *hacienda*; and 10% responded with *the house*. Both *headquarters* and *hacienda* patterned significantly, though the *hacienda* correlations are less robust. The correlations are shown in Table 6.30. The correlations presented here suggest rather than confirm associations of *hacienda* with the social variables because there are only 4 occurrences of *hacienda*.

Though actual usage is doubtful because most informants identify *hacienda* as ‘a term used by Mexicans,’ business people and people with a parent from El Paso were both significantly linked to *hacienda*. Atwood reports that the main building on a ranch is called by various names in Texas, the most common being *headquarters* and *the big house*. According to Atwood, *hacienda* is concentrated in Southwest Texas, and he found a few occurrences in West Texas (1962: 44).

Table 6.30: Correlations of *Headquarters* and *Hacienda* with Social Variables in El Paso

| Lexical Variants | Headquarters (N = 13) | Hacienda (N = 4) | |
|--------------------------|---------------------------------------|------------------------------------|-----------------------------|
| Social Variable | West Texas Parental Origin (N = 7) | El Paso Parental Origin (N = 5) | Business People (N = 15) |
| Informants | 5 | 2 | 4 |
| % of Social Variable | 71 | 40 | 27 |
| % of Linguistic Variable | 38 | 50 | 100 |
| Correlation | positive | positive | positive |

It is not surprising that West Texas parental origin correlates with *headquarters* because one of the main businesses of West Texas is ranching. Whether the informant’s family owned a ranch in West Texas or not, their parents were likely to know the rancher’s term for the main ranch house. Although a large mixture of rural and urban El Pasoans produced the form *headquarters* for *main ranch house*, most urban informants

simply produced *ranch house*. My informants' attitude about the word *hacienda* agrees somewhat with the attitude expressed by one of Atwood's informants that *hacienda* is a Mexican word, but it is not surprising that El Pasoans would be familiar with the word. None of the El Paso ranchers, however, use *hacienda* to refer to their *headquarters*.

Heavy Bedcover

Kurath asserts that words for a heavy bedcover mark a division between North and Midland speech (1949, 61). The North is associated with the forms *comforter* and *comfortable*, while the Midland and the South are distinguished from the North by the use of *comfort*. Atwood found that only 15% of his Texas informants responded with *comforter* (1962, 47). He reports that *comfort* predominates instead throughout Texas, making up 68% of the responses. Atwood does not report exact figures, but asserts that *comforter* is somewhat more common in Southwest Texas. Table 6.31 shows variant quantities in the El Paso English Sample.

Table 6.31: Variant Type Quantities for the Lexical Target *Heavy Bed Cover*

| Heavy Bed Cover (N = 39) | |
|--------------------------|----------------------|
| Types | Number of Informants |
| quilt | 20 |
| comforter | 15 |
| blanket | 6 |
| bedspread | 3 |
| counterpane | 2 |
| comfort | 1 |

I obtained only a single occurrence of *comfort*, which is unexpected given the 68% rate of *comfort* in Texas cited by Atwood. By far the most popular variant provided by my sample was *quilt*, at 51%. Atwood finds 14% occurrence of *quilt*, but suggests that the presence of this form reflects confusion on the part of the informant resulting from “unfamiliarity with the old art of quilting” since it comes mostly from younger informants (1962, 47-48). Presumably older informants in Atwood’s survey distinguished between a *quilt* and a *comfort*. The presence of *quilt* in El Paso makes sense in light of Atwood’s remark since the El Paso informants are age cohorts with Atwood’s younger informants. Regrettably I did not ask informants what they envisioned as they responded with *quilt*.

In the El Paso survey, 35% of informants responded with *comforter*, which is over twice the rate of occurrence that Atwood reported in Texas. The high rate of *comforter* in El Paso goes along with Atwood’s prediction of greater occurrence of *comforter* in Southwest Texas. Perhaps also, as Atwood argues (1962, 81), the presence of *comforter* reflects the influence of advertisers on urban culture. Of interest, however, is the result that El Paso informants with a parent from the North or Midwest were significantly associated with *comforter* as shown in Table 6.32, agreeing with Kurath’s association of *comforter* with the North.

Table 6.32: Correlation of *Comforter* with North/Midwest Parental Origin in El Paso

| | |
|--------------------------|---|
| Lexical Variants | Comforter (N = 15) |
| Social Variable | North/Midwest Parental Origin (N = 15) |
| Informants | 9 |
| % of Social Variable | 60 |
| % of Linguistic Variable | 60 |
| Correlation | positive |

Pail and Bucket

One of Kurath's most well-known associations between region and lexical variation is the distribution of *pail* and *bucket*. Kurath generally associates *pail* with the North and *bucket* with the Midland and South (1949: 56). Atwood reports that 51% of his informants responded with *bucket* and 37% with *pail*, and he does not report a regional affiliation within Texas for either form. Variant quantities in the El Paso English Sample are shown in Table 6.33.

Table 6.33: Variant Type Quantities for the Lexical Target *Pail/Bucket*

| Pail/Bucket (N = 37) | |
|----------------------|----------------------|
| Types | Number of Informants |
| bucket | 26 |
| pail | 15 |
| water(ing) can | 3 |

Of the El Paso informants, 70% of those who responded provided *bucket*, and 41% provided *pail*, which largely agrees with Atwood's findings in Texas, though the frequency of *bucket* is somewhat higher in the El Paso English Sample. All of the informants in my survey with a parent from El Paso responded with *pail*, as shown in Table 6.34, suggesting some Northern influence early in the history of El Paso.

Table 6.34: Correlation of *Pail/Bucket* Variants with Social Variables in El Paso

| Lexical Variants | Pail (N = 15) | | | Water(ing) Can (N = 3) |
|--------------------------|--------------------|-------------------------|---------------------------------|--------------------------------|
| Social Variable | Parental Origin | | Farmers/ Ranchers (N = 7) | Business People (N = 16) |
| | El Paso (N = 5) | North Texas (N = 11) | | |
| Informants | 5 | 1 | 0 | 3 |
| % of Social Variable | 100 | 9 | 0 | 19 |
| % of Linguistic Variable | 33 | 7 | 0 | 100 |
| Correlation | positive | negative | negative | positive |

By contrast, most informants with a parent from North Texas said something other than *pail*, which may reflect Southern and Midland influence on North Texas. The fact that farmers and ranchers did not produce any occurrences of *pail* agrees with the tendency toward greater preservation among rural El Pasoans of variants from the South and Texas. However it is strange that there is no negative correlation between *pail* and

rural identity, which differs from the Farmer/Rancher group by a single informant and is thus conflated with it. The one informant in the rural identity group who responded with *pail* denied the rural group from a significant negative correlation with *pail* at the $p < .05$ level (p-value = .12). Thus it is better to say that the negative correlation of *pail* with Farmer/Rancher occupation suggests rather than confirms their non-association. The low occurrence of *water(ing) can* also prevents us from deriving a strong conclusion about the association between that variant and business people. What we can say generally about the distribution of *pail* and *bucket* in El Paso is that it is more like Texas than the Eastern States.

Quarter __ Eleven

Kurath remarks that the prepositions *of*, *to*, and *till* are all used over large regional areas, making only one regional argument concerning the distribution of variants for *quarter __ eleven* (1949: 50-51). He associates *quarter till* with the Midland, except in the cities of Pittsburgh and Philadelphia, where *quarter of* has currency. Atwood uses *quarter __ eleven* to draw attention to the influence of the Midland in Texas speech, remarking that 55% of his sample responded *quarter till*. Table 6.35 shows variant quantities in the El Paso English Sample. At 38%, *quarter to* was almost as popular a response as *quarter of*, at 40%. Interestingly, *quarter till* was only provided by 10% of my survey, suggesting little Midland influence in El Paso, if Midland influence is indeed spreading this variant. At any rate El Paso diverges here from Atwood's description of Texas speech. Table 6.36 shows the single correlation for the *quarter __ eleven* target.

Only half of the expected informants with a parent from the North or Midwest

responded with *quarter of*, which supports the idea that other variants are found more commonly in the North and Midland. *Quarter till* is rare in the El Paso survey, and did not pattern significantly with any of the social variables. In fact only one informant with a parent from the North and one informant with a parent from the Midwest produced *quarter till*. It is interesting to note that 3 of the 4 occurrences of *quarter till* were produced by informants with a parent from Texas, but this association is not significant.

Table 6.35: Variant Type Quantities for the Lexical Target *Quarter __ Eleven*

| Quarter __ Eleven (N = 40) | |
|----------------------------|----------------------|
| Types | Number of Informants |
| of | 16 |
| to | 15 |
| before | 5 |
| till | 4 |

Table 6.36: Negative Correlation of *Quarter of Eleven* with North/Midwest Parental Origin in El Paso

| Lexical Variants | Quarter of Eleven (N = 16) |
|--------------------------|---|
| Social Variable | North/Midwest Parental Origin (N = 15) |
| Informants | 3 |
| % of Social Variable | 20 |
| % of Linguistic Variable | 19 |
| Correlation | negative |

Rock Wall

There were several lexical variables in my interview which are not directly comparable to LAMSAS data because there was not a common ordinary object of reference for El Paso speakers. One of these variables is *a fence built of loose stones*; such fences do not exist in El Paso. However, nearly all houses in suburban El Paso are surrounded by walls made of mortar and rock from the Franklin Mountains. The most common term for such an enclosure is a *rock wall*. Variant quantities are shown in Table 6.37.

Table 6.37: Variant Type Quantities for the Lexical Target *Rock Wall*

| Rock Wall (N = 39) | |
|--------------------|----------------------|
| Types | Number of Informants |
| rock wall | 26 |
| rock fence | 8 |
| stone (wall/fence) | 4 |
| chain-link fence | 4 |

I did not expect to find much variation, but I was surprised. *Stone wall*, which Kurath associates with the North, was produced by 4 informants. One informant responded *stone fence*, which Kurath associates with the North Midland. *Rock fence*, which Kurath linked to the South was produced by 8 informants. Again, the influence of Southern speechways seems evident, though *rock fence* did not correlate with any social variables, as shown in Table 6.38.

Table 6.38: Correlation of *Wall/Fence* Variants with Social Variables in El Paso

| Lexical Variants | Wall of any kind (N = 29) | | Chain-link Fence (N = 4) | Rock Wall(s) (N = 26) | |
|--------------------------|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------------------|
| | Rural (N = 10) | Business People (N = 16) | Rural (N = 10) | Business People (N = 16) | North Texas Parental Origin (N = 11) |
| Informants | 5 | 15 | 4 | 14 | 10 |
| % of Social Variable | 50 | 94 | 40 | 88 | 91 |
| % of Linguistic Variable | 17 | 52 | 100 | 54 | 38 |
| Correlation | negative | positive | positive | positive | positive |

Several of the correlations reflect lifestyles in El Paso. Walls are practically non-existent in undeveloped rural El Paso, where chain-link fences are common. Business people in El Paso are likely to live in neighborhoods with walls, mostly of rock. It is hard to imagine, however, why all but one of the informants with parents from north Texas produced *rock walls*. Atwood's percentages of variants in Texas are compared with those of the El Paso English Sample in Table 6.39. Atwood reports that none of the expressions for a wall or fence made of rock or stone are associated with any particular region or age group. Thus, he fails to shed light on the strong correlation between north Texas parental origin and *rock walls*.

Table 6.39: Comparison with El Paso of Atwood's Texas Results for *Rock Wall*

| Variant | % of Atwood's Survey of Texas | % of El Paso English Survey |
|------------|-------------------------------|-----------------------------|
| rock wall | 45 | 65 |
| rock fence | 38 | 20 |
| stone wall | 17 | 10 |

Sour Milk

Milk that has turned is a lexical variable for which Kurath chooses less popular variants to represent regional divisions. Kurath associates *lobbered* or *loppered* milk with the North. In contrast, only 1% of Atwood's Texas informants responded with *lobbered* in Texas. My results agree with Atwood's to the extent that none of the El Paso informants responded with Kurath's Northern diagnostic. Variant quantities for the El Paso English Sample are shown in Table 6.40.

Kurath associates various forms of *clabber* with the Midland and South; comparatively, Atwood reports that 26% of Texans responded with *clabber*. Breaking his survey down regionally, Atwood reports that only 15% of Trans-Pecos Texans (West Texans, including El Pasoans) surveyed responded with *clabber*. The percentage of *clabber* in the El Paso English Sample is lower, only 8%, perhaps reflecting a change over time, as people stopped producing their own milk products.

But the low figure could also result from El Paso's proximity to New Mexico. Sharing results from T. M. Pearce's survey of 50 New Mexican informants, Atwood reports that only 10% responded with *clabber*. The behavior of El Paso informants

Table 6.40: Variant Type Quantities for the Lexical Target *Sour Milk*

| Sour Milk (N = 39) | |
|--------------------|----------------------|
| Types | Number of Informants |
| sour | 27 |
| curdled | 7 |
| clabber | 3 |
| buttermilk | 2 |
| blinky | 2 |
| pinky | 1 |

alone in Atwood's survey is unclear from his report, limiting the conclusions possible. At any rate, among my informants, *sour milk* was clearly the favorite at 71%, followed by *curdled milk* at 18%. The correlations of sour milk variants with social variables, presented in Table 6.41, are difficult to explain.

It is not easy to understand, for instance, why there is only one female informant who produced *curdled*, compared to six male informants. It is also not clear why most informants with a parent from the West would choose a variant other than *sour*. What is interesting, however is that South parental origin correlates positively with *clabber*, just as we would expect from Kurath's identification of *clabber* with the midland and the South. However, the low response rate of *clabber* in the El Paso English Sample prevents a strong confirmation of a relationship between *clabber* and South parental origin.

Table 6.41: Correlation of *Sour Milk* Variants with Social Variables in El Paso

| Lexical Variants | Curdled (N = 7) | Sour (N = 27) | Clabber (N = 3) |
|--------------------------|--------------------|--|-------------------------------------|
| Social Variable | Male (N = 20) | West Texas Parental Origin (N = 6) | South Parental Origin (N = 8) |
| Informants | 6 | 2 | 2 |
| % of Social Variable | 32 | 33 | 25 |
| % of Linguistic Variable | 86 | 7 | 67 |
| Correlation | positive | negative | positive |

Categorical Responses

As may be expected from a survey of educated speakers, there are a number of lexical features which indicate standardization in El Paso speech, whether from cultural sources or commercial ones. These forms nonetheless represent this particular microcosm of El Paso speech as a whole. It is revealing that there are only a few categorical variables present in each semantic grouping of the survey; there are far more features characterized by variation. The categorical lexical variables with the fewest non-responses are provided in Table 6.42.

Some lexical variables exhibit only a couple of variants. A *waterfall* in the El Paso English Sample is just that, though a couple of people responded with *fall* and *falls*. *Wishbone* uncovered four tokens of *pullybone*, three of which were said to be old fashioned forms. Nearly everyone labeled *a person from Texas* a *Texan*, but two provided

the qualified *native Texan* and one claimed to be a *proud Texan*. *Haunts* was produced by three informants in addition to the mainstay *ghosts*, and a few other forms. While there is no need for *storm windows* in El Paso, a few informants offered *shutters* and *double-paned windows* in addition to *storm windows*.

I found I could not have predicted with any certainty the lexical features that would or would not exhibit variation. For example, while there are no tornados in El Paso because of the high mountain range bisecting the city, I elicited a variety of forms for a *storm cellar* which no one had. In contrast, I would have expected some variation in names for farm animals from the rural informants, but I found none except in *stallion* and names for *wild* and *unbroken horses*.

Table 6.42: Largely Categorical Lexical Variants in the El Paso English Sample

| Semantic Category | Forms | Variants | Semantic Category | Forms | Variants |
|---------------------------------|----------------|--|--------------------------------|-----------------|--|
| People | midwife | | Food | cherry tomatoes | 2 <i>patio tomatoes</i> |
| | husband | | | beets | |
| | wife | | | mushrooms | |
| | married | | cottage cheese | | |
| | teacher | | | | |
| | best man | <i>some poor sucker</i> | Landscape | meadow | 2 <i>pasture</i> , 1 <i>glade</i> |
| | Texan | 2 <i>native Texan</i> , 1 <i>proud Texan</i> | | sidewalk | |
| | El Pasoan | 3 <i>native El Pasoan</i> | | waterfall | 2 <i>fall</i> , 2 <i>falls</i> |
| | | | | | |
| | arthritis | | Cultural Traditions | wishbone | 1 <i>pullybone</i> , 3 <i>pullybone as a child</i> |
| | appendicitis | | | cemetery | |
| The House | livingroom | | | | 3 <i>haunts</i> , 1 each: <i>spirits</i> , <i>poltergeist</i> , <i>spooks</i> |
| | mantel | | | ghosts | 2 <i>ghost house</i> , 1 <i>spook house</i> |
| | closet | | | haunted house | |
| | siding | architects spoke of <i>shingles</i> and <i>clapboard</i> | | superstitious | |
| | furnace | | | | |
| | storm windows | a few <i>shutters</i> and <i>double-paned</i> windows | Wild Animals and Vegetation | chiggers | |
| | stairs | | | dragonfly | |
| attic | | | woodpecker | | |
| | | | worms | | |
| Household Goods and Clothing | faucet | a few <i>spigot</i> , one <i>hydrant</i> | | bullfrog | |
| | apron | | | marsh | |
| | handkerchief | inappropriate response <i>Kleenex</i> | Farm and Ranch | barn | |
| | winter clothes | 3 <i>off/out of season</i> | | whip | |
| | gloves | | | steer | |
| | suspenders | 3 <i>galluses</i> , 2 <i>braces</i> , 1 <i>gators</i> | | gelding | |
| | | | | ram | |

Conclusion

My cross-tabulation of social variables with lexical variables, using the Kruskal-Wallis statistic, demonstrates that while there are not many significant results obtainable within a sample of forty informants, social variables such as biological sex, rural or urban identity, occupation, and parental origin can account for variation in forms of individual lexical features. Parental origin accounts for a great deal more than I expected it to, as it is a significant factor in over half of the results presented here. Each of the parental origin variables correlated positively with at least one lexical variant. I was also surprised by some of the language differences between men and women, such as the association of men with *curdled*, though I was not surprised by the preference of women for *Daddy* and the preference of men for *Dad*. Occupation did not account for as much variation as I had thought it would, but I was intrigued by the *roasting ears* pattern of the public school teachers and business people's knowledge of *hacienda*. Table 6.43 lists the positive correlations discussed here, and clearly demonstrates the importance of parental origin relative to the other social variables, as it accounts for 17 out of 30 positive correlations. Table 6.44 asserts the salience of the parental origin variable among negative correlations as well.

Parental origin accounts for 5 out of the 13 negative correlations discussed here. While parental origin is important to both lexical and phonetic variation in the El Paso English Sample, it is interesting to note that rural identity accounts for little lexical variation relative to phonetic variation. Recall that rural identity correlates positively with production of checked vowel inglides, monophthongal /a i/, [ɑ] in words like *daughter*, and variable production of [ɑ] and [ɔ] in words like *daughter*.

Table 6.43: Lexical Variants Which Positively Correlate with Social Variables

| Sex | | Rural Identity | Urban Identity | Parental Origin | Occupation |
|---|-----------------------------------|-------------------------------|---------------------------|--|--|
| Male | Female | | | | |
| <i>Dad</i> | <i>Daddy</i> | singular noun <i>shuck</i> | <i>wall (of any kind)</i> | <i>ear of corn, curtains (North)</i> | <i>roasting ears (public school teachers)</i> |
| singular noun <i>corn husk/shuck</i> | plural noun <i>corn shucks</i> | <i>chain-link fence</i> | | <i>Mama (Midwest)</i> | <i>hacienda, water(ing) can, rock walls, walls (of any kind) (business people)</i> |
| | | | | <i>comforter (North/Midwest)</i> | |
| <i>curdled</i> | | | | <i>chiffonier, clabber (South)</i> | <i>rain gutters (farmers and ranchers)</i> |
| | | | | plural noun <i>corn husks,</i> singular or plural noun <i>corn husk(s) (West)</i> | |
| | | | | <i>bureau, rock walls, singular or plural noun corn shuck(s) (North Texas)</i> | |
| | | | | <i>Dad, corn, rain gutters (South Texas)</i> | |
| | | | | <i>chiffonier, headquarters (West Texas)</i> | |
| | | | | <i>hacienda (El Paso)</i> | |

Table 6.44: Lexical Variants Which Negatively Correlate with Social Variables

| Sex | | Rural Identity | Urban Identity | Parental Origin | Occupation |
|-----------------------------------|---|---------------------------|-------------------------------|---|---|
| Male | Female | | | | |
| <i>Daddy</i> | <i>Dad</i> | <i>wall (of any kind)</i> | singular noun <i>shuck</i> | <i>shades</i> (North) | <i>blinds, pail</i> (farmers and ranchers) |
| plural noun <i>corn shucks</i> | singular noun <i>corn husk/shuck</i> | | <i>chain-link fence</i> | <i>quarter of eleven</i> (North/Midwest) | |
| | <i>curdled</i> | | | <i>pail</i> (North Texas) | |
| | | | | <i>sour milk</i> (West Texas) | |
| | | | | plural noun <i>husks</i> (Texas) | |

Parental origin variants as a group dominate the lexical correlations, yet not a single social variant, such as *male* or *north Texas parental origin*, dominates the list, showing again that El Paso speech features are not associated with any regional or social category in particular. This is just what we would expect in the framework of the founder principle, where a mixture of features resolves finally into a collection that is different from any of its original inputs.

Nonetheless, comparison with results from Atwood's study of Texas lexicon in the 1950s demonstrates the affinity of the El Paso English Sample with its generational cohorts throughout Texas. Table 6.45 compares Atwood's predictions and results for

lexical variants in Texas with results from El Paso discussed here. Particularly striking is the fact that Atwood notes the increase in production of *Mother* and *Daddy* by this generation, which are the two most popular forms of parental address in the El Paso English Sample.

Table 6.45: Comparison of Atwood's Lexical Survey of Texas and Selected El Paso English Sample Data

| Lexical Target | El Paso English Sample Variants (counts in parentheses; multiple responses possible) | Atwood's Results from Texas (1962) for the generation represented in the El Paso English Sample |
|-----------------------------|--|---|
| Address for Mother (N = 40) | <i>Mother</i> (20), <i>Mom</i> (16), <i>Mama</i> (4), <i>Mommy</i> (2) | <i>Mother</i> replaced the older forms <i>Ma</i> and <i>Mama</i> |
| Address for Father (N = 40) | <i>Daddy</i> (19), <i>Dad</i> (16), <i>Father</i> (3), <i>Papa</i> (1), <i>Pop</i> (1) | <i>Daddy</i> replaced the older forms <i>Pappy</i> , <i>Pa</i> , and <i>Papa</i> |
| Corn on the Cob (N = 38) | <i>corn on the cob</i> (22), <i>roasting ears</i> (6), <i>corn</i> (5), <i>an ear</i> (4), <i>ears of corn</i> (3) | Roasting ears has declined to 62% |
| Corn Husk (N = 40) | <i>husk/s</i> (20), <i>shuck/s</i> (20) Only 25% of informants with a Texas parent said <i>husk</i> , and most informants with a North Texas parent said <i>shuck</i> . | Atwood counts only 13% <i>husk</i> compared with 91% <i>shuck</i> in Texas. |
| Main Ranch House (N = 39) | <i>ranch house</i> (16), <i>headquarters</i> (13), <i>farm house</i> (6), <i>the house</i> (4), <i>hacienda</i> (4) (Several informants identified <i>hacienda</i> as a form used by Mexicans.) | Atwood reports that of various names, the most common is <i>headquarters</i> and <i>the big house</i> . <i>Hacienda</i> is concentrated in Southwest Texas, with a few occurrences in West Texas. One of Atwood's informants said that <i>hacienda</i> should only be used to refer to an estate in Mexico and that its use in Texas was pretentious. |

The form *roasting ears*, produced by only 16% of the El Paso English Sample, shows a marked decline from the 62% cited by Atwood in 1962 for this age group, lending support to Atwood's observation of a decline in progress. Though *husk* and *shuck* forms have equal currency in El Paso, differing markedly from Atwood's evidence, El Paso informants with parents from North Texas more clearly resemble Atwood's pattern of *shuck* dominance in Texas. Though a large mixture of rural and urban El Pasoans produced the form *headquarters* for *main ranch house*, most urban informants simply produced *ranch house*. My informants' attitude about the word *hacienda* agrees somewhat with the attitude expressed by Atwood's informant that *hacienda* is a Mexican word. But it is not surprising that it turns up in El Paso. None of the El Paso ranchers, however use *hacienda* to refer to their *headquarters*.

The founder principle advanced by Mufwene predicts the unique mixture of features seen in the El Paso English Sample based on its unique set of inputs. While the informants clearly reveal their roots in their production of a few variants associated with the regions from which their parents came, the speech of the sample as a whole does not resemble any region of origin in particular. There are 24 informants with parents from various regions in Texas, yet there are noticeable gaps in representation of variants Atwood associates with Texas, like the single occurrence of *comfort* and non-appearance of *the big house* in the El Paso English Sample. While the El Paso English Sample does not reflect influences commensurate with the population proportions of the founder population, the founder population model is a good model of the processes of feature selection in El Paso because it asserts the potential for all features to be selected from the feature pool. Thus, even if a feature is not used by a majority of the population, it has the

potential to be preserved and perhaps even become characteristic of the speech of the population. The notion of a feature pool helps explain why the El Paso English Sample preserves relic forms like *chiffonier* and *chifferobe* and why *quilt* and the northern variant *comforter* succeeded, perhaps at the expense of the Texas variant *comfort*. The desire of this generation to distinguish itself from prior generations leads it to call its parents *Mother* and *Daddy* rather than the older forms *Mama* and *Papa*. As the children and grandchildren of the founder population form their speech from the pool of features available to them, they make choices which reflect both the influence of the founder population and their desire to forge a new identity.

CONCLUSION

The Salience of Social Variables

Part of the original thrust of the El Paso English Sample was to compare the behavior of rural and urban informants. As evidenced in the phonetic and lexical analysis chapters, there are more phonetic variants than lexical variants that correlate with rural identity. Checked vowel offglides are apparently preserved more by the rural community in El Paso, as are monophthongal /a i/ and [ɑ] in words like *daughter*. Variable production of [ɑ] and [ɔ] in words like *daughter* also correlates positively with rural identity. As for lexical variation, there are only weak associations of rural identity and production of the singular noun *shuck*, and *chain-link fence* (which often substitutes for a wall in rural El Paso). While rural identity correlates positively with checked vowel offglides, monophthongal /a i/ and [ɑ] in words like *daughter*, there are quite a few urban informants who also preserve these features, though they are proportionally fewer than the rural informants. So it turns out that there is really little difference between urban and rural El Pasoans in the El Paso English Sample.

Occupation also accounts for few correlations. There are no phonetic correlations with occupation, and lexical correlations are generally weak associations involving variants of low incidence: public school teachers correlate positively with *roasting ears*; business people correlate positively with *hacienda*, and *watering can*; and farmers and ranchers correlate positively with *rain gutters*. The only positive correlation with a variant of high incidence involves business people and *rock walls*, which are ubiquitous

in the city and suburbs of El Paso. Farmers and ranchers correlate negatively with, and thus tend not to utter, *blinds* (for *window coverings on rollers*) and *pail*.

Biological sex correlates at about the same rate with phonetic and lexical variables as do rural identity and occupation. Oddly enough, male El Paso informants are positively associated with [ɔ] in words like *boy* and *horse*. This result is contrary to evidence from LAGS, which shows approximately equal production of [ɔ] by males and females in the South. Conversely, while LAGS exhibits significant differences in male and female production of other phonetic variants, such as higher female production of [ɑɔ] in *daughter*, *log*, and *law*, there are no other significant differences between male and female informants with regard to phonetic features in the El Paso English Sample. There are likewise only a few lexical correlations with biological sex that bear review. It is not hard to imagine why female informants correlate positively with the diminutive *Daddy*, while male informants correlate positively with the unadorned *Dad*. Interesting but puzzling results are the correlations of male informants with the singular nouns *husk* or *shuck* and of female informants with the plural noun *shucks*. Yet another mysterious result is the positive correlation of male informants with the *sour milk* variant *curdled*.

By far the most important social variable turns out to be parental origin, which accounts for over half of the correlations with phonetic and lexical variants. Texas and West Texas parent origin correlate positively with monophthongal /a i/. South Texas parental origin correlates negatively with [o] in words like *boy* and *horse*. El Paso and Texas parental origin correlate negatively with [ɔ] in words like *daughter*, while North Texas, West Texas, and Texas parental origin correlate positively with [ɑ] in words like

daughter. As for lexical variation, North parental origin correlates negatively with the Texas term *Daddy*, while Midwest parental origin correlates positively with *Mama*. North parental origin correlates positively with *bureau*, while South and West Texas parental origins correlate positively with *chiffonier*. Texas parental origin correlates negatively with plural noun *husks*, while North Texas parental origin correlates positively with singular or plural noun *shucks*. A particularly robust correlation is that of North or Midwest parental origin with *comforter*. El Paso parental origin correlates positively with *pail*, while North Texas parental origin correlates negatively with *pail*. Curiously, North Texas parental origin correlates robustly with *rock walls*. Though weak because of the low incidence of *clabber*, the association of *clabber* with South parental origin is nonetheless interesting since *clabber* is classified a Southern term by Kurath. There are additional weak associations noted in the lexical analysis, but from the evidence already presented, it is clear that parental origin generates the most correlations with both phonetic and lexical variants. The salience of parental origin demonstrates the influence of parents on the transmission of speech features.

An Island in the Desert

Evaluation of social variables aside, the most important result demonstrated by the phonetic and lexical analyses presented here is that El Paso behaves in ways not predicted alone by the regional affinities of its founder population. Table 1.1 is reproduced here to emphasize the influence on El Paso speech we should expect from both Texas and Mexico, if we were to consider only population proportions when making predictions about which variants to expect.

Table 1.1: State and National origins of El Pasoans in the 1880 U.S. Census of Population

| | | |
|--------------------------------------|-----------------|-------|
| Total Population for El Paso County: | | 3,845 |
| Born in the state of: | Texas | 2,445 |
| | Alabama | 3 |
| | Tennessee | 7 |
| | Mississippi | 5 |
| | Georgia | 7 |
| | Missouri | 10 |
| | Arkansas | 1 |
| | Louisiana | 6 |
| | Kentucky | 11 |
| | Virginia | 8 |
| Born in the country of: | British America | 8 |
| | England/Wales | 6 |
| | Ireland | 17 |
| | Scotland | 4 |
| | German Empire | 26 |
| | France | 4 |
| | Sweden/Norway | 1 |
| | Mexico | 1,082 |

Of course, as stated in the introduction, sustained segregation of Mexican Americans and European Americans early in El Paso's history and throughout the childhood of the El Paso English Sample informants explains why we find little evidence of Spanish-influenced speech. However, we should expect El Pasoans to speak like Texans, given that they constituted 98% of the European Americans in El Paso in 1880. Also, Texas was the greatest single contributor to parental origin in the El Paso English Sample, accounting for the origin of at least one parent of 24 informants. So it is not surprising when we find similarities between production in the El Paso survey and Texas production documented in the Phonological Survey of Texas, Atwood's survey of Texas,

and LAGS. What is surprising is that we do not find more similarities between El Paso and the rest of Texas. For instance, it is not surprising that we find checked vowel glides, monophthongal /ai/, and fronted /au/ in El Paso, since each of these features is found in east Texas. However, proportions of features in El Paso are different from those in the rest of Texas, as shown in Table 7.1.

Table 7.1: Comparison of El Paso Phonetic Feature quantities with LAGS Texas Data

| Phonetic Feature | El Paso Informants | | Texas Informants |
|--------------------|--------------------|----|------------------|
| | Number/N | % | Average % |
| [ɛə] | 5/40 | 13 | 20 |
| [æə] | 15/39 | 38 | 16 |
| Monophthongal /ai/ | 10/40 | 25 | 16 |
| Fronted /au/ | 6/40 | 15 | 39 |

Only the features that occurred in both the El Paso English Sample and LAGS and are analyzable in LAGS are shown. For example, [ɪə] is not included because there are no analyzable targets in LAGS. The average percentage for the Texas LAGS informants is generated by averaging the percentages for all targets analyzed for each feature. For example, the average percentage for [ɛə] represents the average of occurrences in Texas for the targets *deaf*, *instead*, and *head*. Averaging the Texas percentages for each target provides a logical comparison with the El Paso percentages, which represent production of the feature across a number of different environments.

The El Paso English Sample does not display the variation in high free vowels that is noted in LAGS and LAMSAS, and there is almost no variation in mid free vowels

in El Paso. A quarter of the El Paso English Sample produced monophthongal /aɪ/, which is a slightly higher proportion than that in LAGS. It is interesting to note that 90% of the monophthongal /aɪ/ producers in El Paso had a parent from Texas. One of the most dramatic differences from LAGS is the low proportion of fronted /aʊ/ in El Paso, only 15%, which is less than half the proportion found in LAGS. Since Bailey et al. (1992) find that fronted /aʊ/ is limited to the European American community, it seems possible that the low incidence of fronted /aʊ/ in El Paso could represent Spanish influence on the population of El Paso, however slight. Though production of [ɔ] in /ɔɪ/ and /ɔɪ/ words is greater than production of [ɔ], in agreement with LAGS, El Paso production of [ɔ] is significantly greater than LAGS production. Likewise, [ɑ] in words like *daughter* is produced at a significantly higher rate in El Paso than in LAGS, though [ɔ] is still the most popular variant in both El Paso and LAGS. Finally, the roles of [æ] and [ɛ] in *married* are reversed in El Paso and LAGS, with El Pasoans overwhelmingly preferring [ɛ] and LAGS informants overwhelmingly preferring [æ].

The lexical analyses support the conclusion that there is less Texas influence than we would expect. With regard to lexical variants, Texas regions in LAGS generally behave more like the rest of LAGS than like the El Paso English Sample. When the El Paso English Sample behaves like LAGS, it tends to behave like younger LAGS informants and Texas subregions. Although the variant *Daddy* is the most common form of address for father in El Paso, the production of *Daddy* in El Paso is lower than each region of Texas in LAGS except South Texas. *Papa* and *Mama* have greater currency in LAGS than in El Paso, perhaps because the El Pasoans are young in relation to the LAGS

sample, and *Papa* and *Mama* are produced by a greater proportion of older informants in LAGS. Of the LAGS Texas regions, South Texas proportions of *Mom* and *Dad* are most similar to El Paso proportions.

It is important to realize, however, that while El Paso production of some variants resembles production in the South Texas region of LAGS, South Texas does not always behave more like El Paso than the rest of LAGS. For example, South Texas exhibits a significantly lower proportion of *sick at the stomach* than El Paso, resembling the other Texas regions of LAGS more than El Paso. In fact, El Paso generally behaves contrarily to LAGS.

Production of *sick to the stomach* is significantly higher in El Paso than in LAGS, and production of *sick in the stomach* is significantly higher in LAGS than in El Paso. *Corn on the cob* is preferred over the LAGS favorite *roasting ears* by a large margin in El Paso. *Corn* is also significantly less popular in El Paso than in LAGS. In both LAGS and El Paso, production of *shades* is higher than production of *blinds*, but proportions of *shades* and *blinds* in El Paso is significantly different from proportions in LAGS. El Paso exhibits a significantly lower production of *shades*, but a significantly higher production of *blinds* in relation to LAGS. Likewise, production proportions of *chest of drawers*, *bureau*, and the noun forms of *husk* and *shuck* are significantly different from proportions noted by Atwood.

Chest of drawers is more popular in El Paso than in Atwood's survey of Texas, where *bureau* is more popular. One of the most dramatic differences between El Paso and Atwood's survey involves production of *husk* and *shuck*. While production of *husk* and *shuck* forms is equal in El Paso, Atwood finds 91% *shucks* and only 13% *husks*. The facts

that *shuck* forms in El Paso correlate positively with North Texas parental origin, and *husk* forms correlate negatively with Texas parental origin, show some agreement with Atwood's observations of Texas. Another instance of apparent agreement with Atwood's results is the preference of the El Paso informants of the word *quilt* for *a heavy bed cover*. Atwood dismisses instances of *quilt* in his Texas sample as the ignorance of youthful informants, who, Atwood assumes, are less likely to know the difference between a quilt and a heavy bed cover. As it happens, Atwood's youthful informants happen to be age cohorts of the El Paso informants, and ignorant or not, *quilt* is the most popular term for them. However, terms for *a heavy bed cover* highlight another significant difference between Atwood's results and the El Paso English Sample: Atwood notes 68% production of the southern form *comfort* in Texas, but there is only one instance of *comfort* in the El Paso English Sample. In one of his rare regional breakdowns, Atwood does make the observation that *comforter* is associated with Southwest Texas; *comforter* turns out to be the second most popular variant in El Paso. Agreement between the El Paso English Sample and Atwood's results is thus generally partial at best.

Atwood notes that the two most popular forms for the main ranch house are *headquarters* and *the big house*. While *headquarters* makes a fine showing in the El Paso English Sample, *the big house* is non-existent. El Paso results for *pail* and *bucket* agree with Atwood's results to the extent that there is a greater incidence of *bucket* than *pail* in both Atwood's survey and the El Paso English Sample. However, the frequency of *bucket* is somewhat higher in El Paso. Finally, though *quarter till* is present in the El Paso English Sample, Atwood notes a far greater proportion of *quarter till* in his survey of Texas.

Though El Paso shares a few features or tendencies in common with Texas, El Paso is effectively isolated from the rest of Texas. This is not unexpected when we consider the physical distance that separates El Paso from the rest of Texas and thus daily interaction with the rest of Texas. El Paso is an urban island in the vast Chihuahuan desert, a population bulge in a region of low population density, developing along its own path.

Regional Ties

There are a limited number of similarities between El Paso and other regions that bear discussion. Kurath uses *comforter* as a northern diagnostic opposed to the southern form *comfort*, and accordingly we find that in the El Paso English Sample the informants with a parent from the North or Midwest are positively associated with the form *comforter*. Likewise there is the weak association of the Southern variant for *sour milk*, *clabber*, with South parental origin in El Paso. Kurath notes that the form *curtains* used to refer to *window coverings on rollers* is limited to New England and the coastal south. Accordingly, we find little evidence of *curtains* in either the El Paso English Sample or LAGS. The proportion of *dresser* in El Paso is exactly the same as that in LAMSAS, 30%, and El Paso exhibits some affinity with Texas with regard to the variants *chiffonier* and *chifferobe*, which have lower occurrence in LAMSAS than in either LAGS or the El Paso English Sample. Atwood's results for *rock wall*, *rock fence*, and *stone wall* are very close to what we find in El Paso, where the incidence of *rock wall* is naturally a bit higher owing to the prevalence of walls made of rocks in the city and suburbs of El Paso. With regard to phonetic variants, the closest El Paso comes to matching other regions is in

production of [ɑɔ] in words like *daughter*, which, at 20%, is about the same proportion as in LAGS.

Embryonic Variants

Returning to the idea of embryonic variants discussed in the introduction, what possible embryonic variants appear in the speech of the El Paso English Sample? Table 7.2 lists the variants of the most remarkable phonetic features in the El Paso English Sample.

Table 7.2: Embryonic Variants in the El Paso English Sample

| Vowel class | Variant Production | | |
|----------------|--------------------|-------|--------|
| | Higher | Lower | Lowest |
| checked vowels | monophthong | glide | |
| /aɪ/ | [aɪ] | [a] | |
| /aʊ/ | [aʊ] | [æʊ] | |
| /ɔɪ/ | [oɪ] | [ɔɪ] | |
| /ɔr/ | [or] | [ɔr] | |
| /ɔ/ | [ɔ] | [ɑ] | [ɑɔ] |

El Paso speech has changed somewhat from that of the generation sampled here. Table 7.3 reports the variants expected in the speech of younger generations based on personal observation and evidence from Labov's survey of three El Pasoans. As Table 7.3 shows, the only expected variant which is not the most frequently occurring variant in the El

Paso English Sample is [ɑ] in words like *daughter*. It is not easy to see why [ɔ] was not passed on from the generation that came of age during World War II.

Table 7.3: Expected Variants in the Speech of Generations Younger than the El Paso English Sample

| Vowel class | Expected Variant |
|----------------|------------------|
| checked vowels | monophthong |
| /aɪ/ | [aɪ] |
| /aʊ/ | [aʊ] |
| /ɔɪ/ | [oɪ] |
| /ɔɹ/ | [oɹ] |
| /ɔ/ | [ɑ] |

It is easier to understand why monophthongal /aɪ/ and fronted /aʊ/ did not take hold in El Paso, because they have barely survived in the rest of Texas, either, limited to maintenance or growth within a single ethnic group, European Americans. Conversely, the production of [oɹ] rather than [ɔɹ] in words like *horse* has caught on in both Texas and El Paso. Unfortunately my research does not shed light on the trend of unrounding of /ɔ/ in words like *daughter*. It is possible that there is a connection between education and the maintenance of a distinction between the *daughter* and *father* vowel classes, because several of my informants indicated that the distinction was ‘proper.’ However, more research is needed to establish a clear link between changing educational focus through

the century and speech change in El Paso. This is only one of many interesting avenues for future study in El Paso.

Future Research

Since the 1950s, ethnic mixing has become more common in El Paso neighborhoods, schools, and business. Mexican Americans began to exercise significant political power in 1957, when they elected Raymond Telles, Jr. as El Paso's first Hispanic mayor. In spite of segregation in the youth of the El Paso informants, I noticed that a few of them shift unconsciously and briefly to rhythms and features which suggest Spanish influence. It is possible that these features might be quantified if longer conversations were obtained.

When Spanish features occur in the speech of my informants, they often occur together in intervals of speech, accompanied by syllable-timed rhythm, so that there is a shifting between the stress-timed rhythm characteristic of most English varieties and the syllable-timed rhythm of Spanish which gives approximately equal time to each syllable. It appears that the shift to syllable-timed rhythm and Spanish features of pronunciation is conditioned rhythmically and lexically, though often enough, the speaker's use of Spanish features fades in and out in an unpredictable manner. The informant with the most Spanish influence exhibits a number of features that occur variably. Among the vowels, there is [ɛ] and [ɪ]-raising; among the consonants there is occasional devoicing which affects /z/, /ð/, and /dʒ/.

Since the El Paso English Sample consisted primarily of what Kurath and McDavid termed cultured informants, the next project should sample blue collar European American El Pasoans from the same age group, before it is too difficult to find

any natives left to interview. Another productive project will be to study the succeeding generations, in order to make an apparent time study of the rapid changes still taking place in El Paso. Through the apparent time study, we will see what happens to the variants present in the speech of El Paso's founder population over time. We will be able to document conclusively the life cycle of embryonic variants as El Paso reinvents itself with every infusion of newcomers and as the ethnic barriers break down from the 1940s onward.

El Paso in the Twenty-First Century

The origins of the features produced by the El Paso English Sample are still traceable at the end of the twentieth century. The El Paso English Sample does not present a unified system of lexical features because it still reflects its input. The linguistic identity of El Paso is still being forged.

New inputs to the feature pool in El Paso mean that the language will continue to change. El Paso has always been deluged with newcomers from all over the United States and beyond because of its location and industrial and military bases, and appears as if it will continue to be deluged. Key to the continual restructuring of El Paso English is sound management of its water supply (otherwise the population will begin decreasing in fifty years), the diplomatic and legal means to continue as a vital nexus of trade with Mexico, cheap labor, and a low cost of living, which all contribute to draw industry and people to El Paso.

The notion of the founder population predicts that a characteristic variety will eventually emerge once the population attains some stability. However, Mufwene asserts

that stability will not obtain in a phase of rapid population replacement and growth, and restructuring of the vernacular will continue until stability is established (2001, 42). Such rapid population replacement occurs in El Paso during each military conflict, though not to the extent that it did during the draft years. As long as Fort Bliss is in El Paso, the potential for population restructuring exists.

An interesting phenomenon of recent business trends in El Paso is the transitoriness of the newcomers. Transferred employees who come to work in El Paso because of the maquiladoras across the border may or may not settle in El Paso. If these newcomers do not stay in El Paso for more than five to ten years, what do they add to the feature pool? Some El Pasoans I have spoken with suggest that such participants in mobile urban culture cannot impact the culture of El Paso. I wonder what Atlanta, Georgia natives, who have been swamped by mobile urbanites, would have to say about that. Research on successive generations of El Pasoans will reveal whether features associated with other regions in the United States continue to find their way into the El Paso feature pool, and perhaps the process by which it occurs if we are also able to sample non-native El Paso residents and model their interactions with the El Paso natives, à la social network theory. It has been my experience growing up in El Paso that El Pasoans are generally welcoming to outsiders, and that outsiders are generally happy to have come to El Paso, for the sunshine, food, and hospitality if nothing else. Outsiders have a hard time banding together in El Paso as they might in a bigger city, like Atlanta, Georgia. So I expect that outsiders impact the community of El Paso in small ways at the very least.

Western cities are generally different from Eastern cities because they are isolated from one another. All the Western cities are islands to some extent, cut off from their neighbors by vast uninhabited regions. Each of these islands began with a different founder population and thus with a different feature pool. The founder principle predicts that each of these isolated urban areas will develop its own characteristic set of features once population stability is reached. The West is still too new to have developed its own characteristics, as the Eastern States have.

In the framework of the founder principle, we should not expect a coherent Western form of speech. There may have been common features in the feature pools, but no feature pool would have been the same because no founder population would have been exactly the same. The unique character of each feature pool allowed each of the Western cities to develop in its own way. In El Paso in particular, there is far more influence from parental origin than we would expect if the population of El Paso had been stable by the 1930s. We can observe in the El Paso English Sample that young informants carry trends in Eastern speech forward, such as the Texas innovations *quilt* and the forms of address *Mother* and *Daddy*, but it is hard to predict what will be carried forward. Why would the generation of the El Paso English Sample preserve *chiffonier* at all? Why would the rural El Paso informants carry forward the trend of [ɑ] in words like *daughter*? Why would the rural El Paso informants not instead preserve the more conservative [ɔ]? Further research of other targeted groups, particularly the working class and younger generations may shed light on the transmission of unrounded /ɔ/. But we would not have even been able to formulate such questions without access to the speech of the grandchildren of El Paso's European American founder population. The El Paso

English Sample provides not only the root of a description of an oft overlooked variety of American English, but also an opportunity to begin to answer questions about Western varieties and language change in general. The change affecting the *daughter* word class can be studied by comparing different generations, but we must secure data from the oldest generations first, to find out who lead the changes and how.

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APPENDICES

APPENDIX A

INFORMANT BIOGRAPHIES

The informant biographies are written in traditional Linguistic Atlas style, and convey the following information: informant identification number, biological sex of informant, occupation, date of birth, birthplace and age of arrival in El Paso, father's birthplace, mother's birthplace, birthplace of grandparents if known, educational history of informant, religion, organizations, personal characteristics, speech characteristics, and interview characteristics. For example, the biography for RF01 conveys the following information:

1. RF01: = informant identification number
2. F, Special Education Diagnostician, 1924. B. El Paso. = A female, she worked as a special education diagnostician, and was born in 1924 in El Paso.
3. F. b. Fort Scott, KS.; M. b. southern CO, moved to Silver City, NM; MGM, MGF b. Midwest. = Her father was born in Fort Scott, Kansas; her mother was born in southern Colorado and moved to Silver City, New Mexico; her maternal grandmother and maternal grandfather were born in the Midwest. Nothing is known of the origin of her paternal grandparents.
4. Ed.: Canutillo Elementary School, El Paso High School, Texas College of Mines and Metallurgy. = She attended Canutillo Elementary School, El Paso High School, and Texas College of Mines and Metallurgy.
5. Episcopalian, St. Luke's Episcopal Church. = religion, church membership
6. Quick, proud of accomplishments, self-assured. Strong independent woman with zest for life who enjoys attending musical events in the city as well as quiet life on upper valley farm with her pets. = personal characteristics
7. Speech characterized by rapid tempo with short syllables.... = speech characteristics

8. Interview relaxed and conversational. = interview characteristics

Note: The University of Texas at El Paso (UTEP) was known as the Texas College of Mines and Metallurgy, and then as Texas Western University before becoming UTEP.

Rural Women

RF01: F, Special Education Diagnostician, 1924. B. El Paso. — F. b. Fort Scott, KS.; M. b. southern CO, moved to Silver City, NM; MGM, MGF b. Midwest. — Ed.: Canutillo Elementary School, El Paso High School, Texas College of Mines and Metallurgy (Master's degrees in Guidance & Counseling and Special Education). — Episcopalian, St. Luke's Episcopal Church. — Quick, proud of accomplishments, self-assured. Strong independent woman with zest for life who enjoys attending musical events in the city as well as quiet life on upper valley farm with her pets. — Speech characterized by rapid tempo with short syllables. No monophthongal /aɪ/. Checked vowel glides present. [ɑɔ] in *law*. — Interview relaxed and conversational.

RF02: F, Veterinary Technician, 1933. B. El Paso. — F. b. Uvalde, TX.; M. b. Arkansas.; MGF b. Arkansas, Methodist circuit rider preacher. — Ed. Zach White Grade School, El Paso High School. — Methodist; sang for Mount Franklin Baptist Church. — Coast Guard Auxiliary; horse groups. — Generous, proud of accomplishments, deeply religious. Though almost killed in fall from horse during high school, rehabilitated fully and still active horsewoman. — Speech is quiet and rapid, with monophthongal /aɪ/ in *retired* but no other Southern influenced vowels, and no checked vowel glides. /ɔ/ unrounded in all but *law*. Few striking features of Southern origin. Soft character of speech due to gentle release of consonants and delicately precise onsets. Vowels before /r/ somewhat backed and lowered. — Interview relaxed and conversational.

RF03: F, Journalist, Farmer, Administrative Assistant, 1923. B. Guanajuato, Mexico; arrived El Paso age 4. — F. b. Breckenridge, TX.; M. b. New York, NY, orphaned and grew up in Catholic convent in Denver, CO. — Ed. Fort Bliss, Alta Vista School, Radford High School, Texas College of Mines and Metallurgy, degree in Journalism. — Episcopalian, St. Luke's Episcopal Church, St. Francis on the Hill Episcopal Church. — Parish Secretary at St. Luke's for 19 years. — Reveres flawless language skills of her theater trained mother. Values the cultivation of good habits. Admired for her friendly manner and positive outlook. Strong convictions. People have said she does not sound like someone from the Southwest, which she attributes to her mother's perfect diction and abhorrence of slang. — Checked vowel glides and raising of front vowels. Limited monophthongization of /aɪ/ and vowel lowering before liquids. R-coloring of word final /ə/. Fronted /au/. Self-corrected [ɑ] in *taught* to [ɔ]. Tense /b/ in *born*. Unaccented syllables very short, almost syllable-timed, but Southern rather than Spanish-influenced. — Interview relaxed and conversational.

RF04: F, Public Elementary School Teacher, 1925. B. Dallas, TX, taken to Fort Davis, TX at birth; arrived at El Paso age 6. — F. b. West Texas. M. b. West Texas. — Ed. Home-schooled on ranch with Calvin Course, Crockett Elementary School, Austin High School, Hardin Simmons University (Baptist, Abilene, TX, one year), Texas College of Mines and Metallurgy, Texas Christian University (Fort Worth, TX), Texas Western University (degree in Education). — Baptist, First Baptist Church. — Women's Missionary Society, El Paso Woman's Club, Book Club of the Woman's Club, Chi Omega Society. — Proud of mother's home schooling, said public school teachers in El Paso were surprised by her left-handedness. Enjoys reading. Taught elementary school at Lyndon Baines Johnson Elementary School. — Fronted monophthongal /a i/. Checked vowel glides present. Voice has slightly querulous quality, dampening the quality of vowels and consonants. Raised /æ/ in *now* and *Dad*. Some lowering of vowels prior to /r/. — Interview somewhat rushed but conversational.

RF05: F, Public Elementary School Teacher, 1914. B. El Paso. — F. b. Arkansas. M. b. Arkansas. — Ed. Lived all over town, did not name schools. Possibly Ysleta Elementary School, Austin High School. — Disciples of Christ (father was Presbyterian). — Woman's Club, Junior League, Delta Kappa Gamma. — Hard of hearing and easily tired, but spunky and eager to participate. Pleased to have a visitor. — Rounds some /ɑ/ before /r/ (*farm* is [fɔrm], *far* is [fɔr], but *car* is [kɑr]). *Arkansas* pronounced [arkænsɑ]. Relaxed rhythmic speech, somewhat slow. Marked extension of words phrase finally. — Interview comfortable, but conversation limited by hearing difficulty and low energy level of informant.

Rural Men

RM01: M, Electrician, 1935. B. El Paso. — F. b. Huddo, TX. M. b. Vandera, TX. — Ed. Cadwalder Grade School, Ysleta High School, Texas Western University (one course). — Baptist, does not attend church. — National Association of Elevator Safety Authorities, Quarter Century Wireless Association, El Paso Amateur Radio Club, West Texas Repeater Association. — Deadpan humorist. Slightly hard of hearing. — Deep, resonant voice with elongated vowels. Checked vowel glides. Unrounded /ɔ/ except prior to /r/. — Interview conversational, but informant not prone to long responses.

RM02: M, Farmer, also worked for El Paso Natural Gas Company, 1926. B. El Paso. — F. b. Austin, TX. M. b. Dallas, TX. — Ed. Clint Elementary School, El Paso High School, New Mexico Military Institute, University of Texas at Austin (degree in Business). — Methodist, Methodist Church. — Chairman of El Paso Scottish Rite, President of Clint Lion's Club, Mason, Al Meida Shriner, Treasurer of Methodist Church for 25 years. — Serious but kindly. Gave me tour of renovations at Scottish Rite building. — Relaxed speech. Checked vowel glides. /æ/ in *married*. Fronted /au/. Monophthongal /a i/. Tense /b/. — Interview relaxed and conversational but occasionally challenged by construction noises in the Scottish Rite building.

RM03: M, Rancher, Nuclear Engineer, 1932. B. El Paso. — F. b. West Texas. M. b. West Texas. — Ed. Ysleta Elementary, Ysleta High School, El Paso Technical College, Georgia Technical Institute. — Catholic, does not attend church, but donates livestock to local convent. — Sheriff's Posse, Shriner, Mason, Engineering and Contractors Association, once ran for City Council. — Pleasant host. Earthy sense of humor, intense and energetic. Generous and proud of accomplishments and philanthropic activities. — Quick tempo, low volume, but punctuates words for effect. Volume trails off phrase finally. Checked vowel glides. Variable unrounding of /ɔ/. — Interview challenged by barking dogs and vocal parrot. Somewhat hurried due to energetic nature of informant. One section inadvertently skipped due to distractions and hurried nature of interview.

RM04: M, Farmer, 1931. B. El Paso. — F. b. Colorado. M. b. Colorado. — Ed. Canutillo Elementary School, El Paso High School, El Paso Technical Institute, Texas College of Mines and Metallurgy. — Methodist, but considers self Independent in religion and politics. — Anthony Masonic Lodge, Eastern Star, Scottish Rite, Shriner, Canutillo School District Board, Gin Board (cotton farmers). — Bright, charming, earthy, opinionated, outspoken, and proud of accomplishments, with varied interests and many stories to tell. Familiar with East Texas speech features, which he demonstrated. Also demonstrated fluency in Spanish. — Centralized, constricted low vowels. Monophthongal /aɪ/ before /r/. Checked vowel glides. — Pleasant and unusually conversational interview. Informant initiated stories at most prompts. Several less productive sections skipped in the interest of time. Energy of informant remained constant in spite of length of interview.

RM05: M, Farmer, 1923. B. Pennsylvania; arrived in El Paso age 5. — F. b. Kentucky. M. b. Pennsylvania. — Ed. Coldwell Elementary School, Austin High School, Texas College of Mines and Metallurgy (degree in Aeronautical Engineering). — Lutheran, St. Paul's Lutheran Church. — Lower Valley Rotary Club President, El Paso-Hudspeth Water and Soil Conservation District Chairman, Clint farm association. — Humble, kind, practical sort who does not consider himself a good public speaker. Practiced nautical engineering in NAVY, but decided to farm instead at the end of World War II. Knows just enough Spanish for farm communication. — Soft consonantal releases, rhythmic tempo with raised fundamental frequency at the end of declarative sentences. Monophthongal /aɪ/. Checked vowel glides. Variable unrounding of /ɔ/. Displays considerable phonetic influence from Kentucky origin of father. — Interview relaxed and conversational. Informant's wife took interest in interview and provided auxiliary responses.

Urban Women

UF01: F, Homemaker, Show Cat Breeder, Real Estate Agent, Retail Business Owner, Fine Artist, 1925. B. Dallas, TX, orphaned, adopted and taken to El Paso as infant. — F. b. Wooten Wells, TX. M. b. Castorville, TX. — Ed. Dudley Elementary School, El Paso High School, Texas College of Mines and Metallurgy. — Episcopal, St. Luke's Episcopal Church, no longer attends. — President of El Paso Woman's Club, P.E.O., El Paso Art Association. — Highly interested in family history and enjoys telling stories about the family. — Speech is often syllable-timed, reflecting a Southern influence rather than a Spanish influence. Unrounded /ɔ/, but not in careful speech (personal observation outside of interview). — Interview somewhat awkward because it was first. Responses relaxed and conversational nonetheless.

UF02: F, Public Elementary School Teacher, 1922. B. El Paso. — F. b. Australia. M. b. New Mexico. — Ed. Clint Elementary School, Ysleta High School. — Presbyterian. — President of El Paso Woman's Club, P.E.O., Civil Engineers Society Ladies Auxiliary, Assistance League, Tri Delta, Tri Delta Alumni. — Friendly and easy to talk with, opinionated and outspoken. Somewhat hard of hearing. — Shifts occasionally to syllable-timed rhythm accompanied by Spanish-influenced phones. — Interview relaxed and conversational.

UF03: F, Homemaker, Public School Teacher, 1921. B. El Paso. — F. b. Oklahoma. M. b. New Mexico. PGF, PGM b. Germany. — Ed. University of Texas at El Paso, University of Texas at Austin. — Episcopal, St. Francis on the Hill Episcopal Church. — Garden Club. — Relaxed and hospitable. Spent three years in Maine after college. Taught only two years. — Soft-spoken. Checked vowel glide in *farmed* only. — Interview relaxed and conversational, but volume low. Some missed personal information not pursued in order to encourage conversational responses.

UF04: F, Professor of English, 1923. B. El Paso. — F. b. Huntsville, AL. M. b. Nashville, TN. — Ed. Dudley Elementary School, Texas Western College, University of Texas at Austin, University of Minnesota, University of New Mexico. — Episcopalian. — Junior League, Sunday Night Hamburger Club, Pan American Round Table, Chi Omega Alumni. — Lively and sharp, sympathetic, positive and confident in spite of health challenges. Studied child language development. Derides but acknowledges a 'Texas twang' in her speech. — In spite of her claim that she produces a 'Texas twang,' she does not produce checked vowel glides. Southern features include unrounded onset for /ɔ/ in *law* and fronted /aʊ/. — Interview relaxed and conversational.

UF05: F, University Teaching Fellow, 1922. B. El Paso. — F. b. Louisiana. M. b. Waco, TX. — Ed. Rusk Elementary School, Austin High School, Texas College of Mines and Metallurgy. — Episcopalian, St. Francis on the Hill Episcopal Church. — Daughters of the American Revolution, El Paso County Historical Society (edited *Password*, a quarterly journal of regional history). — Charming host. Interested in language variation. — Variable production of [æ ~ ε] in *married* and one occurrence of monophthongal /a.i/ in *time*. — Interview relaxed and conversational. Completed in two sessions arranged around informant's scheduled activities. Occasional noise from apartment construction.

UF06: F, Public Elementary School Teacher, Public Middle School Teacher, 1929. B. El Paso. — F. b. Ohio. M. b. Shreveport, LA. — Ed. Crockett Elementary School, Austin High School, Ysleta High School, Texas College of Mines and Metallurgy. — Episcopalian. — Pan American Round Table, P.E.O. — Fluent Spanish speaker. Vigorous, opinionated, but interested in the opinions of others and gaining new knowledge. Liberal-minded and engaging. — Shifts often to Spanish-influenced rhythm and pronunciation. Unrounded /ɔ/ in *daughter*. Fronted /au/. [ou] in *poor*. — Interview relaxed and conversational.

UF07: F, Administrative Assistant, 1927. B. El Paso. — F. b. Missouri. M. b. Fort Worth, TX. — Ed. Ysleta Elementary School, Ysleta High School. Texas College of Mines and Metallurgy. — Methodist. — P.E.O., Ysleta Woman's Club. — Pleasant, but not inclined to give long answers to questions. — Unrounded /ɔ/ in *daughter*. Fronted /au/. — Interview relaxed, but not particularly conversational. Somewhat rushed because informant had another appointment to keep.

UF08: F, Administrative Assistant, 1916. B. El Paso. — F. b. Tennessee. M. b. Tennessee. — Ed. Lamar Elementary School, Dudley Elementary School, Radford High School, El Paso High School, Texas College of Mines and Metallurgy. George Washington University. — Presbyterian, but grew up Baptist. — P.E.O., Daughters of the American Revolution. — Pleasant and bright, but not inclined to give long answers to questions. Some graduate work at George Washington University. Worked in Washington, D.C. for the Federal Housing Administration for five years and then in El Paso for the International Boundary and Water Commission. Lived in Dallas for one year. — Checked vowel glides. Tends to speed up sentence finally. — Interview relaxed and conversational.

UF09: F, Public School Teacher, 1915. B. Jefferson, TX; arrived in El Paso age 3. — F. b. Jefferson, TX. M. b. Jefferson, TX. — Ed. Alta Vista School, Crockett Elementary School, Austin High School. — Methodist, Trinity Methodist Church. — Tri Delta Alumni, P.E.O., Panhellenic, Daughters of the American Revolution, El Paso Woman's Club, Book Club of the El Paso Woman's Club. — Engaging, strong woman who has retained a positive outlook in the face of multiple tragedies. Full of stories about family and early El Paso. — Checked vowel glides. Fronted /au/ realized as [æɑ]. — Interview relaxed and conversational. Energy of informant declined toward end, inhibiting flow of prompt and response. But informant nonetheless pleasant and eager to participate throughout.

UF10: F, Nurse, 1917. B. El Paso. — F. b. Upper San Dusky, OH. M. b. Las Anlas, CO. — St. Joseph's Elementary School, Austin High School, Loretto Academy. — Catholic, Queen of Peace. — El Paso Woman's Club, President of St. Patrick Home and School, Chamber of Commerce. — Eager to participate and talkative. — Unrounded /ɔ/ in *water* only. [oʊ] in *poor*. — Interview generally relaxed and conversational. Husband listened in and occasionally commented on points of family history, but was not asked to contribute auxiliary data.

UF11: F, Public School Teacher and Councilor, 1914. B. Sherman, TX; arrived in El Paso at age 1. — F. b. West Plains, MO. M. b. Fort Worth, TX. PGF, PGM, MGF, MGM b. Missouri. — Ed. Fannen Elementary School, Crockett Elementary School, Lamar Elementary School, El Paso High School, Texas College of Mines and Metallurgy. — Episcopalian. — El Paso Woman's Club, Chamber of Commerce, Kappa Delta Pi, Sunset Heights Garden Club, Manhattan Garden Club, Windsey History Club, Matrix (fundraiser for UTEP). — Vigorous and independent thinker, interested in the brain and politics. Satisfied with life, but frustrated by deterioration of eyes, which prevents reading. — Unrounded /ɔ/ in *daughter*. — Interview relaxed and conversational.

UF12: F, Administrative Assistant, Homemaker, 1919. B. El Paso. — F. b. Chicago. M. b. El Paso, TX. PGF, PGM b. Switzerland. — Ed. Ysleta Mission School. Ysleta Elementary School, Ysleta High School. — Episcopalian, St. Christopher's Episcopal Church. — No organizational affiliations to speak of. — Cheerful and engaging. Raised on a pear farm, worked in father's bakery. Moved with husband to San Francisco, CA for one year, back to El Paso for eight years, to Phoenix for ten years, back to El Paso, and also to Odessa for ten years, and have lived in El Paso for the past twenty years. — Unrounded /ɔ/ in *daughter*, but [ɔ] in *law*. — Interview relaxed and conversational. Good story teller, shared pictures of family.

UF13: F, University Teaching Fellow, 1921. B. El Paso. — F. arrived in El Paso age 9. M. b. Albuquerque. MGF, MGM b. Sweden. — Ed. Dudley Elementary School, El Paso High School, Texas College of Mines and Metallurgy (Master's in English). — Episcopalian, St. Clement's Episcopal Church, St. Francis on the Hill Episcopal Church. — National Society of Arts and Letters, P.E.O., Heritage Commission (UTEP Alumni). — Good conversationalist, though stories somewhat unclear, as if thinking faster than talking. With husband moved to Kansas, Mississippi and Brian, TX during World War II. After children were grown, moved to Florida for nine years. — Unrounded /ɔ/ in *law*, *water*, and *daughter*. — Interview relaxed and conversational. Occasional noise from apartment construction.

UF14: F, Administrative Assistant, Bank Teller, 1921. B. Georgia; arrived in El Paso age 5. — F. b. Noonan, GA. M. b. Macon, GA. — Ed. Houston Grade School, Austin High School, Howard Green College, Texas College of Mines and Metallurgy. — Presbyterian, First Presbyterian Church. — El Paso Woman's Club, First Presbyterian Church Women's Association, Chamber of Commerce, Sunset Heights Garden Club, University Auxiliary, Girls' Club, Boys' Club. — Strong, confident, self-assured with strong religious faith and positive outlook. Pleasant conversationalist, but not given to long answers and story telling. — Voice reflects Georgia roots to some extent. Checked vowel glides present. — Interview relaxed and conversational. Some noise from overhead fan, which lessens later in the interview.

UF15: F, Homemaker, 1924. B. El Paso. — F. b. Oklahoma. M. b. Oklahoma. — Ed. Austin High School, Texas College of Mines and Metallurgy. — Protestant, the church she is a member of delivers services over the phone from Houston, TX. — Zeta Tau Alpha, Cielo Vista Garden Club, El Paso Art Association, Rio Bravo Art Association, P.E.O., Daughters of the American Republic. — Intense, intelligent woman with varied interests and full family life. Pleasant conversationalist, but not given to elaboration. Interested in language variation, showed off tape of stories told in Gullah dialect. — Speech tempo markedly quick. Checked vowel glides present. Unrounded onset to /ɔ/ in *daughter*. Unrounded /ɔ/ in *law*. — Interview relaxed, though not particularly conversational, owing to the high energy of the informant and her tendency to answer questions succinctly rather than elaborate.

Urban Men

UM01: M, Medical Doctor, 1924. B. El Paso. — F. b. New York. M. b. El Paso, TX. MGF b. Maine. MGM b. Kansas City, MO. — Ed. Dudley Elementary School, El Paso High School, Texas College of Mines and Metallurgy, Medical School in Galveston, TX (four years), internship in Detroit, MI (one year), residency in Galveston, TX (three years). — Episcopalian. — Men's Garden Club. — Relaxed, intelligent gentleman with clever wit. — Slow soft speech, draws out words. Checked vowel glides mostly utterance final. [ɔ] in *horse*, but [ɑ] in *caught*. — Interview relaxed and conversational.

UM02: M, Banker, 1933. B. El Paso. — F. b. St. Louis, MO. M. b. Yeager, WV. PGF, PGM b. St. Louis, MO. — Ed. Rusk Elementary School, Austin Junior High School, New Mexico Military Institute (Roswell, NM), U.S. Naval Academy (Annapolis), Wharton School of Finance (Philadelphia, PA). — Episcopalian, St. Francis on the Hill Episcopal Church. — Almeida Shrine, El Paso Chamber of Commerce, President of the Coronado Country Club, NAVY League of El Paso, President of St. Clement's Episcopal Parish, Southwestern Rodeo Show, President of Armed Forces YMCA, Chairman of Columbia Medical Center East, Chairman of St. Joseph's Hospital, Founding Treasurer of El Paso Cancer Radiation Treatment Center. — Outgoing, proud of accomplishments and contributions to community. — Strong, assertive voice. [ɑ] in *daughter*, but [ɔ] in *law*. — Interview relaxed and conversational.

UM03: M, Insurance Adjuster, Insurance Producer, 1915. B. El Paso. — F. b. north of Houston, TX. M. b. central Texas. PGF, PGM b. Sweden. MGF, MGM b. Virginia. — Ed. Crockett Elementary School, El Paso High School, Austin High School, University of Arizona (Tucson, AZ), Officer Candidate School. — Episcopalian, St. Francis on the Hill Episcopal Church. — Chamber of Commerce, President of Little League, Children's Care. — Worked as adjuster in Shreveport, LA for a year and then in Baton Rouge, LA as claims man for two years, then trained for underwriting and sales in New Orleans until World War II broke out. Attended boot camp in San Diego. After war worked in Memphis, TN, then in El Paso afterward. Interested in family history. — Checked vowel glide in *farm*. — Interview relaxed and conversational. Some outdoor noise in first part of interview.

UM04: M, Architect, 1933. B. Beaumont, TX; arrived in El Paso age 3. — F. b. Nabasota, TX. M. b. Huntsville, TX. PGF, PGM b. Alabama. — Ed. Dudley Elementary School, Austin High School, Rice University (Houston, TX). — Presbyterian. — No organizations to speak of. — Engaging, talkative. Naturally opinionated about architectural styles. Proud of accomplishments and family history. Says wife is English major, nags him for saying 'Yeah.' — Checked vowel glides. [æ] in *married*. Unrounded onset to /ɔ/ in *law*. — Interview relaxed and conversational.

UM05: M, Architectural Engineer, 1924. B. El Paso. — F. b. Baltimore, MD. M. b. Ohio. — Ed. Catholic grade school and Cathedral High School, Texas A&M, University of Detroit. — Catholic. — Texas Society of Professional Engineers, Cathedral Choir. — Self-confident, charming host. Slightly hard of hearing. — Checked vowel glides. [oʊ] in *poor*. — Interview relaxed and conversational. Informant coughs occasionally, but this does not disturb the flow of the interview.

UM06: M, Lawyer, 1921. B. El Paso. — F. b. New Jersey. M. b. El Paso, TX. PGF, PGM b. New Jersey. — Ed. Crockett Elementary School, Austin High School, Texas College of Mines and Metallurgy, Yale University, University of Texas Law School. — Episcopalian, St. Francis on the Hill Episcopal Church. — Junior Chamber of Commerce, Girl Scouts, Red Cross, President of the El Paso Bar Association, Del Norte Club, Rotary Club, Chamber of Commerce. — Imposing and intense, but friendly character. Proud of family heritage. Anglophile. Good story teller. Rambles, as if story draws him along. — Booming voice, used for dramatic effect rather unconsciously. Draws out utterances for emphasis. Checked vowel glides. Monophthongal /aɪ/. — Interview relaxed and conversational, though interrupted for business purposes and spread out over three sessions.

UM07: M, Insurance Producer, Insurance Partner, 1920. B. El Paso. — F. b. Oklahoma. M. b. El Paso. MGF, MGM b. England. — Ed. Rusk Elementary School, Zach White School, El Paso High School. — Presbyterian. — Junior Chamber of Commerce, President of Yucca Council Boy Scouts of America, Rotary Club, United Way. — Friendly and eager to help, but busy at work and not given to long answers. — [ɑ] in *daughter*. — Interview informal, but rushed because of time constraints. Completed in two sessions, both at informant's business.

UM08: M, Car Dealer, 1923. B. Marfa, TX; arrived in El Paso age 2. — F. b. Lanno County, near Kingsland, TX. M. b. Alpine, TX. MGM b. Uvalde, TX. — Ed. Rusk Elementary School, White School, El Paso High School, Texas College of Mines and Metallurgy, DePaul University (Green Castle, IN), University of Georgia, Notre Dame. — First Christian Church, then became Episcopalian, St. Francis on the Hill Episcopal Church. — Flying Club. — Interested in family history. Passion for flying, which began before World War II. — Checked vowel glides. Monophthongal /aɪ/ in *wire*. Unrounded /ɔ/ in *dog* and *water*. Unrounded onset to /ɔ/ in *dog*. [ɔ] in *dog*, *law*, and *daughter*. — Interview relaxed and conversational. Initial conversational portion longer than usual because informant had many good stories to tell about experience on family ranch, early car dealership history, and flying planes.

UM09: M, Insurance Agency Owner, 1927. B. El Paso. — F. b. Germany. M. b. Oklahoma. PGF b. Germany. PGM b. Juárez, Mexico. — Ed. Crockett Elementary School, Austin High School, Stanford University, University of Pennsylvania. — Episcopalian, St. Francis on the Hill Episcopal Church. — St. Francis on the Hill Episcopal Church Vestry, Association for Advanced Life Underwriting, Million Dollar Round Table. — Outgoing conversationalist. Deeply religious. Fluent Spanish speaker. — [æ] in *married*. Variably unrounded /ɔ/ in *daughter*. — Interview relaxed and conversational. Informant conscientious about finishing the interview even though pressed for time at the end.

UM10: M, El Paso Natural Gas Accountant, 1922. B. El Paso. — F. b. Canada. M. b. Ireland. — Ed. St. Joseph's Parochial School, Caldwell Elementary School, Austin High School, Texas College of Mines and Metallurgy, infantry training in Alabama. — Presbyterian. — Twenty-thirty Club, Junior Chamber of Commerce. — Pleasant conversationalist. During World War II, visited Missouri, France, and Austria. Interested in family history. Slightly hard of hearing. — [æ] in *married*. Fronted /au/. Fronted /aɪ/ in *Ireland*. — Interview relaxed and conversational.

UM11: M, Businessman, 1921. B. El Paso. — F. b. Independence, TX. M. b. Huntsville, TX. — Ed. Caldwell Elementary School, Austin High School, New Mexico Military Institute, University of Texas at Austin. — Episcopalian, St. Francis on the Hill Episcopal Church. — El Paso County Historical Society, Caballeros (social club), El Paso Tennis Club. — Two years in Europe during World War II, including England, Germany and Norway. Art collector. — Checked vowel glide in *farm*. — Interview relaxed and conversational.

UM12: M, Lawyer, 1915. B. El Paso. — F. b. South Carolina. M. b. Uvalde, TX. — Ed. Texas College of Mines and Metallurgy. — Episcopalian, St. Clement's Episcopal Church. — President of the Bar Association, President of the El Paso Symphony, Chamber of Commerce, President of the El Paso Country Club. — Friendly and eager to help. Hard of hearing. Extremely tired toward end of survey. — [æ] in *married*. Unrounded /ɔ/ in *daughter*, but [ɔ] in *law*. — Interview relaxed and conversational.

UM13: M, General Surgeon, 1928. — F. b. Las Cruces, NM. M. b. Iowa. PGF b. Georgia. PGM b. Washington, D.C. — Ed. Houston Elementary School, Austin High School, Texas College of Mines and Metallurgy, Northwestern University Medical School. — Episcopal (raised Presbyterian), St. Clement's Episcopal Church. — Rotary Club, Sheriff's Posse, Senior Warden of St. Clement's. — Vigorous in mind and body. Interested in languages and improving vocabulary. Varied intellectual pursuits. Engaging conversationalist. — Variable checked vowel glides in ten and head. No other checked vowel glides. Glides appear dependent upon rhythm, as a drawl utterance or phrase finally. Variable [æ ~ ε] in *married*. — Interview relaxed and conversational.

UM14: M, Building Contractor, 1921. B. El Paso. — F. b. Cimarron, NM. M. b. Denver, CO. — Ed. Dudley Elementary School, El Paso High School, Texas College of Mines and Metallurgy. — Episcopalian, St. Francis on the Hill Episcopal Church. — Lions Club. — Engaging, great sense of humor. Amateur actor in college. — Checked vowel glides. Variable production of [æ ~ ε] in *married*, but primarily [æ]. — Interview relaxed and conversational.

UM15: M, Military Officer, 1920. B. El Paso. — F. b. Mississippi. M. b. Shreveport. — Ed. Crockett Elementary School, Austin High School, New Mexico Military Institute. — Methodist, Western Hills Methodist Church. — Kiwanis Club, Cavalry Association, Sheriff's Posse. — Self-possessed, with many interesting stories to tell. — Checked vowel glides. Variable production of [æ ~ ε] in *married*. Monophthongal /a i/ in *retired*. Variable [ɑ ~ ɔ] in *daughter*. — Interview relaxed and conversational. Occasional construction noise.

APPENDIX B
INTERVIEW PROTOCOL

Family Background:

1. I'd like to hear about how your family came to El Paso.
2. When were you born?
3. Tell me about your education.
4. What's your religion?
5. What kinds of jobs have you had?
6. What organizations do you belong to?
7. Now tell me about your mother. What was her education like? Did she work? What about your father?
8. What is your ultimate ancestry in Europe?

Modified LAWS Questionnaire (Additional questions in brackets are mine.)**A. Personal Data**

1. MOTHER + (Caps indicate a pronunciation target. + indicates the need to elicit synonyms.)
What did you call your mother? What names did you have for your mother?
2. FATHER +
What did you call your father? What names did you have for your father?
3. PARENTS +
Your mother and father, what do you call them?
4. Grandmother (lower case letters indicate the need to obtain only synonyms)
What did you call your grandmother? What names did you have for your grandmother?
5. Grandfather
What did you call your grandfather? What names did you have for your grandfather?
6. CHILDREN +
What do parents usually take care of?
7. RAISED +
What did your parents do with you? When you were in school and you wanted to speak, what did you do?
8. looks like
If your features were similar to your parent's, how would you say that?
9. HOSPITAL
When a woman is ready to have a baby, where does she go?
10. midwife
If a woman did not go to the hospital, who would come to help with the birth?
11. HUSBAND +
What was your father to your mother?
12. WIFE +
What was your mother to your father?
13. MARRIED +
When a woman and a man want to spend the rest of their lives together, what do they do?

14. CHURCH

Where do people usually get married?

15. SERMON

In church, what does the pastor preach?

16. GOD

Who do we pray to?

17. MATTHEW; 18. JOHN

Can you name the Gospels?

19. EDUCATION

What do we obtain by going to school?

20. COLLEGE

What's another name for a university?

21. LIBRARY

Where do we go to check out books?

22. DAUGHTER

What is your sister to your mother?

23. NEPHEW

What do you call your sister's son?

24. AUNT

What do you call your mother's sister?

25. UNCLE

What do you call your mother's brother?

26. WOMAN teacher ("woman" is a phonetic target. "woman teacher" is a lexical target.)

Were there different names for teachers in the old days based on gender?

27. best man

Who stands up for the groom at a wedding?

28. bridesmaid

What do you call one of the women who supports the bride?

29. relatives

What do you call people who are related to you?

30. not related

What do you call people who are not related closely to you?

[B. Preliminary Questions

1. I'd like you to tell me about your house. Give me a word picture of the rooms.
2. What kind of houses do you find in El Paso?
3. How are residential properties divided from one another in El Paso?]

B. The House

1. living room

What do you call the part of the house where people can sit and talk?

2. mantel

What is the shelf over the fireplace called?

3. CHIMNEY

Smoke goes up the ...

4. HEARTH

What do you call the part in front of the fireplace?

5. andirons

What are the metal things that keep the logs in place?

6. BACKLOG +

What do you call the big log that you burn on the fire?

7. kindling

What are the smaller pieces that get the fire going called?

8. WOOD

What do you burn in a fireplace?

9. SOOT

What is the black stuff left after a fire?

10. ASHES

What is the grey stuff left after a fire?

11. closet

Where do you put your coat?

12. attic

What do you call the storage area over your house?

13. storage room

What do you call a room in your house where you put things you aren't using?

14. HOUSE/S

What sort of places do people live in?

15. ROOF

What protects your house from rain?

16. gutters

What guides rain away from the house?

17. siding

What protects the outer walls of a house?

18. main ranch building

What do you call the main building on a ranch?

19. SHUT THE DOOR

When you enter the house, you have to do what after you?

20. WINDOW

To see out of the house, you look out the...

21. storm cellar

If we lived in an area where there were a lot of tornados, we would have to build what?

22. MIRROR

You can look at yourself in the...

23. GLASS

And the mirror is made out of...

24. HOME

Dorothy said, "There's no place like..."

25. BROOM

What do you sweep the floor with?

26. PORCH +

When you walk outside, you are on the...

27. shades on rollers

What do you call the window dressing that rolls up?

28. central heating unit

What do you call the central heating unit?

29. storm windows

If we had bad winter storms here, what kind of windows would we need? (Note: Several informants had installed storm windows to keep dust out and conserve energy.)

30. STAIRS +

To reach the second floor, you have to go up the ...

C. Household Goods and Clothing

1. FURNITURE # (obtain pronunciation and semantic clarification)

All the things in this room, what do call them?

2. couch

What is the thing that we're sitting on?

3. dresser

What do call a piece of furniture where a lady sits to put on makeup?

4. bureau

What do you call a piece of furniture that you keep clothes in?

5. TIN bucket +

What do you use to carry water in outside? What's an old kind of roof that makes a lot of noise when it rains?

6. dishrag

What do you hold in your hand to wash plates with?

7. TOWEL

What is the thing that people use to dry off with?

8. FAUCET +

What do you turn on to wash dishes? What would you turn on outside?

9. WATER

What comes out of the faucet?

10. KETTLE +

What do you use to heat water on the stove?

11. frying pan

What do you use to cook eggs?

12. makeshift lamp

What would you call a lamp made from a bottle with flammable liquid inside and a rag for a wick?

13. kerosene

What would you burn in a lamp?

14. COAL

What do people burn instead of wood?

15. OIL

When you take your car in, you ask them to check the...

16. bed on the floor

What do you call a bed you make up on the floor?

17. SUGAN +

What do you call a heavy bed cover? Do you know what a range blanket is called? Have you ever heard of a sugan?

18. pillow case

What do you use to cover a pillow?

19. LIGHT BULBS

If the room you're in suddenly goes dark, what do you have to replace?

20. TELEVISION

What do you watch the news on? What's the full length word?

21. APRON +

What do you use to protect your clothes when you cook?

22. COAT

What do you wear if it's cold outside?

23. HANDKERCHIEF +

What's a cloth you use to blow your nose? What's a different kind of cloth you use to wipe the sweat off your brow?

24. work clothes #

What do you wear to work in the garden?

25. winter clothes #

What kind of clothes do you put away until December?

26. work shoes #

What do you wear on your feet when you garden (or farm) outside?

27. gloves #

What do you wear to protect your hands?

28. hats #

What do you wear to protect your head?

29. suspenders

What do men wear to hold their pants up?

30. trousers

What do men wear to cover their legs? What do women wear?

[D. Preliminary Questions

1. What are some regional dishes and foods?
2. Are there Mexican foods that are easier to buy than to make?
3. What can you grow in your garden?
4. What are some crops grown here?
5. What kind of fruit trees do you have?]

D. Food

1. CORN on the cob
What's a yellow vegetable you pick up with your hands to eat?
2. corn husks
What do you have to peel off corn?
3. corn silk
What is the white stringy stuff on corn?
4. BEANS #
What usually goes with pork? If someone said, "I had beans," what kind of beans did they eat?
5. cherry TOMATO
What kinds of things do you put in a salad? What are the little tomatoes called?
6. POTATOES #
What are the brown vegetables that grow underground called?
7. beets
What's a red vegetable the Russians use to make borscht?
8. SQUASH #
What is a yellow vegetable that you bake? Can other vegetables be called a squash? What about a watermelon?
9. VEGETABLES #
Potatoes, corn, beets and squash are all known as ... What about tomatoes?
10. fruit pits #
What is inside a cherry? How about a peach? What's inside a peach pit?
11. freestone peach
What do you call the peach that the seed falls out of?
12. clingstone peach
What do you call the peach with the seed that doesn't fall out?
13. JELLY
What do you spread on toast?
14. MUSHROOMS +
What grows in the woods and looks like little umbrellas?

15. chipped beef

What do you call a meat that is partly dried and comes in a jar?

16. salt pork #

What do you call pig fat cooked in brine?

17. headcheese

What do you call meat packed in a casing that is made from the jowls and head of a hog?

18. STRAIN

What do you do to separate a solid from a liquid?

19. thin milk

What do you call watered down milk? Is that the same as 'blue john'?

20. curdled milk

What do you call milk that is just beginning to turn?

21. cottage cheese

What do you call a milk product with curds?

22. corn bread #

What do you call bread made from corn? What are the different ways you can make it?

23. wheat bread

What do you call a bread made from wheat? Are there different kinds?

24. YEAST

What makes bread rise?

25. soft drinks #

If you had different kinds of carbonated beverages in your fridge, what would you offer a guest?

26. moonshine

What is an unlicensed alcoholic drink made by hillbillies? Do you know other names for it?

27. casserole

What do you call something baked that you bring to a party?

28. "BARBECUE" + (obtain pronunciation, synonyms, and meaning)

What do you call it when you cook outside? When you hear the word 'barbecue,' what does that mean to you?

29. COFFEE cakes #

When you get up in the morning, you brew some What kind of treat would you have with coffee? What sort of food do you think of when you hear 'coffee cake'? What is it made of?

30. APPLESAUCE

What are mashed up apples in a jar called?

E. The Farm and the Ranch

1. RAIL fences +

What does a train travel on? What do you call the kind of fence you can sit on?

2. CORRAL

What do you call an enclosure for horses?

3. PASTURE

You put the cow out to ...

4. FIELD +

What do you call the place where you grow crops?

5. BARN +

Where do you store hay?

6. corn CRIB

What do you call the structure where you keep corn?

7. "go-devil" (obtain meaning)

Have you ever heard of a 'go-devil'? What is it?

8. feed bag

What do you put on a horse's head so it can eat while it walks?

9. bridle parts

[A picture of a bridle was shown to the informant, who was asked to name as many parts as possible.]

10. saddle parts

[A picture of a western saddle was shown to the informant, who was asked to name as many parts as possible.]

11. lariat

What do you use to rope horses?

12. WHEEL-BARROW

What do you use to carry sand around in the yard?

13. gunnysack

What do you call a large bag made of coarse material?

14. boat with oars

What do you call a boat with oars?

15. WHIP +

What does a lion tamer use?

16. sharpening stone +

What do you hold in your hand to sharpen a knife?

17. A/X frames +

What is used to hold wood for cutting in carpentry? What is used to hold logs for cutting?

18. outbuildings +
What do you call the little buildings on a ranch?
19. stone wall
What physically separates properties in El Paso?
20. plows +
What kinds of machines do you use to prepare the soil for planting?
21. "gee-whiz"
Have you ever heard of a 'gee-whiz'? What does it do?
22. buck scraper +
What is an earth mover pulled by mules called?
23. harrow +
What is used to pulverize and smooth the soil in farming?
24. ranchers' tools
What kinds of tools would a rancher carry with him?
25. SHEARS
What is used to take the wool off sheep?
26. HAMMER
What do you use to pound a nail in?
27. CAR
What do you drive around town in?
28. trucks #
What is something larger you use to haul things in? What kinds of vehicles are trucks? Is an SUV a truck?
29. guns #
What kinds of guns do people have?
30. CARTRIDGE
What do you load into a shotgun?

F. Farm Animals and Enclosures

1. animal pens #

Where would you keep pigs? Cows? Horses?

2. chicken COOP

Where would you keep chickens? What is the structure that protects the chickens?

3. TROUGH/S

Where do pigs eat from? If there were several of these, you would have several....

4. BARREL

What do you call a large container for oil?

5. KEG

What is a smaller container for beer?

6. slop bucket

What do you use to carry food to the pigs?

7. BULL (euphemisms?)

What is the male animal we get beef from?

8. COW

What animal usually provides us with milk?

9. CALF

What is a baby cow called?

10. ram (euphemisms?)

What is a male sheep called?

11. EWE

What is a female sheep called?

12. fowl #

Chickens, turkeys, ducks, what are these known as? Can 'fowl' refer to other or all birds or just to birds we eat?

13. EGGS

What do birds lay?

14. BOAR (euphemisms?)

What do you call a male pig?

15. stud HORSE/S + (euphemisms?)

What is the animal that we ride? What is a male used for breeding called?

16. MARE

What is a female called?

17. "bronco"

What is a 'bronco'?

18. MULE

What is produced by a horse and a donkey?

19. jackass

What is a male donkey called?

20. she-ass

What is a female donkey called?

21. BURRO

What is a Mexican donkey called? Is there any difference from an American donkey?

22. string of horses

What do you call a string of spare horses used on a cattle drive?

23. poor cattle

What do you call cattle that don't get enough to eat?

24. poor sheep

What do you call sheep that don't get enough to eat?

25. castrate

What do ranchers do to a male animal to keep him from breeding?

26. castrated animal

What is a castrated bull called? A pig? A sheep? A horse?

27. animal calls

Do you know any words or noises people use to call animals on the farm or ranch?

28. DOG of mixed breed

What kinds of pets do people have? What do you call a mixed breed dog?

29. orphan calf/lamb/horse

What do you call an orphaned calf? Lamb? Horse?

30. animal excrement #

What do cows leave behind in a pasture? Buffalos? Horses?

G. Wild Animals and Vegetation

1. wild horses +

What do you call horses that nobody owns?

2. prairie dog +

What is the rodent that sits on its mound and barks?

3. chipmunk +

What is a small rodent you see in the forest?

4. "gopher"

What is a rodent that tunnels underground? Is it the same as a 'prairie dog'? How big is a 'gopher' in relation to a 'prairie dog'?

5. ground/rock/woodchuck

What is a large rodent you see in the forest?

6. turtles #

What is a reptile with a shell on its back? What do you call one that lives on land? In the water?

7. SQUIRREL #

What is a rodent that eats nuts?

8. game animals #

What kind of animals do people hunt for around here?

9. woods animals #

What kind of animals do you find in the woods?

10. mountain animals #

What kind of animals do you find in the mountains?

11. desert animals

What kind of animals do you find in the desert?

12. plains animals

What kinds of animals do you find on the plains?

13. MOTHS

What insects fly around lights at night?

14. stinging insects #

What are some insects that sting?

15. WASP/S +

What do you call the stinging insects that build paper nests?

16. chiggers

What do you call the insects that jump on your leg and get under your skin?

17. lightning bug

What do you call the insect that lights up at night?

18. dragonfly

What do you call the insects that hover over water?

19. woodpeckers #

What do you call the birds that get worms out of trees?

20. OWLS #

What do you call the bird that flies at night?

21. local birds #

What are some birds you see around here?

22. snakes #

What kinds of snakes live here?

23. WORMS +

When you go fishing, what do you dig for?

24. local fish +

What do people fish for around here?

25. spring FROG

What kind of animal lives in water and hops around and croaks?

26. toad

What do you call one that lives on land?

27. bullfrog

What is a big frog that makes a loud call?

28. lizards

What kinds of lizards do you have around here?

29. OYSTERS

Where do pearls come from?

30. SHRIMP

What is the seafood we eat in a cocktail?

H. Weather and Vegetation

1. FOG

What's that white stuff that rises from the ground in the morning?

2. CLOUDS

What are the fluffy white things in the sky?

3. summer storms +

What kind of storms do we get in August?

4. winter storms

What kind of storms do we get in January?

5. ZERO

What number is nothing?

6. FROST-bite

What kind of injury can you get from cold weather?

7. hard freeze

What kind of weather kills the plants?

8. wet snow +

What do you call wet snow?

9. thin ice

When ice is dangerous to skaters, what do you call it?

10. thaw

When the snow starts to melt, what do you call it?

11. windstorms

What kinds of windstorms do we get around here?

12. the wind picks up

When the wind starts to go faster, what do you call it?

13. the wind lets up

When the wind goes slower, what do you call it?

14. the weather is hotter than...

Finish this sentence: the weather is hotter than ...

15. the weather is colder than...

Finish this sentence: the weather is colder than ...

16. BREATHE

What does asthma make it hard to do?

17. the weather is drier than...

Finish this sentence: the weather is drier than ...

18. "chinook"

What do you call a coastal southwest wind that blows from Oregon north?
What do you call a warm dry wind blowing east off the Rocky Mountains?

19. "blue norther"

What do you call it when you get a suddenly cold storm?

20. DROUGHT +

What do you call it when you don't get enough rain?

21. cultivated grasses +

What kinds of grasses do people grow as crops?

22. uncultivated crop

When a crop can be harvested more than once, what do you call the other harvests?

23. local trees +

What are some of the trees that grow around here?

24. SYCAMORE

What is a tree that drops a spiky ball?

25. aspen

What is a tree with smooth white bark that turns the mountains yellow in the fall?

26. grove of trees

What do you call a bunch of trees in one place?

27. SHRUBS +

What do you call a large plants that are shorter than trees?

28. cactus +

What do you call a plant with spines? What kinds of cactus grow around here?

29. weeds #

What do you call plants that you don't want in your garden? Are there some 'weeds' that are ok to have in your garden?

30. creeping brush and vines

What do you call a plant that grows up the side of a house? What kinds of vines do we have here?

I. Landscape

1. local streams #

What is the body of water that flows through here called?

2. CREEK +

What is a smaller body of water called? Do you know any other words for that?

3. wet weather creek #

What do you call a river that only runs when it rains?

4. "MEADOW"

What do you call an open place in a forest with grass and flowers?

5. "park"

What do you call a place where children play? What do you call a public nature area?

6. "basin"

What do you call an area that is lower than the surrounding area?

7. SWAMP #

What do you call a place where alligators live?

8. flat-topped hill

What do you call a hill with a flat top?

9. CLIFF/S

What do you call a drop off on a mountain?

10. irrigation ditch

Explain how water gets to the crops in El Paso.

11. irrigation POND

Where do people keep goldfish outside? What do you call a place where water is collected for irrigation?

12. ditch along upgraded road

What do you call a ditch along an upgraded road?

13. poor soil +

What do you call soil that isn't good for growing plants?

14. productive soil +

What do you call soil that is good for growing plants?

15. sidewalk

What do you call a place for people to walk along a street?

16. "boulevard"

What do you call a street divided by a row of trees?

17. paved roads #

What are some kinds of paved roads?

18. unpaved roads #

What do you call roads that are not paved?

19. roadway through mountain

What do you call a roadway through a mountain? What do we call our roadway through the mountain?

20. "badlands"

What do you call a place with no water where nobody would want to live? What would you expect to find in the 'badlands'?

21. "high plains"

What does 'high plains' mean to you?

22. "hole"

What is a 'hole' in reference to a mountain?

23. "MOUNTAIN"

What does 'mountain' mean to you?

24. HILL #

What is something smaller than a mountain called?

25. draw

What do you call the space between two peaks?

26. canyon #

What do you call a rift dug out by the river?

27. waterfalls #

What do you call water that goes over a cliff?

28. "white water" #

What do you call water that goes over boulders in a river?

29. wild FLOWERS +

What do you call things that bloom? What are some wild flowers around here?

30. "rock"/ "stone"

What is the difference between a rock and a stone?

J. Society

1. WIDOW

What do you call a woman whose husband has died?

2. bastard +

What do you call a child born out of wedlock?

3. shivaree

What do you call a noisy serenade after a wedding?

4. harmonica

What do you call a musical instrument you play like this?

5. MUSIC

Songs are set to what?

6. seesaw

What do you call a toy for children to play on that goes up and down like this?

7. wishbone

What do you call the bone you take out of the turkey for children?

8. carry a heavy load

If you had to carry a heavy T.V. up the stairs what would you have to do?

9. GIRLfriend +

What is the opposite of 'boyfriend'?

10. local parties/fairs

What are some local celebrations, parties and fairs around here?

11. RODEO

What do we call it when cowboys get together to ride bulls?

12. HUMOR

If you like jokes, you have a good sense of ...

13. escort

The person you bring with you to a party is your...

14. ROUGE

What is the red stuff women put on their face?

15. "dude"

What do you call a person who dresses like a cowboy but isn't really a cowboy?

16. CEMETERY +

Where do people get buried?

17. FUNERAL

What is the ceremony for the person who died?

18. casket

What do you call the box a person is buried in?

19. MOURNING

People wearing black at a funeral are in ...

20. GHOSTS +

What do you call the soul if it comes back after someone died?

21. haunted house

What do you call a scary building that kids are afraid to go into.

22. DEVIL

God's adversary is the...

23. superstitious +

If I was afraid I'd have bad luck, you'd say I was.... What are some local superstitions?

24. really tired

If you are really tired, you are...

25. really disgusted

If you are really disgusted, you are...

26. really angry

If you are really angry, you are...

27. really frightened

If you are really frightened, you are...

28. leave in a hurry

If someone left all of a sudden, how would you describe how they left?

29. MERRY CHRISTMAS

On December 25th, we wish people ...

30. HAPPY NEW YEAR

On January 1st, we wish people...

[K. Preliminary Question

What are the Indian tribes in this region?]

K. People

1. TEXAS native/El Paso native

What do you call a person from Texas? What about a person from El Paso?

2. natives of other western states

Do you know any funny names for people from other western states?

3. AMERICAN +

What do you call a person from our country?

4. Canadian

What do you call a person from the country to our north?

5. Mexican

What do you call a person from the county south of us?

6. Negro

What do you call someone who's black?

7. Mormon

Most people from Utah are of what religion?

8. "Anglo"

What do you call a white person around here?

9. country people

What do you call country people? What does the word 'redneck' mean to you?

10. POOR people

What do you call people who don't have enough money to live?

11. ranch hand

What do you call a person who works on a ranch?

12. stockman

What do you call a person who works with ranch animals in particular?

13. miner #

What do you call a person who digs for gold?

14. MARY

Who was the mother of Jesus?

15. SARAH

Who was the woman in the Bible who was very old when she had a child?

16. NELLY

Who was the snobby girl in Little House on the Prairie?

17. "jackleg"

What do you call an unordained preacher? What does the word 'jackleg' mean to you?

18. LAWYER

What do you call a person who defends you in a courtroom?

19. JUDGE

What do you call the person who decides a case of law?

20. (BODY PARTS): HAIR, EARS, BEARD, MOUTH, TOOTH, NECK, THROAT, LEGS, JOINTS, FOOT, FEET, STOMACH

21. STRONG +

If you are not weak, you are...

22. sick) to (one's stomach

If your stomach doesn't feel good, you say you are...

23. HOARSE

When you can't talk anymore, you say you are...

24. ARTHRITIS +

If your joints hurt, you have...

25. APPENDICITIS +

If you have a pain in your abdomen and have to have something taken out, what do you have?

26. DIPHTHERIA

What is a disease that is dangerous to kids and begins as a sore throat?

27. "Rocky Mountain Fever" [HANTA virus, plague]

What's a disease you can get from ticks in Colorado? What about the other one you can get from ticks? What other strange diseases can you get in the west?

28. WOUND

If someone shoots you, you have a bullet...

29. sickly

How do you describe someone who isn't doing well?

30. DEAF

If you can't hear, you are...

L. Time and Distance

1. sunrise

What do you see in the sky in the morning?

2. sunset

What do you see in the sky in the evening?

3. quarter to

Please say the time 10:45 in relation to 11 o'clock.

4. YESTERDAY

What do you call the day before today?

5. TOMORROW

What do you call the day after today?

6. (DAYS OF THE WEEK)

Please tell me the days of the week slowly.

7. (MONTHS OF THE YEAR)

Please tell me the months of the year slowly.

8. (CARDINAL NUMBERS) ONE - FIFTEEN, TWENTY, TWENTY-SEVEN, THIRTY, ONE-HUNDRED, ONE-THOUSAND, ONE MILLION

Please count to 15 slowly. What is the number after 19? After 26? After 29? After 99? After 999? After 999,999?

9. (ORDINAL NUMBERS) ONE - TWELVE

Please tell me the prize numbers from one to twelve.

10. local towns #

What are the towns around here?

11. Western states and cities MT, WY, CO, NM, TX, AZ, NV, UT, ID, WA, OR, CA

Let's see if I can get you to name all the western states for me.

12. LOUISIANA

What state do the Cajuns live in?

13. MISSOURI

Which is the show me state?

14. BATON ROUGE

What is the capital of Louisiana?

15. NEW ORLEANS

Where do they celebrate Mardi Gras?

16. CHICAGO

What is the big city in Illinois?

17. CINCINNATI

What is a big city in Ohio?

18. MORNING

When do we wake up?

19. TOWARD

If something is coming at you, it's coming...

20. "up"/ "down" in travel

Would you go up to Albuquerque? How about down to Tucson?

21. MILES

On a trip, you measure the distance in...

22. PUSHED

If a car broke down and the people got behind and gave it a shove, what did they do to it?

23. PULLED

What did the tow truck do?

24. short distance

If you went to the corner store, how would you describe the distance?

25. long distance

If you had to go across town, how would you describe the distance?

26. SCARCE

If there is barely any of a thing left, you say the thing is ...

27. railroad station +

Where do people get off the train?

28. cater-cornered (rest) +

If something is leaning on something, how do you describe the relationship between the two objects?

29. angling (motion) +

If something comes at you from an angle, how do you describe the motion?

30. words of parting

What do you say to guests as they are leaving?

APPENDIX C:
CONSENT FORM

CONSENT FORM

I agree to participate in the research titled **A Comparison of Urban and Rural English in El Paso, Texas**, which is being conducted by Anne Marie Hamilton; Linguistics Program; University of Georgia; (706) 542-2246, under the direction of William Kretzschmar; Linguistics Program; University of Georgia; (706) 542-2246. I understand that this participation is entirely voluntary; I can withdraw my consent at any time without penalty and have the results of the participation, to the extent that it can be identified as mine, returned to me, removed from the research records, or destroyed.

The following points have been explained to me:

- 1) The reason for the research is to learn about speech features of English in El Paso, Texas.
- 2) The benefit that I may expect from it is a greater understanding of the linguistic and cultural legacy unique to El Paso.
- 3) The procedure is as follows:
I will now participate in an audio-taped interview which will take three hours to complete. Breaks in the interview will be allowed. The interview consists of topics related to daily life and regional culture.
- 4) No discomforts or stresses are foreseen.
- 5) No risks are foreseen.
- 6) Any information the researcher obtains about me as a participant in this study, including my identity, will be held confidential. My identity will be coded, and all data will be kept in a secured, limited access location. My identity will not be revealed in any publication of the results of this research. Only the researcher has access to the audiotapes, which will be stored in a box in the researcher's home, so that no one else has access to them. The tapes will be transcribed by the researcher using pseudonyms for all those named during the interview. A database will be constructed to store pieces of information from the transcripts. The tapes will be kept indefinitely for the exclusive use of the researcher, in anticipation of the event that they may help answer linguistic questions not asked during this survey. The results of this participation will be confidential, and will not be released in any individually identifiable form without my prior consent unless otherwise required by law.
- 7) The researcher will answer any further questions about the research, now or during the course of the project, and can be reached by telephone at (706) 542-2246.

PLEASE SIGN BOTH COPIES OF THIS FORM. KEEP ONE AND RETURN THE OTHER TO THE INVESTIGATOR.

Signature of Researcher

Date

Signature of Participant

Date

Research at The University of Georgia that involves human participants is overseen by the Institutional Review Board. Questions or problems regarding your rights as a participant should be addressed to Julia D. Alexander, M.A., Institutional Review Board; Office of the Vice President for Research: The University of Georgia; 606A Boyd Graduate Studies Research Center; Athens, Georgia 30602-7411; Telephone (706) 542-6514; E-Mail Address: IRB@uga.edu.

APPENDIX D:
PHONETIC SYNOPSES

Guide to the Phonetic Synopses

The Phonetic Synopses are charts which indicate each of the phonetic vowel types produced by each of the forty informants, identified by their coded designation. The coded designation of the informant includes a unique two digit number preceded by letters indicating rurality and sex. For example, RM05 is a rural male and UF06 is an urban female. The basic phonetic realizations of the charted vowels include [i, ɪ, e, ε, ɜ, æ, ɑ, ɔ, o, ʌ, ʊ, and u], as in the words *three, six, eight, ten, church, half, John, law, know, son, good, and two*. An example of the main lexical form associated with a phonetic type is provided on the left and right sides of the table. Standard target words appear outside parentheses, and substitution words appear inside parentheses when the target word did not occur. Target words marked with an asterisk did not occur. The phones are arranged to mimic articulatory placement of the vowels, following the arrangement used by Kurath and McDavid (1961) and for the convenience of the reader, but do not accurately represent articulatory placement. Each of the tables demonstrates a unique range of pronunciation, as each informant's collection of speech features is in some ways unique. The reader will see, however, that there are some features shared by several or many informants, including the presence of offglides in the checked vowels [ɪ, ε, æ, ʊ], internal variability in the production of [ɑ] ~ [ɔ] and [oʊ] ~ [ɔ], and monophthongization of /ai/ (particularly among rural informants).

Phonetic Synopses

RF01

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|--------------------|---|---|----|----|---|----------|-----|----|-----------|----|----|---|-----------|---|---|-----------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | wood |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| crib/kid | | ɪ | | | | | | | | | | | | u | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | ou | | | *road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| *ten (then) | | | | ɛ | | | | | | | | | oɜ, or | | | four |
| *head | | | | | | | | | | | | | or | | | *door |
| *care (parents) | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (fun) |
| sermon | | | | | ɜ | | | | | | ɑɔ | | | | | law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| half | | | | | | | | | | | | | | | | *daughter |
| *glass | | | | | | æ, æə | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | | | or | | | forty |
| married | | | | ɛr | | | | | | | | | or | | | *corn |
| | | | | | | | | | | | | | or | | | morning |
| twice | | | | | | | ai | | | | | | oi | | | *boil/joint (boys) |
| five | | | | | | | ai | ɑ | | | | | | | | father |
| *wire (retired) | | | | | | | air | ɑ | | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | ɑɜ, ar | | | | | | | barn/farm |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

RF02

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|--------------------|---|---|----|----|---|---|------------|----|-----------|----|---|---|----|-----------|---|------------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | wood/good |
| six | | ɪ | | | | | | | | | | | | u | | *pull (full) |
| crib/kid | | ɪ | | | | | | | | | | | | u (uu) | | school (schooling) |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | | ou | | ago |
| *Mary | | | | | | | | | | | | | | ou | | *road (railroad) |
| | | | | | | | | | | | | | | | | *home |
| | | | | | | | | | | | | | | ou | | know |
| *ten (then) | | | | ɛ | | | | | | | | | | our | | four |
| *head (dead) | | | | ɛ | | | | | | | | | | | | *door |
| *care (parents) | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (Sunday) |
| sermon | | | | | ɜ | | | | | | ɔ | | | | | *law (laws) |
| | | | | | | | | | ɑ | | | | | | | dog |
| | | | | | | | | | ɑ | | | | | | | water |
| half | | | | | | æ | | | ɑ | | | | | | | daughter |
| *glass (passed) | | | | | | æ | | | | | | | or | | | horse |
| aunt | | | | | | æ | | | | | | | or | | | forty |
| married | | | | ɛr | | | | | | | | | or | | | *corn (born) |
| | | | | | | | | | | | | | or | | | morning |
| *twice (nice) | | | | | | | | | | | | | oi | | | *boil/joint (point) |
| five | | | | | | | ai | | ɑ | | | | | | | father |
| *wire (retired) | | | | | | | aɪ , aɜ | | ɑ | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | ɑr, ɑɜ | | | | | | | barn/farm |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

RF03

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|-------------------|---|----------|----|-----------|---|---|----|------|---|----|---|---|------------|------------|---|----------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | wood/good |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| crib/kid (did) | | ɪ, ɪə | | | | | | | | | | | | ɪuʊ ,uʊ | | school |
| | | | | | | | | | | | | | | | | *poor |
| *eight | | | | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | ou | | | *road (railroad) |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| *ten (then) | | | | ɛ | | | | | | | | | our ,oʊ | | | four |
| *head (read) | | | | ɛ | | | | | | | | | or | | | door |
| care | | | eɜ | | | | | | | | | ʌ | | | | mother |
| (parents) | | | | ɛr | | | | | | | | ʌ | | | | *sun (Sunset) |
| sermon | | | | | ɜ | | | | | | ɔ | | | | | *law (in-laws) |
| | | | | | | | | | | | ɔ | | | | | *dog |
| | | | | | | | | | | | ɔ | | | | | water |
| half | | | | | | æ | | ɑ, ɔ | | | | | | | | daughter |
| *glass | | | | | | | | | | | | | or | | | horse |
| aunt | | | | | | æ | | | | | | | or | | | forty |
| married | | | | ɛr, ær | | | | | | | | | or | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| twice | | | | | | | ai | | | | | | oi | | | *boil/joint (boy) |
| five | | | | | | | ai | | ɑ | | | | | | | father |
| *wire (fire) | | | | | | | aɜ | | ɑ | | | | | | | John |
| out | | | | | | | au | | ɑ | | | | | | | college |
| down | | | | | | | au | | | | | | | | | *barn/farm |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

RF04

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|--------------------|---|---|----|----------|---|----|----|----|---|----|----|---|-----------|--------------|---|-----------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib/kid (did) | | ɪ | | | | | | | | | | | | u, u , ɪu | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | | | | *ago |
| Mary | | | | ɛr | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | o | | | know |
| *ten (then) | | | | ɛ, ɛθ | | | | | | | | | or | | | four |
| *head | | | | | | | | | | | | | or | | | door |
| care | | | | ɛr | | | | | | | | ʌ | | | | mother |
| (parents) | | | | ɛr | | | | | | | | ʌ | | | | *sun (son) |
| sermon | | | | | ɜ | | | ɑ | | | | | | | | *law (drawing) |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| *half | | | | | | | | | | | ɔ | | | | | daughter |
| *glass | | | | | | | | | | | | | | | | *horse |
| aunt | | | | | | æθ | | | | | | | or | | | forty |
| married | | | | ɛr | | | | | | | ɔr | | or | | | *corn (born)(torn) |
| | | | | | | | | | | | | | | | | *morning |
| twice | | | | | | | ai | | | | | | oi, oi | | | *boil/joint (boys) |
| five | | | | | | | a | ɑ | | | | | | | | father |
| *wire (retire) | | | | | | | aɜ | ɑθ | | | | | | | | John |
| out | | | | | | | au | ɑ | | | | | | | | college |
| down | | | | | | | au | ɑr | | | | | | | | *barn/farm (marm) |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

RF05

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|--------------------|---|---|----|----|---|----|----|----|-----|----|----|---|-----|---|----|-----------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | | | | | | | | | | | | | | | *pull |
| *crib/kid (did) | | ɪ | | | | | | | | | | | | | uə | school |
| | | | | | | | | | | | | | or | | | poor |
| *eight (state) | | | eɪ | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | ou, | | | home |
| | | | | | | | | | | | | | ou | | | know |
| *ten (then) | | | | ɛ | | | | | | | | | | | | *four |
| *head | | | | | | | | | | | | | | | | *door |
| care | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (son) |
| sermon | | | | | ɜ | | | | | | ɔ | | | | | *law (grandpa) |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | ɑ | | | | | | | water |
| *half | | | | | | | | | | | ɔ | | | | | daughter |
| *glass | | | | | | | | | | | | | or | | | *horse (horseback) |
| aunt | | | | | | æə | | | | | | | | | | *forty |
| married | | | | ɛr | | | | | | | | | | | | *corn/born |
| | | | | | | | | | | | | | | | | *morning |
| *twice (wife) | | | | | | | ai | | | | | | | | | *boil/joint |
| *five (drive) | | | | | | | ai | | ɑ | | | | | | | father |
| *wire | | | | | | | | | æə | | | | | | | John |
| out | | | | | | | | au | ɑ/ɑ | | | | | | | college/car |
| down | | | | | | | | au | | | ɔr | | | | | farm/far |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

RM01

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|-------------------|----|---|-----|----|---|----|-----|----|---|----|----|---|-----|------|---|--------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (would) |
| six | ɪ | | | | | | | | | | | | | | | *pull |
| crib | ɪə | | | | | | | | | | | | | u, u | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | | | | *home |
| ten | | | | ɛə | | | | | | | | | ou | | | know |
| *head | | | | | | | | | | | | | oər | | | four |
| *care (repair) | | | eər | | | | | | | | | | | | | *door |
| (parents) | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | | | | | *sun |
| sermon | | | | | ɜ | | | | | | | | | | | *law |
| thirty | | | | | ɜ | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| *half | | | | | | æə | | ɑ | | | | | | | | daughter |
| *glass | | | | | | | | | | | ɔr | | | | | horse |
| aunt | | | | | | æə | | | | | ɔr | | | | | forty |
| (dad) | | | | | | æ | | | | | ɔr | | | | | corn (born) |
| married | | | | ɛr | | | | | | | | | | | | *morning |
| | | | | | | | | | | ɔi | | | | | | *joint (joined) |
| *twice | | | | | | | ai | | | | | | | | | |
| five | | | | | | | ai | ɑ | | | | | | | | father |
| wire | | | | | | | aɪr | ɑə | | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | | | | | | | | *barn |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

RM02

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |
|--------------------|---|----|----|----|---|----------|-----------|----|----|----------|----|---|----|-----|---|--------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib | | ɪə | | | | | | | | | | | | ɪʊə | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | oʊ | | | road |
| | | | | | | | | | | | | | | | | *home |
| ten | | | | ɛ | | | | | | | | | oʊ | | | know |
| *head | | | | ɛ | | | | | | | | | oʊ | | | four |
| *care (parents) | | | | ɛr | | | | | | | | | | | | *door |
| | | | | | | | | | | | | ʌ | | | | mother |
| sermon | | | | | ɜ | | | | | | | ʌ | | | | *sun (son) |
| thirty | | | | | ɜ | | | | | | | | | | | *law |
| | | | | | | | | | | | | | | | | *dog |
| (dad) | | | | | | æ, æə | | | | | | | | | | *water |
| *half | | | | | | | | | | ɑɔ, ɑ | | | | | | daughter |
| *glass | | | | | | æə | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | | | or | | | forty |
| married | | | | | | ær | | | | | ɔr | | | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| *twice (wife) | | | | | | | a, aɪ | | | ɔɪ | | | | | | *joint (boy) |
| five | | | | | | | a | | ɑ | | | | | | | father |
| *wire | | | | | | | aɜ | | ɑ | | | | | | | John |
| down | | | | | | | au, æʊ | | ɑ | | | | | | | college |
| out | | | | | | | au, æʊ | | ɑɜ | | | | | | | *barn (farm) |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |

Phonetic Synopses

RM03

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|---------------------|---|---|----|----|---|----|----|----|----|----|-----|---|------------|---|---|---------------------------|
| *three (least) | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| *six | | | | | | | | | | | | | | | | *pull |
| *crib (kid) | | ɪ | | | | | | | | | | | | u | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| *Mary | | | | | | | | | | | | | ou | | | road |
| | | | | | | | | | | | | | | | | *home |
| *ten (tenth) | | | | ɛ | | | | | | | | | ou | | | know |
| *head (ahead) | | | | ɛ | | | | | | | | | our ,or | | | four |
| *care | | | | ɛr | | | | | | | | | | | | *door |
| | | | | | | | | | | | | ʌ | | | | mother |
| sermon | | | | | ɜ | | | | | | | | | | | *sun |
| thirty | | | | | ɜ | | | | | | ɔ | | | | | law |
| | | | | | | | | | ɑ | | | | | | | dog |
| *bag (bragging) | | | | | | æɪ | | ɑ | | | | | | | | water |
| *half (Catholic) | | | | | | æ | | | | | . | | | | | *daughter (thought) |
| *glass (last) | | | | | | æ | | | | | ocr | | | | | horse |
| aunt | | | | | | æə | | | | | | | our | | | forty |
| | | | | | | | | | | | | | | | | *corn (long- horns) |
| married | | | | | | ɛr | | | | | ɔr | | | | | *morning |
| | | | | | | | | | | | | | | | | |
| *twice | | | | | | | | | | oɪ | | | | | | *joint |
| five | | | | | | | ai | ɑ | | | | | | | | father |
| *wire | | | | | | | | ɑ | | | | | | | | *John |
| down | | | | | | | | au | ɑ | | | | | | | college |
| | | | | | | | | | | | | | | | | |
| out | | | | | | | | au | ɑr | | | | | | | *barn (started) |
| | | | | | | | | | | | | | | | | |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

RM04

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |
|--------------------|---|---|----|----|---|----------|----|-----------|---|-----------|-----|---|-----------|-----|----------|-----------------------------------|
| three | i | | | | | | | | | | | | | u | u, uu | two |
| | | | | | | | | | | | | | | u | | wood |
| six | | ɪ | | | | | | | | | | | | uə, | | school |
| *crib (kids) | | ɪ | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | oɜ, or | | | poor |
| eight | | | ɛɪ | | | | | | | | | | | | | *ago |
| Mary | | | | ɛr | | | | | | | | | ou | | | road |
| | | | | | | | | | | | | | ou | | | home |
| ten | | | | ɛ | | | | | | | | | ou | | | know |
| egg | | | | ɛɪ | | | | | | | | | our | | | four |
| head | | | | ɛ | | | | | | | | | | | | *door |
| *care (parents) | | | | ɛr | | | | | | | | | uə | | | *brush (flush) |
| | | | | | | | | | | | | ʌ | | | | *sun (run) |
| | | | | | | | | | | | ɑɔ | | | | | *law (...-in-law) |
| *sermon | | | | | | | | | | | | | ou | | | dog |
| thirty | | | | | ɜ | | | ɑ | | | | | | | | water |
| | | | | | | | | ɑ | | | | | | | | *daughter (grand- daughter) |
| half | | | | | | æ, æə | | | | | ɔr | | | | | horse, corner |
| *glass (grass) | | | | | | æ | | | | | oɔr | | or | | | forty |
| aunt | | | | | | æ | | | | | | | oɜ | | | *corn (cornmeal) |
| married | | | | | | ɛr | | | | | | | oɔr | | | morning |
| | | | | | | | | | | ɔɪ, oɪ | | | | | | *joint |
| *twice (price) | | | | | | | ai | | | ɔɪ, oɪ | | | | | | boil |
| five | | | | | | | ai | ɑ | | | | | | | | father |
| wire | | | | | | | aɜ | ɑə | | | | | | | | John |
| down | | | | | | | au | ɑ | | | | | | | | college |
| out | | | | | | | au | ɑɜ, ɑr | | | | | | | | *barn |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |

Phonetic Synopses

RM05

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|-----------------------|---|---|----|----|---|----------|-----------|-----------|---|----|----------|---|----|-----------------|---|---------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (would) |
| six | | ɪ | | | | | | | | | | | | u | | pull |
| *crib (did) | | ɪ | | | | | | | | | | | | u, uə, ɪu | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| *Mary | | | | | | | | | | | | | ou | | | road |
| | | | | | | | | | | | | | | | | *home |
| | | | | | | | | | | | | | ou | | | know |
| ten | | | | ɛ | | | | | | | | | oɜ | | | four |
| *head (-quarters) | | | | ɛ | | | | | | | | | | | | *door |
| *care (parents) | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | | | | | *sun |
| sermon | | | | | ɜ | | | | | | ɔ, ɑɔ | | | | | *law (saw) |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | ɑ | | | | | | | | water |
| *half | | | | | | | | | | | ɑɔ | | | | | daughter |
| *glass (gas/class) | | | | | | æ/ æə | | | | | | | | | | *horse |
| aunt | | | | | | æə | | | | | | | ou | | | forty |
| married | | | | ɛr | | | | | | | ɔr | | | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| *twice (nice/Vice) | | | | | | | a/ aɪ | | | | ɔɪ | | | | | *joint (join) |
| five | | | | | | | aɪ , a | ɑ | | | | | | | | father |
| wire | | | | | | | aɜ | ɑ | | | | | | | | John |
| out | | | | | | | au | ɑ | | | | | | | | college |
| down | | | | | | | au | ɑr, ɑɜ | | | | | | | | *barn (farm) |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UF01

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|--------------------|---|---|----|---|---|---|----|----|---|----|---|---|----|---|---|---------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (did) | | ɪ | | | | | | | | | | | | u | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | ou | | | *road (railroad) |
| | | | | | | | | | | | | | ou | | | *home |
| | | | | | | | | | | | | | ou | | | know |
| *ten (then) | | | ɛ | | | | | | | | | | | | | *four |
| *head | | | | | | | | | | | | | | | | *door |
| care | | | ɛr | | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (Sunset) |
| sermon | | | | | ɜ | | | | | | | | | | | *law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| *half | | | | | | | | ɑ | | | | | | | | daughter |
| *glass | | | | | | | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | | | | | | *forty |
| married | | | ɛr | | | | | | | | | | or | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| *twice (vice) | | | | | | | ai | | | | | | | | | *boil/joint |
| five | | | | | | | ai | ɑ | | | | | | | | father |
| *wire (retired) | | | | | | | ai | ɑ | | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | | | | | | | | *barn/farm |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UF02

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|--------------------|---|---|----|----|---|---|----|----|---|----|----|---|-----------|---|---|-----------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (did) | | | | | | | | | | | | | | u | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| Mary | | | | ɛr | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| ten | | | | ɛ | | | | | | | | | or | | | four |
| *head | | | | | | | | | | | | | | | | *door |
| *care | | | | | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | sun |
| sermon | | | | | ɜ | | | | | | | | | | | *law (saw) |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| *half | | | | | | | | | | | ɔ | | | | | daughter |
| *glass | | | | | | | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | ɔr | | | | | *forty |
| married | | | | ɛr | | | | | | | | | or, ɔr | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| *twice (night) | | | | | | | ai | | | | | | | | | *boil/joint |
| *five (died) | | | | | | | ai | ɑ | | | | | | | | father |
| *wire (retired) | | | | | | | ai | ɑ | | | | | | | | John |
| *out | | | | | | | | ɑ | | | | | | | | college |
| down | | | | | | | | au | | | | | | | | *barn/farm |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UF03

| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |
|------------------|---|---|---|----|---|---|----|----|----|----|---|---|-----|---|---|--------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| *six | | | | | | | | | | | | | | | | *pull |
| *crib (kid) | | ɪ | | | | | | | | | | | | u | | school |
| | | | | | | | | | | | | | or | | | poor |
| *eight | | | | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| *ten (then) | | | | ɛ | | | | | | | | | our | | | four |
| *head | | | | | | | | | | | | | | | | *door |
| care | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun |
| sermon | | | | | ɜ | | | | | | | | | | | *law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| half | | | | | | æ | | | | | ɔ | | | | | daughter |
| *glass | | | | | | | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | | | or | | | forty |
| married | | | | ɛr | | | | | | | | | or | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| *twice (nice) | | | | | | | aɪ | | | | | | oɪ | | | *joint (joined) |
| *five | | | | | | | | | ɑ | | | | | | | father |
| *wire (hire) | | | | | | | aɪ | | ɑ | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | ɑɜ | | | | | | | *barn (farmed) |
| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UF04

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |
|-------------------|---|---|----|----|---|---|-----------|----|---|----|-----|---|-----|-----------------|---|--------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| *six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (kid) | | | | | | | | | | | | | | ʊ, ɪʊ, ʊə | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | oʊ | | | home |
| | | | | | | | | | | | | | oʊ | | | know |
| *ten (then) | | | | ɛ | | | | | | | | | | | | *four |
| head | | | | ɛ | | | | | | | | | oʊr | | | door |
| *care (scared) | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun |
| sermon | | | | | ɜ | | | | | | ɑɔ | | | | | *law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| *half | | | | | | | | | | | ɔ | | | | | daughter |
| *glass (class) | | | | | | æ | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | | | | | | *forty |
| married | | | | ɛr | | | | | | | ɔr, | | | | | *corn |
| | | | | | | | | | | | | | or | | | morning |
| *twice (life) | | | | | | | ai | | | ɔɪ | | | | | | *joint (joined) |
| *five | | | | | | | | ɑ | | | | | | | | father |
| *wire | | | | | | | | ɑ | | | | | | | | John |
| out | | | | | | | au, æʊ | ɑ | | | | | | | | college |
| down | | | | | | | æʊ, au | | | | | | | | | *barn |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UF05

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|--------------------|---|---|----|---|---|-----------|----|----|---|----|---|---|-----|-----|---|--------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| *six | | | | | | | | | | | | | | | | *pull |
| *crib (did) | | ɪ | | | | | | | | | | | | ɪ u | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | | | | *home |
| | | | | | | | | | | | | | ou | | | know |
| ten | | | | ɛ | | | | | | | | | | | | *four |
| head | | | | ɛ | | | | | | | | | our | | | door |
| *care | | | | | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (son) |
| sermon | | | | | ɜ | | | | | | | | | | | *law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| *half | | | | | | | | | | | ɔ | | | | | daughter |
| *glass | | | | | | | | | | | | | | | | *horse |
| aunt | | | | | | a | | | | | | | | | | *forty |
| married | | | | | | ær, ɛr | | | | | | | or | | | *corn (born) |
| (time) | | | | | | | a | | | | | | | | | *morning |
| *twice (wife) | | | | | | | aɪ | | | | | | oɪ | | | *joint (joined) |
| fīve | | | | | | | aɪ | ɑ | | | | | | | | father |
| *wire (retired) | | | | | | | aɪ | ɑ | | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| *down | | | | | | | | | | | | | | | | *barn |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UF06

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|-------------------|---|---|----|----|---|---|----|-----|---|----|---|---|----|---|---|-------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (did) | | ɪ | | | | | | | | | | | | u | | school |
| | | | | | | | | | | | | | ou | | | poor |
| eight | | | eɪ | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | | | | *home |
| | | | | | | | | | | | | | ou | | | know |
| *ten (then) | | | | ɛ | | | | | | | | | ou | | | four |
| *head | | | | | | | | | | | | | | | | *door |
| *care | | | | | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (son) |
| sermon | | | | | ɜ | | | | | | | | | | | *law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| *half (math) | | | | | | æ | | ɑ | | | | | | | | daughter |
| *glass (class) | | | | | | æ | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | | | | | | *forty |
| married | | | | ɛr | | | | | | | | | or | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| *twice | | | | | | | | | | | | | oi | | | *boil (joined) |
| five | | | | | | | ai | ɑ | | | | | | | | father |
| *wire | | | | | | | | ɑ | | | | | | | | John |
| *out (clout) | | | | | | | | æou | ɑ | | | | | | | college |
| *down (Town) | | | | | | | | au | | | | | | | | *barn |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UF07

| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |
|---------------------|---|---|----|----|---|---|----|----|---|----|---|---|-----|-----|---|--------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | | | *wood |
| *six | | | | | | | | | | | | | | u | | *pull (full) |
| *crib (did) | | ɪ | | | | | | | | | | | | ɪ u | | school |
| | | | | | | | | | | | | | | | | *poor |
| *eight (hate) | | | eɪ | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | ou | | | home (-steaded) |
| | | | | | | | | | | | | | ou | | | know |
| *ten | | | | ɛ | | | | | | | | | ouɾ | | | four |
| *head | | | | | | | | | | | | | | | | *door |
| *care | | | | | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (son) |
| sermon | | | | | ɜ | | | | | | | | | | | *law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| half | | | | | | æ | | | ɑ | | | | | | | daughter |
| *glass | | | | | | | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | | | | | | *forty |
| married | | | | ɛɾ | | | | | | | | | | | | *corn |
| | | | | | | | | | | | | | | | | *morning |
| *twice (wife) | | | | | | | aɪ | | | | | | | | | *joint |
| *five | | | | | | | | | ɑ | | | | | | | father |
| *wire (required) | | | | | | | aɪ | | ɑ | | | | | | | John |
| out | | | | | | | | æu | ɑ | | | | | | | college |
| down | | | | | | | | au | | | | | | | | *barn |
| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UF08

| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |
|------------------|---|---|----|----|---|----|----|----|----|----|---|---|----|-----|---|-----------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| *six (1916) | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (did) | | ɪ | | | | | | | | | | | | ɪ u | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | | | | *home |
| | | | | | | | | | | | | | oʊ | | | know |
| *ten (then) | | | | ɛ | | | | | | | | | | | | *four |
| *head | | | | | | | | | | | | | | | | *door |
| *care | | | | | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | | | | | *sun |
| sermon | | | | | ɜ | | | | | | | | | | | *law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | ɔ | | | | | water |
| *half | | | | | | | | | | | ɔ | | | | | daughter |
| *glass | | | | | | | | | | | | | | | | *horse |
| aunt | | | | | | æə | | | | | | | | | | *forty |
| married | | | | ɛr | | | | | | | | | | or | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| *twice (wife) | | | | | | | aɪ | | | | | | oɪ | | | *joint (join) |
| five | | | | | | | aɪ | | ɑ | | | | | | | father |
| *wire | | | | | | | | | æə | | | | | | | John |
| out | | | | | | | au | | ɑ | | | | | | | college |
| *down | | | | | | | | | | | | | | | | *barn |
| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UF09

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|--------------------|---|---|----|---|---|---|----|----|----------|----|----|---|-----|----------|---|--------------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (did) | | ɪ | | | | | | | | | | | | u, uə | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| *Mary | | | | | | | | | | | | | ou | | | road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| ten | | | ɛ | | | | | | | | | | our | | | four |
| *head | | | | | | | | | | | | | | | | *door |
| *care | | | | | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun |
| sermon | | | | | ɜ | | | | | | ɔ | | | | | law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | ɔ | | | | | water |
| *half | | | | | | | | | | | ɔ | | | | | daughter |
| *glass (class) | | | | | | æ | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | ɔr | | | | | forty |
| married | | | ɛr | | | | | | | | ɔr | | or | | | *corn (born) |
| | | | | | | | | | | | ɔr | | | | | morning |
| *twice (nice) | | | | | | | ai | | | | ɔi | | oi | | | *joint (boy, enjoyed) |
| five | | | | | | | ai | | ɑ | | | | | | | father |
| *wire (retired) | | | | | | | aɜ | | ɑ, ɑə | | | | | | | John |
| out | | | | | | | æa | | ɑ | | | | | | | college |
| down | | | | | | | æa | ɑr | | | | | | | | *barn (Army) |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UF10

| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |
|-------------------|---|---|----|----|---|---|----|----|----|----|----|---|-----|-----------------|---|-----------------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| *six (sixth) | | ɪ | | | | | | | | | | | | u | | *pull (full- blooded) |
| *crib (did) | | ɪ | | | | | | | | | | | | u, uə, ɪu | | school |
| | | | | | | | | | | | | | our | | | poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| *Mary | | | | | | | | | | | | | ou | | | *road (railroad) |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| ten | | | | ɛ | | | | | | | ɔɪ | | our | | | four |
| head | | | | ɛ | | | | | | | ɔɪ | | | | | door |
| *care | | | | | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun |
| sermon | | | | | ɜ | | | | | | ɔ | | | | | law |
| | | | | | | | | | ɑ | | | | | | | *dog |
| | | | | | | | | | | | | | | | | water |
| half | | | | | | æ | | | | | ɔ | | | | | daughter |
| *glass (class) | | | | | | æ | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | | | | | | *forty |
| married | | | | ɛɪ | | | | | | | ɔɪ | | or | | | *corn |
| | | | | | | | | | | | | | | | | *morning |
| twice | | | | | | | aɪ | | | | ɔɪ | | oɪ | | | *joint (boy, enjoyed) |
| five | | | | | | | aɪ | | ɑ | | | | | | | father |
| *wire | | | | | | | | | ɑ | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | ar | | | | | | | *barn (Barney) |
| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UF11

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|---------------------|---|---|----|----|---|---|----|----|---|----|---|---|-----|----------|---|---------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (kid) | | ɪ | | | | | | | | | | | | u, ɪu | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| *Mary | | | | | | | | | | | | | ou | | | *road (railroad) |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| *ten (then) | | | | ɛ | | | | | | | | | our | | | four |
| *head (Morehead) | | | | ɛ | | | | | | | | | our | | | door |
| *care | | | | | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | | | | | *sun |
| sermon | | | | | ɜ | | | | | | | | | | | *law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| half | | | | | | æ | | | ɑ | | | | | | | daughter |
| *glass (class) | | | | | | æ | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | | | or | | | forty |
| married | | | | ɛr | | | | | | | | | or | | | *corn |
| | | | | | | | | | | | | | | | | *morning |
| *twice (nice) | | | | | | | | | | | | | | | | *boil/joint |
| five | | | | | | | ai | | ɑ | | | | | | | father |
| *wire (retire) | | | | | | | | | ɑ | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | | | | | | | | *barn |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UF12

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|---------------------|---|---|----|----|---|---|----|----|----|----|---|---|-----|---|---|--------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (kid) | | ɪ | | | | | | | | | | | | u | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| *Mary | | | | | | | | | | | | | ou | | | road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| ten | | | | ɛ | | | | | | | | | our | | | four |
| *head | | | | | | | | | | | | | | | | *door |
| *care (pear) | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (Sunday) |
| *sermon (church) | | | | | | | | | | | ɔ | | | | | *law (d.in-law) |
| | | | | | ɜ | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| half | | | | | | æ | | | ɑ | | | | | | | daughter |
| *glass | | | | | | | | | | | | | | | | *horse |
| *aunt | | | | | | | | | | | | | or | | | *forty |
| married | | | | ɛr | | | | | | | | | or | | | *corn |
| | | | | | | | | | | | | | | | | *morning |
| *twice (nice) | | | | | | | ai | | | oi | | | | | | *joint (boy) |
| five | | | | | | | ai | | ɑ | | | | | | | father |
| *wire (retired) | | | | | | | ai | | ɑ | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | ɑr | | | | | | | *barn (farmers) |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UF13

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|--------------------|---|---|----|----|---|---|----|----|----|----|---|---|-----|---|---|-----------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (Kid) | | ɪ | | | | | | | | | | | | u | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| *Mary | | | | | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| ten | | | | ɛ | | | | | | | | | our | | | four |
| head | | | | ɛ | | | | | | | | | | | | *door |
| care | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | | | | | *sun |
| sermon | | | | | ɜ | | | ɑ | | | | | | | | *law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | ɑ | | | | | | | | water |
| *half | | | | | | | | ɑ | | | | | | | | daughter |
| *glass | | | | | | | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | ɔr | | | | | | forty |
| married | | | | ɛr | | | | | | | | | or | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| *twice (nice) | | | | | | | ai | | | oi | | | | | | *joint (boys) |
| five | | | | | | | ai | ɑ | | | | | | | | father |
| *wire (retired) | | | | | | | ai | ɑ | | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | ɑr | | | | | | | *barn (pharmacist) |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UF14

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|------------------|---|---|----|----|---|----|----|----|----|----|----|---|----|---|---|----------------|
| *three | | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| *six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib | | | | | | | | | | | | | | u | | school |
| | | | | | | | | | | | | | | | | *poor |
| *eight | | | eɪ | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | | | | *home |
| | | | | | | | | | | | | | ou | | | know |
| *ten (then) | | | | ɛ | | | | | | | | | | | | *four |
| head | | | | ɛ | | | | | | | | | | | | *door |
| *care | | | | | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (Sunset) |
| sermon | | | | | ɜ | | | | | | | | | | | *law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| half | | | | | | æə | | | | | ɔ | | | | | daughter |
| *glass (last) | | | | | | æ | | | | | ɔr | | | | | *horse (sorts) |
| aunt | | | | | | æ | | | | | | | | | | *forty |
| married | | | | ɛr | | | | | | | | | or | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| *twice | | | | | | | | | | | | | oi | | | *joint (Boys') |
| five | | | | | | | ai | | ɑ | | | | | | | father |
| *wire | | | | | | | | | ɑə | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| *down | | | | | | | | | | | | | | | | *barn |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UF15

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|--------------------|---|---|---|----|---|----|----|----|---|----|----------|---|-----|----|---|---------------------|
| *three (he/she) | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | | | *wood |
| *six | | | | | | | | | | | | | | | | *pull |
| *crib | | ɪ | | | | | | | | | | | | uu | | school |
| | | | | | | | | | | | | | | | | *poor |
| *eight (estate) | | | | əɪ | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | ou | | | *road (railroad) |
| | | | | | | | | | | | | | | | | *home |
| | | | | | | | | | | | | | ou | | | know |
| *ten | | | | ɛ | | | | | | | | | our | | | four |
| head | | | | ɛ | | | | | | | | | | | | *door |
| *care (area) | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | | | | | *sun |
| sermon | | | | | ɜ | | | ɑ | | | | | | | | *law (saw) |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| *half | | | | | | | | | | | ɔ, ɑɔ | | | | | daughter |
| *glass | | | | | | | | | | | | | | | | *horse |
| aunt | | | | | | æə | | | | | ɔr | | | | | *forty |
| married | | | | ɛr | | | | | | | | | or | | | *corn/born |
| | | | | | | | | | | | | | | | | *morning |
| *twice (wife) | | | | | | | ai | | | | | | | | | *boil/joint |
| *five (side) | | | | | | | ai | ɑ | | | | | | | | father |
| *wire | | | | | | | | ɑ | | | | | | | | John |
| out | | | | | | | au | ɑ | | | | | | | | college |
| down | | | | | | | au | | | | | | | | | *barn |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UM01

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|------------------|---|----------|-----|----|---|---|----|----|-----|----|-----------|---|------------|----------|---|---------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| *six (1860s) | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (did) | | ɪ, ɪə | | | | | | | | | | | | uə, u | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | ou | | | *road (railroad) |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | o | | | know |
| ten | | | | ɛ | | | | | | | | | or, our | | | four |
| *head | | | | | | | | | | | | | | | | *door |
| *care | | | eɪr | | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | | | | | *sun |
| sermon | | | | | ɜ | | | | | | | | | | | *law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| half | | | | | | æ | | ɑ | | | | | | | | *daughter |
| glass | | | | | | æ | | | | | ɔr | | | | | horse |
| aunt | | | | | | æ | | | | | | | | | | *forty |
| married | | | | ɛr | | | | | | | or, ɔr | | | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| *twice (ice) | | | | | | | ai | | | oi | | | | | | *joint (Detroit) |
| five | | | | | | | ai | ɑ | | | | | | | | father |
| *wire (fired) | | | | | | | ai | æə | | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | æər | | | | | | | *barn (farm) |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UM02

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |
|------------------|---|---|----|----|---|---|----|----|---|----|-----------|---|-----|----------|---|---------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (did) | | ɪ | | | | | | | | | | | | u, uə | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| *ten (then) | | | ɛ | | | | | | | | | | our | | | four |
| *head | | | ɛ | | | | | | | | | | | | | *door |
| *care | | | | | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (son) |
| sermon | | | | | ɜ | | | | | | ɔ | | | | | *law (saw) |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | ɑ | | | | | | | water |
| *half | | | | | | | | | ɑ | | | | | | | daughter |
| glass | | | | | | æ | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | ɔr, or | | | | | forty |
| married | | | | ɛr | | | | | | | ɔr, or | | | | | *corn (born) |
| | | | | | | | | | | | ɔr | | | | | morning |
| *twice (nice) | | | | | | | ai | | | ɔɪ | | | | | | *joint (coin) |
| five | | | | | | | ai | | ɑ | | | | | | | father |
| *wire | | | | | | | | | ɑ | | | | | | | John |
| out | | | | | | | au | | ɑ | | | | | | | college |
| down | | | | | | | au | ar | | | | | | | | *barn (farm) |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UM03

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|-------------------|---|---|----|----|---|---|-----|----|----|----|----|---|-----|---|---|------------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (kids) | | ɪ | | | | | | | | | | | | u | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| Mary | | | | ɛr | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| ten | | | | ɛ | | | | | | | | | our | | | four |
| *head | | | | | | | | | | | | | | | | *door |
| care | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | | | | | *sun |
| sermon | | | | | ɜ | | | | | | | | | | | *law |
| | | | | | | | | | | | ɔ | | | | | log |
| | | | | | | | | | | | | | | | | *water |
| *half | | | | | | | | | | | ɔ | | | | | daughter |
| glass (passed) | | | | | | æ | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | ɔr | | | | | forty |
| married | | | | ɛr | | | | | | | | | or | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| *twice | | | | | | | | | | ɔɪ | | | oɪ | | | *joint (joined,oil) |
| five | | | | | | | ai | | ɑ | | | | | | | father |
| wire | | | | | | | aɪr | | ɑ | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | ɑɜ | | | | | | | *barn (farm) |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UM04

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|--------------------------|---|---|----|----|---|----|----|----|----|----|----------|---|-----|---|---|--------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | ɪ | | | | | | | | | | | | u | | pull |
| *crib (kid) | | ɪ | | | | | | | | | | | | u | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| *Mary | | | | | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| *ten (then) | | | | ɛ | | | | | | | ɔr | | our | | | four |
| *head | | | | ɛ | | | | | | | | | | | | *door |
| care | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (son) |
| sermon | | | | | ɜ | | | | | | ɔ, ɑɔ | | | | | law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| *half | | | | | | | | | | | ɔ | | | | | daughter |
| *glass (class) | | | | | | æ | | | | | ɔr | | | | | horse |
| aunt | | | | | | æθ | | | | | | | | | | *forty |
| married | | | | ɛr | | ær | | | | | ɔr | | | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| *twice (ice, Rice) | | | | | | | ai | | | ɔi | | | | | | *joint (joined) |
| five | | | | | | | ai | | ɑ | | | | | | | father |
| *wire (retired) | | | | | | | ai | | ɑ | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | ɑr | | | | | | | barn/farm |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UM05

| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |
|--------------------|---|---|----|----|---|---|----|----|----|-----------|-----------|---|-----|----------------|---|--------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (did) | | ɪ | | | | | | | | | | | | u, uə, u | | school |
| | | | | | | | | | | | | | our | | | poor |
| eight | | | eɪ | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | ou | | | *road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| *ten (then) | | | | ɛ | | | | | | | | | our | | | four |
| *head (over-) | | | | ɛ | | | | | | | | | | | | *door |
| *care (parent) | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (son) |
| sermon | | | | | ɜ | | | | | | | | | | | *law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| half | | | | | | æ | | | | | ɔ | | | | | daughter |
| *glass (Mass) | | | | | | æ | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | our | | | | | forty |
| married | | | | ɛr | | | | | | | ɔr, or | | | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| *twice (nice) | | | | | | | aɪ | | | ɔɪ, oɪ | | | | | | *boil/boy (Oil) |
| *five (alive) | | | | | | | aɪ | | ɑ | | | | | | | father |
| *wire (retired) | | | | | | | aɪ | | æ | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| *down | | | | | | | | | ɑr | | | | | | | *barn (Army) |
| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UM06

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |
|--------------------|---|----------|----|----------|---|---|------------|----|----|-----------|---|---|------------|-----------------|---|----------------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (did) | | ɪ, ɪə | | | | | | | | | | | | ʊu, u, uə | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | oʊ | | | ago |
| *Mary | | | | | | | | | | | | | oʊ | | | *road (railroad) |
| | | | | | | | | | | | | | | | | *home |
| | | | | | | | | | | | | | o, o | | | know |
| ten | | | | ɛ, ɛə | | | | | | | | | oʊ, oʊr | | | four |
| *head (ahead) | | | | ɛ | | | | | | | | | | | | *door |
| *care (parents) | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | | | | | *sun |
| *sermon | | | | | | | | | | | ɔ | | | | | law |
| thirty | | | | | ɜ | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| *half | | | | | | | | | | | ɔ | | | | | *daughter (thought) |
| *glass | | | | | | | | | | | | | | | | *horse |
| *aunt | | | | | | | | | | | | | or | | | *forty |
| married | | | | ɛr | | | | | | | | | or, | | | *corn (born) |
| | | | | | | | | | | | | | or | | | morning |
| *twice | | | | | | | | | | ɔɪ, oɪ | | | | | | *boil/joint (Point,oil) |
| five | | | | | | | aɪ | | ɑ | | | | | | | father |
| *wire (retired) | | | | | | | aɜ, aɪr | | | | | | | | | *John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | ɑr | | | | | | | *barn (army) |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UM07

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |
|-----------------------|---|---|----|----|---|---|----|----|----|----|---|---|----|----|---|---------------|
| *three (need) | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (did) | | ɪ | | | | | | | | | | | | u, | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| | | | | | | | | | | | | | ou | | | road |
| | | | | | | | | | | | | | ou | | | *home (loan) |
| *ten (then) | | | | ɛ | | | | | | | | | o, | | | know |
| *head | | | | | | | | | | | | | | | | *four |
| *Mary | | | | | | | | | | | | | | | | *door |
| care | | | | ɛr | | | | | | | | ʌ | | | | *sun (son) |
| | | | | | | | | | | | | ʌ | | | | mother |
| sermon | | | | | ɜ | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| | | | | | | | | | ɑ | | | | | | | daughter |
| married | | | | ɛr | | | | | | | | | | | | *law |
| *half (after) | | | | æ | | | | | | | | | ou | r | | forty |
| *glass | | | | | | | | | | | | | | | | *morning |
| aunt | | | | æ | | | | | | | | | or | | | *corn (forms) |
| | | | | | | | | | | | | | | | | *horse |
| *twice (life/wife) | | | | | | | ai | | | ɔɪ | | | | | | boy |
| *five (died/side) | | | | | | | ai | | ɑ | | | | | | | father |
| *wire | | | | | | | | | ar | | | | | | | *barn (army) |
| out | | | | | | | | au | ɑ | | | | | | | John |
| down | | | | | | | | au | ɑ | | | | | | | college |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UM08

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|---------------------|---|---|----|----|---|----------|------------|----|-----------|----|-----------|---|-----------|----------|---|------------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | wood |
| six | | ɪ | | | | | | | | | | | | u | | pull |
| *crib (kids) | | ɪ | | | | | | | | | | | | u, uə | | school |
| | | | | | | | | | | | | | or | | | poor |
| eight | | | eɪ | | | | | | | | | | | | | *ago |
| Mary | | | | ɛr | | | | | | | | | ou | | | road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| ten | | | | ɛ | | | | | | | | | our | | | four |
| head | | | | ɛ | | | | | | | | | | | | *door |
| care | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (Sunday) |
| sermon | | | | | ɜ | | | | | | ɔ | | | | | *law (saw) |
| | | | | | | | | | | ɑ | ɑɔ, ɔ | | | | | dog |
| | | | | | | | | | ɑ | | | | | | | water |
| half (& calf) | | | | | | æ, æə | | | | | ɔ | | | | | daughter |
| *glass | | | | | | æ, æə | | | | | or | | | | | horse *see |
| aunt | | | | | | æ | | | | | | | or | | | forty *see tokens |
| married | | | | | | ɛr | | | | | or, ɔr | | | | | *corn (born) |
| | | | | | | | | | | | | | or, ɔr | | | morning |
| *twice (nice) | | | | | | | ai | | | | | | oi, ɔi | | | *joint/boil (point) |
| five *see tokens | | | | | | | ai | | ɑ | | | | | | | father |
| wire *see tokens | | | | | | | aɜ, air | | ɑ | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | ɑɜ, ar | | | | | | | *barn (farm) |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UM09

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|--------------------|---|---|----|----|---|----|-----|----|----|----|-----------|---|-----------|----------|---|-------------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood |
| six | | ɪ | | | | | | | | | | | | u | | *pull (bull) |
| *crib (kids) | | ɪ | | | | | | | | | | | | u, uə | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| *Mary | | | | | | | | | | | | | ou | | | road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| ten | | | | ɛ | | | | | | | | | our | | | four |
| head | | | | ɛ | | | | | | | | | | | | *door |
| *care (bear) | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (son) |
| sermon | | | | | ɜ | | | | | | ɔ | | | | | *law (saw) |
| | | | | | | | | | | | | | | | | dog |
| | | | | | | | | | ɑ | | | | | | | water |
| half | | | | | | æ | | | ɑ | | ɔ | | | | | daughter |
| *glass (class) | | | | | | æ | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | ɔr | | | | | *forty (1940s) |
| married | | | | | | ær | | | | | or, ɔr | | | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| twice | | | | | | | ai | | | | | | oi, ɔi | | | *joint/boil (joined) |
| five | | | | | | | ai | | ɑ | | | | | | | father |
| *wire (retired) | | | | | | | air | | ɑ | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | ar | | | | | | | *barn (farm) |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UM10

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|--------------------|---|---|----|---|---|-----|-----|----|---|----|----|---|-----|----------|---|-----------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| *six (sixth) | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (did) | | ɪ | | | | | | | | | | | | u, ɪu | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| *Mary | | | | | | | | | | | | | ou | | | road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| ten | | | ɛ | | | | | | | | | | our | | | four |
| *head (dead) | | | ɛ | | | | | | | | | | | | | *door |
| care | | | ɛr | | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (usher) |
| sermon | | | | | ɜ | | | | | | | | | | | *law |
| | | | | | | | | | | | | | | | | dog |
| | | | | | | | | | | | | | | | | *water |
| half | | | | | | æ | | | | | ɔ | | | | | daughter |
| *glass | | | | | | | | | | | ɔr | | | | | horse |
| aunt | | | | | | æ | | | | | | | or | | | *forty (Fort) |
| married | | | | | | ær | | | | | | | or | | | *corn (born) |
| | | | | | | | | | | | | | or | | | morning |
| *twice | | | | | | | | | | | | | oi | | | *joint/boil (boys) |
| five | | | | | | ai | | ɑ | | | | | | | | father |
| *wire (Ireland) | | | | | | æɪr | air | ɑ | | | | | | | | John |
| out | | | | | | | au | ɑ | | | | | | | | college |
| down | | | | | | æu | au | ɑr | | | | | | | | *barn (Army) |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UM11

| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |
|------------------|---|---|----|----|---|---|----|----|-----------|----|---|---|-----|---|---|----------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (kid) | | ɪ | | | | | | | | | | | | u | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| *Mary | | | | | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| ten | | | | ɛ | | | | | | | | | our | | | four |
| *head (read) | | | | ɛ | | | | | | | | | | | | *door |
| *care (aware) | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | | | | | *sun |
| sermon | | | | | ɜ | | | | | | | | | | | *law |
| | | | | | | | | | | | | | | | | dog |
| | | | | | | | | | | | | | | | | *water |
| *half | | | | | | | | | | | ɔ | | | | | daughter |
| *glass | | | | | | | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | | | or | | | *forty (Fort) |
| married | | | | ɛr | | | | | | | | | or | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| *twice (wife) | | | | | | | aɪ | | | ɔi | | | | | | *joint/boil (boy) |
| five | | | | | | | aɪ | | ɑ | | | | | | | father |
| *wire | | | | | | | | | ɑ | | | | | | | John |
| *out | | | | | | | | | ɑ | | | | | | | college |
| down | | | | | | | | au | ɑɜ, ɑr | | | | | | | *barn (farm) |
| | i | ɪ | e | ɛ | ɜ | æ | ai | au | ɑ | ɔi | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UM12

| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |
|----------------------|---|---|----|---|---|----|----|----|---|----|---|---|-----|---|---|------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (would) |
| *six (sixteen) | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (did) | | ɪ | | | | | | | | | | | | u | | school |
| | | | | | | | | | | | | | | | | *poor |
| *eight (eighteen) | | | eɪ | | | | | | | | | | | | | *ago |
| *Mary | | | | | | | | | | | | | ou | | | *road (rode) |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| *ten (then) | | | ɛ | | | | | | | | | | our | | | four |
| *head | | | | | | | | | | ɔr | | | | | | door |
| *care | | | | | | | | | | | ʌ | | | | | mother |
| | | | | | | | | | | | | | | | | *sun |
| sermon (SIC) | | | ɛr | | | | | | | | ɔ | | | | | law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| half | | | | | | æ | | ɑ | | | | | | | | daughter |
| *glass (Vassar) | | | | | | æ | | | | | | | | | | *horse |
| aunt | | | | | | æ | | | | | | | or | | | forty |
| married | | | | | | ær | | | | ɔr | | | | | | *corn |
| | | | | | | | | | | | | | | | | *morning |
| *twice (nice) | | | | | | | aɪ | | | | | | oɪ | | | *joint (boy) |
| five | | | | | | | aɪ | ɑ | | | | | | | | father |
| *wire (retired) | | | | | | | aɪ | ɑ | | | | | | | | John |
| out | | | | | | | au | ɑ | | | | | | | | college |
| down | | | | | | | au | ɑr | | | | | | | | *barn (Army) |
| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UM13

| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |
|--------------------|---|---|----|-----------|---|---|----|----|---|----|---|---|----|----------|---|--------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood |
| six | | ɪ | | | | | | | | | | | | u | | *pull (full) |
| *crib (did) | | ɪ | | | | | | | | | | | | u, uə | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| *Mary | | | | | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| ten | | | | ɛ, ɛə | | | | | | | | | | our | | four |
| head | | | | ɛ, ɛə | | | | | | | | | | | | *door |
| *care (parents) | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (son) |
| sermon | | | | | ɜ | | | | | | ɔ | | | | | law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| half | | | | | | æ | | | | | ɔ | | | | | daughter |
| *glass (passed) | | | | | | æ | | | | | | | or | | | horse |
| aunt | | | | | | æ | | | | | | | or | | | *forty |
| married | | | | ɛr, ær | | | | | | | | | or | | | *corn |
| | | | | | | | | | | | | | | | | *morning |
| *twice | | | | | | | aɪ | | | oɪ | | | | | | *boil (boy) |
| five | | | | | | | aɪ | | ɑ | | | | | | | father |
| *wire (retired) | | | | | | | aɪ | | ɑ | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | | | | | | | | *barn |
| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UM14

| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |
|--------------------|---|----|------|---|---|-----------|----|----|----|----|---|---|-----------|-----------------|---|----------------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | ɪ | | | | | | | | | | | | | | *pull |
| *crib (kid) | | ɪə | | | | | | | | | | | | u, uə, uu | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| *Mary | | | | | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| ten | | | ɛ, ɛ | | | | | | | | | | our | | | four |
| *head | | | | | | | | | | | | | or | | | door |
| *care | | | ɛr | | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (sons) |
| sermon | | | | | ɜ | | | | | | ɔ | | | | | law |
| | | | | | | | | | | | | | | | | *dog |
| | | | | | | | | | | | | | | | | *water |
| half | | | | | | æə | | | | | ɔ | | | | | daughter |
| *glass (class) | | | | | | æ | | | | | | | or | | | horse |
| aunt | | | | | | æ | | | | | | | or | | | forty |
| married | | | | | | æɪ, ɛɪ | | | | | | | or, ɔɪ | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| *twice (nice) | | | | | | | aɪ | | | ɔɪ | | | | | | *boil/joint (Oil,point) |
| five | | | | | | | aɪ | | ɑ | | | | | | | father |
| *wire (retired) | | | | | | | aɪ | | ɑ | | | | | | | John |
| out | | | | | | | | au | ɑ | | | | | | | college |
| down | | | | | | | | au | ɑɜ | | | | | | | *barn (farm) |
| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |

Phonetic Synopses

UM15

| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |
|----------------------|---|----------|----|----|---|-----------|----|----|---|----|-----------|---|----|-----------------------|---|------------------------|
| three | i | | | | | | | | | | | | | | u | two |
| | | | | | | | | | | | | | | u | | *wood (good) |
| six | | ɪ | | | | | | | | | | | | u | | *pull (pulled) |
| *crib (kids) | | ɪ, ɪə | | | | | | | | | | | | u, u, uu, uu | | school |
| | | | | | | | | | | | | | | | | *poor |
| eight | | | eɪ | | | | | | | | | | ou | | | ago |
| *Mary | | | | | | | | | | | | | | | | *road |
| | | | | | | | | | | | | | ou | | | home |
| | | | | | | | | | | | | | ou | | | know |
| ten | | | | ɛ | | | | | | | | | or | | | four |
| *head (-quarters) | | | | ɛ | | | | | | | | | | | | *door |
| care | | | | ɛr | | | | | | | | ʌ | | | | mother |
| | | | | | | | | | | | | ʌ | | | | *sun (Sunday) |
| sermon | | | | | ɜ | | | | | | ɔ | | | | | law |
| | | | | | | | | | | | ɔ | | | | | dog |
| | | | | | | | | | | | ɔ | | | | | water |
| half | | | | | | æə | | | ɑ | | ɔ | | | | | daughter |
| *glass | | | | | | | | | | | ɔr, or | | | | | horse |
| aunt | | | | | | æ | | | | | | | or | | | forty |
| married | | | | | | ɛr, ær | | | | | ɔr, or | | | | | *corn (born) |
| | | | | | | | | | | | | | | | | *morning |
| *twice (nice) | | | | | | | aɪ | | | | | | oɪ | | | *joint/boil (point) |
| five | | | | | | | aɪ | | ɑ | | | | | | | father |
| *wire | | | | | | | aɜ | | ɑ | | | | | | | John |
| out | | | | | | | au | | ɑ | | | | | | | college |
| down | | | | | | | au | ar | | | | | | | | *barn (Army) |
| | i | ɪ | e | ɛ | ɜ | æ | aɪ | au | ɑ | ɔɪ | ɔ | ʌ | o | u | u | |

APPENDIX E:

LEXICAL TOKENS FOR PHONETIC ANALYSIS

Key to the Lexical Tokens Chart

The following tables present all of the tokens of features used in analysis of the speech of each informant. The leftmost column contains each of the phonemes under consideration. The other columns summarize occurrences of phonetic features along with the lexical forms in which they occurred. 'Phonetic environment' refers to the environment following the vowel nucleus. The columns labeled 'Form' contain the phonetic target(s) built into the Linguistic Atlas style interview. Only approximately the first thirty minutes of the interview was analyzed, and not every target was acquired in that interval. Asterisks denote phonetic targets that did not occur during the initial conversation and first section of prompt and response. Where possible, I substituted forms from the same word class. Analyses were based only on presence or absence of a phonetic feature, so the proportion of occurrences of multiple variants was not considered. Number of occurrences is presented merely to indicate variable production of phonetic features and the tokens that may be gathered in twenty to thirty minutes of conversation and prompt and response. Multiple occurrences of the same phonetic variant in the same lexical variant are indicated by the multiplication sign 'x.' Thus, 'three x2' means that the informant said the word *three* twice with the same pronunciation of the nucleus each time.

Lexical Tokens for Phonetic Analysis

RF01

| Phoneme | Phonetic environment | | | Checked | | | | | | | | | | | |
|-----------|----------------------|-----------|-----------|---------|----------|-----------|-----------|-----------|-----------|---------|-------------|-----------|---------|------------|-----------|
| | Free | | | - voice | | | + voice | | | nasal | | | liquid | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | *three | Degree x2 | i | *grease | | | no PEAS | | | no PEAS | | | *ear | | |
| | | degree x2 | i | | | | | | | | | | | | |
| ɪ | NA | | | six | 1916 x2 | ɪ | *crib | kids x6 | ɪ | no PEAS | | | no PEAS | | |
| e | no PEAS | | | eight | 48 | eɪ | | | | | | | *Mary | | |
| | | | | | 8000 | eɪ | | | | | | | | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | *ten | then x12 | ɛ | *stairs | | |
| | | | | | | | *head | | | | | | *care | parents x3 | ɛɪ |
| | | | | | | | | | | | | | | parents' | ɛɪ |
| | | | | | | | | | | | | | | parent | ɛɪ |
| ɜ | no PEAS | | | no PEAS | | | *thirty | | | sermon | sermon | ɜ | *furrow | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt x2 | æ | married | married x2 | ɛɪ |
| | | | | *half | | | | | | | | | | | |
| | | | | *glass | class | æ | | | | | | | | | |
| | | | | | class | æə | | | | | | | | | |
| ɑ | NA | | | *crop | | | father | father x6 | ɑ | John | John | ɑ | *palm | | |
| | | | | | | | | | | | | | *barn | farm | ɑɜ |
| | | | | | | | | | | | | | | farm | ɑɪ |
| | | | | | | | | | | | | | *garden | | |
| | | | | | | | | | | | | | college | College x2 | ɑ |
| | | | | | | | | | | | | | | college x3 | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| ɑɪ | no PEAS | | | twice | Price x2 | ɑɪ | five | five | ɑɪ | no PEAS | | | *wire | retirement | ɑɪ |
| | | | | | | | | 1985 | ɑɪ | | | | | retired | ɑɪ |
| ɔɪ | no PEAS | | | no PEAS | | | no PEAS | boys | ɔɪ | *joint | | | *boil | | |
| ɑʊ | no PEAS | | | out | out | ɑʊ | no PEAS | | | down | down x5 | ɑʊ | *flower | | |
| ɔɪ | no PEAS | | | *horse | | | forty | 48 | ɔɪ | *corn | born x3 | ɔɪ | no PEAS | | |
| | | | | | | | | | | | cornerstone | ɔɪ | | | |
| | | | | | | | | | | morning | morning | ɔɪ | | | |
| ɔ | law | law | ɑɔ | *frost | | | *water | | | no PEAS | | | no PEAS | | |
| | | | | | | | *daughter | | | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | mother x5 | ʌ | *sun | fun | ʌ | no PEAS | | |
| o | know | know | ou | *coat | | | *road | railroad | ou | home | home x5 | ou | four | 1924 | oɜ |
| | | know | o | | | | | Railroad | ou | | | | | 1904 | oɜ |
| | *ago | | | | | | | | | | | | four | | oɜ |
| | | | | | | | | | | | | | four | | oɪ |
| | | | | | | | | | | | | | | 1904 | oɜ |
| | | | | | | | | | | | | | *door | floor | oɜ |
| | | | | | | | | | | | | | *hoarse | course | oɪ |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | hardwood | u | | | | *pull | school x9 | u |
| | | | | | | | | would x2 | u | | | | | School | u |
| u | two | two x7 | u | *tooth | youth x3 | u | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

RF02

| Phoneme | Phonetic environment | | | Checked | | | | | | | | | | | |
|-----------|----------------------|---------|-----------|---------|----------|-----------|----------|-------------|-----------|---------|------------|-----------|----------|------------|------------|
| | Free | | | | | | | | | | | | | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | 1933 | i | *grease | deceased | i | no PEAS | | | nasal | | | liquid | | |
| | | three | i | | | | | | | | | | | | |
| | | 53 | i | | | | | | | | | | | | |
| ɪ | NA | | | six | six x2 | ɪ | *crib | kids x2 | ɪ | no PEAS | | | no PEAS | | |
| e | no PEAS | | | eight | eight x4 | eɪ | | | | | | | *Mary | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | *ten | then x7 | ɛ | *stairs | | |
| | | | | | | | *head | dead | ɛ | | | | *care | parents | ɛr |
| ɜ | no PEAS | | | no PEAS | | | thirty | 1933 | ɜ | sermon | sermon | ɜ | *furrow | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt | æ | married | married x5 | ɛr |
| | | | | half | half x5 | æ | | | | | | | | | |
| | | | | *glass | passed | æ | | | | | | | | | |
| ɑ | NA | | | *crop | | | father | father x11 | ɑ | John | John | ɑ | *palm | | |
| | | | | | | | | | | | | | *barn | farm x2 | ɑr |
| | | | | | | | | | | | | | | farm | ɑ3 |
| | | | | | | | | | | | | | *garden | | |
| | | | | | | | | | | | | | college | college x2 | ɑ |
| | | | | | | | | | | | | | College | College | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no PEAS | | | *twice | | | five | five | aɪ | no PEAS | | | *wire | retired | aɪ3 |
| | | | | | | | | | | | | | | retire | a3 |
| | | | | | | | | | | | | | | retired | a3 |
| ɔɪ | no PEAS | | | no PEAS | | | no PEAS | | | *joint | point | ɔɪ | *boil | | |
| aʊ | no PEAS | | | out | out x7 | aʊ | no PEAS | | | down | down | aʊ | *flower | | |
| ɔr | no PEAS | | | horse | horse x4 | ɔr | forty | 1949 | ɔr | *corn | born x4 | ɔr | no PEAS | | |
| | | | | | | | | 48 | ɔr | morning | morning x2 | ɔr | | | |
| ɔ | law | laws | ɔ | *frost | | | water | water x2 | ɑ | no PEAS | | | no PEAS | | |
| | | | | | | | daughter | daughter | ɑ | | | | | | |
| | | | | | | | dog | dogs | ɑ | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | mother x6 | ʌ | *sun | Sunday | ʌ | no PEAS | | |
| oʊ | know | know x4 | oʊ | *coat | boat x2 | oʊ | *road | railroad x2 | oʊ | *home | | | four | four x2 | oʊr |
| | ago | ago x2 | oʊ | | | | | Railroad | oʊ | | | | *door | | |
| | | | | | | | | | | | | | *hoarse | course x3 | ɔr |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | good | u | | | | *pull | full x2 | u |
| | | | | | | | | | | | | | (school) | School x4 | u |
| | | | | | | | | | | | | | | school x4 | u |
| u | two | two x2 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

RF03

| Phoneme | Phonetic environment | | | Checked | - voice | + voice | nasal | liquid | | | | | | | |
|-----------|----------------------|----------|-----------|---------|----------|-----------|----------|-----------|-----------|---------|------------|-----------|---------|------------|------------|
| | Free | | | | | | | | Form | Token | Phone | Form | Token | Phone | Form |
| i | three | 1923 | i | *grease | pleased | i | no PEAS | | | no PEAS | | | *ear | | |
| ɪ | NA | | | six | six | ɪ | *crib | did x2 | ɪə | no PEAS | | | no PEAS | | |
| | | | | | | | | did x2 | ɪ | | | | | | |
| e | no PEAS | | | *eight | | | | | | | | | *Mary | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | *ten | then x11 | ɛ | *stairs | | |
| | | | | | | | *head | spread | ɛ | | | | care | care | ɛɜ |
| | | | | | | | | read | ɛ | | | | | | |
| ɜ | no PEAS | | | no PEAS | | | *thirty | | | sermon | sermon | ɜ | *furrow | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | Aunt x2 | æ | married | married x2 | æɜ |
| | | | | half | half | æ | | | | | | | married | married | æɜ |
| | | | | *glass | | | | | | | | | | | |
| ɑ | NA | | | *crop | | | father | father x5 | ɑ | John | John x2 | ɑ | *palm | | |
| | | | | | | | | | | | | | *barn | | |
| | | | | | | | | | | | | | garden | Garden | ɑ |
| | | | | | | | | | | | | | garden | garden | ɑ |
| | | | | | | | | | | | | | college | College x2 | ɑ |
| | | | | | | | | | | | | | college | college x3 | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no PEAS | | | twice | twice x2 | aɪ | five | five | aɪ | no PEAS | | | *wire | fire | aɜ |
| | | | | | | | | | | | | | while | while | a |
| ɔɪ | no PEAS | boy | ɔɪ | no PEAS | | | no PEAS | | | *joint | | | *boil | | |
| au | no PEAS | | | out | out x14 | au | no PEAS | | | down | down x2 | au | *flower | hours | aɜ |
| ɔɹ | no PEAS | | | horse | horses | ɔɹ | forty | 49 | ɔɹ | *corn | born x4 | ɔɹ | no PEAS | | |
| | | | | | | | | | | morning | morning x2 | ɔɹ | | | |
| ɔ | *law | in-laws | ɔ | *frost | lost | ɔ | water | water | ɔ | no PEAS | | | no PEAS | | |
| | | | | | | | daughter | daughter | ɔ | | | | | | |
| | | | | | | | | daughters | ɑ | | | | | | |
| | | | | | | | | daughter | ɑ | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | Mother x8 | ʌ | *sun | Sunset | ʌ | no PEAS | | |
| | | | | | | | | mother x4 | ʌ | | | | | | |
| o | know | know x12 | ou | *coat | | | *road | railroad | ou | home | home x2 | ou | four | four | ouɜ |
| | *ago | | | | | | | | | | | | four x2 | four x2 | oɜ |
| | | | | | | | | | | | | | door | door | oɜ |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | good x3 | u | | | | *pull | school x2 | ɪuu |
| | | | | | | | | | | | | | | school x4 | uu |
| | | | | | | | | | | | | | | School | uu |
| u | two | two x3 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

RM02

| Phoneme | Phonetic environment | | | Checked | | | | | | | | | | | |
|-----------|----------------------|---------|-----------|---------|-------------|-----------|----------|-----------|-----------|----------|----------|-----------|----------|------------|------------|
| | Free | | | - voice | | | + voice | | | nasal | | | liquid | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | 1953 | i | *grease | leased | i | no PEAS | | | no PEAS | | | *ear | | |
| ɪ | NA | | | six | six x3 | ɪ | *crib | did x3 | ɪ | no PEAS | Clint x8 | ɪə | no PEAS | | |
| | | | | | 26 x3 | ɪ | | kids | ɪə | | | | | | |
| e | no PEAS | | | eight | eight | eɪ | | | | | | | *Mary | chairman | ɛr |
| | | | | | 28 | eɪ | | | | | | | | | |
| | | | | | 1830s x2 | eɪ | | | | | | | | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | ten | ten | ɛ | *stairs | | |
| | | | | | | | *head | instead | ɛ | | | | *care | parents | ɛr |
| | | | | | | | | stead | ɛ | | | | | | |
| ɜ | no PEAS | | | no PEAS | | | *thirty | 1830s x2 | ɜ | sermon | sermon | ɜ | *furrow | | |
| æ | NA | | | *ashes | | | *bag | dad x2 | æ | aunt | aunts | æ | married | married x5 | ær |
| | | | | *half | | | | dad | æə | | | | | remarried | ær |
| | | | | *glass | class | æə | | Daddy | æ | | | | | | |
| ɑ | NA | | | *crop | | | father | father x2 | ɑ | John | John | ɑ | *palm | all x4 | ɑ |
| | | | | | | | | father's | ɑ | | | | | | |
| | | | | | | | | | | | | | *barn | farming x2 | ɑr |
| | | | | | | | | | | | | | | farmed | ɑɜ |
| | | | | | | | | | | | | | | farm x3 | ɑɜ |
| | | | | | | | | | | | | | *garden | charge | ɑr |
| | | | | | | | | | | | | | | started x4 | ɑr |
| | | | | | | | | | | | | | college | college | ɑ |
| | | | | | | | | | | | | | College | x3 | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no PEAS | | | *twice | wife x2 | aɪ | five | five x2 | a | no PEAS | | | *wire | retired | a |
| | | | | | wife | a | | 25 | a | | | | | | |
| | | | | | | | | 1945 | a | | | | | | |
| ɔɪ | no PEAS | Boy x2 | ɔɪ | no PEAS | | | | | | | | | *joint | | |
| | | boy | ɔɪ | | | | | | | | | | | | |
| au | no PEAS | | | out | out x3 | əu | no PEAS | | | down | down x2 | əu | *flower | | |
| | | | | | out x2 | au | | | | | down x5 | au | | | |
| ɔr | no PEAS | | | *horse | | | forty | 1945 | ɔr | *corn | born x3 | ɔ | no PEAS | | |
| | | | | | | | | | | *morning | | | | | |
| ɔ | *law | | | *frost | | | *water | | | no PEAS | | | no PEAS | | |
| | | | | | | | daughter | daughter | ɑɔ | | | | | | |
| | | | | | | | | daughters | ɑ | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | mother x7 | ʌ | *sun | son | ʌə | no PEAS | | |
| | | | | | | | | mother's | ʌ | | son x2 | ʌ | | | |
| | | | | | | | | Mother | ʌ | | | | | | |
| o | know | know x2 | ou | *coat | | | road | road | ou | *home | known | ou | four | 54 | or |
| | *ago | | | | | | | | | | | | four | | oɜ |
| | | | | | | | | | | | | | *door | | |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | (*poor) | | |
| u | NA | | | no PEAS | | | *wood | good | u | | | | *pull | | |
| | | | | | | | | | | | | | (school) | school x9 | ɪu |
| | | | | | | | | | | | | | | School x3 | ɪu |
| | | | | | | | | | | | | | | school x6 | ɪuə |
| | | | | | | | | | | | | | | School x3 | ɪuə |
| | | | | | | | | | | | | | *poor | | |
| u | two | two x8 | u | *tooth | troop | u | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

RM05

| Phoneme | Phonetic environment | | | Checked | | | + voice | | | nasal | | | liquid | | | |
|-----------|----------------------|----------|-----------|---------|-------------|-----------|----------|-----------|-----------|-----------|---------|-----------|----------|------------|-----------|----------|
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | |
| i | three | 23 x3 | i | *grease | keeping | i | no PEAS | | | no PEAS | | | *ear | | | |
| | | three x2 | i | | keep x2 | i | | | | | | | | | | |
| | | 33 x2 | i | | Street | i | | | | | | | | | | |
| | | 73 | i | | | | | | | | | | | | | |
| e | NA | | | *six | 64 | e | *crib | did | e | no PEAS | Clint | e | no PEAS | | | |
| | no PEAS | | | *eight | 58 x2 | e | | | | | | | *Mary | chairman | e | |
| | | | | | 48 x2 | e | | | | | | | | | | |
| | | | | | 1800s | e | | | | | | | | | | |
| ɛ | NA | | | *April | | | *egg | | | ten | ten x3 | ɛ | *stairs | | | |
| | | | | no PEAS | | | *head | headqrtrs | ɛ | | | | *care | parents x4 | ɛ | |
| | | | | | | | | | | | | | *merry | | | |
| | | | | | | | | | | | | | | | | |
| ɜ | no PEAS | | | no PEAS | | | thirty | | 1934 | ɜ | sermon | sermon | ɜ | *furrow | Europe x2 | ɜ |
| | | | | | | | | | 34 | ɜ | | | | | | |
| | | | | | | | | | 35 | ɜ | | | | | | |
| | | | | | | | | | 1930 | ɜ | | | | | | |
| | | | | | | | | | 33 x2 | ɜ | | | | | | |
| | | | | | | | | thirty | ɜ | | | | | | | |
| æ | NA | | | *ashes | | | *bag | dad x4 | æ | aunt | aunt | æə | married | married x4 | æ | |
| | | | | *half | | | | dad's | æ | | | | | | | |
| | | | | *glass | class | æə | | Dad x3 | æ | | | | | | | |
| | | | | | classes | æ | | | | | | | | | | |
| ɑ | NA | | | *crop | stop | ɑə | father | father x2 | ɑ | John | John | ɑ | *palm | all x6 | ɑ | |
| | | | | | | | | father's | ɑ | | | | *barn | farming | ɑ | |
| | | | | | | | | | | | | | | farm x4 | ɑ | |
| | | | | | | | | | | | | | | farm x2 | ɑ | |
| | | | | | | | | | | | | | | farmers | ɑ | |
| | | | | | | | | | | | | | | farming x2 | ɑ | |
| | | | | | | | | | | | | | *garden | hard x2 | ɑ | |
| | | | | | | | | | | | | | | started x5 | ɑ | |
| | | | | | | | | | | | | | college | College | ɑ | |
| | | | | | | | | | | | | | *borrow | | | |
| | | | | | | | | | | | | | | | | |
| aɪ | no PEAS | | | *twice | Vice x2 | aɪ | five | | 35 | aɪ | no PEAS | | wire | wireless | aɪ | |
| | | | | | nice | a | | five | a | | | | | wire x2 | aɪ | |
| ɔɪ | no PEAS | | | no PEAS | | | no PEAS | | | *joint | join | ɔɪ | *boil | Soil x3 | ɔɪ | |
| | no PEAS | | | out | out x7 | au | no PEAS | | | down | down x9 | au | *flower | | | |
| ɔʀ | no PEAS | | | *horse | | | forty | 48 x2 | ou | *corn | born x4 | ɔʀ | no PEAS | | | |
| | | | | | | | | 49 x2 | ou | | | | | | | |
| ɔ | *law | saw | ɔ | *frost | | | water | Water | ɑ | *morning | | | no PEAS | | | |
| | | saw | ɑɔ | | | | daughter | daughter | ɑɔ | | | | | | | |
| | | | | | | | *dog | | | | | | | | | |
| ʌ | NA | | | *brush | | | *log | | | | | | | | | |
| | | | | | | | no PEAS | mother x6 | ʌ | *sun | lung x3 | ʌ | no PEAS | | | |
| o | know | know x3 | ou | *coat | | | road | Road | ou | *home | | | four | 1934 | oɜ | |
| | ago | ago x3 | ou | | | | | railroad | ou | | | | | 34 | oɜ | |
| | | | | | | | | | | | | | | 64 | oɜ | |
| | | | | | | | | | | | | | | fourth | oʀ | |
| u | NA | | | no PEAS | | | *wood | would x2 | u | | | | *door | | | |
| | | | | | | | | good x4 | u | | | | *hoarse | | | |
| | | | | | | | | good x2 | ue | | | | *mourn | | | |
| | | | | | | | | | | | | | (*poor) | | | |
| | | | | | | | | | | | | | *pull | Pullman x2 | u | |
| | | | | | | | | | | | | | (school) | school x3 | u | |
| | | | | | | | | | | | | | | school x5 | ue | |
| | | | | | | | | | | | | | | School | ue | |
| | | | | | | | | | | | | | | School | u | |
| | | | | | | | | | | | | | | school | uɪ | |
| | | | | | | | | | | | | | | school x2 | iu | |
| u | two | two x4 | u | *tooth | Lutheran x6 | u | no PEAS | | | no PEAS | | | *poor | | | |
| | | | u | | | | | | | | | | no PEAS | | | |

Lexical Tokens for Phonetic Analysis

UF01

| Phoneme | Phonetic environment | | | | | | | | | | | | | | |
|-----------|----------------------|----------|-----------|---------|--------|-----------|----------|-------------|-----------|----------|-----------|-----------|---------|-----------|------------|
| | Free | | Checked | | | | | | | | | | | | |
| | | | - voice | | | + voice | | | | nasal | | | liquid | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | three x3 | i | *grease | | | no PEAS | | | no PEAS | | | *ear | | |
| | | 1893 | i | | | | | | | | | | | | |
| ɪ | NA | | | six | 1956 | ɪ | *crib | did x2 | ɪ | no PEAS | | | no PEAS | | |
| | | | | | six x2 | ɪ | | | | | | | | | |
| e | no PEAS | | | *eight | 1893 | eɪ | | | | | | | *Mary | | |
| | | | | | 1887 | eɪ | | | | | | | | | |
| | | | | | 87 | eɪ | | | | | | | | | |
| | | | | | 1890 | eɪ | | | | | | | | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | *ten | then x20 | ɛ | *stairs | | |
| | | | | | | | *head | | | | | | care | care | ɛɪ |
| ɜ | no PEAS | | | no PEAS | | | *thirty | | | sermon | sermon | ɜ | *furrow | | |
| | | | | | | | | | | | sermons | ɜ | | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt | æ | married | married | ɛɪ |
| | | | | *half | | | | | | | | | | | |
| | | | | *glass | | | | | | | | | | | |
| ɑ | NA | | | *crop | | | father | father x6 | ɑ | John | John | ɑ | *palm | | |
| | | | | | | | | | | | | | *barn | | |
| | | | | | | | | | | | | | *garden | | |
| | | | | | | | | | | | | | college | College | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no PEAS | | | *twice | vice | aɪ | *five | 1925 | aɪ | no PEAS | | | *wire | Ireland | aɪɪ |
| | | | | | | | | | | | | | retired | | aɪɪ |
| ɔɪ | no PEAS | | | no PEAS | | | no PEAS | | | *joint | | | *boil | | |
| au | no PEAS | | | out | out x4 | au | no PEAS | | | down | down x5 | au | *flower | | |
| ɔɪ | no PEAS | | | *horse | | | *forty | | | *corn | born x5 | ɔɪ | no PEAS | | |
| | | | | | | | | | | *morning | | | | | |
| ɔ | *law | | | *frost | | | *water | | | no PEAS | | | no PEAS | | |
| | | | | | | | daughter | daughter | ɑ | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | mother x4 | ʌ | *sun | Sunset x2 | ʌ | no PEAS | | |
| | | | | | | | | Mother x6 | ʌ | | | | | | |
| o | know | know x15 | ou | *coat | | | *road | railroad x3 | ou | *home | | | *four | | |
| | *ago | | | | | | | | | | | | *door | | |
| | | | | | | | | | | | | | *hoarse | court | oɪ |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | good x2 | u | | | | *pull | School | u |
| | | | | | | | | | | | | | | school x4 | u |
| u | two | WWII x2 | u | *tooth | | | no PEAS | moved x7 | u | no PEAS | | | no PEAS | | |
| | too | | u | | | | | move x3 | u | | | | | | |

Lexical Tokens for Phonetic Analysis

UF03

| Phoneme | Phonetic environment | | | Checked | - voice | + voice | nasal | liquid | | | | | | | |
|-----------|----------------------|----------|-------------|---------|---------|-----------|-----------|-----------|---------|-----------|-----------|------------|-----------|-------|------|
| | Form | Token | Phone | | | | | | Form | Token | Phone | Form | Token | Phone | Form |
| i | three | three | i | *grease | | no PEAS | | no PEAS | | | | *ear | | | |
| | | | 43 i | | | | | | | | | | | | |
| ɪ | NA | | | *six | | *crib | kids x2 | ɪ | no PEAS | | | no PEAS | | | |
| e | no PEAS | | | *eight | | | | | | | | *Mary | | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | *egg | | *ten | then x6 | ɛ | *stairs | | | | |
| | | | | | | *head | | | | | care | care | ɛr | | |
| ɜ | no PEAS | | | no PEAS | | *thirty | | sermon | sermon | ɜ | *furrow | | | | |
| æ | NA | | | *ashes | | *bag | | aunt | aunt | æ | married | married x5 | ɛr | | |
| | | | | half | half | æ | | | | | | | | | |
| | | | | *glass | | | | | | | | | | | |
| ɑ | NA | | | *crop | | father | father x3 | ɑ | John | John | ɑ | *palm | | | |
| | | | | | | | | | | | *barn | farmed | ɑɜ | | |
| | | | | | | | | | | | garden | Garden | ɑr | | |
| | | | | | | | | | | | college | college x2 | ɑ | | |
| | | | | | | | | | | | *borrow | | | | |
| aɪ | no PEAS | | | *twice | nice | aɪ | *five | | no PEAS | | *wire | hired | aɪ | | |
| | | | | | | | | | | | | hire x2 | aɪ | | |
| ɔɪ | no PEAS | | | no PEAS | | no PEAS | | *joint | joining | ɔɪ | *boil | | | | |
| au | no PEAS | | | out | out x5 | au | no PEAS | down | down x5 | au | *flower | | | | |
| ɔr | no PEAS | | | *horse | | forty | 43 | ɔr | *corn | born | ɔr | no PEAS | | | |
| | | | | | | | | | | | torn x3 | ɔr | | | |
| | | | | | | | | | | | *morning | | | | |
| ɔ | *law | | | *frost | | *water | | | no PEAS | | no PEAS | | | | |
| | | | | | | daughter | daughters | ɔ | | | | | | | |
| | | | | | | | daughter | ɔ | | | | | | | |
| | | | | | | *dog | | | | | | | | | |
| | | | | | | *log | | | | | | | | | |
| ʌ | NA | | | *brush | | no PEAS | | *sun | son x2 | ʌ | no PEAS | | | | |
| ou | know | know x12 | ou | *coat | | *road | | home | homes | ou | four | four x2 | ou | | |
| | *ago | | | | | | | | | | *door | | | | |
| | | | | | | | | | | | *hoarse | | | | |
| | | | | | | | | | | | *mourn | | | | |
| | | | | | | | | | | | poor | poor x2 | ɔr | | |
| u | NA | | | no PEAS | | *wood | good | u | | | *pull | | | | |
| | | | | | | | | | | | (school) | school x3 | u | | |
| u | two | two x2 | u | *tooth | | no PEAS | | no PEAS | | | no PEAS | | | | |

Lexical Tokens for Phonetic Analysis

UF05

| Phoneme | Phonetic environment | | | Checked | | | | | | | | | | | |
|-----------|----------------------|---------|-----------|---------|--------|-----------|----------|-----------|-----------|----------|-----------|-----------|------------|------------|------------|
| | Free | | | - voice | | | + voice | | | nasal | | | liquid | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | three | i | *grease | | | no PEAS | | | no PEAS | | | *ear | | |
| ɪ | NA | | | *six | | | *crib | did x2 | ɪ | no PEAS | | | no PEAS | | |
| e | no PEAS | | | eight | eight | eɪ | | | | | | | *Mary | | |
| | | | | | 38 | eɪ | | | | | | | | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | *ten | ten | ɛ | *stairs | | |
| | | | | | | | head | head | ɛ | | | | *care | | |
| ɜ | no PEAS | | | no PEAS | | | thirty | 38 | ɜ | sermon | sermon x2 | ɜ | *furrow | | |
| | | | | | | | | 1930 | ɜ | | | | | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt | a | married | married | ɛr |
| | | | | *half | | | | | | | | | married x3 | ær | |
| | | | | *glass | | | | | | | | | | | |
| ɑ | NA | | | *crop | | | father | father x2 | ɑ | John | John | ɑ | *palm | | |
| | | | | | | | | | | | | | *barn | | |
| | | | | | | | | | | | | | *garden | | |
| | | | | | | | | | | | | | college | College x2 | ɑ |
| | | | | | | | | | | | | | college | college | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no PEAS | | | *twice | wife | aɪ | five | 1945 | aɪ | no PEAS | time x3 | a | *wire | retired x2 | aɪr |
| ɔɪ | no PEAS | | | no PEAS | | | no PEAS | | | *joint | join | oɪ | *boil | | |
| au | no PEAS | | | out | out x7 | au | no PEAS | | | *down | | | *flower | | |
| ɔr | no PEAS | | | *horse | | | forty | 1949 | ɔr | *corn | born x3 | ɔr | no PEAS | | |
| | | | | | | | | 1945 | ɔr | *morning | | | | | |
| | | | | | | | | 1947 | ɔr | | | | | | |
| ɔ | *law | | | *frost | lost | ɑ | *water | | | no PEAS | | | no PEAS | | |
| | | | | | | | daughter | daughter | ɔ | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | | | *sun | son | ʌ | no PEAS | | |
| o | know | know x5 | ou | *coat | | | *road | | | *home | | | *four | | |
| | *ago | | | | | | | | | | | | door | door | our |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | good | u | | | | *pull | | |
| | | | | | | | | good | u | | | | (school) | school x2 | iu |
| u | two | two x2 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

UF07

| Phoneme | Phonetic environment | | | | | | | | | | | | | | | |
|-----------|----------------------|----------|-----------|---------|-------|-----------|----------|----------|----------|----------|-------------|-----------|------------|------------|------------|--------|
| | Free | Token | Phone | Checked | | | | | | | | | | | | |
| | | | | | | | - voice | | | + voice | | | nasal | | | liquid |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | |
| i | three | three x2 | i | *grease | | | no PEAS | | | no PEAS | | | *ear | | | |
| ɪ | NA | | | *six | | | *crib | did x6 | ɪ | no PEAS | | | no PEAS | | | |
| e | no PEAS | | | *eight | hate | eɪ | | | | | | | *Mary | | | |
| | | | | *April | | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | *ten | then x6 | ɛ | *stairs | | | |
| | | | | | | | *head | | | | | | *care | | | |
| ɜ | no PEAS | | | no PEAS | | | *thirty | | | sermon | sermon | ɜ | *furrow | | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt | a | married | married x5 | ɛɪ | |
| | | | | half | half | æ | | | | | | | | | | |
| | | | | *glass | | | | | | | | | | | | |
| ɑ | NA | | | *crop | | | father | father | ɑ | John | John | ɑ | *palm | | | |
| | | | | | | | | | | | | | *barn | | | |
| | | | | | | | | | | | | | *garden | | | |
| | | | | | | | | | | | | | college | College x4 | ɑ | |
| | | | | | | | | | | | | | college x3 | | ɑ | |
| | | | | | | | | | | | | | *borrow | | | |
| aɪ | no | | | *twice | wife | aɪ | *five | | | no | | | *wire | required | aɪ | |
| ɔɪ | no PEAS | | | no PEAS | | | no PEAS | | | *joint | | | *boil | | | |
| au | no PEAS | now | əʊ | out | out | əʊ | no PEAS | | | down | down x3 | au | *flower | | | |
| ɔr | no PEAS | | | *horse | | | *forty | | | *corn | | | no PEAS | | | |
| | | | | | | | | | | *morning | | | | | | |
| ɔ | *law | | | *frost | | | *water | | | no PEAS | | | no PEAS | | | |
| | | | | | | | daughter | daughter | ɑ | | | | | | | |
| | | | | | | | *dog | | | | | | | | | |
| | | | | | | | *log | | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | | | *sun | son | ʌ | no PEAS | | | |
| o | know | know x7 | oʊ | *coat | | | *road | | | *home | homesteaded | oʊ | four | four | oʊr | |
| | *ago | | | | | | | | | | | | *door | | | |
| | | | | | | | | | | | | | *hoarse | | | |
| | | | | | | | | | | | | | *mourn | | | |
| | | | | | | | | | | | | | *poor | | | |
| u | NA | | | no PEAS | | | *wood | | | | | | *pull | full-time | u | |
| | | | | | | | | | | | | | (school) | school | ɪu | |
| | | | | | | | | | | | | | School | | ɪu | |
| u | two | two x4 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | | |

Lexical Tokens for Phonetic Analysis

UF08

| Phoneme | Phonetic environment | | | | | | | | | | | | | | |
|-----------|----------------------|----------|-----------|---------|--------|-----------|----------|-----------|-----------|----------|---------|-----------|----------|------------|------------|
| | Free | Token | Phone | Checked | | | | | | | | | | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | three x2 | i | *grease | | | no PEAS | | | nasal | | | liquid | | |
| ɪ | NA | | | *six | 1916 | ɪ | *crib | did x2 | ɪ | no PEAS | | | no PEAS | | |
| e | no PEAS | | | eight | eight | eɪ | | | | | | | *Mary | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | *ten | then x5 | ɛ | *stairs | | |
| | | | | | | | *head | ahead x2 | ɛ | | | | *care | | |
| ɜ | no PEAS | | | no PEAS | | | *thirty | | | sermon | sermon | ɜ | *furrow | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt | æə | married | married | ɛ r |
| | | | | *half | | | | | | | | | | | |
| | | | | *glass | | | | | | | | | | | |
| ɑ | NA | | | *crop | | | father | father x5 | ɑ | John | John | ɑə | *palm | | |
| | | | | | | | | | | | | | *barn | | |
| | | | | | | | | | | | | | *garden | | |
| | | | | | | | | | | | | | college | College x2 | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no PEAS | | | *twice | wife | aɪ | five | five | aɪ | no PEAS | | | *wire | | |
| ɔɪ | no PEAS | | | no PEAS | | | no PEAS | | | *joint | join | oɪ | *boil | | |
| aʊ | no PEAS | now x2 | aʊ | out | out x2 | aʊ | no PEAS | | | *down | | | *flower | | |
| ɔr | no PEAS | | | *horse | | | *forty | | | *corn | born | or | no PEAS | | |
| | | | | | | | | | | *morning | | | | | |
| ɔ | *law | | | *frost | | | *water | | | no PEAS | | | no PEAS | | |
| | | | | | | | daughter | daughter | ɔ | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | mother | ʌ | *sun | | | no PEAS | | |
| o | know | know x6 | oʊ | *coat | | | *road | | | *home | | | *four | | |
| | *ago | | | | | | | | | | | | *door | | |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | good | u | | | | *pull | | |
| | | | | | | | | | | | | | (school) | school x2 | ɪ u |
| u | two | two | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

UF09

| Phoneme | Phonetic environment | | | | | | | | | | | | | | |
|-----------|----------------------|--------------------|-----------|---------|----------|------------|----------|--------------|-----------|---------|------------|-----------|------------|-------------|------------|
| | Free | | | Checked | | | | | | | | | | | |
| | | | | - voice | | | + voice | | | nasal | | | liquid | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | three x8 | i | *grease | | | no PEAS | | | no PEAS | | | *ear | | |
| ɪ | NA | | | six | six x2 | ɪ | *crib | did x10 | ɪ | no PEAS | | | no PEAS | | |
| e | no | | | eight | eight x2 | e ɪ | | | | | | | *Mary | | |
| | | | | | 1908 x2 | e ɪ | | | | | | | | | |
| | | | | | 1938 | e ɪ | | | | | | | | | |
| | | | | | 88 | e ɪ | | | | | | | | | |
| | | | | | 38 x3 | e ɪ | | | | | | | | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | ten | ten x3 | ɛ | *stairs | | |
| | | | | | | | *head | | | | | | *care | | |
| ɜ | no | | | no PEAS | | | thirty | 1938 | ɜ | sermon | sermons x2 | ɜ | *furrow | | |
| | | | | | | | | 38 x3 | ɜ | | | | | | |
| | | | | | | | | 1934 | ɜ | | | | | | |
| | | | | | | | | 34 | ɜ | | | | | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | Aunt x2 | æ | married | married x10 | ɛ ɪ |
| | | | | *half | | | | | | | aunts x2 | æ | | | |
| | | | | *glass | class | æ | | | | | aunt | æ | | | |
| ɑ | NA | | | *crop | Clopton | ɑ | father | father x8 | ɑ | John | John x7 | ɑ | *palm | calmly | ɑ |
| | | | | | Popular | ɑ | Father | | ɑ | John | John | ɑə | *barn | ARMY | ɑɪ |
| | | | | | | | | | | | | | *garden | | |
| | | | | | | | | | | | | | college | College x3 | ɑ |
| | | | | | | | | | | | | | college x6 | | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no | | | *twice | nice | aɪ | five | 75 | aɪ | no PEAS | time | aɪ | *wire | retired x4 | aɜ |
| | | | | | | | | 65 | aɪ | | time | a | | | |
| ɔɪ | no | enjoy x4 | ɔɪ | no PEAS | voice | ɔɪ | no PEAS | enjoyed x4 | ɔɪ | *joint | | | *boil | Oil | oɪ |
| | | | | | | | | enjoyed | oɪ | | | | | | |
| | | | | | | | | boys | oɪ | | | | | | |
| au | no | | | out | out x18 | əa | no PEAS | | | down | down x5 | əa | *flower | | |
| ɔɪ | no | | | *horse | | | forty | 1944 | ɔɪ | *corn | corner | oɪ | no PEAS | | |
| | | | | | | | | | | | born x17 | oɪ | | | |
| | | | | | | | | | | | born x3 | ɔɪ | | | |
| | | | | | | | | | | morning | morning x2 | ɔɪ | | | |
| ɔ | *law | sis.-in-law | ɔ | *frost | lost | ɔ | *water | Stillwater | ɔ | no PEAS | | | no PEAS | | |
| | | fath.-in-law | ɔ | | lost | ɔ | daughter | daughter x13 | ɔ | | | | | | |
| | | son-in-law | ɔ | | | | *dog | | | | | | | | |
| | | daughter-in-law x2 | ɔ | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | crushed | ʌ | no PEAS | | | *sun | Sunday x2 | ʌ | no PEAS | | |
| o | know | know x19 | ou | *coat | | | road | Road | ou | home | home x3 | ou | four | four x2 | ouɪ |
| | ago | ago x6 | ou | | | | | | | | | | | 1944 | ouɪ |
| | | | | | | | | | | | | | | 1934 | oɜ |
| | | | | | | | | | | | | | | 34 | ouɪ |
| | | | | | | | | | | | | | | 84 | ouɪ |
| | | | | | | | | | | | | | *door | | |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | good x5 | u | | | | *pull | | |
| | | | | | | | | | | | | | (school) | school x2 | uə |
| | | | | | | | | | | | | | school x8 | | u |
| | | | | | | | | | | | | | School x5 | | u |
| u | two | two x2 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

UF10

| Phoneme | Phonetic environment | | | Checked | | | | | | | | | | | |
|-----------|----------------------|-----------------|-----------|---------|----------|-----------|----------|-----------|-----------|----------|----------|-----------|-----------|-----------|------------|
| | Free | | | | | | | | | | | | | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | *three | three x5 | i | *grease | | | no PEAS | | | nasal | | | liquid | | |
| ɪ | NA | | | *six | sixth x2 | ɪ | *crib | did x3 | ɪ | no PEAS | | | no PEAS | | |
| | | | | | 67 | ɪ | | | | | | | | | |
| e | no PEAS | | | eight | eight | eɪ | | | | | | | *Mary | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | ten | ten | ɛ | *stairs | upstairs | ɛr |
| | | | | | | | head | head | ɛ | | | | *care | | |
| ɜ | no PEAS | | | no PEAS | | | *thirty | | | sermon | sermon | ɜ | *furrow | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | Aunt | æ | married | x6 | ɛr |
| | | | | half | half x2 | æ | | | | aunt | æ | | | | |
| | | | | *glass | class | æ | | | | | | | | | |
| | | | | | passed | æ | | | | | | | | | |
| ɑ | NA | | | *crop | adopted | ɑ | father | father x4 | ɑ | John | John | ɑ | *palm | | |
| | | | | | | | | Father x2 | ɑ | | | | *barn | Barney | ɑr |
| | | | | | | | | | | | | | farming | ɑr | |
| | | | | | | | | | | | | | *garden | | |
| | | | | | | | | | | | | | college | College | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no PEAS | | | twice | twice | aɪ | five | five x2 | aɪ | no PEAS | | | *wire | | |
| ɔɪ | no PEAS | | | no PEAS | Boy | ɔɪ | no PEAS | enjoyed | ɔɪ | *joint | | | *boil | | |
| | | | | | | | | enjoyed | ɔɪ | | | | | | |
| au | no PEAS | | | out | out x9 | au | no PEAS | | | down | down x10 | au | *flower | | |
| ɔr | no PEAS | | | *horse | | | *forty | | | *corn | born x2 | ɔr | no PEAS | | |
| | | | | | | | | | | | born | or | | | |
| | | | | | | | | | | *morning | | | | | |
| ɔ | *law | daughter-in-law | ɔ | *frost | lost | ɔ | water | water | ɑ | no PEAS | | | no PEAS | | |
| | | | | | | | daughter | daughter | ɔ | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | | | *sun | Sunday | ʌ | no PEAS | | |
| o | know | know x7 | ou | *coat | | | *road | railroad | ou | *home | Home x3 | ou | four | four | our |
| | ago | ago x2 | ou | | | | | | | | | | four x3 | ɔr | |
| | | | | | | | | | | | | | door | door | ɔr |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | poor | poor | our |
| u | NA | | | no PEAS | | | *wood | good x7 | u | | | | *pull | full- | |
| | | | | | | | | | | | | | (school) | blooded | u |
| | | | | | | | | | | | | | school x2 | x2 | ɪu |
| | | | | | | | | | | | | | School | | ɪu |
| | | | | | | | | | | | | | school x2 | | u |
| | | | | | | | | | | | | | School | | u |
| | | | | | | | | | | | | | School | | ue |
| | | | | | | | | | | | | | school x3 | | ue |
| u | two | two x5 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

UF14

| Phoneme | Phonetic environment | | | Checked | | | | | | | | | | | |
|-----------|----------------------|--------|-----------|---------|--------|-----------|----------|----------|-----------|----------|---------|-----------|----------|------------|-----------|
| | Free | Token | Phone | | | | | | | | | | | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| | | | | - voice | | | + voice | | | nasal | | | liquid | | |
| i | *three | | | *grease | | | no PEAS | | | no PEAS | | | *ear | | |
| ɪ | NA | | | *six | 16th | ɪ | *crib | | | no PEAS | | | no PEAS | | |
| | | | | | 50 | ɪ | | | | | | | | | |
| e | no PEAS | | | eight | 1918s | eɪ | | | | | | | *Mary | | |
| | | | | | 18 | eɪ | | | | | | | | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | *ten | then x7 | ɛ | *stairs | | |
| | | | | | | | head | head | ɛ | | | | *care | | |
| ɜ | no PEAS | | | no PEAS | | | *thirty | | | sermon | sermon | ɜ | *furrow | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt | æ | married | married | ɛɪ |
| | | | | half | half | æə | | | | | | | | | |
| | | | | *glass | last | æ | | | | | | | | | |
| ɑ | NA | | | *crop | | | father | father | ɑ | John | John | ɑə | *palm | | |
| | | | | | | | | Father | ɑ | | | | *barn | | |
| | | | | | | | | | | | | | garden | Garden | ɑɪ |
| | | | | | | | | | | | | | college | College x4 | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no PEAS | | | *twice | | | five | five x2 | aɪ | no PEAS | | | *wire | | |
| | | | | | | | | time | a | | | | | | |
| | | | | | | | | time | aɪ | | | | | | |
| | | | | | | | | died | aɪ | | | | | | |
| ɔɪ | no PEAS | | | no PEAS | | | no PEAS | | | *joint | | | *boil | Boys' | oɪ |
| au | no PEAS | | | out | out x2 | au | no PEAS | | | *down | | | *flower | | |
| ɔɪ | no PEAS | for x2 | ɔ | *horse | sorts | ɔ | *forty | | | *corn | born | oɪ | no PEAS | | |
| | | | | | | | | | | *morning | | | | | |
| ɔ | *law | | | *frost | | | *water | | | no PEAS | | | no PEAS | | |
| | | | | | | | daughter | daughter | ɔ | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | | | *sun | Sunset | ʌ | no PEAS | | |
| o | know | know | ou | *coat | | | *road | | | *home | | | *four | | |
| | *ago | | | | | | | | | | | | *door | | |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | good | u | | | | *pull | | |
| | | | | | | | | | | | | | (school) | School x2 | u |
| | | | | | | | | | | | | | school | | u |
| u | two | two x2 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

UF15

| Phoneme | Phonetic environment | | | | | | | | | | | | | | |
|-----------|----------------------|---------|-----------|---------|---------|-----------|----------|------------|-----------|----------|---------|-----------|------------|------------|------------|
| | Free | Token | Phone | Checked | | | | | | | | | | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | *three | | | *grease | | | no PEAS | | | no PEAS | | | *ear | | |
| ɪ | NA | | | *six | | | *crib | did | ɪ | no PEAS | | | no PEAS | | |
| e | no PEAS | | | *eight | estate | əɪ | | | | | | | *Mary | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | *ten | then x5 | ɛ | *stairs | | |
| | | | | | | | head | head | ɛ | | | | *care | area | ɛɪ |
| ɜ | no PEAS | | | no PEAS | | | *thirty | | | sermon | sermon | ɜ | *furrow | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt | æə | married | married x2 | ɛɪ |
| | | | | *half | | | | | | | | | | | |
| | | | | *glass | | | | | | | | | | | |
| ɑ | NA | | | *crop | | | father | father x3 | ɑ | John | John | ɑ | *palm | | |
| | | | | | | | | | | | | | *barn | | |
| | | | | | | | | | | | | | garden | garden | ɑɪ |
| | | | | | | | | | | | | | college | College | ɑ |
| | | | | | | | | | | | | | college x3 | | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| ɑɪ | no PEAS | | | *twice | life | ɑɪ | *five | side x2 | ɑɪ | no PEAS | | | *wire | | |
| | | | | | midwife | ɑɪ | | died x2 | ɑɪ | | | | | | |
| | | | | | wife | ɑɪ | | | | | | | | | |
| | | | | | right | ɑ | | | | | | | | | |
| | | | | | alright | ɑɪ | | | | | | | | | |
| ɔɪ | no PEAS | | | no PEAS | | | no PEAS | | | *joint | | | *boil | | |
| ɑʊ | no PEAS | | | out | out | ɑʊ | no PEAS | | | down | down | ɑʊ | *flower | | |
| ɔɪ | no PEAS | | | *horse | | | forty | 42 | ɔɪ | *corn | born | ɔɪ | no PEAS | | |
| | | | | | | | | 1944 | ɔɪ | *morning | | | | | |
| ɔ | *law | saw | | *frost | | | *water | | | no PEAS | | | no PEAS | | |
| | | | | | | | daughter | daughter | ɔ | | | | | | |
| | | | | | | | | g daughter | ɑɔ | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | mother | ʌ | *sun | | | no PEAS | | |
| | | | | | | | | Mother | ʌ | | | | | | |
| o | know | know x7 | ou | *coat | | | *road | | | *home | | | four | 1944 | our |
| | *ago | | | | | | | | | | | | | 1924 | our |
| | | | | | | | | | | | | | *door | | |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | | | | | | *pull | School | uu |
| u | two | two x2 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

UM01

| Phoneme | Phonetic environment | | | Checked | | | | | | | | | | | |
|-----------|----------------------|----------|----------|---------|-----------|-----------|-----------|-----------|-----------|---------|------------|-----------|----------|------------|------------|
| | Free | | | | | | | | | | | | | | |
| | | | | - voice | | | + voice | | | nasal | | | liquid | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | three x2 | i | *grease | | | no PEAS | | | no PEAS | | | *ear | | |
| | | 1873 | i | | | | | | | | | | | | |
| | | 1933 | i | | | | | | | | | | | | |
| ɪ | NA | | | *six | 1860s | ɪ | *crib | did | ɪə | no PEAS | | | no PEAS | | |
| | | | | | | | | did x8 | ɪ | | | | | | |
| e | no PEAS | | | eight | 88 | eɪ | | | | | | | *Mary | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | egg | eggs | eɪ | ten | ten | ɛ | stairs | downstairs | eɪɪ |
| | | | | | | | *head | | | | | | *care | fare | eɪɪ |
| ɜ | no PEAS | | | no PEAS | | | thirty | 1933 | ɜ | sermon | sermon | ɜ | *furrow | | |
| | | | | | | | | 34 | ɜ | | | | | | |
| | | | | | | | | 1935 | ɜ | | | | | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | Aunt x4 | æ | married | married | ɛɪ |
| | | | | half | half | æ | | | | | | | | | |
| | | | | glass | glass | æ | | | | | | | | | |
| ɑ | NA | | | *crop | | | father | father x4 | ɑ | John | John | ɑə | *palm | | |
| | | | | | | | | | | | | | *barn | farm x2 | ɑəɪ |
| | | | | | | | | | | | | | *garden | | |
| | | | | | | | | | | | | | college | college x4 | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no PEAS | | | *twice | ice cream | aɪ | five | five x3 | aɪ | no PEAS | | | *wire | fired | aɪɪ |
| | | | | | | aɪ | | | | | | | | | |
| | | | | | | | | 85 | aɪ | | | | | | |
| | | | | | | | | 1935 | aɪ | | | | | | |
| | | | | | | | | 1885 | aɪ | | | | | | |
| | | | | | | | | 500 | aɪ | | | | | | |
| ɔɪ | no PEAS | | | no PEAS | | | no PEAS | | | *joint | Detroit | ɔɪ | *boil | | |
| au | no PEAS | | | out | out | au | no PEAS | | | *down | down x3 | au | *flower | | |
| | | | | | | | | | | | downstairs | au | | | |
| | | | | | | | | | | | downtown | au | | | |
| ɔɪ | no PEAS | | | horse | horses x2 | ɔɪ | *forty | | | *corn | born | ɔɪ | no PEAS | | |
| | | | | | | | | | | | born | ɔɪ | | | |
| | | | | | | | | | | | *morning | | | | |
| ɔ | *law | | | *frost | | | *water | | | | no PEAS | | no PEAS | | |
| | | | | | | | *daughter | caught | ɑ | | | | | | |
| | | | | | | | | bought | ɑ | | | | | | |
| | | | | | | | | taught | ɑ | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | mother x3 | ʌ | *sun | | | no PEAS | | |
| | | | | | | | | Mother x2 | ʌ | | | | | | |
| o | know | know | o | *coat | boat | ou | *road | railroad | ou | home | home | ou | *four | four | ɔɪ |
| | *ago | | | | | | | | | | | | | four | ɔɪɪ |
| | | | | | | | | | | | | | | 1924 | ɔɪɪ |
| | | | | | | | | | | | | | | 34 | ɔɪɪ |
| | | | | | | | | | | | | | *door | | |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | good x7 | u | | | | *pull | | |
| | | | | | | | | | | | | | (school) | school x3 | uə |
| | | | | | | | | | | | | | school | school | u |
| u | two | two x4 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

UM02

| Phoneme | Phonetic environment | | | Checked | | | | | | | | | | | |
|-----------|----------------------|---------|-----------|---------|------------|------------|----------|------------|-----------|---------|-------------|-----------|-----------|------------|------------|
| | Free | | | - voice | | + voice | | | nasal | | | liquid | | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | three | i | *grease | | | no PEAS | | | no PEAS | | | *ear | | |
| | | 1993 | i | | | | | | | | | | | | |
| | | 1933 x2 | i | | | | | | | | | | | | |
| | | 33 x2 | i | | | | | | | | | | | | |
| | | 73 x2 | i | | | | | | | | | | | | |
| ɪ | NA | | | six | 1926 | ɪ | *crib | did | ɪ | no PEAS | | | no PEAS | | |
| | | | | | 26 | ɪ | | | | | | | | | |
| | | | | | 3706 | ɪ | | | | | | | | | |
| | | | | six x2 | | ɪ | | | | | | | | | |
| | | | | | 1966 | ɪ | | | | | | | | | |
| e | no PEAS | | | eight | 98 | e ɪ | | | | | | | *Mary | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | *ten | then x8 | ɛ | *stairs | | |
| | | | | | | | *head | headmaster | ɛ | | | | *care | | |
| ɜ | no PEAS | | | no PEAS | | | thirty | 1933 x2 | ɜ | sermon | sermon | ɜ | *furrow | | |
| | | | | | | | | 33 x2 | ɜ | | | | | | |
| | | | | | | | | 3706 | ɜ | | | | | | |
| | | | | | | | | 35 | ɜ | | | | | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt | æ | married | married x2 | ɛ r |
| | | | | *half | | | | | | | | | | | |
| | | | | glass | glass | æ | | | | | | | | | |
| ɑ | NA | | | *crop | stopped x2 | ɑ | father | father x4 | ɑ | John | John x2 | ɑ | *palm | | |
| | | | | | Pop x2 | ɑ | | | | | | | *barn | ARMY | ɑ r |
| | | | | | | | | | | | | | *garden | | |
| | | | | | | | | | | | | | college | college | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| ɑɪ | no PEAS | | | *twice | nice x3 | ɑɪ | five | five x2 | ɑɪ | no PEAS | | | *wire | | |
| | | | | | | | | 25 x2 | ɑɪ | | | | | | |
| | | | | | | | | 1955 | ɑɪ | | | | | | |
| | | | | | | | | 1985 x2 | ɑɪ | | | | | | |
| | | | | | | | | 35 | ɑɪ | | | | | | |
| | | | | | | | | 85 | ɑɪ | | | | | | |
| ɔɪ | no PEAS | | | no PEAS | | | no PEAS | | | *joint | coin | ɔɪ | *boil | | |
| ɑʊ | no PEAS | | | out | out x19 | ɑʊ | no PEAS | | | *down | downtown x3 | ɑʊ | *flower | | |
| ɔr | no PEAS | | | *horse | | | forty | forty | ɔr | *corn | born x4 | ɔr | no PEAS | | |
| | | | | | | | | 1947 | ɔr | | born | ɔr | | | |
| | | | | | | | | 1940 | ɔr | morning | morning x3 | ɔr | | | |
| | | | | | | | | | | | mornings x2 | ɔr | | | |
| ɔ | *law | saw | ɔ | *frost | lost x2 | ɑ | water | water | ɑ | no PEAS | | | no PEAS | | |
| | | | | | | | daughter | daughter | ɑ | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | | | *sun | son x4 | ʌ | no PEAS | | |
| | | | | | | | | | | | Sunday x4 | ʌ | | | |
| o | know | know x3 | ou | *coat | | | *road | | | home | home | ou | four | four x2 | ou |
| | *ago | | | | | | | | | | | | *door | | |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | good x8 | u | | | | *pull | | |
| | | | | | | | | | | | | | (school) | school x8 | u |
| | | | | | | | | | | | | | School x3 | | u |
| | | | | | | | | | | | | | School | | uə |
| u | two | two x6 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

UM03

| Phoneme | Phonetic environment | | | Checked | | | | | | | | | | | |
|-----------|----------------------|----------|-----------|---------|-----------|------------|----------|-------------|-----------|----------|-------------|-----------|----------|------------|-------------|
| | Free | | | | | | | | | | | | | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | three x3 | i | *grease | | | no PEAS | | | no PEAS | | | *ear | | |
| | | 1933 | i | | | | | | | | | | | | |
| | | 1943 | i | | | | | | | | | | | | |
| r | NA | | | six | six x2 | r | *crib | kids | r | no PEAS | | | no PEAS | | |
| | | | | | 36 | r | | | | | | | | | |
| e | no PEAS | | | eight | eight | e r | | | | | | | *Mary | Mary | e r |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | ten | 1910 | ɛ | *stairs | | |
| | | | | | | | *head | | | | | | care | Care | ɛ r |
| ɜ | no PEAS | | | no PEAS | | | thirty | 1930 | ɜ | sermon | sermon | ɜ | *furrow | | |
| | | | | | | | | 1933 | ɜ | | | | | | |
| | | | | | | | | 36 | ɜ | | | | | | |
| | | | | | | | | 35 | ɜ | | | | | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt | æ | married | married x3 | æ r |
| | | | | *half | | | | | | | | | | | |
| | | | | *glass | passed x2 | æ | | | | | | | | | |
| ɑ | NA | | | *crop | Copper x2 | ɑ | father | father x5 | ɑ | John | John | ɑ | palm | Palm | ɑ |
| | | | | | | | | Father x3 | ɑ | | | | *barn | farmhouse | ɑ ɜ |
| | | | | | | | | | | | | | | farm x2 | ɑ ɜ |
| | | | | | | | | | | | | | *garden | | |
| | | | | | | | | | | | | | college | college | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no PEAS | | | *twice | | | five | five x4 | aɪ | no PEAS | | | wire | wire | aɪ r |
| | | | | | | | | Five Points | aɪ | | | | | hired x3 | aɪ r |
| | | | | | | | | 35 | aɪ | | | | | | |
| ɔɪ | no PEAS | | | no PEAS | | | no PEAS | | | *joint | Five Points | ɔɪ | *boil | oil | ɔɪ |
| | | | | | | | | | | | joined | ɔɪ | | | |
| aʊ | no PEAS | | | out | out x14 | aʊ | no PEAS | | | down | down x7 | aʊ | *flower | | |
| ɔr | no PEAS | | | *horse | | | forty | 1943 | ɔr | *corn | born x3 | ɔr | no PEAS | | |
| | | | | | | | | | | *morning | | | | | |
| ɔ | *law | | | *frost | Boston | ɔ | *water | | | no PEAS | | | no PEAS | | |
| | | | | | | | daughter | daughter x2 | ɔ | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | log | log | ɔ | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | mother x3 | ʌ | *sun | | | no PEAS | | |
| oʊ | know | know x4 | oʊ | *coat | | | *road | | | home | home x4 | oʊ | four | four | oʊ r |
| | ago | ago | oʊ | | | | | | | | | | *door | | |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | goodness | u | | | | *pull | | |
| | | | | | | | | | | | | | (school) | School x4 | u |
| | | | | | | | | | | | | | | school x6 | u |
| u | two | two x6 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

UM04

| Phoneme | Phonetic environment | | | Checked | | | - voice | | | + voice | | | nasal | | | liquid | | |
|-----------|----------------------|-------------|-----------|---------|----------|-----------|----------|--------------|-----------|---------|------------|-----------|----------|------------|-----------|----------|-------|-------|
| | Free | | | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | three x5 | i | *grease | | | no PEAS | | | no PEAS | | | *ear | | | | | |
| | | 1933 | i | | | | | | | | | | | | | | | |
| | | 93 | i | | | | | | | | | | | | | | | |
| | | 300 x4 | i | | | | | | | | | | | | | | | |
| | | 23 | i | | | | | | | | | | | | | | | |
| ɪ | NA | | | six | six x2 | ɪ | *crib | kids x5 | ɪ | no PEAS | | | no PEAS | | | | | |
| | | | | | | | | kid x5 | ɪ | | | | | | | | | |
| e | no PEAS | | | eight | eight | e | | | | | | | *Mary | | | | | |
| | | | | | 28 | e | | | | | | | | | | | | |
| | | | | *April | | | | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | *ten | then x8 | ɛ | *stairs | | | | | |
| | | | | | | | *head | Morehead x2 | ɛ | | | | care | care | ɛ | r | | |
| ɜ | no PEAS | | | no PEAS | | | *thirty | 1933 | ɜ | sermon | sermon | ɜ | *furrow | | | | | |
| | | | | | | | | 32 | ɜ | | | | | | | | | |
| | | | | | | | | 32 | ɜ | | | | | | | | | |
| æ | NA | | | *ashes | | | *bag | nags | æ | aunt | aunt x2 | æ | married | married x6 | æ | r | | |
| | | | | *half | | | | | | | | | married | æ | r | | | |
| | | | | *glass | class x2 | æ | | | | | | | | | | | | |
| ɑ | NA | | | crop | crop | ɑ | father | father x5 | ɑ | John | John x2 | ɑ | palm | palms | ɑ | | | |
| | | | | | | | | | | | | | *barn | farmers x2 | ɑ | r | | |
| | | | | | | | | | | | | | farm | ɑ | r | | | |
| | | | | | | | | | | | | | *garden | | | | | |
| | | | | | | | | | | | | | college | college x5 | ɑ | | | |
| | | | | | | | | | | | | | College | ɑ | | | | |
| | | | | | | | | | | | | | *borrow | | | | | |
| aɪ | no PEAS | | | *twice | Rice x4 | aɪ | five | five x3 | aɪ | no PEAS | | | *wire | retired x2 | aɪ | | | |
| | | | | | ice | aɪ | | | | 1945 | aɪ | | | | | | | |
| | | | | | | | | | | 65 | aɪ | | | | | | | |
| | | | | | | | | | | 500 | aɪ | | | | | | | |
| ɔɪ | no PEAS | | | no PEAS | | | no PEAS | | | | | *joint | joiner | ɔɪ | *boil | | | |
| | | | | | | | | | | | | | join | ɔɪ | | | | |
| | | | | | | | | | | | | | joined | ɔɪ | | | | |
| au | no PEAS | | | out | out x19 | au | no PEAS | | | down | down x16 | au | *flower | | | | | |
| ɔr | no PEAS | | | horse | horse | ɔr | forty | forty | ɔr | *corn | Cornell x2 | ɔr | no PEAS | | | | | |
| | | | | | | | | | | 1945 | ɔr | | born x5 | ɔr | | | | |
| | | | | | | | | | | | | | *morning | | | | | |
| ɔ | *law | s-in-law x8 | ɔ | *frost | lost | ɔ | *water | | | no PEAS | | | no PEAS | | | | | |
| | | b-in-law | ɔ | | | | daughter | daughters x2 | ɔ | | | | | | | | | |
| | | | | | | | *dog | | | | | | | | | | | |
| | | | | | | | *log | | | | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | mother | ʌ | *sun | Sunday | ʌ | no PEAS | | | | | |
| | | | | | | | | | | | son x4 | ʌ | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| o | know | know x15 | ou | *coat | boat | ou | *road | | | home | home x3 | ou | four | four x4 | ou | r | | |
| | ago | ago x3 | ou | | | | | | | | | | | four | ou | r | | |
| | | | | | | | | | | | | | *door | | | | | |
| | | | | | | | | | | | | | *hoarse | | | | | |
| | | | | | | | | | | | | | *mourn | | | | | |
| | | | | | | | | | | | | | *poor | | | | | |
| u | NA | | | no PEAS | | | *wood | woods x2 | u | | | | *pull | full | u | | | |
| | | | | | | | | | | | | | (school) | school x18 | u | | | |
| u | two | two x17 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | | | | |

Lexical Tokens for Phonetic Analysis

UM06

| Phoneme | Phonetic environment | | | Checked | | | + voice | | | nasal | | | liquid | | |
|-----------|----------------------|-------------------|-----------|---------|----------------|-----------|-----------|-------------------------|-----------|---------|------------|-----------|-----------|------------|------------|
| | Free | | | - voice | | | | | | | | | | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | three x2 43 x2 | i | *grease | | | no PEAS | | | no PEAS | | | *car | | |
| ɪ | NA | | | six | six x4 1906 | ɪ | *crib | did x8 | ɪ | no PEAS | | | no PEAS | | |
| | | | | | 56 | ɪ | | did | ɪə | | | | | | |
| | | | | | 46 | ɪ | | | | | | | | | |
| e | no PEAS | | | eight | 38 | eɪ | | | | | | | *Mary | | |
| | | | | | 38 | eɪ | | | | | | | *stairs | | |
| | | | | | 800 | eɪ | | | | | | | | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | ten | ten x2 | ɛ | *care | parents | ɛɪ |
| | | | | | | | *head | ahead x2 | ɛ | ten | | ɛə | | | |
| ɜ | no PEAS | | | no PEAS | | | thirty | 1934 | ɜ | *sermon | | | *furrow | | |
| | | | | | | | | 38 x2 | ɜ | | | | | | |
| æ | NA | | | *ashes | | | *bag | | | *aunt | | | married | married x2 | æɪ |
| | | | | *half | | | | | | | | | remarried | | æɪ |
| | | | | *glass | | | | | | | | | | | |
| ɑ | NA | | | *crop | | | father | father x19 Father x4 | ɑ | *John | | | *palm | | |
| | | | | | | | | | ɑ | | | | *barn | army x4 | ɑɪ |
| | | | | | | | | | | | | | Army x3 | | ɑɪ |
| | | | | | | | | | | | | | *garden | gardener | ɑɪ |
| | | | | | | | | | | | | | college | college x4 | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no PEAS | | | *twice | | | five | five x5 | aɪ | no PEAS | | | *wire | retired | aɪ |
| | | | | | | | | | | | | | admire | | aɪɪ |
| ɔɪ | no PEAS | boy | ɔɪ | no PEAS | | | no PEAS | | | *joint | Point | ɔɪ | *boil | oil | ɔɪ |
| | | boy | ɔɪ | | | | | | | | join | ɔɪ | | | |
| | | | | | | | | | | | joined x2 | ɔɪ | | | |
| au | no PEAS | | | out | out x3 | au | no PEAS | | | down | down x10 | au | *flower | | |
| ɔɪ | no PEAS | | | *horse | | | forty | forty | ɔɪ | *corn | born | ɔɪ | no PEAS | | |
| | | | | | | | | 43 x2 | ɔɪ | | born | ɔɪ | | | |
| | | | | | | | | 1840 | ɔɪ | | sworn | ɔɪ | | | |
| | | | | | | | | 46 | ɔɪ | | born | ɔɪ | | | |
| | | | | | | | | 1947 | ɔɪ | morning | morning x2 | ɔɪ | | | |
| | | | | | | | | 1949 | ɔɪ | | | | | | |
| | | | | | | | | 49 x2 | ɔɪ | | | | | | |
| ɔ | law | law x5 | ɔ | *frost | | | *water | | | no PEAS | | | no PEAS | | |
| | | pre-law x2 | ɔ | | | | *daughter | thought x3 | ɔ | | | | | | |
| | | Law x2 | ɔ | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | mother x8 | ʌ | *sun | | | no PEAS | | |
| | | | | | | | | Mother | ʌ | | | | | | |
| o | know | know x19 | ou | *coat | | | *road | railroads | | *home | | | four | 54 | ouɪ |
| | ago | ago | ou | | | | | | | | | | | 1934 | oɜ |
| | | | | | | | | | | | | | | four | oɜ |
| | | | | | | | | | | | | | | four | ouɪ |
| | | | | | | | | | | | | | *door | | |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | good x7 | u | | | | *pull | school x2 | uu |
| | | | | | | | | | | | | | | School x3 | uu |
| | | | | | | | | | | | | | | school | u |
| | | | | | | | | | | | | | | School | u |
| | | | | | | | | | | | | | | school | ue |
| u | two | two x6 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

UM08

| Phoneme | Phonetic environment | | | | | | | | | | | | | | |
|-----------|----------------------|-----------|----------|---------|-----------|-----------|---------|----------|-----------|---------|---------|-----------------|---------|----------|------------|
| | Free | | | Checked | | | | | | | | | | | |
| | | | | - voice | | | + voice | | | nasal | | | liquid | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | three x10 | i | *grease | | | no PEAS | | | no PEAS | | | *ear | | |
| ɪ | NA | | | six | six x4 | ɪ | *crib | kids | ɪ | no PEAS | | | no PEAS | | |
| | | | | | 1836 | ɪ | | kid | ɪ | | | | | | |
| | | | | | 1936 | ɪ | | | | | | | | | |
| e | no PEAS | | | eight | eight | eɪ | | | | | | | *Mary | Mary Ann | eɪ |
| | | | | | 1928 x2 | eɪ | | | | | | | | Mary | eɪ |
| | | | | | 800 | eɪ | | | | | | | | | |
| | | | | | weight x3 | eɪ | | | | | | | | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | eggs x2 | eɪ | ten | 10,000 | ɛ | *stairs | | |
| | | | | | | | head | head | ɛ | | ten x2 | ɛ | | | |
| | | | | | | | | ahead x2 | ɛ | | | | care | care | ɛɪ |
| | | | | | | | | headwind | ɛ | | | | | | |
| ɜ | no PEAS | | | no PEAS | | | thirty | thirty | ɜ | sermon | sermon | ɜ | *furrow | | |
| | | | | | | | | 1932 | ɜ | | | | | | |
| | | | | | | | | 31 | ɜ | | | | | | |
| | | | | | | | | 32 | ɜ | | | | | | |
| | | | | | | | | 1832 | ɜ | | | | | | |
| | | | | | | | | 1836 | ɜ | | | | | | |
| | | | | | | | | 1936 | ɜ | | | | | | |
| | | | | | | | | 1935 | ɜ | | | | | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt x2 | æ | married | married | ɛɪ |
| | | | | half | half | æ | | | | | | | | | |
| | | | | | calf | æə | | | | | | | | | |
| | | | | | calf x6 | æ | | | | | | | | | |
| | | | | *glass | grass x4 | æ | | | | | | | | | |
| | | | | | grass | æə | | | | | | | | | |
| | | | | | brass | æ | | | | | | | | | |
| ɑ | NA | | | *crop | shop | ɑ | father | father | ɑ | John | Johnny | ɑ | *palm | calm | ɑ |
| | | | | | Shop | ɑ | | | | | John | ɑ | *barn | farm x3 | ɑɜ |
| | | | | | top x4 | ɑ | | | | | long | ɑ | | farm x2 | ɑɪ |
| | | | | | stop | ɑ | | | | | gone | ɑ | garden | garden | ɑɪ |
| | | | | | | | | | | | on | on (sic) | college | college | ɑ |
| | | | | | | | | | | | | | | College | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no PEAS | | | *twice | nice x4 | aɪ | five | five | aɪ | no PEAS | | | wire | tires x3 | aɪɪ |
| | | | | | ice x2 | aɪ | | 1925 | aɪ | | | | | wires | aɪɪ |
| | | | | | price | aɪ | | 75 | aɪ | | | | | wire | aɜ |
| | | | | | wife | aɪ | | 25 x2 | aɪ | | | | | fire x2 | aɪ |
| | | | | | wife | a | | 75 | aɪ | | | | | fire | aɜ |

Lexical Tokens for Phonetic Analysis

UM09

| Phoneme | Phonetic environment | | | Checked | | | | | | | | | | | |
|-----------|----------------------|----------|-----------|---------|---------|-----------|----------|-------------|-----------|---------|----------|-----------|-----------|------------|------------|
| | Free | | | - voice | | | + voice | | | nasal | | | liquid | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | three x5 | i | *grease | | | no PEAS | | | no PEAS | | | *ear | | |
| ɪ | NA | | | *six | sixteen | ɪ | *crib | kids x3 | ɪ | no PEAS | | | no PEAS | | |
| e | no PEAS | | | *eight | 18 x2 | eɪ | | | | | | | *Mary | | |
| | | | | | 85 | eɪ | | | | | | | | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | ten | ten x2 | ɛ | *stairs | | |
| | | | | | | | head | head x2 | ɛ | | | | *care | bear | ɛr |
| ɜ | no PEAS | | | no PEAS | | | thirty | thirty x5 | ɜ | sermon | sermon | ɜ | *furrow | | |
| æ | NA | | | *ashes | | | *bag | agriculture | æ | aunt | aunt | æ | married | married x2 | ær |
| | | | | half | half x6 | æ | | | | | | | | | |
| | | | | *glass | class | æ | | | | | | | | | |
| | | | | | class | æ | | | | | | | | | |
| ɑ | NA | | | crop | crop x3 | ɑ | father | father x5 | ɑ | John | John x2 | ɑ | *palm | | |
| | | | | | | | | | | | | | *barn | farm x2 | ɑr |
| | | | | | | | | | | | | | *garden | | |
| | | | | | | | | | | | | | college | college x4 | ɑ |
| | | | | | | | | | | | | | College | | ɑ |
| | | | | | | | | | | | | | borrow | borrow x3 | ɑ |
| aɪ | no PEAS | | | twice | twice | aɪ | five | five x5 | aɪ | no PEAS | | | *wire | retire x2 | aɪr |
| | | | | | | | | | | | | | hire | | aɪr |
| ɔɪ | no PEAS | | | no PEAS | choice | ɔɪ | no PEAS | joined x2 | ɔɪ | *joint | pointing | ɔɪ | *boil | | |
| | | | | | choice | ɔɪ | | | | | | | | | |
| au | no PEAS | | | out | out x7 | au | no PEAS | | | down | down x5 | au | *flower | power x2 | au |
| ɔr | no PEAS | | | *horse | | | *forty | 1940s | ɔr | *corn | born x5 | ɔr | no PEAS | | |
| | | | | | | | | | | | born | ɔr | | | |
| | | | | | | | | | | | *morning | | | | |
| ɔ | *law | saw x2 | ɔ | *frost | cost x2 | ɔ | water | water x2 | ɑ | no PEAS | drawn | ɔ | no PEAS | | |
| | | | | | | | daughter | daughter | ɔ | | | | | | |
| | | | | | | | daughter | | ɑ | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | mother x4 | ʌ | *sun | son | ʌ | no PEAS | | |
| oʊ | know | know x10 | oʊ | *coat | boat | oʊ | road | Road | oʊ | home | homes | oʊ | four | four | oʊr |
| | ago | ago x4 | oʊ | | | | | | | | home | oʊ | | 24 x2 | oʊr |
| | | | | | | | | | | | | | *door | | |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | good x4 | u | | | | *pull | bull | u |
| | | | | | | | | | | | | | | bulls | u |
| | | | | | | | | | | | | | (school) | school x17 | u |
| | | | | | | | | | | | | | school | | uə |
| | | | | | | | | | | | | | School x3 | | u |
| u | two | two x4 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

UM10

| Phoneme | Phonetic environment | | | Checked | | | | | | | | | | | |
|-----------|----------------------|-----------|-----------|---------|-----------|-----------|----------|--------------|-----------|---------|------------|-----------|-----------|------------|------------|
| | Free | | | | | | | | | | | | | | |
| | | | | - voice | | | + voice | | | nasal | | | liquid | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | three x12 | i | *grease | | | no PEAS | | | no PEAS | | | *ear | | |
| ɪ | NA | | | *six | sixteen | ɪ | *crib | did x5 | ɪ | no PEAS | | | no PEAS | | |
| | | | | | sixth | ɪ | | | | | | | | | |
| e | no PEAS | | | eight | eight x2 | eɪ | | | | | | | *Mary | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | ten | ten | ɛ | *stairs | | |
| | | | | | | | *head | dead | ɛ | | | | care | care | ɛr |
| ɜ | no PEAS | | | no PEAS | | | thirty | thirty | ɜ | sermon | sermon | ɜ | *furry | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt x4 | æ | married | married x2 | ær |
| | | | | half | half x2 | æ | | | | | | | | | |
| | | | | *glass | | | | | | | | | | | |
| ɑ | NA | | | *crop | | | father | father x2 | ɑ | John | John x2 | ɑ | *palm | | |
| | | | | | | | | | | | | | *barn | ARMY | ɑr |
| | | | | | | | | | | | | | *garden | | |
| | | | | | | | | | | | | | college | college x6 | ɑ |
| | | | | | | | | | | | | | | College x3 | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no PEAS | | | *twice | | | *five | arrive | aɪ | no PEAS | | | *wire | Ireland x5 | aɪr |
| | | | | | | | | alive | aɪ | | | | | Ireland | æɪr |
| ɔɪ | no PEAS | | | no PEAS | | | no PEAS | avoiding | ɔɪ | *joint | | | *boil | | |
| | | | | | | | | boys x2 | ɔɪ | | | | | | |
| au | no PEAS | | | out | out x2 | au | no PEAS | | | *down | downtown | au | *flower | | |
| | | | | | | | | | | | accounting | æu | | | |
| ɔr | no PEAS | | | horse | horses x2 | ɔr | *forty | Fort | ɔr | *corn | born x3 | ɔr | no PEAS | | |
| | | | | | | | | | | | morning | morning | ɔr | | |
| ɔ | *law | | | *frost | | | *water | | | | no PEAS | | no PEAS | | |
| | | | | | | | daughter | daughter x2 | ɔ | | | | | | |
| | | | | | | | | daughters x2 | ɔ | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | usher | ʌ | no PEAS | mother x8 | ʌ | *sun | | | no PEAS | | |
| oʊ | know | know x3 | oʊ | *coat | | | *road | railroad | oʊ | home | home x2 | oʊ | four | four | oʊr |
| | ago | ago x3 | oʊ | | | | | | | | | | *door | | |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | good | u | | | | *pull | | |
| | | | | | | | | Leonardwood | u | | | | (school) | school | ɪu |
| | | | | | | | | | | | | | School | School | ɪu |
| | | | | | | | | | | | | | School x2 | School | u |
| | | | | | | | | | | | | | school x6 | School | u |
| u | two | two x3 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

UM11

| Phoneme | Phonetic environment | | | Checked | | | | | | | | | | | |
|-----------|----------------------|----------|-----------|---------|----------|-----------|----------|-----------|-----------|----------|---------|-----------|-----------|------------|------------|
| | Free | Token | Phone | | | | | | | | | | | | |
| | | | | - voice | | | + voice | | | nasal | | | liquid | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | three x4 | i | *grease | | | no PEAS | | | no PEAS | | | *ear | | |
| ɪ | NA | | | six | six x2 | ɪ | *crib | kid | ɪ | no PEAS | | | no PEAS | | |
| e | no PEAS | | | eight | eight x2 | eɪ | | | | | | | *Mary | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | ten | ten | ɛ | *stairs | | |
| | | | | | | | *head | read x2 | ɛ | | | | *care | aware | ɛɪ |
| ɜ | no PEAS | | | no PEAS | | | thirty | thirty | ɜ | sermon | sermon | ɜ | *furrow | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt | æ | married | married | ɛɪ |
| | | | | *half | | | | | | | | | | | |
| | | | | *glass | | | | | | | | | | | |
| ɑ | NA | | | *crop | stopped | ɑ | father | father x6 | ɑ | John | John x2 | ɑ | *palm | | |
| | | | | | | | | Father x2 | ɑ | | | | *barn | farm | ɑɜ |
| | | | | | | | | | | | | | | farm | ɑɪ |
| | | | | | | | | | | | | | *garden | | |
| | | | | | | | | | | | | | college | college x4 | ɑ |
| | | | | | | | | | | | | | College | | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no PEAS | | | *twice | life x2 | aɪ | five | five | aɪ | no PEAS | | | *wire | | |
| | | | | | wife x2 | aɪ | | | aɪ | | | | | | |
| | | | | | | | | 95 | aɪ | | | | | | |
| | | | | | | | | 1925 | aɪ | | | | | | |
| ɔɪ | no PEAS | boy | ɔɪ | no PEAS | | | no PEAS | | | *joint | | | *boil | | |
| au | no PEAS | | | *out | | | no PEAS | | | down | down | au | *flower | | |
| | | | | | | | | | | | town | au | | | |
| ɔɪ | no PEAS | | | *horse | | | *forty | Fort x2 | ɔɪ | *corn | born x2 | ɔɪ | no PEAS | | |
| | | | | | | | | | | *morning | | | | | |
| ɔ | *law | | | *frost | | | *water | | | no PEAS | | | no PEAS | | |
| | | | | | | | daughter | daughter | ɔ | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | mother x4 | ʌ | *sun | | | no PEAS | | |
| | | | | | | | | Mother | ʌ | | | | | | |
| o | know | know x9 | ou | *coat | | | *road | | | home | home x2 | ou | four | four x5 | our |
| | ago | ago | ou | | | | | | | | | | *door | | |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | good | u | | | | *pull | | |
| | | | | | | | | | | | | | (school) | School x2 | u |
| | | | | | | | | | | | | | school x7 | | u |
| u | two | two x7 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

UM12

| Phoneme | Phonetic environment | | | | | | | | | | | | | | | |
|-----------|----------------------|----------------|-----------|---------|--------|-----------|----------|-----------|-----------|----------|----------|-----------|----------|-----------|------------|--|
| | Free | | | Checked | | | | | | | | | | | | |
| | | | | - voice | | | + voice | | | nasal | | | liquid | | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | |
| i | three | three x2 | i | *grease | | | no PEAS | | | no PEAS | | | *ear | | | |
| ɪ | NA | | | six | 16 x3 | ɪ | *crib | did x6 | ɪ | no PEAS | | | no PEAS | | | |
| e | no PEAS | | | eight | 1890 | eɪ | | | | | | | *Mary | | | |
| | | | | | 84 | eɪ | | | | | | | | | | |
| | | | | | 85 | eɪ | | | | | | | | | | |
| | | | | *April | | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | *ten | then x2 | ɛ | *stairs | | | |
| | | | | | | | *head | | | | friends | ɛ | *care | | | |
| ɜ | no PEAS | | | no PEAS | | | *thirty | | | sermon | sermon | ɛɪ | *furrow | | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt | æ | married | married | æɪ | |
| | | | | half | half | æ | | | | | | | | | | |
| | | | | *glass | Vasser | æ | | | | | | | | | | |
| ɑ | NA | | | *crop | | | father | father x2 | ɑ | John | John x2 | ɑ | *palm | | | |
| | | | | | | | | | | | | | *barn | ARMY x4 | ɑɪ | |
| | | | | | | | | | | | | | *garden | | | |
| | | | | | | | | | | | | | college | College | ɑ | |
| | | | | | | | | | | | | | *borrow | | | |
| ɑɪ | no PEAS | | | *twice | nice | ɑɪ | five | 95 | ɑɪ | no PEAS | | | *wire | retired | ɑɪ | |
| | | | | | Vice | ɑɪ | | 85 | ɑɪ | | | | | | | |
| ɔɪ | no PEAS | boy | ɔɪ | no PEAS | | | no PEAS | | | | *joint | | *boil | | | |
| ɑʊ | no PEAS | | | out | out x6 | ɑʊ | no PEAS | | | down | down | ɑʊ | *flower | | | |
| ɔɪ | no PEAS | | | *horse | | | forty | 1941 | ɔɪ | *corn | Cornwall | ɔɪ | no PEAS | | | |
| | | | | | | | | | | *morning | | | | | | |
| ɔ | law | father-in-law | ɔ | *frost | | | *water | | | no PEAS | | | no PEAS | | | |
| | | law | ɔ | | | | daughter | daughter | ɑ | | | | | | | |
| | | brother-in-law | ɔ | | | | *dog | | | | | | | | | |
| | | | | | | | *log | | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | mother x3 | ʌ | *sun | | | no PEAS | | | |
| oʊ | know | know x4 | oʊ | *coat | | | *road | rode | oʊ | home | home x2 | oʊ | four | four x4 | oʊɪ | |
| | *ago | | | | | | | | | | | | | 84 | oʊɪ | |
| | | | | | | | | | | | | | door | door | ɔɪ | |
| | | | | | | | | | | | | | *hoarse | | | |
| | | | | | | | | | | | | | *mourm | | | |
| | | | | | | | | | | | | | *poor | | | |
| u | NA | | | no PEAS | | | *wood | would x4 | u | | | | *pull | | | |
| | | | | | | | | | | | | | (school) | school x7 | u | |
| | | | | | | | | | | | | | School | u | | |
| u | two | two | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | | |

Lexical Tokens for Phonetic Analysis

UM13

| Phoneme | Phonetic environment | | | Checked | | | + voice | | | nasal | | | liquid | | |
|---------|----------------------|--------------|-------|---------|---------|-------|----------|------------|-------|----------|-------------|-------|--------------|--------------|-------|
| | Free | | | - voice | | | | | | | | | | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | three | i | *grease | | | no PEAS | | | no PEAS | | | *ear | | |
| ɪ | NA | | | six | six | ɪ | *crib | did x7 | ɪ | no PEAS | | | no PEAS | | |
| | | | | | 1886 | ɪ | | Did | ɪ | | | | | | |
| | | | | | 86 | ɪ | | | | | | | | | |
| | | | | | 1946 | ɪ | | | | | | | | | |
| e | no PEAS | | | eight | eight | eɪ | | | | | | | *Mary | | |
| | | | | | 1908 x2 | eɪ | | | | | | | | | |
| | | | | | 1928 | eɪ | | | | | | | | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | ten | ten x5 | ɛ | *stairs | | |
| | | | | | | | head | head x4 | ɛ | | 1910 | ɛə | *care | parents x3 | ɛɪ |
| | | | | | | | head | | ɛə | | 1910 | ɛ | | | |
| ɜ | no PEAS | | | no PEAS | | | thirty | thirty | ɜ | sermon | sermon x4 | ɜ | *furrow | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt x2 | æ | married | married x3 | ɛɪ |
| | | | | half | half | æ | | | | | | | married x2 | æɪ | |
| | | | | *glass | passed | æ | | | | | | | | | |
| ɑ | NA | | | *crop | | | father | father x11 | ɑ | John | John | ɑ | *palm | | |
| | | | | | | | | | | | | | *barn | | |
| | | | | | | | | | | | | | *garden | | |
| | | | | | | | | | | | | | college | College | ɑ |
| | | | | | | | | | | | | | college x3 | | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| ɑɪ | no PEAS | | | *twice | | | five | five x2 | ɑɪ | no PEAS | | | *wire | retired x2 | ɑɪɪ |
| | | | | | | | | Five | ɑɪ | | | | | | |
| | | | | | | | | 1865 | ɑɪ | | | | | | |
| | | | | | | | | 95 | ɑɪ | | | | | | |
| | | | | | | | | 1755 | ɑɪ | | | | | | |
| ɔɪ | no PEAS | boy | ɔɪ | no PEAS | | | no PEAS | cowboys | ɔɪ | *joint | | | *boil | | |
| | | | | | | | | boys | ɔɪ | | | | | | |
| ɑʊ | no PEAS | | | out | out x11 | ɑʊ | no PEAS | | | *down | down x9 | ɑʊ | *flower | | |
| | | | | | | | | | | | downtown x2 | ɑʊ | | | |
| | | | | | | | | | | | Downtown | ɑʊ | | | |
| ɔɪ | no PEAS | | | horse | horse | ɔɪ | *forty | 1946 | ɔɪ | *corn | born x10 | ɔɪ | no PEAS | | |
| | | | | | horses | ɔɪ | | | | *morning | | | | | |
| | | | | | horse | ɔɪ | | | | | | | | | |
| ɔ | *law | lawschool x5 | ɔ | *frost | | | *water | | | no PEAS | | | no PEAS | | |
| | | law x4 | ɔ | | | | daughter | daughter | ɔ | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | brush | brush | ʌ | no PEAS | mother | ʌ | *sun | son | ʌ | no PEAS | | |
| | | | | | | | | Mother x2 | ʌ | | | | | | |
| o | know | know x9 | oʊ | *coat | boat | oʊ | *road | | | *home | dome x2 | oʊ | four | four | oʊɪ |
| | ago | ago x2 | oʊ | | | | | | | | | | | 4000 | oʊɪ |
| | | | | | | | | | | | | | | 1774 | oʊɪ |
| | | | | | | | | | | | | | *door | | |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | could x7 | u | | | | *pull | full | u |
| | | | | | | | | would x3 | u | | | | (school) | lawschool x5 | u |
| | | | | | | | | | | | | | school x7 | | u |
| | | | | | | | | | | | | | School x2 | | u |
| | | | | | | | | | | | | | School | | uə |
| | | | | | | | | | | | | | schools | | uə |
| | | | | | | | | | | | | | school | | uə |
| | | | | | | | | | | | | | school marms | | u |
| u | two | two x3 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

UM14

| Phoneme | Phonetic environment | | | | | | | | | | | | | | |
|-----------|----------------------|---------|-----------|---------|---------|-----------|----------|-----------|-----------|----------|---------|-----------|----------|------------|------------|
| | Free | | | Checked | | | | | | | | | | | |
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| | | | | - voice | | | + voice | | | nasal | | | liquid | | |
| i | three | three | i | *grease | | | no PEAS | | | no PEAS | | | *ear | | |
| ɪ | NA | | | six | six | ɪ | *crib | kid | ɪə | no PEAS | | | no PEAS | | |
| | | | | | 26 | ɪ | | kids | ɪə | | | | | | |
| e | no PEAS | | | eight | 1938 | eɪ | | | | | | | *Mary | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | ten | ten x2 | ɛ | *stairs | | |
| | | | | | | | *head | | | ten | | ɛə | *care | parents x3 | ɛɪ |
| ɜ | no PEAS | | | no PEAS | | | thirty | thirty | ɜ | sermon | sermon | ɜ | *furrow | | |
| | | | | | | | | 1938 | ɜ | | | | | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt | æ | married | married x5 | æɪ |
| | | | | half | half | æə | | | | | | | married | | ɛɪ |
| | | | | *glass | class | æ | | | | | | | | | |
| ɑ | NA | | | *crop | | | father | father x5 | ɑ | John | John x2 | ɑ | *palm | | |
| | | | | | | | | | | | | | *barn | farm | ɑɜ |
| | | | | | | | | | | | | | *garden | | |
| | | | | | | | | | | | | | college | college x8 | ɑ |
| | | | | | | | | | | | | | College | | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no PEAS | | | *twice | nice x2 | aɪ | five | five x4 | aɪ | no PEAS | | | *wire | retired x2 | aɪɪ |
| | | | | | | | | 25 | aɪ | | | | | acquired | aɪɪ |
| | | | | | | | | 45 x2 | aɪ | | | | | Ireland | aɪɪ |
| ɔɪ | no PEAS | | | no PEAS | | | no PEAS | | | *joint | point | ɔɪ | *boil | Oil x2 | ɔɪ |
| au | no PEAS | | | out | out x6 | au | no PEAS | | | *down | down x7 | au | *flower | | |
| ɔɪ | no PEAS | | | horse | horse | ɔɪ | forty | forty | ɔɪ | *corn | born x2 | ɔɪ | no PEAS | | |
| | | | | | | | | 45 x2 | ɔɪ | | born | ɔɪ | | | |
| | | | | | | | | | | | torn x2 | ɔɪ | | | |
| | | | | | | | | | | *morning | | | | | |
| ɔ | law | law | ɔ | *frost | | | *water | | | no PEAS | | | no PEAS | | |
| | | | | | | | daughter | daughter | ɔ | | | | | | |
| | | | | | | | *dog | | | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | brush | brush | ʌ | no PEAS | mother x6 | ʌ | *sun | sons x3 | ʌ | no PEAS | | |
| oʊ | know | know x4 | oʊ | *coat | | | *road | | | home | home x3 | oʊ | four | four | oʊɪ |
| | ago | ago | oʊ | | | | | | | | | | 1874 x2 | | oʊɪ |
| | | | | | | | | | | | | | door | door locks | oʊɪ |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | good x2 | u | | | | *pull | | |
| | | | | | | | | | | | | | (school) | school x11 | u |
| | | | | | | | | | | | | | School | | uə |
| | | | | | | | | | | | | | School | | u |
| | | | | | | | | | | | | | school | | uu |
| | | | | | | | | | | | | | school | | uə |
| u | two | two x7 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |

Lexical Tokens for Phonetic Analysis

UM15

| Phoneme | Phonetic environment | | | Checked | | | Free | | | Checked | | | Free | | |
|-----------|----------------------|----------|----------|---------|----------|-----------|----------|--------------------|-----------|---------|-----------|-----------|---------|------------|-----------|
| | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone | Form | Token | Phone |
| i | three | three x4 | i | *grease | | | no PEAS | | | nasal | | | liquid | | |
| | | Three | i | | | | | | | | | | | | |
| | | 3-star | i | | | | | | | | | | | | |
| | | 1923 | i | | | | | | | | | | | | |
| r | NA | | | six | six | r | *crib | Kid | r | no PEAS | | | no PEAS | | |
| | | | | | 1966 | r | | kids | r | | | | | | |
| | | | | | 66 | r | | | | | | | | | |
| e | no PEAS | | | eight | eight x3 | e | | | | | | | *Mary | | |
| | | | | *April | | | | | | | | | | | |
| ɛ | NA | | | no PEAS | | | *egg | | | ten | ten | ɛ | *stairs | | |
| | | | | | | | *head | headquarters x3 | ɛ | | | | care | care | ɛ |
| ɜ | no PEAS | | | no PEAS | | | thirty | 1939 | ɜ | sermon | sermon | ɜ | *furrow | | |
| æ | NA | | | *ashes | | | *bag | | | aunt | aunt's | æ | married | married x4 | æ |
| | | | | half | half | æ | | | | aunt | aunt's | æ | | married x6 | æ |
| | | | | *glass | | | | | | aunts | aunts | æ | | | |
| ɑ | NA | | | *crop | top | ɑ | father | father x4 | ɑ | John | Johnny | ɑ | *palm | | |
| | | | | | stop | ɑ | | | | | John | ɑ | *barn | Armored x2 | ɑ |
| | | | | | | | | | | | | | | army x4 | ɑ |
| | | | | | | | | | | | | | *garden | | |
| | | | | | | | | | | | | | college | college x3 | ɑ |
| | | | | | | | | | | | | | *borrow | | |
| aɪ | no PEAS | | | *twice | vice | aɪ | five | five | aɪ | no PEAS | | | *wire | retired x3 | aɪ |
| | | | | | nice | aɪ | five | five | aɪ | | | | | retirement | aɪ |
| | | | | | | | | 125 | aɪ | | | | | fired | aɪ |
| | | | | | | | | | | | | | | fire | aɪ |
| ɔɪ | no PEAS | | | no PEAS | | | no PEAS | | | *joint | point x2 | ɔɪ | *boil | | |
| au | no PEAS | | | out | out x18 | au | no PEAS | | | down | down x6 | au | *flower | | |
| ɔr | no PEAS | | | *horse | Horse x2 | ɔr | forty | 41 | ɔr | *corn | born x9 | ɔr | no PEAS | | |
| | | | | | Horse | ɔr | | | | | born x2 | ɔr | | | |
| | | | | | horse | ɔr | | | | | | | | | |
| | | | | | horse | ɔr | | | | | | | | | |
| | | | | | horses | ɔr | | | | | | | | | |
| ɔ | law | law | ɔ | *frost | lost | ɔ | water | water | ɔ | no PEAS | | | no PEAS | | |
| | | law | ɔ | | | | daughter | daughters | ɔ | | | | | | |
| | | law | ɔ | | | | daughter | daughter | ɔ | | | | | | |
| | | | | | | | dog | dog | ɔ | | | | | | |
| | | | | | | | *log | | | | | | | | |
| ʌ | NA | | | *brush | | | no PEAS | mother x8 | ʌ | *sun | Sunday x2 | ʌ | no PEAS | | |
| o | know | know x9 | o | *coat | | | *road | | | home | home x3 | o | four | 4-star | o |
| | ago | ago | o | | | | | | | | homes | o | *door | | |
| | | | | | | | | | | | | | *hoarse | | |
| | | | | | | | | | | | | | *mourn | | |
| | | | | | | | | | | | | | *poor | | |
| u | NA | | | no PEAS | | | *wood | good x3 | u | | | | *pull | pulled x2 | u |
| | | | | | | | | | | | | | | (school) | School |
| | | | | | | | | | | | | | | school | uu |
| | | | | | | | | | | | | | | school | uu |
| | | | | | | | | | | | | | | school x5 | u |
| | | | | | | | | | | | | | | school x3 | u |
| u | two | two x4 | u | *tooth | | | no PEAS | | | no PEAS | | | no PEAS | | |
| | | | u | | | | | | | | | | | | |

