

A Phonetic Study of Vowel Mergers in Grenadian Parliamentary Speech

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1. Introduction

The Anglophone Caribbean is a region in which many countries both share the same official language while maintaining distinct socio-linguistic circumstances due to their unique colonial and post-colonial contexts. Many of these countries have maintained English as an official language while using an English-lexifier Creole as their daily vernacular. Such is the case for Grenada - a small Anglophone Caribbean nation located in the Lesser Antilles with a history of French and English colonialism. Despite the sociolinguistic context of Anglophone Caribbean countries being an area of academic inquiry since the 1970s (see DeCamp, 1971; Bickerton, 1973, 1975), Grenada has not seen detailed research in the same way. In particular, many of the early studies into Grenadian language had been anecdotal observations with no in-depth analysis on the actual occurrences within the Creole or Standard variety. However, recent studies have indicated a larger interest in conducting qualitative and quantitative study focusing on Grenada's linguistic environment and the use of language (see Paterson, 2013; Hänsel et al., 2022; Hänsel & Meer, 2023; Avram, 2018). Of particular interest within this body of work is the occurrence and usage of the English-lexifier Creole spoken on the island known as Grenadian English Creole (or GEC).

Much of the research throughout the Anglophone Caribbean has focused on the Creole variety and its features. Although the Creole variety has remained the main object of study when referencing Caribbean linguistic study, it is usually spoken alongside a Standard variety of English. This pattern is also found within Grenada where the Standard English variety, known as Grenadian English (GE), has been documented on the island and can be described as the language mainly used in highly formal situations. The usage of Standard English has been preserved by many speakers even after Grenada's independence was gained from the British

Empire where English was made the island's official language in 1974. However, despite this official status afforded to GE, attitudes towards this variety and its usage have increasingly changed over time. Chase & Chase (2011, pp. 11-12), as cited in Hänsel et al. (2022), state that the domains and instances where GE is traditionally used as the main form of communication have seen an increase in the use of GEC which has become "very prevalent, offering strong competition to SE [Standard English]". The domains where this Standard form are typically used include education and newscasting, and within governmental contexts as documented for Grenada (Hänsel et al, 2022; Hänsel & Meer, 2023) and other Caribbean countries such as Jamaica (Irvine, 2004) and Trinidad (Westphal et al, 2022). One of these governmental contexts within Grenada is the House of Representatives, a governmental body with strong ties to Standard varieties throughout the Caribbean.

The House of Representatives is the lower chamber found in bicameral parliaments across the Anglophone Caribbean and the broader Commonwealth. The main function of this body is the drafting and passing of laws by Members of Parliament (or MPs for short) who are elected to their position once a general election has been called. The relationship between Standard varieties and the parliamentary domain is found both in Grenada and other Anglophone Caribbean and this relationship, as of writing this paper, has become the subject of discussion particularly within Jamaica where the use of Jamaican Creole in Jamaican Parliament by MP Nekeisha Burchell was scrutinised and prevented (Duncan & Lugg, 2026). The justification for this was made by invoking the Standing Orders, a set of written rules which outline the way that business within the House should be conducted and includes the use of the English language as the official language of this domain. As a result of these Standing Orders, the use of JC within parliament is both not allowed and actively regulated.

While the opposition to JC highlights the structural inequities between Standard and Creole varieties within formal situations, discrimination against the usage of Creole varieties within this context doesn't encompass all domains of linguistic. Rather, it primarily occurs at the morphosyntactic level due to the salience of differences between the morphosyntax of Creole languages and their Standard counterparts. This is signalled by the implications of Irvine (2004, 2008) where certain phonological features are used across the Creole and Standard varieties more freely while morphosyntactic features associated with the Creole are actively avoided and only utilized "for very specific functions", namely stylistic choices by the speaker (Deuber, 2014, p. 244). The utilisation of these features at the phonetic and phonological levels has been observed, for instance, as stylistic choices within formal domains in societies where diglossia occurs such as Scotland and Catalan-speakers in Spain (Hall-Lew et al, 2017; Blas-Arroyo, 2020). Despite similar attitudes being seen across the Anglophone Caribbean, there have not been any investigations into how phonetic and phonological differences between varieties are marked and how these properties relate to intra- and extra-linguistic factors influencing one's speech within a parliamentary context.

The major aim of this project, therefore, is to conduct a quantitative sociophonetic study analysing the vowels of Grenadian MPs in the House of Representatives from the parish of Saint Andrews to understand how certain vowels pattern for speakers within a traditionally formal context and how these patterns relate to Creole and Standard varieties through the studies done on Standard Caribbean Englishes as well as those done on GEC, namely Paterson (2013). Using the available demographic and extra-linguistic features available, explanations will be put forth as to why certain patterns occur within a formal context such as parliament.

2. Background

2.1 The Linguistic & Social History of Grenada

While the current conversation of the linguistic situation in Grenada is focused on the Standard English/English-lexifier Creole dichotomy, the first Creole spoken on the island was of French origin (La Grenade-Lashley, 2016; Avram, 2018; Kephart, 1985). The conditions for the genesis of this French-lexifier Creole were mainly through close contact that the enslaved Africans brought to Grenada had with their enslavers and other French inhabitants on the island. This close contact came about due to the state of affairs surrounding the Grenadian French colony at the time: persistent warfare between the islands' original inhabitants, the Kalinago, and the newly settled French prevented any notable expansion by the colonists within their original area of settlement in 1649 until the end of the century (Murphy, 2021, p. 32). As a result, the French were unable to establish a large-scale sugar economy in Grenada as they had done in their other Caribbean territories such as Guadeloupe and Martinique. This is evident through records of the population at the time where throughout the latter half of the seventeenth century, the population of both free and enslaved people in Grenada remained under 1,000 people (Murphy, 2021, p. 39). Despite the inability to transport large numbers of enslaved Africans to Grenada to produce sugar at a mass scale, four sugar plantations were established on the island but only three existed on the island by the year 1700 (Murphy, 2021, p. 39).

Arends (2008) highlights the effects that the planting of specific crops had on the formation of a Creole variety where the demographic and working conditions within different crop-focused economies resulted in different rates of nativization and radicalization of the Creole. Within this description, colonies where sugar was the primary export were described as

having “considerably worse” standards of living compared to other plantation societies, leading to a lower rate of nativization and higher degree of radicalization for these Creole varieties (Arends, 2008, p. 321). While Grenada’s early history consisted of smaller-scale crop production, the French were able to transform it from a colony where only three sugar plantations existed into one where 87 sugar plantations had been established by the mid eighteenth-century (Murphy, 2021, p. 75). This indicates a shift from smaller plantations where enslaved Africans had closer contact to French speakers over longer periods of time and spending more time around White French speakers to slave societies where large amounts of enslaved Africans were brought to Grenada, likely leading to a lower amount of contact with native French speakers. This is supported by accounts of Grenada where enslaved Africans were described as spending “their entire lives” from birth under French control in 1717 due to the enslaved people being brought to the island via neighbouring French colonies (Murphy, 2021, pp. 65-6).

All of these factors combined may have influenced the formation of what is now called Grenadian French Creole (or GFC), a historical lingua franca with superstratal influence from the French spoken by planters and substratal influence from West African languages and diffusion of French Creoles from across the French Caribbean spoken at the time. Upon the formation of Grenadian French Creole, this language remained the lingua franca of many people on the island even after Grenada’s cession to the British Empire by the French during the signing of the Treaty of Paris in 1763 and again through the Treaty of Versailles in 1783 (La Grenade-Lashley, 2016, p. 21). The reasoning for the continued usage of this Creole language may be attributed to two main factors: the continued presence of French colonists on the island after the British took control and the attitudes towards the language amongst the island’s inhabitants.

Upon the initial cession of Grenada to the British, many French colonists relocated to neighbouring French islands such as Saint Lucia (Murphy, 2021, p. 94). However, the majority remained on the island and were able to participate almost fully within the British colonial environment that they found themselves in. Many were also deterred from leaving to go to other French colonies due to financial penalties incurred by the British such as the inability to take the profits of the estate upon selling it (Murphy, 2021, p. 120). As a result, records detail that even after a decade of British rule, the number of French subjects outnumbered those British subjects on the island which is attributed to the above but also to the fact that many British plantation owners were “absentees” (Murphy, 2021, p. 173). The large number of French speakers on the island also ensured that French and the French-lexifier Creole were continually spoken on the island. At the same time, however, it is quite likely that Grenadian English Creole was being formed and spoken amongst those enslaved people who worked on the newly acquired or built British plantations.

Despite many British plantation owners not directly living in Grenada following the initial cession of Grenada to the British in 1763, the island became one of Britain’s wealthiest as the “second most important sugar producer in the British West Indies”, only being surpassed by Jamaica (Mullen, 2022, pp. 185-6). The figures from this time between 1763 and 1773 reflect this as Grenada’s enslaved population increased from 13,846 to 26,211, solidifying Grenada’s existence as a slave society (Murphy, 2021, p. 109). From the outset of British colonial rule, many previously established plantations (both sugar and smaller-scale crops) had their ownership transferred from the French to British planters. Of those who acquired these plantations, a large number were Scotsmen who controlled about 40% of all land used for sugar and coffee production, despite making up only 21% of all landowners in Grenada (Mullen, 2022, p. 185).

The white demographics on the island had two major waves for the migration of British people: firstly, upon the initial cession of Grenada in the Treaty of Paris in 1763 and a second time following the signing of the Treaty of Versailles in 1783 after the French reconquered the island in 1779. This capture came as a strategic move during the American War of Independence where France was an ally to the thirteen North American colonies: by capturing British colonies in the Caribbean, the French simultaneously hindered British naval power and economic power. It came at a time during Grenada's history where the British presence on the island was vastly outnumbered by the French (Murphy, 2021, p. 182). While the British and French officials during this time agreed to maintain the productivity and multilingual, multireligious society preciously fostered on the island, the presence of French forces led to the preferential treatment towards French inhabitants at the expense of the British (Murphy, 2021). As a result of this, sentiments between the English and French grew fraught after the signing of the Treaty of Versailles in 1783 and a larger number of French plantation owners left to neighbouring islands with their slaves. Consequentially, more Scotsmen and other British moved to the island where Grenada and its neighbouring islands were described as "Scottish enclaves" due to the large presence of Scottish people on the islands who constituted around half of the white population (Mullen, 2022, p. 209).

The initial establishment and subsequent maintenance of British plantations in Grenada required the mass movement of enslaved Africans from across the British West Indies. Many of the initial British planters who moved to the island after the signing of the Treaty of Paris came from other British colonies and brought with them the enslaved people already under their ownership. It is likely that these enslaved Africans brought to Grenada from other British colonies spoke some form of an English-lexifier Creole and that this language, along with the

French-lexifier Creole, were spoken simultaneously on the island. Therefore, the linguistic situation on the island at the time potentially led to newly landed enslaved Africans to Grenada from the West African Coast learning how to speak these languages alongside already enslaved people who knew one of these languages gaining exposure to and potentially becoming competent in the other.

With regards to enslaved Africans who already spoke English-lexifier Creoles, they likely had linguistic influence on GEC throughout the duration of British colonialism on the island. This influence was likely intensified after the Slave Trade Act of 1807 was passed, prohibiting the enslavement and trafficking of Africans from the African West Coast to any British colonies. The passing of this act, while not outright ending slavery in the British Empire, restricted the British planters and plantation owners to already enslaved individuals within the British colonies as the only means of acquiring new slaves until the subsequent abolition of slavery in 1834. All of these factors would have led to the formation of GEC where multiple varieties of English, such as those spoken by the Scots and Englishmen, acted as superstratal varieties while the West African languages spoken by newly landed enslaved Africans and the French-lexifier Creole spoken on Grenada were substratal varieties.

Upon the abolition of slavery in the British West Indies in 1834, the enslaved people were freed from their forced labour. However, as the British maintained control of Grenada throughout the nineteenth century, noticeable changes occurred within the island's linguistic landscape. Grenadian French Creole, which was once used to facilitate communication between enslaved peoples on plantations and was likely used across the French-speaking population of Grenada, was gradually looked down upon by both its speakers and the British elite on the island. This shift can be explained by the fraught relationship between the French and British

following the French recapture of the island in 1779 and the treatment of British colonists on the island under French rule (Murphy, 2021). In contrast to this Creole variety, English was viewed much more favourably and was the language associated with social prestige, and which had larger social relevance in Grenadian society as the island continued its existence as a British colony (La Grenade-Lashley, 2016, p. 29). These language attitudes and ideologies likely diffused into households where the French Creole was spoken through the British administration and attitudes of the increasingly British upper class. Examples of these linguistic ideologies from this time period were documented where the Creole language was described as a language “formed of a jumble of French most vilely corrupted” (Bell, 1893, p. 46 as cited in Avram, 2018, p. 118).

As a result of these shifting language ideologies, Grenadian French Creole was institutionally forbidden in domains such as school where students who spoke this Creole variety were actively punished by their English-speaking teachers (La Grenade-Lashley, 2016; Avram, 2018). Similar policies were enforced throughout the British Empire at the time where indigenous or Creole languages were forbidden within educational settings due to the idea that these languages would inhibit one’s acquisition of the Standard English variety. Institutional attitudes such as these were likely internalized by the children attending these institutions, but this alone would not stop children from speaking this language. The attitudes were likely also reinforced in the home, where most Grenadian parents and grandparents refrained from using the French Creole with children, resulting in most Grenadians being educated in a Standard variety of English with Grenadian English Creole being spoken otherwise due to its proximity to English. This has led to the almost complete erasure of the French Creole variety within modern-day Grenadian society and the English Creole being the vernacular language spoken at home and

within informal situations. Standard English has remained the language of institutional power within Grenadian society post-independence from the British and is stated as the official language of the island. Its presence in domains such as education and politics has remained, though the usage of Standard English is mainly contained to these domains.

2.2 The Creole Continuum in Grenada

The relationship between Grenadian English Creole and the Standard English variety known as Grenadian English can be described through the term “creole continuum”. This term encompasses the linguistic situations where a continuum of variation exists between the Creole variety and the Standard variety which occur on separate ends of a linguistic spectrum. This theory was initially proposed and defined as the “(post)-creole continuum” through the work of DeCamp (1971) and Bickerton (1973, 1975). These linguists believed that a continuum existed between the English-lexifier Creole and the Standard English which would lead to the process of ‘decreolization’ with post-emancipation societies of the Anglophone Caribbean.

The proposed theory of ‘decreolization’ anticipated that the Creole variety or ‘basilect’ would change through influence from the Standard variety or ‘acrolect’ due to prestige association and hegemonic influence, resulting in the formation of an intermediate variety or ‘mesolect’. These multiple varieties under Decamp’s original theory were also believed to be contained within one larger system as opposed to multiple systems that speakers could use interchangeably. While DeCamp (1971) originally proposed this theory to account for the linguistic situation found in Jamaica, this initial proposal was found to more accurately describe the situation within Guyana as described in Rickford (1991) and Bickerton (1973; 1975). Although this process of ‘decreolization’ described one linguistic scenario, its application to the

rest of the Anglophone Caribbean was not entirely fruitful. Therefore, this component was removed from the broader theory and the term “creole continuum” has become regularly invoked in linguistic research in Anglophone Caribbean countries to describe the relationship between the basilectal and acrolectal varieties. By describing the linguistic contexts as within a continuum, both the present-day and historical contexts can be considered: in the present-day for these countries, the acrolectal and basilectal varieties occur in differing scenarios and contexts, which are influenced by the history of how these varieties were treated. This historical context can also be accounted for where enslaved people had differing access to the lexifier which was only fully accessed by those running these countries during colonialism, resulting in the construction of different varieties and competencies when discussing the acquisition of the lexifier and the genesis of the Creole variety by the enslaved peoples.

Decamp's original theory of the “creole continuum”, though useful in its application, has also seen some opposition in its full-scale application to Anglophone Caribbean Creole varieties due to an earlier theory proposed by Bailey (1966). This theory proposes that instead of forming one larger system in the mental grammar, the Creole variety and Standard variety compose two distinct systems within a polar model in the mental grammar. Under this polar model, each variety exists at one end of an imagined linguistic scale and any intermediate variety under Bailey's model can be described as “an area of interaction between a relatively conservative creole and the local standard, which appears to have no distinct status as a system” (Winford, 1997, p. 236). This definition of the ‘mesolect’, therefore, accounts for the amount of linguistic variation found within the Jamaican linguistic landscape and directly contrasts with the definition of the mesolect previously outlined which explains for the Guyanese linguistic situation.

These two theories have largely informed how the “creole continuum” as a model can describe the languages used within Anglophone Caribbean countries and their relationships to one another and the broader society. The variation inherent in these two theories allows for a diversity of approaches to describing the phenomenon of English/Creole usage for each country as previously noted with Jamaica and Guyana. Within the description of Grenada's linguistic context, evidence from existing studies have shown that aspects of both systems should be utilized to get an accurate description of how Grenadians utilize language. Paterson (2013, p. 9) details that due to the range of variation and inconsistencies employed by speakers due to differing demographic and extra-linguistic factors, the larger explanation afforded by DeCamp's (1971) description is used to describe the Grenadian situation. Within these different theories, various terms are shared, notably the labels of ‘basilect’, ‘mesolect’ and ‘acrolect’. In her thesis, Paterson (2013) describes Grenadian English Creole (GEC) as the ‘basilect’ which is the “most conservative form of creole on the island” which is not necessarily radically divergent from its lexifier but is the form farthest from the ‘acrolect’ (p. 10). The ‘acrolect’, conversely, would be Grenadian English (GE) which is described as the “language spoken in parliament” and is acquired through the education system (p. 4). The ‘mesolect’ here is also treated similarly to the definition given in Winford (1997) due to the lack of investigation into any mesolectal or intermediate forms in Grenada.

The usage of these labels and description of the linguistic situation served to provide a basis for Paterson's (2013) thesis, which was mainly focused on describing the phonetic features of GEC (the ‘basilect’) in the parish of Saint Andrew, a parish in the north-east of the island. The study was done through an analysis of the monophthongal vocalic and consonantal features in children across idiosyncratic and intra-speaker variation. Observations made in this study

provide evidence for a potential phonetic distinction between the different varieties spoken on the island. Amongst the features studied here, the section of interest is that of the vowel mergers investigated by Paterson (2013). Within the Creole variety, multiple mergers were observed across the vowel space using Wells' (1982a) lexical sets to identify them. While this paper also details the features that can distinguish between the acrolect and basilectal representations across GEC, the acrolectal representations were not the focus of this study and were merely observations made based on what the basilect did not show rather than what it may be realized as by speakers within the Grenadian context.

2.3 Sociolinguistics & Caribbean Standard Englishes

The Creoles of the Caribbean have long played a role in the development of fundamental theories in the study of creole languages. Throughout the colonial and post-colonial period in the region, the speech of people across different social strata was documented due to marked differences from their superstratal varieties. Some of the earliest accounts of English-lexifier Creoles, for example, discuss the speech of both enslaved Africans and white colonists alike (see Carmichael, 1833 as cited in Prescod, 2010, p. 16). Much of the research done on these Creole languages has been focused on understanding their internal structure through an application of theoretical linguistic models. Numerous studies have focused on these languages through morpho-syntactic study due to the salient differences that Creole languages tend to have from their lexifier language and the implications regarding how they reflect substratal influence within their syntactic and morphological structure. Conversely, much less attention has been paid to other areas concerning grammar such as semantics, phonology, and phonetics within the study of Creole languages (Migge, 2020, p. 158).

Of the different linguistic frameworks utilized to study the interaction between language and speech communities within societal structures, the variationist sociolinguistic framework has historically been the main theory employed in the Anglophone Caribbean context. This framework was first incorporated into Creole studies in the 1970s following its conceptualization by William Labov in the 1960s (see Labov, 2006). The usage of variationist sociolinguistics was fundamental in the development of the “creole continuum” and much of the foundational research done using this methodology consists of qualitative sociolinguistic studies. These studies typically compare the basilectal varieties used throughout the Anglophone Caribbean to the acrolect which was typically classified as ‘Standard English’, a form of English that is not specific to these countries but is actually referencing a globally hegemonic form of English. These varieties were compared across different areas of the grammar and address variation between the two through the creole continuum framework (Farquharson & Migge, 2024).

Despite this framework addressing different concerns than traditional theoretical approaches, a considerable amount of research dealing with the creole continuum and sociolinguistics is also centred around morphosyntax and lexical items as seen in Rickford’s work in *Cane Walk* (Rickford, 1991), for example. Despite this, phonological work did also play a role early in the implementation of the creole continuum, meaning that sociolinguistic studies were part of the phone-level of linguistic study very early on. Until more recently, however, studies with a focus on sociophonetics were not as common, likely due to a confluence of reasons such as a general lack of research on individual Caribbean societies and technical drawbacks that have come to make sociophonetic analysis more accessible. Over time, these circumstances have changed as this field has seen increasing scholarship discussing the features that arise within certain demographics or social contexts in the Anglophone Caribbean and the

relationship between the social factors and the different lects utilized by speakers. Examples of the since conducted sociophonetic studies can be seen across the Anglophone Caribbean in the works of Irvine (2004, 2008) which detail the different phonetic patterns found across governmental workers with varying demographic features in Jamaica and Westphal et al. (2022) which discusses the intersection of the Creole and Standard varieties used by speakers of Trinidadian Creole English within formal domains such as government, public media and legal settings.

Emphasis should be placed on the fact that within much of the work on creole continua and its intersection with the sociophonetic framework, discussions have primarily centred on the basilectal varieties and how they differ to the acrolect. These acrolect or Standard varieties has historically been treated as an exonormative variety by people throughout the Anglophone Caribbean, meaning that they are not seen as endemic to the Caribbean and are remnants of British colonial rule. Relevant attitudes have been documented in islands such as Jamaica (Youssef, 2004 as cited in Deuber, 2014, p. 36) where the standard variety for certain speakers is still seen as tied to British colonialism when compared to the endonormative Creole which is viewed as part of the “national identity”. Despite these attitudes towards acrolectal varieties derived from varieties of English spoken during British colonialism, these acrolects have developed their own intrinsic linguistic features, making them different from those exonormative varieties from which they were derived. These acrolects, therefore, can be referred to under the term Caribbean Standard Englishes (henceforth referred to as CSEs) which are considered as endonormative varieties descended from the standard varieties that influenced them in both colonial and post-colonial contexts.

This discussion of CSEs has treated these individual varieties as part of a larger whole. This is the view held by Christie (1989) and Allsopp (1996) as cited in Deuber (2014, p. 14) where the Standard varieties spoken in countries such as Trinidad, Jamaica and many others are all national sub-varieties under a larger regional standard. As a result of being derived from similar exonormative varieties of English, the CSE varieties share many linguistic features across different domains such as morpho-syntactic, lexical, and phonetic/phonological. With emphasis on the phonetic and phonological domain as that is the main area of interest for this study, Deuber (2014, p. 14) has discussed parallels between Jamaican English and Trinidadian Standard English across their vocalic inventories where, for example, words in the FACE & GOAT lexical sets are monophthongised to produce [e:] and [o:] respectively, NEAR & SQUARE are usually merged as monophthongs [e:] or [ɛ:], and the TRAP vowel usually occurs lower and more central as [a]. Support for these features as being indexical of acrolectal speech can be further found in the work of Irvine (2008) who describes certain phonological representations as unique to either the Creole or Standard English varieties. The term ‘load-bearing’ is used to describe those variants used to indicate the usage of either language variety and the absence of which would indicate that this variety is not necessarily being utilized. With reference to Standard English in Jamaica, for instance, the monophthongal representations of the FACE and GOAT lexical sets are necessary to be perceived as speaking “proper” English, indicating that these are load-bearing variants. However, non-load bearing variants of these lexical sets do exist where when occurring before rhotic consonants, the corresponding diphthongs for these lexical sets ([ie] and [uo] respectively) and these monophthongs are used interchangeably even within formal scenarios (Irvine, 2008, p. 19). Irvine also outlines those load-bearing variants for the Creole

variety which are actively avoided by speakers in these scenarios to maintain the perception of Standard English.

This theoretical framework has been used to explain the occurrence of phonological features in other Anglophone Caribbean countries as seen in Westphal et al. (2022) for Trinidadian English. In this paper, speakers within the contexts investigated were found to consistently produce the monophthongal form of FACE and GOAT, for example, as a feature found within the Creole variety as well as the Standard variety (Westphal et al., 2022, p. 387). This indicates that within the Trinidadian context, these variants are not load-bearing as they occur interchangeably across the varieties and domains. The application of Irvine's theory to Standard and Creole varieties, while evidently useful, is said to lack the broader framework to deal with context-specific variation. Such sentiments have been noted in Westphal et al. (2022) who also note that the diphthongs for these lexical sets, for example, are uniquely utilized in newscasting due to the influence of exonormative English varieties, meaning that these features can take on specific load-bearing configurations depending on the context (Westphal et al. 2022, p. 387). This indicates that the Standard varieties between both countries, while sharing vocalic features, exhibit varying patterns due to their unique sociolinguistic backgrounds and the exclusive contexts that certain speech patterns can occur in.

With reference to the Grenadian situation, the Standard variety of Grenadian English has not undergone any focused phonetic or phonological studies within the sociolinguistic framework. Of the discussions that do exist surrounding the interaction between the Creole and Standard varieties, there have been some descriptions of their vowel properties in the attitudinal studies of Hänsel & Meer (2023) and Hänsel et al. (2022). These papers are qualitative in nature and mainly address the linguistic ideologies of Grenadians when presented with speech from

other Grenadians in a professional, formal setting whose speech aligns more closely with either GEC or GE. To evaluate whose speech was more basilectal or acrolectal, both papers provided an outline of the features that typically classified either pronunciation. Some vowel variants such as the monophthongised FACE and GOAT lexical sets, for instance, occurred across newscasters who were described as having more Creole-influenced accents and those using more localized Standard English (Hänsel & Meer, 2023, p. 135). However, similarly to the pattern noted in Westphal et al. (2022) for Trinidadians within newscasting, speakers who targeted exonormative varieties utilized diphthongs for these lexical sets (Hänsel et al, 2022, p. 27). This similarity across Grenadian English and Trinidadian English indicates that the idea that these varieties constitute a larger Caribbean Standard English family gains some legitimacy. The data from these two papers also indicates other features that may be unique to the Grenadian formal context, such as the TRAP lexical set being realized with [æ] and the STRUT vowel occurring further back as [ɔ] (Hänsel & Meer, 2023, pp. 135-36).

Also, as previously mentioned, exonormative standards of English can still influence CSEs, particularly with regards to how individuals represent themselves in speech within specific formal contexts. The utilization of certain features can be in part due to exposure to these exonormative standards as in smaller islands such as Grenada where the acrolect is said to be “peripheral”, meaning that it is not recognized as a variety unique to the country (Hänsel, 2019, as cited in Hänsel & Meer, 2023). However, it can also be tied to specific job and contexts such as newscasting where some speakers may utilize features more aligned with British or American varieties of English (Hänsel & Meer, 2023). Again, this pattern is reflected in Grenada with newscasting where some speakers exhibit variants from other exonormative varieties such as consistent diphthongization of FACE and GOAT, TRAP and BATH being realized as [æ] and

the STRUT vowel occurring as [ʌ] as noted with speaker ‘Gfm’ who was said to use an American accent (Hänsel et al, 2022, p. 27).

All of this previous research, both within Grenada but more broadly across the Anglophone Caribbean, establishes a set of frameworks and descriptions that will help elucidate the usage of certain vowels within a parliamentary setting and how they may pattern when compared to other formal domains (such as newscasting) and other Standard Englishes in the Caribbean.

2.4 Research Questions & Hypotheses

With the major aim of my research being the elucidation of vowels within a specific context of Grenadian speech, my research questions are as follows:

1. What are the vocalic reflexes of Grenadian MPs within a parliamentary context? Is there inter- and intra-speaker variation based on social and extra-linguistic factors?
2. Do these vowels provide a broader understanding of the linguistic situation in Grenada with regards to Grenadian Creole/English? As previously mentioned, Paterson (2013) detailed the phonetic characteristics of GEC spoken in Saint Andrew with regards to vowel mergers while other studies have explained trends in formal domains such as newscasting and education (see Hänsel et al., 2022; Hänsel & Meer, 2023). The observations made here will help describe the speech found within parliament in relation to the basilect and acrolect as previously documented.
3. How does this speech compare to other Caribbean Englishes such as Trinidadian English? This would include vocalic features that tend to show overlap in the wider Caribbean Standard Englishes as well as the vowels outlined in Westphal et al (2022).

With regards to my hypotheses, I believe that there may be some variation between speakers depending on a combination of their demographic and extra-linguistic features. As literature situated in a parliamentary context shows from Hall-Lew et al (2017), phonetic and phonological features of speech can be influenced by one's political beliefs. There is also the possibility that stylistic choices are made by speakers in an effort to communicate certain ideas of self to the broader public regarding their societal affiliations, as seen with Kamala Harris who adjusted her vowel space to alternate between her African American and Californian identities both overtly and covertly (Holliday, 2024). Depending on one's demographic and social characteristics, I believe that each speaker will display larger shared patterns along with unique differences that may reflect aspects of their identity outside of politics within their parliamentary speech.

When referencing the acrolect-basilect divide, I have no preconceived notions about what might occur due to lack of research regarding their intersections in this domain. Whatever vowel mergers are or are not accounted for will help to build a broader understanding of how speech in formal domains occurs in the present-day Grenadian context. Therefore, I mainly hope to gather enough data to form a solid foundation with regards to how the speech within parliament can be described against already existing research on the island and within the Caribbean.

3. Methodology

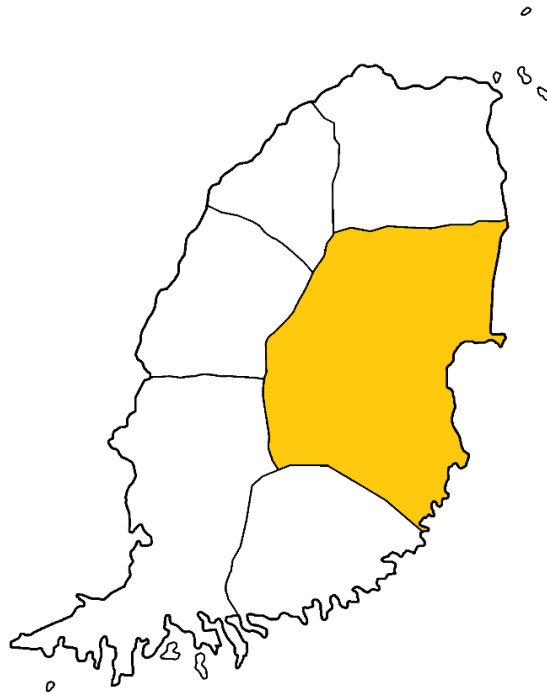
3.1 Overview

3.1.1 Speakers

To carry out my investigation into the vowels used by parliamentarians within the parliamentary domain, I have chosen to investigate the vowel reflexes of three speakers from the parish of Saint Andrew, located in the northeast of the island. This parish is distant from the capital parish and has been described as having more basilectal vowels by Paterson (2013) (see Figure 1). Along with this, it can be assumed that these speakers are from the same parish as within Grenadian politics, it is commonplace for people to run for seats in constituencies where they are from due to the added support that a local network brings.

Figure 1

Map of Grenada with the parish of Saint Andrew highlighted in yellow



The focus on speakers from the parish of Saint Andrew serves two purposes: firstly, this parish is the only one that has multiple members in the House of Representatives from across the gender spectrum. In fact, of the fifteen total MPs representing constituencies in the House of Representatives, there are only five female representatives in total. Of these five, the MPs of Saint Andrews account for three. Therefore, it is the only parish with multiple women representing different constituencies in the same general area. While there are three female MPs from this parish, only two were chosen due to the amount of speech that could be found across the different parliamentary sessions that were used for analysis. The only drawback of using this parish is that there is only one male MP for this parish, meaning that the data will skew slightly to the measurements of the female participants.

Along with this, by focusing on the speakers from one parish, the results can be compared to that of Paterson (2013) which focused on the phonetic properties of children who were born and raised within Saint Andrew. I believe that using the findings from this paper in conjunction with the results and subsequent analysis in this paper can lead to a more concrete understanding of the potential vowel reflexes in a Grenadian context and how they can oscillate between the Creole and Standard varieties. It also provides consistency as both papers will be focusing on the speech of participants from similar areas. Therefore, this paper can help broaden the understanding of language usage within Grenada and specific societal contexts and amongst people from the same region. It should be noted that since Paterson (2013) was investigating children at the time of her study, there could be some differing effects due to the age of speakers in this study and participants of that study being much broader. However, such comparison can still be fruitful as it can illuminate patterns within speech that may be employed cross-generationally.

3.1.2 Demographic and Extra-Linguistic Features

Along with comparing the vowel data at a phonetic/acoustic level, understanding the resultant data through the lens of sociolinguistics will also be required. While most information about these speakers was readily available online, some information could not be verified from a primary source and was, instead, found through searches through social media run by both the parliamentarians and governmental bodies. Therefore, to ensure that the analysis done with the social features is sound, only those factors that could confidently be accounted for were used in sociolinguistic research: namely gender, political party and years elected as a Member of Parliament. These features, along with others, are listed below in Table 1 for all relevant speakers for this study.

Table 1

Demographic information and other relevant data for all speakers

Name	Gender	Age	Place of Birth	Education & Location	Years Elected	Political Party
Delma Thomas	F	50	Mount Horne	Masters (England)	13	NDC (prev. NNP)
Emmalin Pierre	F	50	Birch Grove	Masters (Scotland)	17	NNP
Lennox Andrews	M	~50	<i>Unknown</i>	Masters (Trinidad)	4	NDC

3.2 Data Collection

3.2.1 Sourcing the Data

The speaker data was gathered through recorded parliamentary sessions posted on YouTube. There were two main YouTube channels from which these sessions were retrieved from: namely, the 'Grenada Information Service (GIS)' channel and the 'Grenada Broadcasting Network' channel. For the purposes of this study, the selected sessions occurred from November 2025 to March 2026 which meant that some of the most recent publicly available speech within parliamentary sessions were utilized. While a total of 10 sessions were downloaded, only 6 were utilized to gather enough speech and analyse the vowels of each parliamentarian's speech. Using multiple parliamentary sessions also made it easier to find enough data per speaker to analyse since MPs did not attend every parliamentary session or did not speak in all sessions. Therefore, downloading multiple sessions ensured that the maximum amount of data per speaker was being utilized as shown in Table 2 below.

Table 2

Speaker data per parliamentary session (estimates in minutes)

	November 11th 2025	November 19th 2025	December 1st 2025	January 20th 2026	February 17nd 2026	March 26th 2026	Total
Delma Thomas	14	N/A	55	5	8	8	90
Emmalin Pierre	N/A	N/A	N/A	15	35	14	64
Lennox Andrews	N/A	15	N/A	24	10	N/A	46

3.2.2 Data Transcription & Segmentation

To gather the relevant vowel tokens for this study, the ELAN (2026) computer software was used. Before segmenting the data, automatic subtitle transcriptions via YouTube were downloaded for each session in an .srt format. Utilizing automatically generated transcriptions decreased the time to make individual segments, transcribe the data, and select the relevant vowel tokens. These .srt files were imported into their corresponding ELAN file and manually adjusted so that individual tiers for each speaker were included. Manually adjusting the transcriptions ensured that the automatic captions accurately represented each parliamentarian's speech, especially as the captions were likely not generated with specifically Grenadian or Caribbean data. Therefore, manually adjusting the tiers in ELAN ensured that the captions reflected each speaker's utterance and that each segment was synchronized accurately.

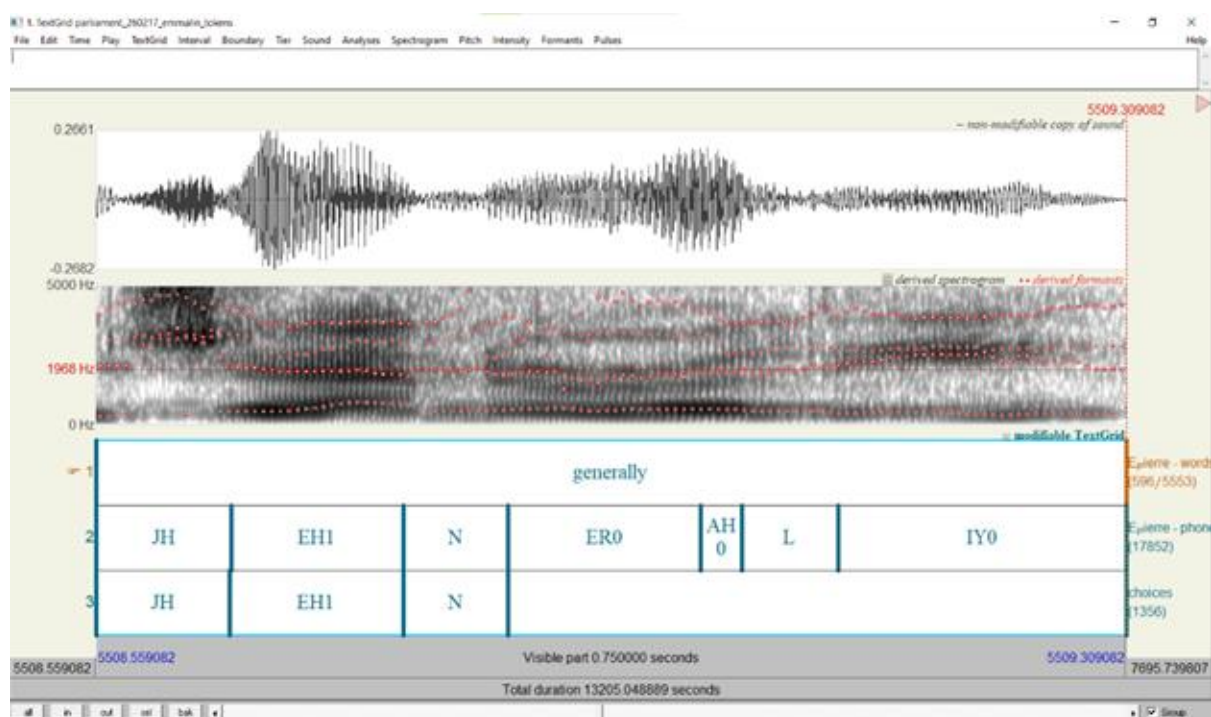
The resulting adjusted transcriptions were then saved as TextGrid files to be inserted into the Montreal Forced Aligner or MFA (McAuliffe et al, 2026). This program is a forced aligner which takes TextGrid files with separated tiers as an input and outputs phone-level and word-level segmentation according to the provided data. Alignments were done through MFA using the ARPABET phone set, which aligns speech with different categories according to the rules of General American English speech. This phone set was chosen due to the amount of data used to build the corpus, meaning that the alignments were more likely to be accurate using this phone set than other English sets. It was also beneficial as stress was marked for all syllables, meaning that parsing through segments that had primary stress was made easier.

Upon MFA producing the output of word-level and phone-level segments for all ELAN files, a manual analysis of the vowel data was conducted in the Praat software package (Boersma et al, 2026). This software allows for the analysis of speech sounds by providing means to

measure acoustic features such as duration, pitch and formant frequency alongside visualizations of the sound files through the waveform and spectrogram. Praat, therefore, was used to determine which tokens showed the clearest formants on the spectrogram and to ensure that MFA aligned the speech properly. Doing so ensured that the resultant phone-level alignments from MFA were properly aligned with the Caribbean data since the phone set was based on American English. After this, a new tier in Praat was created where alternative segments were made for the relevant tokens and to ensure that the entire vowel was present within the selection. The surrounding segments were also noted. Figure 2 below shows an example of a segmentation method seen for the word ‘generally’ for one of the speakers.

Figure 2

Waveform and spectrogram showing a token with relevant TextGrid tiers



Tokens that were found following the segments /l, w, j, r/ were collected but were avoided to lessen the coarticulatory effects coming from these segments that could alter the formant frequencies of the relevant tokens. These criteria were noted by Westphal et al. (2022, p. 368) in their study of a similar scenario and data set within the Trinidadian context. Alongside the phonetic environments, function words were avoided where possible. These consist of words such as pronouns, auxiliary verbs and prepositions which serve a function within the grammar of a sentence but contain little lexical information. These two categories of tokens were only included in the data if a speaker or portion of speech did not have enough content words to comprise the tokens for further analysis.

Syllables with primary stress were strictly used for this data, ensuring that the vowels being analysed were not reduced as tends to occur with unstressed syllables. Vowel reduction as seen in unstressed syllables can distort the vowel data if included since they are not being produced with full vocal effort, hence the avoidance of these vowels. The selection of stressed vowels was done using the stress assignment provided via ARPABET where 1 signalled a stressed vowel, 0 was unstressed, and 2 was secondarily stressed. Since ARPABET is based on American English, some tokens within this data exhibited stress in different positions than those seen in this English variety. For the purposes of this study, therefore, only those tokens that audibly matched their stress assignment were used. It should be noted that while not within the scope of this study, research into the stress assignments for Grenadian English/Creole would help to illuminate what the stress patterns are.

Tokens were also excluded if there was too much extraneous noise, as this noise could make the readings for the vowels very unclear due to echoing, shouting, and other factors that could have affected the spectrogram reading. Another auditory factor that caused exclusion from

analysis is the intensity of the speaker's utterance. If the speaker was found to be shouting or too quiet, then those tokens were typically left out unless the spectrogram showed a clear formant reading.

Finally, for each relevant word class investigated, a maximum of 30 tokens was initially set to gather sufficient data. However, upon manually parsing the data from these word classes into the relevant Wells' (1982a) lexical sets, there were not enough tokens for all lexical sets. Therefore, more tokens were parsed across all word classes until enough tokens were found. Some word classes did not have enough tokens, even after all viable tokens were parsed. Therefore, there is an uneven number of tokens across some lexical sets. Table 3 below details the lexical sets and the ARPHABET category that corresponded with them. For some categories seen in Table 3, there was a one-to-one distinction for the majority of ARPABET word class which matched directly with a lexical set. This is seen with 'FLEECE' and 'IY', 'STRUT' and 'AH', 'KIT' and 'IH', for example. However, some of these ARPABET categories also contained multiple lexical set possibilities. For instance, 'AA' corresponded to 'LOT/CLOTH/START/THOUGHT' while 'AO' corresponded to 'CLOTH/NORTH/LOT/FORCE/THOUGHT'. This method of assignment, therefore, made it harder to know how many tokens were present in each word class per lexical set.

Table 3

Word classes under investigation with example words and their equivalent lexical sets

Wells' (1982a) Lexical Set	Word Classes	Examples	Wells' (1982a) Lexical Set	Word Classes	Examples
LOT/CLOTH/ START/THOUGHT	AA	box, officer, hard, cause	KIT	IH	income, bill, medicinal
TRAP/BATH	AE	ask, expand, understand	FLEECE	IY	speaker, people, see
STRUT	AH	cover, productive, result	FOOT	UH	good, full, ensure
CLOTH/NORTH/LOT/ FORCE/THOUGHT	AO	belong, course, inform	GOOSE	UW	move, school, institution
DRESS/SQUARE/ TRAP	EH	central, fair, carry	GOAT	OW	soul, focus, exposed
NURSE	ER	first, determine, avert	FACE	EY	saint, education, make

Finally, once the tokens were all parsed into the relevant word classes, an R script was used to select the tokens from the data. This script selected the unique tokens for each lexical set with a maximum of two duplicate wordforms for each token, resulting in three occurrences total. If the threshold could not be reached after two duplicate forms were used, then function words or words with the previously avoided environments were added until the token threshold of 30 was hit for each lexical set. This was applied across monophthongs and diphthongs to maximize the number of tokens and, therefore, enable the best available analysis of the data.

3.2.3 Vowel Extraction and Aggregation

Upon isolating the valid tokens that could be used for this analysis, the resultant TextGrid files were run through the FastTrack (Barreda, 2021) Praat plugin for each speaker to isolate the vowel segments. This plugin achieves this by extracting the vowels in the TextGrid files by their word class and stress assignment as assigned in ARPABET and conducting automatic formant analysis. Doing this allows for selection and aggregation of the best formant analysis for these vowels. The parameters are also adjustable for this function, meaning that depending on the dispersion of the speaker's formant, the formant ceiling can be adjusted. For the purposes of this study, the female speakers had their formant ranges set at 5000-7000Hz while the male speaker was analysed at 4500-6500Hz. The higher formant range for female speakers correlates with the shorter vocal tract, resulting in smaller resonant frequencies when compared to male speakers (Baart, 2010).

The measurements for monophthongs and diphthongs were also taken from the results gathered by the FastTrack aggregation. Within this software, measurements for all vowels are taken from nine different positions within the vowel. For monophthongs, the measurements for F1 and F2 were taken from the midpoint of the vowel. The classification of monophthongs was mainly in line with their treatment in the Paterson (2013) and Westphal et al. (2022) papers. There is an argument to be made that some lexical sets such as NORTH and FORCE could be measured as diphthongs. However, this was not considered for this research due to their description in most hegemonic English varieties such as RP English and General American English as monophthongs (see Wells, 1982b).

The only two lexical sets classified as diphthongs were GOAT and FACE as these two lexical sets are most commonly describes as 'monophthongised' in the literature for Caribbean

Englishes and Creoles. By measuring the tokens in these lexical sets as diphthongal, this claim could more thoroughly be addressed in the Grenadian context. Therefore, measurements were taken for both F1 and F2 at different positions in the vowel: one at second of the nine measurements of the vowel and one taken near the end of the vowel at the eighth measurement point. This corresponds to methods of measuring diphthongs where the F1 & F2 values are taken from the onset and glide positions to document any change in vowel position as seen in Westphal et al. (2022, pp. 381-2).

3.2.4 Vowel Comparison & Normalization

To conduct both inter- and intra-speaker analysis, normalized formant data was utilized. Normalization is the process whereby “phonetically-irrelevant variation” is removed from vowel formant data while maintaining perceptual differences within these vowels that can be attributed to dialectal or sociological differences (Barreda & Nearey, 2018, p. 500). This process has been automated throughout linguistic study by using algorithms such as the Lobanov (1971) method, a popular method of normalization both within sociophonetic but also within studies of Caribbean Englishes (Westphal et al, 2022). Despite the popularity of the Lobanov (1971) normalization, other methods of normalization have been increasingly used when analysing vowels while seeking to maintain extra-linguistic features. Variation between normalization methods can partially be attributed to the goal of the researcher and their views on the function of normalization. The predominant view of normalization has been to remove all anatomical differences between speakers, resulting in vowels that are devoid of any variation caused within the vocal tract. However, this is “at odds” with modern linguistic theories and may lead to the underreporting of social features attributed to vowel formant data (Barreda, 2025, p. 20). Therefore, the normalization algorithm described by Nearey (1978) was used here to avoid such

views. This algorithm is described as maintaining ‘non-phonetic variation’ which includes “acoustic variation which doesn’t affect phonetic properties” (Barreda, 2025, p. 1). In essence, it will only remove information that is already removed by listeners during perception and keep any other linguistic and social information that differentiates vowel sounds between speakers. This would contrast with essentialist views as any data that may be attributed to anatomy but does not affect the properties of the vowel formant data are maintained. Doing so allows for social factors to be better reflected in the speech data.

When discussing the Nearey (1978) normalization algorithm, it is important to note that there are two ways the normalization can be calculated. Of these, the Neary2 method was utilized which consists of log-mean vowel normalization for all formants of a vowel for a given speaker. Barreda (2025) argues that such means of normalization are preferable to more popular algorithms as they better reflect the processes that occur during listener perception of vowels and do not ‘overnormalize’ the data where phonetic properties are removed that represent variation within the data between speakers and within a speaker’s vowel inventory. By more closely reflecting what is nearer to perception within the vowel formant data, Nearey2 can account for how speakers produce the data and how these sounds pattern during perception. The R package *vowels* was used to both apply the Nearey2 algorithm (Kendall & Thomas, 2007). The data was then re-scaled to be readable as Hertz (Hz).

The resulting normalized, rescaled formant values for F1 and F2 were then placed through a MANOVA, a statistical test that compares multiple dependent variables (formants) in the analysis of an independent variable with multiple variables (vowels and speakers). The result from these tests includes Pillai’s Trace and the p-value where the Pillai score explains the amount of overlap between the independent and dependent variables, where scores closer to 0

indicate a higher likelihood of overlap while scores closer to 1 indicate a higher likelihood of distinction amongst the vowels. The p-value indicates whether the differences between the formants can be explained by random chance or reject the null hypothesis that the vowels are merged. Stanley & Sneller (2023) outline that, in relation to the Pillai scores, it is important to both establish the tokens across vowels when conducting MANOVAs and to calculate a Pillai threshold for the number of tokens in question. Since Pillai scores are influenced by the amount of data that is fed into the MANOVA, the overlap value will vary depending on how much vowel data is available. With regards to the application of Pillai scores and p-values to this paper, the formula provided in Stanley & Sneller (2023, p. 61) was utilized to determine a threshold for what would be considered “merged” for the vowel tokens. This formula specifically finds the 95th percentile of Pillai scores which correlates to the benchmark for p-values where a value below 0.05 indicates that the null hypothesis has been rejected. Calculations for this along with the MANOVAs themselves were done using scripts provided by Stanley & Sneller (2023, p. 66) in a supplementary document.

4. Results & Discussion

For these three speakers, a total of 1,227 tokens were utilized across all vowel categories. As previously stated, while there was a desired threshold limit of 30 tokens per lexical set per speaker, some vowels did not reach that limit. This led to an uneven number of tokens for some speakers in certain lexical sets. The number of tokens across all speakers per lexical set is displayed in Table 4 below. Additionally, the relevant IPA vowels for these sets as outlined for Received Pronunciation (RP) are included as they reflect non-rhoticity within their categorization and, thus, may be closer to GEC vowel reflexes.

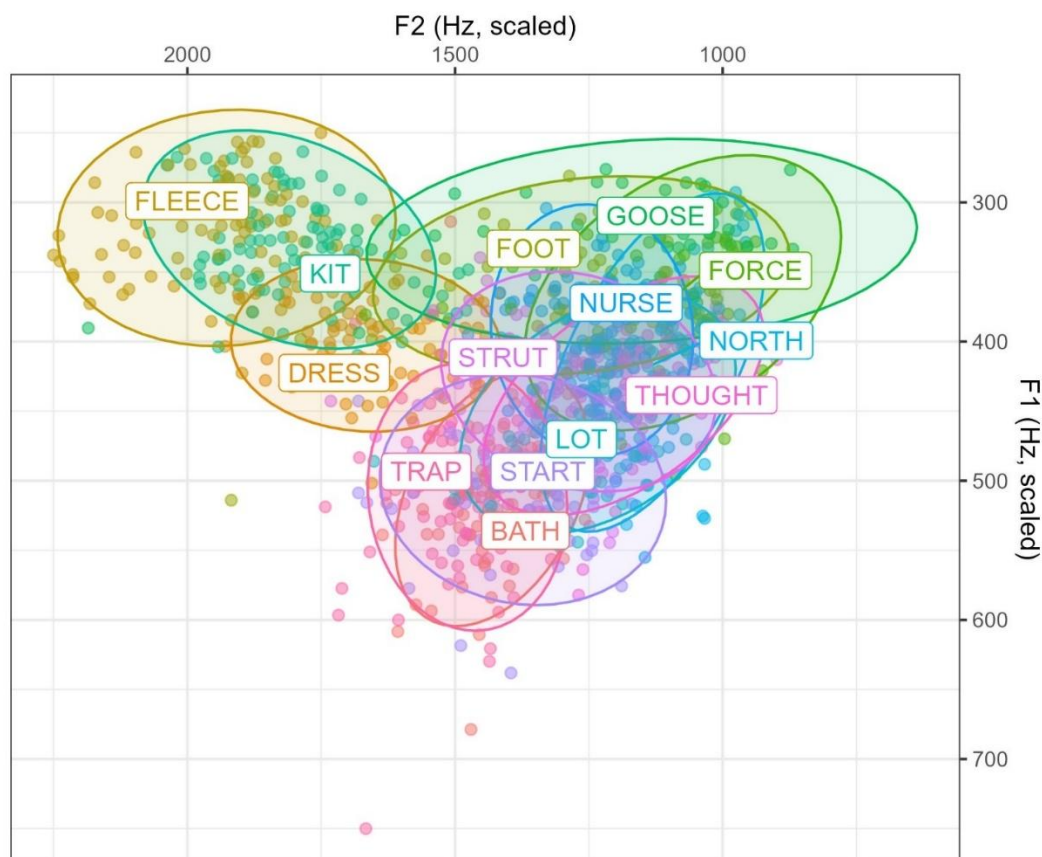
Table 4

Number of tokens per lexical set for all speakers

Wells' (1982a) Lexical Set	IPA (RP)	Total token number	Wells' (1982a) Lexical Set	IPA (RP)	Total token number
BATH	/ɑ:/	70	KIT	/ɪ/	90
DRESS	/e/	90	LOT	/ɒ/	90
FACE	/eɪ/	90	NORTH	/ɔ:/	88
FLEECE	/i:/	90	NURSE	/ɜ:/	90
FOOT	/ʊ/	47	START	/ɑ:/	67
FORCE	/ɔ:/	60	STRUT	/ʌ/	90
GOAT	/əʊ/	89	THOUGHT	/ɔ:/	87
GOOSE	/u:/	53	TRAP	/æ/ ~ /a/	90

Figure 3

Normalized (Nearey2) F1 and F2 data, re-scaled for all monophthongs across all speakers



The lexical sets and their relevant tokens from Table 4 are displayed in a vowel plot using *ggplot2* where ellipses and the individual vowel tokens are plotted. From the lexical sets investigated, all of them occur within their canonical position in the vowel space: all of the high vowels occur within the lowest F1 range and FLEECE/KIT occur with high F2 values and FOOT/GOOSE occur with low F2 values. Those lexical sets which typically occur within the middle of the vowel space are also found there with some alternations: the NURSE set occurs much further back than its typical pronunciation in RP which is centrally in the vowel space while STRUT occurs slightly further forward as seen in Table 4. FORCE, NORTH and

THOUGHT all vary in their height but occur in a high/medial position. The lowest lexical sets occur with much overlap between them as they all occupy similar F1 and F2 positions.

It should be noted that the overall scaled formant values, particularly for the first formant, are much higher than the measurements that are typically noted for the average speaker. For instance, many of the lexical sets associated to low vowels such as TRAP, BATH and START have average F1 measurements between 500 to 700 Hz. Instead, these tokens have measurements between 400 to 500 Hz after rescaling the normalized values. The discrepancy between the scaled results and the average expected formant values can be attributed to two factors: the number of tokens and the tokens per speaker. The method used to scale the data into Hertz does so by calculating the minimum and maximum values for each vowel formant provided (in this case, F1 and F2) for all the data. Therefore, if there are more tokens with higher formant values within the data, then the resulting scaled values will appear to be higher.

As seen in Table 4, most of the high vowels such as FLEECE, KIT, DRESS, STRUT, NURSE, etc. have the maximum number of tokens available for all speakers. Conversely, the low vowels do not have this same number of tokens across all speakers. Therefore, the substantial number of higher vowels with lower F1 values may be skewing the scaled results. Also, since most of the speakers represented in this data are women, the shorter nature of their vocal tracts produces formant values that are on the higher end of both formants. As there are more women present in this data set, the average height of these vowels will be slightly higher when accounting for their anatomical differences. Despite these anatomical differences, I still believe that the Nearey2 method of normalization was better suited to the purposes of this study than the Lobanov method, for example, as the Lobanov method completely erases all anatomical

differences between speakers which could affect the analysis when considering social factors that may be influenced by gender.

Figure 4

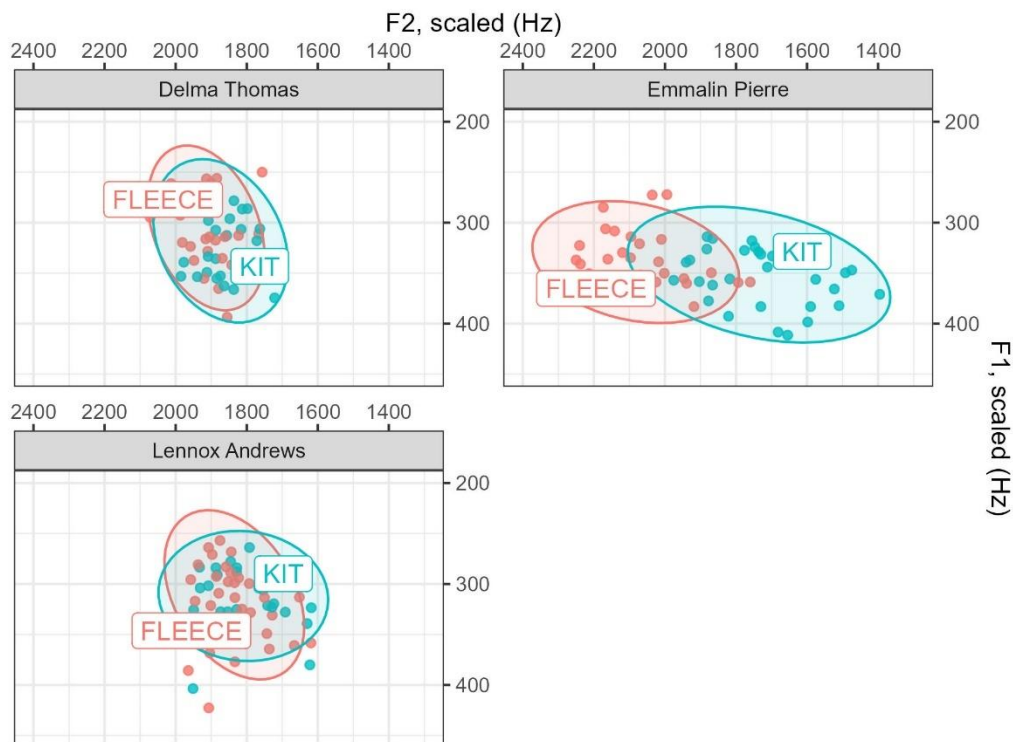
Normalized, rescaled F1 and F2 data for FLEECE & KIT across speakers



From Figure 4 above, we can see a high degree of overlap between FLEECE and KIT for the three speakers being investigated. Despite this overlap, the vowels for these lexical sets maintain their distinctiveness where FLEECE is shown with a higher average F2 value while KIT has slightly higher F1 and lower F2 values. The Pillai score for all the tokens indicates that there is a large amount of overlap across speakers (Pillai = .196) coupled with a p-value below .001 which indicates that the tokens have a statistically significant difference between them and that the vowels for these lexical sets constitute separate categories. The Pillai score also corroborates this as it is larger than the Pillai threshold (.0302, $n = 180$). Therefore, it may be said that across all speakers, FLEECE and KIT are not merged in parliamentary speech.

Figure 5

Re-scaled F1 & F2 data for KIT & FLEECE per speaker: Nearey2 normalization



When discussing the individual speaker distribution, all speakers are found to display overlap to varying degrees along the same Pillai threshold (.0906, $n = 60$). Andrews shows the most overlap (Pillai = .016, $p > .05$) where the Pillai score was smaller than the Pillai threshold and the p-value was large, indicating that these vowels showed a complete overlap in their measurements and that the lexical sets do not have a statistically significant difference. As noted in Stanley & Sneller (2023, p. 61), reporting the p-value and the threshold for the total sample size in conjunction with the Pillai score provides more evidence for “making a determination” about mergers within the data of each speaker.

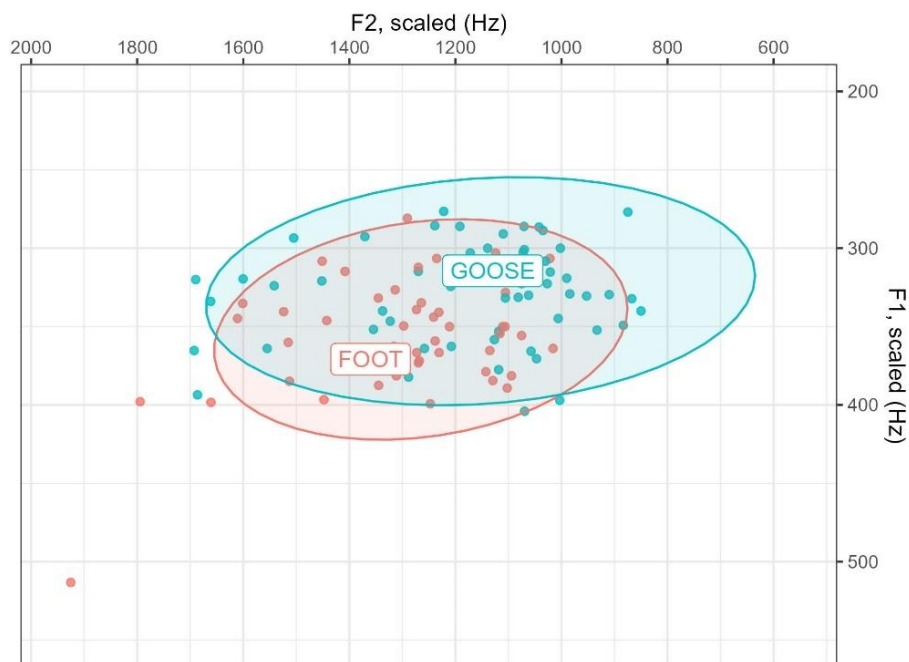
Thomas also displayed a merger for these lexical sets, though there was slightly less overlap when compared to Andrews (Pillai = .061, $p > .05$). For Thomas’ tokens, the p-value

was larger than .05 along with the Pillai score being smaller than the threshold, indicating that there is no statistically significant difference between these tokens. This is reflected by the slightly lower tokens seen in Figure 5 above for the KIT ellipses. From the measurements seen here, therefore, many of the KIT tokens seem to be merging into the high front vowel [i] and are displaying a merger with FLEECE.

Pierre does not display overlap to the degree of the other two speakers. Instead, this speaker shows high distinctiveness between these lexical sets. While overlap does exist at the intersection of FLEECE and KIT as seen in Figure 5, the size of this overlap is marginal compared to where the rest of the tokens are occurring. The MANOVA for this speaker reflects this pattern where the Pillai score is very large and close to 1 (Pillai = .601) coupled with a p-value below .001. This Pillai score is also above the Pillai threshold, indicating further that there is a distinction between these two lexical sets. Therefore, these measurements indicate that there is no merger of FLEECE/KIT and that the vowels are very distinct from one another.

Figure 6

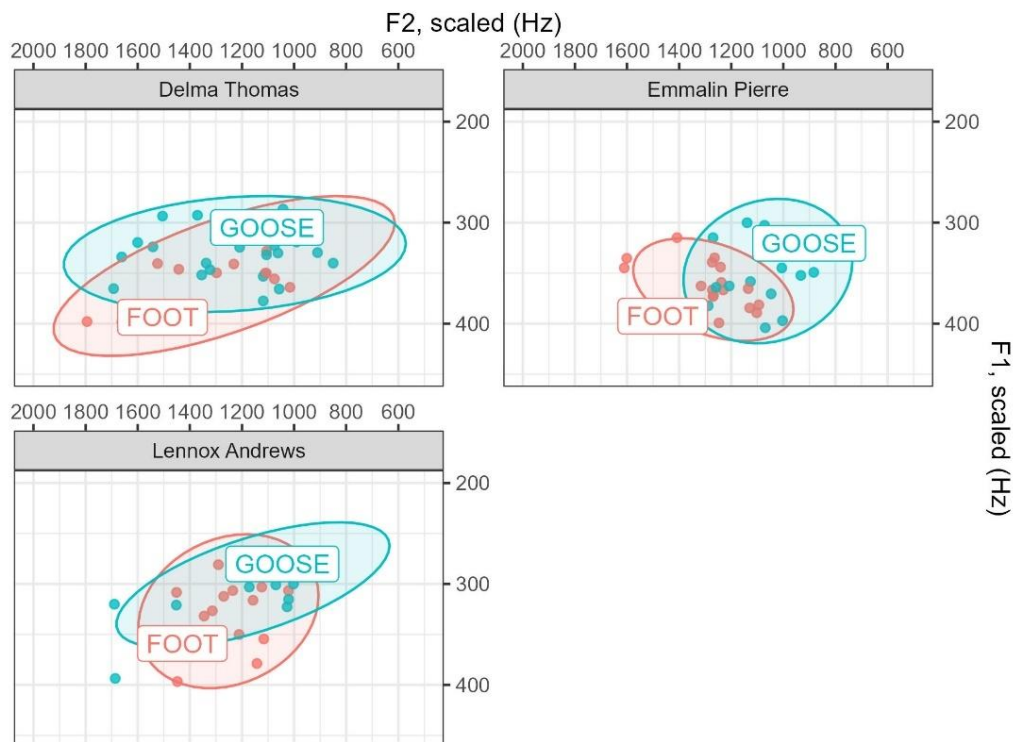
Re-scaled F1 & F2 data for FOOT and GOOSE across speakers: Nearey2 normalization



The high back vowels shown above in Figure 6 show significant overlap both visually and by using MANOVAs. Despite their overlap, the ellipses correspond to distinct vowel positions that occur in hegemonic varieties such as RP as seen in Table 4. The GOOSE set occurs slightly with a slightly lower F1 & F2 value, indicating that the vowel occurs higher and further back on the vowel space. The FOOT set, however, has a higher F1 value with a slightly higher F2 value. These areas roughly correspond to [u] and [ʊ] respectively. The overlap for these two vowels was significant (Pillai = .117), meaning most tokens across these speakers occur within the same area. However, they can be described as unmerged due to the Pillai score being larger than the threshold (.0527, $n=103$) and the p-value being below .05. The tokens all trend higher in the vowel space according to Figure 6, meaning that this potential merger would be towards the high back unrounded vowel [u].

Figure 7

Individual speaker distribution for normalized formant data (FOOT and GOOSE)



The most overlap is found for Andrews where there is a full merger occurring according to the MANOVA conducted. The Pillai score of .123 was found to be lower than the Pillai threshold (.181, $n = 30$), accompanied by the p-value being above .05. This data would indicate that the FOOT and GOOSE lexical sets are merged as one vowel for this speaker as the Pillai score and p-value indicate a lack of statistically significant difference between these two lexical sets. The measurements for these tokens also indicate that this merger is a result of GOOSE maintaining a general position as [u] while FOOT undergoes fronting and raising to produce tokens that overlap with GOOSE.

Thomas shows partial overlap in her individual panel, though there is a wider distribution for these tokens across both vowel categories (Pillai = .176, $p < .05$) where her Pillai score is

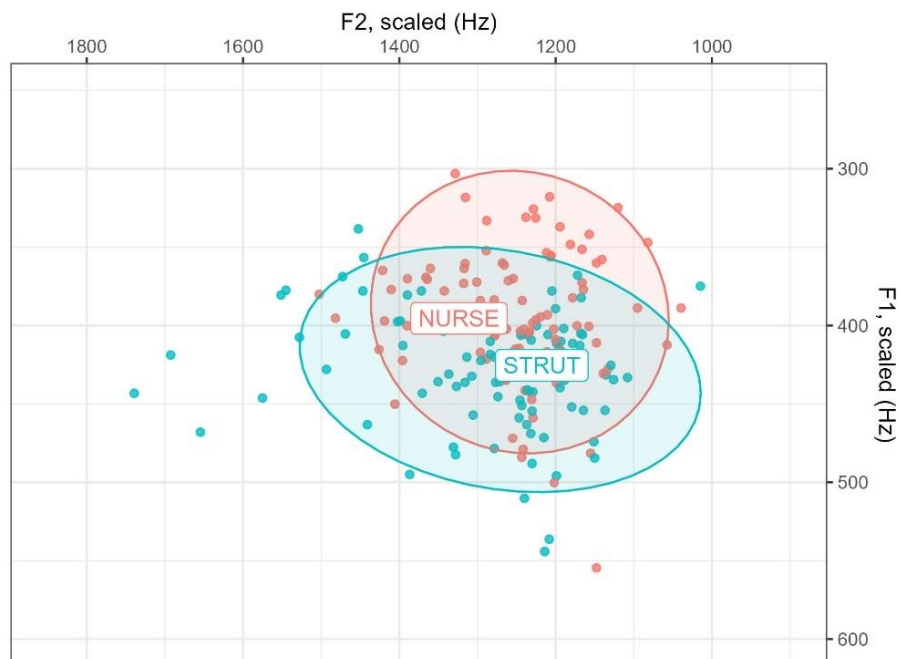
slightly higher than the threshold (.151, $n = 36$) and the p-value is found to be below .05. These results point to there being merger for this speaker, though the evidence suggests that this speaker is extremely close to one. This is supported by the visual data where multiple tokens across both vowel categories are occurring outside of the intersection of the two vowels, leading to the smaller overlap reported by the MANOVA. Therefore, while there is indication that FOOT is undergoing the same processes as Andrews, the MANOVA indicates that it is still uniquely represented as [ʊ]. As seen previously, GOOSE maintains its representation as [u] here as well.

Finally, Pierre displays tokens with the least amount of overlap for these lexical sets. This is more indicative of a vowel distinction as opposed to a merger as there is a much wider difference between the FOOT/GOOSE tokens when compared to the other speakers. This is supported by the results of the MANOVA where there was a Pillai score of .467 which occurs as larger than the threshold (.147, $n = 37$) and the p-value was below .001. The ellipses display a slightly different pattern from the other two speakers where FOOT has tokens with a higher F2 value while GOOSE has a much lower average F2 value. This divergence in direction can explain the vast difference in Pillai scores for Pierre and the other two speakers where these two lexical sets maintain two very distinct positions which, therefore, indicates a phonemic contrast.

While the result above follows a general pattern seen within FLEECE/KIT, the number of tokens should be noted. Since all speakers show a low number of tokens, this can affect the Pillai scores and p-values where smaller sample sizes can inflate the Pillai scores and result in the reporting of not wholly accurate results (Stanley & Sneller, 2023, p. 62). Therefore, smaller sample sizes should be considered with this in mind.

Figure 8

Re-scaled F1 & F2 data for NURSE and STRUT across speakers: Nearey2 normalization



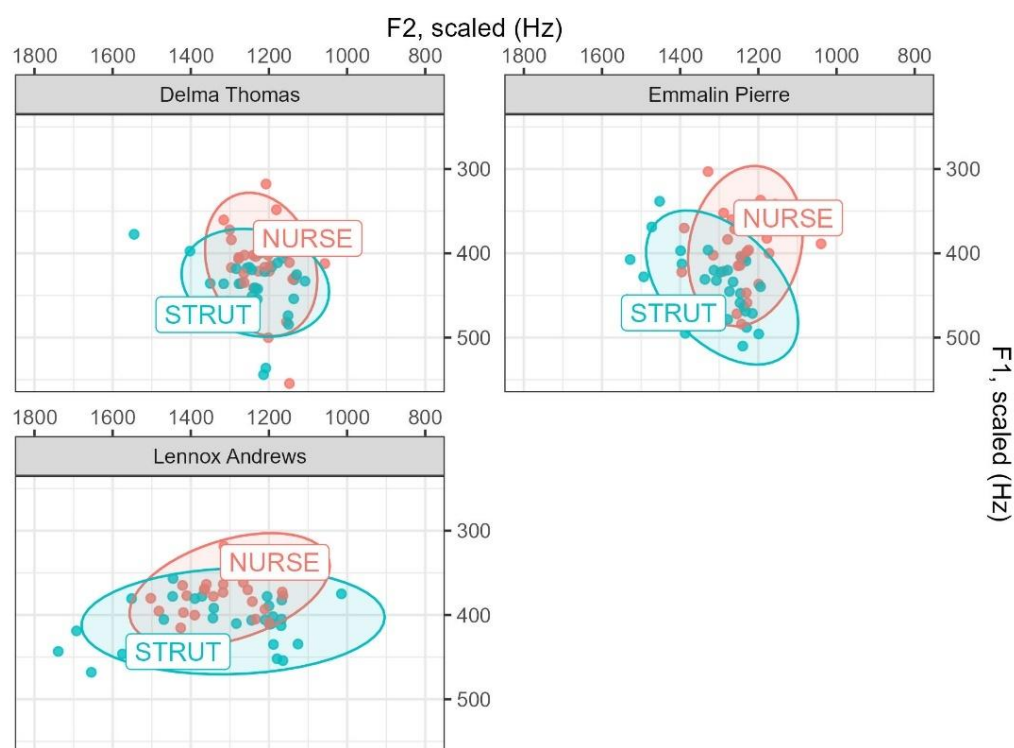
The NURSE/STRUT lexical sets indicate a large amount of overlap for these three speakers. The NURSE tokens in Figure 8 occur with a higher F1 value and lower F2 value, indicating that these tokens are being articulated with a backed and raised tongue position. STRUT, however, shows the opposite with most tokens having lower F1 and higher F2 values. By virtue of these two lexical sets occurring in similar positions, they are already more merged that they would be in other varieties of English such as RP English where NURSE usually represents central vowels such as [ɜ:] or [ə:] and STRUT as the low-mid back unrounded vowel [ʌ] (see Wells, 1982a).

The MANOVA conducted for all tokens shows a high level of overlap (Pillai = .203) which is statistically significant ($p < 0.001$), indicating that these are still distinct lexical sets. Also, although there is a prominent amount of overlap for these lexical sets, comparison to the

Pillai threshold (.0302, $n=180$) further indicates that NURSE and STRUT are not merged and that these vowels are distinct from one another. While not typically accounted for within hegemonic varieties, the data here indicates that the NURSE tokens are occurring in a less central position than expected on account of the F2 values. This indicates that the NURSE tokens are occurring in the same area as the STRUT tokens.

Figure 9

Individual speaker distribution for re-scaled, normalized formant data (NURSE & STRUT)



It should be noted that for these lexical sets, all speakers share the same threshold of .0906 due to having the same number of tokens present ($n=60$). The most overlap is displayed by Thomas (Pillai = .138, $p < .05$), indicating that these two lexical sets are highly overlapped but still considered distinct since the Pillai score is larger than the threshold. The individual panel in Figure 9 shows this where some tokens for both categories occur far outside

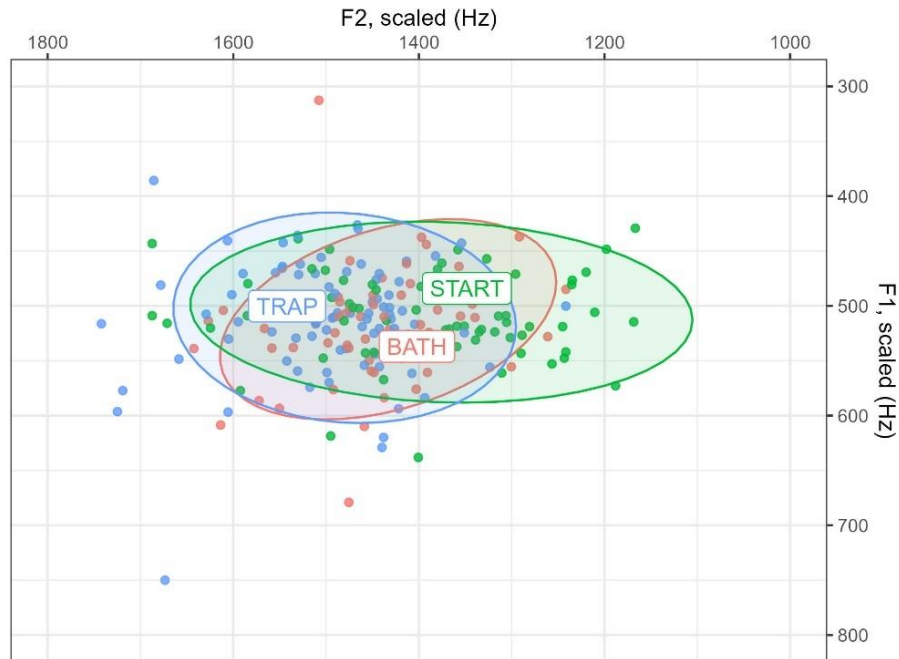
of the ellipses on both the F1 and F2 axes, resulting in the ellipses being pulled towards these points. However, most of the tokens occur within the same area, hence the high overlap where NURSE shows variation between multiple back vowel sounds such as [ʌ] and [ɔ]. STRUT, despite having lower F2 and slightly lower F1 value than NURSE, have similar vowel reflexes.

The second most overlap comes from Andrews, whose tokens are distributed uniquely when compared to the other two speakers. The tokens for STRUT are distributed broadly across the F2 axis, occurring across a much larger part of the individual panel and lower down due to the average F1 measurement being lower on the relevant axis. This could potentially indicate much wider distribution of STRUT tokens across different vowel reflexes. The NURSE tokens, on the contrary, occur higher on the F1 scale and within a smaller area of the F2 axis. The difference between these two lexical sets is supported by the MANOVA where partial overlap is observed (Pillai = .316, $p < .001$) but the distinctiveness of these vowels is maintained. Similarly to Thomas, the overlapping vowels seem to be representing a similar vowel space as indicated by the lower-than-expected F2 value for both lexical sets where the STRUT vowel is surfacing lower in the vowel space than NURSE.

Pierre shows the least overlap relative to the other two speakers. When observing the individual panel alongside the MANOVA for this speaker, there is partial overlap occurring (Pillai = .374, $p < .001$) where the distinctiveness of the vowel categories is maintained. The distribution of the ellipses shows a similar trend to Thomas where the STRUT and NURSE tokens are distributing in opposite directions along the F2 axis. However, Pierre displays a wider spreading of tokens, leading to a lower overlap.

Figure 10

Normalized F1 and F2 data for TRAP, BATH & START across speakers: Nearey2 normalization

**Table 5**

Normalized means for F1 and F2 of the tokens for TRAP, BATH & START

Vowel	Tokens	Mean F1	Mean F2
TRAP	90	514	1489.7
BATH	70	513.9	1438.9
START	67	507.2	1385.2

The lexical sets TRAP/BATH/START show significant overlap as they occupy the same vowel space and occur within a very small area of the vowel space. The overall MANOVA indicates partial overlap for all three of these vowels (Pillai = .155, $p < .001$), a pattern that is

reflected in the ellipses above in Figure 10. There is no merger reported here as the Pillai score was larger than the threshold (.024, $n = 227$).

The most pairwise overlap was found between BATH/START (Pillai = .062, $p < .05$), where there is almost a complete merger between the two lexical sets. While there is a large amount of overlap occurring, the Pillai score and p-value indicate that these lexical sets are phonemically distinct lexical sets. The Pillai threshold (.04, $n = 137$) supports the notion that these are two unmerged lexical sets as the Pillai score is larger than the threshold and the p-value was lower than .05.

The second largest merger is found for TRAP/BATH (Pillai = .076, $p < .05$) which has a similarly large amount of overlap though it is slightly more distinct. This result indicates that the BATH tokens are overlapping with TRAP and START respectively, but that there is a slightly larger number of tokens occurring further back on the F2 axis as indicated by the slightly larger overlap with START. This is corroborated by the Pillai threshold (.034, $n = 160$) and the p-value being lower than .05. It should also be noted that the number of tokens can affect this result since BATH ($n = 70$) and START ($n = 67$) have fewer tokens than TRAP ($n = 90$), which could potentially skew the data to read a larger merger for comparisons between vowels that have less tokens and, therefore, indicate more significance attributed to their overlap.

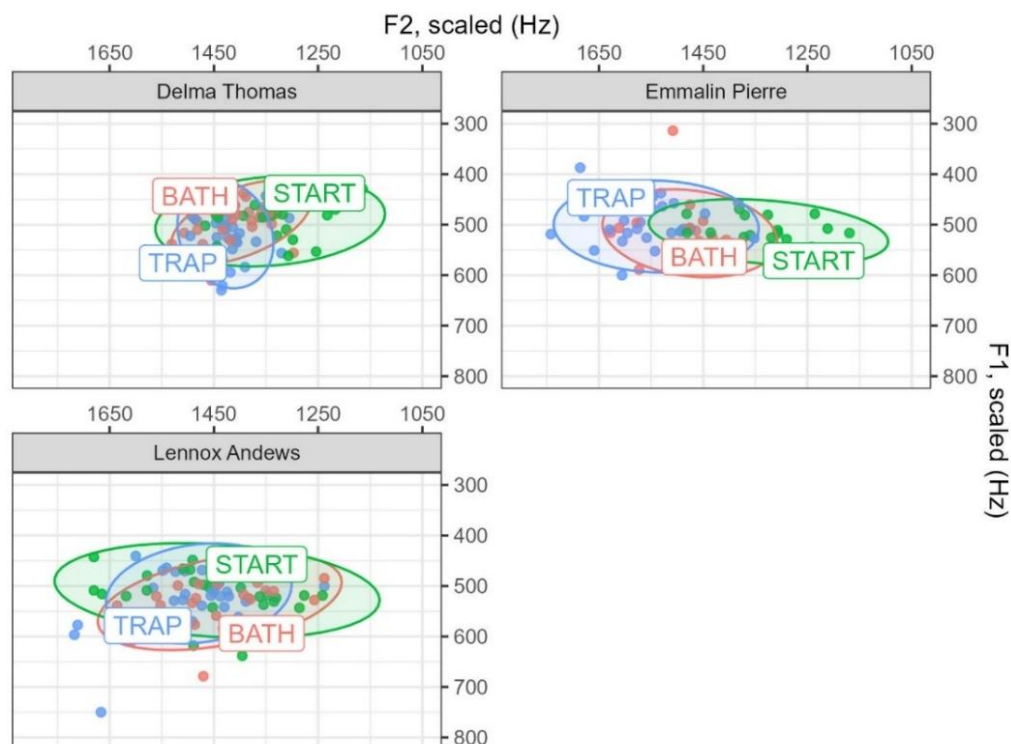
TRAP/START shows the least amount of overlap (Pillai = .19, $p < .001$) as they occupy the frontmost and backmost positions relative to one another, meaning that there are likely to be less tokens overlapping by default. Similarly to the other two-way investigations, these two lexical sets have a Pillai score larger than the threshold (.035, $n = 157$) and having a very small p-value below .001. Despite having these positions relative to each other, the normalized formant values indicate that these vowels occur extremely close to one another. Table 5 shows that, on

average, all vowels have similar F1 positions but have vast variation along the F2 axis.

Therefore, there will be a large amount of overlap amongst these vowel categories.

Figure 11

Individual speaker distribution for normalized formant data (TRAP, BATH & START)



BATH/START merger

When analysing the individual panels for BATH/START, the speaker with the most overlap is Andrews who displays a merger between these lexical sets (Pillai = .069, $p > .05$). This is indicated both by the p-value which is larger than .05 and is smaller than the threshold (.107, $n = 51$). The individual panel in Figure 11 also shows that BATH tokens occur within the centre of the START ellipsis which has tokens that are occurring further forward in the vowel

space. Therefore, the tokens of these two lexical sets share a vowel representation that is seemingly equivalent and likely displays the low front unrounded vowel [a].

The second-most overlap is seen with Thomas who has a slightly smaller amount of overlap (Pillai = .134, $p < .05$) which does not pass the threshold (.107, $n = 51$). This low Pillai score, though not indicating a merger, does imply that these lexical sets share the same vowel representation for most of their tokens. However, as indicated by the low p-value, these lexical sets are not fully merged. According to the ellipses within Figure 11, this would correspond to the same vowel reflex as seen for Andrews despite their slightly different patterning.

Pierre, therefore, shows the least amount of overlap where most of her tokens for BATH and START are not displaying overlap (Pillai = .467, $p < .001$). This is further supported by the Pillai threshold (.155, $n = 35$) being lower than the Pillai score found coupled with the very low p-value. When looking at Pierre's individual panel, BATH occurs with a higher F2 values than the START ellipses, indicating that there are a sizeable number of tokens that occur outside of the intersection of these two lexical sets. Therefore, BATH seems to occur closer to [a] than START which is generally further back as [ɑ].

TRAP/BATH merger

When looking at TRAP/BATH, the average overlap is much larger than for other categories. The most overlap was found for Thomas who appears to have merged vowels (Pillai = .078, $p > .05$) as the Pillai score is smaller than the Pillai threshold (.0906, $n = 60$). By virtue of having such a low Pillai score, these lexical sets are likely merged into the same relative position. The TRAP tokens for this speaker have the same F2 values as BATH, though some tokens occur

with a lower F1 value. The positioning of these lexical sets, therefore, indicates that they share the same vowel reflex of [a] across most of the tokens.

Pierre also displays a merger for these lexical sets (Pillai = .089, $p > .05$) though it is slightly less encompassing compared to Thomas. Interestingly, this merger is occurring for fewer tokens (.118, $n = 46$) which potentially means that the reported overlap for this speaker may be due to a lack of tokens. Despite this, observation for the ellipses two lexical sets indicate that the TRAP ellipsis encompasses most of the BATH tokens which occur further back in the vowel space. The height of these two ellipses is also slightly higher, indicating that these could be varying between the near-low front unrounded vowel [æ] and the low front unrounded [a].

The smallest overlap is shown for Andrews relative to the other speakers (Pillai = .118, $p < .005$). The Pillai threshold (.101, $n = 54$) is also not surpassed by the Pillai score here, meaning that there is further evidence of this merger not occurring for this speaker. While Andrews has the least amount of overlap, this low Pillai score indicates that overlap is expected for these lexical sets across all speakers. In terms of the distribution of Andrews' tokens when observing the ellipses, both sets show overlap within the centre of the START ellipsis. This means that these tokens may generally occur within the same relative vowel space of [a] despite the lack of a merger.

TRAP/START merger

The TRAP/START merger shows much more variation between speakers compared to the previous two mergers. The most overlap is found with Andrews who displays a merger (Pillai = .035, $p > .05$) which is much lower than the threshold for a merger (.0954, $n = 57$). The p-value is also found to be higher than .05, indicating that these vowels do not have a statistically

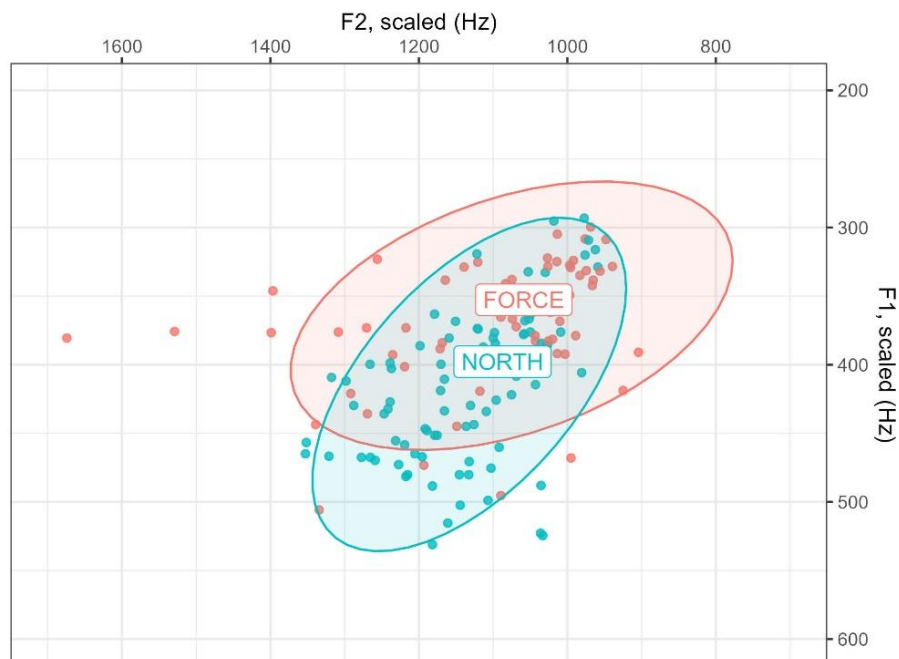
significant difference. The individual panel in Figure 11 reflects this observation as TRAP occurs within the centre of the START ellipsis, similarly to the BATH lexical set which was also found to be merged with START. As previously discussed, the overlap between these lexical sets indicates that all three are likely represented by one vowel across most tokens, the vowel [a].

Thomas has the second-most overlap which can be classified as partial overlap (Pillai = .292, $p < .001$) where the vowels maintain a phonemic distinction. Supporting evidence comes from the MANOVA where the p-value which is lower than .001 and the Pillai score is larger than the threshold (.107, $n = 51$). This partial overlap is, therefore, due to the TRAP tokens on average having a higher F1 value than START, meaning that the vowel reflexes for TRAP have some slight variation but mostly occur as [a].

Pierre has significantly less overlap for this merger (Pillai = .563, $p < .001$), meaning that more tokens are distinct than those that are overlapping. This evidence is further solidified by the Pillai threshold being much smaller (.111, $n = 49$) and a very small p-value, indicating that there is a phonemic distinction between these two lexical sets. Pierre shows a unique pattern here, therefore, where most of the TRAP tokens occur with their own vowel reflex. As indicated previously through the investigation of the TRAP/BATH distinction, the tokens for TRAP are realized as more fronted and slightly higher than those of START. This may indicate variation between the [æ] and [a] vowels for TRAP while START has one further backed vowel for this speaker.

Figure 12

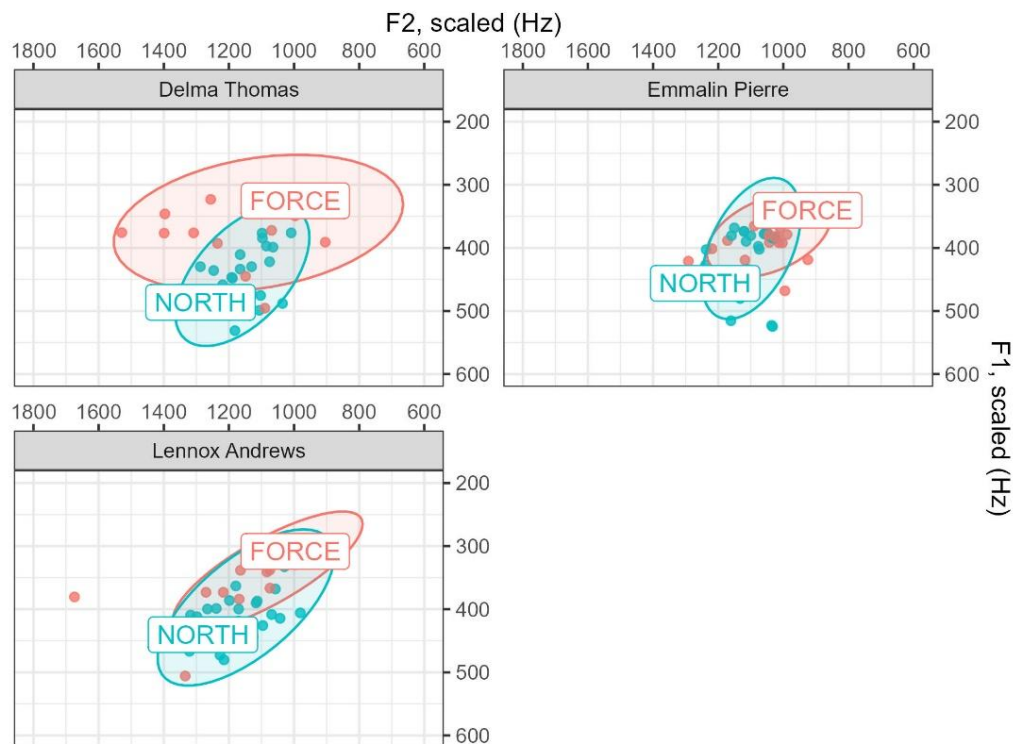
Normalized F1 and F2 data for NORTH & FORCE across speakers: Nearey2 normalization



Comparing these two lexical sets to one another acts as a preliminary test when discussing two of the documented mergers for GEC in Paterson (2013). In the literature, GEC is said not to have these vowels merged which is described as a unique development amongst Caribbean English and Creole varieties (Paterson, 2013, p. 18). Instead, NORTH is defined as merging with categories that were low, back and rounded as the vowel [ɒ] while FORCE was said to merge higher as the high-mid, back and rounded vowel [o]. Despite this description, partial overlap is displayed for NORTH/FORCE across these three speakers as seen in Figure 12. The MANOVA also indicates significant overlap (Pillai = .159, $p < .001$), meaning that these lexical sets are still considered distinct categories but display a large amount of overlap. This is further evidenced by the Pillai threshold (.037, $n = 148$) which indicates no merger has occurred for these two lexical sets.

Figure 13

Individual speaker distribution for normalized formant data (NORTH & FORCE)



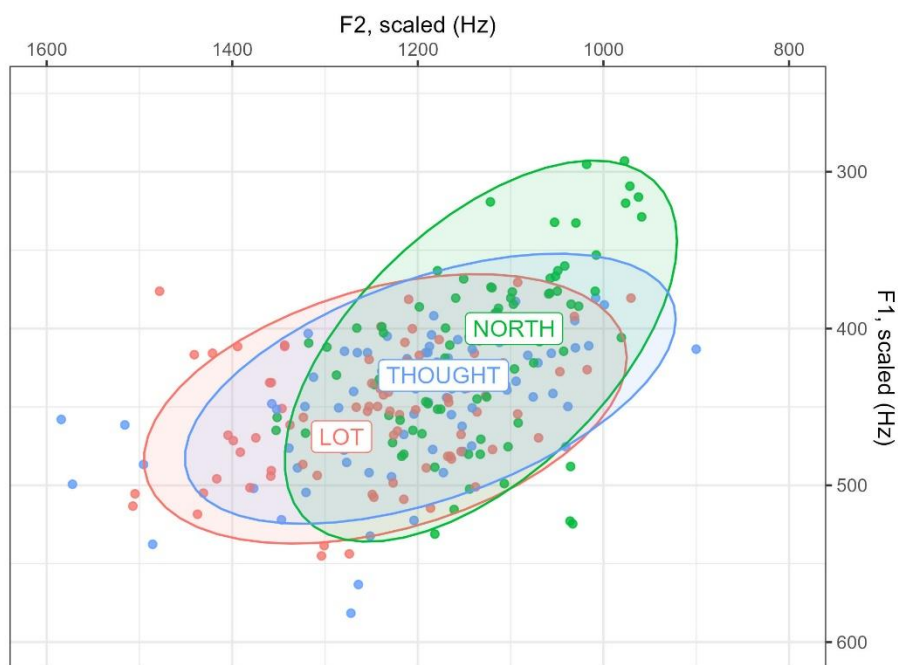
The individual vowel panels above display a similar overall pattern to the ellipses in Figure 12. However, the speakers themselves show a vastly different token distribution. For these lexical sets, Pierre shows the largest overlap where the Pillai score (.101, $p > .05$) is slightly smaller than the threshold (.103, $n = 53$) and indicates that the p -value is larger than .05. This is immediately noteworthy as this merger is one that we would *not* expect to find for speakers utilizing Creole varieties. The Pillai score and p -value, which is above .05, indicate that these vowels are merged for Pierre. From the positioning of these vowels within the vowel space, it is likely that most of the vowel reflexes for these lexical sets resembled the mid-high back rounded vowel [o].

The second-most overlap is shown by Andrews where there is partial overlap (Pillai = .191, $p < .05$) where the figure itself is very similar to the pattern seen by Pierre above. However, in Andrews' case, the p-value is below .05 and the Pillai score is larger than the Pillai threshold (.118, $n = 46$), indicating that these vowels constitute distinct phonemes for this speaker. The similarity between Andrews and Pierre can be observed through the concentrated distributions for both lexical sets in Figure 13, where these tokens are occupying similar positions within their individual panels along the F2 and F1 axes. The individual vowel reflexes are seen where NORTH is occurring with a higher F1 value on average, meaning that this vowel is lower which indicates the use of [ɔ] while FORCE maintains the representation as [o] due to its lower F1 and higher H2 values generally.

Thomas, conversely, shows the smallest overlap (Pillai = .335, $p < .05$) which can likely be attributed to the distribution of the FORCE tokens for this speaker as seen in Figure 13. As seen in the individual panel above, Thomas' tokens vary vastly across the F2 axis, leading to a wider range from which the average F2 value would be found. The Pillai score for this speaker is also much larger than the threshold (.111, $n = 49$), further indicating that there is no merger despite the overlap present. This means that this speaker shows some variation in their speech between having these lexical sets overlap within the same vowel and having individual reflexes. This would result in a similar situation as with Andrews where NORTH occurs closer to [ɔ] on account of the F1 values and FORCE occurs as [o].

Figure 14

Normalized F1 and F2 data for LOT, NORTH & THOUGHT across speakers: Nearey2 normalization

**Table 6**

Normalized means for F1 and F2 for LOT, NORTH, CLOTH & THOUGHT tokens

Vowel	Tokens	Mean F1 (Hz)	Mean F2 (Hz)
LOT	90	452.7	1245
THOUGHT	87	444.1	1205
NORTH	88	416.3	1133.5

As previously stated in the NORTH/FORCE section, there is a documented merger of NORTH, THOUGHT, CLOTH and LOT as the open, back rounded vowel [ɒ] in Grenadian English Creole (Paterson, 2013, p. 18). The following analysis of this merger does not consider

the distribution of CLOTH against the rest of these lexical sets due to the low number of tokens. Having less tokens than the other sets may potentially alter the analyses for this merger, hence its exclusion. However, in the future, it would be beneficial to collect enough tokens to fully investigate this merger in the future.

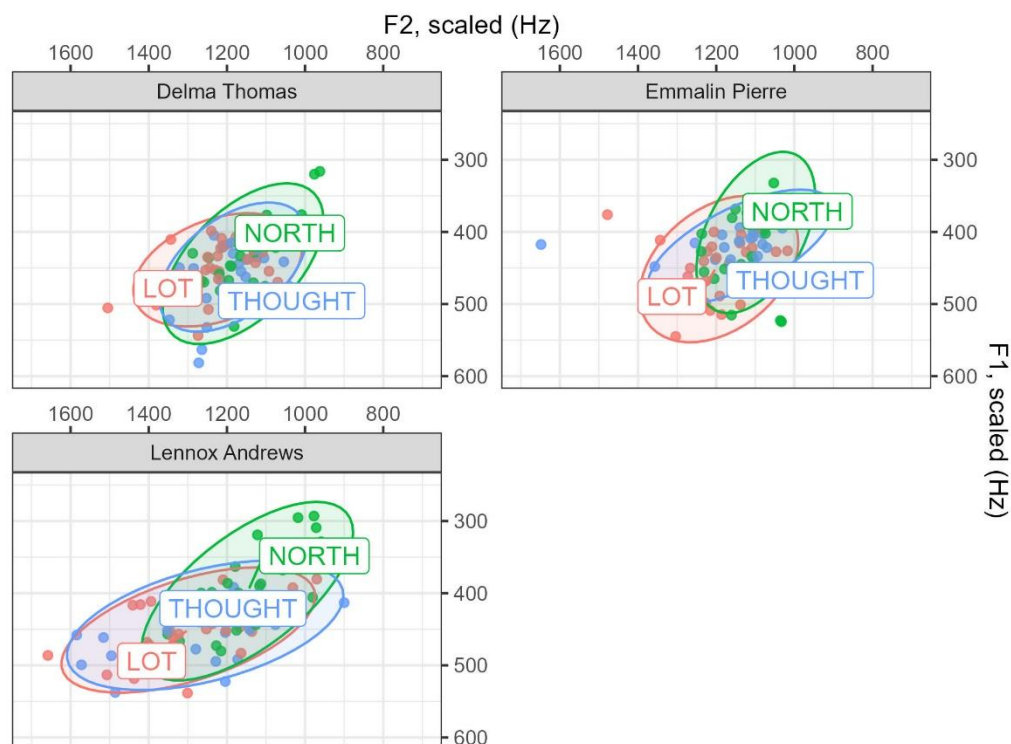
The overlap for LOT/THOUGHT across all three speakers shows a full merger (Pillai = .026, $p > .05$). This is corroborated by the Pillai score being smaller than the Pillai threshold (.031, $n = 177$) and the p-value being larger than .05. Further evidence of this closeness can be seen by the mean formant values in Table 6 above along with the ellipses in Figure 14. With reference to the formant values, there is only a difference of 8.6 Hz and 40 Hz for the F1 and F2 measurements for these lexical sets. This indicates that LOT and THOUGHT share almost the exact same articulation for their tokens.

The NORTH/THOUGHT lexical sets (Pillai = .109, $p < .001$) have the second-most overlap. The results for the Pillai score and p-value indicate that there is no merger but that there is significant overlap between the tokens for these lexical sets. The Pillai threshold (.0311, $n = 175$) further solidifies this observation in companion with the formant values in Table 6: a 27.8 Hz difference in F1 and 71.5 Hz difference in F2 indicates that there is a significant enough difference to consider these lexical sets as distinct, particularly with reference to the position of the tokens along the F2 axis.

Finally, LOT/NORTH (Pillai = .229, $p < .001$) display the largest distinction where there is partial overlap between the two lexical sets. This can be explained by their positions within the three-way comparison where LOT occurs with the highest F2 and lowest F1 values while NORTH displays the opposite phenomena. The Pillai score is also larger than the threshold (.0305, $n = 175$).

Figure 15

Individual speaker distribution for normalized formant data (LOT, NORTH & THOUGHT)



LOT/THOUGHT merger

The individual panels and MANOVAs indicate that all speakers show a merger for LOT/THOUGHT. This is namely due to the position of these categories in relation to one another where LOT and THOUGHT generally have the same average F1 and/or F2 measurements depending on the speaker. The most overlap is found with Andrews (Pillai = .015, $p > .05$), meaning that this is the most merged result of all the mergers present. The Pillai score far surpasses the threshold (.095, $n = 57$), showing that there is an almost total merger present between these tokens. The merger is also evident in the individual panel above where the LOT and THOUGHT sets show almost the exact same position for this speaker, with only a few tokens occurring outside of the intersection. The second-most overlap is seen with Thomas who

displays a similar pattern to Andrews, though her tokens for these two lexical sets are much more concentrated in the individual panel (Pillai = .063, $p > .05$). Finally, Pierre shows the least amount of overlap compared to the other speakers with a slightly larger Pillai score (Pillai = .081, $p > .05$). Both Thomas and Pierre have the same Pillai threshold which is surpassed (.0906, $n = 60$). The significant amount of overlap displayed by all three speakers here suggests that these two lexical sets are fully merged both in informal and formal contexts. Outside of their individual differences, all speakers seem to be showing variation across these lexical sets between the open back rounded vowel [ɒ] and the low-mid back rounded vowel [ɔ] for the words classified in these tokens.

NORTH/THOUGHT merger

The NORTH/THOUGHT merger shows a large amount of overlap for all three speakers where only some speakers are fully merged. The most merged speakers are Thomas (Pillai = .045) and Pierre (Pillai = .087) who display Pillai scores which are less than the Pillai threshold (.0906, $n = 60$) and have p -values above .05. By being merged, these two speakers use one vowel to represent the tokens across two lexical sets. As both speakers also show mergers for LOT/THOUGHT, the vowel representation here would be like the vowel represented here. By virtue of the NORTH lexical set tokens occurring slightly lower in F1 & F2 value, the vowel would be higher and slightly further back. Therefore, it is likely that this is the low-mid back unrounded vowel [ɔ]. However, there is also evidence from the number of tokens across speakers that the high-mid back rounded vowel [o] also occurs.

Conversely, Andrews has the least amount of overlap which can be attributed to the distribution of his tokens in the individual panel above. Some of the NORTH tokens for Andrews are found with much lower values on the F1 axis than the highest THOUGHT tokens, meaning

that THOUGHT tokens are more openly articulated than NORTH. This contributes to the Pillai score of .269 which indicates partial overlap between the two lexical categories but no merger due to the p-value being lower than .001. Further evidence also supports this where the Pillai threshold (.0988, $n = 55$) is smaller than the Pillai score, indicating there is no merger. Therefore, it is likely that this is the open back rounded vowel [ɒ] for THOUGHT and [ɔ]~[o] for NORTH.

LOT/NORTH merger

Finally, the LOT/NORTH merger shows the least amount of overlap where none of the speakers represent a total merger. This is explained by these lexical sets occurring at the most opposite position to one another where, traditionally, LOT and NORTH do not typically share the same vowel reflexes.

Despite this, all speakers do indicate some level of overlap with their tokens. The most overlap is seen with Thomas (Pillai = .157, $p < .05$), which is a significant overlap according to the amount of overlap exhibited. The NORTH lexical set shows some tokens that are significantly higher in F1 value and lower in F2 value. However, on average, both NORTH and LOT have the are occurring within the same vowel space and have almost the exact same vowel reflex.

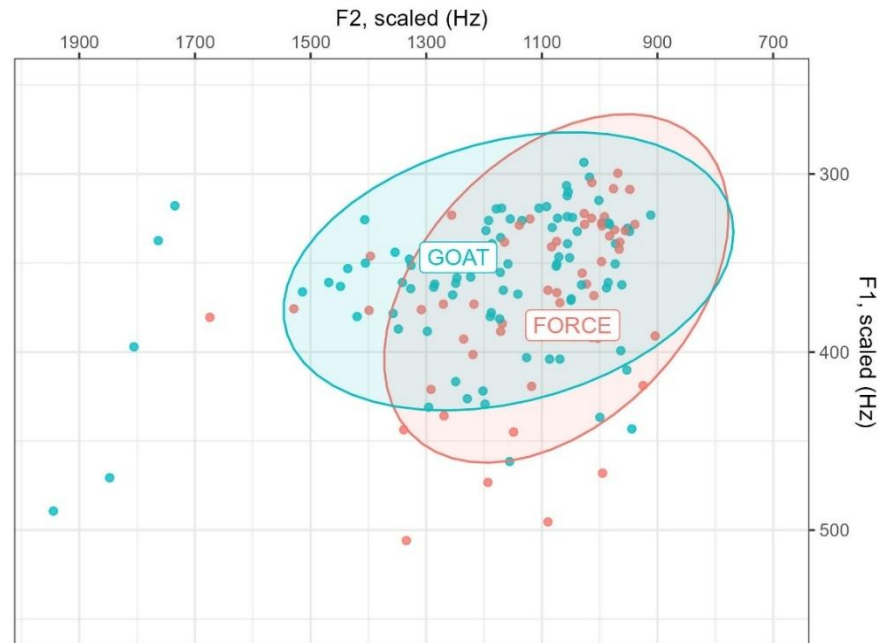
Pierre had the second-most overlap which represented partial overlap (Pillai = .3, $p < .001$). From the ellipses in Figure 16, it is evident that the LOT tokens are much further away from NORTH than what was observed for Thomas. However, there is still more overlap between these two lexical sets than not. Therefore, while these two lexical sets can occupy distinct areas with no overlap in the vowel space in other English varieties, this speaker shows that overlap still occurs.

Finally, Andrews (Pillai = .315, $p < .001$) has the lowest amount of overlap. This speaker shows a similar trend compared to Pierre with only slightly less overlap between the two lexical sets. This is likely because Andrews' LOT tokens occur with a wider distribution along the F2 axis as seen in Figure 15. The lack of a merger is also seen with the Pillai threshold (.0937, $n = 58$) being much smaller than the Pillai score.

While none of these speakers indicate a merger according to the MANOVAs, there is still a notable level of overlap where speakers do not avoid articulating these tokens in similar positions. As previously discussed, LOT may have some variations where tokens are present as the low-mid back rounded [ɔ] which is contributing to the overlap but is mainly occurring in a more medial and lower position. This vowel is accounted for within the NORTH set as one of the variants used. However, both sets have unique reflexes that would not show overlap due to the NORTH set having tokens which are produced with a higher tongue position and more close jaw articulation than LOT. This is what results in tokens where NORTH is produced as [o] and LOT is produced as [ɒ]. Also, it should be considered that since duration was not considered for this study, it could be the case that some tokens undergo lengthening that would distinguish these lexical sets from one another. However, since that is not the focus of this study, these tokens are considered as merged due to their vowel quality.

Figure 16

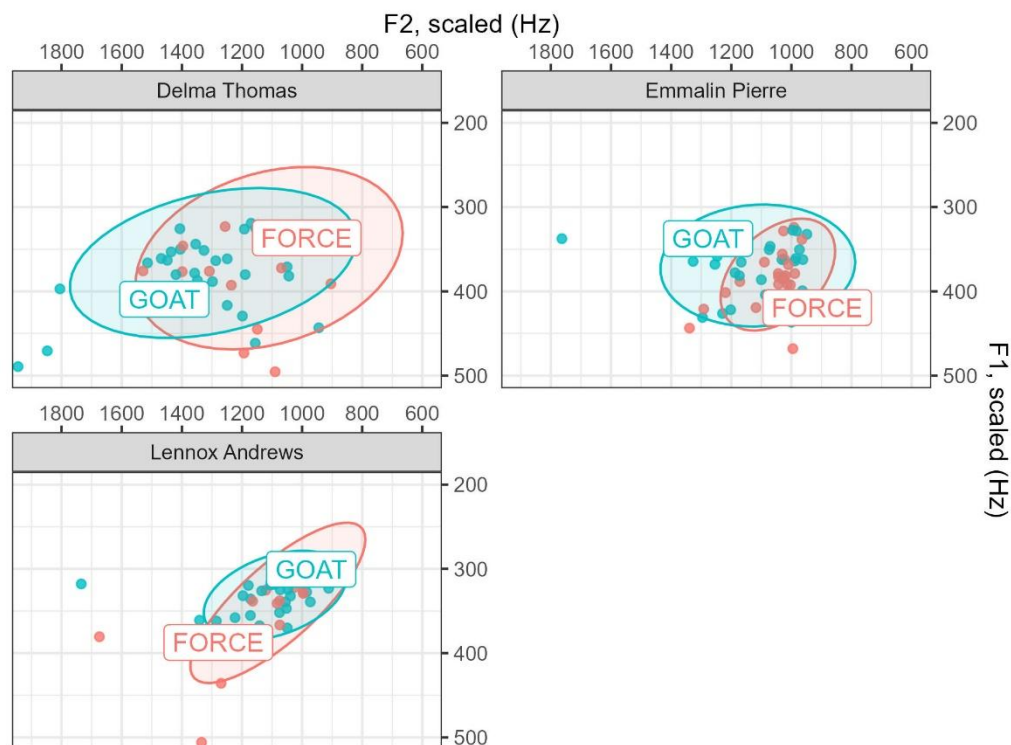
Normalized F1 and F2 data for GOAT onset & FORCE across speakers: Nearey2 normalization



This two-way vowel comparison above displays a large amount of overlap within the vowel space. As seen in Figure 16, many of the tokens are concentrated within the same space when analysing all speakers' tokens together. The overall MANOVA indicates that there is significant overlap, but the vowel categories are maintained from a statistical standpoint (Pillai = .079, $p < .05$). It should be noted that in the initial observation by Paterson (2013), the CURE lexical set was included in the merger. However, due to the lack of tokens for this vowel in the data set for all speakers ($n = 31$), it was excluded to ensure that the overlap or lack thereof reported here was as representative of the speakers as possible with minimal error.

Figure 17

Individual speaker distribution for normalized formant data (GOAT onset & FORCE)



The individual panels above all show various degrees of overlap for these lexical sets. A merger was found for Andrews where the Pillai score (.067, $p > .05$) is below the Pillai threshold (.116, $n = 47$). The p -value is also above .05, indicating that this is indeed a merger of GOAT/FORCE for this speaker. This is reinforced by the ellipses shown above in Figure 17 where almost all tokens for both lexical sets occupy the same vowel space. As there is such a large amount of overlap as to constitute a merger and FORCE is already known to surface as [o], the GOAT onset is also pronounced with the same vowel.

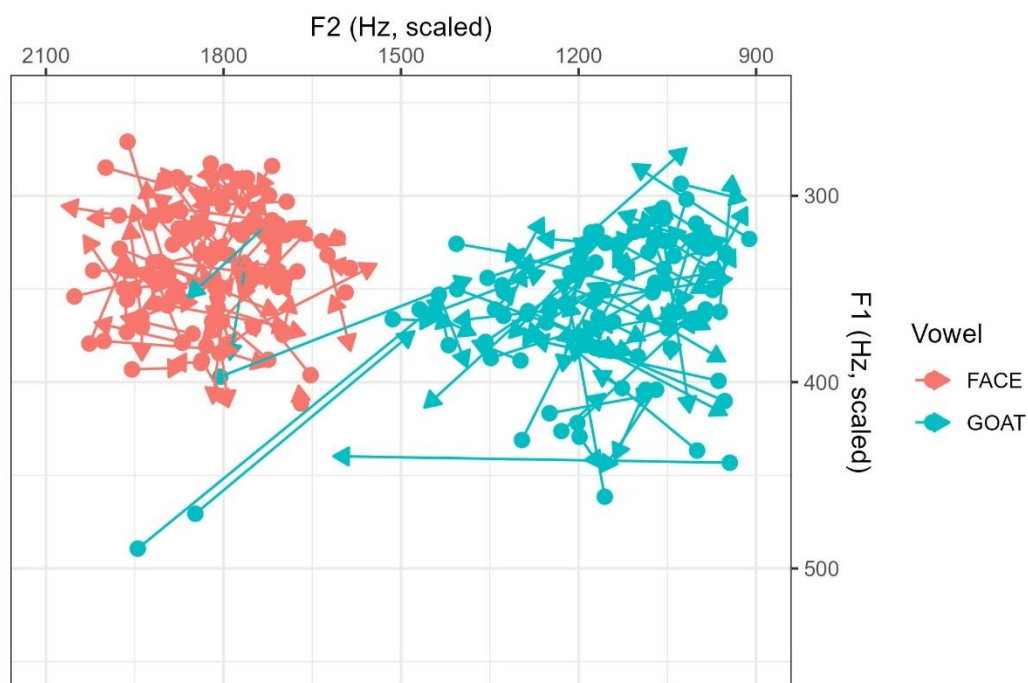
Pierre showed a significant overlap but no merger (Pillai = .106, $p < .05$) as indicated by the speaker's Pillai score being larger than the Pillai threshold (.103, $n = 53$). It should also be

noted that the individual panel for Pierre in Figure 17 shows that almost all tokens for FORCE are contained within the ellipsis for the GOAT onset apart from two tokens. The number of tokens is likely attributing to the lack of merger here which could potentially indicate a merger were there more tokens for both lexical sets. However, since the MANOVA indicates that there is no merger, then this indicates that the data for this study does not show evidence of a merger. Further study could illuminate the underlying cause for the lack of merger for this speaker, whether that be the amount of data collected, the phonetic environments or other such phenomena.

Thomas has the widest distribution of these lexical sets along the F2 axis, indicating a variation in the backness of the tongue during articulation. This translates into having the least amount of overlap (Pillai = .146, $p < .05$) of all the speakers as the tokens are not concentrated around any specific area within the vowel space. The p-value and Pillai threshold (.111, $n = 49$) indicates that these vowels constitute distinct vowel reflexes. The ellipses for these two lexical sets, therefore, show mostly the same representation for their tokens as the vowel [o] while some outliers a lower vowel such as the low-mid back rounded vowel [ɔ] for the FORCE lexical set. This is supported by the former results for the NORTH/FORCE merger where Thomas also displayed a separation of the two lexical sets while still showing some overlap.

Figure 18

Normalized F1 and F2 data for FACE & GOAT across speakers: Nearey2 normalization

**Table 7**

Normalized means for F1 and F2 of the tokens for FACE & GOAT diphthongs

Vowel	Speaker	Mean (Hz, rescaled)			
		F1 (onset)	F1 (glide)	F2 (onset)	F2 (glide)
FACE	Thomas	334	329.5	1801.2	1780.9
	Pierre	349.1	344.2	1879.9	1870.5
	Andrews	331	338.9	1782.9	1772.6
GOAT	Thomas	375.6	365.7	1311.8	1255.8
	Pierre	371.2	367.9	1130.6	1146.6
	Andrews	334.3	337.4	1116.4	1130.1

Investigating the distribution of the FACE and GOAT lexical sets required a different process as these are generally described as diphthongs within the literature. Therefore, as diphthongs are usually measured from two different positions, the same was done here for all three speakers across vowels.

FACE vowel

For the three speakers investigated, this lexical set showed minimal variation across all F1 and F2 formant measurements that were taken. This means that all speakers generally show similar pronunciation for these vowels. Also, the trajectory of these diphthongs as signalled by the arrows for each token are relatively short in Figure 18. This short trajectory is indicative of this minimal difference between the measurements for each formant across all speakers.

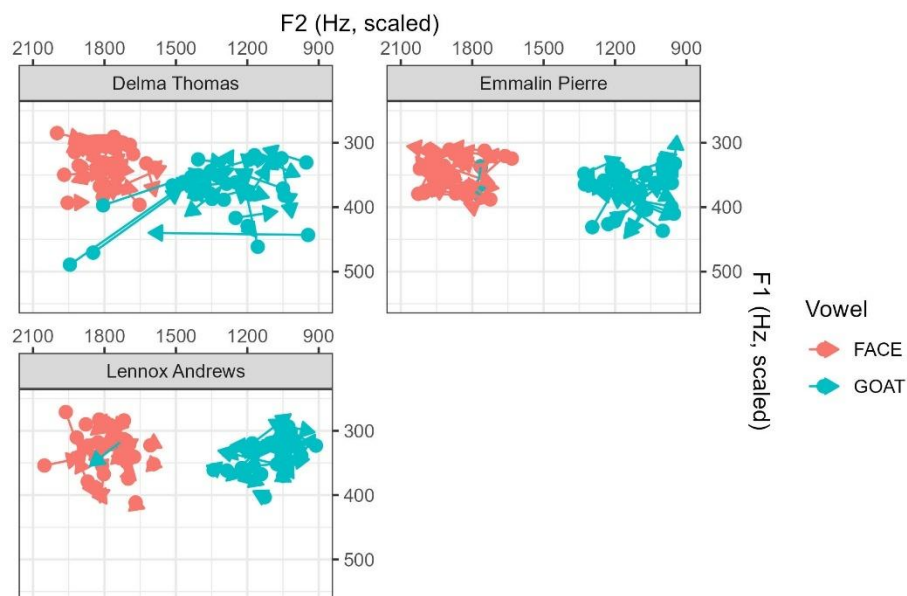
Therefore, it can be said that these tokens show evidence of monophthongization for this vowel as the changes between two measurements (onset and glide) of these tokens is minimal.

GOAT vowel

The GOAT set shows more variation between its tokens than was seen for the FACE lexical set. When observing the tokens in Figure 18, there is slightly more variation along the F1 axis which indicates a wider positioning of the tongue with regards to height. The F2 values, however, are occurring along an even wider spectrum where some tokens occur with F2 onset and/or glide over 1500 Hz. Therefore, there is some variation with regards to whether all tokens are realized as monophthongs or not.

Figure 19

Individual speaker distribution for normalized formant data (FACE & GOAT)



From the individual panels shown above in Figure 19, all three speakers show clear-cut distributions with regards to where these tokens occur. The FACE tokens for each clearly appear with higher F2 values and generally lower F1 values.

Some differences are seen with the formant values for each speaker as seen in Table 7 above: Thomas and Pierre show a very minimal difference between the F1 onset and glide (~ 4.7 Hz) while Andrews has a slightly larger difference (7.9 Hz) between F1 positions. This indicates that for all speakers, the vowel maintains the same tongue position during articulation. The F2 values, conversely, are the most varied for Thomas between the glide and onset positions (20.3 Hz) while Pierre and Andrews show much less difference (~ 9.85 Hz). This data tells us that while Thomas shows a larger potential for tongue backness in the articulation of these tokens, all speakers tend to maintain a similar position. Therefore, it can be said from this data that the

FACE tokens are occurring as monophthongs. Within the tokens for Pierre and Andrews, there is one outlier each that occurs from the GOAT set within the FACE vowel space. These two tokens, upon listening to each corresponding audio file, were found to have the same vowel as the GOAT set but were incorrectly parsed.

When looking at the tokens for GOAT, there is much more variation per speaker. The most notable difference between tokens is seen for Thomas who has multiple tokens with large trajectories occurring across the F2 axis, in particular. This is also evident with the formant values in Table 7: the difference between Thomas' F1 values is very small (9.9 Hz) while there is a significant difference between the onset and glide for her F2 values (56 Hz). These tokens with large trajectories are likely skewing the overall data for this speaker. Pierre and Andrews, on the other hand, show minimal differences between both onset and glide positions for F1 and F2. Therefore, across these three speakers, there is a high degree of apparent monophthongization for the GOAT lexical set.

5. Discussion

The analysis of data from three Grenadian MPs within this parliamentary context is a novel exercise in phonetic research for the intersection of Grenadian English and Grenadian English Creole. Focusing on the potential for certain mergers to arise amongst speakers in this context helps to understand how Grenadians navigate traditionally formal environments in an island which is described as flattening the differences in terms of the linguistic repertoire utilized in specific scenarios towards the Creole variety. The overall results displayed here show variation in the phonetic realizations both on an individual and group level for speakers from the same parish, a pattern which has been previously documented in other traditionally formal domains such as education and newscasting in Grenada (Hänsel & Meer, 2023; Hänsel et al., 2022). Therefore, the results found here can help illuminate exactly what the vowels in these contexts are and posit an explanation as to why they occur. Also, by comparing the results here to other Caribbean English varieties, we can illuminate any trends occurring across the Anglophone Caribbean and how the principles of load-bearingness (Irvine 2004, 2008) can be applied to the patterns exhibited here.

5.1 Vowel mergers & load-bearingness

5.1.1 *FLEECE/KIT merger*

The merger of these two lexical sets is one observed in Paterson (2013) where Creole speakers are said to exhibit the high front unrounded tense vowel [i] for both FLEECE and KIT, meaning that KIT tokens are pronounced with a lower F1 and higher F2 value. This is a noted feature of other Caribbean English Creoles such as Jamaican Creole where the equivalent lexical set FIT is shown to have variation between [ɪ] and [i], while FLEECE's equivalent PIECE

maintains a distinctly high F1 & F2 value (Devonish & Harry, 2008, p. 260) and in early accounts of Trinidadian English Creole as stated in Leung (2013, p. 141). However, modern-day accounts show a distinction in both the Creole and Standard varieties for Trinidad, though the author does note that KIT [i] could occur more sporadically in less formal settings (Leung, 2013, p. 141). Therefore, the widely documented existence of this merger within Grenada and the wider Anglophone Caribbean can explain the merging of these two lexical sets for Thomas and Andrews and can be attributed to the usage of Creole features in their speech.

Conversely, Pierre displays a phonemic distinction for these lexical sets, a pattern that aligns with the observations of Caribbean Standard Englishes. The Standard varieties in Jamaica (Devonish & Harry, 2008) and Trinidad (Ferreira & Heitmeier, 2021) both display this as they show evidence of a tense/lax distinction where FLEECE is represented by the tensed vowel [i] and KIT is represented by the lax vowel [ɪ]. Since Pierre is displaying the same patterns as seen in these English varieties, one may suggest that this distinction is a Standard English variant for Grenadian speech, as well.

Therefore, we can classify the fronting of KIT as a *load-bearing* Creole variant while the distinction between FLEECE and KIT is a *load-bearing* Standard variant. As outlined by Irvine (2004; 2008), load-bearing variants are indicative of the variety being spoken within a creole continuum. As the phonological distinction is something commonly employed across the English-speaking Caribbean in formal contexts, Pierre's usage of this merger means that Grenadians may more broadly associate this with 'proper' English and that such a distinction is employed in formal settings such as parliament. It can be noted, however, that the presence of the load-bearing Creole variant indicated that such ideas surrounding the Standard variety and its usage within parliament are not necessary within parliamentary speech.

5.1.2 FOOT/GOOSE merger

FOOT/GOOSE are documented as merged into the high back rounded vowel [u] for GEC speakers (Paterson, 2013, p. 79). As this is already accounted for within the Grenadian context, the full merger observed for Andrews indicates that this speaker is likely using the Creole-specific pattern in a formal setting. Thomas shows a large amount of overlap where most tokens across both FOOT and GOOSE are represented by the same vowel. However, these lexical sets are still phonologically distinct. Similar occurrences are documented in other Anglophone Caribbean countries such as in Trinidad where past studies of the Creole variety documented the merger of FOOT and GOOSE as [u] along with variation between [u] and [ʊ] for specific demographics of older speakers (Leung, 2013, p. 144). It should be noted that these vowels in Leung (2013) were not documented as occurring for modern-day speakers, meaning that this merger is likely no longer present within the linguistic situation in Trinidad. Therefore, Andrews and Thomas are displaying a preference for the Creole variant where the FOOT set is generally realized with lower F1 and F2 values. This indicates that the backing of FOOT into a merger is *load-bearing* for the Creole and that the usage of this variant indicates the usage of GEC.

Pierre is the most divergent from the other speakers, showing a large distinction between FOOT and GOOSE. This distinction is a phonological pattern documented for Standard varieties across the Caribbean as seen with Trinidadian English (Ferriera & Heitmeier, 2021) and Jamaican English (Devonish & Harry, 2008). By virtue of this distinction being a common pattern within Caribbean Standard Englishes and being documented for one of the speakers within the Grenadian parliamentary context, it is likely a *load-bearing* variant for the Standard variety within Grenada. The usage of this distinction between FOOT and GOOSE can also be

described as a reflection of ideologies surrounding the domain of parliament and ‘proper’ English as seen in other Anglophone Caribbean countries.

5.1.3 *NURSE/STRUT merger*

According to Paterson (2013), the expected representation for these lexical sets for GEC speakers is a merger of NURSE towards the mid-low back unrounded vowel [ʌ] which is the vowel for STRUT. In some hegemonic varieties, such as RP English and London English in England, NURSE is represented as the low-mid central unrounded vowel [ɜ:] and STRUT is represented by [ʌ] (Wells, 1982b, p. 305). However, there is a distinction seen with the speakers investigated here as no speakers show a merger. Variation of NURSE is seen in other Anglophone Caribbean countries such as Jamaica where there is variation between multiple vowels including the mid central vowel [ə], the high-mid central rounded vowel [ø] or the high-mid back rounded vowel [o] (Devonish & Harry, 2008). However, the Creole variety only shows variation between [ø] and [o]. Trinidadian English/Creole also displays a similar pattern where Leung (2013) highlights that NURSE has a history of variation between [ʌ], [v:] and [v] in the Creole variety while the Standard variety uses the close-mid central unrounded vowel [ɘ:] (p. 143) and is supported in other literature as seen in Ferriera & Heitmeier (2021, p. 19).

The variation between all speakers in the Grenadian parliament displays a widespread occurrence of backing for the NURSE set with variation between [ʌ] and [ɔ]. None of the speakers investigated for this merger displayed one singular vowel reflex, meaning that these two lexical sets are generally realized with the same varying vowels. The usage of [ɔ] to represent NURSE is interesting as this vowel is the rounded equivalent to [ʌ], which is the expected merger that NURSE and STRUT partake in as outlined in Paterson (2013).

Thomas shows the most overlap where her STRUT tokens surface showing variation amongst the vowel reflexes listed above for NURSE. Similar phenomena are noted for Andrews and Pierre but to a lesser degree. The work of Hänsel et al (2022) showed that STRUT exhibits variation between [ɔ] and [ʌ] within newscasting and education, two traditionally formal environments comparable to parliament. This variation occurred across speakers, regardless of whether they were said to exhibit majority Creole or Standard features. A similar variation has been documented in Trinidad where older studies described [ɔ] as a feature of the Creole variety and [ʌ] as the Standard Variety (Leung, 2013, p. 145). However, present-day Trinidadian English seems to exhibit a change in quality where STRUT occurs much lower as [ɒ] for the Creole variety.

This variation between these vowels in the Grenadian context, therefore, may indicate that having a distinct vowel representation for either of these lexical sets is not particularly necessary as they both represent similar occurrences. With regards to Irvine's load-bearingness model, this likely indicates that NURSE and STRUT have *non load-bearing* vowel reflexes for either variety. Therefore, these speakers can show the same vowel reflexes between these two categories without signalling the variety being spoken, whether that be the Creole or Standard English variety.

5.1.4 TRAP/BATH/START merger

5.1.4.1 BATH/TRAP merger

The merger of TRAP/BATH/START is noted as a feature of GEC in Paterson (2013) where all lexical sets are represented by the open front unrounded vowel [a]. Thomas and Pierre

show variation for BATH between the near-low front unrounded vowel [æ] and the low front unrounded vowel [a] where Pierre shows more fronted TRAP reflexes closer to [æ] while Thomas has TRAP occurring further back in articulation as [a]. As these two speakers display a merger between BATH and TRAP, then the position of the BATH tokens for each speaker would be occurring in the same relative position as TRAP. Therefore, Thomas is potentially displaying the expected Creole variant as [a] while Pierre displays the more fronted vowel [æ]. Pierre's potential utilization of TRAP [æ] is likely *load-bearing* for the Standard variety as it is noted in other work regarding Grenadian English in formal settings by Hänsel et al. (2022).

While Andrews also shows overlap, these lexical sets are phonologically distinct where BATH and TRAP represent two different vowels. While this contrasts with the expected Creole pattern, both lexical sets display a merger towards START for this speaker. This indicates that both lexical sets are occurring further back within the vowel space for this speaker and are, therefore, likely closer to the Creole variant [a] or even further back as seen with some BATH tokens. Therefore, he can be said to exhibit the *load-bearing* Creole feature [a] within his parliamentary speech for BATH and TRAP.

These load-bearing variants are representative of two different varieties are noted by the work of Hänsel et al. (2022) where a similar pattern is observed for workers in newscasting and education. For the TRAP set, [æ] is typically associated with more Standard or acrolectal speech. Evidence for this is also found across the Caribbean where in Trinidadian English/Creole, TRAP [æ] is described as a new endonormative variant mainly utilized by women (Leung, 2013, p. 142). However, further research by Westphal et al. (2022) dictates that while [æ] is a variant used in Trinidadian English, it is not used by all speakers in formal domains. Rather, this [æ] variant still varies for speakers with [a] within formal speech. Therefore, the Grenadian

parliamentary speech exhibited here is similar to that of Trinidad where Andrews can be described as utilizing more Creole speech within a formal domain and the opposite is true for Pierre and Thomas who are using vowel reflexes closer to the Standard English variety as evidenced in other Caribbean English contexts.

5.1.4.2 START lexical set

The one speaker who shows a near full merger for these lexical sets is Andrews. The MANOVAs for this speaker show total overlap between START and the other lexical sets but not a merger between BATH/TRAP themselves. As a result, BATH merges with START and TRAP merges with START for this speaker. As this speaker's vowel reflexes are the closest to the expected merger for GEC speakers as [a], he can be said to exhibit the Creole merger in his parliamentary speech.

Thomas shows intermediary results where partial overlap with START is observed for both lexical sets but not a full merger. Therefore, START has its own vowel representation closer to the low back unrounded vowel [ɑ]. This back vowel also indicates why there is much higher overlap with BATH despite lacking a merger as BATH is further back in the vowel space than TRAP.

Pierre shows the least overlap which indicates that these lexical sets are more phonologically distinct from START. The representation here is also like Thomas where START is represented by [ɑ]. The absence of a merger for START with these two speakers indicates that they are not patterning the same way as the expected Creole pattern where START occurs more forward in the vowel space. These results likely indicate that the merger of these lexical sets with START is *load-bearing* for the Creole variety as their merger with this vowel is actively avoided

at a higher capacity for Pierre. Conversely, START having its own phonemic distinction would be an indication that this is a *load-bearing* Standard variant.

Evidence for this is also seen across the Anglophone Caribbean as seen in Trinidad where professionals who speak in formal environments were found to produce START as [ɑ] instead of the noted Creole pronunciation of [a] (Westphal et al., 2022, p. 384). This measurement is paralleled by Ferriera & Heitmeier (2021, p. 19) who list that the START vowel shares its vowel representation with BATH as the vowel [ɑ:] in Trinidadian English. Therefore, the pattern occurring within the Grenadian House of Representatives is one shared by other Caribbean countries. Jamaica, however, does show this same pattern: Jamaican Creole and Jamaican English are both said to use the lengthened vowel [ɑ:] to represent the START set (Devonish & Harry, 2008). It may be the case, therefore, that this lexical set is *non load-bearing* in the Jamaican linguistic context when compared to Trinidad and Grenada. This shows a variation across the Anglophone Caribbean in contrast to the other mergers investigated.

5.1.5 NORTH/FORCE merger

The merger of NORTH/FORCE is one which is not expected to be produced by Grenadian English Creole speakers. Creole speakers, according to Paterson (2013), merge these lexical sets differently: NORTH merges with LOT/CLOTH/THOUGHT as [ɔ] while FORCE merges with GOAT/CURE as [o]. The lack of merger between these two lexical sets, while unexpected, is not particularly unique within the Caribbean context. Similar phenomena are noted across the Caribbean such as in Jamaica where Jamaican Creole represents NORTH as [ɑ:] and FORCE with variation between [uo] and [ua]. Jamaican English shows the same pattern with different vowels where NORTH is [ɔ:] and FORCE is [o:], the pattern most similar to GEC apart

from the lengthening noted for these vowels in the Jamaican context (Devonish & Harry, 2008). An alternate pattern is seen in Trinidadian English, however, where NORTH is merged with FORCE/THOUGHT as the low-mid back rounded [ɔ:] (Ferreira & Heitmeier, 2021; Leung, 2013). This pattern is said to also occur for Trinidadian English Creole where both lexical sets are merged using the same vowel.

The least amount of merging is found for Andrews, the speaker who generally displays the most Creole variants in his speech. NORTH seems to be realised as the low-mid back rounded vowel [ɔ] while FORCE has a separate vowel representation as higher on the high-mid back rounded vowel [o]. This pattern and the vowels here reflect the expected Creole pattern as reported by Paterson (2013) for GEC as they are representative of two separate vowel reflexes. However, as shown above, this may also be a property of the Standard variety in Grenada as the Jamaican linguistic context allows for the separation of these tokens across both the Creole and Standard variety.

A merger for NORTH/FORCE is found for Pierre, a pattern which is notably different from that of Andrews. Pierre may be using the Grenadian English reflexes for these lexical sets since they have the same vowel reflexes which were found to be at the intersection of [ɔ] and [o]. Since the merger is something that Creole speakers are not expected to use, this pattern likely indicates that Pierre is orienting her speech towards some Standard variety. Therefore, both lexical sets have tokens that are exhibiting both vowels. Thomas has overlap that occurs as the middle option between the two other speakers where her tokens show more overlap than Andrews but are not fully merged as they are for Pierre. Resultantly, the vowel representations for each speaker differed with the two most overlapping speakers showing NORTH and FORCE occurring around the mid-low back rounded vowel [ɔ].

As noted by other Caribbean situations above, these two lexical sets seem to maintain the same pattern across the basilectal and acrolectal varieties: they can either be merged throughout or have separate vowel reflexes. In the case of Grenadian parliament, it seems that the Creole displays a merger of these two sets while the Standard has separate occurrences for each lexical. This would reflect the previous patterning seen with the FLEECE/KIT and FOOT/GOOSE lexical sets. There is also a possibility that the speakers are exhibiting different Standards as their targets where Andrews is emulating Jamaican English as the Standard variety while other speakers are targeting the Trinidadian English variety. However, this is likely not the case as other patterning would be expected to be like these Standard varieties such as the separation the FOOT and GOOSE lexical sets, which Andrews shows a merger for. Also, particularly with reference to Andrews, he would have more reason to target Trinidadian English especially as he attended university in Trinidad for his Masters' degree.

This means, therefore, that it is more likely that Andrews is aligning closer to GEC as indicated by the low overlap between each lexical sets' tokens. Pierre and Thomas, on the other hand, each show a merger and significant overlap respectively. Therefore, it can be said that the merger of NORTH/FORCE is a *load-bearing* variant for the acrolect while the separation of these is *load-bearing* the Creole variety.

5.1.6 LOT/NORTH/THOUGHT merger

There is an expected merger for all three lexical sets towards the low back rounded vowel [ɒ] according to Paterson (2013). This merger also usually includes the CLOTH set, indicating that the back vowels for GEC speakers are highly concentrated towards certain phonemes. However, due to the lack of tokens for CLOTH found in this data set, this was not considered

here. This merger is not observed in other Anglophone Caribbean countries for either their Creole or Standard varieties. In Trinidad, for instance, Ferriera & Heitmeier (2021) outline that Trinidadian English speakers distinguish the LOT/CLOTH vowel as [ɒ] while NORTH/THOUGHT occur as [ɔ:]. In Trinidadian English Creole, there is a described merging towards the same vowel: [ɒ] in Winer (1993) as cited in Leung (2013, p. 155) and [ɔ] in Solomon (1993) as cited in Leung (2013, p. 155). This patterning in Trinidadian English Creole is the same pattern that was noted in Paterson (2013).

Conversely, Jamaican English shows THOUGHT/CLOTH/NORTH occurring as the geminate low-mid back rounded vowel [ɔ:] while LOT occurs separately as the non-geminate [ɔ] (Devonish & Harry, 2008). Jamaican Creole shows the same pattern as the acrolect but with varying vowels: THOUGHT/CLOTH/NORTH surface as the [a:] while LOT varies between [a] and [ɐ].

5.1.6.1 LOT/THOUGHT merger

The only merger that occurs across all three speakers is for LOT/THOUGHT. This is notable because LOT is typically not merged with THOUGHT in most other Anglophone Caribbean contexts. For all speakers, the LOT tokens were usually encompassed in the THOUGHT set, hence their overlap. The representation for the LOT vowel was the low back unrounded vowel [ɑ], meaning that THOUGHT also had many tokens occurring with the tongue low in the mouth and the jaw open.

With regards to the distribution per speaker, it seems that the most and least merged speakers reflect the patterns seen previously where Andrews exhibits the most merging and Pierre the least. Thomas displays a merger closest to Pierre, indicating that the tokens overlap

slightly less. This merger is particularly interesting as it occurs across all speakers, a pattern that is not seen for any other pair of lexical sets. Also, the merger reflects patterns where Pierre showing the least merging may indicate an attempt to avoid mergers associated with the Creole while Andrews and Thomas do not do this.

5.1.6.2 NORTH/THOUGHT merger

As previously shown for Trinidad and Jamaica, these two sets show merging across all contexts, both basilectal and acrolectal. Therefore, the presence of this merger for speakers would not be unfounded within a formal Grenadian context and could be contextualized by the occurrences in other Anglophone Caribbean countries.

Of the two speakers who displayed merging, Thomas showed the most overlap compared to Pierre. Both speakers show the same pattern where THOUGHT is merged to the lower end of the NORTH lexical set, meaning that the tokens are occurring as [ɑ] and [ɔ] respectively. While THOUGHT is merged into NORTH, the latter set still has some tokens which occur independently of the THOUGHT set with tokens that have a lower F1 and F2 value along with much higher F1 values but similar F2 values. This indicates that NORTH displays much more variation generally compared to THOUGHT.

Andrews, conversely, shows no merger for these two lexical sets as his THOUGHT tokens show a much wider distribution than the other two speakers. Therefore, only the upper portion of THOUGHT and the lower portion of NORTH exhibit overlap. This signals that these lexical sets exhibit variation between different vowel reflexes where NORTH and THOUGHT likely have two different vowels representing their tokens meaning that NORTH and THOUGHT have distinct representations of [ɑ] and [ɔ] respectively.

The patterns displayed here are contrary to previous mergers investigated where for these lexical sets, Pierre is more aligned with the merged Creole variety while Andrews shows a distinction between these lexical sets. With regards to load-bearingness for NORTH/THOUGHT, the patterns displayed here are contrary to previous mergers investigated where Thomas and Pierre display a merger more aligned with the Creole variety while Andrews does the opposite, resulting in distinct vowel reflexes between these lexical sets. This coupled with the significant overlap for all speakers may indicate that this merger is *non load-bearing* within the Grenadian context.

5.1.6.3 LOT/NORTH merger

Finally, LOT/NORTH is unmerged for all speakers but shows partial overlap more broadly. A full overlap of these two lexical sets is notably avoided not just here but in other Anglophone Caribbean countries for both the basilectal and acrolectal varieties. The lack of a merger is likely due to the positions of these lexical sets during articulation: LOT has a generally higher F1 and F2 placement, meaning that the tongue is fronted and lower in the mouth. NORTH displays the opposite, where the F1 and F2 are lower. Therefore, the two lexical sets are occurring at a maximal distance from one another in each speaker's vowel space which decreases the chances of overlap.

Thomas has the most overlap where some tokens for both LOT and NORTH are exhibiting formant values closer to the opposite lexical set. The area where these two overlap also encompasses many of the THOUGHT tokens, meaning that these lexical sets share the same vowel reflex. This pattern is also seen across the other speakers, with the least overlap being observed for Andrews between the two lexical sets. Andrews' lack of overlap is also seen above

in the NORTH/THOUGHT set and, again, may be attributed to having less tokens compared to the other two speakers.

The lack of overlap for all speakers here and the varied nature of the reflexes exhibited by each speaker indicates that these lexical sets are *non load-bearing*. Therefore, the utilization of merging or distinction between LOT and NORTH has no bearing on the variety being spoken.

5.1.7 GOAT/FACE monophthongization

The monophthongisation of GOAT and FACE is a common phenomenon across the Anglophone Caribbean for both the English Creole and Standard varieties. GOAT is noted as [o] is noted for GEC by Paterson (2013) and merges with FORCE and CURE. This paper does not mention the FACE set, but discussion of both lexical sets can be found in Hänsel et al. (2022) where speakers across the creole continuum within the domains of education (pp. 34-5) and newscasting (pp. 28-9) utilized the geminate monophthongal [o:] for GOAT and [u:] for FACE. One notable pattern seen in Hänsel et al. (2022) is that the newscasters, particularly those targeting acrolectal speech, employed the diphthongs [oo] and [ei] for GOAT and FACE alongside the monophthongs in some cases. This likely signals a specific, context-dependent *load-bearing* variable for newscasting where diphthongs are utilized for some Grenadians.

From the intra-speaker data collected with regards to the trajectories of these vowels, all speakers display extremely short trajectories moving in various directions. The lack of movement and trajectory of these tokens largely indicate that these speakers are regularly utilizing the high-mid back rounded vowel [o] for GOAT and the high-mid front unrounded vowel [e] for FACE. Since the monophthongisation of GOAT and FACE can be said to occur across contexts within the Grenadian creole continuum, the monophthongal variants of these

lexical sets can be described as *non load-bearing*. This is because of their uninterrupted presence across speakers of different professions and lects. Similar patterns are seen in other Anglophone Caribbean countries where the geminate monophthongs are said to occur “very consistently as monophthongs” across all lects in Trinidad (Westphal et al., 2022, p. 368). Trinidad also shows the same phenomenon in newscasting noted earlier where diphthongal realizations are accounted for some speakers (Deuber & Leung, 2013, pp. 301-2 as cited in Westphal et al., 2022, p. 368). Therefore, while the monophthongs are not indicative of a specific variety of speech being utilized, the diphthongal representation always exhibits an exonormative Standard variety.

5.1.8 GOAT onset/FORCE merger

The merger of GOAT/FORCE is one that is noted in GEC where both lexical sets are using the high-mid back rounded vowel [o] to represent their tokens. This is a pattern not unique to Grenada and can also be found in other Caribbean countries: both Jamaican English and Jamaican Creole merge these vowels where [o] and [uo]~[ua] are used respectively (Devonish & Harry, 2008). However, the acrolectal or Standard variety in Trinidad separates these two lexical sets, where GOAT is monophthongised as [o:] and FORCE is represented by [ɔ:] (Ferriera & Heitmeier, 2021). When investigating the overlap for these speakers, it should be noted that it is the onset measurement for the GOAT lexical set, meaning it does not reflect the entire trajectory of the vowel. However, the previous analysis of GOAT and its monophthongization indicates that most speakers produce the same vowel quality at two different points of measurement and that the trajectories across the vowel are very short for most speakers.

Andrews shows a merger between these two sets while the other speakers display significant levels of overlap but no merger. By having a merger present for these lexical sets,

Andrews shows the expected Creole merger here where FORCE and the onset of GOAT surface as the [o] vowel. While GOAT is noted as a monophthong across Anglophone Caribbean contexts, the comparison with FORCE can only ensure that these are sharing the same vowel quality with the onset measurement. A larger assumption can be made due to the previous analysis of GOAT where all of the tokens for this speaker displayed a short trajectory. Therefore, this speaker may be described as showing the expected Creole merger. Thomas and Pierre show overlap for these lexical sets but do not merge as seen for Andrews. While the two speakers show similar patterns, the reasons for their lack of overlap varies: while Pierre shows GOAT surfacing as [o], the FORCE set shows some variation along the F2 axis with some tokens occurring much higher. This results in FORCE occurring lower than GOAT, thereby preventing the two from exhibiting a merger. Thomas, however, shows overlap but no merger due to the GOAT vowel representation. While Thomas' FORCE vowel seems to surface as [o], the GOAT set has some tokens which have onset measurements outside of the expected vowel space. Regardless of this, both Pierre and Thomas display the undocumented distinction of these two lexical sets.

The avoidance of and existence of this merger between speakers may indicate that the occurrence of FORCE as [o] is *load-bearing* for the Creole variety. However, since all speakers show either significant overlap or a merger for both lexical sets, it may be that this merger is *non load-bearing*. This designation is due to the amount of overlap occurring for all speakers where if there is no merger, there is significant overlap. This occurrence across the board indicates that the presence of this merger may not particularly indicate whether the Creole or Standard variety is being spoken in any given situation, including parliamentary speech.

Table 8*Vowel reflexes for each speaker in relation to load-bearingness by lexical set*

Lexical set	Speaker		
	<i>Delma Thomas</i>	<i>Emmalin Pierre</i>	<i>Lennox Andrews</i>
FLEECE & KIT	Merger – load-bearing for GEC!	Distinction – load-bearing for GE!	Merger – load-bearing for GEC!
FOOT & GOOSE	Merger – load-bearing for GEC!	Distinction – load-bearing for GE!	Merger – load-bearing for GEC!
NURSE & STRUT	Non load-bearing!		
TRAP & BATH	Distinction – load-bearing for GE!	Distinction – load-bearing for GE!	Merger – load-bearing for GEC!
START			
LOT, NORTH & THOUGHT	Non load-bearing!		
NORTH & FORCE	Merger – load-bearing for GE!	Merger – load-bearing for GE!	Distinction – load-bearing for GEC!
GOAT & FORCE	Non load-bearing!		
FACE & GOAT			

From the observations made above, while the House of Representatives is a governmental context, meaning that it is traditionally a domain usage of the Standard variety is expected, most of the speakers here did not solely employ phonological features associated with the Standard variety. Rather, the speakers each showed variation between their Creole and Standard variants where Andrews showed a preference for Creole features overall, Pierre displayed more Standard features, and Thomas leaned towards the Creole but displayed Standard features within her speech. This is reflected in Table 8 above.

Certain phenomena were classified as load-bearing towards either the Creole or Standard variety based on the current study and previous research on the speech of Grenadians in various contexts (see Paterson, 2013; Hänsel et al., 2022; Hänsel & Meer, 2023). According to Hänsel et al. (2022), vowels associated with more formal contexts such as newscasting and education are described as maximally distant from the variants of the English Creole variety (p. 45). Therefore, where a merger might be described as the feature of a Creole, separate vowel reflexes may be more likely within the Standard variety.

This pattern is largely seen for Pierre, who largely avoids many of the features that are associated with GEC. As a result, the Standard variants she shows includes the presence of KIT and FOOT as distinct lexical sets, the backing of START, a distinction for TRAP & BATH and a merger of NORTH & FORCE. As discussed by Irvine (2004; 2008), these variants being load-bearing for the Standard variety necessitates that these vowel reflexes must be present for the speech to be considered formal or ‘proper’ English. While this load-bearing framework was not used within the context of their study, Hänsel et al. (2022) parallels these observations where teachers who used features not associated with the Creole were deemed more competent and likeable (p. 44). The only speaker who employed load-bearing features for the Standard was Pierre, meaning that her vowel reflexes result in a vowel space distinct from those expected for GEC speakers. Therefore, Pierre’s adherence to non-Creole features within her speech indicates that she may view the domain of parliament as one that requires the usage of Grenadian English due to attitudes attributed to formal domains and previously enforced rules around this domain.

As Hänsel et al. (2022) outlined, the sounds occurring that contrast those listed above as load-bearing for the Standard indicate that they are more closely aligned with the Creole variety. Since Pierre is said to exhibit the Standard the most, Andrews and Thomas would be displaying

the inverse as they use Creole variants more frequently. The extent to which they do so is varied, however, with Andrews exhibits all of the phonological phenomena associated with the Creole: the fronting of KIT, the backing of FOOT, the merger of START with BATH & TRAP, and the distinction between NORTH & FORCE. When this speaker is not exhibiting a Creole load-bearing variant, then the feature in question is likely not load-bearing. Conversely, Thomas shows some alternation where while some load-bearing Creole variants are present such as the merging of KIT & FLEECE and the merging of FOOT & GOOSE, the others surface as the load-bearing variant for the Standard. Therefore, as these speakers show a higher propensity for using GEC features within a historically formal context, this is likely indicating that the choice to use Standard features is no longer an expected performance in this domain. Rather, people are able to utilize vowel reflexes aligned with the Creole in any capacity within governmental work as noted in Chase & Chase (2011, pp. 11-12), as cited in Hänsel et al. (2022) where GEC is competing with the Standard English variety in these traditionally formal domains.

As previously stated, all three speakers also exhibit variation that does not indicate a definitive usage of the Standard or Creole varieties. These variants are termed non load-bearing according to Irvine (2004; 2008), which display less uniform variation when compared to load-bearing variants which tend to have more concentrated vowel reflexes or no variation across both forms of speech. Of those vowels observed here, the monophthongisation of FACE/GOAT, the distinctions between NURSE & STRUT and the LOT/NORTH/THOUGHT distinction all seem to be non load-bearing variants. The monophthongisation of FACE/GOAT is a pattern observed across all speakers, regardless of their general preference for the Creole or Standard variety within a parliamentary context. Other studies within Grenada have displayed this same phenomenon across all speakers, except for those who generally use more exonormative

Standard variants in their speech such as those newscasters who emulate hegemonic varieties in their entirety (Hänsel et al., 2022).

The other two non load-bearing variables, the LOT/NORTH/THOUGHT merger and NURSE/STRUT, have large amounts of variation across all speakers. Each speaker can exhibit different patterning from one another and even show overlap with other vowels, leading to many potential reflexes for each lexical set. Therefore, this large overlap indicates that there is a lack of unique vowel reflexes attributable to one lexical set and that there is no one variant that can be attributed to either the Creole or Standard variety.

5.2 Demographic & extra-linguistic effects on vowels

While the focus thus far has been on identifying both what vowel reflexes are being utilized for each lexical set and their equivalent language variety, the reasoning for why these speakers represent their speech in such a way may be explained by their extra-linguistic and demographic features, such as gender and political presence (time in politics, position, and party).

5.2.1 Gender

Within studies detailing the speech of politicians, there have been individual studies on female politicians and the linguistic personae they enlist in public speaking. In particular, the work of Podesva et al. (2012) and Holliday (2024) detail the different aspects of the speech of Condoleezza Rice and Kamala Harris respectively. Despite being on opposite sides of the political aisle and being in politics decades apart from one another, both speakers are said to display similar vowel reflexes which can covertly encompass aspects of their identities as African American women who align with both their Southern and Western identities within the

United States. Doing this allowed these speakers to signal belonging to their respective in-groups while avoiding more salient or marked vowel reflexes that could potentially alienate ‘general’ audiences who do not personally align with these groups (Holliday, 2024). Work in the U.S. Senate has also shown that both male and female politicians shift their speech to project likeness with their electorate, but female speakers will exhibit more formality within their speech despite attempting to be more appealing to the masses (Neumann, 2019). These papers and their results highlight the expectation faced by women within politics which, while unique to the political domain of the United States, can help frame how the female speakers in Grenada employ specific linguistic personae.

The results of this study signal that the two female parliamentarians generally employ more Standard features in their speech when compared to the male speaker. As previously discussed, Pierre shows a large alignment to Standard variants within her speech and minimally employs Creole features in her speech. On the contrary, Thomas shows more overlap for Creole variants but generally displays variation between the two language varieties. One merger where both speakers show a higher level of overlap is for NORTH/FORCE where Pierre displays a full merger while Thomas displays a high amount of overlap. This contrasts with Andrews, the sole male speaker who shows more distinction between these two lexical sets, thereby aligning himself with the expected Creole pronunciation. Since the merger of these two lexical sets is indicative of the Standard, the high amount of overlap for the female speakers may signal that they are more aware of some features being covertly Standard.

Another example of this is seen with TRAP/START where Pierre shows a wide distinction between these two sets while Thomas displays a partial overlap but no merger. As Pierre tends to utilize more Standard features and the merger of TRAP/START is a feature

expected in GEC, the lack of a merger supports the idea that this speaker may be utilizing more Standard variants in their speech. Thomas shows the same preference for a phonemic distinction, though it is much less distinct. These trends are distinct from the male speaker who displays the expected merger as documented in GEC (Paterson, 2013). Therefore, there may be some effects of gender on the vowel reflexes utilized by female speakers within a Grenadian context as these speakers show lower rates of overlap for certain vowel reflexes, meaning that they may be avoiding these as part of the linguistic personae that they employ.

There is evidence on the contrary, however, as Thomas has multiple instances where the salient Creole feature is employed when compared to Pierre. For instance, Thomas shows a full merger for FLEECE/KIT which is described as a load-bearing Creole feature within the Grenadian context. This is also seen for FOOT/GOOSE where while there is no full merger observed, Thomas exhibits a significant level of overlap that could potentially constitute a merger with more data. As noted, Pierre shows a full distinction for all of these lexical sets. This difference between the two female speakers likely indicates that while gender may play a role in their speech, there may be an explanation found within some other extra-linguistic or social factor.

5.2.2 Political affiliation

While women have been said to exhibit more standardized features in their speech in many sociolinguistic studies, it is important to acknowledge the nuance that occurs for members of any social group. Therefore, the changes exhibited between Andrews and Pierre that cannot be explained by their gender are likely explicable through other extra-linguistic or social factors, one of which is their political affiliations.

The speakers studied here all display different political situations: Pierre is the most varied from the other speakers in this study in this regard, where she is a member of the New National Party (or NNP) and is the only MP analysed in this study who is currently a member of this party. The NNP is one of two major national parties in Grenada and previously served as the majority government before the NDC won the majority in the 2022 elections. In this party, Pierre currently holds the position of party leader following the resignation of Dr. Keith Mitchell, the former party leader who served in this position from 1990 to 2024. Within the Westminster parliamentary system, the leader of a political party becomes the Prime Minister upon winning a general election. Therefore, by virtue of representing her political party in this capacity, Pierre may be using the load-bearing Standard variants to signal readiness for the global and local responsibilities that this position entails.

The other two MPs whose speech was analysed in this study are members of the National Democratic Party or NDC. Their trajectory within the party wildly varies: Thomas has the second-longest political career of the speakers investigated here. Along with this, her career is the most diverse as Thomas was first elected to politics as a member of the NNP in 2013. She was then re-elected into her seat in the House of Representatives in every election since as an MP under this political party. However, Thomas became a member of the NDC in 2023 after resigning from the NNP. Regardless of Thomas' reasons for switching political parties, her vowel reflexes indicate utilization of both Creole and Standard features. This exhibition of Standard vowel reflexes may reflect a linguistic persona built within the NNP that is being maintained in her new political position. There is a difference, however, between herself and her former party colleague with regards to their Creole vowel reflexes. While Pierre mostly evades their usage, Andrews is found to use more Creole-leaning vowel reflexes in her speech.

The other MP who is part of the NDC is Andrews. Compared to the other two speakers, he has served the shortest time in elected politics as he was first elected to his position as the Member of Parliament in the last general election which was held in 2022. By virtue of being in public politics for a shorter period compared to the other speakers, Andrews may not feel inclined to use Standard English variants. This could potentially indicate that as MPs spend more time in a parliamentary setting, their speech increasingly aligns with the acrolectal variety due to the linguistic ideologies surrounding formal domains. To see if this is indeed the case, the speech of a speaker such as Andrews would have to be observed over time to see if his vowel reflexes shift at all. However, it may also be the case that some speakers simply do not feel the need to employ acrolectal features to participate in government. As seen both in the Grenadian context and across the Anglophone Caribbean (see Hänsel et al., 2022; Westphal et al., 2022), there is always variation between the speakers in formal contexts that will employ more Creole or Standard phonological variants. Therefore, it may simply be that speakers employ the repertoire that they use throughout most of their daily interactions.

5.2.3 Past Occupation/Employment

One's former occupation may also have some effect on the speech of each of these parliamentarians. From looking at the professional backgrounds of these MPs, interesting trends are noted that could potentially be contributing to the speech of these three parliamentarians from Saint Andrews.

Pierre has spent the most time as a government employee and politics more generally. She was previously employed as a teacher under the public school system, where there are higher expectations for the accents of professionals working in the education sector than other

professions. Amongst the different language ideologies held in Grenada, teachers and educators with more salient Creole features are deemed less competent at their jobs compared to those who are said to employ Standard features by students (Hänsel et al., 2022, pp. 42-3). Therefore, by virtue of being a teacher, Pierre was likely subject to these attitudes and may have employed more Standard features which necessitates a distance from Creole varieties within the education system (Hänsel et al., 2022, p. 45). Pierre resigned from teaching in 2002 and worked as a government employee until being elected as an MP for the first time in 2004. Despite losing the following election, Pierre continued working within the NNP until her re-election in 2013. With all of this considered, Pierre's long-standing work in contexts where acrolectal speech is the norm may have contributed to her current speech patterns where she seemingly employs more Standard vowel reflexes because of her time within the governmental and educational domains professions where attitudes towards language usage are quite strict as indicated by previous studies within the Grenadian context.

Thomas displays a similar pathway to Pierre as both women were teachers before formally entering politics. As previously mentioned, the domain of education is seen as a particularly formal one where language ideologies surrounding what is 'proper' speech are still very prevalent (Hänsel et al., 2022). This is also coupled with the fact that teachers are technically government employees as most schools on the island are publicly funded. Therefore, Thomas may be expected to employ more features that are aligned with the acrolect. Thomas continued to be a teacher before being first voted into office as a Member of Parliament in 2013 and winning her seat in every subsequent election. While this speaker does share similarities with Pierre, Thomas displays further differences from Pierre in the amount of time spent as a politician and as a teacher. Such differences can further account for Thomas' utilization of both

Standard and Creole vowel reflexes, where Thomas shows a larger alignment with the Creole in her speech than Pierre.

Finally, Andrews has the most divergent career path with no time in the public education system. As a result of mainly being employed in the private sector with some experience in non-frontline government position, Andrews has likely not had the same expectations placed on him with regards to his speech. Similar observations have been noted in Irvine (2008) where front-line employees in Jamaica are typically expected to employ specific linguistic criteria associated with Standard English (p. 12). As Andrews was never employed in such a front-facing position and there are no documented expectations for speech within the private sector in Grenada, this speaker likely did not have any prior requirement to employ Standard vowel reflexes in his speech and hasn't felt any need to employ such features since entering politics.

5.3 Limitations & Future Considerations

While some fruitful observations were made from the data here, there are many ways that future studies can improve on the results here. Firstly, using more speakers from this area and analysing more data from each speaker would help to solidify whether these observations can truly describe formal speech within the parliamentary domain. This research can also be expanded to other governmental domains, similarly to the initial study conducted by Irvine (2008) where the concept of load-bearingness was initially defined with regards to how frontline and non-frontline government workers employed their speech. Conducting such research would have some additional hurdles as this would involve in-person studies in the field, but the results from these studies could further illuminate the linguistic situation in Grenada.

Another consideration that could be made here regards looking at older parliamentary sessions for speakers when possible. There are notable limitations to conducting this research, as the breadth of older sessions available would be limited to those that have been recorded and posted online. There is also the fact that some speakers seen here are newly-elected politicians, meaning that the number of sessions is further limited. However, looking at what is available for each of these speakers may reveal whether the linguistic personae employed here has changed over time or has been maintained from their time prior to politics.

In the future, it may also be beneficial to conduct research into the perception of speech within government as has been done in Hänsel & Meer (2023) across the Caribbean and with Hänsel et al. (2022) solely for the Grenadian context. Doing so could help understand how specific vowel reflexes are perceived by the general public. This could be more difficult to implement due to the small number of politicians in Grenada, meaning that people may recognize the voice and have pre-conceived notions about a speaker's style of talking. In the same vein as this, it could be beneficial to conduct sociolinguistic interviews with the politicians whose speech was investigated here. Doing so could allow researchers to question these MPs about their own linguistic ideologies but to also gather much clearer speaker data.

6. Conclusion

Overall, the results gathered here show that Grenadian MPs from the parish of Saint Andrew show both Creole and Standard variants within their parliamentary speech. Each speaker showed a unique vowel pattern that could be more broadly classified as leaning towards the Standard or Creole varieties through the usage of the load-bearingness framework (Irvine, 2004; 2008) along with comparisons to other Caribbean Standard Englishes. While the presence of some vowel reflexes was noted in earlier literature on the Grenadian creole continuum (see Hänsel & Meer, 2023; Hänsel et al., 2022), this study was able to account for them in a new domain and note variation that has not formerly been identified. Some features were also identified as occurring across varieties, meaning that they are present throughout all speakers' parliamentary speech and are likely not changed in accordance with the Creole or Standard varieties.

With regards to the influence of social and extra-linguistic factors on the speech of each participant, there is likely considerable influence from all these factors in each MPs speech. One's occupation prior to entering elected politics likely influences their speech where two of the parliamentarians that exhibited Standard speech were employed in the education system. As previous research indicates, education has strict language ideologies attached to teachers, meaning that those people who were previously employed in this profession have a higher likelihood of exhibiting Standard speech. Gender may also play a role as studies within the political domains of other countries have illustrated female speakers using more Standard varieties within their speech than male speakers.

Overall, the vowel reflexes shown in this study reflect the previously held notions that parliament is viewed as a traditional domain that requires 'formal' speech. However, the large

usage of Creole features within this domain indicates that attitudes towards speech are potentially changing or have already changed. Further research is required to investigate the attitudes towards politicians and their speech alongside how these speakers themselves view language usage within parliament as opposed to daily discourse.

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