

LANGUAGE VARIATION AND THE GREAT MIGRATION:  
REGIONALITY AND AFRICAN AMERICAN LANGUAGE

by

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## DISSERTATION ABSTRACT

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Title: Language Variation and the Great Migration: Regionality and African American Language

The Great Migration of African Americans out of the rural South between 1915 and 1970 is the reason why African American Language (AAL) is found across a wide geographic range in the United States. This massive demographic shift is considered to be one of the most important historical and sociological population movements in North America. Previous work on AAL has overlooked the diachronic regional development of urban AAL in the context of the Great Migration. This dissertation investigates the spread and intensification of AAL during the twentieth century through an analysis of regional variation and change in Washington DC, focusing on sound change internal to the variety (Fought 2013). It focuses on a single sociolinguistic variable, word final /d/, which, in AAL, has several phonetic realizations, including the glottal stop, coronal stop, and outright deletion. The glottal stop variant is a geographically widespread feature of modern AAL.

To better understand the development of AAL, I draw on conversational interview data from several communities with African American populations: Memphis, Tennessee, Washington DC, Princeville, North Carolina, and Rochester, New York. These specific communities represent important historical and geographic contexts,

including an older rural Southern community (Princeville), and urban communities which were greatly affected by the Great Migration in both the South (Memphis, DC) and North (Rochester). Results show regional differentiation, including a North and South distinction and an urban and rural one. An analysis of change over time in Washington DC further identifies that the glottal variant is increasing over time while the deleted variant is stable.

This dissertation is driven by a set of research questions designed to broaden the understanding of how AAL developed during the twentieth century by incorporating multiple communities in the analysis and better understanding the sociohistorical context of those communities. These findings demonstrate the unique conditions that allowed AAL to develop and flourish as a variety of English. I hope this research expands how sociolinguists view AAL and regional variation more broadly and demonstrates the utility in focusing on the role of such community-specific sociohistorical patterns on language development.

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# CHAPTER I

## INTRODUCTION

This dissertation presents an analysis of variation of word final /d/ in African American Language (AAL).<sup>1</sup> The development of AAL, its features, and related implications in education has been well documented in sociolinguistics since the 1960s (Labov, Cohen, Robins & Lewis 1968; Wolfram 1969; Fasold 1972; Labov 1972; Baugh 1979; Fasold et al. 1987; Mufwene et al. 1998; Rickford 1999; Poplack 2000; Poplack & Tagliamonte 2001; Green 2002, 2011; Wolfram & Thomas 2002; Cukor-Avila 2003; Lanehart 2015). The spread and intensification of AAL features over the course of the twentieth century, which results from the complex social history and demographic changes resulting from the major population movements of African Americans during much of the twentieth century, known as the Great Migration (Tolnay 2003), have been underexamined, including how AAL-specific linguistic patterns spread and how dialect contact and new dialect formation processes may have played a role in these changes. By spread I mean AAL becoming geographically widespread throughout the U.S., and by intensification, I mean the increase of frequency as well as the development of new features associated with AAL (Labov 1998; Wolfram 2004). Much work in the study of AAL, dating back to the earliest work in the field in the 1960s, has been done on grammatical features, such as the tense/mood/aspect system (Labov et al. 1968; Wolfram 1969; Fasold 1972; Labov 1972; Baugh 1979; Rickford 1999), with some work on sound patterns such as r-lessness, consonant cluster reduction, and, mostly recent, vocalic

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<sup>1</sup> In this dissertation, I use African American Language as a cover term for the language use in African American communities, recognizing the variation within those communities, including differences by region, class, gender, age, etc. (Lanehart 2015).

features (Yaeger-Dror & Thomas 2009). Beyond r-lessness and consonant cluster reduction, consonantal variation in AAL has been understudied, though specific aspects of consonantal variation are often included in AAL feature lists (e.g. Thomas & Bailey 2015). One such feature that has been referenced, but not thoroughly examined is the variation of word final /d/ (Wolfram 1969; Nguyen 2006; Farrington 2018a). In AAL, word final /d/ can be realized as a coronal stop, a glottal stop, a glottal reinforced coronal stop, or deleted. A word like *bad* can thus be realized as [bæ:d], [bæ:ʔ], [bæ:ʔd], or [bæ:].<sup>2</sup> The glottal stop replacement of word final /d/, in particular, is a feature unique to AAL, and geographically widespread. A close sociolinguistic analysis of word final /d/ in AAL, paying attention to its regional variation and changes over the twentieth century, can help shed light on three questions of continued importance in the study of AAL: (1) How did linguistic features of AAL spread and intensify over the twentieth century? (2) Does a better understanding of the sociohistorical context add to an analysis of change over time in AAL? And (3) if modern AAL developed through processes of new dialect formation, what predictions can we make in the ongoing development of the variety?

To address these questions, I analyze sociolinguistic interview data from four AAL speaking communities: Memphis, Tennessee, Washington DC, Princeville, North Carolina, and Rochester, New York. These data come from several sociolinguistic sources, three of which are included in the Corpus of Regional African American Language (CORAAAL; Kendall & Farrington 2018). This corpus allows researchers to explore several regional and social varieties of AAL with comparable interview styles and transcription conventions. These specific communities represent important historical

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<sup>2</sup> The vowel in ‘bad’ is a long vowel [æ:] in all contexts (Farrington 2018a).

and geographic contexts, including an older rural Southern community (Princeville, the oldest town incorporated by African Americans), urban communities with longstanding African American populations in both the Deep South (Memphis), the extreme upper South (Washington DC), and the North (Rochester), all of which were greatly impacted by the Great Migration.

In this dissertation, I will first present a general sociohistorical background for the setting of the spread and intensification of AAL (Chapter II). This chapter will also discuss in some depth the four speech communities under investigation: Memphis, DC, Princeville, and Rochester, and will explain why these four communities are under focus. The following two chapters represent the core empirical work of the dissertation, focusing on the statistical analyses of regional variation of word final /d/ realizations (Chapter III) as well as a detailed examination of this feature as it relates to its trajectory of change in Washington DC (Chapter IV). These two chapters are somewhat standalone in the sense that they do not attempt to directly link back to all details of the sociohistorical context from Chapter II. It is my hope that situating the analyses of Chapters III and IV in a deeper sociohistorical community context will enrich the findings and interpretations of the linguistic analyses. However, ultimately, a part of what this dissertation seeks to address is the question of whether a better understanding of the sociohistorical context of a community indeed improves our understanding of the analysis. In Chapter V, we return to this question of how the community context enriches the analysis. I will also explore the roles of migration and contact in the study of AAL's spread and intensification across the twentieth century.

In the early days of the field, the 1960s, sociolinguists who worked on AAL were not focused on regional variation or the mechanisms of the spread and intensification of the variety. Instead, they were focused on similarities across groups of speakers. This was a result of the field's goals of addressing larger social issues like the deficit model or correctionist approach which both suggest that AAL is unsystematic or sloppy English (Baratz 1968; Baratz & Shuy 1969; Labov 1969; Wolfram 2007). In fact, many of the early sociolinguistic projects on AAL were funded by the Office of Education to address these core social issues (Labov et al. 1968; Shuy, Wolfram & Riley 1968; Wolfram 1969; Legum, Pfaff, Tinnie & Nicholas 1971; Fasold 1972). While these studies of AAL became the benchmarks for the study of linguistic variation, there was a continual need to focus on educational implications of the study of AAL because of similar debates over several decades including the Ann Arbor decision in 1979 (Farr-Whiteman 1980), the Oakland Ebonics controversy in the late 1990s (Rickford 1997, 1999; Baugh 2000), linguistic profiling and the U.S. Department of Housing and Urban Development (Purnell, Idsardi, & Baugh 1999; Baugh 2003), and most recently, AAL use in the courtroom (Rickford & King 2016; Jones, Kalbfeld, Hancock, & Clark 2019).

Wolfram (2007) reexamined the foundational assumptions in the field regarding AAL and discussed three 'myths' that he thought were unquestioned among many linguists, including, for example, that AAL is a supraregional variety that does not vary by region, that AAL exhibits a "unilateral path of change" (e.g. whether it is converging or diverging from Mainstream American English (MAE)), and that Middle Class speakers do not use AAL.



Until recently, however, the topic of regional differences remained elusive in research on AAL. One tension is the fact that there are patterns shared across regional contexts, like the African American Vowel System (Fridland 2003a; Thomas 2007), while there also are clearly regional variants (Blake & Shousterman 2010a; Kohn 2014). Word final /d/ variation is one of these features shared across geographic contexts, yet it exhibits subtle differences related to rates of use and social factors (Farrington 2018a). The glottal variant, in particular, appears to have spread over the twentieth century. In this dissertation, I will use this understudied, yet, geographically widespread feature to enrich our understanding of the spread and intensification of AAL, through the potential roles of dialect contact and new dialect formation resulting from migration patterns.

The remainder of this introduction gives a sociolinguistic and practical introduction to this work. First, §1.1 addresses AAL in the history of sociolinguistics. §1.2 defines the sociolinguistic variable construct, and then details the variable under investigation here, word final /d/. §1.3 turns to the notion of the speech community as it is defined in sociolinguistic literature, and here I provide initial context on the four speech communities used in the analysis (§1.4). And finally, I provide a detailed outline of the dissertation (§1.5).

## **1.1 Sociolinguistics and AAL**

There is a long tradition of the analysis of variation in American English, beginning with the formation of the American Dialect Society in 1889, where many papers were focused on the geographical distribution of linguistic features (e.g. regional lexical variation) (Wolfram & Schilling 2016). Large scale dialect studies began in the

1930s with the Linguistic Atlas Projects (McDavid 1951; Pederson 1969), as well as the Dictionary of American Regional English (DARE; Cassidy 1985), which focused on lexical items.

In the 1960s, thanks to William Labov and several other young sociolinguists interested in social and ethnic variation, the field shifted to the impact that variation could bring to the theoretical study of linguistics as well as applications to benefit speakers of different language varieties. Many of the early sociolinguistic studies were focused on the speech of African American children and adolescents, specifically the systematicity of the dialect related to social problems and education implications of the research (Labov et al. 1968; Shuy et al. 1968; Wolfram 1969; Fasold 1972; etc.). The study of AAL is deeply entwined with the history of sociolinguistics. As Wolfram and Schilling (2016:217) note, AAL “is the paradigmatic case of ethnicity-based language diversity,” it has “drawn widespread media attention and public commentary over the past half century.” Despite this intense focus for fifty years, important questions remain about a range of topics related to AAL, including the spread of AAL over the twentieth century.

The migration of African Americans out of the South between 1915 and 1970, known as the Great Migration (Tolnay 2003), spread AAL over a geographically widespread area (Wolfram & Schilling 2016). The consequences of the Great Migration are integral to the development of the language variety, both in the newly inhabited Northern cities, the Southern cities that had stable African American communities, and as it affected the rural Southern areas because of ongoing out- and in-migration of residents.

Despite not being addressed centrally in the core literature on AAL (Labov et al. 1968; Wolfram 1969; Fasold 1972), all of this research took place during the late 1960s,

the final phase of the Great Migration. While the core findings were clearly a function of the questions that sociolinguists were trying to answer, they are also a function of the new urban populations in large cities like New York, Detroit, and Washington DC. The intra-ethnic contact situation, and the resultant linguistic processes are temporally dependent within this time period. As a discipline, this is something that we need to remember. As we move on from focusing on homogeneity in AAL to heterogeneity and regional variation, we must also remember how the sociohistorical contexts of different communities have changed and how larger sociological differences play into how we understand and interpret our results.

Before moving on, I wanted to add a quick note about the labeling of the variety spoken by African Americans. Since the inception of sociolinguistics as a field, the labels used by linguists to refer to the variety spoken by African Americans has changed several times.<sup>3</sup> While these labels do not necessarily refer to the same variety, following Lanehart (2015), I use the term African American Language as a neutral term referring to systematic language use in African American communities. Several papers that are discussed in this dissertation use other related names, and I will generally use those terms, such as AAVE or Black English, when referring to those studies, unless otherwise noted. Sometimes, there is a focus within a community on the more vernacular or nonstandard speakers. As we will see, linguistic patterns under investigation today have been found across social classes, so the AAL cover term is useful so as not to focus on specific groups within the language variety.

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<sup>3</sup> Labels include *Nonstandard Negro English*, *Black English*, *Ebonics*, *African American English*, *African American Vernacular English*, and most recently, *African American Language*.

## 1.2 The Sociolinguistic Variable

Starting with the analysis in Chapter III, I discuss the feature under investigation in terms of the sociolinguistic construct known as a *variable*. The identification of variables in sociolinguistics is fundamental to the sociolinguistic enterprise. A linguistic variable can occur at any level of language (e.g., phonetics, morphology, syntax) and is the notion that there are multiple forms that carry the same meaning (Labov 1966; Sankoff 1988; Wolfram 1991; Poplack 1993; Tagliamonte 2006). To put it simply, sociolinguistic variables are “two or more ways of saying the same thing” (Tagliamonte 2011:4). This is, of course, an idealized view of language, especially above the level of phonetics. Tagliamonte (2006) defines this goal of variation analyses as the pinpointing of the form/function overlap and to explain why such overlap exists.

In order to determine the *variants* of a variable, one must circumscribe the variable context (Wolfram 1991; Tagliamonte 2006). This involves identifying the utterances where this feature varies, and excluding contexts where a variant does not occur, as well as deciding how many variants can be reliably identified (Tagliamonte 2006:13). In the current analysis, I focus on the variable word final /d/, when it occurs after vowels. The variants of word final /d/ are defined in terms of the allophones of this phoneme: [d], [ʔ], [ʔd], or ∅. The analysis then focuses on how different factors constrain or determine the parameters of use of one variant compared to another. These can be linguistic factors, also called internal factors, ranging from preceding and following segment types, duration, word frequency, as well as social, or external, factors, which include categories like gender, ethnicity, age, and social class. Following common

practice with sociolinguistic variables, statistical tests are applied to determine how the internal and external factors influence the variants.

### **1.2.1 Time in Sociolinguistics**

In order to understand the variable and potential changes over time, the current analysis draws on two notions of time that are important assumptions in the study of language change: apparent time and real time (Bailey et al. 1991; Sankoff 2004, 2006). As Fruehwald (2017) notes, core sociolinguistic questions about language changes in progress rely on these assumptions of time. *Apparent time* sociolinguistic studies utilize recordings from a single point in time with speakers of different ages to infer change over time. This assumes that speakers are relatively stable in their linguistic systems after acquisition, and that the speech of older individuals represents more conservative, i.e. older, varieties compared to younger individuals, a pattern which can be used to infer change. For example, in a study of three generations of speakers in 2019, aged 20, 40 and 60, differences between the 20-year-old and 60-year-old would be assumed to represent change over a forty-year period. Researchers use this synchronic view of variation in the community to infer diachronic change (Wolfram & Schilling 2016).

Recordings that are collected at different points in time to show change over *real time*. For example, to show change over time between 1979, 1999, and 2019 (as above), we would use recordings of speakers at those points in time. Panel and trend studies have shown that adults are relatively stable, but community level linguistic changes can influence an individual's language patterns in adulthood (Sankoff 2006; Kohn 2014; Fruehwald 2017; Wagner & Buchstaller 2017). Changes at the individual level are often

related to changes in progress at the community level. This diachronic view of change is most often used in historical linguistics but is increasingly common in sociolinguistic studies (Wagner & Buchstaller (eds.) 2017).

### **1.3 The Speech Community**

The speech community is a core notion in the field of sociolinguistics (Tagliamonte 2006), which is a way to delimit the locus of language use, based on the idea of ‘shared social meaning’ or ‘shared norms’ (Labov 1966, 1972; Eckert 1990), which are often tied to geographic location. For example, “the classical procedure in describing a speech community is for the analyst to specify a particular geographic location, and then to identify a series of putatively relevant social categories, such as gender, class, or generation cohort” (Milroy & Gordon 2003:133-134). The analysis that follows would correlate linguistic use to these larger structures. This approach has been criticized in the past (Romaine 1982) or shown to be insufficient in different kinds of communities. For example, Eckert (1990) focused on the school as a speech community, and the communities of practice therein. Rickford’s (1986) study of Cane Walk, Guyana used a conflict model of social class to illustrate the differences in language attitudes of members who occupied different social positions related to the ideas of societal mobility and class loyalty. This finding, in particular, shows how ethnicity could be a major boundary between speech communities. These findings point to the fact that despite the speech community as an explanatory unit in sociolinguistics, it can be considered a cultural concept that is subject to change (Eckert 1990; Milroy & Gordon 2003; Wolfram

& Schilling 2016). Different kinds of communities, like small rural towns or large, mobile communities will result in different kinds of norms.

African American speech communities throughout the twentieth century changed immensely due to the Great Migration, and not just from a demographic standpoint. Wolfram and Thomas (2002) suggested that because of the movement out of the rural South, community norms were repositioned from the rural context towards an urban one. These changes could potentially affect the norms within the speech communities over time. In the next section, I briefly discuss the four speech communities under investigation. These are labeled by geographic location throughout this dissertation (e.g. Memphis, Washington DC, Princeville, Rochester), and, as mentioned above, each of these communities has changed over the past 75 years.

### **1.3.1 Communities in the Analysis**

In this dissertation, I focus on four different speech communities: Memphis, Tennessee, Washington, DC, Princeville, NC and Rochester, NY. As discussed in §1.1, these sites were selected in part to represent distinct historical and geographical differences among AAL speaking communities. In Chapter II, I discuss in more detail the sociohistorical setting for AAL in each community, giving a brief background on the speech community and population size while investigating the effect that the Great Migration had on each of these locations. Then, Chapter III's analysis focuses on the regional variation of word final /d/ across these communities. In §3.2, I discuss the data sources, which included the Corpus of Regional African American Language (CORAAAL; Kendall & Farrington 2018) as well as Valerie Fridland's (2003a, 2003b) data from

Memphis. In this section, I briefly describe the locations of each community under investigation. Figure 1.1 illustrates the geographic locations of these communities in the Eastern United States.



*Figure 1.1 Geographic locations of communities in study*

Memphis is located in the Deep South geographic region, in the southwest corner of Tennessee. A large port city on the Mississippi River, Memphis was a migration destination for rural African Americans from the Mississippi Delta Region. Memphis’s population is similar to DC (650,000), and is the only community under investigation in the Deep South.



Washington DC, the nation's capital, is located on the periphery of the South in the South Atlantic U.S. Census region. In 1957, DC became the first large U.S. city to have a majority African American population. What makes DC of particular interest to this study is that it was a key Great Migration city on the Eastern seaboard, but before that, had a stable African American population.

Princeville, North Carolina, established by formerly enslaved individuals after the Civil War and incorporated in 1885, is the oldest incorporated African American town in the United States. It is located next to the Tar River, about seventy-five miles east of Raleigh, and in the Piedmont Region of North Carolina. The population of Princeville has always been majority African American (>95%) with a small white minority. Unlike the other three communities, Princeville is relatively small (approx. 2,000 residents) and represents a rural African American community in the South.

Finally, Rochester, New York is the most northern African American community under investigation. Rochester is located in Monroe County in Western New York, about ninety miles west of Syracuse and seventy-five miles east of Buffalo. Rochester is a mid-size city (200,000) and, unlike the other three communities, the African American population is a late twentieth century development. Between 1940 and 2016, the African American population has grown by over 82,000 people to about 41% of the city's population.

My goal here is to understand the local context of the communities, while recognizing that they each have histories that are both unique and shared. This allows for understanding widespread patterns in the context of local communities.

#### 1.4 The Great Migration and Contact

The Great Migration, which was the migration of African Americans northward and westward out of the rural South between 1915 and 1970 (Tolnay 2003), brought African Americans, and the language they spoke to a wide geographic range in the United States (Thomas 2001; Wolfram & Thomas 2002; Wolfram & Schilling 2016). The Great Migration resulted in massive demographic shifts across the country; it is widely considered to be one of the most important historical and sociological population movements in North America (Lemann 1991; Trotter Jr. 1991; Tolnay 2003; Wilkerson 2010; Hunter & Robinson 2018). While some researchers have indeed suggested a relationship between the Great Migration and the spread of AAL (Thomas 2001, 2007; Labov 1998, 2010, 2012; Jones 2015), very little work has examined the relationship between the Great Migration and regional varieties of AAL in any detail.

With this increased in-migration to cities coinciding with the twentieth century development of AAL, we can also explore the role of dialect contact and new dialect formation in urban areas (Kerswill & Williams 2000; Britain 2018). Early work on AAL often discussed the development of the variety in terms of its contact with white varieties. The Great Migration brought thousands of new in-migrants to cities through the North, West and South, leading to contact situations that led to the intensification of some features (Labov 1998) as well as the development of others in these urban centers (Wolfram 2004). As noted in Anderson (2002), AAL research rarely views AAL as a contact variety, and when they do, it is often in relation to the local white variety. As we will see in Chapter II, the Great Migration led to the movement of six million African Americans into new contact situations, not only with speakers of other ethnic varieties

(whites as well as others) but it also led individuals into contact with other African Americans of different dialectal backgrounds. Yet, very little work has considered cases of intra-ethnic contact. Instead, the majority of the work in this area focuses on inter-ethnic contact and comparisons (e.g. Ash & Myhill 1986; Jones & Preston 2006). One major exception to this work is Moody's (2011) dissertation, which looks at intra-ethnic contact in the development of AAL in Southeast Georgia, focusing in part on the complex relationship between AAL and Gullah-Geechee speakers. In the Mississippi Delta region, Wilkerson (2008; also reported in Wilkerson 2015) examined the role of contact and differences between different townships as well as education in the use of canonical AAL variables like copula absence and r-lessness. The townships investigated vary in several ways, including rurality and racial diversity.

In Chapter II, I provide background on how new dialect formation processes might help our understanding of AAL and close the dissertation by coming back to this point, addressing implications of this analytical framework for the study of AAL going forward.

## **1.5 Summary**

This chapter set out to introduce the study by first discussing the study of AAL in sociolinguistics, the sociolinguistic variable, and the speech communities under analysis, then giving a brief introduction to the sociohistorical context and potential ways that sociolinguists working on AAL can frame the analysis. In the introduction of this chapter, I listed three questions that are of continued importance in the study of AAL as well as questions that frame the rest of this dissertation:

- (1) How did linguistic features of AAL spread and intensify over the twentieth century?
- (2) Does a better understanding of the sociohistorical context add to an analysis of change over time?
- (3) If modern AAL developed out of new dialect formation processes, what predictions can we make in the ongoing development of the variety?

To begin to answer these questions, I first set the stage by addressing the regional distribution of word final /d/, focusing on the nonstandard variants: glottal stop replacement and deletion of /d/ in Memphis, DC, Princeville and Rochester. This is the focus of Chapter III. That analysis, then combined with the analysis of word final /d/ DC over the twentieth century, in Chapter IV, shows how a feature can vary across geographic regions while also increasing in use, resulting in the spread and intensification of this AAL feature.

The question of sociohistorical context for the study of AAL is an important one. In this dissertation, I frame this question in terms of what this sociohistorical evidence can bring to the study of this variable and these communities. Which, in turn, can be extended to our understanding of AAL and better integrating the sociohistorical processes that affected African American communities throughout the twentieth century. Lastly, I address the ongoing development of AAL in Chapter V, by framing the development of urban AAL in terms of new dialect formation resulting from a dialect contact situation. The study of AAL has not been framed in these terms before, and I explore the predictions we can make by looking at AAL in this way.

### 1.5.1 Outline of Dissertation

This dissertation is organized as five chapters, illustrating the sociohistorical basis for change in AAL in the twentieth century by looking at a sociolinguistic variable, word final /d/. The current chapter laid out three broad research questions, which will be addressed in Chapter V. It also presented sociolinguistic terminology with regard to AAL as a sociocultural variety of American English.

The rest of this dissertation is laid out as followed: Chapter II focuses on the sociohistorical basis for the spread and intensification of AAL in the twentieth century. I begin by giving a brief history of the Great Migration and the study of AAL, which drives the focus on the paths of migration as well as the broader cultural impact of the population movement. Then, I look at the speech communities in more detail, focusing on the geographical and temporal setting for AAL in each community. Early sociological work in cities highlights the isolation and living conditions in cities. This can help tease apart the potential contact environment of new in-migrants in the development of the varieties. After this sociohistorical introduction, I focus on how the new intra-ethnic contact situations brought about because of the Great Migration relate to sociolinguistic theories of new dialect formation and sound change in AAL.

The next two chapters represent the close sociolinguistic analyses of word final /d/ in AAL. First, Chapter III provides an analysis of regional variation of word-final /d/ in AAL. Glottal stop replacement of word-final /d/ is shown to be widespread across the four communities under investigation, while /d/ deletion is higher in Memphis, and lowest in Rochester, potentially a difference related to the proximity to the South. The results also show some regional differences in internal linguistic effects, but that in

general, the communities are consistent in several ways. For example, glottal /d/ is increasing over time across each of the communities. This chapter highlights the utility of using word final /d/ to look at both regional variation and how the sociohistorical changes to communities led to the spread of AAL.

With Chapter III showing consistent changes over time with glottal stop replacement of word final /d/, Chapter IV examines the spread of word final /d/ glottalization and variation in /d/ deletion in a larger corpus of Washington DC AAL. This analysis focuses on changes throughout the twentieth century using data from the Corpus of Regional African American Language. The background section focuses on DC in three time periods: the pre-Great Migration, Great Migration era, and DC since the end of the Great Migration, and then details some of the rich history of linguistic work in DC. With the relatively stable African American community dating back to the end of the Civil War, the population movements of the Great Migration involved people moving from the primarily rural Southeast into this settled African American population in DC. After an analysis of final /d/ glottalization and deletion over the twentieth century, I focus on a sub-section of the data that was recorded in 1968 to further analyze glottalization in DC during the Great Migration, showing that the change was led primarily by younger, working class females.

Chapters III and IV are somewhat standalone in the sense that they do not focus on linking their analyses back the sociohistorical context of Chapter II, so in Chapter V, I present a summary of the results, but then step back to address the core questions introduced in this chapter. I consider what the inclusion of sociohistorical facts brings to an analysis of the spread and intensification of AAL. I also consider more deeply the

notion of dialect contact and why it's important that sociolinguists studying regional variation in AAL need a better understanding of how new dialect formation and cultural change helped develop the variety, and that prior approaches to these concepts may not necessarily apply to AAL.

**CHAPTER II**  
**SOCIOHISTORICAL CONTEXT FOR THE TWENTIETH CENTURY**  
**SPREAD OF AAL**

This chapter addresses the sociohistorical context of the spread and intensification of AAL in the twentieth century. First, I focus on the Great Migration in the study of AAL (§2.1). Next, I provide historical context for the Great Migration, focusing on history, paths of migration, and broader cultural impacts of this population movement (§2.2). Then, I investigate how the Great Migration affected Memphis, DC, Princeville, and Rochester, the communities under investigation in the current analysis. This section delimits the local speech communities by giving temporal as well as geographical information about each African American community. I then return to the relationship between the Great Migration and the continued study of AAL by discussing two aspects of language change in AAL: the role of intra-ethnic dialect contact and sound change processes internal to the variety (§2.3).

**2.1 The Great Migration and the study of AAL**

The relationship between the twentieth century spread of African American Language varieties and the Great Migration cannot be understated. Arguments surrounding the origins of AAL have been well established in the field of sociolinguistics. The origins of the variety have been the site of many arguments about the source populations and whether modern AAL developed out of creole varieties, such as an Atlantic Coast Creole (e.g. The Creolist Hypothesis, summarized in Rickford 2015), or whether the varieties largely developed from the local regional European American



varieties (e.g., the Anglicist and neo-Anglicist hypotheses, summarized in Van Herk 2015). The substrate hypothesis (Wolfram & Thomas 2002) maintains a balance between the two main arguments, suggesting that while early AAL may have exhibited features of the regional varieties of English in America, there are a handful of durable linguistic effects (e.g. inflectional -s absence, copula absence, and cluster reduction) that have always been a part of AAL varieties and distinguishes them from the regional white varieties. Additionally, related work by Mufwene (2001) shows how the historical ecological situation across different parts of the South contribute to patterns of inter-ethnic contact and isolation. Wolfram and Schilling (2016:231) suggest that because of data limitations and different local circumstances under which African Americans lived, “there will probably always be speculation about the origin and earlier development” of AAL varieties. The data that was used as evidence for convergence and divergence in the development of AAL should be considered within the context of the communities under study. Such details, like the roles of migration, contact, and changing demographics of cities, were overlooked in the study of AAL because of the focus of the field in the 1970s and 1980s (Fasold et al. 1987).

The linguistic outcomes of the Great Migration, including the roles of migration, segregation, and contact, especially intra-ethnic contact, have not been fully considered by the field. In a discussion of AAL vowel differences, Thomas (2001:165) notes the “surprising degree of uniformity over much of the country,” which is “undoubtedly linked to the relative recentness of the Great Migration.” Similarly, Wolfram and Schilling (2016) suggest that the cultural and individual identity changes related to AAL over time fostered the intensification over the twentieth century. The current analysis

investigates the role of the intensification of AAL in the context of word final /d/, however, the roles of intra-ethnic contact within segregated cities and the relationship to continued migration would give us a better understanding of the mechanisms of this change. Thomas (2001) goes on to discuss how African American speakers born in the late-nineteenth and early-twentieth century were more likely to exhibit vocalic patterns that were more like European American speakers from the same region. As more and more African American neighborhoods and communities developed in urban areas in the South and outside the South, there was a view of uniformity among sociolinguists because of the focus on these new urban AAL speaking communities.

The topic of regional variation has always been an important one in sociolinguistics, both in terms of dialectological research as well as sociolinguistic research. However, the study of regional variation in AAL has only been addressed, in earnest, within the last fifteen years. Early sociolinguistic research on AAL, mainly done in the urban North, was conducted at a time when the post-World War II wave of the Great Migration was reaching its peak. These studies include fieldwork in New York City (Labov et al. 1968), Detroit, MI (Shuy et al. 1968; Wolfram 1969); and Washington, DC (Fasold 1972). The focus of these studies was on linguistic patterns that were shared across these geographic regions (Wolfram 2007) in an effort to show that the structure of AAL resulted from dialectal differences with white varieties of English, and not a result of speakers being deficient in English (Labov 1972).

The predominant focus on AAL was one of a-regionality, for example, Labov (1972:xiii) even defined AAL by its uniformity: “By the ‘black English vernacular’ we mean the relatively uniform dialect spoken by the majority of black young in most parts

of the United States today, especially in the inner city areas of New York, Boston, Detroit, Philadelphia, Washington, Cleveland, Chicago, St. Louis, San Francisco, Los Angeles, and other urban centers.” Even thirty years later, when commenting on the role of sound change in non-white communities, Labov (2001) suggests that “no matter how frequently [non-white speakers] are exposed to the local vernacular, the new speech patterns of regional sound change do not surface in their speech.” Wolfram (2007) pointed out this lack of focus on regional patterns, observing that the focus was on structural (and phonological) patterns were shared by African Americans regardless of geography. Because these core structures (like habitual be, copula absence, r-lessness, and prevocalic consonant cluster reduction) were found in geographically distinct areas sociolinguists claimed uniformity. Wolfram, however, notes that African American linguists were often quick to point out regional variation (Spears 1999; Green 2002; Weldon 2004). By showing how sociolinguists constructed this myth of uniformity, lines of research on AAL resulted in a focus on similarity, for grammatical as well as phonological variables.

At the same time, these shared linguistic patterns could be a result of in-migrants coming to cities out of the rural South. The patterns of migration varied from city to city, noted by Wolfram (1969) in Detroit: “The Detroit Negro population is largely drawn from the South Central states, primarily Alabama, Mississippi, and Georgia. The particular Southern origin of the Detroit Negro appears to contrast with the in-migration patterns of Eastern cities such as Philadelphia, New York, and Washington, DC, which draw the majority of their in-migrants from the South Atlantic coastal region, including South Carolina, North Carolina, and the Georgia coast” (24). At the time in Detroit, the

vast majority of older speakers were first-generation Southern in-migrants (Wolfram 2007). Presumably, such differences would be the basis for dialectal variation between the Northern cities, but since this was not the focus of the research, these migration patterns were overlooked in favor of shared linguistic structures. Deser's (1990) work sampled data from the Detroit Dialect Study (Shuy et al. 1968), which was also the source of Wolfram's (1969) work on AAL. Deser investigated the influence of several social and demographic patterns on different vowel patterns in Detroit. Importantly, she looked at differences between children of Northern and Southern born parents living in Detroit (essentially older in-migrants compared to newer in-migrants), attempting to quantify the degree of parental influence compared to peer influence. Deser's (1990) results showed parental and peer influence in the dialectal development of teenagers in Detroit.

Wolfram and Fasold's (1974) discussion of the labialization of interdental fricatives (e.g., *breave* for *breathe*) points to regional differences: "although most varieties of [AAL] have *f* as a variant of voiceless *th*, *v* as a variant of voiced *th* is far more common in Atlantic Coast speech than further inland" (136). This is likely a pattern related to migration patterns and the source dialect. In the next section, I step back to discuss the Great Migration, more generally, from a historical perspective.

## **2.2 The Great Migration**

This section presents a historical overview of the Great Migration, seeking to give historical context to the population changes affecting the spread of the African American population over the course of the twentieth century. The paths of migration (§2.2.1) show

that while there are overall trends in the direction (along the Eastern seaboard, or up the Mississippi River), the initial directionality was often out of the rural South to a Southern city. I then explore the broader impact of the Great Migration on American culture (§2.2.2). Next, in §2.3, I move from the more general considerations of the Great Migration to consider the effect that the Great Migration had on the specific communities under investigation.

The Great Migration was the movement of over six million African Americans out of the South between 1915 and 1970 (Tolnay 2003). While it may have been one of the most underreported stories of the twentieth century (Wilkerson 2010), a wealth of historical and sociological studies over the past thirty years have given great insight into both the demographic changes that occurred in the U.S. during the Great Migration, through considerations of sources like census data (e.g. Long 1988; Gregory 2005), as well as migration narratives, the stories of individuals and families (e.g., Griffin 1995; Wilkerson 2010). Tolnay (2003) describes the Great Migration as one of the most important demographic movements in the history of the United States, and perhaps the most important movement in the twentieth century.

In terms of interstate migration trends<sup>4</sup>, the Great Migration is generally split into two waves: 1916 to 1940 and 1940 to 1970. The start of the Great Migration is usually marked at around 1916, and is often discussed in terms of economic opportunities because of labor shortages caused by World War I. It is also the case that segregation in

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<sup>4</sup> I focus here on internal migration, which refers to a “permanent or semi-permanent change in residence that involves movement within a country’s border but across a meaningful administrative boundary (e.g. between geographic regions or across a county line)” (Tolnay 2003:209). At the same time, *residential mobility* within cities is an important aspect of cities after the start of the Great Migration and relates to other processes such as segregation, housing and schooling.

the Jim Crow Era South, which resulted in fewer opportunities added to the migration effect, enough so that Wilkerson (2010:9) described the movement to the North and Midwest as a way to get away from the Jim Crow South.

It is clear that one of the primary motivating forces behind the migration of African Americans out of the South resulted from their treatment both at a community level as well as an institutional level. The actual reason why individuals and families left their homes was a result of complex economic and social forces. For example, violence against African American communities is one of many factors has been shown to impact migration rates (Tolnay & Beck 1992). Ultimately, driving African American individuals and families out of the rural South.

Another important point about the Great Migration is that the migration patterns were not just from the rural South to the urban North and West, but also between the rural South and urban South, then potentially to the urban North (Long 1988; Gregory 2005). Personal histories of Great Migration movements (e.g. migration narratives) are an especially important way to illustrate such patterns of migration (see for example, Wilkerson's *The Warmth of Other Suns*, but also Griffin's (1995) *Who set you flowin?*, and narratives discussed within Hunter and Robinson's (2018) *Chocolate Cities*. In the data analyzed in the current study, one such example is from Princeville, North Carolina, speaker PRV\_se0\_ag3\_f\_02, a 40-year-old speaker recorded in 2004 (Rowe 2005; excerpt from Kendall & Farrington 2018a, edited for clarity):

“After then, uh, after, you know, graduation and everything I went to college, I came out I went to Washington [DC], for a few years, a- you know how you wanna move away? And my mother said, I'll let you try it for two years. And uh, second year, they came and packed me up, and brought me back to Tarboro [NC,

adjacent to Princeville]. But I'm so thankful and glad. [...] I liked Washington, I learned my way around even there, I would get on the bus and all I needed was direction and I would ride from one end to the other until I learned the city. [...] But I- I- I- I used to love it, you know before everything got so traumatic and everything going on, you know. So my mother got scared for me living there and so that's why I came back home.” (PRV\_se0\_ag3\_f\_02\_1, 1479.77-1595.61)

These kinds of personal histories tell both the stories of internal migration across boundaries, but also tell the story of how family and friend networks played major roles in migration. This led Hunter and Robinson (2018:25) to suggest that the narratives of migration are as “disparate and varied as the histories of the Black diaspora and slave trade indicate,” but that there is also a sense of shared histories from these pathways out of the rural South.

### **2.2.1 Paths of Migration**

The Great Migration was the prolonged movement of African Americans out of the rural South. There was a lot of movement both between the South and other regions, but also within the South as well. Figures 2.1 and 2.2 illustrate the larger trends of the population movements from the South to the North, Midwest, and West.<sup>5</sup>

An important point that these maps succinctly illustrate is that, in general, individuals migrating from different parts of the South (e.g. the South East, South Central, and South West states in the figures) migrated along similar paths to the

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<sup>5</sup> These maps, while dated, illustrate the wide variety of destination cities as well as the general patterns of migration out of the South.

Northern, Midwestern, and Western cities. We will see in Chapter IV that a majority of the in-migrants to Washington DC generally came from Virginia and the Carolinas.

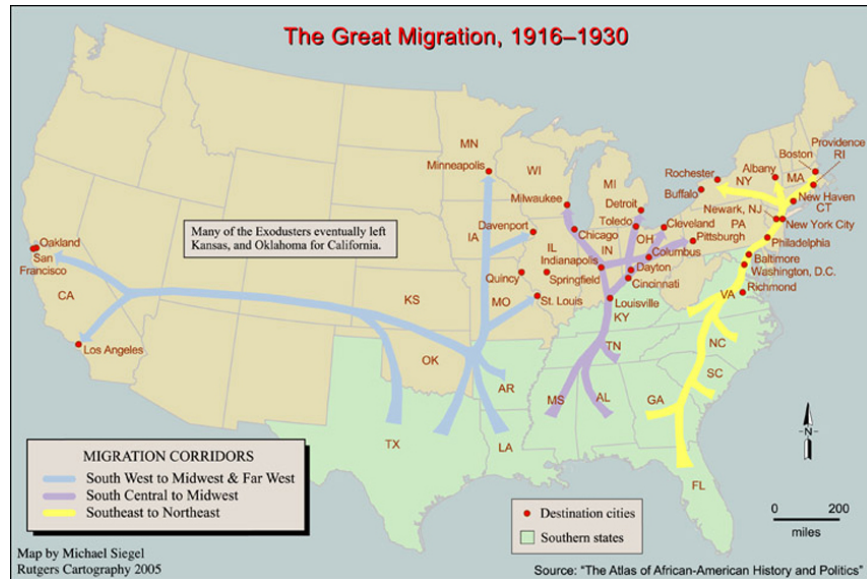


Figure 2.1 Paths of Migration in the first wave of the Great Migration (from the Atlas of African American History and Politics, Smallwood & Elliot 1998)



Figure 2.2 Paths of Migration in the second wave of the Great Migration (from The Atlas of African American History and Politics, Smallwood & Elliot 1998)



While the narrative of rural South to urban North is the predominant one, the amount of migration within the South contributed to the changing demographics of the United States in the twentieth century. Hunter and Robinson (2018:77) note that “internal migration within the South was an equally transformative feat” in the reshaping of the map of America. On top of these high levels of internal migration to cities like Memphis, Tennessee, Charlotte, North Carolina, and Atlanta, Georgia, the connections between families remained strong, often providing connections for long-distance moves (Wilkerson 2010). After making a move, culturally important events (e.g. reunions, birthdays, weddings, funerals), maintained long distance relationships.

Scholars generally agree that 1970 marks the end of the Great Migration because the rate of migration to the North declined at this point while the movement to the South increased (Johnson & Campbell 1981), leading to a circular movement resulting from migration back to the (rural) South or to other cities (Gregory 2005). Using U.S. census figures can help show that these population changes, both within regions and between regions have been a constant for the African American population in the U.S. for much of the twentieth century, and while the Southern out-migration slowed down, a constant movement was maintained, potentially influencing and reinforcing cultural practices for African Americans.

### 2.2.2 Broader impacts of the Great Migration

“Black history is American history” is an often-paraphrased quote, sometimes attributed to Morgan Freeman,<sup>6</sup> that refers to the role that Black Americans had in shaping and developing America. From a cultural standpoint in the twentieth century, the Great Migration’s role in American society is undeniable. Recent sociological work has shown how rethinking traditional notions in sociology and modern African American life and culture can help us to better see how the Great Migration resulted in a shared cultural sense of being across disparate locations (Hunter and Robinson 2018; Weiner 2018). For example, Hunter and Robinson (2018:3-4) note that “current maps of Black life are wrong”, and argue that facts about Black American life should be viewed through two social lenses, that “Black American social life is best understood as occurring wholly in ‘The South’” and “Black migrants brought and bring ‘The South’ with them to their new homes in destinations across urban American.” But even before the Great Migration, there were longstanding African American communities in the North, dating back centuries, like in Washington DC (Asch & Musgrove 2017) and Long Island, NY (Day 1997), as well as migration communities dating back to the nineteenth century, like the Exoduster communities in Kansas (Painter 1992). Hunter and Robinson’s (2018) focus on the results from the twentieth century migration highlight the pivotal role that African American migration played in the course of modern American history.

From a societal standpoint, Hunter and Robinson (2018) note that shared cultural sensitivities that African Americans have is a result of living in communities both in the traditional Southern region and in Great Migration cities. To better understand this shared

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<sup>6</sup> <https://www.youtube.com/watch?v=GeixtYS-P3s>

sense, Hunter and Robinson (2018) created a map focusing on the Black experience (Figure 2.3).



*Map 1. The Black map, a race-conscious rendering of the United States.*

*Figure 2.3 The Black Map (from Hunter and Robinson 2018:5)*

The names of the different regions on the Black Map were inspired by a Malcolm X quote from “The Ballot or the Bullet” speech given in Detroit in April 1964. Malcolm X, the human rights activist and minister, was speaking to a Michigan audience after traveling to many Great Migration destination cities and seeing that there was no escaping racism in America. He said “as long as you South of the Canadian border, you South” meaning that the injustices of the African American experience are common everywhere. Hunter and Robinson (2018:4) note that “[these] maps center the movements, politics, histories, and perspectives of Black Americans as consequential patterns of change, inequality, and development throughout the twentieth century.” The

six regions include the Up South, Down South, Deep South, Mid South, Out South, and West South.

The population changes resulted in city demographics shifting, and this contributed to the ‘southernizing’ of these destination cities (Gregory 2005). This is alluded to in Wolfram’s (1984:22) description of DC, where he suggested that “inner-city Black residents feel like they’re in the South, and suburban residents feel like they’re in the North.” This resulted in many of the new communities maintaining a Southern cultural feel. Similar experiences of African Americans can be found across migration narratives (e.g. Grossman 1991; Griffin 1995; Wilkerson 2010) and are found in the conversations contained in the Corpus of Regional African American Language. These similarities grew out of a combination of effects, including isolation and segregation within the non-Southern cities.

Wilkerson (2010:10) notes that the Great Migration’s “imprint is everywhere in urban life. The configuration of the cities as we know them, the social geography of black and white neighborhoods, the spread of the housing projects as well as the rise of a [...] black middle class, along with the alternating waves of white flight and suburbanization - all of these grew, directly or indirectly, from the response of everyone touched by the Great Migration.” Wilkerson, here, illustrated the crucial role that the Great Migration played in American history by showing that many aspects of modern American culture can be traced back to the political outcomes resulting from the Great Migration.

To sum up, much work on the Great Migration in the late twentieth and early twenty first centuries has focused on the complex migration patterns of movement of African Americans, generally from the South to the urban South and urban North and

West. Recent scholars of the Great Migration are refocusing the conversation to Black life in America. This new focus has important ramifications for the study of AAL in sociolinguistics, helping to shift the long history of a focus on shared features across geographic varieties to how these communities fit together from a sociocultural perspective in the context of changing communities. As we will see with sociolinguistic work on AAL, there is a relationship between the development of these speech communities and the shifting of language norms to these new urban AAL varieties.

### **2.3 AAL and the Speech Community: Sociohistorical context**

As discussed in Chapter I, the speech community is an important notion in sociolinguistics. The cultural concept of the speech community suggests that there are shifting norms and that ethnic differences can create new speech communities. In each of the geographic locations described below, I focus on how the local African American community fits into its wider surroundings, and on how they have changed over time.

In this section, I describe the speech communities that are under investigation in this analysis. Each subsection begins with a brief sociohistorical section, followed by a temporal look at the population using decennial United States Census data, and a look at the geographic spread of the African American communities, as well as a brief list of sociolinguistic work on the community.

#### **2.3.1 The African American Community in Memphis, Tennessee**

Memphis is located in the Southwestern corner of Tennessee, with the Mississippi River to its west and rural Mississippi farmland to the south. As Carpenter (2009) notes,

the origins of African Americans in Memphis pre-dates the city itself with the first enslaved individuals being transported to the area<sup>3</sup> in 1795, while the city itself was founded in May 1819. Between 1825 and 1850, Memphis became the third largest port on the Mississippi, due to the growth and marketing of cotton in the region (Harkins 1982). Citizens voted to secede in 1861, but just a year later, the city surrendered to Union troops. Following the Civil War, thousands of newly freed African Americans journeyed up the Mississippi to the city, or the outskirts of the city, for potential employment opportunities. While there was a history of racial tension in the city dating back to this time period (e.g., the May 1866<sup>7</sup> riot described in Wright 2003:14), there were soon African American elected officials as a result of the large Black population.

However, after a period of disfranchisement in the late 1800s, a prominent local businessman, E.H. Crump, became mayor and the African American cultural scene prospered (e.g. the rise of Memphis blues). The African American population continued to grow during the first and second waves of the Great Migration, as the overall city's overall population grew. Geographically, Memphis represented a unique destination point for many Deep South residents. This included African Americans traveling North towards St. Louis and Chicago (e.g., *The Blues Trail*, Gibson & Connell 2007), and West, including many Exodusters<sup>8</sup> on their way to Kansas (Johnson & Campbell 1981; Painter 1992). Hunter and Robinson (2018) discuss the role that Memphis played in the life of Ida B. Wells, and how the city was often meant as a point where folks would visit

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<sup>7</sup> This refers to a series of events in early May in Memphis. Riots began after an altercation between a white police officer and Black Union Army soldiers. A mob of white Memphians killed forty-six Black Memphians and set fire to many buildings in the Black community. Federal troops were sent to Memphis to help stop the riots.

<sup>8</sup> The first major migration of African Americans after the Civil War was the movement from the Mississippi Delta region to Kansas in the late 1870s (Painter 1992).

for an anticipated few days, but might spend months or years (Hunter & Robinson 2018). Memphis's African American population remained approximately half of the city's population until the early 80s when it became the majority. Memphis, along with only a few other cities, like Atlanta, is now viewed as one of the primary destination cities for African American culture in the urban South (Carpenter 2009), the results of which can partially be seen in the continued influence on the music industry, in terms of both blues and hip hop.

Figure 2.4 shows decennial census data in Memphis by race (white, African American, and other). The x-axis represents year, and the y-axis represents population size. (Because of the different sizes of the communities under investigation, the y-axis varies by figure.) The African American population in Memphis has been growing consistently since about 1880, but the changes after 1960 line up with the fact that Memphis quickly became a city of cultural importance for African Americans in the Deep South. At the time of the interviews used in this project, which were collected in 2001, the African American population in Memphis was nearly 60% of the total population.

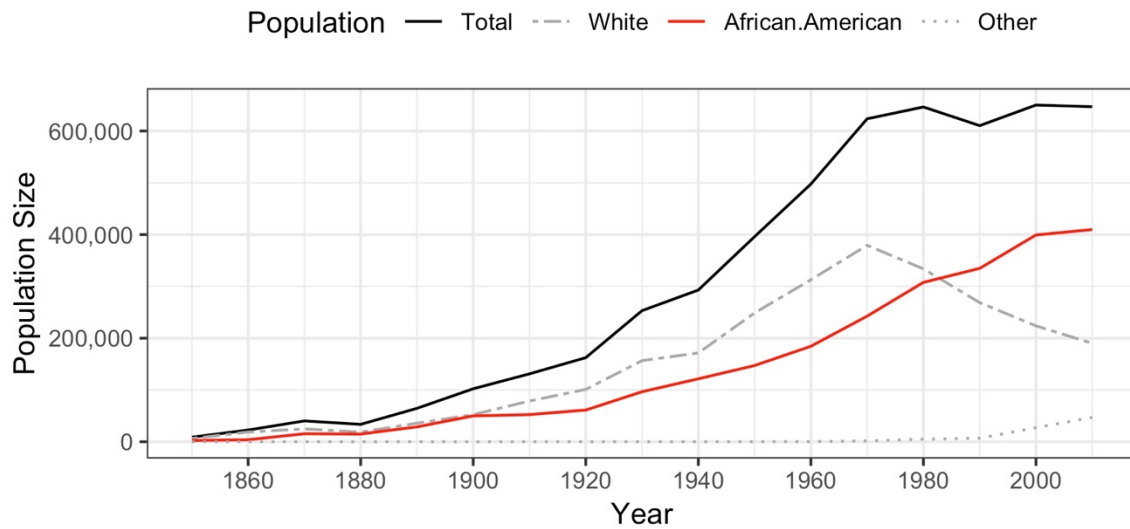


Figure 2.4 Population of African Americans, whites, and others in Memphis, TN

The overall African American population was a majority in the city, but a look at the spatial configuration of Memphis by race illustrates patterns of segregation at the county level. The spatial map of Memphis and surrounding areas is illustrated in Figure 2.5 was created using the tidycensus package (Walker 2019), which uses data from the U.S. Census. These figures show the density of the African American population by U.S. Census tract in the county in which the community is located. The recordings for Memphis were made in 2001, so this figure uses data from the 2000 census to more accurately portray the African American population at the time of the recording. Including the larger county, rather than only the city, illustrates larger trends for the African American population. In the color scheme, the more yellow the census tract means a higher proportion of African Americans in that tract.





*Figure 2.5 Percent of African Americans in Memphis, TN, from 2000 U.S. Census*

In Shelby County, the African American population is largely located in the Southwest, with the area just south of Memphis showing the highest rates of African Americans, compared to the suburbs outside of Memphis into eastern Shelby County.

In terms of sociolinguistic work in Memphis, Valerie Fridland’s (2001, 2003a, 2003b) data, which are used in the current analysis (Chapter III), illustrates similarities and differences between the African American Vowel System in Memphis compared to local white speakers. Carpenter (2009) analyzed several core AAL linguistic variables, including, for example, r-lessness, consonant cluster reduction, copula absence, in Memphis speakers born before 1930. Additionally, Hinton and Pollock (2000) compared rates of r-lessness in Memphis to an African American community in Iowa and showed Memphis to be much more r-less.

### **2.3.2 The African American Community in Washington DC**

Washington DC, not unlike Philadelphia and New York, is one of the key Great Migration cities on the Eastern seaboard. The social history in the twentieth century will

be addressed again in Chapter IV, but here I want to emphasize the major changes to the population of DC resulting from the Great Migration. Table 2.6 plots the population demographics for African American, white and other residents between 1860 and 2016. From 1880 until 1915, the African American population in DC grew slowly, accounting for about 30% of the population, while the city of DC as a whole grew in population. Between 1940 and 1970, though, the African American population grew rapidly, increasing 287% in those thirty years. The other marked change was the white flight out of DC beginning in about 1950. This was a common trend in many Great Migration destination cities, where portions of the white population moved out to surrounding suburbs as the African American population increased. In DC, the combination of these two movements resulted in an African American majority in 1957 (McQuirter 2000), and by 1970, the nation's capital had more than 2.5 times as many African American residents as white residents.

The historically large African American population also led to discriminatory laws on housing and voting rights to maintain a white ruling class as long as possible, despite the rapidly growing African American population (Asch & Musgrove 2017). In the latter half of the twentieth century, the white population remained stable, while the African American population declined, with a continuous stream into adjacent Maryland counties. The last fifteen years have seen an increase in gentrification and an increase in the white population, leading to DC being the “most gentrified city” in the country because of the amount of displacement of non-white residents between 2000 and 2013 (Richardson et al. 2019).

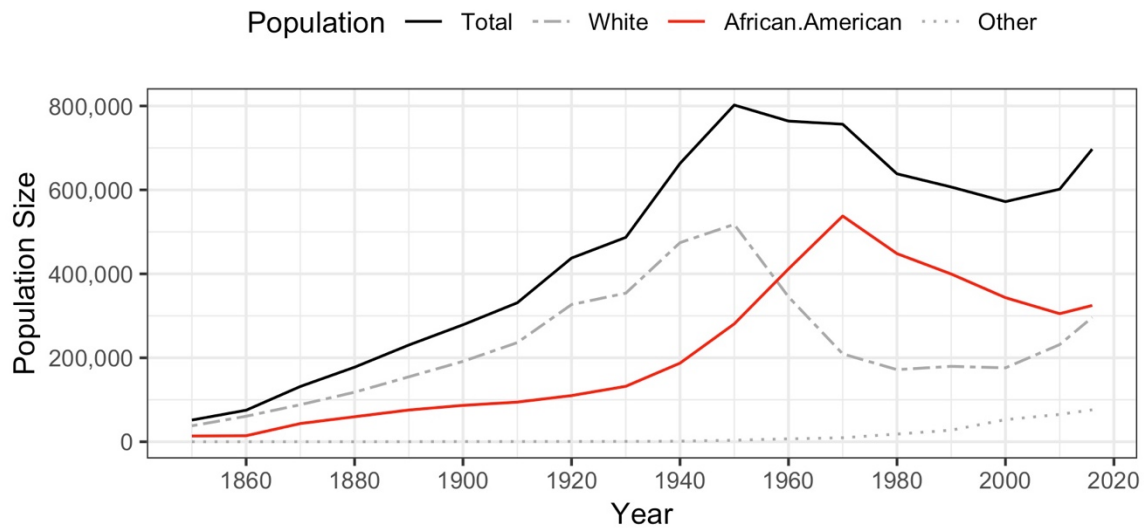


Figure 2.6 Population of African Americans, white, and others in Washington DC

Washington DC is split into four quadrants (Northeast, Northwest, Southeast, Southwest). Figure 2.7 is a satellite image of DC with the four quadrants highlighted.

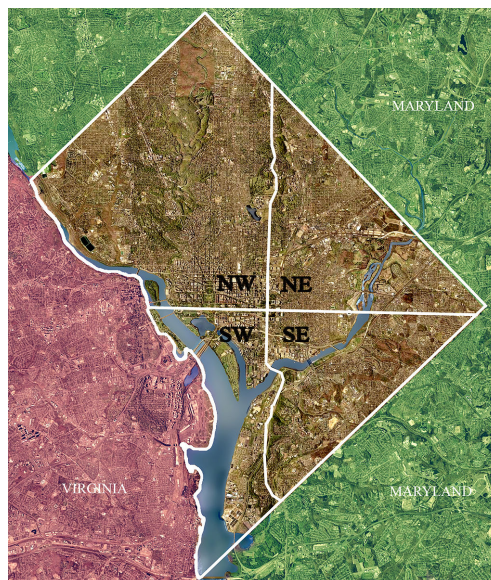


Figure 2.7 Satellite image of Washington with four quadrants highlighted and labeled. Public domain image from the United States Geological Survey

The Southeast quadrant has long been the highest density African American area in the city (Lee 2018b). This density of the African American population can be clearly seen with the view of the DC’s census tracts (Figure 2.8). The demographic changes to DC in the past twenty years increased the African American population in that part of the city, but has also expanded the African American speech community into neighboring cities in Maryland, specifically those in adjacent Prince George’s County.

Because Washington DC is the home to Georgetown University as well as the Center for Applied Linguistics, a rich amount of work has been done of AAL and other varieties of English in DC over the last sixty-five years. This subject is discussed in depth in Chapter IV, as well as in a recent article by Farrington and Schilling (2019).<sup>9</sup>

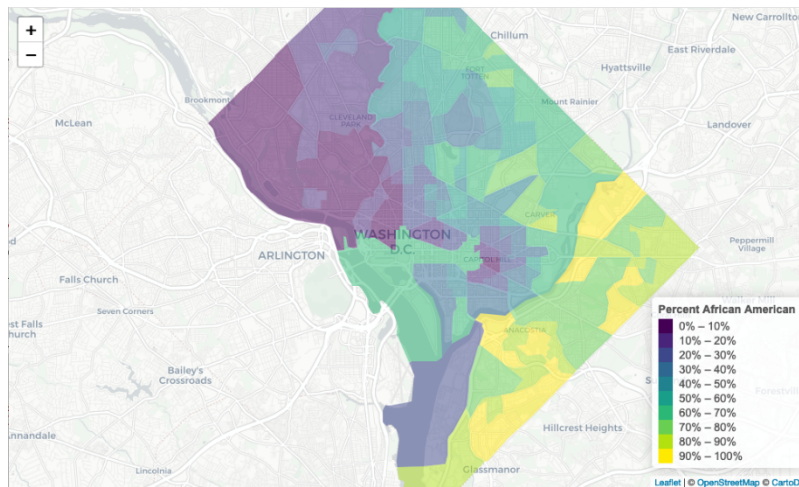


Figure 2.8 Percent of African Americans in Washington DC, from 2010 census

<sup>9</sup> Farrington and Schilling (2019) compiled a bibliography of AAL studies in DC and the surrounding area, which is available at <<https://oraal.uoregon.edu/coraal/references>>

### **2.3.3 The African American Community in Princeville, North Carolina**

The rural town of Princeville, North Carolina, is located seventy-five miles east of the capital of Raleigh in Edgecombe County. Incorporated in 1885, the community was settled after the Civil War in a flood plain on the south side of the Tar River, when it was known as Freedom Hill (Town of Princeville 2016). While the population remained under 1000 residents from its incorporation until 1970, several major floods resulted in evacuating and rebuilding the town. In 1923, the population decreased from over 500 residents in 1920 to only 300 after a major flood, and a likely decrease of residents coinciding with the first wave of the Great Migration. Several participants in the current analysis talk about themselves or family moving away for several years, either to a Northern city like DC, or more urban areas in North Carolina, like Raleigh, Greensboro, or Charlotte. In the 1960s, a dam was built, and in the 1970s, water, sewer and paved roads all came to town. Additionally, Princeville annexed several surrounding areas, resulting in a 130% increase in the town's population. In 1999, Hurricane Floyd decimated the town and it was declared a National Disaster Area. This resulted in a 43% decrease in the population. The oral history sociolinguistic recordings analyzed in the current analysis were made in 2004, five years after the flood. Many residents who had moved away were back in the town living in rebuilt homes. Figure 2.9 shows the population changes between 1880 and an estimate in 2016 (U.S. Census). Town demographics by race were only available after 1990, but the population has always been within a few percentage points of being 100% African American.

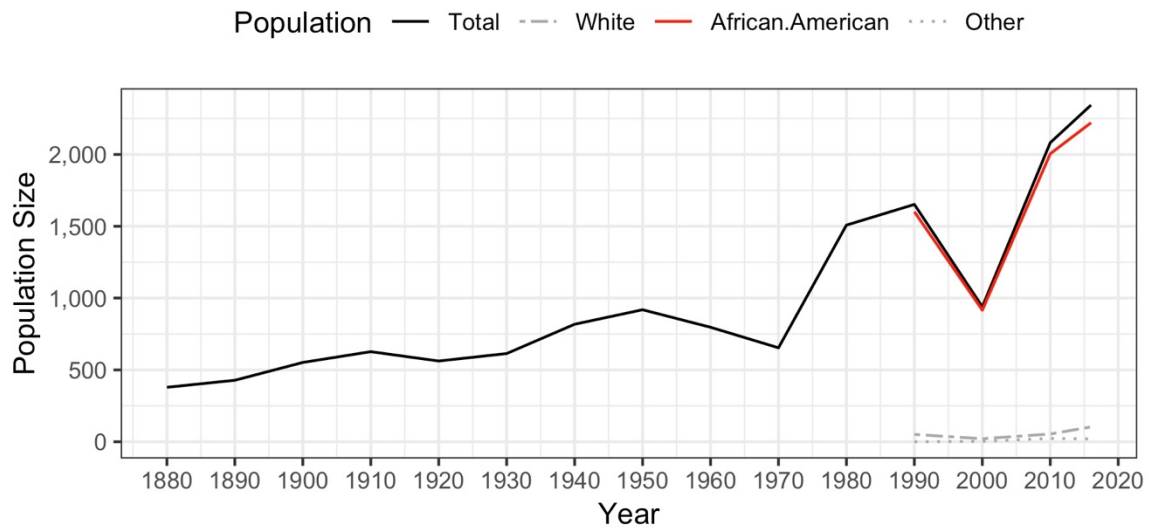
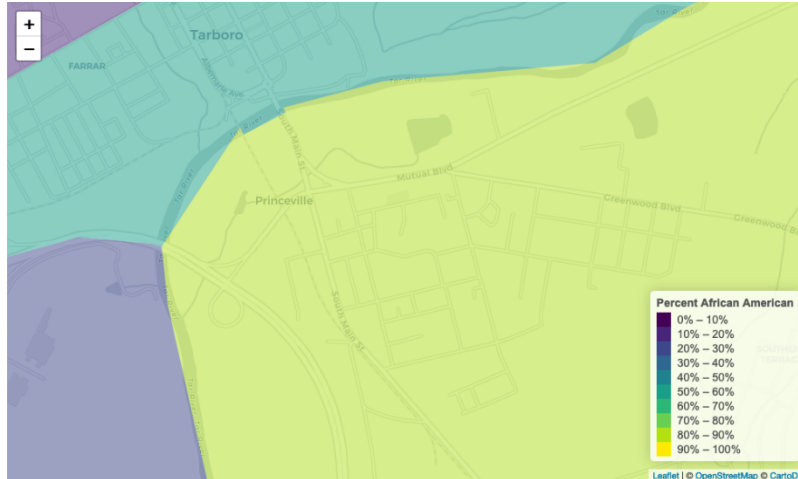


Figure 2.9 Population of African Americans, white, and others in Princeville

The population changes are small in Princeville compared to other locations, with dramatic shifts in population size resulting from events that increased access to the town in the 70s and Hurricane Floyd in 1999. However, as mentioned above, many young Princeville residents move away for schooling or work, and later return. Figure 2.10 shows the percentage of African Americans in the Princeville area by census tract. Princeville is just a small corner of the census tract, which is why the percentage of African Americans isn't closer to 95% as the census numbers suggest for the town. Unlike the cities under discussion, the spatial context for the AAL speech community in Princeville is super-local, given its rural nature and long history. Additionally, Princeville's residents tended to be endocentric, despite the fact that people in Princeville regularly visit Tarboro, a town across Tar River with a larger white population, and the fact that younger people leave Princeville for college.



*Figure 2.10 Percent of African Americans in Princeville, NC, from 2000 U.S. Census*

Linguistic work focusing on Princeville includes Rowe’s (2005) Master’s thesis entitled “The Development of African American English in the Oldest Black Town in American: Plural -s Absence in Princeville, North Carolina.” The following sociolinguistic work on Princeville uses Rowe’s (2005) data set. Kendall & Wolfram (2009) analyze the speech of two public figures in Princeville, focusing specifically on style differences for a set of AAL morphosyntactic and phonological variables in a public address compared to a sociolinguistic interview. Kendall (2007) analyzed discourse from these interviews to show how Princeville residents’ conceptions of the community and ideas of space are fluid because of Princeville’s history of several floods that have destroyed the town. Two more recent studies include Van Hofwegen’s (2010) apparent time analysis of /l/ darkening in AAL and Koops’s (2015) analysis that looked at voiced interdental fricative stopping in Princeville. Most recently, a subset of Rowe’s recordings was transcribed for use in CORAAL, the first publicly available African American Language corpus (Rowe et al. 2018). This CORAAL subset of recordings is used in the current analysis.

### **2.3.4 The African American Community in Rochester, New York**

Rochester, NY is located east of Buffalo in Monroe County, on the shore of Lake Ontario. The late nineteenth century saw an increase in new industry jobs, at companies like Kodak, Bausch & Lomb, and Xerox, which led to the rise of the white population between 1860 and 1930. As King (2018) notes, while these industry jobs were not accessed by much of the incoming African American population, employment and housing opportunities were fought for during the civil rights era. Unlike DC, which saw the majority of an increase in the African American population between 1940 and 1970, in Rochester, there has been a steady increase between 1950, when the population was just 7,590, to 2010, when the African American population increased to 87,897 (to 41.7% of Rochester's population). Though, as Figure 2.11 shows, the overall population has decreased over the latter half of the twentieth century due to the loss of industry jobs. Socially, Rochester was home to many important individuals in the labor, race, suffrage, and anti-war movements, and was an attractive destination for African American migrants despite being a far northern locale.

Rochester is in the Northeast and sits on a natural pathway up the Eastern Seaboard route from states like Virginia, North Carolina, South Carolina, and Georgia. The source populations are more varied, however, with many family histories in the Deep South (e.g. Mississippi and Alabama) (King 2018), but also more recent movement from places like New York City, with families who had already migrated out of the South.



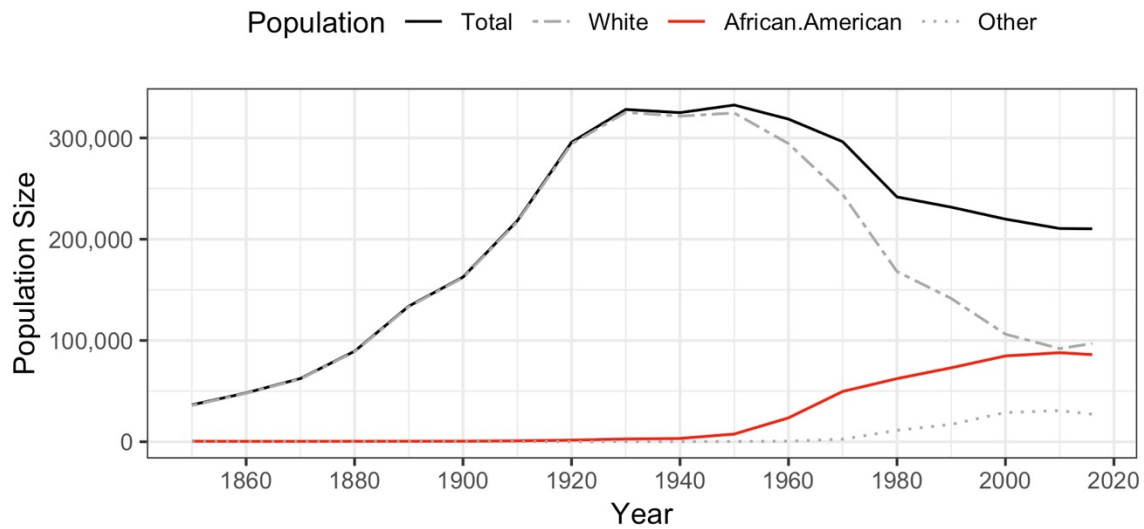


Figure 2.11 Population of African Americans, white, and others in Rochester, NY

Within Monroe County, the African American population is rather isolated to Rochester. In fact, the nearest African American communities are Buffalo (38.6% African American) and Syracuse (25% African American) and both are more than seventy-five miles away.

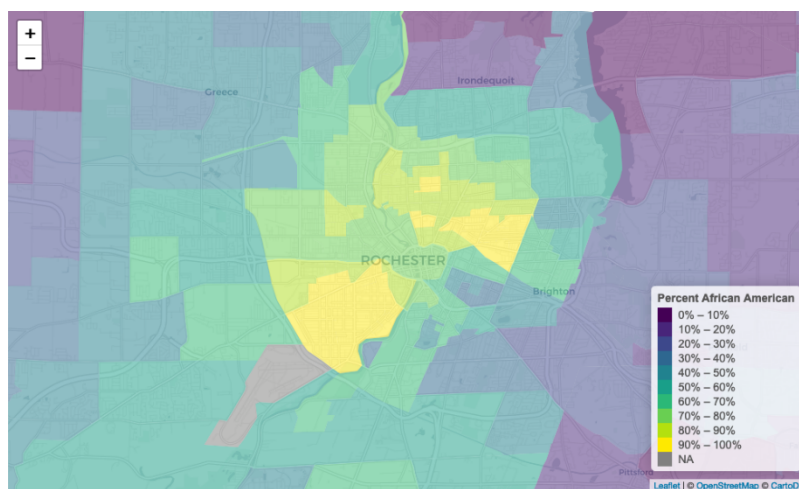


Figure 2.12 Percent of African Americans in Rochester, NY, from 2010 U.S. Census

The primary linguistic work on AAL in Rochester is Sharese King's (2018) dissertation work, where she analyzed different vowel patterns and showed that African Americans in Rochester draw on a range of resources for identity work relating to profession, place, stance and communities of practice. King highlights the heterogeneity within the community, which is often overlooked in favor of homogeneity. The recordings used in the current analysis come from King's (2018) fieldwork. Finally, Fickett (1975) took an early look at AAL in the Upstate New York region, specifically the African American population in Buffalo.

### **2.3.5 Summary**

In this section, I focused on the impact the Great Migration had on each community under investigation. Memphis, DC, Princeville, and Rochester are unique in several ways, yet they all share large African American populations that shifted over the course of the twentieth century, with these shifts potentially playing a large role on AAL spoken in these communities. Although the Great Migration ended around 1970, the impact and changes of the Great Migration on these communities continues to be important for cultural practices, housing, and education. For example, the spatial patterns of segregation in the cities are largely a result of the policies created during the Great Migration (e.g., in DC, see Asch & Musgrove 2017).

## 2.4 Contact and Change in AAL

Previous work that has suggested dialect contact and new dialect formation in the development of AAL is often about contact with local white varieties in the earlier AAL varieties. For example, Wolfram and Thomas (2002) show how the earlier variety of African Americans in Hyde County, North Carolina is more like that of the European American Hyde County residents because of increased contact. Relatedly, Mufwene (2001) showed that the ecology of the different areas where enslaved individuals lived (e.g. cotton, tobacco, and rice plantations) led to different interactions with white people in the area. On top of that, the community demographics resulted in different kinds of inter-ethnic contact.

In terms of the development of AAL in the twentieth century, as a result of the Great Migration and increased populations in urban areas, I argue that AAL should be considered in the context of new dialect formation (Kerswill & Williams 2000). Wolfram (2004) notes that “most researchers agree that the locus of independent innovation within AAVE is largely an urban phenomenon, and that change within AAVE is diffusing from urban to rural contexts.” On top of that, the language norms related to youth culture and comes out of the shared cultural sense to which Hunter and Robinson (2018) also refer. This includes, for example, Alim’s (2002) discussion of Hip Hop Nation Language, which is the language use within hip hop, which Alim ties to the linguistic system and modes of discourse out of the African American oral tradition. Wolfram’s suggestion that the “norms of contemporary, supraregional AAVE thus seem to follow the lead of speakers in urban, predominantly African American areas,” fits into the role of the

younger generation in new dialect formation in combination with the continued movement and migration between cities, further entrenching vernacular AAL norms.

Wolfram (2004) suggested that sociolinguists must look beyond the split between AAL and white varieties, showing that in urban communities, “dialect leveling in which traditional, localized Southern features may be reduced or lost” occurs alongside independent innovation. For example, Cukor-Avila (1995) showed that grammatical variables, like habitual *be*, exhibited changes that started in urban communities and spread to rural ones. Such patterns are indicative of dialect contact and changing norms in the AAL speaking community.

#### **2.4.1 Dialect Contact and New Dialect Formation**

Though there have been numerous theories regarding dialect contact and formation (Chambers 2009), recent theories emphasize dialect formation as a continual process rather than discrete stages. In an approach of new dialect formation that aligns well with the work in this dissertation, Britain (2018:148-149) discussed the tracking of new dialects through three primary steps. I now review these steps, while highlighting for each some aspects within the study of AAL that are relevant.

- (1) A community is formed from large-scale migration from several different dialect areas. In AAL, this would primarily be the time period of the second wave of the Great Migration, where city populations increased drastically, like in Washington DC. The dialect areas that are feeding into these cities are largely from the same geographic region (e.g., the Southeast United States for

Washington DC), but there is a large amount of variability within such geographic regions (Wolfram & Kohn 2015).

- (2) Next, adult speakers in the community accommodate linguistically to one another. The dialect mixing can result in some older forms being leveled away or partially acquired, potentially through changing constraints, while other features can spread in the new dialect. This focusing represents the early stages of the ‘new dialect’. In the study of AAL, the variability in the source locales is rarely accounted for in terms of dialect mixing in AAL.
- (3) As the generation of children growing up in the new community grow older, they derive a system out of the “linguistic *mêlée*” around them. The variety is focused more, and there might have been extreme levels of inter- and intra-individual variability. The foundational studies of AAL were focused on this young generation in the late 60s and early 70s because of the potential educational implications on this age group. This young generation might be the first to exhibit a fully focused linguistic system within the city context. As mentioned above, the foundational studies of AAL (Labov et al. 1968; Wolfram 1969; Fasold 1972) were all looking for, and finding, patterns that would become recognized as the core features of AAL (Rickford 1999).

Afterwards, with the refocusing of norms from the rural to urban context in the African American community, on top of continued migration and contact, the spread of urban AAL features also began diffusing back to rural communities as well (Cukor-Avila 1995; Wolfram & Thomas 2002).

Even though this process appears to have occurred across these Great Migration cities, the context within each city matters. For some places, like DC, there was local, established African American community that Southerners were moving into. However, the major changes in DC occurred between 1940 and 1970, especially apparent because of white flight in combination with African American in-migration. Other Northern urban areas, like Rochester, largely grew after 1950. Most cities were also seeing an increased population swing due to white flight, a major response to African American in-migration (Boustan 2010).

Van Herk (2008) suggested that white flight in the Inland North region led to the increasing divergence between AAL varieties and white varieties in terms of the Northern Cities Vowel Shift. He argued that this change was a way to distinguish the local white variety from the newly local African American communities in the North. Labov once claimed something similar, but recently (2012) suggested that these time frames might be more coincidental and not as reactionary as he had once stated:

“At one point I formed the hypothesis that the driving force behind the new sound changes in the mainstream might be the pressure on whites to keep their distance from blacks [...] If so, one would find the rate of change was proportional to the degree of black/white tension. This proved not to be so. The development of the Northern Cities Shift is uniform in every major city in the Inland North” (136)

Whatever the case may be, it is clear that the migration of African Americans resulted in several linguistic consequences. Nevertheless, we also see uniformity in these cities in the timing of the development of AAL. I will return to this point in Chapter V.

### 2.4.2 Ethnicity and Sound Change

Fought (2013:401) called for more work investigating the role of sound change internal to minority communities: “sound change has had a central role in sociolinguistic theory, and yet the vast majority of our data on this phenomenon comes from European-American communities.” One exception to this paucity of work is Blake and Shousterman’s (2010a) study of the (URR) variable in St. Louis AAL, where the centralization of pre-/r/ front vowels is unique to the AAL speaking community in the area. They find this change increasing over apparent time, with younger speakers exhibiting greater degrees of centralization. Additionally, recent work by Arnson and Farrington (2017) using data from CORAAL, consider vowel changes in DC from the perspective of changes internal to the DC African American community and found that the large population shift in DC in the mid-twentieth century resulted in more Southern-like vowel patterns, but the majority of these Southern-like patterns had receded by the twenty-first century.

Such analyses suggest that the contact situation within ethnic groups could be an important aspect for future research. In Southeast Georgia, Moody (2011) investigated intra-ethnic contact in the development of AAL, focusing on the complex social relationship between AAL and Gullah/Geechee speakers. These kinds of studies focusing on intra-ethnic contact are still relatively rare (see also Blake & Shousterman 2010b).

As AAL has intensified over the twentieth century, the role of the urban cities as centers for African American cultural identity has taken hold. In Hyde County, Wolfram and Thomas (2002) briefly discuss the role that urban AAL played in the intensification of AAL in rural areas, including the ‘norming’ in the variety: “In effect, African

American speech in Hyde County turned away from local, rural norms toward the norms of AAVE found in other settings throughout the USA, particularly urban contexts” (205). They posit that the supraregional development of AAVE can be partially explained by “the expanded mobility and interregional, intra-ethnic contact situation of African Americans in the twentieth century” (208). Similarly, in Texas, Cukor-Avila and Bailey (1995, 1996) used longitudinal data to illustrate the spread of several urban AAVE features to rural speakers via social networks. Thus, it is generally understood that AAL spread and intensified over the course of the twentieth century, but the development of AAL in the Great Migration context remains underexamined, especially in terms of the role of regional variation.

The changing or refocusing of norms also relates to Rickford's (1985) discussion of local and generalized prestige within a community. He suggests that different kinds of linguistic features can exhibit prestige associated with local identity, or exhibit prestige across communities (Fought 2013). Additionally, DuBois and Horvath (2000) show that prestige within a community changes over time and results in different linguistic targets. Within the study of AAL, the urban variety that became a norm in the community took on general prestige, while there are still more localized variants (e.g. the variable (URR)). The focus within the study of sociolinguistics has historically been on the features shared across communities. As King (2018) discusses, this focus on common features masked the diversity within minority speech communities, including the relationship between local variants and identity. The question of change over time in AAL has been addressed with regard to certain phonological patterns (Arnson & Farrington 2017), but the development internal to AAL is important to better understand language and ethnicity in



the twentieth century. The spread and intensification of word final /d/, because it is geographically widespread, can illustrate how such a feature became a widespread variant used in AAL.

## **2.5 Summary – AAL and the Role of Word Final /d/**

As we will see throughout the dissertation, there are two conflicting thoughts that relate to the development of AAL. On the one hand, there is now the recognition that regionality has always been apparent, and continues to be apparent, in AAL (Wolfram 2007; Yaeger-Dror & Thomas 2009; Wolfram & Kohn 2015), but sociolinguists are only now investigating these details. On the other, recent sociological work (e.g. Hunter & Robinson 2018) points to shared cultural, political and social ideologies of what it means to live in a majority African American neighborhood, and how that relates to surrounding communities. This point of view aligns with the older supra-regional view that Wolfram (2007) showed is an oversimplification. The fact that a feature like glottal stop replacement of word final /d/ is geographically widespread, and can distinguish AAL and white varieties, suggests that we should keep both of these ideas in mind as we study AAL.

The sociolinguistic variable under investigation, word final /d/, specifically the glottal stop realization, is ubiquitous across AAL speaking communities. Glottal stop replacement of /d/ in stressed syllables has been discussed as a sound pattern that consistently differentiates white and AAL varieties (Fasold 1981). There is little doubt that this sound pattern became geographically widespread as a result of the Great Migration. As a feature of AAL, when and how did it spread, and how it interacts with

local (regional) phonology patterns remains to be seen. As Fought (2006, 2013) points out, patterns of sound change internal to non-white varieties of English have been understudied, especially with non-vocalic patterns. With glottal stop replacement of word final /d/, we have a pattern that is (mostly) unique to AAL, and one that is geographically widespread, thus allowing us to consider sociohistorical factors, such as the potential effects of migration and contact, and how they played a role in the development of the variety.

## CHAPTER III

### WORD FINAL /d/ ACROSS FOUR COMMUNITIES

This chapter presents a regional analysis of word final /d/ variation across four communities: Memphis, TN, Washington, DC, Princeville, NC, and Rochester, NY. As described in Chapter I, the sociolinguistic variable under analysis, word final /d/, has several variants, including the coronal stop, glottal stop, glottal reinforced coronal stop, or outright deletion. In this chapter, I focus on the two nonstandard realizations of word final /d/: the glottal stop and the deleted variant. Glottal stop replacement of word final /d/ is a ubiquitous feature of AAL, but until now, a comprehensive sociolinguistic analysis of its regional distribution has not been done. Additionally, /d/ deletion has been shown as a feature of AAL (Wolfram 1969), but again, the regional distribution is unknown, though related work on consonant cluster reduction indicates that it can vary at the community level (Guy 1980; Thomas & Bailey 2015). The primary research question that drives this chapter's analysis is: does word final /d/ exhibit regional differences? The results will lead to an exploration of the question presented in Chapter I: does a better understanding of a community's sociohistorical context add to our understanding of such variation?

The results indicate that the glottal stop variant is used at similar rates across the four communities, but also exhibits an increase over apparent time. Additionally, linguistic constraints show similar effects by community. The deleted (zero coda) variant does exhibit more regional variation, with this variant of /d/ being most common in Memphis, and least common in Rochester. While deletion is expected across all speakers as a result of connected speech processes, previous work on consonant cluster reduction

has shown rates to vary across African American communities (Thomas & Bailey 2015). Taken together, word final /d/ exhibits both differences across regions and change over time. This variable has never been looked at from a regional perspective, and with it, we can explore the ways in which the social developments of the individual speech communities play into these patterns. Because the glottal variant is geographically widespread, we can also address word final /d/ in light of the spread and intensification of AAL over the course of the twentieth century.

The chapter is set up as follows: In the background (§3.1), I address previous work on regional variation in AAL, focusing primarily on phonological patterns. Consonantal variation has rarely been addressed in terms of regional variation, so much of the research discussed here is on vowel variation (e.g. Yaeger-Dror & Thomas (eds.) 2009). Then I turn to research that focuses on word final /d/ glottalization and deletion. This includes work on consonant neutralization (Farrington 2018a), as well as how such variation relates to broader sociolinguistic patterns (e.g., Wolfram 1969; Nguyen 2006). Next, I discuss the sources of the data (§3.2), coding methods for word final /d/ (§3.3), as well as statistical methods (§3.4). The two analyses (§3.5), the glottal analysis and deleted analysis, follow. Finally, the chapter's discussion views the results in light of the questions addressed in Chapter I, including whether an analysis of word final /d/ regional variation inform the ongoing development of AAL. Another question is whether there is any indication of how the glottal variant, in particular, became geographically widespread, beyond population movements.

### **3.1 Background**

Despite the impressive body of work on AAL, several questions remain about its development over the twentieth century. With that in mind, this chapter focuses on (1) the continued study of regionality in AAL and (2) how understudied phonological features of AAL can inform our understanding of the variety and its development. Regarding regionality, this chapter examines data from four regionally situated varieties of AAL. While there is clearly evidence for such regional differentiation in AAL (Wolfram 2007; Wolfram & Kohn 2015), this analysis brings together data from different communities to investigate whether this sociolinguistic variable exhibits such patterns. If so, can sociohistorical evidence about the different speech communities provide insight into such variability or similarities. Secondly, this study focuses on both glottal stop replacement and deletion of word final /d/. The glottal variant is often discussed as a feature of AAL, and a way to distinguish AAL varieties from white varieties. The deleted variant, on the other hand, is a common feature of connected speech, but has been shown to index social differences (e.g., in Detroit, Wolfram 1969; Nguyen 2006). Finally, this analysis, viewed together with Chapter II, can help begin to shape how regional variation can be viewed in light of differences in the speech community, including population changes and demographic differences.

#### **3.1.1 Regional Variation in AAL**

The topic of regionality in the study of AAL has only been addressed, in earnest, within the last fifteen years. The early focus on AAL in sociolinguistics was about features that were shared across geographic regions, primarily based on research done in

New York City (Labov et al. 1968), Detroit, MI (Wolfram 1969), Los Angeles (Legum et al. 1971), and Washington DC (Fasold 1972). These canonical studies within the sociolinguistic paradigm were mostly funded by the U.S. Department of Education and showed that young speakers of this non-mainstream variety of English were not deficient in their English, but just different (Baratz 1968; Baratz & Shuy 1969; Labov 1969; Wolfram 2007). Additionally, the generation of speakers analyzed in this time period represent an important generational cohort in the development of AAL. They represented the first generation coming of age in this winding down Great Migration era. There are some indications in this early work that suggest regional differences were apparent to speakers, who suggested they could clearly tell if another African American speaker was from a different part of the country (Wolfram 2007), while linguists largely ignored this kind of variation (but see Green 2002). More varied data sources, Wolfram and colleagues' work in North Carolina (Mallinson & Wolfram 2002; Wolfram & Thomas 2002; Childs & Mallinson 2004, 2006; Carpenter 2005; Rowe 2005; Kohn 2014; Wolfram & Kohn 2015, etc.), has usefully shown that geographic location, rurality/urbanity, and interaction with surrounding communities affects the differential use of AAL.

The majority of the features that have been considered in the study of AAL regional variation are phonological. Here, I first discuss the role vowel patterns have played in the discussion of regional variation in AAL. Vowel variation in AAL is often considered in light of regional variation patterns in Mainstream American English (MAE). Two major topics have arisen in the study of AAL regional vowel variation: (1)

how African American community level patterns interact with the local MAE accent and (2) whether there is a geographically widespread vocalic pattern that is unique to AAL.

The majority of the work on AAL vocalic patterns interacting with local white (MAE) patterns largely is framed as how speakers can use different regional vowel patterns in the construction of identity. These findings relate to large urban areas that saw an increase in the African American population as a result of the Great Migration (e.g., in Detroit, Anderson 2003; New York City, Becker 2014; Philadelphia, Labov 2014; Memphis, TN, Fridland 2001, 2003a; Lansing, MI, Jones & Preston 2006; Pittsburgh, PA, Eberhardt 2009; Seattle, WA, Scanlon & Wassink 2010; Bakersfield, CA, King 2016; Rochester, NY, King 2018; Washington DC, Lee 2016, 2018a). Additionally, some work in more rural areas have shown the relationship between rural AAL and rural white speech (e.g. Hyde County, NC, Wolfram & Thomas 2002).

The other focus has been on geographically widespread vowel patterns that have roots in the South. The African American Vowel Shift (AAVS) was first identified by Thomas (2007), though the components of this shift were identified in Bailey and Thomas (1998) and Thomas (2001). This systematic vowel shift is indicated by the raising of the front lax vowels (/ɪ/, /ɛ/, and /æ/). Extending the patterns to the broader vowel space, Kohn and Farrington (2013; Kohn 2014) later called this the African American Vowel System, which includes the non-fronting of high and mid-back vowels, as well as the maintenance of the distinction between the low back vowels, /ɑ/ and /ɔ/. Additionally, Kohn (2014) suggested that the raising of the /ʌ/ vowel might be another part of this system that differentiates AAL vowels from European American English vowels, at least locally in the Durham, NC area.

These widespread vowel patterns in AAL spread as a result of the Great Migration (Thomas 2001), and differences in the vowel systems might partially reflect the source variety of AAL. In Washington D.C., for example, Arnson and Farrington (2017) found that the older regional vowel system, which resembled the Virginia Tidewater pattern (Thomas 2001), began to be influenced by a more Southern-like vowel system, brought to the area by new in-migrants, and DC-born children of in-migrants.

The question of sound change internal to AAL has largely been ignored. However, work by Blake and Shousterman (2010a) shows that one change, the centralization of pre-/r/ front vowels (the so-called (*URR*) variable, where *Mary*, *Marry*, and *Merry* all sound like *Murray*) is unrelated to the local St. Louis European American English variety and has been increasing among local AAL speakers. Coincidentally, the (*URR*) variable has also been discussed in Memphis (Pollock 2001) and Washington DC (Luelsdorff 1975; Arnson & Farrington 2017), where it is often seen as a feature of the local variety and not a feature shared across different urban communities (Quartey & Schilling 2018).

Work on vocalic variation is more extensive than consonantal variation, but work has focused on geographic variation of some consonantal features. For example, Hinton and Pollock (2000) investigated r-lessness in Memphis, TN and Davenport, IA, and found differences in variable r-lessness between communities, suggesting that the Iowa community has become fully r-ful: “The most likely explanation for the results may be in the difference in the structuring of the two communities [...] Residential segregation is less apparent in the Davenport community; therefore interethnic contact is more likely” (69). Additionally, participants in the study from Davenport, who were mostly of



Southern origin, had metalinguistic commentary that was disparaging towards relatives still living in the South. Such commentary relates both to potential regional differences and to language ideologies regarding rurality and urbanity that are pervasive in American society.

AAL is the most researched variety of American English, yet many questions remain about its development over the course of the twentieth century with regard to the relationship between regionally- and ethnically-distinct patterns. The majority of the studies described in this section are within-region studies, focusing on a single speech community. An analysis that focuses on the same phonological patterns across different regions utilizing the same methods could improve our understanding of how such patterns develop and spread. Word final /d/, which is geographically widespread, is a linguistic variable that can help us answer these questions about the development and spread of AAL in terms of regional variation.

### **3.1.2 Word Final /d/ in AAL**

In this section, I discuss the background of the variable, word final /d/, which in AAL can be realized as a glottal stop, glottal reinforced stop, coronal stop, or deleted.

#### **3.1.2.1 Glottal Stop Replacement and Reinforcement of /d/ in AAL**

The majority of the work looking at word final /d/ in AAL focuses on the glottal stop realization, which is one of the features that consistently differentiates AAL from MAE varieties (Fasold 1981). As discussed in Chapter I, scholars have used the term devoicing to describe the feature, focusing on the voicing differences between the

underlying /d/ and the surface (voiceless) form, but also to refer to the general phonological process that is common across many language varieties (Kharlamov 2012). Green (2002:116) discussed this process as devoicing, noting that final voiced stops /b, d, g/ are devoiced to their voiceless counterparts, [p, t, k], but does not discuss a glottal stop realization. Thomas (2007) explained that devoicing of voiced stops is often replaced or accompanied<sup>10</sup> by glottalization, and sometimes outright deletion is found (e.g., *mud* → [mʌ:ʔ] → [mʌ:]). The vowels preceding underlying voiced stops exhibit a longer duration compared to vowels preceding voiceless stops, even when stops are deleted or neutralized with a glottal (Farrington 2018a). In a phonology of Washington DC AAL, Carroll (1971:26) noted that “[ʔ] at times replaces any syllable-final, non-labial stop.” In another segmental phonological analysis of DC AAL, Luelsdorff (1975) suggested a series of four phonological processes at work for word final stops:

1. Vowel diphthongization before voiced stops
2. Vowel lengthening before voiced stops
3. Obstruent devoicing affects non-nasal voiced obstruents
4. Consonant weakening: utterance final /t, k/ realized as [ʔ]; /d, g/ are deleted

Luelsdorff (1975) recognized different processes at play in the speech of DC AAL. It should be noted these steps would not result in complete neutralization because of the vowel differences.

The glottal stop realization of /d/ is the realization that distinguishes AAL from MAE (Fasold 1981). In addition to having been included in general AAL feature lists

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<sup>10</sup> Glottal stop reinforcement has not been sufficiently addressed in previous literature on AAL glottalization. Wolfram’s (1969) analysis focused on the devoiced variants together (both voiceless coronal stops as well as glottal stops) and Nguyen’s (2006) analysis focused on the full glottal variant and variants with any indication of an alveolar.

(e.g. Bailey & Thomas 1998; Green 2002; Thomas 2007), glottal stop replacement of word final /d/ in AAL has been documented in several regional settings, including Detroit, Michigan (Kohl & Anderson 2000; Nguyen 2006; Wolfram 1969), Houston, Texas (Koops & Niedzielski 2009), Durham, NC (Farrington 2011), Memphis, TN (Farrington 2018a), and Washington, DC (Farrington 2018a; Fasold 1972; Grieser 2015). Several additional sources cite glottalization (or devoicing) as a feature of the local variety of AAL, including New York City (Labov et al. 1968), Los Angeles, California (Legum et al. 1971), and Minneapolis, MN (Pederson 1967). In Minneapolis, for example, Pederson (1967:352) noted that “the devoicing of final alveolar stops is found in both Negro groups [middle class and working class].” In each case, these cities have large AAL speech communities. In addition, developmental clinical literature on AAL focuses on how coda devoicing processes fit into phonological assessments (Baran & Seymour 1976; Moran 1993; Stockman 2006).

Previous evidence suggests that glottal stop replacement of /d/ appears to have all the properties of a feature that is a change from below the level of conscious awareness. Changes from below are not overt or salient (Labov 1990, 2001, 2007), and such changes are often led in usage by young, working class females (Eckert 1990). Labov (1990) suggests that the relative uniformity of this might be explained in social factors like the asymmetry of childcare. In many of the studies that show such patterns, women are the primary caregivers and he suggests that children will use the advanced forms and push changes in their peer-groups.

The glottal stop replacement of word final /d/ is geographically widespread and shared to some extent across both working and middle class speakers (Pederson 1967;

Wolfram 1969; Nguyen 2006; Farrington 2012; Grieser 2015). To anticipate the analysis in Chapter IV, the patterns of change over time in DC match this assumption as well, with younger, working class females leading in the use of this variable.

### 3.1.2.2 Mainstream American English Glottalization

While glottal stop replacement of word final /d/ is mostly unique to varieties of AAL<sup>11</sup> in American English, glottal stop replacement or reinforcement of the voiceless coronal stop /t/ has been described as a feature of MAE (Eddington & Taylor 2009). Glottalization of /t/ is a complex sociolinguistic variable that has been reported on extensively, especially in the United Kingdom (Docherty & Foulkes 1999; Foulkes & Docherty 2006). Most detailed sociolinguistic work on American English glottalization focuses on the realization of /t/ in both word-medial and word final environments. In general, glottal stop reinforcement ([ʔt] or [tʔ]) is a relatively common feature in American English. For example, *football* realized as [fʊʔtbal] (Eddington & Taylor 2009:308). Like British English, the regional varieties of American English studied have consistent internal effects, such as pre-pausal word final /t/ glottal stop replacement and reinforcement, as well as word-medial, syllable-final /t/ when preceded by a /l/ or /r/ and followed by an unstressed syllable. Such differences in frequency of use are constrained by phonetic context. Glottal stop replacement and reinforcement are both found across the country and are socially salient in some regional varieties (Roberts 2006; Eddington & Taylor 2009; Eddington & Channer 2010).

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<sup>11</sup> In addition to both voiced and voiceless coronal stops (/t/, /d/) being replaced or reinforced with a glottal stop in AAL, some varieties exhibit replacement of final voiced and voiceless velar stops (Farrington 2015), and less frequently with bilabial stops.

Work in laboratory phonology indicates that what is thought of as a glottal stop encompasses different acoustic characteristics, which depend on several variables, including phrasal position, segmental context, gender, dialect, and individual speaker differences (Garellek 2013; Garellek and Seyfarth 2016). In addition to these acoustic characteristics, Dilley and Pitt (2007) found that the glottal variant of /t/ accounted for one-third of the /t/ tokens in their American English data. Similarly, with /d/ glottalization, listeners might be expected to use different cues (e.g. vowel duration) to interpret potentially ambiguous information. Finally, /t/ glottalization is common in AAL varieties (Farrington 2018a), but reported on less frequently than /d/ glottalization.

### **3.1.3 Final /d/ Deletion in AAL**

In addition to glottal stop replacement of /d/, outright deletion of word final /d/ is one of the potential realizations in AAL varieties (Thomas 2007; Farrington 2018a), and is under investigation in the current study. Final consonant singleton deletion is sometimes discussed as a feature in AAL (Bailey & Thomas 1998). Most often in studies of /d/ glottalization, deletion is treated as a process in utterance-medial position (Wolfram 1969), which can be accounted for as a relationship to consonant cluster reduction across word boundaries, a connected speech process (e.g. Nolan 1996; Temple 2014). However, like the research on consonant cluster reduction (for a review, see Thomas & Bailey 2015), rates of deletion depend on various social factors. For example, in Detroit, Wolfram (1969:107)<sup>12</sup> found a social class distinction, such that in the lower working

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<sup>12</sup> Wolfram (1969:32-36) calculated a social class index, using education, occupation, residency, and income as factors. The social class index was divided into four class groups: upper middle, lower middle, upper working, and lower working, and are meant to capture relative differences in the social structure of Detroit in 1966.

class, speakers exhibited pre-pausal deletion 16% of the time, compared to 0% rates in the upper middle class group. In Atlanta, Harrison (2007) discussed widespread consonant elision in AAL, across all obstruent types and word positions. While Harrison's (2007) work is some of the only work that details consonant singleton deletion, Farrington (2018b) found that rates of final fricative deletion in monomorphemic words depended on the identity of the fricative, such that final /v/ was deleted more than /f/, /s/, /z/, and also varied by location. Deletion rates were higher in Memphis than in rural North Carolina and Washington DC. Farrington (2018b) suggested that these differences can be seen as a cline out of the Deep South. Such work demonstrates that the general process of consonant singleton deletion represents an important aspect of AAL phonology that is often overlooked.

### **3.2 Communities and Data**

This chapter examines data from conversational interviews conducted as part of sociolinguistic studies in four communities, including Memphis, TN, Washington, DC, Princeville, NC, and Rochester, NY. The sociohistorical background of each of these communities was introduced in Chapter II. Each community under investigation represents both a unique geographic location, but aspects of their histories are also shared, such as the influence of the Great Migration in the cities, and the continued changes in population. Table 3.1 shows the geographic region, the source of the data, years recorded, and number of speakers in each community under investigation. The following information details the data collection and recording information.

*Table 3.1 Speaker sample information by Community*

Community	Geographic Region*	Source	Year Collected	Male	Female
Memphis, TN	East South Central	Fridland	2001	6	6
Washington DC	South Atlantic	CORAAL	2015-2017	8	7
Princeville, NC	South Atlantic <sup>13</sup>	CORAAL; Rowe	2004	8	9
Rochester, NY	Middle Atlantic	CORAAL; King	2016	5	9

\*Region includes U.S. Census geographic regions

### **3.2.1 Memphis, Tennessee**

Data were collected in Memphis, Tennessee in 2001 as part of a project conducted by Valerie Fridland (2003a, 2003b). Fieldworkers were African American students at either the University of Memphis or LeMoyne-Owen College, who were recruited and trained as fieldworkers for the project. They were asked to record naturally occurring conversations with family members or close friends from the local community. Speakers were recorded using a Sony MZ-R70 digital minidisc recorder, and an omnidirectional Audio-Technica ATR35s lavalier microphone in an everyday setting, with efforts to ensure that the recording situation was as quiet as possible. Minidiscs were transferred to WAV files using a Sony ATRAC DSP Type-R/ATRAC3 minidisc player in 2015. A subset of twelve recordings were transcribed for this project, using CORAAL transcription conventions.

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<sup>13</sup> While both Princeville and Washington DC are designated in the same U.S. Census geographic region (South Atlantic), the differences described in the speech communities in Chapter II illustrate the important differences in the two locations resulting from the Great Migration. For example, the Princeville population was relatively stable over the twentieth century while DC grew as a result of rural Southerners moving into the city. The regions described by Hunter and Robinson (2018) usefully distinguishes between DC (Up South Region) and Princeville (Down South Region).

### 3.2.2 Washington DC

The recordings from Washington DC are part of the DCB component of CORAAL, recorded between 2015 and 2018 (Kendall, Quartey, et al. 2018). Interviews were primarily conducted by an African American female with ties to the community, but there are some interviews by an African American male who grew up and lives in the area.<sup>14</sup> Fifteen speakers in CORAAL socioeconomic group 1, the working class, were selected for this analysis. For more information on social class strata and how speakers were selected for class, see Kendall and Farrington (2018b). To be comparable with the other communities analyzed in this chapter, the youngest age group, *under 19*, was excluded from this analysis. Recordings were made as WAV files using a Marantz PMD-661 digital recorder with a Shure SM93 lavalier microphone.

### 3.2.3 Princeville, North Carolina

Recordings from Princeville were collected by the North Carolina Language and Life Project in 2004/2005 (Rowe 2005). Interviews resemble oral history interviews and were designed to elicit natural conversation between interview subjects. Speakers were recorded using a Marantz tape recorder, and a lavalier microphone in an everyday setting, such as a living room or place of work. Tapes were digitized in 2007/2008 using a Tascam CC-222 MKIII and uploaded to the Sociolinguistic Archive and Analysis Project (SLAAP; Kendall 2007a). A subset of the Princeville archive was transcribed and

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<sup>14</sup> Previous sociolinguist work has shown that AAL speakers style shift when speaking to interviewers of different ethnicities, particularly white interviewers (Rickford & McNair-Knox 1994). As such, interviews were conducted by African American community members.



aligned at the utterance level for inclusion in CORAAL (Kendall and Farrington 2018a; Rowe et al. 2018).

### **3.2.4 Rochester, New York**

Recordings from Rochester, New York were collected by Sharese King as part of her dissertation project between 2016 and 2017 (King 2018). King used a demographic matrix for speaker selection for this sub-component of CORAAL (King et al. 2018). CORAAL:ROC includes three age groups (Group 1: 18 to 29; Age Group 2: 30 to 50; Age Group 3: 51+) and two genders (Female, Male). The interviews were recorded on a Zoom H2N recorder, with an AudioTechnica AT831b microphone, with a MiniJack to XLR audio cable, and often conducted in the homes of the interviewees. Interviews are sociolinguistic styled interviews on topics such as life in Rochester, schooling, as well as metalinguistic questions about the perception of Rochester accents at the ends of each interview. At the time of analysis, there were no thirty to fifty-year-old male speakers in CORAAL:ROC (Age Group 2).

### **3.2.5 Social Class in Analysis**

There are inherent differences between the four communities, such as population size, geographic region, and social class (as shown in Chapter II). The goal for speaker selection was to minimize social class differences across the communities, to control for variation attributable to social class alone. The DC speakers all come from the working class socioeconomic class group in CORAAL:DCB. The two other CORAAL communities (Rochester and Princeville) were not gathered to focus on socioeconomic strata, but rather age and gender groups. While the speakers in Princeville are generally

working class,<sup>15</sup> Rochester speakers are more between middle and working classes, with some speakers having graduate degrees. In Memphis, speakers are primarily working class, with strong ties to the local African American community (Fridland 2003a).

### 3.3 Coding /d/

All recordings were orthographically transcribed in Praat (Boersma & Weenink 2018) using CORAAL transcription conventions (Kendall and Farrington 2018b). The resulting Praat TextGrids were aligned at the phone level using the Montreal Forced Aligner, version 1.0 (MFA; McAuliffe et al. 2018). For the CORAAL alignment, the MFA train and align option was used, where the aligner trains itself on only the data input, in this case, CORAAL version 2018.10.08 was used (CORAAL:DCA, CORAAL:DCB, CORAAL:PRV, CORAAL:ROC), creating an acoustic model of AAL. This acoustic model was then used to align the Memphis data. Memphis is not a part of CORAAL, so was not used in model training.

HandCoder.Praat<sup>16</sup>, a Praat script written by Josef Fruehwald (2012) was used to run through each Praat TextGrid. In the current analysis, all tokens of post-vocalic word final /d/ were extracted by searching for ‘d’ after any vowel, with any following environment. This script calculates a speech rate measure based on vowels per second within a seven-word Praat window (Tamminga 2014).

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<sup>15</sup> Social class in rural communities are inherently distinct from larger, more urban communities (Duncan 1996) and one of the reasons for the Great Migration was the opportunity that moving to urban centers was seen as a way to get out of the cycle of rural poverty for many (Tolnay 2003).

<sup>16</sup> Available via Fruehwald’s GitHub, <https://github.com/JoFrhwld/FAAV/blob/master/praat/handCoder.praat>

To better understand the distribution of the variant realizations of word final /d/, a coding scheme was used to show gradation in consonant realizations. The coding scheme for variants of word final /d/, detailed in Table 3.2 and described in more detail in the subsections below, includes the full coronal stop [d], glottal replaced stop [ʔ], glottal reinforced coronal stop [ʔd], and deleted (zero coda) consonants. This categorical analysis of variants is an analytical construct that underrepresents the amount of possible variation of final stop realizations, but at the same time uses acoustic and instrumental information in coding each consonant (Docherty & Foulkes 1999). Other categories, including voiceless stop realization, [t], as well as aspiration/non-aspiration distinctions were not included in the final coding scheme. As discussed in Nguyen (2006), some of these additional distinctions are difficult to distinguish in legacy recordings (e.g. Princeville). Additionally, without articulatory data, it must be acknowledged that there could be articulations which are not necessarily auditory or observable from the acoustic signal (Temple 2014). So, for example, a zero coda token might have some tongue movement.

*Table 3.2 Coding scheme used in data collection*

<b>Realization</b>	<b>Acoustic Correlates (Thomas 2011; Docherty &amp; Foulkes 1999; Kohl &amp; Anderson 2000; Nguyen 2006)</b>
coronal	Full alveolar with voice bar, no evidence for glottalization
glottal	No formant transitions, F0 drops
glottal reinforced coronal	Slowed glottal pulses leading up to oral closure; formant transitions evident (F1 decreases, F2 increases)
zero coda	No evidence for oral closure; may trail off into breathiness

### 3.3.1 Coronal [d]

This is the faithful realization of /d/. The coronal stop shows no evidence for a glottal stop, but the preceding vowel can be creaky. A stop release may or may not be present. Additionally, the first two formants will show transitions from the preceding vowel (e.g., F1 lowering and F2 rising). A stop gap can be present, but its duration varies considerably. Following Nguyen (2006), the coronal stop coding category includes both voiced ([d]) and voiceless ([t]) stops and can be quite lenited. Intervocalic /d/, which can be realized as a flap, is also included in this category. Figure 3.1 is an example of an unreleased pre-pausal /d/.

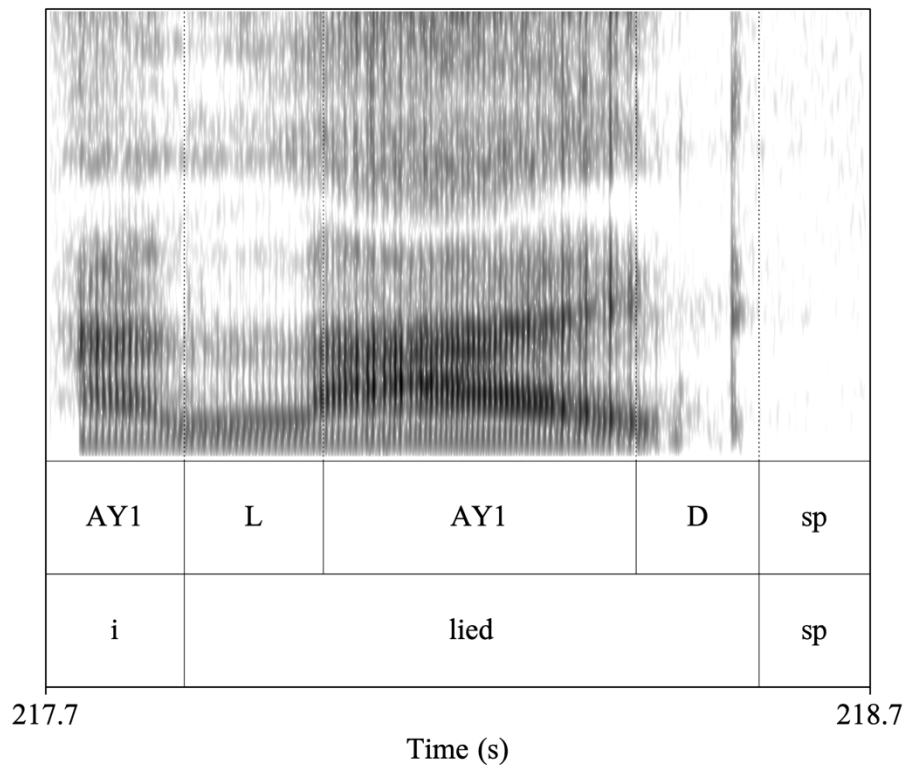


Figure 3.1 Example of the word 'lied' with an unreleased [d] by speaker ROC\_se0\_ag3\_f\_02, born in 1937, recorded in 2016

### 3.3.2 Glottal [ʔ]

Although the following information about glottalization comes from literature considering the glottal stop an allophone of /t/, there have not yet been any studies on differences between [ʔ] as an allophone of /t/ and [ʔ] as an allophone of /d/. In the current analysis, I assume that a glottal replaced /d/ is realized with the same kind of glottal stop that also replaces /t/. Glottalization can be realized in several ways in American English, from creaky voicing to a full glottal stop (Thomas 2011; Garellek 2013). Figure 3.2 shows a full glottal stop in a stressed environment. In this example, there is no creaky voicing in the vowel leading up to the glottal stop. In this example, in addition to auditory confirmation, the formants lack transitions in the way they would for a coronal stop.

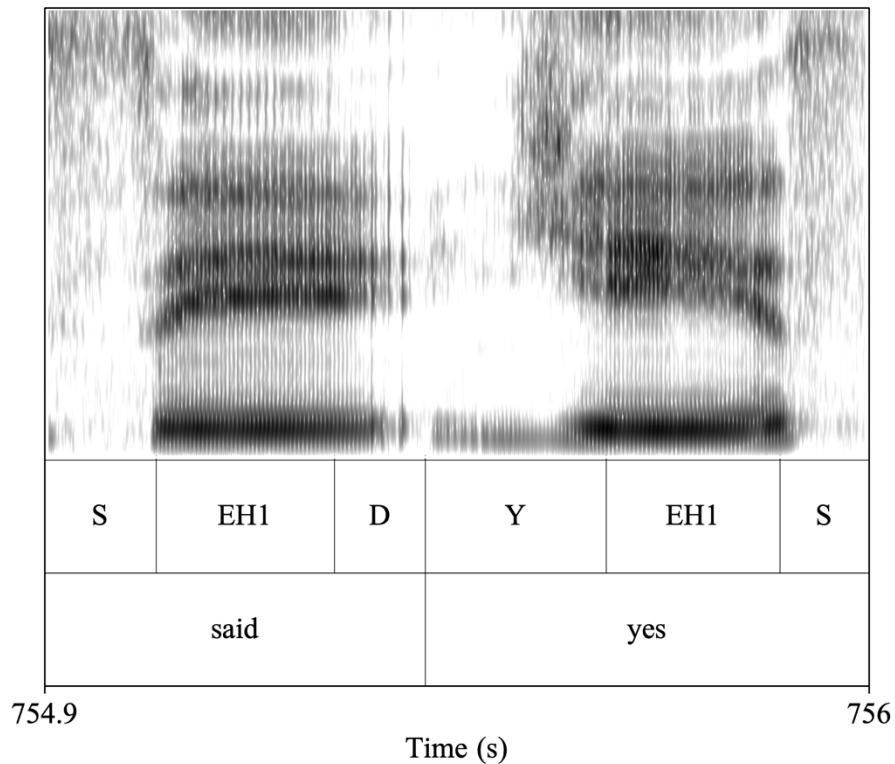


Figure 3.2 Example of the word ‘said’ with a glottal replaced /d/ by Memphis, TN speaker mem001, born in 1979, recorded in 2001.

### 3.3.3 Reinforced [ʔd]

Glottal reinforced coronals have similar articulatory processes as full glottal tokens, but there are several differences (Docherty & Foulkes 1999; Kohl & Anderson 2000). Glottalized coronal variants have an oral rather than laryngeal stop gap, where articulators are held together in position for a coronal consonant (which can be voiced or voiceless), followed by an acoustic transient. There are several acoustic correlates one can look for on a spectrogram, including widening glottal pulses as well as formant transitions (Thomas 2011; Garellek 2013). Additionally, with a voiced glottalized coronal, there could be acoustic murmur afterward. In Figure 3.3, there is glottalization in the vowel leading up to a stop gap for the oral coronal (unreleased stop).

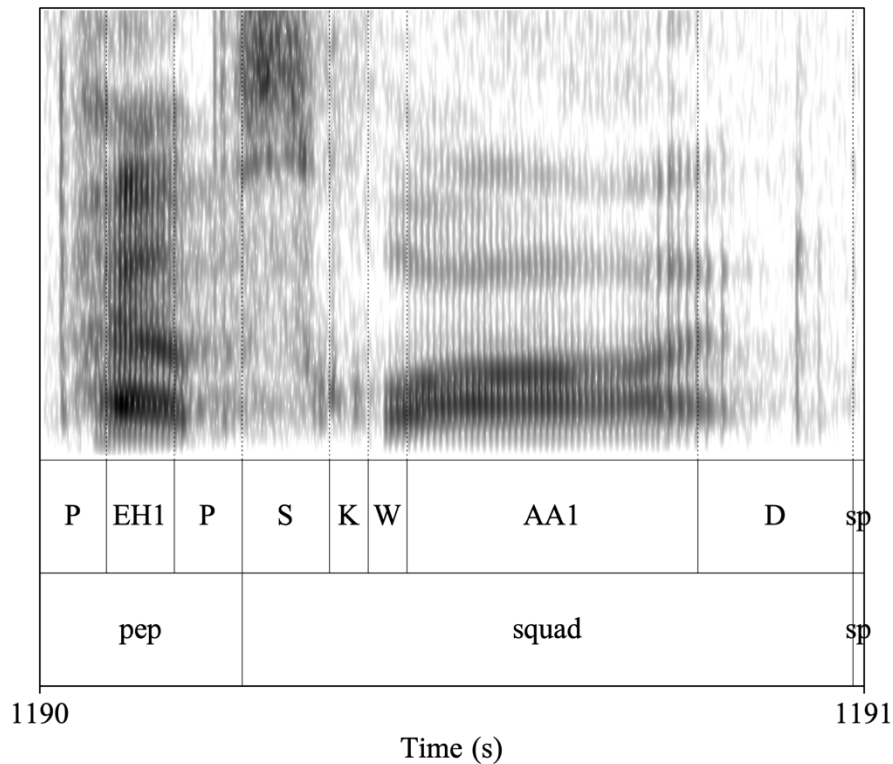


Figure 3.3 Example of the word ‘squad’ with a glottal reinforced /d/ by Washington DC speaker DCB\_sel\_ag2\_f\_03\_1, born in 1990, recorded in 2016.

### 3.3.4 Zero Coda ( $\emptyset$ )

Zero coda shows no evidence for a glottal stop or coronal stop. Zero coda is particularly frequent in utterance medial environments, especially when followed by a consonant. This pre-consonantal deletion process is essentially cluster reduction across word boundaries and has been observed in past studies (Wolfram 1969, 1974), but can also be related to more general connected speech processes (Temple 2014). If the word is pre-pausal, the formants may fade into breathiness, but this isn't essential (Thomas 2011). In addition, cases of creaky vowels without a coronal closure or a full glottal stop are coded as zero coda (Nguyen 2006). Figure 3.4 is an example of pre-pausal deletion of the word *hide*.

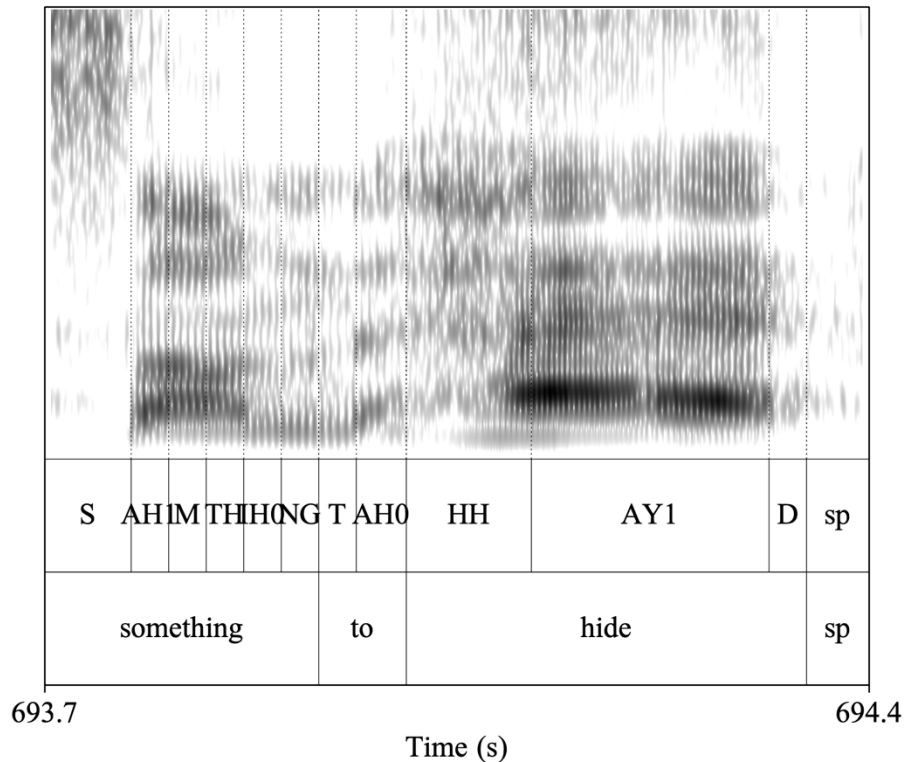


Figure 3.4 Example of the word 'hide' with a deleted /d/ by Memphis, TN speaker mem034, born in 1966, recorded in 2001.

### 3.3.5 Data Coding

A breakdown of the data is listed in Table 3.3 by realization and community.

Overall, the glottal realization rates are remarkably similar across the communities, while zero coda is much more common in Memphis.

*Table 3.3 Breakdown of data by realization and community*

Community	Realization				Totals
	Glottal	Reinforced	Coronal	Zero Coda	
Memphis	262 (14.8%)	26 (1.5%)	882 (49.9%)	599 (33.9%)	1769
DC	428 (14.4%)	62 (2.1%)	1754 (58.9%)	736 (24.7%)	2980
Princeville	518 (14.1%)	117 (3.2%)	2293 (62.5%)	741 (20.2%)	3669
Rochester	334 (10.9%)	69 (2.2%)	2186 (71.1%)	485 (15.8%)	3074
Totals	1542 (13.4%)	274 (2.4%)	7115 (61.9%)	2561 (22.3%)	11492

### 3.4 Statistical Approach and Independent Variables

All tokens of post-vocalic word final /d/ were coded for analysis, resulting in a total of 11492 tokens, with 479 unique word types. Two logistic regression models were constructed to analyze (1) the glottal stop replacement of word final /d/ compared to the other realized tokens (coronal and reinforced), and (2) the rates of zero coda /d/ compared to realized forms. The first analysis addresses the fact that the glottal stop replacement of word final /d/ is a ubiquitous feature of AAL and understanding the regional distribution of this variable can help us better understand the twentieth century spread and development of AAL by focusing on the regional patterns of a variable that became widespread as a result of the Great Migration. The second analysis focuses the deletion of final /d/, specifically on the regional distribution of this feature. Previous work on /d/ deletion has shown that it varies by social categories such as age and gender, while it is most common in pre-consonantal position (Wolfram 1969).



A series of linguistic (internal) and social (external) predictors were considered in model fitting for each of the logistic regression models. Categorical predictors with two levels are centered at zero as numerical predictors. For categorical predictors with three or more levels, a contrast coding scheme is used, where the intercept of the predictor is the grand mean of the combined levels. Specific contrast coding schemes are described below. Continuous predictors were centered and scaled by dividing by two standard deviations. For centering and scaling, the *rescale* function in the *arm* package in R was used (Gelman 2008).

External predictors include fixed effects for community, gender, and age group, and internal predictors include syllable stress, word frequency, speech rate, number of syllables in a lexical item, following segment type, and word type. In this section, I describe each variable included, and how it was coded for regression analysis.

### **3.4.1 Social (External) Predictors**

*Community.* As discussed above, the crucial aspect of this analysis is the focus on the speech community. The sociohistorical background of each community was described in Chapter II. For statistical analysis, community was coded using a Helmert contrast (Table 3.4). There are three contrasts for a factor with four levels. The first contrast contrasts the second level with the first; the second contrast compares the third level with the mean of the first two; and the third contrast compares the fourth level with the mean of the first three. In the current analysis, the first contrast is Memphis vs DC, a comparison of the two urban southern cities, one in the Deep South and one in the upper South. The second contrast compares Princeville to the mean of Memphis and DC, a comparison of the rural

South to the urban South. And finally, the third contrast compares the mean of Rochester, the only Northern city, to the means of the three southern communities.

*Table 3.4 Helmert Contrast for community*

<b>Community</b>	<b>Contrast 1</b>	<b>Contrast 2</b>	<b>Contrast 3</b>
Memphis	-1	-1	-1
DC	1	-1	-1
Princeville	0	2	-1
Rochester	0	0	3

*Gender.* Gender is treated as a binary fixed effect and is centered and scaled. Previous work on word final /d/ has shown that men are more likely to delete /d/ and women are more likely to exhibit glottal stop replacement of /d/ in Detroit (Wolfram 1969; Nguyen 2006). While this previous work does not address the role of language change, we might have different expectations for males and females if the variable is seen as new and coming into a community, compared to something that is more stable (Labov 1990). For example, if the glottal variant is increasing, women in each community might be expected to lead (Labov 1990). If deleted /d/ is nonstandard within a community, men would be expected to lead if it is stable.

*Year of Birth.*<sup>17</sup> Year of birth was centered and scaled. The primary goal of including year of birth in this analysis is to better understand change over time across the communities, and whether either variant of /d/ increases or decreases at different rates. The DCB

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<sup>17</sup> As discussed in Chapter I, the data from the four communities were collected within a span of fifteen years (Memphis in 2001, Princeville in 2004, DC in 2015 and Rochester in 2016). The communities overlap in years of birth, but there are some important differences which will be addressed. The glottal realization of word final /d/ is present in all speakers in the data from each community.

speakers used in this analysis represent CORAAL socioeconomic group 1, excluding speakers born after 1996, which represents the *under 19* age group in corpus collection.

### 3.4.2 Linguistic (Internal) Predictors

Several linguistic (internal) factors were tested in model selection, including syllable stress, following segment, word frequency, syllable count in the word, and word type. Different predictions for deleted tokens versus realized and glottal vs non-glottal realized tokens will be discussed in more detail below.

*Syllable Stress.* Previous work on this feature indicates that the glottal variant is favored in unstressed compared to stressed syllables (*wicked* vs. *mud*; see Farrington 2018a). Syllable stress is treated as a binary factor, with a reference level of ‘stressed’, and is centered and scaled for the analysis.

*Word Frequency.* Effects for word frequency might be expected based on studies of consonant cluster reduction (e.g., Bybee 2002), as well as work on /t/ glottalization in experimental literature (Dilley & Pitt 2007). To calculate lexical frequency, the SUBTLEXus corpus (Brysbar & New 2009) was used, specifically the logarithmically transformed measure. Following Forrest (2017), for a handful of low-frequency lexical items not found in SUBTLEXus, a value of 1 was assigned as a value for inclusion in the analysis. The log value of word frequency is centered and scaled for the analysis.

*Speech Rate.* Rates of deletion are expected to interact with speech rates (Kendall 2013; Tamminga 2014). Speech rate was calculated automatically as *vowels per second* within the seven-word Praat window presented through the hand coder script. The log transformed speech rate value is centered and scaled for the analysis.

*Word Syllable Length.* Number of Syllables within each lexical item was calculated using an R script (Kendall 2013), with values ranging from 1 to 5, and is centered and scaled.

*Following Segment.* The current analysis is coded for whether the following segment is a pause, consonant, or vowel.<sup>18</sup> Wolfram (1969) found that rates of deletion of word final /d/ increased when a consonant followed, and rates were lower when a vowel followed. Wolfram also showed that glottal /d/ is more common before pauses when compared to consonants or vowels. In the case of homorganic sounds (e.g. *bad day*), where the /d/ may be ambisyllabic, the /d/ in the first word is treated as present, and could be a coronal or reinforced realization.

Following segment was contrast coded with a simple coding contrast. Simple coding is similar to dummy coding, where each level is compared to a reference level, but here, the intercept for simple coding represents the mean of all the levels combined, rather than the mean of just the reference level (Bruin 2011). The reference level here is *consonant*, with the first contrast representing the difference between consonant and pause, and the second contrast is the difference between consonant and vowel.

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<sup>18</sup> After comparing different ways to code following segment, including, e.g., a finer grained separation of following consonants into obstruents, liquids and glides, this simpler coding scheme of consonant, pause, vowel was settled on. This coding scheme has been used in work on consonant cluster reduction in AAL and related varieties (e.g. Wolfram 1974; Kohn 2019).

*Word Type.* While there are a range of word types in the data, these were coded into four groups. The first category is *monomorphemic*, which includes monomorphemic nouns, non-past tense verbs, adjectives (e.g. mad, bad, etc.). The three other word type categories relate to different kinds of past tense words. The second category, *irregular*, includes irregular past tense verbs (e.g., had, said, stood). The next two categories include words with the weak stem *-ed*. The category, *Stem\_C\_ed*, includes stems that end with a consonant, and *Stem\_V\_ed*, includes stems that end with a vowel. The word stems ending with a vowel + *-ed* are predicted to result in lower rates of deletion since deletion would result in ambiguity of the form (e.g. *allow* compared to *allowed*). With word stems ending with a consonant, deletion of the consonant would not affect the identity of the word, as the weak final syllable would still be present (e.g. *trusted*). These categories roughly follow Callahan’s (2013) work on consonant cluster reduction and deletion, but are modified since the current analysis only deals with consonant singletons within words, and not clusters.

*Table 3.5 Word type categories and examples*

<b>Word Type</b>	<b>Code</b>	<b>Examples</b>
Monomorphemic words	Monomorphemic	mad, bad, seed, would, stupid, divide
Past tense irregular verbs	Irregular	had, did, said, rode, stood, rid, led, hid
Regular Weak Past Tense, stem ends with consonant	Stem_Ced	anticipated, trusted, started, added, unexpected, divided
Regular Weak Past Tense, stem ends with a vowel	Stem_Ved	allowed, satisfied, stayed, married, cockeyed, slowed

### 3.4.3 Random Effects

Finally, a random effects structure was implemented in the analysis. For both the glottal and deleted analyses, by-word and by-speaker random intercepts were included. Internal effects (e.g. following segment) were tested as slopes by word but did not improve model fit. Each model includes the ‘bobyqa’ optimizer, which facilitates model convergence (Sonderegger et al. 2018).

## 3.5 Analysis

To reorient the reader to the objectives of this chapter, word final /d/ in AAL can be phonetically realized as a glottal stop, a coronal stop, a glottal reinforced coronal stop, or deleted outright. The full glottal stop variant is unique to AAL, particularly in stressed environments (Thomas & Bailey 2015; Farrington 2018a). Thus, the first analysis, the *glottal analysis*, compares the glottal variant to other realized variants (coronal stops and reinforced stops), to better understand the predictors that favor the use of the glottal variant. Here, we pay particular attention to how the glottal realization is used and varies across the four communities. While there is an indication in the previous sociolinguistic literature that glottal /d/ is geographically widespread, this analysis tests whether the constraints on use vary by sub-region, or whether this feature is used similarly across regions.

The second analysis focuses on the deleted (zero coda) variant of /d/. Deletion of /d/ might be expected across all speakers to some extent, because of connected speech processes. However previous studies have suggested AAL might delete at higher rates, both for clusters and consonant singletons. This analysis, called the *deleted analysis*,

focus on deleted /d/ (the zero coda realization) compared to all realized tokens (glottal stop, coronal stop, reinforced stop). This analysis focuses on whether the internal constraints on deletion align with previous work (Wolfram 1969; Nguyen 2006), but also how deletion might vary by the social predictors, including community, gender, and age, and how these predictors interact with each other to better understand if this is a stable feature in the community.

The analysis begins with a look at the overall distributions of the four realizations coded for word final /d/: glottal stop replacement, glottal reinforcement, and deletion in each of the communities (Figure 3.5). Bar plots are organized by community, with glottal (glottal stop realization), reinforced (glottal reinforced coronal stop), coronal (coronal stop), and zero coda (deleted) realizations. This is a visualization of Table 3.3. The coronal realization is the most frequent realization in the data, comprising 61.9% of all tokens coded, though communities vary in the amount of coronal realizations.

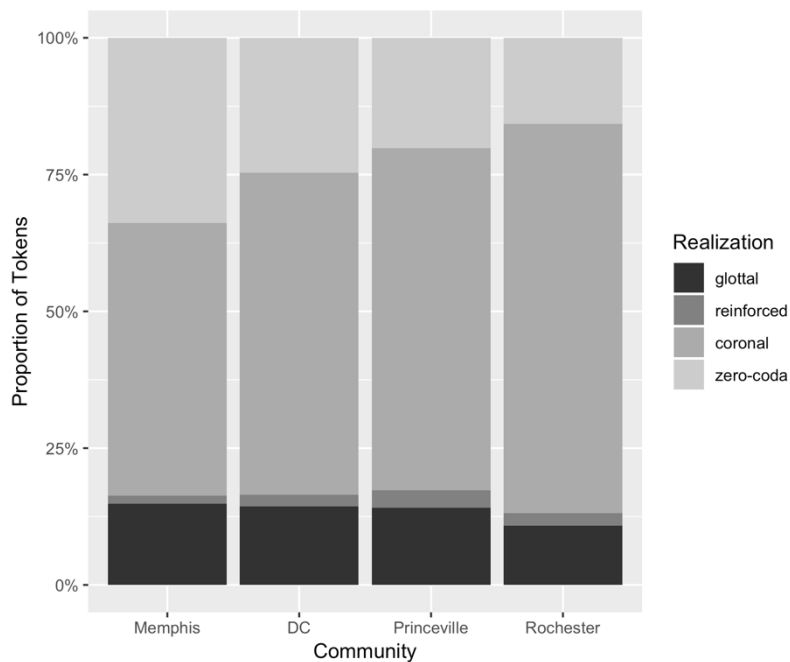


Figure 3.5 Proportion of phonetic realizations of word final /d/ by community

To evaluate these differences statistically, logistic mixed-effects regression models were constructed for consonant realization for the fifty-five speakers in the study using the *lme4* package (Bates, Maechler, Bolker & Walker 2015) in R. As described above, first analysis involves comparing full glottal stops to a coronal stop category, which collapses the coronal stop and glottal reinforced coronal stop realizations together), showing factors that favor the glottal stop variant. The second analysis collapses the stop realizations (glottal stop, coronal stop, glottal reinforced coronal stop) into a *realized* category, and compares this to zero coda tokens.

Model selection for each analysis began with main effects and the random effects structure. Interactions were tested between each of the social factors: community, age, and gender. Following that, interactions were tested between community and the linguistic factors, to tease apart whether linguistic conditioning varies by community. Model comparisons were tested using likelihood ratio tests, utilizing the analysis of variance function in R (Baayen, Davidson & Bates 2008). Interactions were included if they significantly improved the model fit ( $p < 0.05$ ).

### **3.6 Glottal Analysis**

The glottal analysis compares the use of glottal variants of word final /d/ to non-glottal variants of word final /d/. The goal here is to better understand the social and linguistic constraints that favor the use of glottal stop replacement of /d/ within the realized variants of /d/.



The best-fit model included significant main effects for community, following segment, year of birth, and word syllable length. There were significant interactions for community and following segment, community and syllable stress, as well as year of birth and gender. Statistical results are listed in Table 3.6. A three-way interaction between community, year of birth, and gender was also tested, but did not improve the model fit. Somewhat surprisingly, syllable stress was not found to be significant as a main effect, but it significantly interacts with community.

To explore these statistical results, the following figures show model predictions for the significant results. I begin by discussing the significant effects for community. Since the primary interest is on variability between the communities, post-hoc comparisons were made using the emmeans package to show the differences between each region, rather than the contrasts alone.

There are three contrasts for community, which are discussed above. Figure 3.6<sup>19</sup> shows the estimated marginal means from the use of glottalization by community. The significant result is in the contrast between Rochester and the means of the three Southern communities.

A post-hoc comparison of each pair of communities confirms that Memphis, DC, and Princeville are not significantly different from each other, while each Southern community uses significantly more glottal than Rochester (Memphis – Rochester, est.=1.3,  $p<0.05$ ; DC – Rochester, est.=1.38,  $p<0.001$ ; Princeville – Rochester, est.=1.45,  $p<0.001$ ).

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<sup>19</sup> Figures in this chapter showing main effects and interactions from the best fit models were created using the `plot_model` function in the `sjPlot` package in R (Lüdtke 2018).

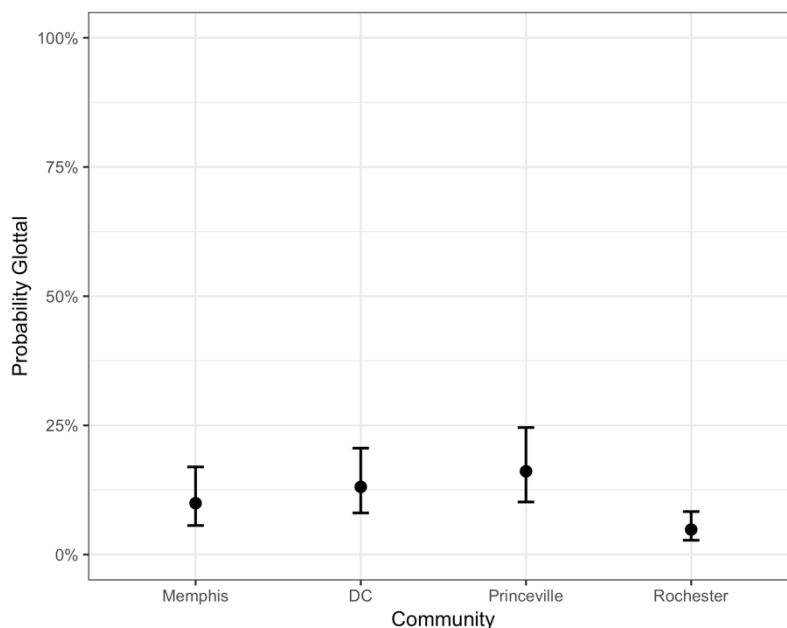
Table 3.6 Summary of mixed-effects regression model: Glottal vs Coronal

Overall percentage glottal: 17.3% (n=8931).

Random effects: Word (SD = 0.54), Speaker (SD = 0.89)

Predictors		Estimates (SE)
(Intercept)		-1.84 ***(.17)
Community	Contrast.1 (Memphis vs DC)	0.04 (.19)
	Contrast.2 (Memphis/DC vs Princeville)	0.03 (.11)
	Contrast.3 (Memphis/DC/Princeville vs Rochester)	-0.35*** (.08)
Following Segment	(vs. Consonant)	
	Contrast.1 (Pause)	2.13*** (.10)
	Contrast.2 (Vowel)	-0.06 (.10)
Year of Birth		0.65* (.30)
Gender	(vs. Female)	
	Male	-0.29 (0.25)
Word Type	(vs. monomorphemic)	
	Contrast.1 (Irregular)	-0.24 (.31)
	Contrast.2 (V-ed)	0.20 (.29)
	Contrast.3 (C-ed)	-0.28 (.21)
Speech Rate		-0.06 (.07)
Word Frequency		-0.17 (0.14)
Word Syllable Length		0.32* (.13)
Syllable Stress	(vs. Stress)	
	Unstressed	0.19 (.26)
<b>Interactions</b>		
YOB : Gender		1.04* (0.51)
Community.Con.1 : Fol.Seg.Con.1 (Pause)		-0.64*** (.15)
Community.Con.2 : Fol.Seg.Con.1 (Pause)		-0.53*** (.07)
Community.Con.3 : Fol.Seg.Con.1 (Pause)		-0.42*** (.05)
Community.Con.1 : Fol.Seg.Con.2 (Vowel)		-0.28(.) (.15)
Community.Con.2 : Fol.Seg.Con.2 (Vowel)		-0.25*** (.07)
Community.Con.3 : Fol.Seg.Con.2 (Vowel)		-0.23*** (.05)
Community.Con.1 : Stress		0.19 (.21)
Community.Con.2 : Stress		0.43*** (.09)
Community.Con.3 : Stress		-0.02 (.06)

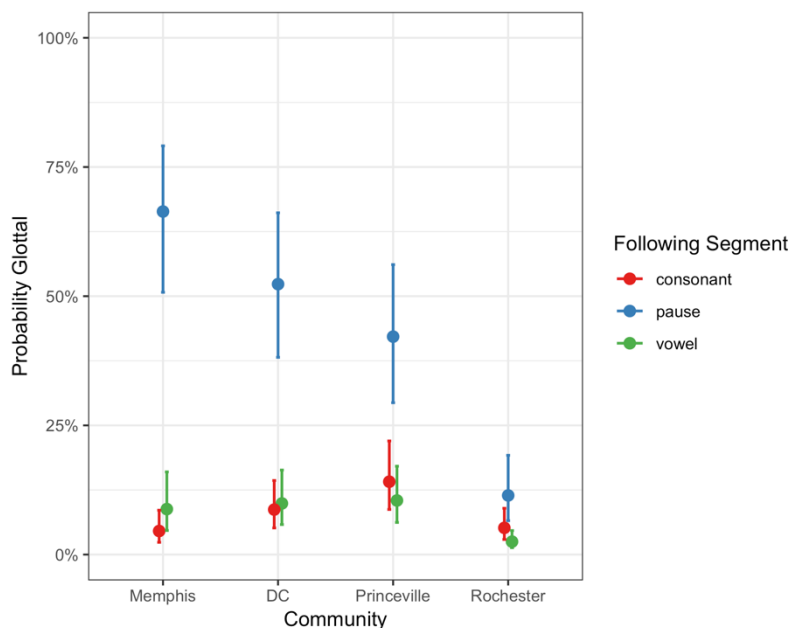
Note: (.)p<0.1; \*p<0.05; \*\*p<0.01, \*\*\*p<0.001



*Figure 3.6 Predicted probabilities of glottal by community*

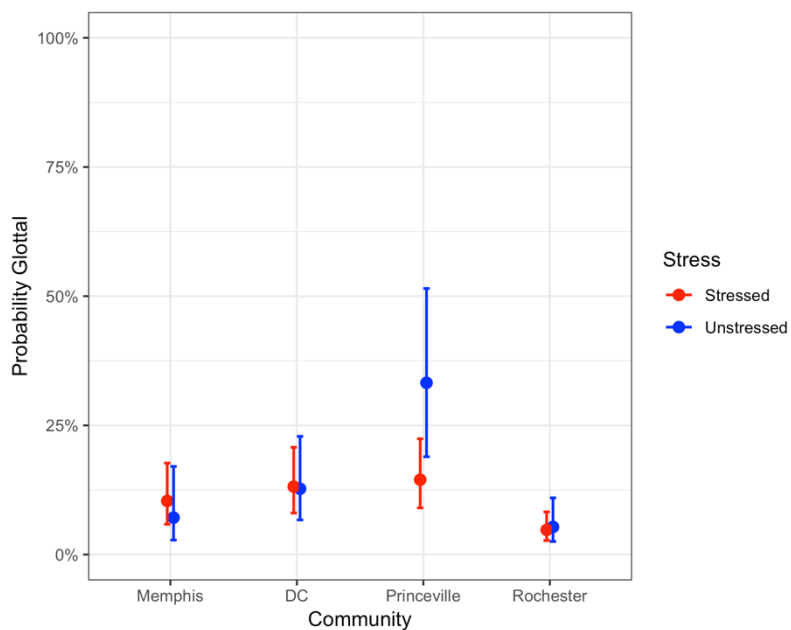
There are two significant interactions of internal effects with community: following segment (Figure 3.7) and stress (Figure. 3.8). In each figure, the vertical lines represent confidence intervals for the estimated marginal means.

For the interaction with following segment, across Memphis, DC and Princeville, there is a clear distinction between pre-pausal glottalization and non-pre-pausal glottalization. The model prediction for glottalization in pre-pausal environments within Rochester is much lower, but these differences remain significant in Rochester (Rochester: consonant – pause, est.=-0.86,  $p<0.001$ ; consonant – vowel, est.=0.75,  $p=0.001$ ; pause – vowel, est.=1.62,  $p<0.001$ ).



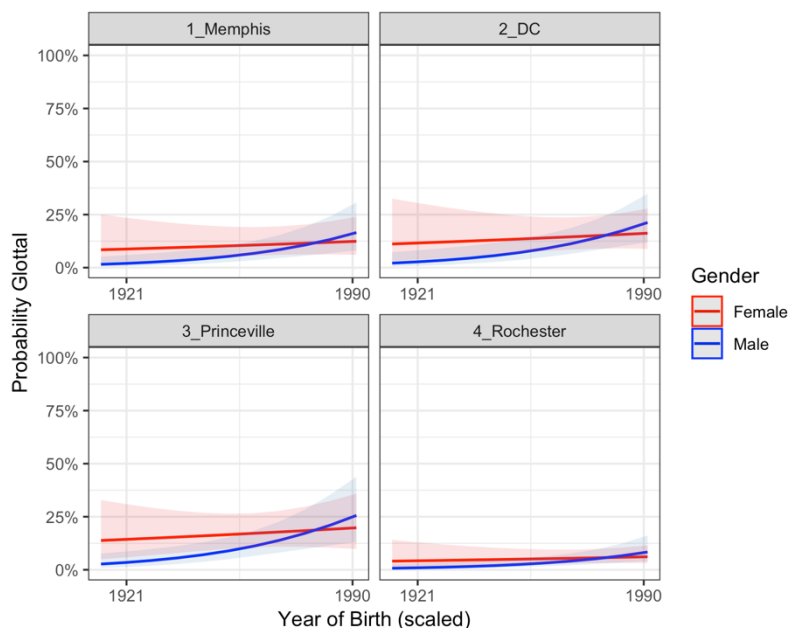
*Figure 3.7 Predicted probabilities of glottal, community and following segment interaction*

Before moving into the interaction between community and stress, we again note that there is not an effect for syllable stress in the data. This is somewhat surprising given previous research (Farrington 2018a). The significant interaction effect in the model is a positive estimate for Contrast 2 (Princeville compared Memphis/DC) for stress, showing that the unstressed glottal is predicted to be higher in Princeville compared to the urban Southern communities. Figure 3.8 illustrates that stress/unstressed glottal probabilities are essentially the same in Memphis, DC and Rochester, but the distribution is more bimodal in Princeville. I will return to this effect in Princeville below.



*Figure 3.8 Predicted probabilities of glottal community and stress interaction*

Next, there is a main effect for year of birth in the model, illustrating an increase in the use of the glottal variant over time compared to non-glottal variants. Year of birth interacts with gender (shown in Figure 3.9). Here, the interaction shows that as year of birth increases, males are increasing their use of the glottal variant, compared to females. Figure 3.9 plots this interaction between year of birth and gender, faceted by community to show how similar the communities are.

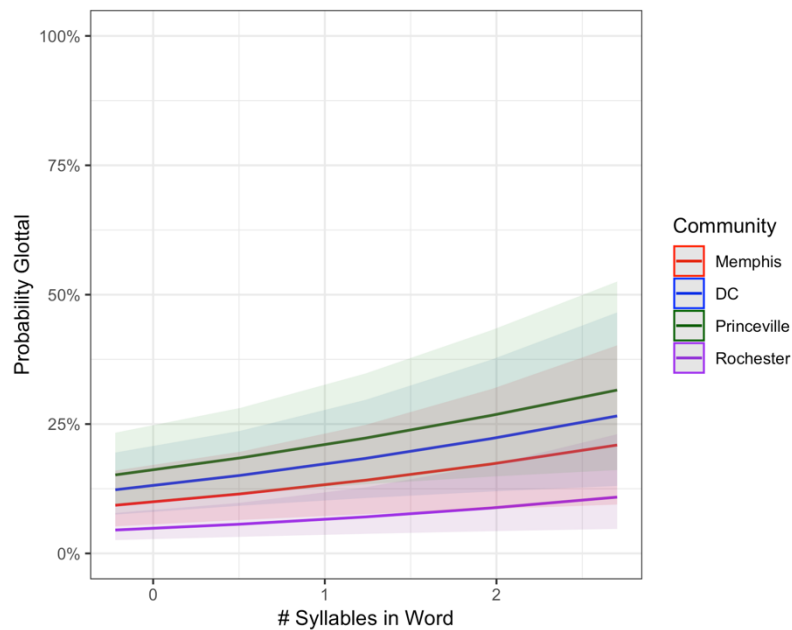


*Figure 3.9 Predicted probabilities of glottal, year of birth, and gender interaction, by community*

This interaction affirms another aspect of a feature that is a change from below, with women leading in the use of the variant as it is progressing through the community in apparent time. While the focus of this section is on regional variation of the glottal replacement of /d/, this cross-regional interaction between year of birth and gender suggests that the glottal variant is spreading into each community around the same time. As a potential sound change from below (§3.1.2.1), the older females leading in a change in progress fits into the principles of sound change (Labov 1990). It is also illustrative that the crossover here is for speakers born after 1970, when the Great Migration came to an end (Tolnay 2003). It could be the case that the glottal variant became stable at the community level in the late twentieth century. Labov (1990) suggested that men lead in the use of stable nonstandard linguistic patterns, which could help to explain why the

younger men in DC lead in the use of the variant. Chapter IV focuses on change over time in DC, utilizing data recorded in both 1968 and 2015, giving further insight into the potential spread of this feature as a change from below.

Finally, there is a main effect for number of syllables in the word such that as syllable count in a word increases, so does the likelihood that a glottal will be used. Figure 3.10 shows this effect grouped by community to highlight the overlapping distributions. This main effect relates to both word type and stress. For example, a word with a final *-ed* suffix is more likely to have more than one syllable.



*Figure 3.10 Predicted probabilities of glottal by syllable length in word (scaled), by community*

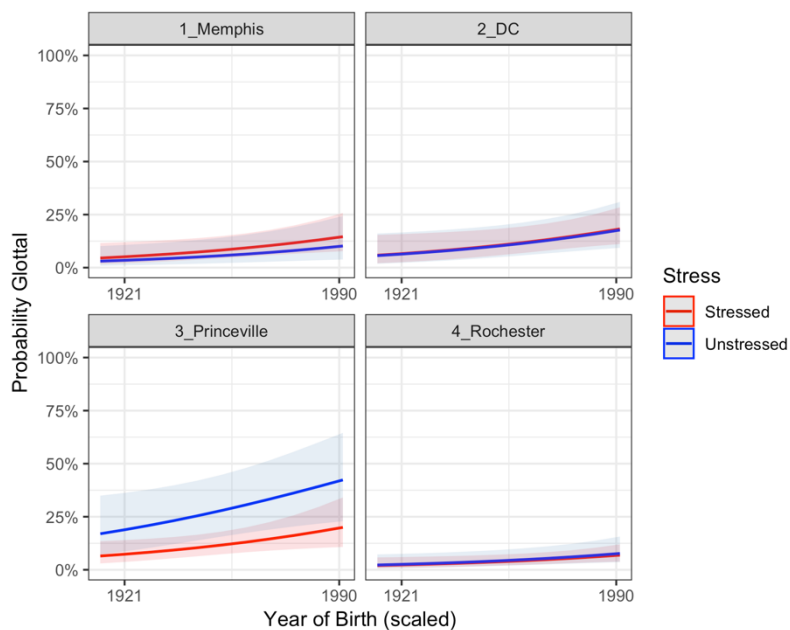
In the following section, I return briefly to the effect of syllable stress, showing how it could play a role in the potential spread of this feature.

### 3.6.1 Stress in Princeville

In the previous section, the glottal model included an interaction between community and stress, showing that glottal /d/ in unstressed syllables in Princeville were used at a higher rate compared to the other communities. In this section, I briefly investigate this effect and the potential influence of syllable stress on the spread of this change (and we will return to this in Chapter IV).

Previous work on final /d/ glottalization in AAL has suggested that the variant in stressed syllables is unique to AAL (Wolfram & Fasold 1974), while the variant in unstressed syllables is more widespread: “If the syllable is unstressed the final stop can be devoiced by an abrupt cutoff of voicing not only in Nonstandard English but in the speech of many Standard English speakers as well” (138). For example, Wolfram and Christian (1975) show that unstressed syllable glottalization (e.g. *salad*, *hundred*, *decided*) is common in Appalachian English. As AAL increased in use in the cities (e.g. Memphis, DC, Rochester) we see stressed and unstressed syllables patterning together. In Princeville, a rural endocentric community in North Carolina, we might actually be seeing an overall increase in glottal /d/, mirroring what is happening in urban varieties, but glottal use is led in the unstressed position. Figure 3.11 shows the probability of the glottal by syllables stress by year of birth, across the different community.





*Figure 3.11 Predicted probabilities of glottal by year of birth, stress, and community*

The fact that this is a more common occurrence in unstressed position across different varieties suggests that this could be more emblematic of an older pattern in the rural Southeast. In Chapter IV, we return to the question of syllable stress and change over time in DC with an analysis of the influence of parental birthplace.

In this glottal analysis, we see that glottal stop replacement of word final /d/ is increasing over time across the four communities, with Rochester showing the least amount of glottal /d/ realizations. Linguistic effects, such as when the following environment is a pause and when the number of syllables in words is higher, the probability of a glottal /d/ increases. Additionally, we see an effect for syllable stress, which might be related to an older linguistic pattern in the rural Southeast. The following section moves into the analysis of deleted /d/, and addresses the role of social predictors,

like community and age, as well as linguistic factors that are known to influence rates of deletion (e.g. speech rate, following segment).

### 3.7 Deleted Analysis

The goal of this *deleted analysis* is to better understand the role that deletion plays as a social factor in the word final /d/ variable in AAL. Like the previous section, this analysis begins with a look at the overall distribution of deleted and realized tokens by community (Figure 3.12).

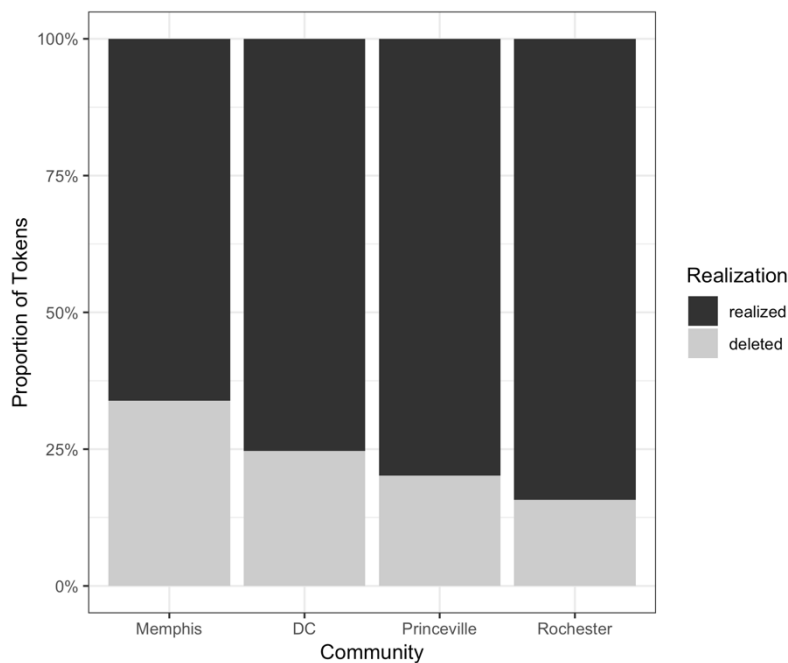


Figure 3.12 Distribution of realized and deleted final /d/ tokens by community

The general pattern is that deletion is most common in Memphis and least common in Rochester. In the statistical analysis, summarized in Table 3.7, the best-fit model for deleted versus realized tokens includes main effects for community, following

segment, word type, and speech rate, as well as an interaction between community and following segment.

*Table 3.7 Summary of best mixed-effects regression model: Deleted vs Realized*

*Overall percentage absent: 22.3% (n=11492).*

**Random effects:** word (SD = 0.78), speaker (SD = 0.57)

Predictors		Estimates (SE)
(Intercept)		-2.41*** (.17)
Community	Contrast.1 (Memphis vs DC)	-0.44** (.13)
	Contrast.2 (Memphis/DC vs Princeville)	-0.11 (.07)
	Contrast.3 (Memphis/DC/Princeville vs Rochester)	-0.41*** (.06)
Following Segment	(vs. Consonant)	
	Contrast.1 (Pause)	-1.88*** (.13)
	Contrast.2 (Vowel)	-1.77*** (.09)
Year of Birth		-0.22 (.19)
Gender	(vs. Female)	
	Male	0.06 (.16)
Word Type	(vs. monomorphemic)	
	Contrast.1 (Irregular)	-0.13 (.38)
	Contrast.2 (C-ed)	-0.24 (.30)
	Contrast.3 (V-ed)	-0.83*** (.24)
Speech Rate		0.20*** (.06)
Word Frequency		-0.10 (.15)
Word Syllable Length		0.08 (.14)
Syllable Stress	(vs. Stress)	
	Unstressed	-0.02 (.23)
<b>Interactions</b>		
Community.Con.1 : Fol.Seg.Con.1 (Pause)		-0.24 (.) (.13)
Community.Con.2 : Fol.Seg.Con.1 (Pause)		0.18** (.07)
Community.Con.3 : Fol.Seg.Con.1 (Pause)		-0.47*** (.11)
Community.Con.1 : Fol.Seg.Con.2 (Vowel)		-0.36** (.11)
Community.Con.2 : Fol.Seg.Con.2 (Vowel)		0.10 (.) (.06)
Community.Con.3 : Fol.Seg.Con.2 (Vowel)		-0.16 ** (.06)

*Note:* (.)p<0.1; \*p<0.05; \*\*p<0.01, \*\*\*p<0.001

The community Helmert contrasts all show significant (or nearly significant) differences as main effects, such that deleted variants of word final /d/ are used less in DC than in Memphis (Contrast 1); less in Princeville than the means of DC and Memphis (Contrast 2); and less in Rochester than the means of the Southern communities (Contrast 3). A post-hoc analysis shows that each Southern community uses more deletion than Rochester (Rochester – Memphis, est.=2.19\*\*\*; Rochester – DC, est.=1.3\*\*\*; Rochester – Princeville, est.=1.42\*\*\*). Princeville and DC are not significantly different (est.=-0.12 (ns)).

The interaction between community and following segment is shown in Figure 3.13. With a reference level of consonant, the differences between the community contrasts illustrate that following consonants increase the probably of /d/ deletion compared to pauses and vowels.

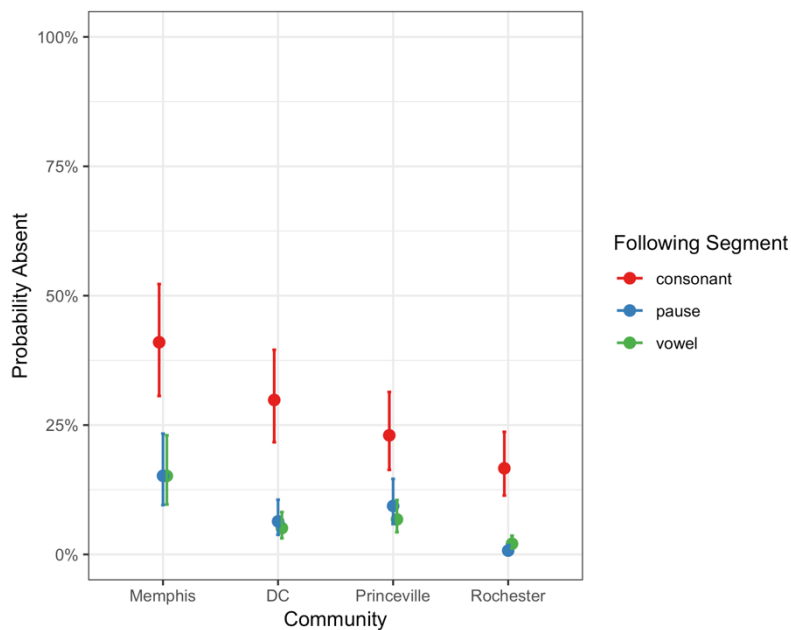


Figure 3.13 Predicted probabilities of deletion for following segment by community

A post hoc comparison shows that there are differences in the rates of deletion before pauses and vowels across the different communities.

The main effect for community and the interaction between community and following segment were the only effects for community. The following effects are main effects across all of the communities, which suggest that these are regionally pervasive constraints on this variable across AAL varieties. The main effect for word type, illustrated in Figure 3.14 such that when compared to monomorphemic words, the stem+V\_ed category (e.g. *allowed*), is less likely to exhibit deletion.

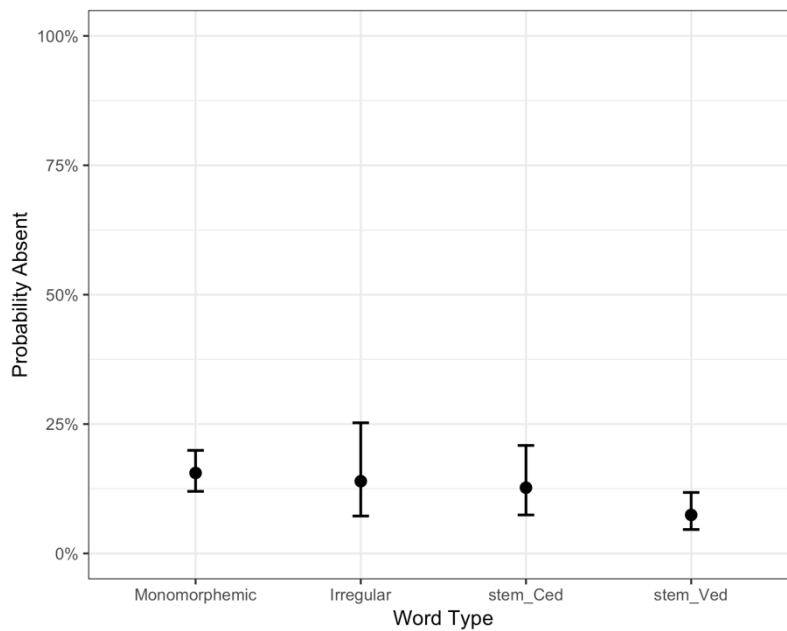
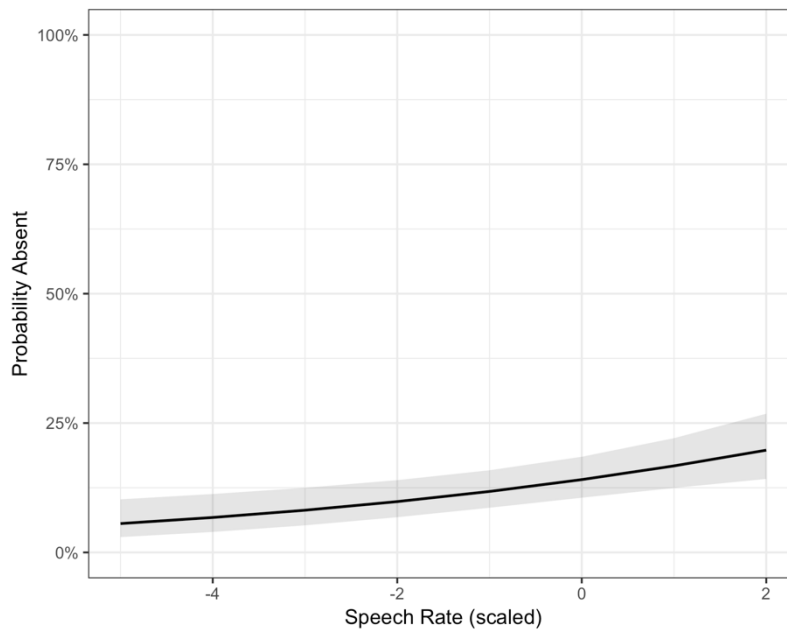


Figure 3.14 Predicted probabilities of deletion for Word Type

This effect was a predicted one since the elision of the final past tense marker in this word type would result in homophony with the stem.

There is also a main effect for speech rate (Figure 3.15), such that deletion is more likely as speech rate increases. Similar effects have been shown with consonant cluster reduction, as well as other sociolinguistic variables (Kendall 2013; Tamminga 2014; Tanner, Sonderegger & Wagner 2017).



*Figure 3.15 Percent of /d/ deletion by Speech Rate (log vowels per second)*

The results in this deletion analysis show that connected speech processes are common across the dataset, with effects for word type and speech rate, that were not found to interact with community. Additionally, the significant social effect for community, as both a main effect and interaction, suggests that these findings for deletion can vary by social factors. The community-level effect here is important in light of work showing higher rates of deletion in general in the urban (Deep) South (Harrison 2007; Farrington

2018a). Year of birth was not a main effect, which shows that deletion is not increasing over time within these AAL communities.

### **3.8 Summary of Results**

Overall, community plays an important role for both the glottal and deleted realizations of word final /d/ in AAL. There are main effects, which can be attributed, in part, to geographic location (Deep South, South, North), but there are also main effects for linguistic factors that suggests that the constraints within these AAL communities are shared. One exception, which will be explored more in Chapter IV, is the role of syllable stress in Princeville. Being the only rural African American community, this linguistic pattern might be reflective of an older constraint pattern that changed in urban AAL. Taken together, these results show that word final /d/ exhibits both regional differentiation as well as shared AAL patterns.

In the glottal analysis, we find community interacting with two internal linguistic predictors, following segment and stress. In the case of following segment, this kind of interaction shows how rates of use relate to linguistic constraints. For syllable stress, we see that the rural community of Princeville exhibits what could be an older pattern of glottalization and is different from the larger cities. Grouping the communities together would mask this kind of result in particular. There are main effects that are common across the four communities, including the effects of number of syllables in the word, as well as the interaction between year of birth and gender. Females led in the use of the glottal stop earlier and have been stable for much of the twentieth century, but since the end of the Great Migration (about 1970), men rapidly caught up in rates of use. This

resulting overlap between men and women could reflect the change of a variable from a change from below to a more stable AAL phonological pattern.

In the deletion analysis, the consistent linguistic effects across each community, such as speech rate and following segment, supports the observation that there are shared constraints across these varieties of AAL. This could also be related to the fact that word final /d/ as a sociolinguistic variable is widespread, sharing constraints. The effect for word type, specifically that the stem+V-ed category would exhibit less deletion, was confirmed. Taken together, these results show that the variable, word final /d/ in AAL, shows both linguistic and social patterns that are typical of other sociolinguistic variables. It also demonstrated that a better understanding of /d/ in AAL must attend to regional differentiation.

### **3.9 Discussion**

Despite the fact that AAL is the most researched variety of American English, many questions remain about its twentieth century development and intensification with regard to the Great Migration. Additionally, past scholarship has focused on only a handful of variables, and excluded, for the most part, variables like word final /d/. In the current chapter, we analyzed two properties of word final /d/: the glottal stop replacement of /d/ and word final /d/ deletion.

Glottalization, overall, accounts for under 15% of the actual realizations across the four communities in this study. While relatively infrequent overall, it is worth noting that within this sample of fifty-five speakers from four regions, /d/ glottalization is present in every speaker. Additionally, the probability of glottal is much higher in certain



contexts (e.g., pre-pausal position) compared to others. While ubiquitous across varieties of AAL, these rates of use suggest that it could be a lower-level feature of AAL, resulting in little metalinguistic commentary by speakers (Kohn & Farrington 2013). There is an interaction with year of birth and gender. This fact reveals that females led in the use of this incoming variant of word final /d/ in each community. For the youngest generation, males have caught up to females. This is consistent with other kinds of changes from below (Eckert 1990; Labov 2001). Additionally, in terms of regional differentiation, the Rochester speakers use significantly less glottal /d/ compared to the other communities, though it is a feature used by all the speakers. Additionally, linguistic effects are consistent across the communities, where pre-pausal context is the most frequent context for glottalization.

Moving to the /d/ deletion analysis, previous work on /d/ deletion has been most often analyzed in the context of cluster reduction in AAL (Thomas & Bailey 2015). Some work suggests that consonant singleton deletion is more common in some varieties of AAL than others (Wolfram 1969; Thomas 2007; Farrington 2018b). Consonant deletion also results from normal articulatory reduction in conversational speech, especially when a following word begins with a consonant. In this chapter, these two topics are addressed by focusing on linguistic and social predictors of deletion. Word final /d/ deletion is more common when there is a following consonant, and less frequent when there is a following vowel or pause. Since these are consonant singletons, outright deletion would be unexpected for many varieties of MAE and even in AAL (Wolfram 1969). However, especially for /d/, deletion is possible when there is a following pause. Extensive work on consonant cluster reduction in AAL-speaking communities (e.g., Wolfram 1969, 1974)

has also shown that deletion is more common in pre-pausal and prevocalic positions in AAL than in MAE varieties. Linguistic effects for final /d/ deletion are consistent with earlier work in Detroit (Wolfram 1969; Nguyen 2006). These findings suggest that there are systematic internal differences with regard to deletion that are shared across the communities, and, as discussed above, there is a cline of deletion relating to something like proximity to the Deep South. The further away from that geographic region, the probability of deletion decreases. A larger dataset, including more varied geographic regions (e.g., West Coast AAL) and different social classes, would give a more complete picture of this idea. Social factors, like gender and year of birth, are not significant here, suggesting that these processes are relatively stable at the community level.

### **3.9.1 Origin and Spread of Glottal /d/ in AAL**

Returning to glottal stop replacement of word final /d/, this feature is geographically widespread (Fasold 1981), though it does appear in other American English varieties. In some varieties, glottalization can only occur in unstressed position (e.g., in Appalachian English, Wolfram & Christian 1975). By looking at stress by year of birth (Figure 3.11), Princeville speakers exhibit a more bimodal distribution of stressed and unstressed glottal probabilities compared to the other three communities, where the stress and unstressed probabilities are more overlapping and increasing over time at the same rate. If this unstressed glottal /d/ is more common in general, and it is more common in the rural North Carolina town, we might predict that this environment was potentially the source from which the stressed variant was extended. Likewise, the stressed glottal variant became the marker of ethnicity in the areas that developed larger

populations as a result of the Great Migration. Future work on similar rural towns in North Carolina is needed, but I will address stress in the expanded analysis of DC AAL in the next chapter.

As glottal /d/ became more ubiquitous, especially in the stressed variant primarily in the larger cities, we also see an increase in apparent time in the use of glottal /d/ in all environments in the rural south (Princeville). This kind of pattern is similar to Wolfram and Thomas's (2002) suggestion about the influence of urban AAL vernacular norms coming back into the rural communities in the South, which they discuss in terms of dialect norming (202). I will focus on the diffusion issue here. They suggest that models of language change and diffusion might not fit what we know about the spread of AAL, in this case in rural Hyde County, North Carolina.

“As useful as macro models may be, we cannot simply assume that they will apply to the spread of change among socially subordinate, vernacular-speaking groups as they do to socially favored, superordinate population groups. It is also possible that these models related to population ecology may be insufficient to explain how vernacular normatization takes place on a community level. In fact, we hypothesize that the mechanistic models of diffusion do not adequately account for some of the supraregional, normative developments taking place in contemporary AAVE.” (204)

In fact, for the glottal stop variant in particular, we see the spread of this feature consistently across regions, which in some ways speaks to the norming of vernacular AAL as a variety developing from a cultural standpoint in the twentieth century.

It is of course the case that population movements were never fully unidirectional (e.g. from rural to urban) and that the cultural impact that urban varieties of AAL had on African American culture more broadly led to a greater focus on urban vernacular norms.

While glottal /d/ increased across these AAL varieties over the twentieth century, in Princeville, and presumably other rural communities affected by the Great Migration, we see the older pattern, where unstressed /d/ is replaced by a glottal stop at higher rates than in stressed position still maintaining a distinction even during this feature becoming ubiquitous in AAL more broadly.

Wolfram and Thomas (2002:205) note that the norm for younger African Americans in the twentieth century, especially those from rural areas, is increasingly away from the local (regional) variety and towards the urban context. Importantly, there was an increased sense of ethnic identity associated with AAL varieties resulting population changes and differing segregation patterns in the urban context. As a feature, /d/ glottalization is a marker of ethnic identity (Fasold 1981), the increase in use and spread across geographic contexts lends support to the idea of AAL as an important ethnic marker and cultural identity. How sound changes progress through these urban and rural communities and how they relate to larger sociohistorical facts remains debatable. Nevertheless utilizing several varieties of AAL helps to tease these mechanisms of change apart.

### **3.10 Looking forward**

This chapter analyzed the glottal stop and deleted variants of word final /d/ in four varieties of AAL, while in Chapter IV I turn to examine this variable as it relates to change over time in Washington, DC specifically. Using the CORAAL:DC data, which includes speakers born between 1891 and 2005, and three social classes represented, I focus on the changes to word final /d/ realizations in the twentieth century. Importantly,

this dataset includes recordings from 1968 and 2015, allowing a look at age differences at different points in time as well as how such changes in DC might be reflected through shifting demographics.

## CHAPTER IV

### CHANGE OVER TIME IN WASHINGTON DC

This chapter analyzes the phonetic realizations of word-final /d/ in the Washington DC components of CORAAL. The CORAAL:DC corpus components consist of 115 speakers born between 1891 and 2005, allowing an analysis of change over the course of the twentieth century. Additionally, half of the data come from speakers recorded in 1968/1969 (CORAAL:DCA, Kendall, Fasold et al. 2018) and the rest come from speakers recorded between 2015 and 2017 (CORAAL:DCB, Kendall, Quartey et al. 2018). This allows for a real time analysis of language change. The results from Chapter III illustrate that the non-standard realizations of the variable, word final /d/ glottal stop replacement and deletion, are common across four communities representing different geographic locations in the U.S., which included working class Washington DC speakers. In that analysis, I found that the glottal variant of word final /d/ is increasing over apparent time in each of the communities. The zero coda variant, on the other hand, exhibits consistent regional variation, but is not a pattern changing in apparent time. This chapter has two primary goals: (1) to examine how word final /d/ has changed over the course of the twentieth century in DC AAL, and (2) to explore, in the CORAAL:DCA data, how the glottal variant of word final /d/, the feature unique to AAL, spread through the community by focusing on social factors such as socioeconomic class, gender, and parental place of birth. This focus on DCA gives us the ability to think closely about the relationship between the Great Migration and dialect formation processes.

Washington DC provides a unique opportunity to investigate sound change and the relationship to macro level social changes in the area. First, as described in Chapter II,

DC is one of the key Great Migration cities on the Eastern seaboard, being both a stopping point and a through point for individuals and families seeking life outside of the Southeastern states (Asch & Musgrove 2017). Second, there was a consistent African American population in DC dating to the nineteenth century. This earlier population exhibited a phonology that was widespread across the Virginia Tidewater region, which included both Washington DC and Baltimore, MD. With the shifting demographics within DC, various housing laws led to increased racial isolation (Asch & Musgrove 2017), and suburban white flight resulted in DC becoming the first majority African American city in the US. The combination of a long-standing African American population with the massive twentieth century demographic changes in the city, led to an intra-ethnic dialect contact situation, and ultimately to the development of the modern DC regionally based ethnolect.

Word final /d/ in DC changed as a result of these population changes. The glottal stop variant came into DC in the twentieth century and /d/ deletion shows some internal linguistic changes over time, while the overall rates of deletion are stable over time. The evidence presented in the results below reveals that speakers are increasing in the use of the glottal stop in DC over time, with year of birth interacting with three internal effects: following segment, word type, and stress. This change appears most in unstressed syllables in the oldest generation of speakers, but for the youngest age group, there is overlap in the rates of use. In terms of /d/ deletion, while there is stability over time overall in rate of deletion there are main effects for age at the time of interview, which suggests deletion is an age graded feature, and an effect for social class, where the working class speakers delete more than the middle class groups.

This chapter is a case study of change over time in AAL, utilizing a large corpus of DC AAL and a sociolinguistic variable, word final /d/. As I will return to in Chapter V, DC is unique for several reasons, like its geographic location and its pre-Great Migration African American population size, but it is just one of many cities that experienced such demographic shifts. Alternative case studies of word final /d/ in different cities, like Detroit, Philadelphia, Atlanta, or Oakland, would bring valuable insight to changes in AAL because of the way sociohistorical contexts vary by city.

In the remainder of the chapter, I begin by giving a brief background on the social history of Washington DC in the twentieth century, describing the linguistic situation in the city. The demographic changes that led to the majority population in DC also led to a unique contact situation for in-migrants (Asch & Musgrove 2017). Additionally, from a meta-historical perspective, DC holds an important place within the history of the study of AAL, primarily because of the proximity of Georgetown University and the Center for Applied Linguistics. Here, I discuss some early sociolinguistic work from Putnam and O'Hern (1955) to more recent research by members of Georgetown University's Language and Communication in Washington, DC, Metropolitan Area Project (LCDC). The LCDC project has focused on how more recent changes, such as gentrification in DC, has affected the different speech communities in the city. Section §4.4 includes information about the two CORAAL corpus components, followed by two methods sections, §4.5 addresses coding techniques and §4.6 describes statistical techniques and predictors used in the analyses. The results section is divided into two parts. First, §4.7 deals with change over time across the twentieth century, focusing on the increase of the glottal stop realization as well as the status of /d/ deletion over the twentieth century.



Then, §4.8 focuses on the glottal variant of word final /d/ in the recordings made in 1968/1969. This focus comes out of the results of §4.7, which show that glottal /d/ progressed through the community in the early twentieth century. Because of the community level changes in DC between the late 1960s and the mid-2010s, an analysis of the earlier dataset in the context of the waning Great Migration brings new insight into the linguistic effects of the Great Migration. For example, a half-century of constant flows of migration led to dialect mixing, leveling, and the focusing of urban AAL. This section begins with a look at interactions between social and linguistic factors. The discussion (§4.9) steps back to discuss how the change in DC could have begun, and how this change, in particular, may have spread across several varieties of AAL, exploring these linguistic changes in the context of a demographically shifting speech community.

#### **4.1 Background**

In this section, I discuss the sociohistorical situation in Washington DC, as well as an overview of the work on word final /d/ and sound change research focused on AAL in DC. This background sets the stage for the discussion of language change in DC AAL vis-à-vis community level changes.

In DC, between the end of the Civil War and the beginning years of the Great Migration, there was a consistent African American community. As Asch and Musgrove (2017) describe, this population developed a major class distinction between a growing middle class and a working class group. Together, these class groups were politically active, but the white ruling class passed laws and reforms that negatively affected the African American population (e.g., voting, housing, and land use reforms). This did not

stop rural Southern African Americans from moving to the city, and between the 1916 and 1940 the African American population increased at the same rate as the white population. Beginning in 1940, the increased rate of African American in-migration, combined with white flight in DC, which decreased the white population, led to a major shift in the demographic makeup of the city, culminating in an African American majority in 1957.

Because of several prominent linguists and sociologists in the area, both the cultural situation (e.g. alley life, Hannerz 1969; Borchert 1980) and the linguistic situation of DC AAL in the 1960s (Putnam & O'Hern 1955; Carroll 1971; Fasold 1972; Luelsdorff 1975) has been well described. More recent work out of Georgetown University, has shown the effects of gentrification on the different speech communities in and around DC (Nylund 2013; Grieser 2015; Lee 2016, Lee 2018a)

Most recently, CORAAL:DC allows the opportunity to look at change over time internal to AAL. This kind of study has been relatively rare because of the focus on the relationship between AAL with surrounding white varieties (Blake & Shousterman 2010a; Fought 2013) following the convergence/divergence debates in the 1980s (Fasold et al. 1987). Both the city (DC) and the sociolinguistic variable (word final /d/) provide a test case for looking at change over time internal to AAL.

#### **4.1.1 Washington DC: A Historical Perspective**

The following section addresses the sociohistorical situation in Washington DC, focusing on three time periods: pre-1915 (pre-Great Migration DC), 1915 to 1970 (Great Migration DC) and 1970 to 2016 (post-Great Migration DC). While these three time

periods could be further differentiated, they reflect important cultural periods in African American history, as well as for the development of AAL (Wolfram & Thomas 2002). The analysis focuses on how the historical processes during these time periods affected the city. Figure 4.1 (also in Chapter II) shows the raw population size over time in Washington DC and Table 4.1 shows the proportion of white and African American residents of DC between 1950 and 2016. Between 1920 and 1940, the African American and White populations increased at about the same rate, but during the second wave of the Great Migration (1940-1970), the African American population grew from 187,200 to 537,700, while the white population decreased between 1950 (the peak white population) from 517,900 to 209,300 in 1970. This population trend in DC is found across several other Northern and Western cities that saw an increase in the African American population. Boustan (2010) quantified the relationship between African American immigration and white out-migration and found that cities that had higher rates of African American migrants during the second wave of the Great Migration lost a greater number of white residents. This population change resulted in DC becoming the first majority black city in the US (McQuirter 2000). For a detailed history of race in the nation's capital, including how such population changes resulted in different kinds of race-related laws, see Asch and Musgrove's (2017) *Chocolate City: A History of Race and Democracy in the Nation's Capital*.

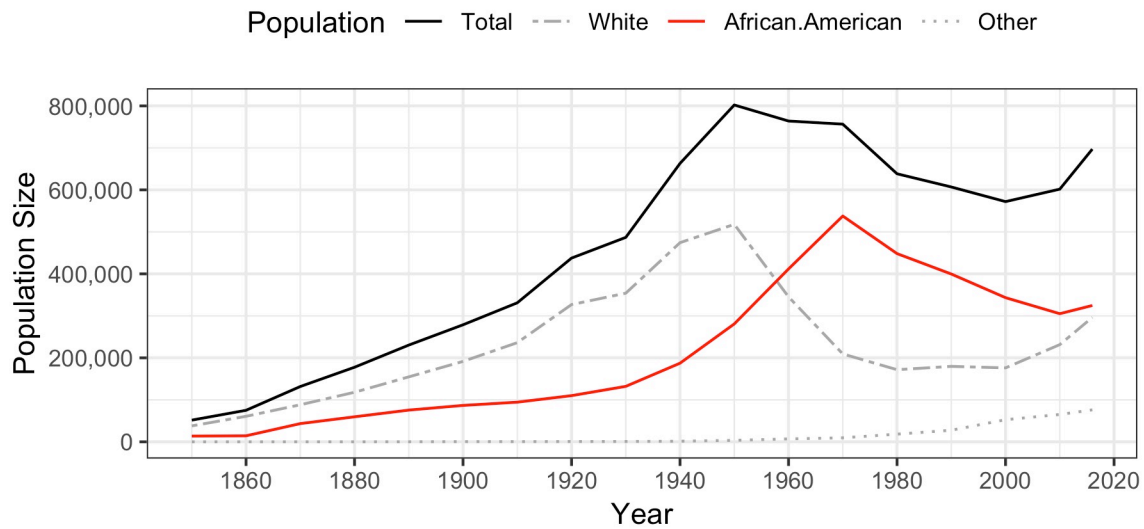


Figure 4.1 Population change in Washington DC between 1850 and 2017 (U.S. Census Data)

Table 4.1 Percentage of Race in Washington DC by U.S. Census year (with 2016 estimate)

Year	Total Population	White (%)	African American (%)	Other (%)
1850	51687	73.41	26.59	0.00
1860	75080	80.93	19.07	0.00
1870	131700	67.03	32.96	0.01
1880	177624	66.44	33.55	0.01
1890	230392	67.14	32.80	0.05
1900	278718	68.72	31.11	0.17
1910	331069	71.32	28.53	0.15
1920	437571	74.70	25.14	0.16
1930	486869	72.71	27.13	0.17
1940	663091	71.53	28.24	0.23
1950	802178	64.56	35.01	0.44
1960	763956	45.19	53.90	0.91
1970	756510	27.66	71.08	1.26
1980	638333	26.91	70.22	2.87
1990	606900	29.60	65.84	4.55
2000	572059	30.78	60.01	9.20
2010	601723	38.47	50.71	10.82
2016	697102	42.50	46.58	10.92

#### **4.1.2 Pre-Great Migration (<1915)**

The history of race in DC is a complex and important one. In this section, I focus briefly on the pre-1915 period, which is the year that scholars suggest as a starting point, in earnest, for the Great Migration (Tolnay 2003). However, pre-1915 DC saw a lot of migration into the city, though the proportion of African Americans and whites remained relatively stable until the second wave of the Great Migration (Table 4.1).

The District of Columbia was founded on July 16, 1790, established in the Constitution to serve as the capital of the United States. The city was decimated during the War of 1812, the conflict between the United States and United Kingdom over restrictions to U.S. trade, and the city itself remained small in terms of the population size of permanent residents. Within this small population though, “antebellum neighborhoods were racially and economically diverse because there simply was not enough room for people to isolate themselves to any significant degree by class or race” (Ash & Musgrove 2017:189). This kind of diversity resulted in a long history of bi-racial anti-slavery support throughout much of the 19th century (Asch & Musgrove 2017:86) including an active underground railroad led by free Black DC residents. The Black population in DC in 1860 reached 14,316, with 77.8% being free (U.S. Census). And two years later, in April 1862 (nine months prior to the Emancipation Proclamation) the enslaved population in DC was fully emancipated. Post-war DC was defined by geographic and population expansion, as well as a push to educate what was becoming a consistent Black population in the city. Borchert (1980:6) noted that with this geographic expansion, came increased levels of segregation: “as soon as the city had a chance to begin reordering itself, segregation became more marked.”

Different kinds of governmental reforms (e.g. federal control via city commissioners, voting acts, housing reform) led to increased levels of segregation and an increasing distrust between a long-standing middle class Black population and the Black working class, due in part to the middle class view of the behavior of the working class in the city (Asch & Musgrove 2017:183), in addition to distrust between the white population and the Black population more generally. The alley neighborhoods, which were common in DC around the turn of the 19th century, and often where Southern Black in-migrants would move (Borchert 1980), became increasingly a battleground topic for housing reform and racist agendas (e.g. pushing the working class Black population out of certain parts of the city).<sup>20</sup>

Between the end of the Civil War and the first wave of the Great Migration in 1915, the African American population in DC hovered around 30% of DC's entire population. This is in contrast to other Great Migration destination cities, like Rochester, where the African American population was around 1% of the city's population until the second wave of the Great Migration.

#### **4.1.3 Great Migration DC (1915 to 1970)**

The Great Migration is generally discussed as having two phases: 1915 to 1940 (from World War I to the start of World War II) and 1940 to 1970 (beginning with World

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<sup>20</sup> Alley dwellings were common in the Great Migration destination cities and were the focus of many sociological studies. In DC specifically, early sociological studies included Sellew's (1938) *A deviant social situation: A court*, Hannerz's (1969) *Soulside: Inquiries into ghetto culture*, and Borchert's *Alley Life in Washington: Family, Community, Religion and Folklife in the City, 1850-1970*. These studies showed complex social orders developing between folks who had lived in DC for several generations with first generation DC residents looking for inexpensive housing.

War II and ending in 1970).<sup>21</sup> The split is largely due to the Great Depression followed by World War II, which brought millions of jobs to the Northern industrial corridor and initiated “the greatest spatial reorganization of Americans in the nation’s history” (Gregory 2005:32). The early twentieth century in DC saw a steady increase in the African American population between 1915 and 1940 (see Chapter II). DC, like the Eastern cities of New York and Philadelphia, drew African Americans from the Southeast states, including Virginia, North Carolina, South Carolina, and Georgia, in contrast to midwestern cities like Chicago and Detroit, which mainly saw population increases from the Mississippi Delta region (Wilkerson 2010). The second wave of the Great Migration between 1940 and 1970 resulted in a net-migration of over four million persons out of the South (Long 1988). The impact of this second wave of the Great Migration resulted in a population increase in DC from 187,200 to 537,700 African Americans, thus making DC the first large North American city with a majority African American population, in 1957 (McQuirter 2000).

Several studies have focused on how Washington DC has changed socio-politically over time. Green’s (1967) *The Secret City: A history of race relations in the nation’s capital* is a history of the African American population from 1791 through 1965. This historical and sociological study of the African American population in Washington illustrates that there has long been a goal of unity within African American communities living in Washington DC, but they were often divided by social class-based issues, which was also related to in-migration throughout DC’s history. As the African American

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<sup>21</sup> The period between 1930 and 1940 is sometimes considered an interlude because patterns of migration changed resulting from the Great Depression (Gregory 2005). The demographic patterns in the communities under investigation suggest continued migration through that time period.

population began to increase following World War I, and especially after World War II, the new African American population dealt with the rising cost of housing and attempts to stifle in-migration (Green 1967:233). This eventually led to increased residential segregation practices common in Great Migration destination cities. It is also clear from this work as well as the early sociological works that there are two populations of African Americans in DC: The middle class community “on the streets, in downtown restaurants, as customers in the department stores and chic specialty shops, and everywhere receiving the same services as white patrons” (Green 1967:3), compared to the working or lower class population living in alleys which, because of living conditions, resulted in 70% higher mortality rates for African Americans than whites (Green 1967:234). Borchert (1980) expressed the difficulty in tracking lower class histories since there are often no written documents and oral histories are the only evidence of their existence.

From a cultural standpoint, the DC that developed out of the massive population change from the Great Migration became a center for African American culture in the United States. The city became known as Chocolate City, thanks in part to the Parliament song of the same (written by George Clinton, Bootsy Collins, and Bernie Worrell) released in 1975. Additionally, in the mid-60s to early 70s, go-go music, a local music style developed in these majority Black areas, highlighted the important cultural changes in DC due to the new majority African American population brought to DC.

#### **4.1.4 Post-Great Migration DC (1970 to 2016)**

The post-Great Migration period in DC saw a decline in the overall African American population, but it maintained a significant majority in the city. In a 1984



Newsletter of the American Dialect Society, Walt Wolfram described the sociolinguistic situation in “A dialectologist’s guide to Washington DC,” describing the speech community as a complex interaction of ethnicity, region, and social class. He suggested that the “strains of in-migration make the linguistic situation elusive.” For example, there was a middle class African American community in the Upper NW district, while working class African Americans in the Southeast (SE) had a Southern United States cultural alignment. Wolfram noted that the linguistic diversity is interwoven into both the geographic location, and in the relationship of the social fabric of the community: “The DC area sometimes has trouble figuring out which side it’s on. Inner-city Black residents feel like they’re in the South, and suburban residents often feel like they’re living in the North” (Wolfram 1984:22).

Since the 1980s, two of the primary factors that have contributed to the development of DC are residential segregation and gentrification (Prince 2014). These two overarching topics highlight two important points about DC in the late twentieth and early twenty-first century: the population changed as a result of city development, and older African American neighborhoods were gentrified, forcing longtime residents into new areas.

In terms of the population demographics, the African American population has decreased over the last 30 years, and in the most recent estimate, it has decreased below 50% of the population, though it still maintains racial plurality. In addition to a more recent increase in the white population, the other category in Table 4.1, which includes Hispanic and Asian American residents, has increased to nearly 11% of the population.

Recent work by the LCDC group at Georgetown has been documenting these speaker populations (Lou 2009; Tseng 2015).

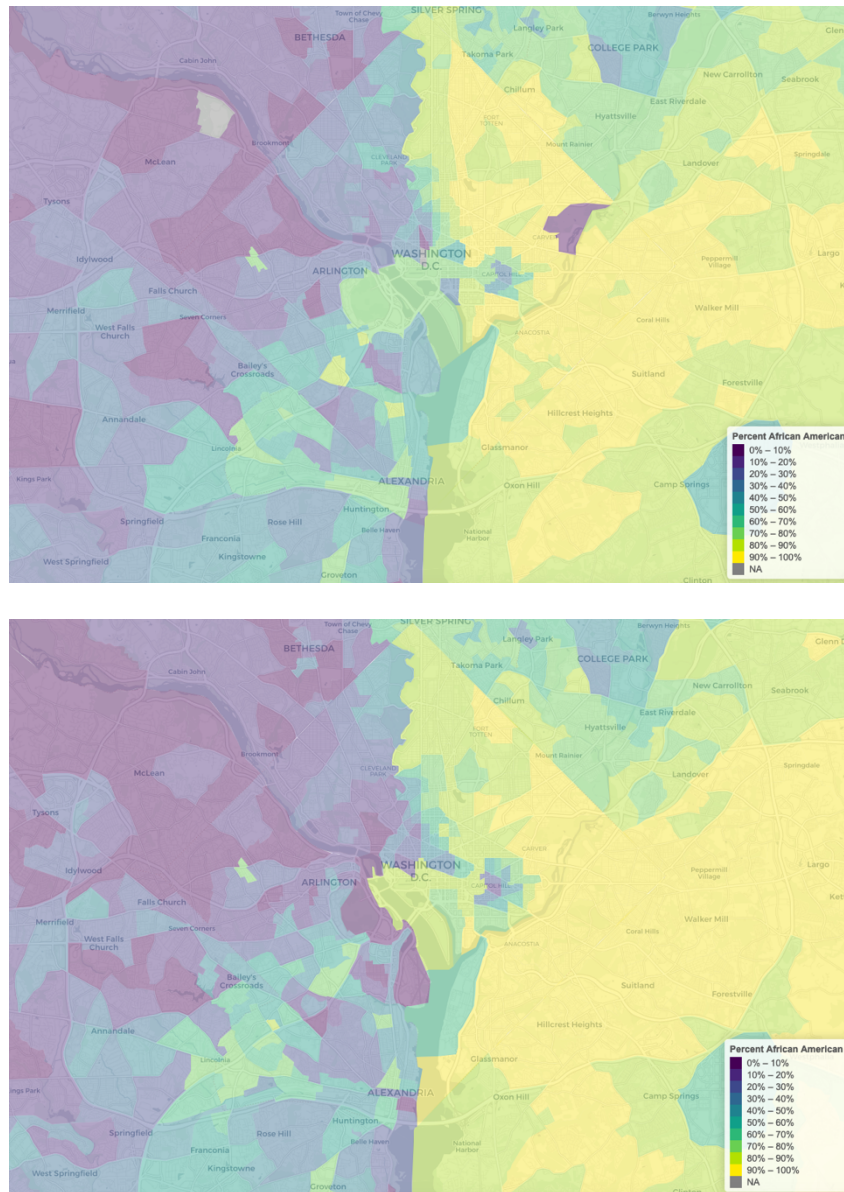
Throughout the 1970s and 1980s, DC, like many other cities, experienced high levels of residential segregation. Massey and Denton (1989) measured residential segregation along five potential dimensions (evenness, exposure, clustering, centralization, and concentration) and show that African Americans in cities are likely to be segregated on all five dimensions simultaneously, which Massey and Denton (1989) call hypersegregation. One of their measures, clustering, in DC is considered high, indicating “the existence of a large enclave containing most blacks, but showing that there is some evidence of scattering of neighborhoods away from a principal enclave.” (ibid. 376). This scattering speaks to the long-standing neighborhood class differences in DC. Hypersegregation has decreased by a third between 1970 and 2010 (Massey & Tannen 2016), so that DC is no longer considered (as of 2010) hypersegregated. The population changes resulting from gentrification has contributed to increased racial diversity. This change has also resulted in a shifting center of the African American population to SE DC and (increasingly) adjacent counties in Maryland (e.g. Prince George’s County).

In addition to these trends over the past thirty years (decrease in the African American population, increase in both the Hispanic and Asian American populations), one of the most important recent demographic shifts in DC is the increasing role of gentrification and how that impacts DC’s African American communities. Prince (2014) highlights the changes over the second half of the twentieth century in DC by focusing on demographic data and on oral narratives by residents from different parts of DC. A 2019

report by the National Community Reinvestment Coalition showed that Washington DC was the most gentrified city in the U.S. by the percentage of neighborhoods that experienced gentrification, where gentrification was defined as increases in home value, educational attainment and income in census tracts between 2000 and 2013 (Richardson et al. 2019). The movement between DC and surrounding counties in Maryland has been constant, dating back to the 1960s (Long 1988), but increased gentrification has resulted in an increase of migration from DC to Maryland.

Similar to the Figures in Chapter II, Figure 4.2 shows the proportion of African Americans in the metro Washington DC area with adjacent Prince George's (PG) County included, using U.S. Census data from 2000 and 2010 using the tidycensus package in R (Walker 2019). PG County borders DC's eastern corner. In DC, the primary change is the increasing proportion of African Americans in the Southeast Quadrant, while PG County's African American population has increased, especially in the areas directly adjacent to Washington DC's border.

The demographics of DC proper have changed significantly since the end of the Great Migration because of hypersegregation and the increasing patterns of gentrification in the city, which has pushed the African American community further east. This has shifted DC's African American speech community towards Southeast DC and PG County. Interestingly, as Long (1988:151) points out, this interstate movement between DC and Maryland has always been an important one in terms of African American migration. In fact, between 1965 and 1970, as well as 1970 to 1975, the DC to Maryland migration, especially to PG County, accounted for the highest stream of interstate migration among the African American population.



*Figure 4.2 Percentage of African American residents in the DC Metro area in 2000 (top) and 2010 (bottom). PG County lies on DC's eastern border.*

Between 1975 and 1980, the DC to Maryland migration was the third highest stream for African Americans, with data showing that migrants were divided among those born in DC (48%) and those making a repeat move (Long:1988:154). All of this

shows that this interstate, but geographically close, movement between DC and Maryland (specifically PG County) has always been a major cultural connection between the two areas.

#### **4.1.5 Summary**

This section discussed the sociohistorical context in Washington DC's African American community. The changes over the past 120 years started with a stable African American population which grew to a 70% majority by the end of the Great Migration. Most recently, gentrification has forced some of DC's African American population into the Southeast quadrant and further into Maryland. This context sets up our analysis of change over time. Data from the end of the Great Migration as well as recent data from the time period typified by gentrification, allows for an important cultural understanding of the changes that are happening in the language.

Many of the new in-migrants in the second wave of the Great Migration to DC were working class and Southern born (Borchert 1980), which raises a question about the language varieties in DC and how the speakers of Southern varieties of AAL are interacting with the more well-established communities. Are there effects, such as increased dialectal variability in the area followed by dialect focusing that are typical of contact situations and new dialect formation (Britain 2018)? While I won't be able to directly address this last question based on the data available, I will return to this in the discussion. Next, I discuss linguistic work that has focused on word final /d/ in DC as well as more general research on sound change in the city.

## 4.2 Linguistic Work on Washington DC AAL

In this section, I outline some of the sociolinguistic work that has been done on DC AAL, specifically on word final /d/, as well as research on sound change. A comprehensive description of previous linguistic work in DC can be found in Farrington and Schilling (2019).

### 4.2.1 Word Final /d/ Variation in DC AAL

The linguistic situation of African Americans in DC was first described by Putnam and O’Hern (1955), in *The Status Significance of an Isolated Urban Dialect*, and word final /d/ is one of the linguistic patterns that the authors discuss. Putnam and O’Hern (1955) were focused on a group of African American residents of “Columbus Court”, a pseudonym for an alleyway in DC, that was described as isolated physically and culturally from other DC neighborhoods. Unfortunately, the actual geographic location of Columbus Court is not known (Joseph 2002). It is likely, based on demographics, that many residents were migrants themselves, or first-generation DC residents. Their analysis was based on several informal conversations, some of which were phonetically transcribed. In addition to some canonical features of AAL (e.g., habitual be, possessive they, etc.), there is some evidence for the devoicing and deletion of final /d/: “The voiced alveolar stop /d/, like its unvoiced counterpart /t/, is weakened in the dialect, primarily through omission. [...] The glottal stop as an allophone of /d/ was heard in *grandson* [græʔsən] and *glad* [glæ:ʔ]” (13). They later suggest that the glottal stop is an allophone of the stops /t, d, g/. As mentioned above, unfortunately, we don’t have information about the demographic profiles of individual speakers, but Putnam and

O'Hern (1955) provide nice evidence of the use of several phonological features that are rarely examined.

In the late 1960s, there was a wealth of research on AAL in DC due to the Urban Language Study and Material Development Project (ULS) at the Center for Applied Linguistics (CAL). Two dissertations of this era came out of the ULS project at CAL: Luelsdorff's (1970, 1975) dissertation *A Segmental Phonology of Black English*, and William Carroll's (1971) dissertation, *A Phonology of Washington Negro Speech*. Both Luelsdorff and Carroll each interviewed a single dialect informant to better understand the phonology of AAL. While not widely cited in sociolinguistics, Carroll and Luelsdorff provide evidence for the glottalization of word-final /d/. Carroll notes in a footnote that that "[?] at times replaces any syllable-final, non-labial stop [...] The realization of /t/, /d/, /k/ and /g/ as [?] is not frequent on the taped material, but impressionistically was more frequent in [the subject]'s speech outside the interview situation" (26). This stylistic difference suggests that the glottal stop, for this speaker, is a sociolinguistic marker.

In the late 1960s, Roger Shuy was hired as the new director of the ULS project, and he soon hired Ralph Fasold and Walt Wolfram (Fasold 2019). Following up on a large-scale study in Detroit, Fasold spearheaded the first study of DC AAL in the modern quantitative sociolinguistic (variationist) tradition. The resulting publication, Fasold (1972), is now considered one of the canonical studies of AAL. Fasold (1972) investigated the devoicing and deletion of word final /d/ in the context of past tense marking and found constraints that were quite similar to Wolfram's (1969) analysis in Detroit. For example, Fasold (1972) found that the following environment (e.g., consonant, vowel, pause) and grammatical function (e.g., past tense, past participle) are

the primary constraints on deletion of final /d/. Additionally, Fasold (1972) suggested that younger speakers in the study were increasing the use of nonstandard variants in apparent time, especially younger females in his analysis. Following this analysis, little work was done on the DC speech community until thirty years later. The lack of work on DC led Wolfram (1984) to suggest that DC is “in desperate need of extensive sociolinguistic study.”

The majority of the work in the past fifteen years on AAL in DC is part of the Language and Communication in the Washington DC Metropolitan Area Project (LCDC), led by Natalie Schilling, which answered Wolfram’s (1984) call for more work on sociolinguistic variation in DC. The LCDC project has a comprehensive focus on the DC community as a whole, collecting data from African American residents, as well as white speakers, and other ethnicities, including Latinx, Asian and African (e.g. Ethiopian) residents. Several Georgetown dissertations, journal publications, and conference presentations have utilized the LCDC data.

Grieser’s (2015) dissertation focused on differences between professional class (~middle class) and non-professional class speakers in DC. In her analysis of a measure of devoicing of final stops, Grieser found that older speakers are slightly less likely to exhibit devoicing compared to younger speakers, but that this interacts with professional class alignment. The professional class group shows higher rates of devoicing compared to the non-professional class group. Though this is likely a result of the aspirated [t] production of word final /d/, which Farrington (2012) found among middle class speakers in Raleigh, North Carolina, which he argued related to a kind of hypercorrection to differentiate word final /t/ from /d/. Grieser’s (2015) analysis also showed how interview



topic affected the rates of AAL feature usage over the course of a sociolinguistic interview.

#### **4.2.2 Sound Change in DC AAL**

As discussed in Chapter I, a lot of the early sociolinguistic work on AAL was not focused on change over time. Recent work out of the LCDC group more directly addresses change over time in DC. Recent vocalic work by Lee (2016, 2018a) using the LCDC dataset has shown different degrees of participation in AAL in MAE sound changes, such as the fronting of the high and mid back vowels as well as the low back vowel merger. Lee's (2016) analysis shows that European Americans in DC show greater degrees of fronting than African Americans for both /u/ and /o/. For /u/, Lee claims that AAL speakers are fronting, but at an earlier stage in the change, since post-coronal /u/ is fronting, but non-post-coronal /u/ is not. For /o/, the pattern among African Americans suggests fronting is a change in progress. For both vowel classes, Lee (2016) finds that African American males are leading the change, which surprisingly suggests that African American women are least involved in these changes. Additionally, African American speakers from the Southeast (SE) quadrant in DC, which includes some of the highest density African American neighborhoods in the city, show little evidence of /u/ fronting at all, but that men from SE are fronting /o/. More recently, Lee (2018a) showed that African Americans in DC are merging the low back vowels, /ɑ/ and /ɔ/, following the patterns in MAE varieties. The same speakers from SE DC resisted this vowel merger, resulting from little interaction with the surrounding white community compared to non-SE speakers. Both of these studies highlight the shifting norms of the speech community,

reflecting gentrification and resistance to mainstream vowel changes in the most segregated areas of the city.

With a broader focus, the LCDC work is well-suited to show how the speech community in DC is changing as a result of gentrification. These shifting demographics have perhaps made AAL in the city a split between SE residents and non-SE residents. Understanding language use through identity construction, class differences, and ethnicity has provided important evidence to the changes within the city.

The data in the current chapter come from the two DC components of CORAAL (Kendall & Farrington 2018a). Recently, Kendall and Farrington (2019) edited an issue of *American Speech* dedicated to a range of researchers using the same data, some of which address change over time in DC AAL. Forrest and Wolfram (2019) found that the variable (ING) exhibited a change over time within the community, including a shift in the general constraints on (ING) between the two DC components. Holliday (2019) analyzed question intonation and found that DCA exhibits more level tones across question type (discourse, open-ended, and yes-no), and that DCB exhibits higher rates of falling tones across question types. Finally, McLarty, Jones, and Hall (2019) show that r-lessness appears to be decreasing over time (DCB compared to DCA) and within each component, gender and social class affect the use of r-lessness. Such work, taken together, highlights how different AAL variables exhibit distinct patterns over time. Finally, in a vocalic analysis of DC AAL, Arnson and Farrington (2017) used a subset of speakers from both CORAAL:DCA and DCB. They found that the vowel system has changed from a more regionally based one, with features that are widespread among white speakers in the area, to one that is more influenced by the African American Vowel

Shift (Thomas 2007), but still exhibiting features that are not found in the Southeastern United States (e.g., pre-/r/ vowel centralization and a raised /ɔ/ vowel class).

### **4.2.3 Summary**

From the different vowel analyses presented in the previous section, it is clear that AAL changed over the twentieth century (Lee 2016, 2018a; Arnson & Farrington 2017). Word final /d/, on the other hand, while it has been discussed as a feature of AAL in DC since 1955, has never been framed in terms of sound change. Since it is geographically widespread in AAL, we can ask whether this variant developed as a feature of urban AAL (Wolfram 2004), which leads to questions of groups of speakers that lead in the use of new variants. For example, Labov (1990) suggests that working class younger women tend to be at the forefront of changes from below. If glottal /d/ is a change from below, do we find these patterns and how do they interact with demographic and cultural changes inside the community?

### **4.3 Research Questions**

The focus on sound change in AAL is a recent one, and word final /d/ has never been investigated from that perspective. The main analysis in Chapter IV (§4.7) investigates how word final /d/ has changed over time in DC over the twentieth century. In Chapter III, we saw that the glottal variant is geographically widespread and increased in usage over apparent time, potentially led by females. Here, I utilize the full CORAAL:DC corpus, allowing for an examination of change over apparent time as well as real time. With an additional ability to focus on social class and gender differences, we

can consider how this change is progressing through the African American community in DC.

In §4.8, I turn my focus to a case study of glottal stop replacement of word final /d/ in the CORAAL:DCA (1968) data. This time period, near the end of the Great Migration, but at the city's peak African American population, was a culturally significant time for the city. And from a dialect contact and formation perspective, is a unique point in time to view the ongoing development of urban AAL. For word final /d/, we have a feature that is a geographically widespread feature of AAL, and one that is increasing over the twentieth century. At this point in time (1968), do we find community level patterns that reflect a change from below? Are there linguistic or social factors that point to where this feature emerged from?

#### **4.4 Data**

The data in this analysis come from the two DC components of CORAAL, version 2018.10.06 (Kendall & Farrington 2018a). CORAAL:DCA (Kendall, Fasold et al. 2018), consists of interviews from Ralph Fasold's (1972) foundational study of AAL, *Tense Marking in Black English*. Recordings were made between 1968 and 1969, with speakers born between 1891 and 1958. As discussed above, 1968 is a culturally important time in DC. From a sociohistorical perspective, it was two years before the African American population reached its peak, and DC was seen as a center of African American culture (Asch & Musgrove 2017; McQuirter 2018). The recordings were also done during a tumultuous time, just two weeks after the recordings began, Dr. Martin Luther King, Jr. was assassinated, leading to four days of riots in April. In fact, on April 22<sup>nd</sup>, one of the

interviewers mentions the riots after hearing sirens going down the road. Speakers were selected from Fasold's interviews to represent four age groups and three social class groups, though because Fasold's interest was on teenagers and young adults, the oldest generations are not balanced for gender and class.

As discussed in Chapter III, CORAAL:DCB (Kendall, Quartey et al. 2018) consists of interviews collected primarily by Minnie Quartey for the corpus between 2015 and 2017. Collection was completed through a friend-of-a-friend network by Quartey and similarly selected to represent four age groups and three social class groups. As Kendall and Farrington (2018b) note, there are practical issues in comparing socioeconomic indices in the same community fifty years apart, but these class distinctions attempt to capture broad (and relative) class distinctions. Table 4.2 shows the speakers used in the current analysis by generation and corpus component.

Social generation, which refers to generational cohorts that share a similar cultural experience is used rather than age groups were used in CORAAL speaker selection. These social generations were not developed with the mechanisms of the Great Migration in mind, but they roughly align with the waves of the Great Migration. Additionally, the G.I. generation, representing people born between 1891 and 1931, could be several generations (e.g. the Lost Generation, Greatest Generation).<sup>22</sup> This single grouping of G.I. is based partially on low numbers of speakers born before 1931, as well as a similar social situation of coming of age in the era of the first wave of the Great Migration.

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<sup>22</sup> CORAAL corpus design included four generations in each of the two sub-components based on age at the time of interview. Social generation, which represents shared cultural experiences, was used rather than these age group designation (<19, 20 to 29, 30 to 50, and 51+).

Table 4.2 Distribution of speakers in CORAAL:DC analysis

Generation	CORAAL Component	Year of Birth	Class 1		Class 2		Class 3		Totals
			M	F	M	F	M	F	
G.I. Age 37-77	DCA	1891-1931	2	1	3	1	6	0	13
Silent Age 21-33	DCA	1935-1947	2	2	4	0	3	6	17
Baby Boomer Age 10-19	DCA	1949-1958	8	5	6	7	6	6	38
Baby Boomer <sup>23</sup> Age 54-67	DCB	1948-1961	2	1	1	3	2	2	11
Gen X Age 33-42	DCB	1966-1980	2	3	2	1	1	1	10
Gen. Y Age 23-33	DCB	1981-1992	4	3	3	3	0	1	12
Gen. Z Age 12-21	DCB	1996-2005	4	3	1	1	1	2	12

#### 4.5 Coding

The coding procedures in this chapter are the same as the ones followed in Chapter III. Every token of post-vocalic word final /d/ was coded for analysis. A breakdown of the DC word final /d/ realizations is listed in Table 4.3 by generation and CORAAL component.

#### 4.6 Statistical Approach and Independent Variables

The coding procedure resulted in a total of 17782 tokens, with 580 unique word types. Two logistic regression models were considered for the analysis. Similar to Chapter III, I focus on the *realized* tokens in the first model, comparing glottal to non-glottal, and then focus on /d/ deletion in the second, comparing deleted tokens to realized

<sup>23</sup> Because of the difference in the recording year as well as the age of speakers at the time of the recording, the Baby Boomers, who are recorded in both DCA and DCB are kept separate here.

ones. A series of linguistic (internal) and social (external) factors were considered in constructing logistic regression models. External factors include fixed effects for year of birth, social class, gender, and age, while internal factors include syllable stress, word frequency, speech rate, number of syllables in a lexical item, following segment type, and word type. In this section, I describe each predictor included, and how it was coded for regression analysis.

*Table 4.3 Word final /d/ realization by generation component*

<b>Generation Component</b>	<b>Realization</b>				<b>Totals</b>
	<b>Glottal (%)</b>	<b>Reinforced (%)</b>	<b>Coronal (%)</b>	<b>Zero Coda (%)</b>	
G.I. DCA	42 (2.7%)	17 (1.1%)	1346 (87.2%)	138 (8.9%)	1543
Silent DCA	141 (5.9%)	74 (3.1%)	1948 (81.1%)	239 (9.9%)	2402
Baby Boomer DCA	386 (11.2%)	99 (2.9%)	2351 (68.1%)	615 (17.8%)	3451
Baby Boomer DCB	306 (9.6%)	76 (2.4%)	2349 (73.9%)	446 (14.0%)	3177
Gen X DCB	355 (17.3%)	55 (2.7%)	1163 (56.6%)	482 (23.5%)	2055
Gen Y DCB	436 (13.2%)	65 (2.0%)	2137 (64.5%)	677 (20.4%)	3315
Gen Z DCB	385 (20.9%)	50 (2.7%)	1011 (55.0%)	393 (21.4%)	1839
<b>Totals</b>	<b>2051 (11.5%)</b>	<b>436 (2.5%)</b>	<b>12305 (69.2%)</b>	<b>2990 (16.8%)</b>	<b>17782</b>

For model fitting, continuous predictors (word frequency, speech rate, number of syllables in word, year of birth) were centered and scaled by dividing by two standard deviations. Two-level factors (gender, stress) were scaled and centered at 0, while predictors with three or more levels were coded with a simple contrast. The rescale

function in the *arm* package (Gelman 2008) was used for centering and scaling predictors.

A random effects structure was implemented in the analysis. Models were fit with a random-effects structure that converged, without random-effect correlations. For both the glottal model and the deleted model, there is a by-word random intercept and random slope for Year of Birth; by-speaker random intercept and random slopes for speech rate, stress, and the two following segment contrasts. Post-hoc comparisons were carried out using the *emmeans* package in R (Lenth 2018).

#### **4.6.1 Social (External) Predictors**

*Year of Birth.* In this chapter focusing on change over time, the crucial factor of importance is Year of Birth. DCA speakers have years of birth ranging from 1891 to 1958 and DCB speakers range from 1947 to 2005. Year of birth was centered around the mean year of birth in the corpus (1963) and scaled to test for interactions (Sonderegger et al. 2018).

*Social Class.* Social class has three levels (Class 1, Class 2, and Class 3), which range from lower working class to upper middle class. For changes from below, working class speakers have been shown to lead in the use of the incoming variant (Eckert 1990; Labov 1990). Class is treated as an ordinal factor, which has two contrasts, one which tests whether there is a linear effect (e.g.  $1 < 2 < 3$ ) and a second which tests a quadratic effect (e.g.,  $1 < 2 > 3$ ).



*Gender.* Gender is again treated as a binary fixed effect. In changes from below, females are expected to lead in the use of the incoming variant (Eckert 1990; Labov 1990).

Previous work on word final /d/ in Detroit showed that females exhibit higher rates of glottal stop replacement (Wolfram 1969; Nguyen 2006). Gender is centered and scaled for analysis.

*Age.* Age, a numeric factor, was centered and scaled for analysis. Year of birth is the time variable of primary interest, but this analysis uses recordings at two time points, so speaker age at the time of the interview is included to control for this, and the two factors are not perfectly collinear. There are forty-eight speakers born between 1948 and 1958, thirty-eight from DCA and ten from DCB.

#### **4.6.2 Linguistic (Internal) Predictors**

Several linguistic (internal) factors were included in model selection as main effects, then tested an interaction with year of birth, to better understand if the internal factors change over time for both the glottal and deleted analyses.

*Syllable Stress.* Previous work on this feature indicates that the glottal variant is favored in unstressed compared to stressed syllables. In Chapter III, syllable stress was not significant as a main effect for the glottal analysis, but interacted with community, with Princeville exhibiting glottal /d/ in unstressed position at higher rates. Syllable stress is centered and scaled for the analysis.

*Word Frequency.* The same word frequency values were included in the current analysis as Chapter III. Previous work has showed lexical frequency to affect rates of deletion in consonant clusters (Jurafsky et al. 2001; Bybee 2002) as well as effects on duration (Gahl 2008). Lexical frequency is calculated from the SUBTLEXus corpus (Brysbaert & New 2009), specifically the logarithmically transformed measure (Lg10WF). This value is based on the log10 frequency per million words. Several lexical items not found in the SUBTLEXus corpus were given a value of 1 for inclusion in the analysis, following Forrest (2017). Log word frequency is centered and scaled for the analysis.

*Speech Rate.* Speech rate was calculated automatically as *vowels per second* within the seven-word Praat window presented through the hand coder script. The log transformed speech rate value is centered and scaled for the analysis.

*Number of Syllables in Lexical Item.* Number of syllables within each word was calculated using an R script (Kendall 2013), with values ranging from 1 to 5, and was centered and scaled for analysis.

*Following Segment.* Following Chapter III, following segment is coded into three categories, following consonant, pause, and vowel. Pre-pausal glottal stop replacement and pre-consonantal deletion of word-final /d/ were the two primary findings, which align with Wolfram (1969) in Detroit. Following segment was contrast coded with a simple coding contrast. The reference level here is *consonant*, with the first contrast being the

difference between consonant and pause, and the second contrast being the difference between consonant and vowel, compared to the mean of all levels combined.

*Word Type.* Word types were coded in the same way as Chapter III with four categories: Monomorphemic words, Past tense irregular verbs, and the two -ed categories: stem ending with a consonant (stem\_Ced) and stem ending with a vowel (stem\_Ved). A simple contrast was used, with monomorphemic words being the reference level.

#### **4.7 Analysis – Word Final /d/ in Twentieth Century DC**

This section addresses the question of change over time in DC for both the glottal variant as well as deletion. In Chapter III, there is an increase of the glottal variant over apparent time across the regional speech communities, which included DC, but only a subset of the speakers.

Like the previous chapter, we begin our analysis simply by looking at the overall distribution of word-final /d/ realizations, with bar plots organized by Generation and Component (Figure 4.3). Once again, the coronal realization makes up the majority of the data, but there are two trends of note: the increase in the glottal realization and the increase in the deleted realization.

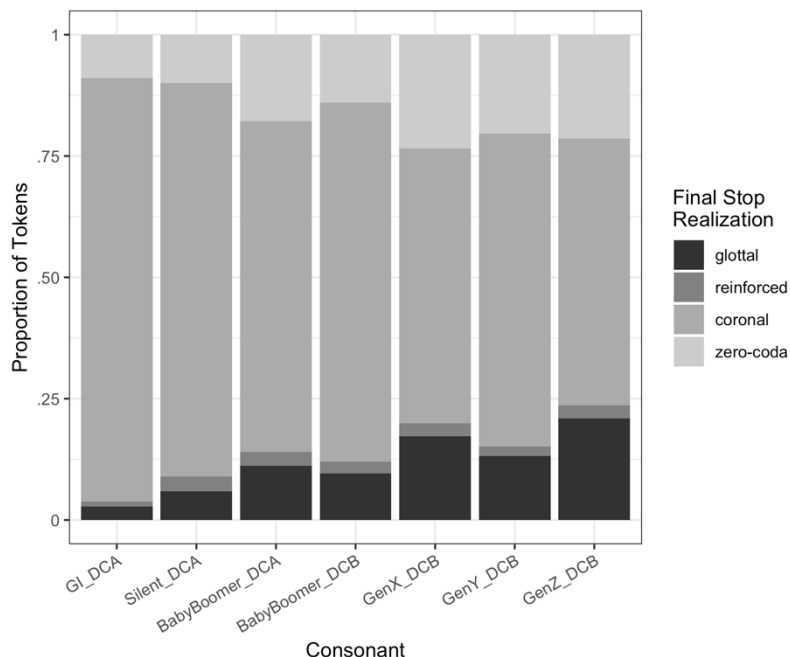


Figure 4.3 Proportion of /d/ realizations by Generation and CORAAL Component

To evaluate these differences statistically, logistic mixed-effects regression models were constructed for consonant realization for the 115 speakers in the study using the *lme4* package (Bates et al. 2015) in R. The two models were constructed in the same way as Chapter III: The *glottal* model compares the glottal stop tokens to the coronal and reinforced tokens, and the *absent* model compares the zero coda tokens to realized tokens. Model selection for each analysis began with main effects and the random effects structure. Interactions were first tested between year of birth and the other fixed effects one at a time, with model comparisons using the analysis of variance function in R. Interactions were included if they significantly improved the model fit ( $p < 0.05$ ).

### 4.7.1 Glottal Model: Change Over Time in DC

The best-fit model for glottalization included significant main effects for year of birth, social class, following segment, word syllable length, and syllable stress. The summary of the regression model is included in Table 4.4.

To illustrate these results, the following figures show the predicted probabilities of glottal /d/ based on the model summarized in Table 4.4. The interactions between factors with year of birth are illustrated to show how factors are changing over apparent time in DC. As a main effect, Figure 4.4<sup>24</sup> shows the model prediction for the probability of the glottal variant over time. The confidence intervals for the youngest generations show that there is quite a bit of variability across speaker groups. At the same time, the confidence intervals for the predictions for the earliest generations are tight because the glottal use is minimal.

The increase in the glottal variant in the synchronic data of Chapter III begins with some glottalization in the oldest speakers, but those speakers, in DC, were born in the early 1950s. Here, with a further look back in time, the research shows that for speakers born around the turn of the twentieth century, the glottal /d/ variant is nearly non-existent overall.

Additionally, with the significant interactions between following segment and word type, we get a better sense of where the glottal variant is increasing. For following segment (Figure 4.5), the significant interaction is between year of birth and contrast two, which is following consonant compared to pauses. There is a significant increase in the pre-pausal glottal stop replacement of /d/ compared to preceding consonant. The

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<sup>24</sup> Figures in this chapter show main effect and interactions predictions from the best fit model using the `plot_model` function in the `sjPlot` package in R (Lüdtke 2018).

difference in the second contrast (consonant and vowel) is nearly significant in the same direction, as can be seen in the figure.

Table 4.4 Summary of best mixed-effects regression model: Glottal vs Coronal

Overall percentage glottal: 13.7% (n=14792)

**Random effects:**

- Word (intercept) (SD = 0.48)
- YOB (Slope) (SD=0.19)
- Speaker (intercept) (SD = 0.82)
- Speech Rate (Slope) (SD = 0.28)
- Stress (Slope) (SD = 0.65)
- Following Segment, Contrast 1 (Slope) (SD = 1.14)
- Following Segment, Contrast 2 (Slope) (SD = 0.44)

Predictors		Estimates (SE)
(Intercept)		-2.38*** (.14)
Year of Birth		1.66*** (.23)
Age		-0.01 (.21)
Gender	(vs. Female)	
	Male	-0.32(.) (.18)
Social Class	Linear	-0.68*** (.16)
	Quadratic	-0.04 (.15)
Following Segment	(vs. Consonant)	
	Contrast 1 (Pause)	1.95*** (.14)
	Contrast 2 (Vowel)	-0.47*** (.11)
Word Type	(vs. monomorphemic)	
	Contrast 1 (Irregular)	-0.40 (.27)
	Contrast 2 (C-ed)	-0.39 (.28)
	Contrast 3 (V-ed)	-0.17 (.19)
Speech Rate		-0.09 (.07)
Word Frequency		-0.21(.) (.12)
Word Syllable Length		0.31** (.12)
Syllable Stress	(vs. Stress)	
	Unstressed	0.67* (.27)
<b>Interactions</b>		
Year of Birth : Age		0.99* (.44)
Year of Birth : Fol.Seg.Con.1 (Pause)		0.50(.) (.29)
Year of Birth : Fol.Seg.Con.2 (Vowel)		1.24*** (.23)
Year of Birth : WordType.Con.1 (Irregular)		-0.42* (.22)
Year of Birth : WordType.Con.2 (C-ed)		-0.02 (.46)
Year of Birth : WordType.Con.3 (V-ed)		-0.03 (.29)
Year of Birth : Syllable Stress		-0.82(.) (.47)

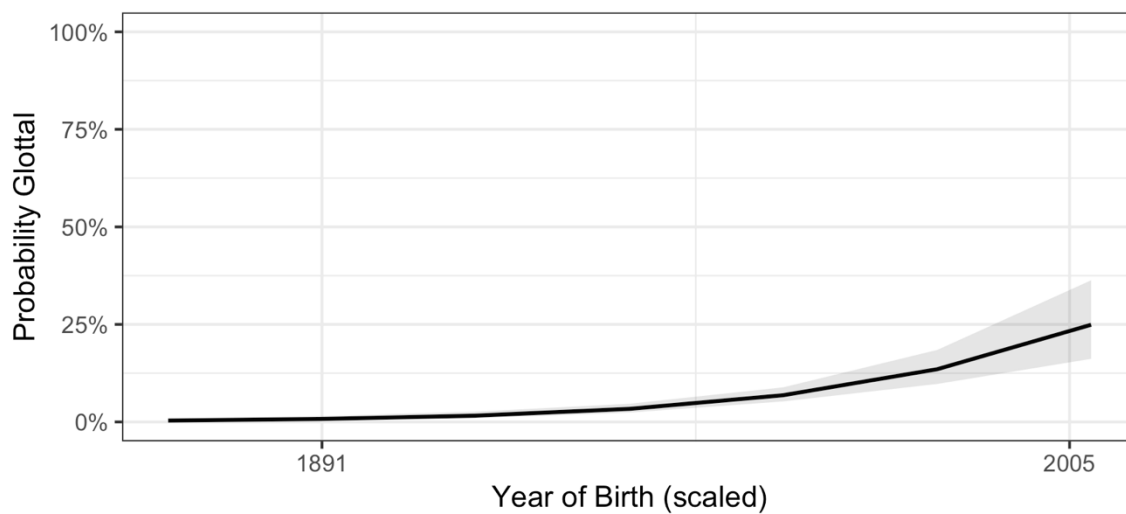


Figure 4.4 Predicted probabilities of glottal variant by year of birth

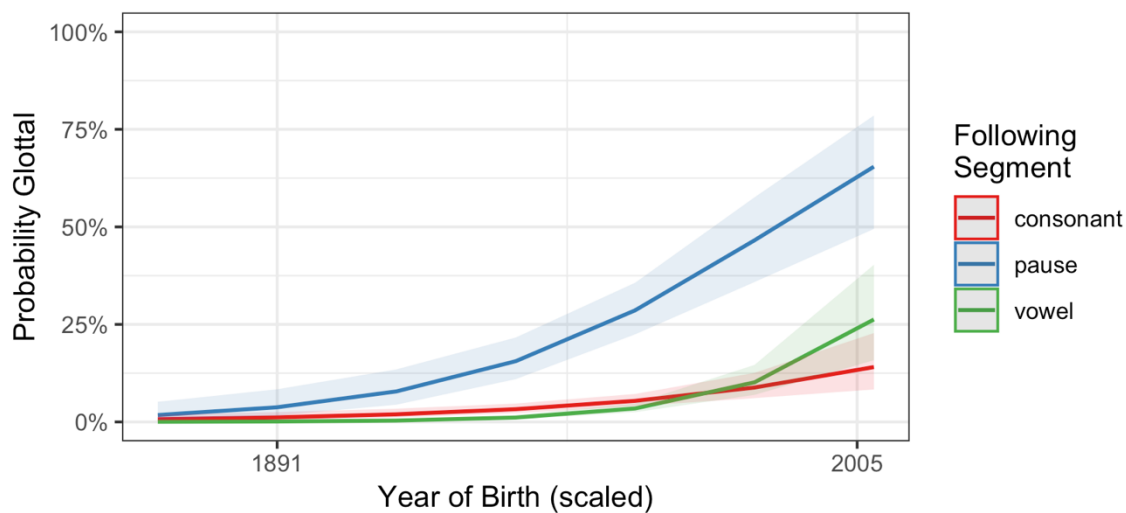


Figure 4.5 Predicted probabilities of glottal /d/ by year of birth and following segment

Year of birth by word type shows a more overlapping distribution in the probabilities of glottal stop replacement of /d/ over time (Figure 4.6). The one significant

effect is the first contrast by word type, which is the difference between monomorphemic words (reference) and irregular verbs. On the plot, the increase in glottal variants of monomorphemic words is greater than the irregular verb category.

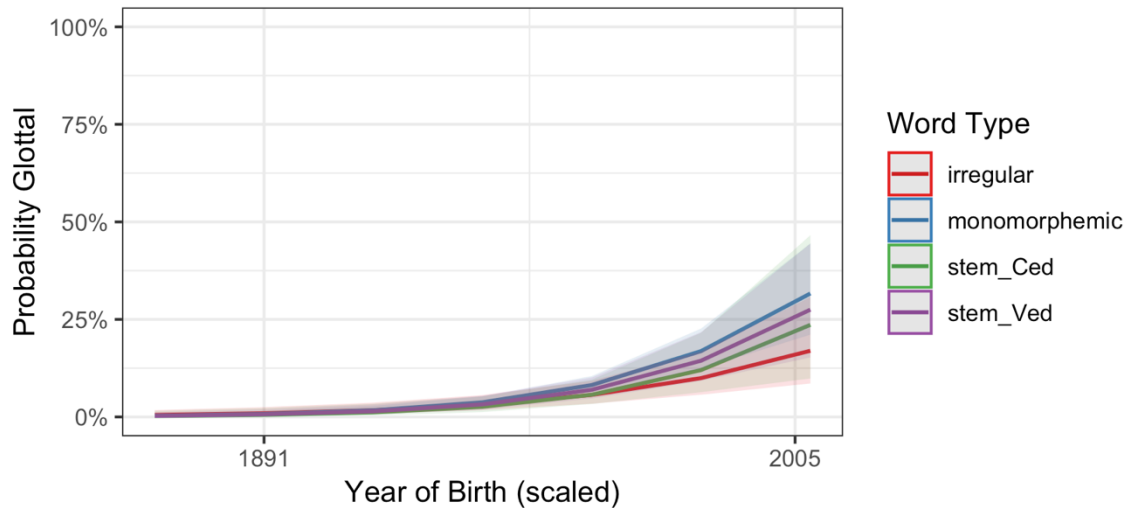
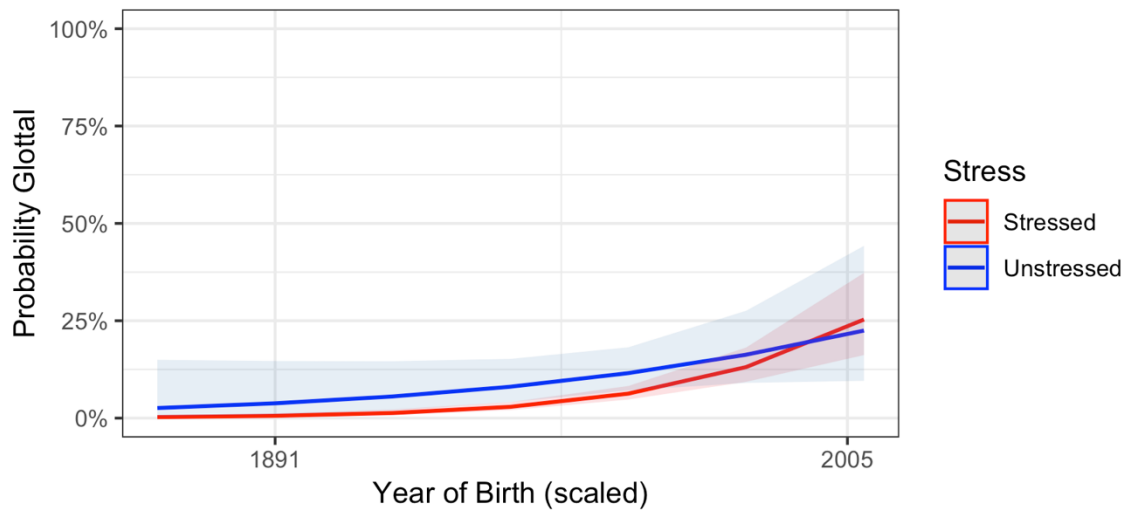


Figure 4.6 Predicted probabilities of glottal /d/ by year of birth and word type

To briefly summarize, as glottal stops increased over time in DC, monomorphemic words in pre-pausal position were the primary linguistic environments where this happened.

The interaction of stress and year of birth approaches significance (Figure 4.7), and here, while both stressed and unstressed environments increase over time, the unstressed syllables lead the way for much of the century and the stressed syllables glottal /d/ overlaps. Recall from Chapter III that there was not a significant main effect for stress in the synchronic data.





*Figure 4.7 Probability of glottal /d/ by year of birth and syllable stress*

We will return to the potential role of stress in the spread of the glottal variant in DC below when we focus on the DCA data recorded in 1968.

There is an interaction between age and year of birth. Figure 4.8 shows this interaction. Note the y-axis represents age at the time of the interview. As discussed above, age was included as a way to control for CORAAL component differences. This is driven by the fact that the youngest DCB speakers (born after 1986) show the highest rates of glottalization.

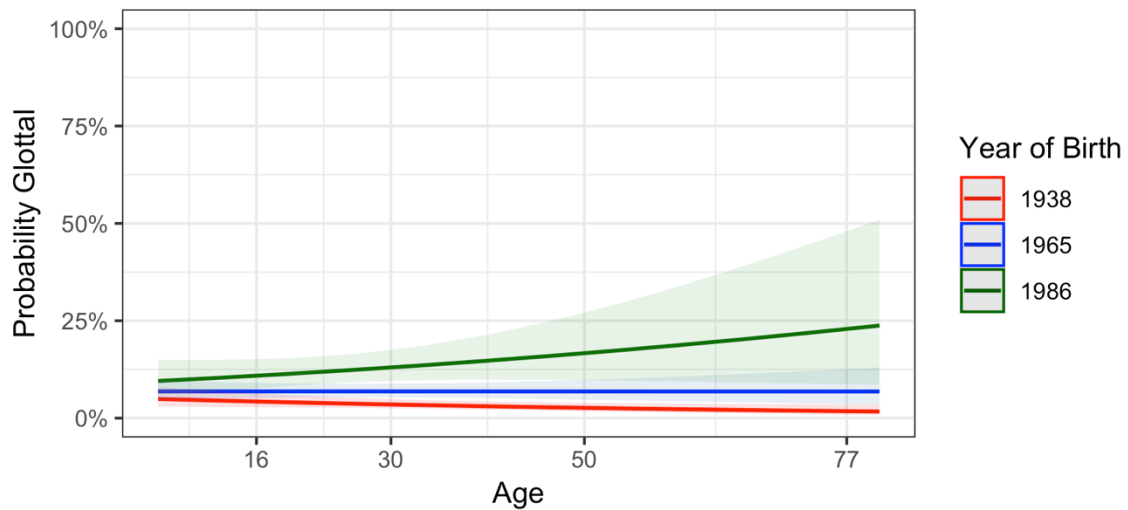


Figure 4.8 Probability of glottal /d/ by age and year of birth

There is a main effect for the linear contrast for social class, such that probability rates are highest for class 1 and lowest for class 3. As mentioned above, for changes from below, we might expect working class females to be leading in this change. Figure 4.9 shows the predicted probabilities for class and gender plotted by year of birth. Overall, there is an increase in the use of glottal over time, with class 1 showing the highest rates for young speakers, and across the classes, the trend is of females leading males, but this is not significant. The social class differences suggest that in DC this is a change from below.

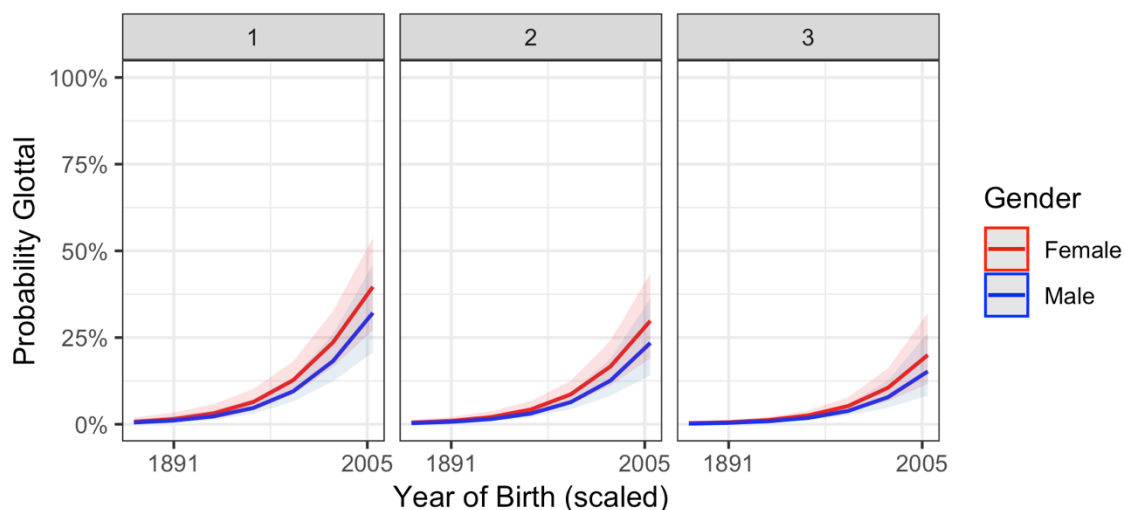
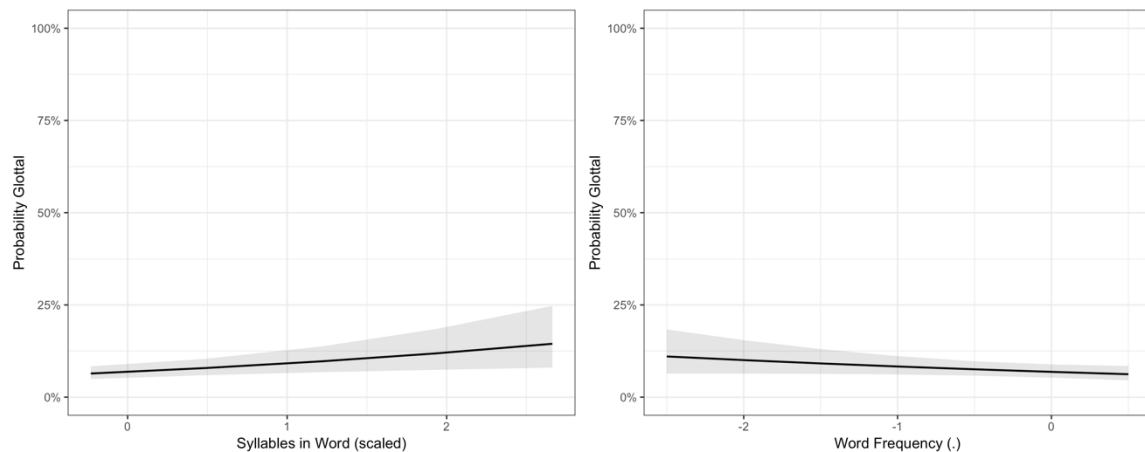


Figure 4.9 Probability of glottal /d/ by gender, social class and year of birth

As far as other main effects, an increase in the number of syllables increases the probability of glottal /d/ (Figure 4.10), this effect is related to both word type as well as stress. Word frequency is nearly a significant main effect, but the direction of the negative effect shows that more frequent words are less likely to be glottal compared to less frequent words, which suggests an analogical change rather than reduction according to Bybee (2002).

Within the category of realized /d/ tokens, words like *had*, *would*, and *did* are more likely to be realized with the coronal variant of /d/ as opposed to the glottal variant. As we will see below, there is a positive (near-significant) effect for /d/ deletion with word frequency.



*Figure 4.10 Probability of glottal /d/ for number of syllables in word (left) and word frequency (right)*

In the following section, we shift to focus on the deleted model focusing on change over time. Unlike glottal stop replacement of word final /d/ in DC AAL, there is no reason to believe that deletion is increasing over apparent time, based on the results from Chapter III. However, the bar plot at the beginning of this section (Figure 4.2), organized by generation and corpus component, suggests a potential increase in deleted variants of /d/ over time.

#### **4.7.2 Deleted Model: Change Over Time in DC**

Next, we look at change over time in DC with the deleted variant of /d/. In Chapter III, there were significant main effects for community, following segment, word type and speech rate, as well as an interaction between community and following segment. Since deletion of final consonants has also been associated with AAL (e.g. Wolfram 1969; Thomas & Bailey 2015), this analysis of change in DC complements the

work on the glottal variant by exploring how deletion rates fit into the development of DC AAL.

The best-fit model for DC deletion is summarized in Table 4.5. The model includes significant main effects for age, social class, following segment, word type, speech rate, and syllable stress, as well as interactions between year of birth and following segment and word type.

The predicted probability plots for deletion for the best fit model are provided below. Before getting into the significant effects, year of birth as a main effect, though not significant, shows that there is a consistent amount of deletion over time. Figure 4.11 plots a significant main effect, social class, by year of birth. There is a significant linear contrast for social class, with the probability of deletion being highest in Class 1 and lowest in Class 3.

This linear effect for class was also found for the glottal variant of /d/ suggesting that there is more variation within the variable word final /d/ in the working class group, whereas the middle class group (Class 3) uses higher rates of the [d] variant. Wolfram and Johnson (1981) suggest higher rates of nonstandard variants, like glottal and zero coda for /d/, are expected of working class varieties of AAL.

The internal effects that were found to interact between year of birth and glottal /d/, are also significant for deleted /d/. This is somewhat surprising given the fact that year of birth, as a main effect, isn't significant. For following segment (Figure 4.12), there is an increase in the probability for pre-pausal deletion over time. In Chapter III, there was a main effect for the distinction between pre-consonantal deletion compared to

pre-pausal and pre-vocalic, but this appears to be a change that developed over the twentieth century in DC.

*Table 4.5 Summary of best mixed-effects regression model: Absent vs Present*

*Overall percentage absent: 16.8% (n=17782)*

**Random effects:**

- Word (intercept) (SD = 0.59)
- Speaker (intercept) (SD = 0.68)
- Speech Rate (Slope) (SD = 0.23)
- Stress (Slope) (SD = 0.36)
- Following Segment, Contrast 1 (Slope) (SD = 0.87)
- Following Segment, Contrast 2 (Slope) (SD = 0.56)

<b>Predictors</b>		<b>Estimates (SE)</b>
(Intercept)		-2.80*** (0.14)
Year of Birth		-0.21 (0.18)
Age		-0.53*** (0.16)
Gender	(vs. Female)	
	Male	0.12 (0.16)
Social Class	Linear	-0.97*** (0.13)
	Quadratic	0.05 (0.13)
Following Segment	(vs. Consonant)	
	Contrast.1 (Pause)	-1.76*** (0.13)
	Contrast.2 (Vowel)	-1.92*** (0.10)
Word Type	(vs. monomorphemic)	
	Contrast.1 (Irregular)	-0.28 (0.30)
	Contrast.2 (C-ed)	0.15 (0.32)
	Contrast.3 (V-ed)	-0.53** (0.20)
Speech Rate		0.22*** (0.06)
Word Frequency		0.03 (0.13)
Word Syllable Length		0.41*** (0.12)
Syllable Stress	(vs. stress)	
	Unstressed	-0.24 (0.30)
<b>Interactions</b>		
Age : Gender		0.86** (0.31)
Age : Speech Rate		0.35** (0.12)
Year of Birth : Fol.Seg.Con.1 (Pause)		-0.91*** (0.25)
Year of Birth : Fol.Seg.Con.2 (Vowel)		-0.31 (0.20)
Year of Birth : WordType.Con.1 (Irregular)		-0.48*** (0.12)
Year of Birth : WordType.Con.2 (C-ed)		-1.07*** (0.17)
Year of Birth : WordType.Con.3 (V-ed)		-0.28 (0.25)

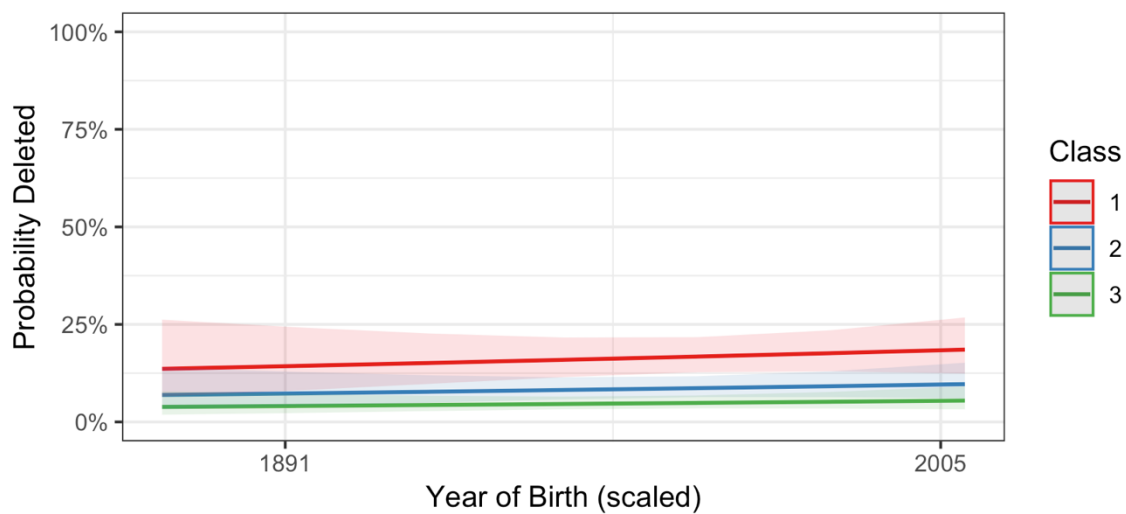


Figure 4.11 Predicted probabilities of deleted /d/ by year of birth and social class

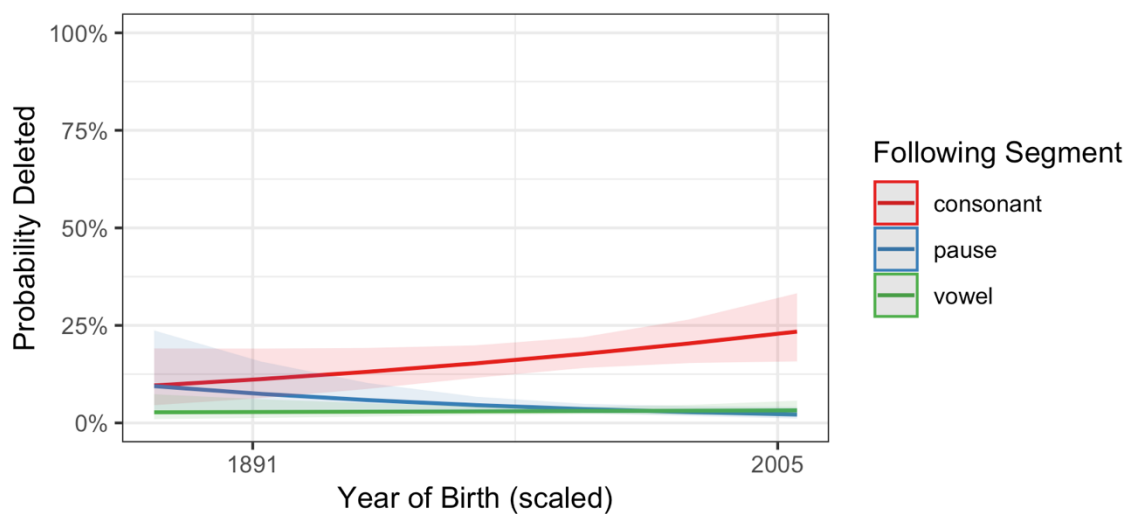


Figure 4.12 Probabilities of deleted /d/ by year of birth and following segment

With the reference level in the following segment contrast being consonant, both contrasts (consonant and pause, consonant and vowel) are significant.

The significant interactions for word type (Figure 4.13) are contrast 1 (monomorphemic compared to irregular) and contrast 2 (monomorphemic compared to stem\_Ced). As a main effect, though, stem\_Ved shows significantly less deletion compared to monomorphemes. This pattern was found in Chapter III across the communities and was predicted to be the primary distinction because /d/ deletion on such words would cause homophony between the form with the -ed and the stem.

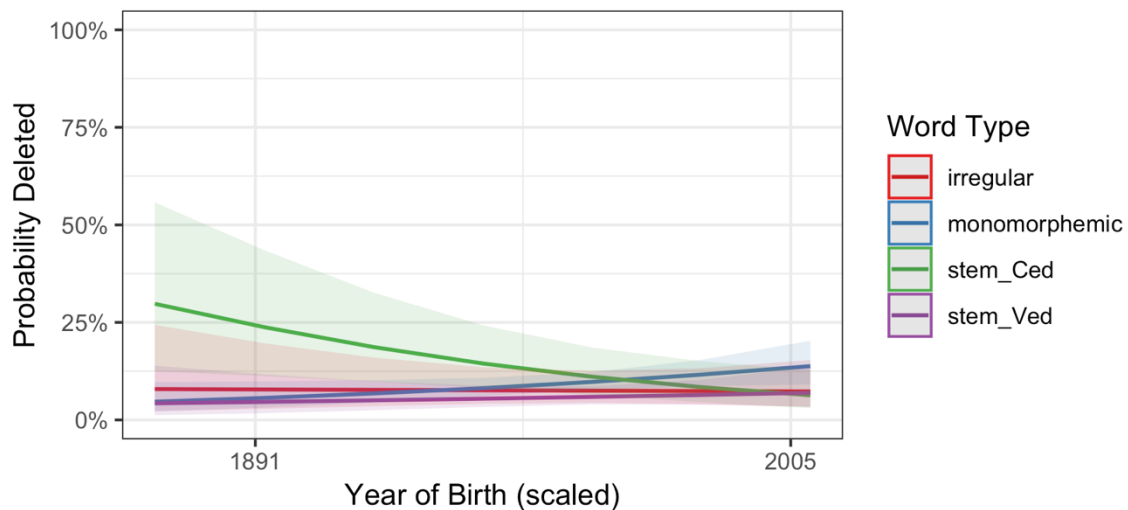


Figure 4.13 Probability of deleted /d/ by word type (main effect) and year of birth and word type

There are both main effects (Figure 4.14, left) for age as well as an interaction with gender. Age, once again, is used as a way to control for differences across the two corpus components, recorded fifty years apart. Here, we see that younger speakers are more likely to delete /d/ compared to older speakers. This is an effect apparent across both time periods, and it does not interact with year of birth. This difference between older and younger speakers in both DCA and DCB could reflect an age graded pattern,



where deletion is more common in adolescence. Such findings have been shown in apparent time (Wolfram 1969) and in real time (longitudinal) studies (Van Hofwegen & Wolfram 2010).

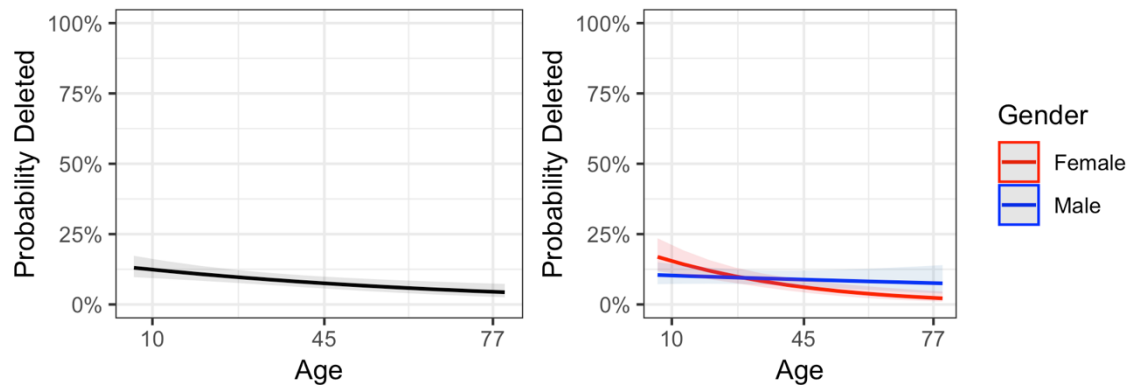


Figure 4.14 Probability of deleted /d/ by age (main effect, left), and interaction between age and gender (right)

The interaction between age and gender shows that young females delete /d/ at the highest rates and oldest females delete the least, while males are relatively stable over time. Once again, this effect for younger females deleting most is apparent across both time periods, and does not interact with year of birth, which suggests deletion could be an age graded phenomenon in DC.

Similarly, age also interacts with speech rate (Figure 4.15). While there is a main effect for speech rate, with rates of deletion increasing with a higher rate of speech, the effect is somewhat muted for younger speakers who delete at higher rates even in slower rates of speech. To plot this effect, age (a continuous factor) was split into three groups, which align to under 30, 30 to 50 and 51+. This kind of age effect was apparent to Fasold (1972). In his analysis of tense marking, using the same data source, there is a brief

section on /d/ deletion with regard to past tense morphology, and Fasold (1972:215) noted that “women and girls deleted final [d] after a vowel nearly twice as often as did men and boys.” This effect is still apparent in the younger speakers recorded in 2015.

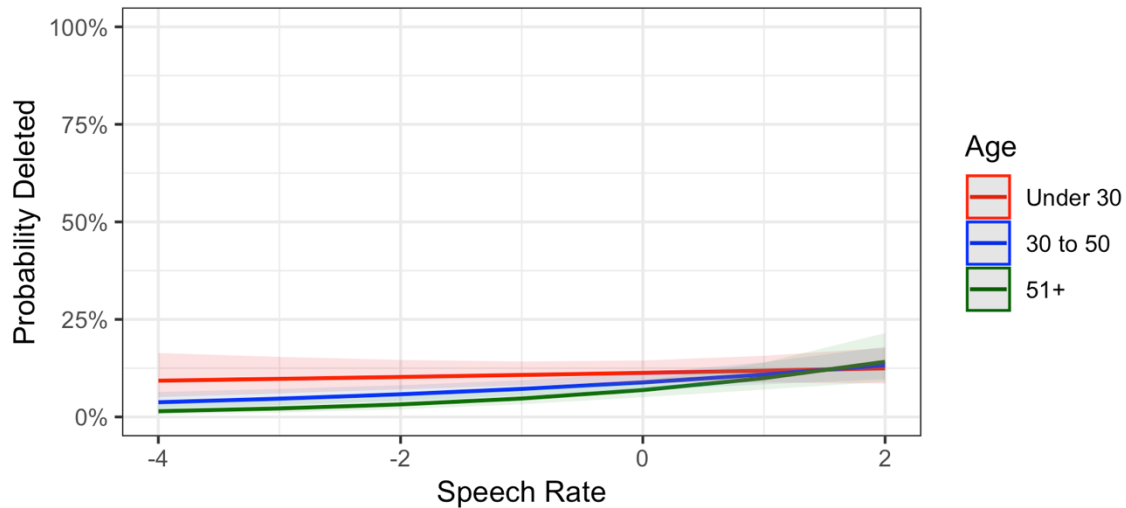


Figure 4.15 Probability of deleted /d/ by age group and speech rate

There is also a main effect for the number of syllables in the word (Figure 4.16). As the number of syllables in the word increases, the rate of deletion also increases.

Overall, several expected linguistic effects relating to deletion are present in the data, including speech rate, word type, following segment, and number of syllables, with no effect of word frequency. The word frequency is somewhat surprising given that previous work on consonant cluster reduction, a phonological process also involving the deletion of word final /d/, has shown frequency effects (Bybee 2002). One possibility could reflect the fact that frequency is less salient for deletion over time. A second methodological issue could help to explain the difference. That is use of Subtlex’s word frequency on (1) a corpus of conversational AAL and (2) conversational speech recorded

in 1968. Overall frequency rates might not change drastically, but as CORAAL grows, the incorporation of corpus-internal frequency measures could alleviate these potential issues.



*Figure 4.16 Probability of deleted /d/ by number of syllables in word.*

There is an increase in the probability of deletion before a following consonant over apparent time. While this merits further investigation, this higher rate of deletion before consonants might relate to other related elision processes in AAL, such as consonant cluster reduction across word boundaries (Farrington 2018a). In addition to the linguistic effects, social class and age are important factors contributing to rates of deleted /d/ in DC AAL. While there is not a main effect for gender, it does interact with age, such that females show higher rates of deletion compared to males, when they are young, and lower rates compared to males among the oldest speakers in each time point.

### **4.7.3 Summary of Results**

Word final /d/ in Washington DC changed over the course of the twentieth century. The glottal variant of /d/, which is now geographically widespread in AAL, came into DC after the turn of the twentieth century. This change was most common in the pre-pausal environment in monomorphemic words. The change was led, and continues to be led, by the working class speakers in DC.

The deleted variant of /d/ exhibits an increase in pre-consonantal deletion over time, but overall rates, seen in the main effect, are not changing because pre-vocalic and pre-pausal deletion decrease over time. Pre-consonantal deletion is the primary environment for deletion in the modern AAL recordings analyzed in Chapter III. Additionally, there are effects for speaker age showing that there are consistent effects across points in time, and younger speakers who delete at higher rates might be related to age grading.

The results for glottal stop replacement of word final /d/ show that it is an incoming variant in DC AAL. In the next section, I focus on the data collected in the late-1960s (CORAAAL:DCA) to explore how the glottal variant was progressing through the community at that specific point in time, which was when the African American population in DC peaked.

## **4.8 DC in 1968**

This section is a case study focusing on the CORAAAL:DCA data from 1968. Like the previous analysis, I investigate interactions between year of birth and other factors to explore change over time. However, by focusing only on the DCA data, we can get a

better sense of the changes occurring within the community at this pivotal time in DC's history. The real time changes in DC between 1968 and 2015, the years of DCA and DCB recordings, are reflected in the speech community. I will return to this point in Chapter V, but going forward, real time studies in sociolinguistics should not only treat different recording years as separate (e.g. recordings were done at different points in time), but also to potentially view the changes in light of the sociohistorical differences in the speech communities that happen to share a geographic location. This apparent time analysis of DC in 1968 can thus provide insight into the social dynamics of the Great Migration period, when the intensification of urban AAL in DC was becoming clearer.

Even during the DCA recording time period, we can consider the relative differences between the social conditions of the speakers born in the early 1900s compared to the speakers born between 1948 and 1958 (the Baby Boomer generation represented in DCA). For example, the oldest generation in the dataset, the G.I. generation, are individuals who grew up in the pre- or early days of the Great Migration. The Silent generation (born after 1931) grew up in the midst of the massive population shift in the second wave of the Great Migration, and the Baby Boomers, born between 1948 and 1958, were coming of age in the African American majority in DC after 1957. The linguistic consequences of such differences should also affect how we view apparent time changes within the speech community in 1968. Changes at the level of the linguistic variable could reflect processes internal to the speech community or external processes as a result of the population changes.

The glottal model that is summarized above (§4.7.1) shows the overarching differences in Washington DC over the course of the twentieth century and illustrated the

increasing usage of the glottal variant of word-final /d/ over time. In this section, I explore the DCA data in particular. The DCA interviews, recorded in 1968 and 1969, give us a unique glimpse into DC AAL at a point in time when the African American population was nearing its peak. Demographically, in the 1970 census, of the total Black population (537,700), 531,600 were U.S. natives. Of that native-born population, 182,000 (34.2%) were born in a different state, and 89% (161,800) of those individuals were born in the South.

In CORAAL:DCA, each participant listed parental birthplaces on an interview report form provided by Ralph Fasold. While we don't have information for two parents for every participant, of the 122 known parental birthplaces for the sixty-eight speakers in CORAAL:DCA, 55.7% are from the Southeast (including Virginia, Maryland, North Carolina, South Carolina and Georgia), while 32.8% were born in DC. Table 4.6 summarizes parental birthplace for each generation by whether the parent was born in DC, the Southeast (including Virginia, Maryland, North Carolina, South Carolina, and Georgia), or other (the majority of this category included the states in the Deep South, like Mississippi, Alabama, and Tennessee, while one speaker's parents were from New York). The major difference between the generations is the number of DC-born parents between the GI generation and the later ones. This trend reflects the overall population trends in DC in the early to mid-twentieth century.

*Table 4.6 DCA Parental Birthplace by Generation*

Generation	Parental Birthplace			Total
	DC	Southeast	Other	
GI	5 (20.8%),	15 (62.5%)	4 (16.7)	24
Silent	11 (34.4%)	18 (56.3%)	3 (9.4%)	32
Baby Boomer	24 (36.4%)	35 (53.0%)	7 (10.6%)	66

In addition to in-migration from the Southeast to DC being one of the major streams of in-migration during the Great Migration, the DC to Maryland interstate migration stream between 1965 and 1970 was the highest interstate stream in the United States for that period of time (Long 1988:151). This migration was largely from DC to adjacent parts of Maryland (e.g. Prince George's County), thus potentially expanding the DC AAL dialect area: "Black migrants from Washington DC to Maryland were divided among persons born in DC (48 percent) and persons making repeat moves (neither moving from nor to their state of birth); 41 percent of blacks moving from DC to Maryland were born in neither area and many probably were earlier migrants from southern states who were suburbanizing just as whites were" (Long 1988:154). This passage illustrates the fact that these changes to the DC population did involve different dialects, mainly from the Southeast, and not just people moving around within the DC area. Even within the major source states like Virginia, North Carolina, and Georgia, there is a large amount of dialectal variation, particularly at the phonological level (Wolfram & Kohn 2015). As the population increased, intra-ethnic dialect contact also increased. While there was clearly a large and growing African American population in the city, of native DC residents as well as in-migrants from the Southeast, the area's African American population was spreading into adjacent parts of Maryland, which was also seeing new residents directly from the Southeast as well (Long 1988).

While all the speakers in the current analysis were born in DC, this view allows us to investigate several related questions. The first concerns change from below. Throughout this dissertation, I have mentioned that the glottal variant of word final /d/

exhibits similarities to other changes from below. Here, I will specifically look at the role of class and gender in the spread of this feature, as the population was in the process of stabilizing. The next question steps back to explore how this feature spread into DC. In Chapter III, we saw that the glottal variant in rural Princeville was used at higher rates in unstressed syllables. I argued that this change to a glottal /d/ might have started in unstressed syllables, which is common in several American English dialects, and spread to the stressed syllable. This then became the feature of urban AAL that, in turn, diffused to rural areas (e.g. back to the rural South). To better understand the dissemination of this pattern, I test whether parental birthplace plays a role in who exhibits this pattern. For example, if unstressed glottal /d/ is a change coming from external to the community (DuBois & Horvath 2000), people whose parents were in-migrants might show this pattern compared to people whose family has been in DC for more than one generation.

The current analysis focuses on the glottal realization in DCA, and similar to the previous analyses, in comparison to other realized variants. Model selection began with the same fixed effects as the *glottal* analysis above, with a random effects structure that included speaker and word as random intercepts as well as random slopes for syllable stress, speech rate, and syllable number by speaker. Any additional random slopes resulted in singular fit models. A new fixed effect not used in previous analyses, parental birthplace, was added. Speakers were coded into one of two categories: one or both parents are from DC, or neither parent is from DC. Several interactions with year of birth were included based on the previous section, including parent birthplace, social class, gender, following segment, and stress. The model is summarized in Table 4.7.



Table 4.7 Summary of DCA best mixed-effects regression model: Glottal vs Coronal

Overall percentage glottal: 8.9% (n=6404)

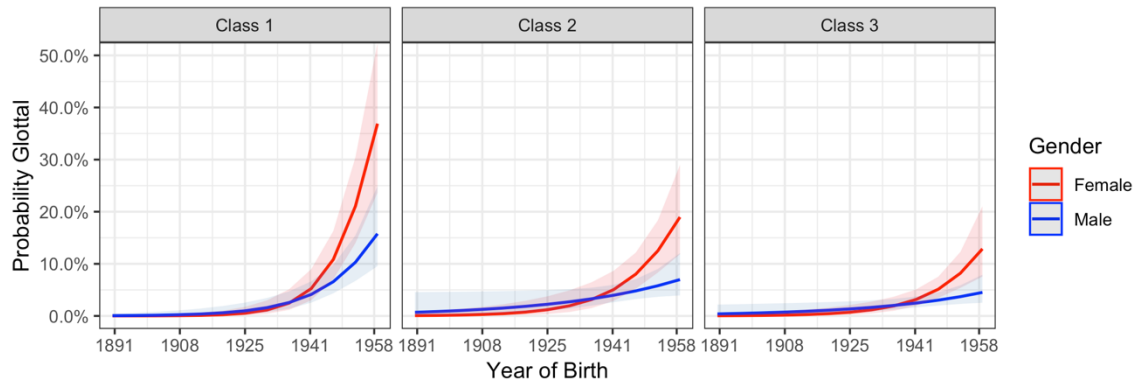
**Random effects:**

- Word (intercept) (SD = 0.47)
- Speaker (intercept) (SD = 0.57)
- Stress (Slope) (SD = 0.95)
- Speech Rate (Slope) (SD = 0.41)
- # Syllables (Slope) (SD = 0.29)

Predictors		Estimates (SE)
(Intercept)		-3.07*** (0.16)
Year of Birth		1.95*** (0.31)
Social Class	(vs. Social Class 1)	
	Social Class 2	-0.04 (0.27)
	Social Class 3	-0.53 (.) (0.28)
Stress	(vs. Stressed)	
	Unstressed	0.39 (0.33)
Gender	(vs. Female)	
	Male	-0.25 (0.24)
Parent Birthplace	DC	
	Non-DC	-0.34 (0.24)
Syllables		0.25 (0.18)
Following Segment	(vs. Consonant)	
	Pause	1.86*** (0.14)
	Vowel	-0.84*** (0.25)
Speech Rate		-0.07 (0.13)
<b>Interactions</b>		
Year of Birth : Social Class 2		-1.46* (0.58)
Year of Birth : Social Class 3		-1.41* (0.67)
Year of Birth : Stress		0.25 (0.58)
Year of Birth : Gender		-1.48** (0.55)
Year of Birth : Parent Birthplace		1.38* (0.63)
Year of Birth : Following Segment (Pause)		-0.17 (0.34)
Year of Birth : Following Segment (Vowel)		0.24 (0.60)

First, I investigate the first main question: if this is a change from below, it should be led in the working class and by females (Labov 1990). Based on the significant interactions between year of birth with social class and year of birth and gender, there is an indication that this change does indeed follow what we expect from a change from

below. Figure 4.17 plots the model probabilities for glottal /d/ by year of birth and gender, faceted by social class.



*Figure 4.17 Probability for glottal /d/ by generation, gender, and social class (DCA only)*

This figure shows the increase in the glottal variant over time, which is a main effect in this model, while the increase over time steepest for Class 1, showing that Class 1 speakers are leading in the use of this feature. At the same time, the females lead in the use of the glottal variant for the youngest speakers in 1968 across social class. It is also worth noting that both social class and gender were not significant main effects in this model. In terms of a contact situation, it is this baby boomer generation in 1968, in school at the time of the interviews, who will be focusing the dialect and the features that will become urban AAL.

This leads us to the next question of how the glottal variant came into DC to begin. To do this, I explore parent birthplace over time. First, Figure 4.18 shows the relationship between year of birth and parent birthplace. This significant interaction

shows an increase in the glottal over time for children of DC parents compared to non-DC parents.

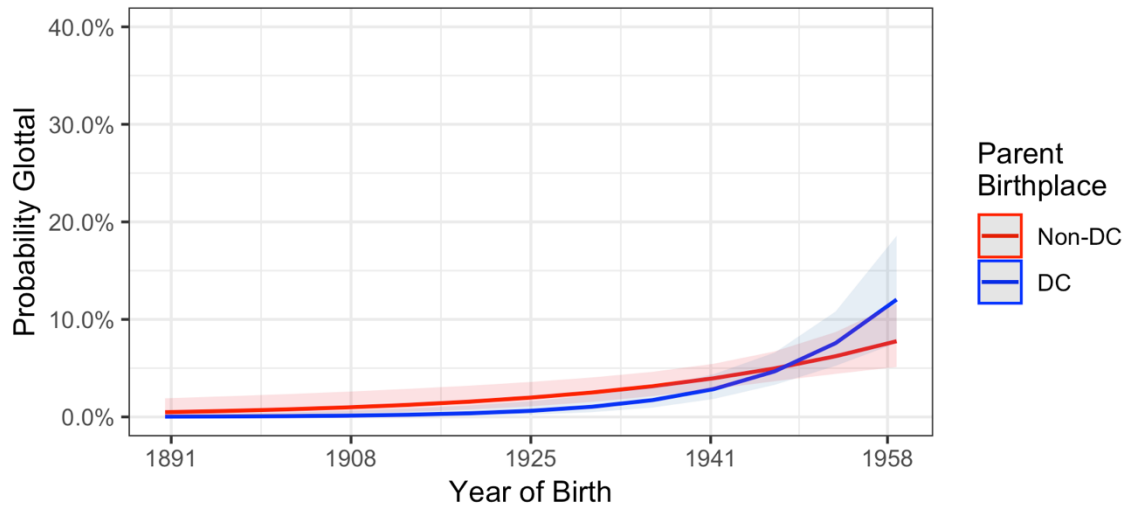


Figure 4.18 Probability for glottal /d/ by year of birth and parent birthplace (DCA only)

This view was not necessarily the one that was expected, but the trend overall that we see for the people whose parents were not born in DC exhibited higher rates of use until the baby boomer generation. This provides further evidence for the role that the processes at play in the development of urban AAL are happening in that young generation in DC in 1968.

From a linguistic view of this change to the glottal variant by 1968, I investigate two interactions with year of birth: following segment and stress. In the earlier glottal analysis, following pauses were the environment that led in the use of the glottal variant. Additionally, I wanted to investigate the role of syllable stress as a potential source in the spread of glottal /d/ in DC. In the rural South, represented by Princeville, glottal /d/ was

most common in unstressed syllable position. This led me to the hypothesis that the stressed glottal /d/ came from unstressed glottal /d/ in the rural South. If this is the case, it would lead the stressed variant (as it did in Princeville). Figure 4.19 plots the probability of glottal /d/ by year of birth and stress, faceted by following segment type.

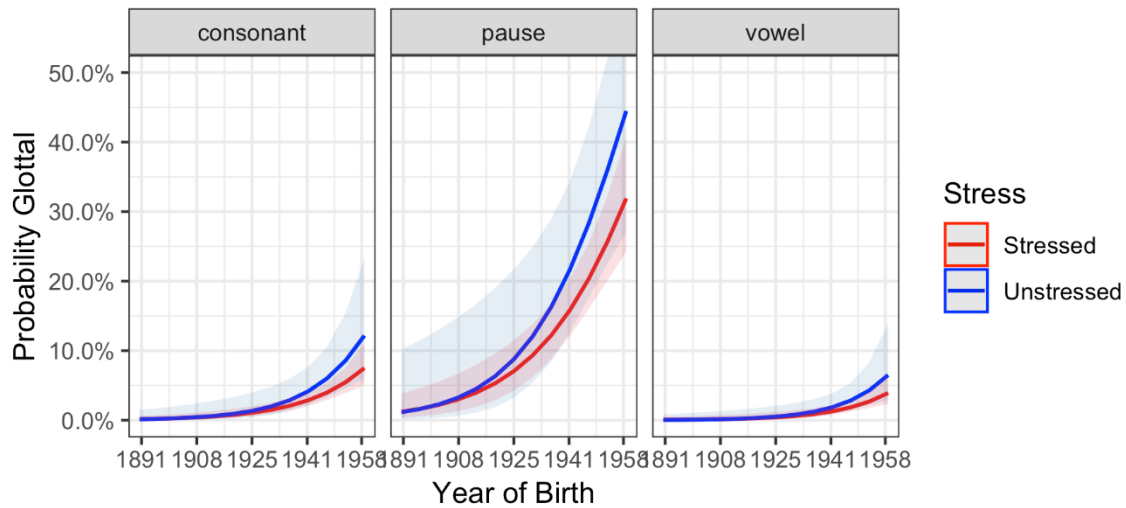


Figure 4.19 Probability for glottal /d/ by year of birth, stress, and following segment (DCA only)

The interaction between year of birth and stress is not significant, though the trend is that the unstressed variant leads. This will be something that merits further investigation in future studies, especially in contemporary recordings of rural Southern speakers as well as urban Northern speakers (e.g. the Detroit Dialect Study). Following segment is a main effect, with pauses exhibiting higher rates of glottal compared to following consonants, and vowels lower rates. Following segment does not show a significant interaction with year of birth. This pattern of pre-pausal glottalization could relate to other processes like prosody and intonational phrase position.

#### **4.8.1 Summary of DCA Case Study**

This analysis of DCA allowed us a view into DC AAL at a crucial time in its history. The Great Migration was winding down and the Baby Boomer generation was growing up in a majority African American city, which is different than any previous generation in DC. The cultural importance of DC's African American majority developed out of a push for rights in the early twentieth century that resulted in it being an attractive destination for Southern migrants.

In this analysis of the glottal variant, we observe the patterns, in general, that were found in the combined DCA/DCB analysis, one major difference is that year of birth interacts with social class and gender when analyzing DCA alone. The population had changed and AAL began developing into the urban variety that would be prominent in sociolinguistic studies. Word final /d/ glottalization was coming into the community, led by younger working class speakers and by young females.

In DCA, the Baby Boomer generational cohort is particularly important in the context of the extensive sociolinguistic research done in the 1970s (e.g. Labov et al. 1968; Wolfram 1969; Fasold 1972). Their focus on both the systematicity of the variety as well as the educational implications led to a focus on the Baby Boomer cohort. The Baby Boomers also seem to be crucial for the development of AAL, even compared to the previous generation. Following the constant flow of in-migration and out-migration, the migration was slowing down, and this young generation would be potentially focusing the dialect (Britain 2018).

The Baby Boomer cohort in DCA gives us an opportunity to see how the change in this sound pattern is progressing through the community during adolescence. The adolescent time period has been shown to be the point at which individuals are expected to use hyper-rates of nonstandard forms (e.g., Eckert 1990; Van Hofwegen & Wolfram 2010). For example, in her jocks and burnouts work at Belton High, Eckert (1990) found that the Northern Cities Chain Shift, a sound change progressing through the suburban Detroit high school, had features led by the burnout females (non-school, working class aligned). The jocks, on the other hand, were more conservative in their vowel phonologies. Here in 1968 DC, we see a similar pattern with working class females leading in the use of this incoming variant. The variability in the young working class females is something that Fasold (1972) noticed with this dataset, and showed that an effect for distributive ‘be’ was largely due to three of these speakers. Though they were born and raised in DC, all of their parents were from the Southeast (North Carolina and Virginia). These speakers are leading in the use of certain urban AAL features, which suggests that within this generation, the working class group in the city, is focusing the dialect, and exhibiting patterns that will intensify and spread as AAL in the late twentieth century.

Who leads this change (young working class females) gives us a clue about the nature of the incoming variant (a change from below), but it doesn’t give a clue about whether the variant comes from within the DC speech community, or external to it. To explore that, I looked at the role of internal linguistic effects, as well as parental birthplace. The internal effects investigated included following segment, based on the fact that it was main effect for glottalization in both Chapter III and the main analysis

above, as well as syllable stress. Stress was an intriguing feature because of the status of unstressed syllable /d/ glottalization among non-AAL communities, especially in the rural South (Wolfram & Fasold 1974). The results confirm the patterns elsewhere that the glottal variant increased over time primarily in the pre-pausal environment. Stress, on the other hand, did not interact with year of birth, but the direction of the effect suggests that the unstressed glottal led stressed glottal /d/ early in the twentieth century in DC. Lastly, parental birthplace was used as a way to capture what could have been a change from outside the community (DuBois & Horvath 2000). The significant interaction showed that the speakers with DC born parents increased the used of the glottal variant over time compared to the speakers with non-DC parents. The pattern once again suggests that the youngest generation is using glottal /d/ different than other generations, but that around the turn out the century, the glottal variant was used primarily by speakers with non-DC parents. This pattern is similar to certain vocalic features investigated by Deser (1990) in Detroit. These results are tentative, and we need more contemporary speakers to better interpret the pattern. This is also not to say that the speakers here are using their parents' dialect, but the relationship between in-migrants, social class, and housing is something that can be explored in the future.

#### **4.9 Discussion**

Washington DC provides a unique opportunity to explore change over time within AAL. It was a majority African American population for much of the twentieth century, but it also had a long-standing African American population dating back to the Civil War, which distinguishes DC from other Great Migration cities in the North. The massive in-

migration between 1940 and 1970, the second wave of the Great Migration, brought thousands of new residents, primarily from the American Southeast. The demographic makeup of the city changed, and different generations grew up in quite different speech communities.

I focused on two realizations of the sociolinguistic variable under investigation, word final /d/ glottalization and /d/ deletion. Within this CORAAL:DC analysis, the deleted variant is stable over time in general, but shows some internal linguistic changes, such as the increasing probability of deletion in pre-consonantal environment, the environment that is most likely to result in deletion found in the Chapter III analysis. Additionally, there are consistent class effects over time, with deletion being most common in the working class, and least common in the upper middle class groups.

The analysis of the glottal variant of word final /d/ in DC confirmed that it indeed came into the city over the course of the twentieth century, primarily led by the working class, most often used in pre-pausal position. The working class leads in both glottalization and deletion of /d/, which shows that they exhibit higher amounts of variation of /d/ compared to other classes. This is similar to /t/ glottalization in Mainstream American English, which exhibits what Sumner and Samuel (2005) call regular variation of /t/, which is also widespread in AAL (Farrington 2018a). Every indication of the status of word final /d/ glottalization is that the glottal variant is common across regional varieties and classes, suggesting it is part of the regular variation of the /d/ phoneme.

In Chapter III, I found that the glottal variant is geographically widespread, but exhibits some unique linguistic patterns in Princeville (rural South) that were worth



exploring to investigate how the glottal variant came to be a feature of AAL. While there is not a significant interaction between year of birth and syllable stress, the pattern of unstressed syllable glottalization around the turn of the twentieth century reflected the patterns found in the rural South. To investigate the glottal variant and change in DC more closely, I used the DCA data as a case study with speakers by year of birth.

In DC, a city with a large African American population with both a long-standing population, but many new in-migrants, the DCA speakers represent a unique point in time for the development of the city and the dialect within that city. The results here show that the glottal variant of word final /d/ was being led by younger working class females, a pattern that is typical of changes from below (Eckert 1990; Labov 1990; Chambers 2009; Tagliamonte 2011). This result was obscured when looking at the entire dataset. One reason for this might be the fact that the glottal variant of /d/ had become part of the DC AAL dialect, and had time to stabilize. The oldest generation in CORAAL:DCB is a Baby Boomer cohort. Years of birth are overlapping between the data CORAAL components, but the speakers are in very different times in their lives, as well as living in very different speech communities. These differences are at the wider city level, but outcomes filter to the community and neighborhood levels and are apparent in the school systems (Quartey & Schilling 2019).

Treating the DCA data separately led to inferences about the data within the context of the Great Migration. In the context of new dialect formation, and the time course of the Great Migration in DC, these recordings were actually done at a perfect time for the development of urban AAL, and happened to align with the goals of sociolinguists conducting these studies.

The DCA dataset was collected in 1968 and analyzed by Fasold (1972) as a follow up to work in Detroit and New York City. At the time, the focus for sociolinguists was on features shared across geographic regions, and actively looking for those similarities. Additionally, the focus on adolescents might have been the perfect group to look at to avoid catching other kinds of geographic variation. Future studies that reanalyze data from this era will give us a more complete picture of the urban development, spread, and intensification of AAL in the twentieth century.

While this chapter is specifically a study of AAL in Washington DC, which is unique in many aspects (e.g. a long-standing African American population, a major stopping point for the Great Migration, a lot of sociological and historical research to back up what we know about the social situation in DC), this kind of analysis could easily be about other cities that had population changes as a result from the Great Migration. As an example, Detroit would be an interesting comparison because it had a different source population of in-migrants, being primarily from the Deep South (Wolfram 1969), and the African American population grew from just a few thousand in 1900 to a majority of the city in 2010. Anderson (2002) suggested that the interaction of AAL speakers and Appalachian English speakers led to AAL speakers beginning to exhibit monophthongization of pre-voiceless /ay/. Such ideas can be tested with demographic information about neighborhoods and network information about who speakers work with.

Recent work by Moody (2011) has shown how intra-ethnic contact can lead to useful hypotheses about language change. In her work, Moody (2011) looked at Coastal Georgia Gullah speakers and how that variety of English might have influenced rural

AAL speakers from further inland Southeast Georgia. The case of Washington DC is about intra-ethnic contact between AAL speakers coming from different regional locations.

This kind of work exemplifies the need to both situate the analysis of linguistic variation at the community level, but also to be aware of the sociohistorical processes at play. In Southeast Georgia, the older rural communities were historically distinct by region within Georgia, but also demographic differences resulting from isolation. In Detroit, the Southern diaspora, Gregory's (2005) term for the combined effects of African American and white migration patterns during the twentieth century, resulting in a unique contact situation that led to the increase of pre-voiceless /ay/ monophthongization among Detroit African Americans. In DC, we see that the youngest generation growing up in majority African American DC were leading the use of features that would become norms of AAL, which would eventually diffuse into rural areas because of the cyclical migration patterns discussed in Chapter II, the connections that were maintained with the home community, and, most importantly, the refocus of the African American community from the rural South to cities (Wolfram & Thomas 2002).

## CHAPTER V

### CONCLUSION

This dissertation presented an analysis of variation of word final /d/ in African American Language. I analyzed sociolinguistic interview data from four AAL speech communities: Memphis, TN, Washington DC, Princeville, NC, and Rochester, NY. Each location represents important geographical and historical contexts within the history of the African American community. In this dissertation, I focused on the sociohistorical contexts of each community, paying particular attention to the Great Migration and the effects of the population changes resulting from it on these communities before presenting the core empirical analyses. This approach bridges evidence related to the twentieth century spread and intensification of AAL with how such widespread patterns in this language variety may have diffused in these communities, lending insight into how population movements may have contributed to pan-regional variants associated with AAL through processes of new dialect formation and dialect contact in communities affected by the Great Migration. Previous sociolinguistic work has made these connections between the outcomes of a contact scenario and language variation and change. For example, Labov (1994:157, cited in Fought 2013) suggested that ethnic minority speakers not participating in regional vowel shifts “are instead oriented to a national pattern of koine formation within the nonwhite groups.” Additionally, diffusion of urban AAL to rural communities in the late twentieth century is a pattern found in several areas (e.g. in rural Texas, Cukor-Avila 1995; in rural North Carolina, Wolfram & Thomas 2002). However, a discussion of how such national patterns actually developed across these cities as a result of the Great Migration has been overlooked from an

empirical and analytic perspective. During the late stages of the Great Migration, when the foundational studies on AAL were being completed in the late 1960s (e.g. Labov et al. 1968; Wolfram 1969; Fasold 1972), the youngest speakers in these early analyses are the ones who would be leveling or focusing the language variety (Britain 2018). As time went on, and the “establishment of contemporary language norms related to African American youth culture” (Wolfram 2004:114) increased. Now we have the diachronic evidence that allows us to address how these national, or pan-AAL features developed, and how they relate to local community practices.

This led me to pose three broad questions that are meant to help frame the analysis: (1) How did linguistic features of AAL spread and intensify over the twentieth century? (2) Does a better understanding of the sociohistorical context add to an analysis of change over time? (3) If modern AAL developed out of new dialect formation processes, what predictions can we make in the ongoing development of the variety? The first question relates to the sociolinguistic variable; the second relates to the role of the speech community in sociolinguistic analysis; and the third relates to the overall linguistic processes (e.g. dialect contact) at play in the spread and intensification of AAL. These questions allow us to investigate Labov’s (1994) claim that national patterns relate to historical migration patterns and contemporary community structures, while acknowledging and exploring regionality in AAL (Wolfram 2007; Kohn 2014).

In the rest of this chapter, I summarize the findings of this dissertation (§5.1) and then step back to address whether the findings of Chapters III and IV are actually enhanced through a closer attention to the demographic and sociohistorical details of the Great Migration for the variable under analysis (§5.2).

## 5.1 Summary of Dissertation

Chapter I began by defining core sociolinguistic notions that are crucial for the understanding of the analysis, the sociolinguistic variable, the sociolinguistic conceptions of time, the speech community, as well as dialect contact and new dialect formation. Chapter II focused on the sociohistorical basis for the spread and intensification of AAL features in the twentieth century. The Great Migration, which was the movement of over six million African Americans out of the rural South, led to AAL communities in cities throughout the country. I focused on two aspects of the Great Migration: the paths of migration and the broader cultural impacts. The paths of migration illustrate that the Great Migration wasn't just a matter of shifting populations from the rural South to the urban North, but also rural South to the urban South, and sometimes the migration patterns were cyclical in nature, with individuals returning to the South (Gregory 2005). This is especially true in the later stages of the Great Migration with regard to permanent resettlement which occurred in urban Southern areas. At the same time, more informal back and forth movement were ongoing, with children spending summers with Southern families and adults returning for culturally important events like homecoming, as well as weddings and birthdays (Wilkerson 2010). The broader cultural impact of the Great Migration is framed by recent sociological work (Hunter & Robinson 2017) as well as Asch and Musgrove's (2017) work on the history of race in Washington DC. The impact developed out of cyclical migration discussed in Gregory (2005) that connected the Great Migration cities, which continued to show major population changes even after 1970, when the South out-migration slowed down, which traditionally marks the end of the

Great Migration. Then, I looked at the communities under analysis, focusing on three aspects: a brief history of each speech community, how the population has changed over the twentieth century, and the current spatial orientation of the African American population in each geographic area.

The next two chapters, III and IV, presented the core empirical analyses in the dissertation. First, Chapter III provided an analysis of regional variation of word final /d/ in the four communities. Glottal stop replacement of word final /d/ was shown to exhibit similar rates across the communities, but exhibits two changes worth noting: an increase over time in the use of the variant and different linguistic constraints for Princeville, NC compared to the other three communities (Memphis, TN, Rochester, NY and Washington DC).

Word final /d/ glottalization has been described as being a feature of several communities (Farrington 2018a), but whether glottal stop replacement of word final /d/ is a stable variant or increasing over time was unknown. Year of birth, in this analysis, showed that each community increased over time in the use of the glottal variant. Additionally, there was a relationship between gender and change over apparent time: females over time appear stable, while older males are the least likely to use glottal /d/; but younger males and females show the same rates of use. This is indicative of the fact that the variable could be approaching stability in the communities as females are often shown to lead changes below the level of consciousness when such a variable is undergoing change (Labov 1990, 1994, 2001).

This analysis of glottal /d/ across regions also showed different constraints in Princeville. Word final /d/ glottalization is a common process in several varieties of

American English in unstressed syllable position (e.g. *salad* [sæliʔ], *busted* [bʌstiʔ]), especially in the rural South (Wolfram & Fasold 1974). In Princeville, which represents the rural Southeast, the probability of glottal for /d/ in unstressed syllables was significantly higher than in stressed syllables compared to the other communities. If this unstressed /d/ glottalization was a feature that was common to people moving into urban areas during the Great Migration, we would expect a similar pattern. In DC, the results suggest that unstressed /d/ glottalization led stressed /d/ glottalization for the earliest generation of speakers. Over the course of the twentieth century, the stressed variant, in DC, caught up to the unstressed one, with the youngest speakers exhibiting no difference in rates of glottalization depending on stress. In Princeville, however, the use of glottal /d/ in both stressed and unstressed syllables have increased over time, but remain distinct, suggesting the urban to rural diffusion increased rates of glottalization, but that there are still differences that contrast with the urban areas. There appears to be a connection that can be explained by the Great Migration, and that older periods are more consistently alike.

What does it mean that Princeville exhibits different constraints on glottalization of /d/ compared to the other communities? This suggests that Princeville is distinct from the other three more-urban communities and these constraints represent a potential marker of differentiation.<sup>25</sup> Rather than regional differentiation, the increased rates for unstressed glottal /d/ in Princeville could be a marker of rurality versus urbanity in AAL, which has long been considered one of the primary distinguishing social categories in

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<sup>25</sup> Of course, the only rural community in this analysis is Princeville. Future work will include a wider variety of rural Southern communities. In North Carolina alone, there is a wide range of dialectal variability (Wolfram & Kohn 2015), and previous work has shown that Princeville has some features that aren't found beyond the North Carolina Piedmont region (Rowe 2005).



AAL and culture (Wolfram & Thomas 2002). However, what we see here is that this rural versus urban distinction might be a twentieth century phenomenon, due to the Great Migration. In fact, word final /d/ in DC speakers born in the early twentieth century are more similar to older Princeville speakers, suggesting that Princeville may not represent a localized dialect pattern but a potential broader rural pattern that provided the seeds for the modern urban DC variety.

The analysis of deletion across the four communities showed clearer regional patterns, with Memphis (deletes most) and Rochester (deletes least) being the two extremes. Unlike the glottal variant, deletion does appear to be related to proximity to the (Deep) South, which could be related to where these communities are in the paths of migration (§2.2.1). Along the Eastern seaboard, Princeville, DC, and Rochester form a Southeast to Northeast cline, and patterns of deletion follow that cline. Memphis, with its proximity to the Deep South, could represent a point (e.g., urban Deep South) in the cline from the rural Deep South to the urban North (e.g., Detroit, Chicago). A related phonological pattern, final fricative deletion (e.g. *five* realized as *fi'*), follows a similar pattern (Farrington 2018b), suggesting that deletion is more common in the South, but that deletion, in general might be a feature of Southern AAL compared to other varieties of AAL (Harrison 2007). Rochester's isolation within Monroe County, and more recent time frame of migration could result in it being more distinctive compared to the other communities affected by the Great Migration.

With Chapter III showing consistent changes over time with glottal stop replacement of word final /d/, and stability with deletion of /d/, Chapter IV focused on changes over time of this variable in DC to better understand how it spread into DC.

Thanks to the CORAAL:DC corpus, we have access to 115 speakers, born between 1891 and 2005, which allows an analysis of change over the course of the twentieth century, paying close attention to the Great Migration and demographic changes in DC. The oldest speakers born around the turn of the twentieth century essentially don't use glottal /d/, supporting the observation in Chapter III that /d/ glottalization underwent change and increased in usage over the course of the twentieth century in both stressed and unstressed syllables as a feature of AAL. The changes in Washington, DC related to this variable are led by the working class group and primarily in pre-pausal contexts, which suggests both social (external) and linguistic (internal) correlates for this sound change. Additionally, there is a trend showing that the unstressed variant in DC was the primary environment for glottal /d/ in earlier generations, while the stressed syllable catches up during the latter half of the twentieth century, further reinforcing the points made above with respect to Princeville, NC.

Similar to the results in Chapter III for deletion, DC doesn't exhibit an overall change in deletion over the twentieth century. There is a main effect for social class, with the working class leading, as well as linguistic effects for speech rate, word type, and word syllable length. With the two time points, an age grading pattern is shown with gender and speech rate, such that younger females (regardless of CORAAL component) are more likely to delete overall, and more likely with a slower speech rate compared to older speakers. This speech rate pattern for younger females suggests a different pattern of deleted /d/ rather than a connected speech process related to increased speech rate, such as lenition or undershoot.

The major takeaways from this analysis are three significant interactions: year of birth with gender, year of birth with social class, and year of birth with parental birthplace. The results for year of birth with gender and social class show that glottal /d/ was being led in the community by younger, working class females. This pattern represents the classic sociolinguistic notion of a change from below (Labov 1990).

The data from DCA in 1968 includes comprehensive demographic information (Kendall & Farrington 2018b), including information about many speakers' parents, which allowed for this analysis of the potential role of parental birthplace. The relationship between parental birthplace and glottal /d/ shows that for the earliest generations, those who have parents born outside of DC were slightly more likely to use glottal variants of /d/. This pattern relates to work by Deser (1990) in Detroit, who analyzed data from 1966. Deser showed that for some vocalic variables, kids with parents born in the South were less likely to use a Northern variant. If the glottal stop came into the DC AAL community, presumably it came from outside of the community, the slight lead in the unstressed syllable variant supports this hypothesis. By the youngest generation though, the groups of speakers using the highest rates of glottal /d/ in the DCA data don't necessarily have parents born in the South, thus mitigating the effect of parental birthplace, and instead illustrating the role of peer groups of language change (Labov 1964). This time period was at the tail end of the Great Migration, so bigger effects might have been visible at different stages in the migration time frame.

In the following section, I address a major question in this analysis: Does a focus on the sociohistorical context add to this analysis of AAL?

## **5.2 African American Language and its Sociohistorical Context**

One of the major questions that I posed at the beginning of this dissertation was whether or not a better understanding of the sociohistorical context adds substantially to the analysis. I'll address this question by focusing on two different aspects: the importance of looking at DCA in 1968 and the current regional differentiation in African American Language. But first, I want to return to the question of the study of change over time in sociolinguistics, more generally.

### **5.2.1 Time in Sociolinguistics**

This dissertation brings a sociohistorical perspective to word final /d/ in AAL by first focusing on the social and demographic communities in question (Chapter II), which sets up an interpretation of the results from Chapters III and IV in light of those differences.

For Chapter IV, in particular, the interpretability of change over the course of the twentieth century in AAL relies on the assumption that speakers are relatively stable in their linguistic systems after acquisition, and that the speakers born earlier will exhibit more conservative varieties, in the sense of an older pattern, compared to speakers born later. Crucially, with recordings made nearly fifty years apart, we can consider whether a comparison of DCA (1968) and DCB (2015) is a legitimate one to be making.

Due to the dramatic demographic changes to DC between 1968 and 2015, I suggest that the two subcomponents of the corpus should be conceptualized as two separate speech communities that happen to be located in the same geographic area. As interviewees in CORAAL:DCB discuss, there have been many cultural, social and

demographic changes in the city. Just from a demographic perspective, the city was 70% African American in 1968, and now the African American population is currently below 50%, in large-part due to the high rates of gentrification. It was important for me to look at the DCA (1968) data more closely, not only because it was recorded fifty years ago and represents a different slice in time, but because of the cultural importance of the time period for Washington DC's history.

The assumptions that we make in such a real time comparison hinge on the comparability of the community between 1968 and 2015. Along those lines, we can question the validity of apparent time analyses in such communities that have shifted so dramatically over the course of the twentieth century. We can still infer changes through apparent time within each timepoint in DC, showing, for example, that older speakers represent "older" language patterns than younger speakers. Such an analysis must communicate that these differences reflect changes to the community, relative at the time of each recording. This interpretation acknowledges that the sociohistorical changes that influence speaker populations in apparent time are better understood as relative differences at that point in time, rather than an inference of change driven by solely internal linguistic processes. Using year of birth to infer internal change is not viable in communities that have undergone radical demographic shifts, thus underscoring the importance of including sociohistorical context in the analysis.

### **5.2.2 The Importance of DC in 1968**

The expectation for word final /d/ in AAL is that it was a change from below. In both Chapter III and the overall analysis in Chapter IV, there is some evidence for the

expected pattern of females leading this change, with findings being mitigated by other sociohistorical factors. When analyzing the data from DC in 1968, we found clear patterns of this change being led by younger working class women. The glottal variant of /d/ was progressing through the community at the time, particularly in younger speakers. Those adolescent contact situations have been shown to be the key for changes over time (Eckert 1990; Labov 2001). With the analysis showing that the role of parental influence on this variable was no longer important, we can conclude that the peer influence in 1968 is what is spreading and leveling the language. This observation is important because it aligns with other dialect contact studies (Kerswill & Williams 2000), demonstrating the role of contact in new dialect formation in AAL, and underscores how pan-regional similarities are likely the result of such processes related to the Great Migration.

### **5.2.3 Regional Differentiation in AAL**

The focus on Chapter III was regional differences in the sense that I used data from four communities. A closer look at regional patterns across different locales gives insight into the nature and potential origins of geographically widespread patterns in AAL.

First, research on earlier varieties of AAL suggests that there was quite a bit of regional differentiation (Wolfram & Thomas 2002; Wolfram & Kohn 2015). As urban AAL developed in the cities through the Great Migration, the process of dialect leveling occurred, focusing some features of older, rural varieties towards what would become modern, urban AAL. In this stage, the glottal variant spread to the stressed position and became a potential social marker or indicator in the speech community. The

intensification of features, coinciding with the cultural shift from the rural to the urban, developed after World War II (Cukor-Avila 1995; Labov 2012), which is also the final stage of the Great Migration. Previous historical work has shown the circular patterns of migration as a Great Migration process, but also the strong connections back to the South were maintained through the latter half of the twentieth century. Sociolinguistic work sheds some light on the results of this movement, showing the spread of urban AAL features to rural areas (e.g. Cukor-Avila 1995; Wolfram & Thomas 2002). While migration continued, strong familial connections to the rural South were maintained throughout this time period (Hunter & Robinson 2018). This recent sociological work also emphasizes cultural exchange across these different communities. Such patterns of cultural exchange would produce the conditions needed to produce dialect koine, thus providing a cultural and linguistic explanation for the widespread distribution of some AAL features. In a koine situation, one of the final steps is differentiation after widespread leveling (Kerswill 2002). In the context of AAL and the Great Migration, this could be expected to produce regional differences, as is evident in the distinct patterns found across regions for /d/ in this dissertation. While there are differences in the sound patterns across dialect areas more generally, it remains to be seen how these patterns are changing over time within AAL because of the lack of focus on sound change internal to AAL (Fought 2013; Arnson & Farrington 2017).

### **5.3 Summary: Change, Diffusion and AAL**

The previous two subsections addressed how looking at DC data recorded in 1968 improved our understanding of the glottal /d/ variable because of the crucial time in DC's

history, both socially and linguistically. I then addressed the ongoing development in AAL in terms of the relationship between regional (local) and national (non-local) variables and how glottal /d/ spread. Here, I want to step back and consider, more generally, the sociolinguistic study of AAL.

In terms of the Great Migration, discussed in Chapter II, previous work hypothesized that the Great Migration is the source for geographically widespread features in AAL. Plenty of work has shown that grammatical features of AAL are widespread and intensifying in cities (Labov 1972, 1998, 2012; Dayton 1996; etc.), including Wolfram's (1969) acknowledgement that different source populations in Detroit could result in different dialectal patterns.

As AAL developed and spread over the course of the twentieth century, a pattern of urban to rural influence is one of the clear outcomes of the repositioning of norms discussed above (Wolfram & Thomas 2002). Since the end of the Great Migration, sociolinguists have examined more rural areas, after the field's initial focus on urban communities, which made up the foundational studies of AAL. The changes within the rural AAL communities became more relevant, and AAL was discussed as developing in the urban North and spreading to the rural South (Cukor-Avila 1995; Cukor-Avila & Bailey 2015). Unfortunately, little is known about how the language variety developed in the urban Great Migration destination cities before intensifying and spreading across cities (Labov 1998) or spreading back to the rural South.

In the context of this dissertation, word final /d/ glottalization represents an important piece to this puzzle. To understand a speech community is to understand its social history. Dialect formation and subsequent linguistic differentiation is



fundamentally intertwined to the social history of a speech community. In urban communities, we see the large-scale population changes and subsequent patterns of segregation leading to dialect mixing and contact. In rural communities, on the other hand, a secondary effect of the Great Migration is apparent in the linguistic changes brought to such communities due to the repositioning of norms from rural to urban communities by the younger generations. At the same time, we see continued differentiation at the urban/rural level, which is largely a result of the Great Migration. By taking sociohistorical facts into account, we can better interpret linguistic variables and understand their source(s) for diffusion and change. Word final /d/ exhibits patterns related to both local differences (deleted /d/) and widespread, more national pressures (glottal /d/). The language contact forces giving rise to the spread and intensification of AAL led to glottal /d/ being a feature that is geographically widespread, exhibiting varying rates of use across social classes that are indicative of varying stages of new dialect formation. Facts related to the Great Migration and these communities, i.e. the cyclical migration patterns discussed in Gregory (2005), augment claims that features of AAL developed in the urban North and then spread to the rural South (Cukor-Avila 1995; Cukor-Avila & Bailey 2015). The Great Migration was the movement out of the rural South to urban communities, and the intensification of AAL developed out of earlier rural varieties of AAL. The social situation in the cities led to contact and dialect mixing in a segregated environment led to the development of a variety that would become what is known as AAL in 2019.

For the glottal stop replacement of word final /d/, in particular, the analysis of change over time in DC suggested that it was first more common in unstressed syllables,

which is the pattern found in the Princeville. The glottal variant then diffused to the stressed variant as AAL shifted from a rural variety to an urban one. Future work considering the saliency of this feature in the community could help target whether it is considered by listeners a feature of AAL in general, or whether it is a sociolinguistic marker of AAL.

The findings of this dissertation suggest that the development and intensification of modern AAL is a result of a set of population movements and dialect contact that do not seem to be present in other dialect contact situations (i.e. Kerswill & Williams 2000; Kerswill 2006). This dissertation shows that when discussing the development and ongoing trajectories of change for modern AAL, scholars must take into account the unique sociohistorical situation for African Americans over the course of the twentieth century, namely the Great Migration.

Going forward, considering sociohistorical facts improves our understanding of language change in AAL. With insights from demography, sociology and history we can address ongoing changes to African American speech communities. As urban centers continue to gentrify (Richardson et al. 2019), speech communities are rapidly being forced out of their space into different geographic areas, with different contact situations. By taking social history into account and using it as an analytical and explanatory tool, we can better understand not only AAL, but potentially underexplored features and ethnolinguistic varieties.

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