



An acoustic analysis of the monophthongs of mesolectal-to-acrolectal Nigerian English

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Abstract and Key Terms

This dissertation provides an acoustic analysis of the monophthongs of Nigerian English using data harvested from selected television newscasters, who are expected to be mesolectal-to-acrolectal speakers of this variety of English. The "special speech training" which, as Gut (2004: 817) notes, newscasters receive, arguably makes their speech a reliable source of the standard variety. The study not only confirms the existence of such sociolects, which have been impressionistically identified, for example, by Banjo (1971, 1993, 1996), but also includes a gender dimension. Thus, in the process of unveiling which gender gravitates further away from the influence of the mother tongue and towards the reference accents, that is, RP or GenAm, the relevant acoustic properties of the monophthongs of the prestige Nigerian English norm were identified. To accomplish this also required secondary data for comparative purposes, which included acoustic data for the reference accents and impressionistic data for the relevant Nigerian (mother-tongue) indigenous languages. A balanced representation of both genders (seven male newscasters and seven female newscasters) was ensured in terms of the research subjects from whom the primary data was sourced. Approximately one-hour-long news broadcasts anchored by male and female newscasters were subjected to PRAAT instrumental analysis to determine first and second formants (corresponding to the vowel height and frontness/backness) as well as the length of each monophthong. The findings revealed that while the subjects as a whole were able to reliably contrast the length difference between the traditionally short and long monophthongs, as established by the statistical instrument of t-testing, the female subgroup showed longer length contrasts than their male counterparts. In terms of quality, the subjects were generally able to show quality contrasts between relevant minimal pairs, say KIT-FLEECE, in relation to the available RP acoustic data. The patterns of contrast, however, show that mesolectal-to-acrolectal Nigerian English is modeling RP rather than GenAm. Notably, the female speakers were found to be making considerably better quality contrasts than the male speakers. All of this is in alignment with an already established finding in sociolinguistics, as enunciated by Labov (1990) and Trudgill (1972), that the female gender tends to use prestige variants more than their male counterparts. Among the L1 subgroups, the L1-Hausa and L1-Igbo speakers modeled RP more closely than did the L1-Yoruba speakers, a development that was traced to both linguistic and historical factors.

Key Terms: Mesolectal-to-acrolectal Nigerian English, RP, GenAm, PRAAT, acoustic analysis, Lexical set, World Englishes, monophthongs, quality, length, contrast, variationist sociolinguistics, L1, reference accents

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In the beginning was the Word...and the Word was made flesh (John 1:1, 14)

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List of Abbreviations, Symbols and Phonetic Conventions

AIT: African Independent Television

ANP: Anglo-Nigerian Pidgin

ASR: Automatic Speech Recognition

CMS: Church Missionary Society

CNN: Cable News Network

CV: Consonant-vowel

CVV: Consonant-vowel-vowel

DM: Dynamic Model

ECE: Expanding Circle English

ECLM: Ethics Committee for Language Matters

EFL: English as Foreign Language

ENL: English as Native Language

ESL: English as Second Language

FCT: Federal Capital Territory (of Nigeria)

GenAm: General American (English accent)

ICE: Inner Circle English

IDG: Indigenous (strand)

IPA: The International Phonetic Alphabet

L1: First Language

L2: Second Language

NEs: New Englishes

NL: Native Language

NPE: Nigerian Pidgin English

NTA: Nigerian Television Authority

PCEs: Postcolonial Englishes

RNC: Royal Niger Company

RP: Received Pronunciation

STL: Settler (strand)

TEFL: Teaching English as a Foreign Language

TL: Target Language

WAEC: West African Examination Council

WEs: World Englishes

>: Greater than

≥: Greater than or equal to

<: Less than

[]: Phonetic transcription

/ /: Phonemic transcription

***:** ungrammatical structure

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CHAPTER ONE

INTRODUCTION

1.0 Introduction and General Motivation

The aim of this study is to account for the acoustic nature of the English monophthongs in the speech of selected Nigerian newscasters, who are expected to be speakers of mesolectal-to-acrolectal¹ Nigerian English. Studies such as these have become imperative in view of a variety of factors. One, Nigerian English has taken its place as a distinctive and major variety among World Englishes (Kaseem and Ekerete 2013: 38). The sociolect that could be regarded as the prestige norm of Nigerian English has been tagged as Nigerian RP² by Jowitt (2015), and the existence of such a local standard had been acknowledged even earlier by Awonusi (1990, 2004). This variety, Jowitt (2015: 3) submits, is “close to British RP, albeit with many variants due to the conflict of two standardizing forces, i.e., British RP and the basilect-mesolect”. But studies so far in this direction have relied only on impressionistic data. There is, therefore, a need to go beyond impressionistic description in accounting for the English phonemes as realized in Nigerian English. Impressionistic descriptions are often products of subjective auditory discrimination (Labov 1963: 284). Newscasters' accents, to a great extent, can be relied on to be

¹The Creole literature-derived terms, basilect, mesolect, and acrolect, according to Mesthrie (2004: 807), form a continuum of varieties reflecting the extent of the L1 influence and competence in L2 (which is English in the context of the current dissertation). Thus, the most L1-influenced and the farthest from L2 is basilect while the least L1-influenced and the closest variety to L2 is the acrolect. Since, as a continuum, there is no definite boundary between any two lects, the term mesolectal-to-acrolectal has been adopted in this study to capture the variety with some traceable influence of the research subjects' L1 (e.g. the male speakers') and the least L1-influenced (e.g. the female speakers').

²Received Pronunciation, hereafter referred to as RP, is described by Wells (1982: 10) as the accent of English that is “characteristic of the upper class and (to an extent) of the upper-middle class” of Britain. This accent, which enjoys high social prestige, is also known as “King's English”, “Queen's English” or “BBC English” (Kperogi 2015: 196). Generally then, Nigerian RP, as used here, refers to the variety of Nigerian English accent that is most free from the influence of the indigenous languages and thus closest to the British RP. Elsewhere in this dissertation, the term refers to British most prestigious accent as defined earlier.

representative of the standard since that is usually the accentual quality for which they are employed and even trained, and modern (digital) newscasts have, of course, the advantage of being amenable to acoustic analysis.

1.1 The History of English in Nigeria, and Nigerian English

As with other African countries, Nigerian contact with the English language was created by certain historical factors such as the introduction of Christianity, the slave trade as well as formal colonialism (Mesthrie 2004: 805). Gut (2004: 814) reveals that English was introduced into Nigeria in the sixteenth century with the establishment of trading contacts along the West African coastal regions. Citing Spencer (1971), Honkanen (2020: 11) reckons that English gained particular traction in Nigeria as it began to be used as the medium-of-instruction in Christian missionary schools from the mid-nineteenth century onwards. For example, the *Church Missionary Society* (CMS), a British Christian mission society, established a mission base in Abeokuta as far back as 1845 (Toyin and Heaton 2008: xiv). In addition, because the Britons, who occupied the colonial-government posts in Nigeria, were mostly from the middle and upper classes in Britain, Received Pronunciation (RP) was entrenched for a long time (Gut 2004: 815). Upon independence in 1960, Nigeria adopted English as her official language, which serves to this day as a lingua franca. Sub-varieties have, however, been identified and vigorously accounted for by linguists such as Jowitt (1991) and Banjo (1971). These varieties are often delineated along geo-ethnic lines as well as competence levels. Thus, there are, for instance, Hausa English, Igbo English and Yoruba English, all of which exhibit regional linguistic peculiarities (Gut 2004: 815-816).

Nigerian English has been recognized and acknowledged as a distinct variety among World Englishes. In Kachru's (1990:3) concentric circles model of World Englishes (the Inner Circle, the Outer Circle, and the Expanding Circle), Nigerian English falls within the Outer Circle, as is the case with other English-speaking countries where the language performs the sociolinguistic function of English as Second Language (ESL)³. In an ascending order, varieties of English within the Outer Circle are categorized along a continuum of basilect, mesolect and acrolect (Van Rooy 2004: 944). With particular reference to Nigerian English, Jowitt (2015: 3) notes that there is such an indeterminate boundary between the basilectal and mesolectal varieties that he categorizes the two as one variety, such that we end up having

³In Inner Circle English (ICE) and Expanding Circle English (ECE), the language performs the roles of English as a native language (L1) and English as a Foreign Language (EFL) respectively (Kachru 1990: 3)

two main varieties along this continuum: the basilect-mesolect and the acrolect⁴. The latter is closest to British RP, and it is the accent that many of the subjects of this study are expected to ‘aim’ for, since newscasters have been said to be the repository of the standard variety because of “the special speech training” they usually receive (Gut 2004: 817; Jubril 1986 as cited in Gut 2004: 817; Mesthrie 2004: 1099).

Despite the overwhelming arguments and evidence for an endonormative standard, Jowitt (2015: 3) notes that RP remains the model officially prescribed in the education system, which both teachers and students make efforts to follow and believe they ought to follow. This adherence to British RP could be seen as a relic of the earlier (exonormatively-focused) linguistic convergence that occurred during the colonial era, mostly engaged in by individuals for the purpose of identifying with the social prestige signaled by RP, which was the accent of most of the British residents in Nigeria in the first half of the twentieth century (Schneider 2007: 202). The high social standard to which RP is held in Nigeria is further reinforced by what Kachru (1987: 212) terms “Pedagogical Sacred Cows”. According to him, the complex nature of the spread of English and the local sociolinguistic peculiarities have always been overlooked in the educational sector. This is the reflection of the attitude of scholars whom Kachru (1990: 5) calls “purist pundits” who are majorly concerned about the enthronement and maintenance of the exonormative models in the Outer Circle and particularly for the educational purpose. Suffice it to say that the success of such efforts does not often go beyond the classroom and the examination hall, and so does not reflect much of the actual speech one gets to hear across Nigeria, which is affected to a lesser or greater degree by the African L1 or ancestral language in question. The stark reality is that each variety of English, such as that of Nigeria, has “developed its own linguistic resources appropriate to its cultural and sociolinguistic milieu” (Kachru 1987: 217). Any attempt to resist this reality, therefore, will only produce an incongruent mix of sociocultural identity and linguistic expression.

Besides the influence of the indigenous languages, the growing trend of the use of Americanisms is also ‘sabotaging’ the RP-based pedagogical standard in Nigerian schools as General American English (henceforth GenAm) is exerting a significant degree of influence. Igboanusi (2003: 599) notes that American English has encroached into territories where English has been institutionalized as second language, an example of which is Nigeria. Bamgbose (1996), as cited in Honkanen (2020: 12), acknowledges the reality that post-colonial Nigerian English indeed derived from British origins, but has

⁴The author still, however, proposes that it is best to conceptualize this study as focused on the mesolectal-acrolectal ‘pole’ of the relevant continuum given the prescriptive pressures usually operative in the specific context of announcing the news.

now assumed Nigerian peculiar usage as well as Americanism. Igboanusi (2006: 6) ascribes this development to the economic prosperity vis-à-vis the political influence of the USA, and particularly for Nigeria, to the presence of the American *Peace Corps* volunteers, who came in upon independence in 1960 but whose presence was ended following the political imbroglio that greeted the infamous June 12, 1993 annulment of presidential elections by the then military government (Jowitt 1991, as cited in Gut 2004: 817; Igboanusi 2006: 3). The *Peace Corps* had served as a pool of English teachers and thus entrenched American English as one influence among many (Igboanusi 2006: 3). In the same way that Sayer (2014), in his *Mediated Innovation Model*, proposes a critical role for media in language change, Igboanusi (2003; my parentheses) claims that the influence of American English on Nigerian English “may [also] be attributed to the roles of cable television [such as CNN and Sky News], Voice of America, video-tapes, movies, music...”, thus suggesting the influence of even social media such YouTube, TikTok and others that are now pervasive. On the other hand, Trudgill (2014: 214) has insisted that the diffusion of linguistic forms usually needs face-to-face interaction in which accommodation is the guiding principle. There is the need then to ascertain what way and to which degree (mesolectal-to-acrolectal) Nigerian English has been influenced by American English, this time around using the acoustic means.

It would be of great interest to study how the foregoing linguistic reality plays out in the mesolectal-to-acrolectal speech of Nigerian newscasters. In addition, since Trudgill (1972) and others have revealed that women generally have a greater tendency⁵ towards the prestige norm, it is worth investigating the degree to which the Nigerian female newscasters’ English monophthongs differ from those of their male counterparts.

1.2 Further Contextualization and Problem Statement

Choices made while using a language are products of context (Julie and Deborah 2009: 3). It is for this reason that variation exists within a language. Bernárdez (2008), as cited in Kaseem and Ekerete (2013: 38), submits that linguistic variation is characteristic of human life at both individual and social levels. In other words, Language use varies from one individual to another and from one social group to another. Examples of variation-inducing social contexts are class, age and gender, which Eckert (2019: 751) refers to as macro social categories which “correlate regularly with linguistic variation”. The implication of this

⁵It is recognized here that more recent developments in so-called third-wave sociolinguistics have cast doubt on the simple conflation of biological sex and gender that characterized early works in variationist sociolinguistics. It is for this reason that, in the proposed research, any correlation between gender and language is posited as a question and not as an assumption (see below for the relevant research question).

is that social realities impinge on language and its use. As Labov (1963: 275) puts it, “social pressures are continually operating upon language... as an immanent social force acting on the living present”. The resulting linguistic variation is important and worth giving research attention to because such variation, in turn, impacts on social realities (Eckert 2019: 751). There is then a dialectical relationship between social structure and its linguistic reflexes.

In alignment with the foregoing, identity alignment and linguistic accommodation are well-researched themes in contact sociolinguistics. Identity is a group’s definition and delimitation of its commonness in contrast to other groups (Schneider 2007: 26). Schneider (2007: 26) further notes that social identity is signified by different outward means, inclusive of language. In fact, the easiest and most readily available means is linguistic form. In other words, people bound by a common social background express their shared identity by symbolic means, of which linguistic variables form an integral part. This often leads to divergence to maintain in-group distinctiveness. Accommodation, which leads to convergence, is also linked to identity. For instance, Mufwene (2003: 8) linked social identity to the linguistic accommodation that often occurred during the exploitation colony period when the emerging local elite adopted the scholastic varieties of English as a means of signifying their elitist social identity. These varieties were meant to serve as *linguae francae* between the native colonial auxiliaries and the colonizers.

A salient linguistic window to social variety is accent. According to Wells (1982: 1), accent is what each speaker possesses, which in some small way exhibits an individual idiosyncrasy, but “to a very much greater degree, is characteristic of people belonging to some geographical region and /or social class; and it may well be typical of the speaker’s sex... or level of education”. The level of linguistic analysis which accent relates to is phonetics/phonology (Natalie 2006: 313). Highlighting what counts as variation in accents or how accents differ, Wells (1982: 73) points to phonemes and differences in their phonetic realization across different social groups. For example, the LOT vowel in ‘stop’ is realized as [ɒ] in RP but [ɑ] in General American. This points to the well-established fact that a particular accent of English can index regional identity, a precursor to the concept of World Englishes (Bolton 2006: 240). There are thus linguistic characteristics that confer the quality of distinctiveness on the English spoken in a particular region. In the sociolinguistic context of Nigeria, for example, where English co-habits with well over 500 indigenous languages, the influence of these indigenous languages are inevitable (Babarinde and Ahametula 2020: 1432). In this regard, but on a wider scale, Spencer (1979, as cited in Wells 1996: 634; my parentheses) notes that the general accent of English in West Africa [of which Nigeria is the most populous country] varies depending on the extent to which the phonetic influence of the indigenous languages has been overcome. This variation, according to Wells (1996: 636-639), is most rife among the vowels. Indeed, as Reetz and Jongman (2009: 23) observe, vowels account for most of the variation in

English accents. For instance, it has become established that African speakers of the English language, owing to the influence of the indigenous languages, often do not make a distinction, in production, between the long and short English vowels but rather realize long vowels as their short counterparts (Wells 1996: 636-637). By way of example, Wells (1996: 636-637) submits that "...there are few Africans who can make the distinction between FLEECE and KIT (RP /i:/ vs. /ɪ/) without special training". In RP, the former has, aside from a slight difference in vowel quality, a longer duration than the latter.

The reality of the influence of the mother tongue *and* that of exonormative prestige norms (RP and GenAm) on English in Nigeria are all expected to be reflected in the phonetic realization of the English monophthongs as produced by Nigerian male and female newscasters. The expectation is, in addition, that, generally, the female newscasters will be more influenced by prestige norms than the male newscasters. Indeed, gender is a well-acknowledged variable in sociolinguistics, and a considerable body of research in this field has established that women are more associated, *although not without exception*, with prestigious linguistic norms than men (Amadi, Nnamani, and Ani 2023: 100). Wells (1982: 19), for example, reports that it has been established by research that the female speakers approximate the prestige variety than the male speakers. In his work on the principles of linguistic change, Labov (2001: 266) states as principle 2: "for stable sociolinguistic variables, women show a lower rate of stigmatized variants and a higher rate of prestige variants than men".

Trudgill (1972: 182-183) postulates what could serve as the motivations for the above gender-based linguistic variation. The first has to do with the organization of social structure along the gender divide in the relevant society and which makes women more status-conscious than men. Given that the social position of women is "less secure than that of men, and usually subordinate to men, it may be, therefore, that it is more necessary for women to...signal their social status linguistically..." (182). This reality cannot be less so in a highly patriarchal society like Nigeria where, for example, the ratio of men to that of women in the public life is disproportionately high, and the former are simply accorded more social prestige than the latter (Makama 2013: 115; Dyrenko and Fuchs 2018:2564). Acknowledging this reality with reference to Nigeria, Ademuson (2016: 24-25) attributes it to cultural perception that presents men as better leaders than women. Beyond cultural constraint, however, Jaiyeola and Isaac (2020: 10-11) ascribe the gender inequality scenario in Nigeria to the British colonial incursion that bequeathed more socio-economic power on men relative to the women. One may then expect that language, being a social-indexical code, to reflect this reality in some way. In their work on masculinity and femininity social dichotomy, and in reference to language use, Stets and Burke (2000:999), the view that women are more

expressive than men is upheld but tied it to societal orientation rather than innate condition as erroneously earlier believed.

The second motivation put forward by Trudgill (1972: 183) is that less prestigious forms seem to be a representation of masculinity. Such forms are associated with “roughness and toughness supposedly characteristic of the working class” (183). As a result of this gender-based linguistic variation, in a specific reference to variation across vowels, Robert and Sakiko (2014: 109) note that there is “the ubiquitous if not exceptionless finding that women lead language change...” This can also be linked back to the theme of social identity alignment touched on above. Employing acoustic analysis, therefore, the current study is poised to investigate this linguistic juxtaposition. A fair amount of existing research into linguistic variation in the English spoken in Nigeria can be referenced. Obeka (2016) examines syntactic variation in Nigerian English vis-à-vis students’ performance in English Language as a school subject. Using the theoretical framework of interlanguage, he provides a comparative analysis of some structures of Nigerian English and Standard British English such as the use of articles, non-count/count nouns, prepositions and other syntactic elements. The study concludes that the high rate of failure in English as a subject among Nigerian students is an outcome of the syntactic ‘errors’ inherent in Nigerian English. This work can however be faulted on the ground that it fails to see Nigerian English from a sociolinguistic and descriptive point of view. In its prescriptive perspective, it aligns with purist pundits who see any variety outside exonormative British English as a deviation and consequently as error-ridden.

In relation to Nigerian newscasters’ accents, Melefa (2018) studied the stress and rhythmic patterns in the speech of selected Nigerian television newscasters. Using data from news broadcasts and interview sessions obtained from five major television stations, data which he analyzed acoustically with PRAAT, he found two patterns in relation to his research subjects. The first pattern, which was characteristic of the (acrolectal) standard, was consistent with the standard organization of syllables and feet in standard British English. The second pattern, which he linked to speakers of the (mesolectal) non-standard, was characterized by the realization of more syllables than expected in the standard form. Furthermore, Oyebola and Gut (2021) investigated the perception of Nigerians towards the accent of English used by Nigerian newscasters. The study did not directly analyze the speech of newscasters but rather administered a verbal guise test and a questionnaire on 137 Nigerians to determine their general attitudes towards the accents of these newscasters. The study concluded that Nigerian newscasters’ accents gravitate towards both British and American English, and thus offer no hope for the entrenchment of the much acclaimed local (endonormative) Nigerian standardized variety. In addition, Abdulmalik (2018) studied the English accents of some selected newscasters who were L1-Hausa speakers of English. Relying on impressionistic data sets and employing Optimality Theory, the study analyzed the speech of

22 newscasters from two television stations and two radio stations in Hausa-dominated Bauchi State in Nigeria. Specifically, the study investigated such segmental features as consonants, vowels and consonant cluster realizations by the broadcasters. This research found that the selected newscasters' accents do not, in fact, conform to RP, as their pronunciations exhibit substantial mother-tongue influence.

A few other acoustic phonetic works on Nigerian English have equally been published. Ngor (2024) did a suprasegmental acoustic analysis of Nigerian English by investigating the tonal nature of Nigerian English. Armed with the aim of unravelling the extent to which the tonal feature of Nigerian L1's influence Nigerian English at suprasegmental level, the author sourced the data from twenty university students. To supply the data, respondents were asked to orally answer a questionnaire which comprised of the tokens in isolated environments (i.e. single words) and in connected speeches. The speech of a control Standard British English speaker was used as the baseline of comparison. Built on the theoretical framework of metrical phonology in which the prominence of a prosodic element is considered relative to other co-occurring elements in the same phonetic environment, the data were analyzed, in addition to acoustic approach, impressionistically and statistically. While the impressionistic and statistical analyses were focused on stress, the acoustic aspect measured the syllable duration in seconds. The results of the study show that the respondents were found to be stressing unstressed syllables. The acoustic analysis show that the subjects' realization of unstressed syllables took longer durations compared to those of the control respondent. The author thus claimed the interference of the respondents' L1's which are all tonal languages. As is apparent, the study did not consider segmental aspect which the current dissertation hopes to investigate acoustically.

A segmental acoustic study of Nigerian English was done by Essien (2023), this time around, however, at a consonantal level with the exclusive focus on palatalization of some consonant (i.e. the realization of /j/ in-between the consonant and the succeeding vowel, especially /u:/ as obtainable in Standard British English)⁶. The aim of the study was to empirically track such palatalization in Nigeria English. The data for the work were obtained from twenty randomly selected university students whose mother tongues cover three Nigerian indigenous languages; namely, Ibibio, Igbo, and Yoruba. Theoretically grounded in the constraints-based Optimality Theory, the study combined both qualitative and quantitative approaches. The twenty recorded wordlist, each in isolation and featuring palatalization in different position, were subjected to PRAAT processing to obtain such variables as intensity, duration and pitch of the palatalization. The findings of the study reveal that palatalization is positionally dependent in Nigerian English as most respondents could not realize palatalization in medial position. More specifically, most of

⁶ One may relate this to the phonetic phenomenon Wells (1982: 147) calls a yod.

the Yoruba respondents could scarcely realize palatalization in consonants like /l/, /s/, /k/, and /g/ in spite of the fact that palatal /j/ does exist in Yoruba Language, thus showing zero influence of the speakers' L1 on palatalization. This study investigated consonantal segmental feature of Nigerian English. There is thus the need to investigate the vocalic segmental feature, a task the current dissertation is set to carry out at monophthongal level.

Going beyond consonantal consideration, Dyrenko and Fuchs (2018) acoustically examined the vocalic realization of the traditional eight diphthongs in Nigerian English as produced by nine educated Nigerian speakers of English. The data were drawn from International Corpus of English (ICE), the Nigerian English section. Sociolinguistically-based, the study extracted the data tokens from educated male Yoruba speaker of English Language aged between 32-70 years old whom the authors believed to be representative of speakers of standard Nigerian English. Three acoustic variables were aimed for analysis: height, backness, and trajectory. Thus, first and second formants, yielding the afore-mentioned variables, were measured using PRAAT. The study's major finding is that Nigerian speakers of English largely monophthongized the English diphthongs. The authors attributed this phonetic reality to the historical mother-tongue influence as well as the impact of the native English to which Nigerians were initially exposed which monophthongized English diphthongs than it is currently in British English. This study focused on speakers of Nigerian English from one indigenous linguistic group and sidelined others, thus underplaying serious mother-tongue induced variations that may be at play in shaping Nigerian English. Moreover, only one gender (male) produced the tokens used for the analysis. Again, this undermines the well-established gender-entrenched variations that characterize the speech of male and female speakers. The current dissertation will fill these gaps by drawing its data from educated Nigerian speakers of English from the three major indigenous language groups and who comprise of equal number of both male and female genders.

Atanda, Yusof and Husni (2017) carried out a segmental acoustic analysis of Nigerian English with the focus on the five English pure vowels. With the aim of expanding the frontiers of the accuracy of Automatic Speech Recognition (ASR) applications, the study, driven by variationist sociolinguistics theory, targeted the accentual differences in the Nigerian English spoken by the speakers of the three Nigerian indigenous languages, Hausa, Igbo, and Yoruba. Data for the study were obtained from sixty Nigerian students of Hausa, Igbo, and Yoruba extractions studying in a Malaysia university. The vowels in question were produced in isolation (i.e. not in a connected speech) by the subjects. Acoustic elements of focus included Energy (E0), fundamental frequency (F0), first formant (F1), second formant (F2), and third formant (F3). The study shows that differences exist along the ethnic divides in the pronunciations of the five pure vowels. The first gap in this study which the current dissertation hopes to fill is that only

limited vowels- just five- were featured. The current study will be investigating the entire Nigerian English monophthongal values. Furthermore, the study does not compare the investigated Nigerian English variables with that of RP, neither does it consider the influence of the speakers' mother-tongues on their production of the targeted English vowels. Also, the study did not incorporate the variable of length which has become a critical variable in contrasting Nigerian English monophthongs, as suggested by Dunstan (1969: 26-27). The current dissertation is poised to fill these gaps. There is also a gap in terms of the data processing in that the analysis of the data was carried out on the raw Hertz taken without being refined by the means of normalization, thus leaving the differences in vocal tract length (VTL) which characterize the adult male and female speakers unequalized. Since this can skew the final outcome of the study and render the results unreliable, the current study will take care of this need by normalizing its data.

. The highlighted gaps in the works above justify the focus of this dissertation which is poised to provide an acoustic analysis of the entire traditional English monophthongs as realized in Nigerian English.

1.3 Research Questions

The following are the research questions for this research:

1. What are the (mesolectal-to-acrolectal) norms of Nigerian English as reflected in the speech of female and male Nigerian newscasters and with specific reference to the monophthongs?
2. To what extent can these norms be accounted for by (a) the influence of RP, (b) the influence of GenAm and/or (c) the influence of the African-language mother-tongues?
3. Is the speech of the female newscasters more acrolectal than that of the male newscasters and are the anticipated less prestigious forms associated with the male broadcasters the result of greater mother tongue influence?

1.4 Research Objectives

The objectives of this research are thus as follows:

1. In order to answer research question 1, the height and the frontness/backness of each monophthong as well as its length shall be determined across the research subjects (male and female broadcasters) using PRAAT software.
2. In order to answer research question 2, the results of the newscasters will further be compared with the existing phonetic literature on RP and GenAm on the one hand, and findings of existing studies on the local African-language mother-tongues on the other hand.

3. In order to answer research question 3, the relevant PRAAT-interpreted acoustic properties of the English monophthongs of Nigerian male and female newscasters will be compared and contrasted.

1.5 Methodology

(a) Broad Approach

The phonetic data in this study will be analyzed by employing an instrumental, quantitative approach. In particular, the data will be operationalized (converted to numerical values) with the aid of PRAAT software. The numerical (acoustic) values will then be used to provide a broad description of the mesolect-to-acrolect ‘pole’ of Nigerian English, with respect to the traditional English monophthongs⁷. Variation across the subjects will also be tracked with a particular focus on variation across the female and male newscasters.

Besides the quantitative approach, this study will also employ a qualitative method in its data analysis. This is necessary as the PRAAT-determined outputs of the primary data, the English monophthongs of the selected newscasters, will be compared with existing literature (often impressionistic) on the monophthongs of the three major indigenous Nigerian languages (Hausa, Igbo and Yoruba) as well as those of RP and GenAm, which form the secondary data.

As mentioned, the current study anticipates a wide range of variation across the monophthongs of the various subjects and, in particular, across female Nigerian television newscasters and their male counterparts, and hypothetically projects that the female monophthongs will, on average, more closely approximate RP and/or GenAm while those of their male counterparts are better described as being ‘pulled towards’ the mother tongues.

(b) Empirical Study

Two sets of data, one set primary and the other secondary, were obtained for the purpose of this study. The primary data was obtained from approximately one hour-long news broadcasts anchored by female

⁷ These are, using Wells’ (1982) lexical sets and with RP as a broad reference point, the short vowels of English (KIT, DRESS, TRAP, LOT, STRUT and FOOT) as well as the long monophthongs (FLEECE, SQUARE, BATH, THOUGHT, NURSE, and GOOSE). Explanation as to why SQUARE, a traditionally diphthongal vowel, is treated as a monophthong in this study, is provided in subsection 5.1.1.

and male newscasters from three purposively selected television stations in Nigeria; namely, *The Nigerian Television Authority* (NTA), *Channels Television*, and *African Independent Television* (AIT). Specifically, the primary data was accessed through the YouTube platform. The secondary data, on the other hand, was sourced from the existing phonetic descriptions (e.g. International Phonetic Association charts) for the three major indigenous Nigerian languages, Hausa, Igbo, and Yoruba, given that the broadcasters have one of these three major indigenous Nigerian languages as their mother tongue. Data on RP and GenAm monophthongs was sourced from prominent works such as those of Wells (1982, 1986), and Ladefoged and Johnson (2015). Acoustic data on the length and quality of RP monophthongs was obtained from McKenna (1988) and Deterding (1997). The impressionistic secondary data provided an impressionistic overview of the monophthongs of the two reference accents as well as the three major indigenous languages against which the PRAAT-processed primary data was compared to determine the degree of influence of the traditional reference-accent or the mother-tongue on the newscasters' English monophthongs. The acoustic secondary data supplied the acoustic picture of RP, on which Nigerian English is pedagogically-based, and with which the primary data was further compared.

Study Population/Subjects/Participants: seven male and seven female newscasters were purposively selected across the three television stations listed above. The total number of newscasters was therefore fourteen. This provided both a balance of both genders' data and sufficient data for the proposed quantitative analysis⁸. All newscasters were of roughly the same age i.e., 40-50 at the time of broadcast (and time of analysis)⁹.

1.6 Basic Hypotheses

Referring back to the research questions provided in Section 1.4 above, the basic hypotheses are that one will be able to 'place' the various newscasters on a mesolectal-to-acrolectal continuum, with the quality and length of their English monophthongs being explainable by the degree of influence of the two putative reference accents on the one hand (RP and GenAm) and the mother-tongue on the other. It is also

⁸ The scale of the current research is modelled broadly on Melefa (2018). One of the advantages of focusing on a collection of *linguistic* data is that one can be reasonably sure that, with very few exceptions, speakers from the same speech community will broadly share the same linguistic behavior. One is able to therefore generalize on the basis of, for example, fourteen subjects. It should be stressed, in addition, that given that each subject 'provided' an hour's worth of acoustic data, that the later constituted a substantial body of data to analyze.

⁹ While it is recognized that age might also play an important role in determining the nature and trajectory of mesolectal-to-acrolectal Nigerian English, only so much can be achieved in an MA-study. The effect of age will have to receive attention in later research.

expected that, in the main, the female newscasters will exhibit values for their English monophthongs that show a greater influence of RP/GenAm than their male counterparts; as well as less of an influence from the mother-tongue.

1.7 Delimitation

This study constituted an acoustic analysis of the speech of selected male and female Nigerian newscasters all of whom are in roughly the same age bracket and all of whom fall within the mesolectal-to-acrolectal pole of Nigerian English. It will have to be left to future research to expand into other groups of speakers.

1.8 Ethics

The current research falls into the low-risk research category since it did not entail direct human involvement. However, ethical clearance from the North-West University's ECLM was obtained before proceeding. Also, the newsreaders, whose speech constitutes the database, were anonymized.

1.9 Contribution of the Study

This research work contributes to the advancement of the knowledge of World Englishes in general and Nigerian English in particular. Specifically, the study leads to a deeper understanding of current norms at the mesolect-to-acrolect pole of Nigerian English and will hopefully trigger further studies at other levels of phonetics and phonology. The findings of the current research will come in handy in relation to the much-needed formal codification of Nigerian English at the level of phonetics and phonology. Also, the study, to the best of the researcher's knowledge, is the first gender-based study of linguistic variation in the entire monophthongs of Nigerian English.

1.10 Provisional Chapter Divisions

This study, after this introductory chapter, begins with a review of literature which spans Chapter 2 and Chapter 3. While the former is dedicated to reviewing the extant literature on *World Englishes*, the latter is devoted to Nigeria and Nigerian English. Then in Chapter 4, all the relevant methodological issues regarding the data analysis are given copious attention. Chapter 5 contains the data presentation and analysis while Chapter 6 concludes the study as well as providing some limitations and recommendations.

1.11 Conclusion

This study set out to undertake an acoustically-based exploration of the monophthongs of English in the speech of mesolectal-to-acrolectal Nigerian speakers. The much-needed foundational concerns for the

study have been carefully, and, as I hope, succinctly addressed in this chapter. To this end, therefore, topics in this chapter which were copiously discussed included the motivation for the study (1.0), the history of English in Nigeria, and Nigerian English (1.2) and the contextualization and problem statement (1.3). Also clarified were technical issues relating to the research outlook and guiding frameworks such as research questions (1.4), research objectives (1.5), methodology (1.6), hypothesis (1.7), delimitation (1.8), ethical issues (1.9), and the contributions that the study is expected to make both to society in general, and the research ‘world’ in particular. Finally, the blueprint of the chapter division for the entire dissertation was provided. Evidently, then, this chapter serves as a compass for the entire research.

CHAPTER TWO

THEORETICAL FRAMEWORKS

2.0 Introduction

This chapter is aimed at undertaking an explorative tour through the relevant existing scholarship within which the current study is located. Such scholarship will provide a firm foundation on which the new knowledge to be afforded by this study can be built and in the light of which the relevance of this new knowledge can be understood. Specifically, topical issues to be discussed include the broad relationship between language and society, perspectives from the field of World Englishes, language contact theory and the field of modern sociolinguistics. The chapter will end by exploring the intersections between the sociolinguistic treatment of prestige and gender, on the one hand, and World Englishes on the other hand; as well as providing a brief treatment of relevant aspects of the sound system of English.

2.1 Language and Society

In any natural history of the human species, language would stand out as the preeminent trait (Pinker 1994: 16)

It is now axiomatic that language is a unique feature of every biologically normal human and thus an intrinsic property of every human community (Fasold and Connor-Linton 2006: 7). Even the most primitive bushmen and aborigines, who were once erroneously considered to have “just a few grunts and groans”, have been proven by studies to have their own languages, with sophisticated grammatical structure, just like those of advanced civilizations (Deutscher 2010: 100-102). It is to this end that Sapir (1921) made the famous statement: “when it comes to linguistic form, Plato walks with the Macedonian swineherd, Confucius with the head-hunting savage of Assam”. This statement was aimed at counteracting the belief that once held sway that there is a correlation between the cultural development of a society and its linguistic sophistication; that primitive people speak primitive languages. Thus Sapir, like other linguists such as Fromkin, Rodman and Hyams (2003), and Hockett (1958), promoted the ideal of the equal complexity of all human languages.

While upholding the view that no language is indeed primitive, Deutscher (2009) has, however, shown that, in one sense, languages are not on a par when it comes to complexity. The whole range of his argument will not be reproduced here, but it is worthwhile stating the main points of his argument, i.e.,

that different languages are complex in different (and not the same) linguistic aspects. For example, whereas Yoruba, a south-western Nigerian indigenous language, grammaticalizes neither tense nor number in its verb forms like English does, its pronominal system, unlike modern English, is sociologically sensitive, as the plural personal pronoun is used to politely signify somebody who is senior or superior to the speaker while the singular form is used (albeit not impolitely) to refer to a peer or junior (Banjo 1996: 98). Deutscher's argument thus provides insight into the parameterised variation that demarcates one language from another. Variability, however, is not limited to inter-language differences; variability is also an intra-language phenomenon, and according to Fasold and Connor-Linton (2006: 6), is essential in processing a variety of information: variability, as they reveal, makes it possible for speakers to communicate information beyond the strictly referential limits of the linguistic components. For example, the centralization of the first elements in the diphthongs /ai/ and /au/ by the natives of Martha's Vineyard, as reported by Labov (1963: 297), expresses the native Vineyarders' strong resistance toward the economic invasion of the outsiders whom Labov tags as "the summer people". Trudgill (2000: 21) notes that the recognition of this variability, which is traceable to both society and language, is responsible for the growth of research in sociolinguistics. Indeed, Fasold and Connor-Linton (2006: 6) observe that language users vary their use of language to index their social identities (such as social status, geographical peculiarity, ethnic extraction, and even gender). The items in parenthesis, and others, constitute the main social variables whose influences on linguistic variability are studied in modern sociolinguistics. The current research falls largely within the paradigm of World Englishes, which derived its inspiration from sociolinguistics. The field of sociolinguistics and related themes, specifically prestige and gender, will be more fully discussed in sections 2.5 and 2.6 respectively.

2.2. World Englishes

The phrase 'World Englishes' (henceforth WEs) came to the scholarly limelight in 1985, as Davies (2009: 80) recounts, when the editors of the erstwhile *World Language English* replaced the original title with WEs. The term must have come across as a queer one, particularly in terms of the pluralization of the rather seemingly more natural term *English* to *Englishes*. The choice of and justification for this unconventional term can be explained from three perspectives: dialectological, theoretical, and ideological.

In terms of dialectology, the term WEs has been argued to be more appropriate in capturing the conglomeration of highly distinctive varieties of English found in many parts of the world as the result of

the spread and diffusion¹⁰ of the English Language (Kachru *et al* 2006: xvii). As Bolton (2006: 241) notes these varieties are found especially in those parts of the world in Africa and Asia that experienced either British or American colonial rule at one point or the other. Although Schneider (2007), in his Dynamic Model approach (see Section 2.3. below), has proposed a uniformitarian evolutionary trajectory for all the varieties which he terms ‘Postcolonial Englishes’, each of them is so distinct in identity that the label *English* was found to be functionally inadequate to capture all of them. Therefore, the pluralization instantiates the plural identity of English and its domestication, as it were, in parts of the Western and non-Western societies (Kachru 1992: 2). This instantiation is what Bolton (2006: 240) calls the narrow sense of the term WEs, the broader sense being in reference to the theoretical approach discussed later in this section.

A closely related term to, but certainly not the same as, WEs is ‘New Englishes’. This label, i.e. ‘New Englishes’ (‘NEs’ henceforth), was introduced, as Schneider (2007: 3) records, by Pride (1982), and two years later, by Platt, Weber & Ho in their work titled *The New Englishes*. Although Schneider (2003: 234) claims that NEs and WEs, due to their terminological fluidity, are often used interchangeably, Banjo (1996: 63, citing Platt *et al* 1984) outlines the defining features of NEs such as their development by means of the education sector; their emergence from places where the greater population did not speak the native variety; well-defined domains of use; their status vis-à-vis nativization/indigenization (i.e. being reconfigured to forms and functions quite different from those of the so-called native varieties); and their adoption in some former British colonies. Banjo (1996: 63) consequently concludes that, going by such features, NEs refer to the same varieties of English which the nomenclature ‘English as a Second Language’ refers to. All these then, obviously, place NEs in the Kachruvian Outer Circle¹¹. However, Mufwene (1994: 21), although not equating NEs with WEs, provides a larger circle for NEs than the Outer Circle and as inclusive of “several new varieties of English which have developed from the seventeenth century through the nineteenth century, out of diverse contacts of British Isles English with other languages outside Europe”. The implication of this characterization is that American English, New Zealand English and Australian English, which all belong to the Inner Circle, as well as various English-

¹⁰ Davies (2009: 8) technically separates *spread* from *diffusion*. He defines *spread* as the use of the native varieties in other parts of the world, and *diffusion* as the emergence of distinct varieties as a result of the hybridization of English with other languages. Since, as Schneider (2007: 2) has noted, the terminology in the field of World Englishes is “still somewhat unsettled”, and to avoid undue confusion, both terms are used interchangeably in this dissertation.

¹¹ See section 2.2.1 below on ‘The Concentric Circle Model’ for the explanation of this term.

based pidgins/creoles, are included under the umbrella of NEs. Mufwene's justification for enlarging the 'circle' is that both the nativized and the so-called native varieties have the same "genealogical connections" and "both kinds have been restructured compared to the original English variety from England" (1994: 22). A few additional remarks should be made with regards to the foregoing stratification of English varieties. Firstly, the somewhat bizarre plural form 'Englishes' in both WEs and NEs captures the same reality: distinct varieties that need to be *seen* as different. Secondly, the varieties captured by 'WEs' are all varieties of English across the globe, including those spoken in countries such as China, Germany, Egypt etc. which belong to Kachru's Expanding Circle, and which are obviously not included under 'NEs'.

From a theoretical perspective¹², WEs is a paradigm that addresses the inadequacies of earlier constructs such as ENL, ESL and EFL. The acronyms ENL, ESL, and EFL stand for *English as Native Language*, *English as Second Language*, and *English as Foreign Language* respectively (an essentially native and non-native trichotomy) (Bolton 2018: 59; Bolton 2006: 240). Likewise, the traditional native vs. non-native dichotomy has been described by Kachru (1992: 3) as being "linguistically questionable, particularly when discussing the functions of English in multilingual societies". Indeed, Mufwene (2001: 108) has argued that the nomenclature of *non-native*, used to tag some varieties of English, is meant to disenfranchise "the relevant varieties as not really legitimate offspring of English because their norms are set by non-native speakers". The theoretical approach that pre-dated WEs (and which is still very much in use in research, and considered useful, according to Jowitt (2022)) presents English as a monolithic language whose correct and acceptable use is determined by the British or American standards (Kachru 1990: 4-6; Schneider 2018: 42). The theoretical imposition of the native varieties and the related disregard of the historical-cum-sociolinguistic peculiarities of the non-Western world is further legitimized by the paradigm of Error Analysis with its notions of interlanguage¹³ and fossilization¹⁴. The Wes framework,

¹² We may safely conclude that the same theoretical perspective that underlies WEs might have, in retrospect, also influenced the coinage of NEs, as Banjo (1996: 63) notes that the label 'new Englishes' came on board to replace the already existing 'English as a Second Language'.

¹³ Selinker (1972: 214) proposed the *Interlanguage Hypothesis* and described it as "a separate linguistic system based on the observable output which results from a learner's attempted production of a TL (Target Language) norm". An interlanguage then is a stage in the progression of a second language learner toward native speaker competence.

¹⁴ Fossilization has been defined as a second language learning phenomenon that has to do with "linguistic items, rules, and subsystems which speakers of a particular NL [Native Language] will tend to keep in their IL [Interlanguage] relative to a particular TL [Target Language], no matter what the age of the learner or amount of explanation or instruction he receives in the TL" (Selinker 1972: 215; items in parenthesis are my expansion).

therefore, provides a broader perspective and greater insight into the ontological reality of the English language as it is in the dynamically globalized world today. The paradigm projects the “pluricentricity and multi-identities of English” (Kachru 1991: 207). Suffice it to say that WEs, as a theory, has been productive in giving birth to other approaches within its fold, a paradigm example of which is Schneider’s (2007) Dynamic Model approach, overviewed in Section 2.4 below.

Ideologically, the weird pluralization of *English* to *Englishes* could be thought of as something deeper than language – a kind of protest being ‘mid-wived’ by linguistic scholarship. The unconventionality of the form, Schneider (2007: 2-3) recounts, had compelled Görlach against using it in 1980 when the research seemed to be suggesting its appropriateness. Thus, the WEs paradigm has also been termed ‘liberation linguistics’ (Quirk 1989; Kachru 1991). Indeed, it does seem that the WEs paradigm is, ideologically, a linguistic crusade against racial prejudice. Kachru (1992: 2) asserts that the concept of WEs “emphasizes ‘We-ness’ and not the dichotomy between *us* and *them* (the native and non-native users)”. Also, in the compendium of his scholarly works on WEs (e.g., Kachru 1990: 3; Kachru 1987: 208 etc.), Kachru has often associated the native varieties, especially the British and American varieties, with Judeo-Christian traditions which the deficit linguists (who consider the linguistic innovations in the Outer Circle as errors) are seeking to impose on the so-called non-native speakers. This same view is held by Bolton (2006: 250). Mufwene (2003: 107-108), more pointedly, claims that:

The naming practice of new Englishes has to do more with the racial identity of those who speak them than with how these varieties developed... The legitimate offspring are roughly those varieties spoken typically by descendants of Europeans around the world, whereas the illegitimate ones are those spoken primarily by populations that have not fully descended from Europeans.

Kachru (1996: 10) has likewise metaphorically referred to WEs as opening ‘borders’, with borders referring to “barriers which stand between us and *other*”. Perhaps the most succinctly-phrased statement indicative of the ideology the WEs approach has been birthed to propagate is that which was made by Gates (1992; as cited in Kachru 1996: 13) against scholars holding on to, and promoting Western superiority: “These polemicists thrive on absolute partitions: between “civilization” and “barbarism,” between “black” and “white,” between a thousand versions of “Us and Them”.

The emancipation ideology underlining WEs is the target of some of the criticism leveled against it by, for example, Quirk (1989:20), whose major concern is the ‘purity’ of English, which he fears would be corrupted by the recognition and the adoption of the varieties of English in non-native settings. Quirk (1989: 19) insists that there is the need for non-native English language teachers to “be in constant touch

with the native language” in order to maintain the standard, a point Kachru (1991: 208) dismisses for its obvious impracticality. But, if it is true that the conceptualization of WEs has an underlying ideology of liberation, it is also true that the peculiar “multilinguistic, sociolinguistic, and sociocultural contexts” of the so-called non-native speakers necessitate varieties that are distinct from the so-called native varieties (Kachru 1991: 208). And this reality, it has been shown, does not render the non-Western varieties as examples of interlanguage, but rather as distinct standards in the multicanonicity of English. The fact that each variety is a canon in its own right has, for example, been justified by internationally flourishing contact literatures e.g. the works of Indian author Raja Rao who has received the prestigious Neustadt award in literature, and those of the Nigerian author Wole Soyinka who has received the Nobel Prize in literature (Kachru 1992: 6; Banjo 1996: 125). One may also note that the same suspicion that the recognition of the institutionalization of the Outer Circle Englishes¹⁵ has evoked among the purist pundits was also meted out on an Inner Circle¹⁶ variety like General American English during its embryonic stage, but which is now accepted as standard and as one of the two reference accents alongside British English/RP (Schneider 2007: 266-267; Kperogi 2015: 45). What is more, Schneider’s (2007: 251) uniformitarian Dynamic Model reveals that American English passed through the same ecology of language evolution that the Outer Circle Englishes are now treading, and that such “similarities may have been obscured by the remarkable political and economic success of the United States in the twentieth century that turned her into a global superpower”. Apparently, therefore, the standardization of a variety has nothing to do with the intrinsic structural peculiarities of the variety, but rather with the socio-political fortune of its speakers. Any of the Outer Circle nativized varieties of English would thus rise to prominence and unquestioned international acceptability in the event that the society that speaks it becomes an economic-cum-military world-power.

2.2.1 The Concentric Circle Model

Displacing the native and non-native dichotomy, Kachru (1990; 1996 etc.) proposes a typology that is based on the historical as well as sociolinguistic contexts of different varieties of English in their spread and diffusion. This model, known as the Concentric Circle Model, conceives of WEs as being characteristically divisible into the Inner Circle, the Outer Circle and the Expanding Circle. From Kachru (1992: 12; 1992: 3), the circles can be explained as follows:

¹⁵ The explanation of this term is contained in section 2.2.1 below under ‘The Concentric Circle Model’.

¹⁶ Same as 15 above.

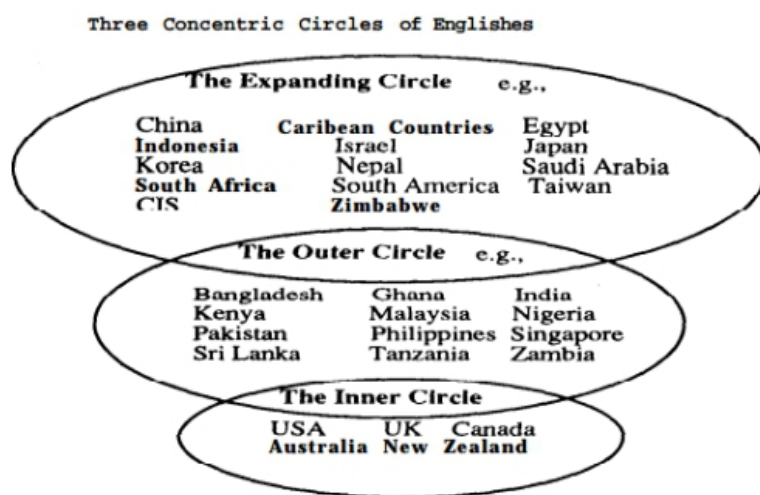


Figure 2.1: Concentric Circles of WEs. Source: Kachru (1996: 12)

The Inner Circle, as seen in Figure 2.1 above, circumscribes countries such as the United Kingdom, the United States of America, Australia, Canada and New Zealand, which all serve as the so-called mother-tongue base of English, and where it is predominantly used as the mother-tongue. The Outer Circle refers to those countries where English has been transplanted via the colonial activities of the Inner Circle countries (mainly Great Britain and the USA), and in such Outer Circle countries (e.g., Nigeria, India, Kenya etc.), English co-habits with (an) other language(s) in bi/multilingual settings where English, in most cases, is adopted as the official language. The Expanding Circle covers countries such as China and Egypt that do not fit into the sociolinguistic and historical realities of the other two circles already described and where the language essentially functions as a foreign language. As graphically seen in Figure 2.1 above, the Expanding Circle is the largest circle. As Schneider (2007: 14) affirms, the Kachruvian WEs paradigm is mainly concerned with Outer Circle and Expanding Circle Englishes.

It is perhaps worth noting that Britain was the take-off point for the spread of English to the rest of the Inner Circle and the Outer Circle, via the colonial ambitions of the British empire, the language itself having emerged from the alchemy – to borrow Kachru's (1986) term – of the languages of the Germanic tribes (Angles, Saxons and Jutes) and the Celtic-speaking people (Banjo 1996: 61-62). These linguistic by-products of British colonial activity have been termed 'postcolonial Englishes' by Schneider (2007: 8). The spread of English to the Expanding Circle has been mostly mid-wived by the agency of globalization (Bangbose 2006: 649). Globalization, as noted by Schneider (2018: 43), has taken over from colonization as the agent of the spread of the language. Each case of the transplantation of English mentioned above involved language contact (English meeting the already existing native languages of the indigenes), and,

as has been shown by Mufwene (2001: 204-206; Schneider 2018: 48-53), differences in contact situation have accounted for some of the differences that exist between the different varieties of English as they are today. For instance, in the Outer Circle – or what Mufwene (2001:8) refers to as exploitation colonies– the segregationist strategy of the colonialists granted access to a scholastic variety of English only to the highly-placed natives who served as the interface between the colonial authorities and the remaining bulk of the native population (Schneider 2018: 51; Mufwene 2001: 205). The implication of this was that English was first spread by those natives who had been given privileged access to the language, thus initiating the indigenization process.

Kachru (1990: 5) notes that the three concentric circles underpin the concept of speech fellowship, a term he believes captures the cross-cultural uses of English in sociolinguistically varied contexts. Speech fellowship is more consistent with the pluricentric nature of English than the earlier concept of ‘speech community’, which presents the English-using world as monolithic, thereby undermining the defining differences in the uses and users of the language across cultures (Kachru 1992: 4-5). Firth (1950: 48), who introduced the concept and the term ‘speech fellowship’, describes it thus:

...the speech of those whose sounds, intonation, grammar, idioms and usage are similar in structure and have similar function. Within such speech fellowships, a speaker is phonetically and verbally content because when he speaks to one of his fellows, he is also speaking to himself.

This validates the ontological reality of such varieties as Nigerian English, Kenyan English, Ghanaian English and others. However, the concept of speech fellowship, as presented above, might raise the question of intelligibility across cultures, a question that has formed part of the critique of the purist pundits against the institutionalization of some of these varieties. Some of these deficit linguists, Bamgbose (1992: 148) reports, have even claimed that the institutionalization of such varieties, in particular reference to Nigerian English, would in time diminish the standard and culminate in a different language with the consequence of unintelligibility across the board.

Arguably, the most influential research in the field of intelligibility within the framework of WEs is that of Larry Smith and Cecil Nelson (1985, as cited in Kachru 1992: 5-6; Bolton and Davis 2018: 447-453). In a comprehensive treatment of the topic, they devolved the more general concept of intelligibility into the tripartite concepts of intelligibility, comprehensibility, and interpretability. Intelligibility (in the narrow sense) is the competence of being able to recognize words/utterances; comprehensibility is the understanding of word/utterance meaning (locutionary force), while interpretability has to do with the meaning behind any word/utterance i.e., the speaker’s intention (illocutionary force). Pickering (2006: 2)

associates the first with “matters of form” (formal recognition or decoding of words and utterances) and the last two with “matters of meaning” (the tidy context-based meaning, and the messy speaker-based meaning respectively). Obviously then, there is more to intelligibility (in the broad sense) than “the ability to decode the incoming message in terms of sounds, words and grammatical structures...” (Yamuna-Kachru 1996: 200). Because of the difficulty in tracking the speaker’s intention, Levis (2005, cited in Pickering 2006: 2) submits that interest in interpretability in particular has “fallen by the wayside”. On the whole, it has been argued that intelligibility, as it is generally understood, is as much the responsibility of the listener as it is of the speaker (Smith 1985, as cited in Bolton and Davis 2018: 450). This implies that the lopsided presentation of intelligibility as the responsibility of the speaker is more of an attitudinal myth than linguistic reality. From this perspective, with the correct orientation towards the Outer Circle and Expanding Circle Englishes, intelligibility will pose no threat to inter-speech fellowship communication in the English-speaking world. What is more, intelligibility is serviced by international interactions (Banjo 1996: 82). Participants in intercultural communications, Yamuna-Kachru (1996: 200) suggests, should be given such training that would make them “sensitized to variation”. Phonology is most susceptible to this variation, where, as Fuchs (2018: 127) notes, the analyses thus far have been predominantly impressionistic. If the linguistic aspect of intelligibility is to be resolved, especially from a pedagogical viewpoint, there is the need for instrumental analyses which should provide more reliable and accurate descriptions.

In relation to speech fellowships across the Concentric Circles, Kachru (1992: 5) has identified three norm-based forms of Englishes; namely, norm-providing, norm-developing, and norm-dependent. The Inner Circle contains the norm-providing varieties, especially the British and American varieties (Bolton 2006: 249). Of course, these two varieties have been widely acknowledged as providing the two reference accents (RP and GenAm): the exonormative standards for many other varieties (Schneider 2007: 251). The norm-dependent varieties are those of the Expanding Circle where “the norms are external” (Bolton 2006: 249). This probably explains why Englishes in this circle are closer to the exonormative standards than those in the Outer Circle. Norm-developing refers to the Outer Circle varieties, which are institutionalized (Kachru 1992: 2). Earlier “intense activity in the linguistic sciences” had been focused on the norm-providing Inner Circle varieties while the Outer Circle Englishes suffered scholars’ suspicion and abandonment (Kachru 1990: 4). Hence the Outer Circle norm-developing varieties are the major focus of the Kachravian WEs paradigm. Schneider (2018: 49) attributes this focus to the innovative and dynamic nature of these varieties. Indeed, the Outer Circle varieties, such as Nigerian English, and as revealed in Banjo (1986: 37), present a gold-mine for linguistic investigation.

2.2.2 Stratification in the Outer Circle

Kachru (1992: 3) observes that the stratification of Englishes in the Outer Circle (i.e., varieties within a variety) has been conceptualized in two ways: in terms of lectal range and in cline-based fashion. In terms of the lectal range, varieties are characterized in terms of a three-point continuum pointing towards the so-called native standard. These sociolects are, in an ascending order towards the standard variety, basilect, mesolect and acrolect (Mesthrie 2004: 807). Much as in creole studies, from where this lectal terminology has been borrowed, the basilectal subvariety in the continuum is the least similar to the standard lexifier language, while the acrolect is the most similar to the lexifier language; the mesolect is an intermediate subvariety (Haggins and Farukawa 2018: 111). Likewise, in English as a Second Language studies, the basilectal end is the farthest away from the exonormative native standard. It is characteristic of learners who have become ‘stuck’ and stabilized at the lowest competence level and do not show any evidence to pursue higher competence (Mesthrie 2004: 807). The acrolectal subvariety is, in contrast, the closest to the native speaker’s variety and is characterized by its use in formal contexts by educated speakers (Fuchs 2018: 126). The intermediate mesolectal subvariety is characterized by fluency but still significant deviation from the acrolect (Mesthrie 2004: 807). One may conclude with Mesthrie (2004: 807) that often the mesolect is more widely accepted, as is the case, for example, in Nigeria, where the acrolect is seen as being snobbish and arrogant and the basilect as substandard and illiterate (Gut 2004: 817).

Staying with lectal range terminology, Mesthrie and Bhatt (2008: 40) bring up a set of closely related terms: basilang, mesolang and acrolang. The difference, as they note, is that whereas basilect, mesolect and acrolect are characterized by fossilization (the speakers are stuck at different levels of the continuum), the basilang, mesolang and acrolang continuum can be said to be developing and transitory. So, a speaker of the basilang is at the initial stage of acquisition and progressing towards the mesolang. Thus, basilang and mesolang could be said to be interlanguage stages¹⁷. One may also say that the basilang-acrolang continuum would be more characteristic of young learners in the educational setting who are being cumulatively and progressively exposed to, and challenged by, rich linguistic data: rather than old, settled speakers. This could all probably be understood from the perspective of the Critical Period Hypothesis¹⁸.

Turning to the other approach to stratification, Kachru (1992: 4) identifies the cline of bilingualism in reference to the English of the Outer Circle as ranging from an educated variety at one end to a differently-termed variety indexical of low social status at the other end. Two such clines have, for

¹⁷ For continuity’s sake, and in line with the *World Englishes* paradigm, which focuses its attention on the mesolect and regards it as canon, this study is adopting the basilect-acrolect continuum and conceptualization.

¹⁸ See the net section 2.3 below for more on Critical Period Hypothesis.

example, been proposed for Nigerian English. The first one, based on educational parameters, was by Brosnahan (1958), in which four varieties were identified, ranging from the so-called Level I (of those who have acquired the language in informal, out-of-school contexts), Level II (of those who have obtained only primary school education), Level III (of those who have obtained only secondary school education) to Level IV (of speakers who have been exposed to university education). The other cline, by Banjo (1971), also identified four varieties but based them on grammatical characteristics and levels of approximation to Standard British English and RP¹⁹. These clines, like the lectal range, have obviously lumped together a range of complex linguistic properties in a manner that renders the varieties problematic in representing the true English language situation in Nigeria. In particular, one may say that whereas Brosnahan's (1958) cline above may be reflective of the educational reality of Nigeria at the time of his research, it might be incongruent with the current well-acknowledged falling standards of education, as captured by Duze (2011: 1). Another issue with the research so far in these varieties is that the phonological and phonetic variables are impressionistically (and thus possibly inaccurately) described.

2.3 Theoretical Constructs in Second Language Phonology

As the current study is concerned, in part, with tracking the extent to which selected Nigerian L1's influence the productions of the English monophthongs, English being an L2 in this context, it is essential to give some considerations to theoretical constructs of second language phonology. The impacts of L1 on L2 manifest at the various levels of linguistic analysis - phonetics/phonology, morphology, syntax, and semantics. But Edwards and Zampini (2008: 2) note that such impacts are most prevalent at the level of phonology. Meanwhile, theories of second language phonology have been underpinned by such major constructs as age of acquisition, transfer, universals, and variation (Edwards and Zampini 2008: 6).

A popular hypothesis which is based on age of acquisition is Critical Period Hypothesis (CPH). The postulation of this hypothesis is that there is an age bracket within which a language acquirer can acquire a language and attain the native-like competence (Mackey 2006: 447). Although there is no consensus in research as to this age bracket and, particularly, regarding the terminal point (VanPatten and Williams 2015: 5), it is pegged down to 0-13 by Trask and Stockwell (2007: 62). Generally, however, the implication is that native-like competence in L2 is difficult (if not impossible) in the post-childhood age, especially at the phonological level.

Transfer phenomenon refers to the production or comprehension of L2 features in the light of the already acquired L1 or the impacts of the L1 on L2 (Fasold and Connor-Linton 2006: 516). Such impacts can either be positive or negative. Where both L1 and L2 share the same features, transfer will be positive but negative where both languages differ (VanPatten and Williams 2015:

¹⁹ Both models will receive detailed attention in the following chapter three.

20). A major hypothesis that derived from the construct of transfer, which, although is old, continues to influence theories of second language phonology, as Edwards and Zampini (2008: 2-3) recount, is Contrastive Analysis Hypothesis (CAH). The major thrust of this hypothesis, the prediction of error in L2 production or comprehension based on the comparison of L1 and L2, is that second language learners will find it easy to learn, for instance, those phonemes of L2 that are present in their L1 while having difficulty with those in L2 that are absent in the L1 (Davidson 2011: 126-127). The former case resonates with positive transfer and the latter with negative transfer. It is important to note that the concept of transfer does not preclude other constructs. Ellis and Wulf (2015: 81-82), relying on the maturation of human neural faculty, opine that transfer is much rife in advanced age rather than in childhood, thus foregrounding the interplay of transfer and age of acquisition, for example.

Universals, another determinant variable in second language phonology, are features shared by all natural languages such as preference for voiceless phonemes over voiced ones (Edwards and Zampini 2008: 4). Two important concepts are by-products of the construct of universals: markedness and unmarkedness. The former refers to less common, less neutral forms while the latter refers to the competing more common, more neutral ones (Trask and Stockwell 2007: 163). A major hypothesis underlined by universals is Markedness Differential Hypothesis (MDH) (Davidson 2011:127), which, by the way, is a more complex re-modeling of Contrastive Analysis Hypothesis (CAH). Beyond the simplistic and straight-jacketed transfer envisaged by CAH, MDH posits that L2 phonemes that pose difficulty to the learners are not only difficult because they are absent in the learner's L1 but also because they are more marked (Edwards and Zampini 2008: 4). In other words, unmarked features such as phonemic voicelessness will be easier to acquire for an L2 learner.

Finally, Edwards and Zampini (2008: 6) assert that variation is an important construct in the second language phonology since theories in the field also need to account for how socio-biological differences impact the acquisition of L2. This last construct approximates the field of sociolinguistics, and a theory underpinned by variation is Speech Accommodation Theory (SAT). SAT simply claims that sociolinguistic variables such as ethnicity, level of education, gender, occupation affect the level to which an L2 learner accommodates to a variant of a particular sound for example (Edwards 2008: 262-263). Edwards (2008: 262) reports the research that shows that L2 learners freely transfer their L1 features when conversing with speakers from their L1 background but approximate the standard variety when conversing with native speakers of the L2. A dimension of the foregoing, in relation to the current study, is the influence of gender differentiation in the approximation of the exonormative standard of English Language.

2.4. The Dynamic Model of Postcolonial Englishes

2.4.1 Introduction

The Dynamic Model ('DM' hereon) is a build-up of Schneider's many publications, which crystallized into his 2007 work: *Postcolonial English: Varieties around the World*. One of Schneider's earlier works is titled *Dynamics of New Englishes: from Identity Construction to Dialect Birth* (Schneider 2003). Apparently, Schneider (2007) has adopted the term 'postcolonial Englishes' (henceforth 'PCEs') in preference to *New Englishes*, which he chose earlier, and this, according to him, is because 'PCEs' is "more neutral" and because "the varieties under discussion are products of a specific evolutionary process tied directly to colonial and postcolonial history" (Schneider 2007: 3). One may, however, argue that the term *postcolonial* semantically excludes the colonial period, linguistic phenomena of which era Schneider includes prominently in his DM. It is also quite clear that 'PCEs' refers to the same varieties of English that 'New Englishes', as expanded by Mufwene (1994: 21), refers to, and as discussed earlier. But terminological issues aside, what then is the Dynamic Model?

The DM is a single approach that provides a single evolutionary pathway, unlike any before it, for all PCEs, with each of them at different points along this path (Schneider 2007: 2). It is for this reason that Mufwene (2007:xi) characterizes it as "the most comprehensive uniformitarian account of how English has spread around the world and diversified into a multitude of varieties". The DM not only outlines the singular developmental trajectory along which different PCEs are found at different phases, it also accounts for why there are differences in "the shapes and roles" of such Englishes, differences traceable to differences in contact situation (Schneider 2007: 3, 5). Differences in contact situation are themselves products of differences in the motive for colonial expansion, ranging from economic, religious, political to military (Schneider 2003: 235). The justification for the use of *dynamic* is that, unlike previous models, which are static in that they provide an explanation for varieties only as they are today (i.e., only a synchronic account), the DM projects a coherent explanation for the causative past, the resultant present, and the derivable future of the varieties (Jowitt 2022). Thus, the DM is diachronic in its projection and components.

In its diachronic account, the DM identifies five successive stages in the evolution of PCEs, each a product of identity construction and reconstruction (Schneider 2003: 242-243). Schneider (2007: 30) sketches the overall process of identity construction and reconstruction thus:

In the beginning, a group of settlers in a foreign land consider themselves as an extension of the "us" of their country of origin, clearly separated from the "other" of the indigenous population of their country of destination. In the course of time, however, for one reason or

another, in the settler community bonds with the former homeland weaken and are gradually dissolved, so that in their eyes the country of origin turns into an “other,” while a new, regionally based construction of “us,” gradually incorporating the indigenous population, is being developed.

This same process, conversely, is achieved from the perspective of the colonized locals. We may quickly note that the process of identity construction as outlined above does not apply to all the PCEs settings. Nigeria, for example, like Ghana, as Jowitt (2022) notes, was never an area of white settlement, and so, the colonialists did not redefine their identity from the “us” of their country of origin to the “us” of the indigenous population. Obviously, however, the process applies to the non-British Inner Circle countries. It is worth noting, however, that in all cases Schneider’s DM incorporates the indigenous sociolinguistic perspective, even in those cases where there is no white settlement, as will be seen in section 3.3 in the following chapter which deals with the specific case of Nigerian English

Identity construction and reconstruction, according to Schneider (2007: 33), is closely linked to the second component of the *Dynamic Model* which is called the strands of communicative perspective, the first component being the five evolutionary stages of PCEs. The strands of communicative perspective are made up of the indigenous (IDG) strand and the settler (STL) strand, which interact in an ever-increasing competitive yet complementary way to produce PCEs (Schneider 2007: 31; Jowitt 2022). Obviously, there would be some competition for sociolinguistic prominence between the strands, and the ecology of language evolution, as Mufwane (2003: 21) would call it, “rolls the dice over the competition” to determine the favoured strand.

2.4.2 The Evolutionary Phases of PCEs

The five developmental phases of PCEs in terms of the DM are a) Foundation, b) Exonormative Stabilization, c) Nativization, d) Endonormative Stabilization and e) Differentiation. Each of these phases is distinctively marked by the parameters of sociopolitical context, identity definition, sociolinguistics of contact and linguistic features. Jowitt (2022) notes that the last parameter is the most important, strictly from the perspective of linguistics.

Phase 1: Foundation

This is the point at which a consequential number of English speakers, in most cases from Britain, arrives in a non-English speaking country, oftentimes aided by military might superior to that of the indigenous people (Schneider 2003: 244). In terms of identity, the newcomers see themselves as being one with their home country, with limited and largely utilitarian sociolinguistic contact with the indigenous population

(Jowitt 2022). Schneider (2007: 35) identifies three linguistic features of this stage as koinéization (i.e., the emergence of a new variety from the hybridization of the heterogeneous varieties of the initial settlers), pidginization and the adoption of toponymic terms from the IDG strand into the STL strand, toponymic terms being names of places in the new settlement as already given by the indigenous people. Thus, the first linguistic feature is a development within the STL strand, harmonizing its varieties, while the last feature sets in motion the interaction between the STL and IDG strands. This interaction is expected to be more complex in the case of pidgins, as Banjo (1996: 3) notes in relation to Nigerian Pidgin, which although shows obvious influence of English in its lexicon, its grammatical composition is much similar to the indigenous languages with which it exists. Generally, pidgin is a make-shift language in which the grammars of languages in contact are reduced for the immediate purpose of commercial communication in the instances of trade contact (Mufwene 2003: 7)

Phase 2: Exonormative Stabilization

Socio-politically, the colonizers (or colonists, as the case might be)²⁰, at this point, have gained a firmer grip on the colony, thereby providing an enabling environment for the influx of more people, with various purposes, from their home country. The settlers still perceive themselves as citizens of the country they left behind but with extra colonial experience that contrasts them, somewhat positively, with their fellow citizens back home (Schneider 2007: 37). The interaction between the STL and IDG strands is marked by bilingualism, as more of the indigenous population acquire English, whose standard, as Jowitt (2022) puts it, is “fundamentally tied to an external norm (i.e. Standard British English)”. Access to this variety of English is, however, granted to only a few highly placed locals, who, consequently, align their identity with that of the British immigrants (Schneider 2003: 246). The emerging new English variety often borrows the vocabulary of the local flora and fauna from the IDG strand.

Phase 3: Nativization

At this phase, there is a gradual weakening of the STL group’s bond with the home country, which is marked by corresponding identity re-definition, while the IDG strand group begins to also accept the erstwhile strangers as part of themselves (Schneider 2007: 41). There is an intense intermixing of the STL and IDG strands, as English becomes widespread among the IDG group, and the “STL group also

²⁰ The terms ‘colonizers’ and ‘colonists’ refer to the people who came from the same European colonial powers but are differentiated by the typology of the relevant colony, as distinguished by Mufwene (e.g. 2001: 8-9). Whereas the colonizers “hardly intended to settle permanently in Africa and Asia” (i.e. trade-turned-exploitation colonies), colonists are associated with the settlement colonies in the inner circle countries” (Mufwene 2008: 217,229).

incorporates some elements of the local culture in its identity construction and symbolization (including select linguistic elements)” (Schneider 2003: 247). During this phase, the emerging variety borrows heavily from the IDG languages, and its phonology and morphosyntactic forms are also influenced by the IDG languages. Drawing from Schneider’s work, Jowitt (2022) reports that “a complaint tradition” often emerges at this phase to check deviations from the exonormative standard. This tradition could be likened to the deficit linguistics identified and critiqued in Kachru (1991: 207).

Phase 4: Endonormative Stabilization

A major sociopolitical feature of this phase is the political independence of the erstwhile colony and the consequent total identity severance of the STL strand from their country of origin, and identity alignment with the newly emergent nation (Schneider 2003: 250). The quest for political independence is usually triggered by a phenomenon termed ‘Event X’, an event that makes it to dawn on the settlers that their loyalty to the mother country is not valued and reciprocated by the latter (Schneider 2007: 49). An instance of this, cited by Schneider (2003: 250), is when Australia was abandoned by Britain during World War II. A contact-based feature of this stage is that the hybridization of the STL and IDG strands produces a new linguistic norm that is popular with the larger number of both groups, and contact literatures emerge. Much of such literary work, in the light of the current reality, has been quite successful even on an international scale (e.g., South Africa’s Nadine Gordimer, Nigeria’s Wole Soyinka, Kenya’s Ngugi Wa Thiong’o²¹ etc.). The new linguistic norm is so distinct that the term ‘X English’ (e.g., Nigerian English) often replaces ‘English in X’ (e.g., English in Nigeria). Jowitt (2022) infers that the new variety is legitimized, at this stage, by the means of interventions like grammars books, dictionaries etc.

Phase 5: Differentiation

This phase, socio-politically, features not just an independent nation, but also a self-dependent one, implying the measuring of its success by its own standard (Schneider 2007: 54). Also, although there is an overall national identity, the citizens also identify with smaller groups created by sociolinguistic parameters such as region, gender, age, profession etc.. One can assume a linguistic situation of overt prestige, related to the national linguistic norm, and covert prestige, related to smaller groups’ linguistic norms. Thus, as noted by Jowitt (2022), a major linguistic feature of the differentiation phase is the emergence of subvarieties along social and regional lines.

²¹ Ngugi, viewing English as a tool of imperialism, eventually stopped writing in English and chose to then write in his native Kikuyu language.

Some final observations on the DM: it is, perhaps, noteworthy that the Dynamic Model, like the New Englishes paradigm, but unlike Kachruvian WEs, does not account for the Expanding Circle varieties of English. Schneider (2010: 382) himself submits that a major hallmark of DM is “...its claim of validity for both postcolonial ENL countries and ESL nations”, thereby implicitly excluding the growing EFL settings, i.e. the Expanding Circle, which, alongside the Outer Circle, forms the fundamental focus of the Kachruvian WEs Model. Also, in relation to PCEs, Jowitt (2022) observes that even British English, which is excluded from Schneider’s postcolonial Englishes, can indeed be regarded as postcolonial English since it is, to some reasonable degree, a product of contact between the invading Anglo-Saxons’ language and the indigenous Celtic languages with almost the same sociolinguistics of contact experience. In relation to the possible non-applicability of the Dynamic Model, as pointed out by some scholars (e.g. Denis and D’Arcy 2018), to some postcolonial Englishes, such as Nigerian English, because of a sociopolitical experience supposedly dissimilar with the one projected in the DM, it seems fair to say that whereas the sociopolitical and identity construction parameters of the evolutionary stages do not always completely reflect the experiences of such countries, the relevant linguistic and, to a reasonable degree, contact parameters are broadly evident. As could be seen in the explanation of the evolutionary phases above, some of the characteristic linguistic features have been illustrated from the Nigerian linguistic scenario.

2.5 Language Contact Theory

A constant parameter that cuts across all varieties of English, and, thus, features in the models discussed so far, is contact. Even in British English, as already mentioned, contact is an undeniable factor. Indeed, Thomason (2020: 34) has noted the impossibility of any language without contact at any given time. This is expected to be more so in the currently globalized world with telecommunication breakthroughs.

The term ‘language contact’ presupposes the meeting of two or more languages. Trask and Stockwell (2007: 136) define language contact as a situation where “two different languages are spoken in adjacent areas...”. This definition is deficient in that it highlights spatial differences in the scene of language contact and restricts languages in contact to just two. However, Thomason (2001: 1), from which Schneider’s DM draws extensively, offers a better and more succinct definition, thus: “... the use of more than one language in the same place at the same time”. The convergence of more than one language at the same place at the same time creates a feature pool in which competition and selection take place, being influenced by different language ecological factors, such as the number of speakers, the genetic relationship between the languages in contact, etc. (Mufwene 2008: 20; Schneider 2007: 23). Thus, any emergent variety or dialect is, as it were, an offspring of the languages/varieties in contact.

Thomason (2020: 33) argues that the synchronic and diachronic varieties of a language are a product of external (language contact) and internal motivations. Internal motivations take place within the language system (Thomason 2020: 39). One can here think of push-chain and drag-chain phoneme shifts²² as examples of changes arising from such internal motivations. Factors that determine the extent of contact-induced change in a language are, as Thomason (2001: 60) highlights, both social and linguistic. The social factors include the intensity of contact, presence/absence of imperfect learning, and the attitude of speakers. The implication of the first social factor, the intensity of contact, is that light contact would produce light linguistic effects such as lexical borrowing. Intense contact, Schneider (2007: 22) submits, may result in the creation of creoles or even cause language shift and death. A paradigm example is the localized death of Yoruba brought by indentured servants to Trinidad, the death occasioned by intense contact (Mufwene 2003: 155). Meanwhile, the imperfect learning of an L2 leads to indiscriminate importation of L1 properties into the L2, thereby producing a new variety of the L2 (Thomason 2001: 67)²³. Obviously, the positive/negative attitudes of the speakers of languages in contact towards each other would definitely be a factor in how much the languages can motivate changes on each other.

The linguistic factors that can cause changes in languages in contact include universal markedness, the degree to which features are integrated into the linguistic system, and the genetic distance between the languages in contact (Thomason 2001: 50). Universal markedness has to do with linguistic features that are unnatural and thus difficult to learn. For example, the irregular features of English do not feature in Banjo's (1996: 77) variety I of Nigerian English, a variety that is essentially basilectal. However, in contrast, marked features that are shared or closely related in genetically related languages in contact can easily be transferred into each other (Thomason 2020: 40). The degree of feature integration speaks to the extent to which a particular feature forms part of interconnected structures in a language (Thomason 2001: 76-77). A feature that forms a tight interconnectivity, thereby creating a close-knit subsystem (e.g., inflectional morphology), is less likely to be borrowed between two languages except if such a feature is shared in both languages. Furthermore, Thomason (2001: 131-149) identifies seven mechanisms by which contact-induced changes take place: code-switching, passive familiarity, code-alternation, negotiation, deliberate decision, bilingual first language acquisition, and second language acquisition

²²A push-chain is the type of phonemic change in which one phoneme, coming too close to another, causes the latter to shift away in the articulatory space in order to forestall confusion in their realizations and perception. When the articulatory space left earlier by a first shifted phoneme is filled by another nearer phoneme coming behind, it is a drag-chain shift. For more on this, see Wells (1982: 98-99) and Labov (2010: 140-144).

²³The notion of perfect and imperfect learning may, however, resonate with the ideals of deficit linguistics, which, as we have seen, is antithetical to the recognition of certain varieties of English around the world.

strategies. Thomason (2001: 132) conceptualizes code-switching as “the use of material from two (or more) languages by a single speaker in the same conversation”. This is consistent with Banjo (1996: 101). Both distinguish between code-switching, which is inter-sentential (i.e. between two or more sentences), and code-mixing (Banjo uses the term *language mixing*), which is intra-sentential (i.e. within a sentence). Thomason (2001: 136) notes that once a feature is switched from one language to another, it enters into competition (if the feature is present already in the recipient language) or permanence (if there is no equivalent feature in the recipient language).

Passive familiarity is an involuntary/unconscious adoption of an aspect of a variety or language when the speaker is familiar with but does not actively speak the language (Thomason 2001: 139-141). It could be characterized, therefore, as the ‘silent’ permeating of the features of languages or dialects in contact into each other. Schneider (2003: 246) identifies passive familiarity, alongside code-switching as well as code-alternation, as prominent linguistic features of the Endonormative Stabilization (phase 2) phase of his Dynamic Model, code-alternation being the use of different languages, in the speech repertoire of a bi/multilingual, in different settings. Code-alternation then resonates with the concept of diglossia, in which, according to Trask and Stockwell (2007: 73), there is a clear differentiation of sociolinguistic roles for different languages or different varieties of a language being spoken in the same community. Nigeria, as Banjo (1996: 67-68) explains, is a typical setting for code-alternation, as different domains of use are clearly marked for English, Nigerian Pidgin and the indigenous languages. For example, English is marked for formal settings such as education while Nigerian Pidgin and the indigenous languages are designated for informal settings such as in entertainment industry (Banjo 1996: 100). This allocation of domains of use is captured in relation to Nigerian Pidgin in Table 3.2 in chapter of this dissertation.

Negotiation, on the other hand, occurs when the speakers of a variety or a language adjust their variety in order to accommodate to the structure of another variety or language in contact with theirs (Thomason 2001: 142). In relation to other languages’ contact with English, Kachru (1992: 7-8) has termed this concept (i.e., negotiation) as *Englishization*, which he calls one of the two faces of English in the Outer and Expanding Circle varieties, the second face being nativization. Kachru (1992: 8) submits that this contact phenomenon affects all levels of linguistic formation, including registers and styles. As an example, Banjo (1996: 118) notes that the syllable-timed Yoruba language is now being adjusted to accommodate stress elements, such that there are now bisyllabic Yoruba words in which “high or mid-tone is being replaced by stress, and low tone by the lack of stress”. In any case, Thomason (2001: 142) notes that where there is mutual negotiation between speakers of different languages in contact, especially when more than two languages are involved and no one knows another’s language, a totally new language can emerge. This situation, she claims, often gives rise to a pidgin (and, in some cases, to a creole).

The mechanism of bilingual first-language acquisition, which Thomason (2001: 148) says is yet to receive adequate scholarship in order to be able to make any solid conclusions, often leads to the transfer of syntactic elements and suprasegmental features of phonological such as intonation from one language to the other. Deliberate decision, as the name implies, is a conscious choice of adopting a feature from one of the contact languages into another. In this respect, and to cite one out of hundreds of thousands of examples, one can think of the deliberate adoption of the word *kangaroo* from an Australian aboriginal language, Guugu Yimithirr (Deutscher 2010: 158) into English. Second language acquisition strategies, of which *negotiation* above can also be categorized as an example, include “using materials from the native language, while speaking the target language, to plug the ‘holes’ in the knowledge of the TL²⁴ (Thomason 2001: 146-147). One may, possibly, also create a broad typology of these mechanisms into conscious (e.g., deliberate decision, code-alternation), unconscious (e.g., passive familiarity), and borderline cases (e.g., code/language mixing, code-switching), all in relation to the speakers’ level of awareness while engaging in a communicative event.

Variation within and across varieties of English has featured in the discussion so far, as seen in section 2.2.2 in particular. An underlying attitudinal factor in these sub-varietal classifications is the notion of prestige, which itself is a significant sociolinguistic topic. As already mentioned, the WEs paradigm has a major input from the field of sociolinguistics. Kachru (1992: 3) acknowledges the link thus:

The study of the spread and stratification of English in the non-Western world, within various theoretical frameworks, is essentially a post-1960 phenomenon. Such studies are the consequence of theoretical and methodological insights gained by what are termed ‘socially realistic linguistic’ approaches to language study, particularly those of the British linguist J.R Firth, and William Labov in the USA. The result of ‘socially realistic’ paradigms and the activism of their proponents was that linguistic pluralism and diversity were considered a part of multiculturalism and societal interaction.

2.6 Sociolinguistics

The term ‘sociolinguistics’ was first used in 1952 by Haver C. Currie in his article *A Projection of Sociolinguistics: The Relationship of Speech to Social Status*. Indeed, subtle and complex interrelationships between social realities and language had been outside the purview of linguistics until

²⁴ Target Language

the late 20th Century (Bell 2016: 1). The strong view that more popularly held sway at the time modern sociolinguistics came to prominence is associated with Chomsky, who, within his generative grammar model, had maintained that what should be of interest to linguistics was the underlying homogenous language structure shared by native speakers, which is otherwise known as competence, and that individual uses of the language, known as performance, should be left out (Wardhaugh 2006: 3). In the words of Chomsky (1965:3): “linguistic theory is concerned with an ideal speaker-listener in a completely homogenous speech community”. The ideal speaker-listener is the native speaker whose intuitive knowledge of his language, in terms of the generative grammar model, provides the data for the description of the grammar of the language. In relation to performance, Chomsky states that “to study actual linguistic performance, we must consider the interaction of a variety of factors.”²⁵ Arguably, therefore, it does seem that generative grammar excludes performance because of the seemingly intractable complexity that characterizes it. Also, generative grammar, with its focus on the homogenous speech community, has eclipsed the study of languages in heterogeneous speech communities like Nigeria. This underscores the vast domains that opened for sociolinguistics as it set out to explore the heterogeneity of linguistic codes in a speech community. Thus, Fishman, as cited by Ervin-Trip (1967: 3), describes sociolinguistics as being “...concerned with characteristics of the code and their relationships to characteristics of the communicators or the communication situation...” Therefore, the field seeks to account for all the contours that impinge on a language as a result of its dynamic social contexts or the social backgrounds of its speakers.

One major implication of sociolinguistic interventions in the study of language is the recognition of the inherent variableness of the linguistic code, which is linked to the social differentiation of the members of a speech community. This approach was pioneered by William Labov with his defining works on Martha’s Vineyard (1963) and the vowel system of New York City English (1966). Works employing the same approach and methodology, within the Labovian framework, have been termed ‘variationist sociolinguistics’. Variationist sociolinguistics posits linguistic variation and change as being systematically patterned (Murray 1998: 170). Pre-Labovian studies of dialects had held the view that complex variation, especially in urban settings, is chaotic, thus foreclosing any linguistically rewarding study of such variation (Labov 2001: 38). Thus, Labov notes that “the first contribution of sociolinguistic research in the second half of the 20th century was to show that this variation was not chaotic, but well-

²⁵For the relationship between sociolinguistics and the generative grammar model, see Svejcer (1986) and Fraser (1972).

formed and rule-governed...” (2001: 38). In other words, there is an explicitly traceable order in the variation that appears otherwise chaotic and inconsistent. Because it superficially looked unpatterned, complex variation was previously dismissed as random or free variation (Labov 1972: xiv; Labov 2006: 31; Rockford 2003: 1). Items in free variation were considered as items that occur by chance, and not by any explicable reality, and so “whether one or the other occurred at a particular time was taken to be linguistically insignificant” (Labov 1972: xiv). This view was predicated upon the premises that only single phonological and grammatical forms exist in a language, and only such single forms are worth any serious linguistic enquiry (Murray 1998: 119). But variationist sociolinguistics refuted this claim and demonstrated empirically that this variety is linguistically well-ordered and socially relevant. So, in short, variationist sociolinguistics unraveled the mystery of complex variation (Natalie 2003: 1). Thus, Murray (1998: 90) rightly submits that pushing back the frontiers of free variation is the project and accomplishment of sociolinguists. As mentioned earlier, gender (however defined) is one of the social variables that language co-varies with, along with the closely related concept of prestige.

Studying language in its social context, as conceived by Labovian variationist sociolinguistics, has not, however, been without its criticism, as seen in Bickerton (1972: 17), who claims that it only serves a confirmatory purpose of what is already known about society and thus “represents a dead end” which can only be repeated “on another class, in another country”²⁶. Trudgill (2000: 39) reveals that some sociolinguistic scholars have tagged it as mere “correlational sociolinguistics”. However, variationist sociolinguistics has opened up the linguistics landscape for more areas of study, ones that were once overlooked or out-right abandoned. Labov (1971, cited in Fraser 1972: 2) himself explains that variationist sociolinguistics is significant as it beams a scholarly searchlight on “the unreflecting language used by ordinary people in everyday life”. Thus, sociolinguistics is, in effect, an advocacy for linguistic equity, and it stresses the social relevance of all linguistic groups in a speech community.

2.7 Prestige, Gender and World Englishes

The notion of prestige is predominantly of sociolinguistic origin, where it refers to the attitudinal high esteem and positive value accorded a particular variety of a language (Trask and Stockwell 2007: 231). Usually, the prestige variety is that variety which is spoken by those members of the society who are of a

²⁶ Bickerton’s criticism is in relation to what he calls the limited insights from the social component of the variationist sociolinguistics enterprise, and not from the language component, which he believes serves “the most useful purpose...as an input to polylectal grammars” i.e., formal grammars of different varieties of a language (Bickerton 1972: 18).

higher social class, as Trudgill (2000: 74) puts it, "...there are linguistic variables in a speech community which are involved in co-variation with social class, higher class forms being more statusful or 'correct' than lower class forms". Social class, in the modern globalized society, is generally correlated with the variables of education and occupation (D'Arcy and Tagliamonte 2010: 388). One may possibly include wealth and power, to some extent, as relics of pre-modern society. The obvious point here is that what determines the prestigiousness or otherwise of a variety is not within the language but has to do with external social factors. As Schilling-Estes (2006: 314) notes, "it's mostly a matter of fashion".

The prestige linguistic norm can either be a variety used by people in the higher social classes to index power and a high level of education or a local variety used to construct identity, and signal solidarity with a particular group (Trousdale 2010: 20). The former is termed 'overt prestige' and the latter, 'covert prestige'. Covert prestige, according to Labov (2006: 402), is "associated with non-standard forms just as overt prestige is attributed to standard forms". Trousdale (2010: 20) characterizes overt prestige varieties as having linguistic variants that are associated with widespread norms regulating behavior in formal settings, while the linguistic code linked to covert prestige is used to resist the advance of the variety with overt prestige. We may remark then that whereas the prestige of the overtly prestigious variety is mostly an inter-group phenomenon (i.e., it is recognized by those outside the higher social classes), the prestige of the covertly prestigious variety is instead an intra-group phenomenon. What is obviously common to both is identity construction. In England, RP enjoys overt prestige and indexes a higher-class social identity, while a variety like Cockney has covert prestige for the working-class population and also indexes manliness (Wells 1982: 105, 117). In the multi-lingual setting of Nigeria, English generally enjoys overt prestige over the indigenous languages, as it is seen as a symbol of power and privilege (Danladi 2013: 19). As RP still mainly remains the exonormative standard, especially within the educational system, the RP-based acrolectal variety, though, as already noted, perceived by the majority as being affected, still enjoys overt prestige among the English-speaking population, while Nigerian Pidgin English(henceforth, NPE), alongside hundreds of mother-tongues, has covert prestige (Jowitt 2015: 3; Akande 2010: 6; Banjo 1996: 67-69). One may safely predict, however, that the current acrolectal form would relinquish its overt prestige to the mesolectal subvariety if and when the more popularly acceptable indigenized variety is fully adopted, especially in the pedagogical setting.

Two other important terms that are related to the concept of prestige are hypercorrection and stigmatization, which are actually effects of prestige (Trask and Stockwell 2007: 232). The former happens as the speaker, in an attempt to adopt the prestige linguistic variant, "overshoots the mark of the highest status group" i.e., the speaker over-realizes the target prestige norm (Labov 2006: 152). Two interrelated social factors have been argued to account for hypercorrection; namely social insecurity and

upward social aspiration (Trousdale 2010: 67). Stigmatization, on the other hand, is the attitudinal disposition towards a variety that does not enjoy prestige. Both hypercorrection and stigmatization have been shown to be significant factors in language change.

An intriguing social variable that impinges on overtly prestigious linguistic norms is gender, conceived of in this study, as it is in traditional Labovian variationist sociolinguistics, as the biological contrast of human male and female²⁷. The interest of sociolinguists in gender is focused on how the variableness of human gender links to variation in language use, i.e. the co-variation of linguistic forms with gender differentiation. Trudgill (2000: 73) submits that one of the most consistent discoveries in sociolinguistics is that female speakers' speech is characterized by an approximation to prestigious linguistic norms more than their male counterparts, all else being equal. This co-variation of linguistic norms with gender contrast is summarized by Labov (1990: 210, 213, 215) in a set of principles, as follows:

Principle I: For stable sociolinguistic variables²⁸, men use a higher frequency of non-standard forms than women.

Principle Ia: In change from above, women favor the incoming prestige form more than men.

Principle II: In change from below, women are most often the innovators.

Change from above and from below are, respectively, changes taking place “from above the level of consciousness or awareness” of the speaker, and, in the case of the latter, implying “change from below the level of social awareness” of the speaker (Ash 2013: 359). A typical example validating Principle I is that male speakers in both Norwich and Detroit are reported to use the less prestigious variant /ɪn/ of the suffix *-ing* more frequently than female speakers (Trudgill 1972; Wolfram 1969, cited in Labov 1990: 211). The corollary then is that more female speakers use the prestigious standard form /ɪŋ/ more frequently than their male counterparts. Principle Ia is evidenced in the adoption of non-prevocalic /r/ in New York City, a development led by women (Labov 2006: 50). Labov (1990: 217) cites Luthin (1987)'s study which shows that “rapid and extreme fronting of /uw/ and /ow/” is being championed by women in Berkeley, United States, a case for Principle II. These principles, we must note, are not only restricted to phonological variables but also operate with regards to grammatical features. For instance, Trudgill

²⁷ The issue of gender vs. sex will receive a closer treatment in the methodology chapter, chapter 4.

²⁸ This refers to variation that actually correlates with social categories such as gender but, according to Trousdale (2010: 63), shows “no evidence of a linguistic change taking place”. In other words, the variables, such as [ɪŋ] and [ɪn] of the *-ing* participle, cohabit side-by-side without one exterminating the other.

(2000: 70) has shown that the less prestigious multiple negation is used more frequently by male speakers in Detroit than female speakers.

A number of explanations have been put forward to account for why linguistic variation is patterned along the gender divide in this way. Labov (1990: 214) references the argument that women are said “to be more expressive or use expressive symbols more than men or rely more on such symbols to assert their position”. This might be more so in a patriarchal society like Nigeria, where women rank low culturally in terms of access to economic and political power (Makama2013: 115). Where the relation to power is equidistant for both male and female genders, the explanation above might not apply. Trudgill (2000: 73) alludes to the greater pressure on woman than on men in many societies to conform to moral standards, which he hypothesizes as permeating to their linguistic choices. Another observation is that substandard forms enjoy covert prestige among men as being indexical of characteristic masculine toughness (Labov1990: 214-215).

The validity of the principles above and their explanation, however, depend on more research in the direction of linguistic co-variation with gender in more societies (and in more languages to give it a universal perspective). For instance, Trudgill (2000: 70) reveals that “much of the evidence we have for gender differences in English has come from some of the sociolinguistic research carried out in Britain and America...from Australia, South Africa and New Zealand”. Essentially, the Englishes in the aforementioned societies are mostly Inner Circle varieties²⁹. The validity of these principles in a prominent Outer Circle English like Nigerian English needs to be investigated. This need partly constitutes the gap the current study hopes to fill.

To be sure, quantitative, large-scale research on linguistic co-variation with social categories, which Eckert (2012) has categorized as the first wave of variationist studies, has not been without its critique, especially with regard to gender. For instance, Trousdale (2010: 54) queries the rather inflexible and binary conceptualization of gender categories in such early studies. In particular, he disagrees with the

²⁹The case of South African English, like Jamaican English, is an exceptional one, which Rajadurai (2005: 113 citing Kachru 1985) observes to have fallen into “fuzzy areas” which pose “difficulty with status and placement... within the circles”. Schneider (2007: 174) notes that what is known as South African English is a conglomeration of different forms of English with diverse sociolinguistic histories. Thus, Schneider has submitted that South African English qualifies for both Inner Circle and Outer Circle status “at the same time, and also for neither of them...”. Mufwene (1994: 22) recognizes the white variety of South African English as one of the native Englishes, which then places it in the Inner Circle. Perhaps, one might, in the case of South Africa, begin to appreciate the relevance of the graphic points of intersection between the circles as seen in Figure 2.1 above.

binary gender contrast of ‘man versus woman’ and makes out a case for gradient gender differentiation in line with “clines of masculinity and femininity associated with gender roles in different communities” (54)³⁰. Trousdale (2010: 54) further justifies the non-binariness of gender identity with the fact that a member of a social group may *choose* to adopt the characteristic linguistic codes of another group as “a way of projecting an identity, showing solidarity and promoting affinity” with the latter. We may, however, observe that social group identities are not as deeply entrenched as differences in sex, which bear biological markedness. The contentions here may be in reference to the ever-raging war between the advocates of nature and those of nurture, with the Labovian first wave of variation studies being on the side of nature, and Trousdale on the side of nurture. In any case, there is the need, in the face of the ongoing evolution of Englishes in the Outer Circle, to determine which gender approximates the prestigious linguistic norms more in these contexts. And the right place to start is with the sound system since, according to Labov (2006: 4), it is “the most amenable to quantitative techniques”.

2.8 The Sound System of English

The sound system of English is navigated through the theoretical constructs known as phonetics and phonology (Roach 2000:1). Both approach two different dimensions of the linguistic sound system. Phonetics addresses the physical properties of speech sound (Wells 1982: 39). Being concerned with physical properties, therefore, phonetics deals with objective – or what Roach (2000: 44) calls “the comparatively straightforward” – description of the “vocal sounds utilizable” by humans, as Ohala (2010: 655) puts it. Phonetics then pays attention to such nuances of human vocal sounds that do not have semantic implications (Ladefoged and Johnson 2015: 35). The articulation of /t/ in *tie* with the blade of the tongue pressed against the alveolar ridge by some English speakers, and the alternative articulation of it with the tip of the tongue by some others, according to Ladefoged and Johnson (2015: 35), is an example of this. However, one may note that whereas such micro-differences do not have linguistic meaning, they may carry social indexicality, depending on the society of the speakers. For example, Wells (1982: 31) notes that a heavily affricated /t/ as [ts] in *party* [p^ha:tsi] “to an American ear, evokes the stereotype of effeminacy, if the speaker is a man; but in London it has absolutely no such connotations...”. Generally, the phonetic aspect of the human language sound system is studied from three perspectives: articulatory phonetics, auditory phonetics and acoustic phonetics (Reetz and Jongman

³⁰Trousdale then seems to be advocating for the fact that the traditional roles of both genders differ from one society to another. For instance, while payments which traditionally formalize marriage, and which are strongly related to gender identity, are made by the groom to the bride/her family in most African societies, the reverse is the case in many traditional South Asian societies (Adjei and Mpiani 2018: 921-922).

2009: xi). Articulatory phonetics explores the production process of speech with a special focus on the physiological apparatus (technically called speech organs) involved, while auditory phonetics is concerned with the “auditory system and memory” responsible for speech perception. Acoustic phonetics studies such acoustic elements as frequency, intensity and duration; and this requires the investigation of sound waves (Reetz and Jongman 2009: xi). These three aspects are represented in an interconnected relationship which Roach (2000: 204) calls the speech chain, as presented below:

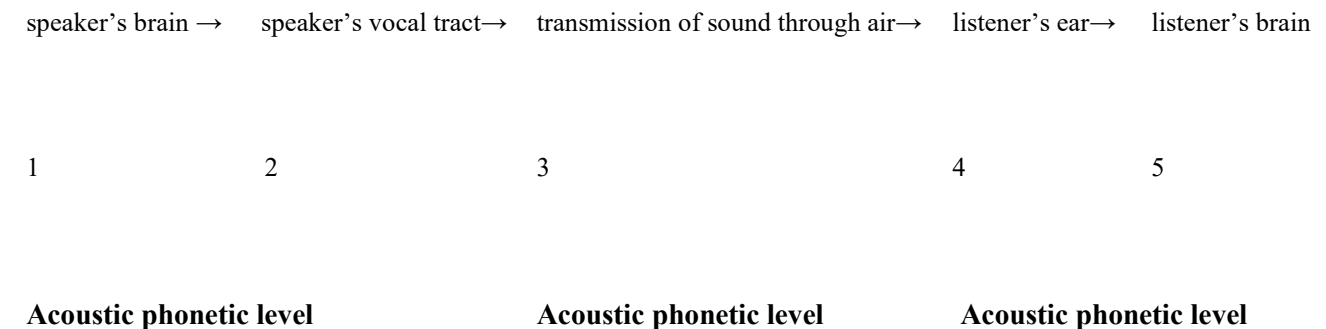


Figure 2.2: Speech Chain. Source: Roach (2000: 204)

From Figure 2.2 above, it is apparent that articulatory phonetics revolves around the activities in the speaker's brain and vocal tract while acoustic phonetics has to do with the different dimensions of the sound as it travels through the air. Auditory phonetics explores the listener's ear and brain as they receive and interpret the sound.

Phonology, on the other hand, has to do with those aspects of the sound system that have contrastive, semantic effects. It is for this reason that Wells (1982: 39) defines it as “the linguistic aspect of phonetics”. Echoing it differently, Ladefoged and Johnson (2015: 35) characterize phonology as the study of “a language to determine the distributions in words”. Therefore, whereas phonetics, in its focus on speech sounds, is physically inclined, phonology is often psychologically or mentally inclined. As Bromberger and Halle (1989: 53) explain, “phonology is primarily concerned with the connections between surface forms that can serve as input to our articulatory machinery (and to our auditory system) and the abstract underlying forms in which words are stored in memory”. The phonology of any language, including English, is mostly approached through an analysis of segmental and suprasegmental (prosodic) features, with suprasegmentals having to do with features of vocal qualities imposed on syllables (Ladefoged and Johnson 2015: 24). Suprasegmentals are thus sound contrasts such as stress, tone, and intonation that “extend over several segments” (Roach 2000: 45).

Segmental features, on the other hand, mainly concern contrasts between distinct, discrete sound units whose exchange would lead to a definite change in meaning (Roach 2000: 150; Ladefoged and Johnson 2015: 35). This phonological analysis yields the phonemic inventory of a language. The contrastive sound units, phonemes, are traditionally partitioned into consonants and vowels (Ladefoged and Johnson 2015: 253). Phonemes can generally be identified by the use of so-called minimal pairs (e.g. *sue*/su:/ and *zoo*/zu:/), and are contrastively differentiated by one or more phonological features, such as voicing (e.g. /s/ and /z/) (Katamba 1989: 3; Wells 1982: 47). Essentially then, a minimal pair shows a meaning contrast between two words that are phonetically the same except in two sounds which are, on this basis, shown to be phonemes of the relevant language, such as *bound*/baʊnd/ and *sound*/saʊnd/ in English.

Vowels, where, according to Reetz and Jongman (2009: 23), variation is most rife in English, are divided into monophthongs and diphthongs according to the number of constituent sound units. The monophthongs, as well as diphthongs (since a diphthong is constituted of two monophthongs), are characterized in terms of the three dimensions of front-back, close-open, and rounding (Ladefoged and Johnson 2015: 280). On an articulatory level, the first two dimensions relate to different positions of the tongue in the course of the production of the vowels. The last dimension relates to the state of the lips. The monophthongs are also characterized in terms of the time-length of their production; thereby yielding long and short monophthongs. All diphthongs in English are long.

2.9 Lexical Sets

Lexical sets are a set of keywords, conventionally written in small capitals, designed by Wells (1982: xviii) to address the otherwise complex system of vocalic variations and the corresponding lexical forms across different accents of English but with principal focus on the reference accents (i.e. RP and GenAm). Ladefoged and Johnson (2015: 102) state that the lexical sets are useful descriptive tools in three ways. First, it accounts for all the phonological inventory of all the vowels in an accent. For example, lexical sets show that monophthong /ɒ/, as realized in such words as *stop* /stɒp/ and *cot* /kɒ/, is present in the phonological inventory of RP but absent in that of GenAm (Wells 1982: 123-124). Second, it provides the phonetic quality of each vowel in an accent by the use of IPA (the International Phonetic Alphabet) symbols. Such phonetic specifications, we may deduce, made it possible to create the four Part-systems briefly highlighted below

Part-system A: this system comprises of all the six (or five, as in GenAm) short vowels that can be stressed (Wells 1982: 168-169). They are TRAP(/æ/), KIT (/ɪ/), DRESS (/e/ or /ɛ/), LOT/CLOTH (/ɒ/ not found in GenAm), STRUT (/ʌ/), and FOOT (/ʊ/). A common phonetic reality of these vowels is that they

do not occur in the word-final position such that [sʊ], for example, is an impossible reality in English (Bekker 2009: 51).

Part-system B: this includes the traditionally long front vowel having mid to close quality and all the diphthongs that end in that position (Wells 1982: 171). The four members of the system are FLEECE (/i:/), CHOICE (/ɔɪ/), PRICE (/aɪ/), and FACE (/eɪ/). A common characteristic of this group is that they are possible in the word-final position (e.g. *see* /si:/, *way* /wei/) (Bekker 2009: 52).

Part-system C: this group comprises of three members; namely, the phonemically long close back GOOSE (/u:/) and diphthongs GOAT /əʊ/) and MOUTH (/aʊ/) that end in that position, all of which can be stressed. Like Part-system B, members of this system can also occur in the word-final position (e.g. *two* /tu:/, *cow* /kaʊ/).

Part-system D: this Part-system is made up of phonemically long stressable vowels having the quality of being relatively open and diphthongs having such endpoint as well as those that have the endpoint of mid-central quality [ə] (Wells 1982: 175). As captured in Bekker (2009: 52), RP members of this Part-system include NURSE (/ɜ:/), NEAR (/ɪə/), SQUARE (/ɛə/), FORCE-NORTH-THOUGHT (/ɔ:/), BATH-START-PALM (/ɑ:/). And CURE (/ʊə/). Members of this Part-system can also occur in the word-final position in English (*fur* /fɜ:/, *bear* /bɪə/).

The third usefulness of lexical sets, as put forward by Ladefoged and Johnson (2015: 102-103) is that they account for the differences and similarities in the lexical realizations (i.e. orthography) of specific phonemes across accents, a concept termed distribution of vowels (Ladefoged and Johnson 2015: 102) or lexical incidence (Wells 1982: 121). For example, the short phoneme /æ/, in GenAm, is realized in TRAP (e.g. *trap* /træp/, *sad* /sæd/) and BATH words (e.g. *bath* /bæθ/, *cast* /kæst/) but only in TRAP in RP. The phoneme that realizes BATH in RP is the long /ɑ:/ (e.g. *bath* /bɑ:θ/). For Hannisdal (2006: 86), the lexical sets make it possible to neatly reference large sets of words and the vowel that have in common. Below is the complete reproduction of the entire lexical sets as set out in Wells (1982: 123)

	RP	GenAm		RP	GenAm		RP	GenAm
KIT	ɪ	ɪ	NURSE	ɜ:	ɜr	CHOICE	ɔɪ	ɔɪ
DRESS	E	ɛ	FLEECE	i:	I	MOUTH	aʊ	aʊ
TRAP	æ	æ	FACE	eɪ	eɪ	NEAR	ɪə	ɪr
LOT	ɒ	ɑ	PALM	ɑ:	ɑ	SQUARE	ɛə	ɛr
STRUT	ʌ	ʌ	THOUGHT	ɔ:	ɔ	START	ɑ:	ɑr
FOOT	ʊ	ʊ	GOAT	əʊ	o	NORTH	ɔ:	ɔr
BATH	ɑ:	æ	GOOSE	u:	u	FORCE	ɔ:	Or
CLOTH	ɒ	ɔ	PRICE	aɪ	aɪ	CURE	ʊə	ʊr

Ladefoged and Johnson (2015: 102) have observed that lexical sets, in the order in which they are presented above, have been so arranged from the most stable to the most varied across accents of English. By implication, therefore, KIT has the least varied quality while the last six rhotic vowels ending with CURE are the most varied across accents. Since no previous work has undertaken the across-the-accents comparisons of lexical sets to Nigerian English, the current study is poised to fill such gap by specifically comparing the reference accents to Nigerian English accent.

2.10 Conclusion

Relevant theoretical issues regarding the internationalization of English have been examined in this chapter. In essence, it is a review of extant literature on the global, beyond-the-British status of the English language. An appropriate context for such theoretical discussion was created by discussing the concept and relationship that holds between language and society (2.1). Then the theoretical concept of *World Englishes*, a paradigm shift from the usual theoretical conception of English, was explored from dialectological, theoretical, and ideological perspectives (2.2). In Section 2.3, relevant theoretical constructs around the phonology of second language were discussed. Then, the Dynamic Model of Postcolonial Englishes, itself an amplification of *World Englishes*, was extensively expounded in section 2.4. This was followed by a discussion on the theory of language contact (which drives the spread of language) in section 2.5. A conceptual context for relevant topics like prestige, gender and their intersection with language was covered in section 2.7, while sociolinguistics as a field was examined in its relation to this study in Section 2.6. Thereafter, the sound system of English was highlighted (2.8). In section 2.9, the focus was on the lexical sets, a phonetic/phonological descriptive tool as developed by Wells (1982) and reviewed by other scholars.

CHAPTER THREE

THE CONTEXT, CONCEPT, AND CONTENT OF NIGERIAN ENGLISH

I feel that the English language will be able to carry the weight of my African experience. But it will have to be a new English, still in full communion with its ancestral home but altered to suit its new African surroundings.

(Nigerian Novelist, Chinua Achebe 1965: 30)

3.0 Introduction

This chapter delves into the world of Nigerian English, alongside the geo-cultural and politico-spatial soil that provided a breeding ground for it to flourish. The chapter will achieve this under five topical issues; namely, the historical context of Nigeria (Section 3.1), the pre-history of English in Nigeria (Section 3.2), the history of the English language in Nigeria ‘traced’ with the use of Schneider’s (2007) Dynamic Model framework (Section 3.3), the concept of Nigerian English (Section 3.4) and then, in Section 3.5, attention is focused on the recent influence of American English on Nigerian English. Section 3.1 highlights the relevant historical events that led to the emergence of the Nigerian nation, while Section 3.2 pays in-depth attention to the different colourations of English in Nigeria before its official implantation as the language of British colonialism. Then Section 3.3 employs Schneider’s popular (2007) framework to trace the developmental trajectory of English in Nigeria to its present status as Nigerian English. Consequently, the following section, Section 3.4, discusses the concept of Nigerian English proper. This analysis of various aspects of the concept of Nigerian English will provide the practical scenario for the theoretical constructs that were discussed in the immediately preceding chapter. Of course, the accounts of the sociopolitical history of Nigeria and the history of English in Nigeria (Sections 3.1 to 3.3) collectively provide the requisite background context for Nigerian English. Finally, Section 3.5 examines the extent to which American English, although not the pedagogically entrenched exonormative norm in Nigeria, has recently been seen to be influencing Nigerian English.

3.1 The Historical Context of Nigeria

In the era preceding British colonial rule, different parts of the geographical space today known as Nigeria were occupied and ruled by different independent ethnic groups without overt inter-group political affinity (Brown 2013: 172). It is perhaps not too early to quickly comment that this reality gave birth to the well over 250 ethnic nationalities and not less than 400 indigenous languages in Nigeria, as well as the need for a lingua franca, as indeed finally happened (Banjo 1986: 37; Achebe 2012: 1). Apparently, each ethnic group had their effective system of self-administration. So, there were, for

example, the Islamic Fulani Empire in the North, the monarchical Oyo empire in the West, the famous Benin Kingdom in the Midwest, the egalitarian Igbo society in the east, and the Calabar Kingdom in the South (Achebe 2012: 1). Iweriobor (1982: 507-508) categorizes these and other ethnic nationalities, in relation to their political organization, into two broad groups; namely, the Centralized State System, and the Stateless Societies, the former being a system in which the ruling power was vested in a centrally located authority while the latter had its authority diffused among the constituent clans and communities. Falola and Heaton (2008: 21) have, however, decried the use of the appellation 'stateless' to describe these latter societies citing the reason that such a title suggests "a lack of political authority and, therefore, the existence of anarchy, which none of these societies exhibited". They, therefore, offer the term 'decentralized' as a more appropriate qualification for such societies. Societies such as those of the Hausa and the Yoruba practiced the centralized state system while the Igbo, for example, had the decentralized structure (Iweriobor 1982: 507-508). For example, Ife (same as Ile-Ife – see Figure 3.1), the cultural fount of the Yoruba, and from where different Yoruba descendants spread to found subordinate kingdoms, was headed by the Ooni, whom the obas (the kings) of the subordinate kingdoms regarded as their spiritual head (Falola and Heaton 2008: 23-24).

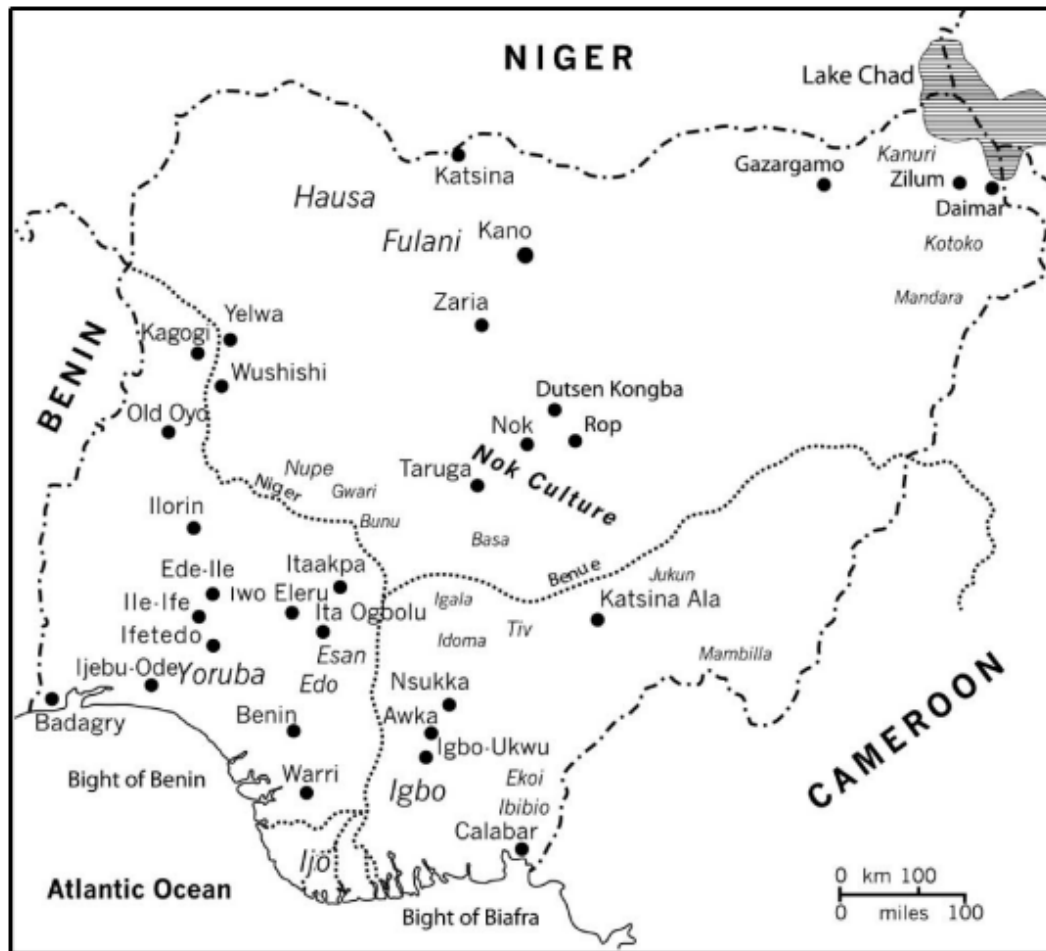


Figure 3.1: Nigerian Map showing some notable ethnic locations; from Ogundiran (2005: 135)

As the precolonial Nigerian societies were crystalizing into their different political structures (centralized or decentralized) around 1500, inter-group mingling was also assuming a historically significant dimension (Falola and Heaton 2008: 37-38). Odeyemi (2014: 6) highlights trade, intermarriage, religion, and crafts as factors that facilitated inter-ethnic connections. But one may, however, safely note with Falola and Heaton (2008: 36), and Aboyade (2014: 54), that trade was the most significant of all these factors since trade ensured that one society depended on the other for the commodities it did not have, thereby cementing interdependency among the societies. For example, the Hausa traders, who had been active players in the trans-Saharan trade, were internally involved in trading “livestock, and leather and iron goods to forest zone societies [e.g. the Yoruba, the Igbo] for grains, slaves, pepper, and... kola...” (Falola and Heaton 2008: 34; my parenthesis). Conversely, however, we may imagine that unequal availability of a commodity could trigger inter-tribal war, which, according to Last (2018: 29), was a common feature of that era.

Of all the commodities of inter-tribal exchange, slavery later emerged as the most historically defining, as it spiraled beyond the local inter-group exchange to the level of international commerce through the trans-Atlantic trade, especially in the south where slavery had already been a considerable socio-economic factor (Falola and Heaton 2008: 40). Generally, the trans-Atlantic slave trade dominated the early European contact with Africa, contact which had begun as far back as the fifteenth century (Falola 2003: 23). But even before this time, from the eighth century, trans-Saharan trade, a substantial part of which included a slave trade, had connected the area that would later become the northern part of Nigeria, to North Africa (Aboyade 2014: 55; Falola and Heaton 2008: 33). However, we may possibly infer that the trans-Atlantic trade is of more relevance to Nigerian history for two reasons. First, trans-Saharan trade was later eclipsed by trans-Atlantic trade (Obikili 2018: 40). Secondly, Nigeria was to be later colonized by Britain, one of the European nations that masterminded the trans-Atlantic slave trade. Meanwhile, and as expected, the coastal area of the south provided the contact point for the first European traders and, for many years, was their point of concentration before penetrating the hinterland (Ogundiran 2005: 154-155). In relation to their linguistic impact, which shall be considered in greater detail later in this chapter, it is worth noting that the Portuguese were the first European slave traders to establish contact with West Africa in general, and Nigeria in particular (Black 2015: 20; Falola and Heaton 2008: 52). In 1640, however, the Portuguese were displaced by the British, who maintained the business of slavery until 1807, when the British government abolished the trade (Eltis 2001: 20; Dumas 2012: 33).

As Britain continued with other 'legitimate' commercial interests such as the palm oil trade in Nigeria after the abolition of slavery (Falola and Heaton 2008: 79), serious efforts were also being made to *enforce* the implementation of the abolition (Adekoya 2016: 224). A highly significant part of such effort was the bombardment of Lagos by the British naval force in 1851, as a result of which still operating slave trade facilities were destroyed (Black 2015: 125). But this may equally be seen as a British 'move' to maintain her political-cum-economic foothold in Nigeria: Lagos was annexed ten years later (Black 2015: 125). This was followed by the creation of the Lagos Protectorate, the Southern Protectorate, and the Northern Protectorate, all of which would later be lumped together to form Nigeria (Falola and Heaton 2008: 86).

The whole region was formally handed over as a colony to Great Britain in the wake of the 1884-1885 Berlin Conference, which later came to be associated with the term *the Scramble for Africa* (Brown 2013: 172; Achebe 2012: 1). While the Protectorate of Lagos and the Protectorate of Southern Nigeria were being administered by the British colonial officers, with British firms coordinating commercial activities, the Royal Niger Company (a British company) was granted a royal charter in 1886 to undertake both the political and commercial control of the area that would later become the Protectorate of Northern Nigeria

(Falola and Heaton 2008: 95-99). However, due to fear that the company would not be strong enough to keep other European colonial powers (e.g. the French) at bay, coupled with its crisis-causing highhandedness in dealing with other British firms and local middlemen, the British government took over from the company in 1900 and proclaimed the area as the Protectorate of Northern Nigeria (Ebong 1961: 53-54; Falola and Heaton 2008: 100-104). In 1906, the Lagos Protectorate and the Southern Protectorate were joined together to form the *Colony and Southern Protectorate of Nigeria* (Ahmed and Ningin 2022: 35). The early phase of colonialism saw these two protectorates being administered as separate colonial entities. The two protectorates were then amalgamated in 1914 and christened *Nigeria*, a blending of the words *Niger* and *area* and a name created by Flora Shaw, a British journalist who later became the wife of Lord Fredrick Lugard, the first Governor-General of colonial Nigeria (Toyin and Heaton 2008: xiv-xv).

An important political arrangement that characterized the colonial government in Nigeria before and after the 1914 amalgamation was the institution of indirect rule³¹, British administration of the colony “through the preexisting [indigenous] political institutions and leaders” (Iweriebor 1982: 509; my parenthesis). The overarching motive for adopting this system of administration in the colony, as Falola and Heaton (2008: 112) note, was the realization of Dual Mandate, a British colonial ‘philosophical’ postulation that the colonial government should be “maximally beneficial both to the British and the people of Nigeria”. So, the people had their traditional political institutions unaltered while they were at the same time being exposed to western civilization through education, the eradication of all forms of slavery; and other European socio-cultural values. The British, on the other hand, could feed their industries with raw materials from Nigeria and provide an enlarged market in Nigeria for their finished products (Falola and Heaton 2008: 112). But whereas indirect rule was very successful in the societies that were used to centralized political structure, such as the Hausa, it did not settle well with the societies that had decentralized preexisting political structure, such as the Igbo (Ahmed and Ningin 2022: 36-37). The politically decentralized societies were not used to having designated individuals representing the interests of all the people. A major response from such a society was the popular Aba Women Riot of 1929 in southeastern Nigeria, which sought to resist the British-imposed warrant chiefs who were appointed to serve as intermediaries between the colonial government and the local populace (Falola and Heaton 2008: 133). Although the colonial government brought the situation under control and reorganized the political structure in the affected societies in tandem with the precolonial order, this conflict served as

³¹ The linguistic result of indirect rule receives attention in the discussion on Phase 2 (Exonormative Stabilization) of Schneider’s (2007) Dynamic Model under section 3.3 in this chapter.

the beginning of other larger anti-colonialism resistance movements leading to political independence in 1960 (Obienusi 2019: 145). Perhaps, it is worth observing, as has been noted by Schneider (2007: 41), that striving for such political independence or its attainment is accompanied by some sorts of linguistic breakaway from the colonial motherland. One expects this to happen since identity expression is readily achieved via language (Schneider 2007: 26-27).

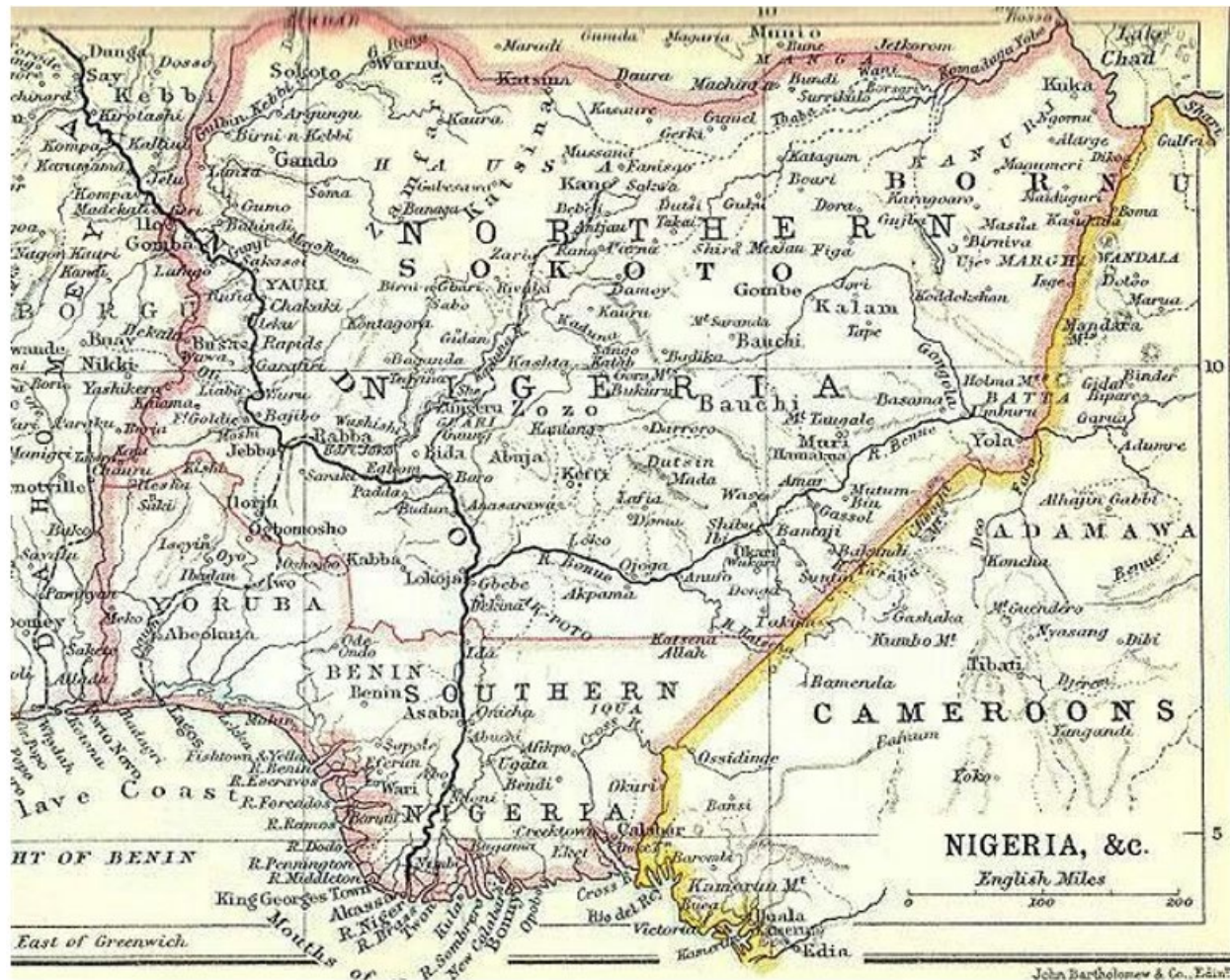


Figure 3.2: A 1914 map of Nigeria showing the amalgamated protectorates (i.e Southern Nigeria and Northern Nigeria); copied from <https://www.pinterest.com/pin/295196950549268607/> - accessed on 8th January, 2024)

The amalgamation of 1914, which crystallized into independence in 1960, encompassing the area captured in Figure 3.2 above, has been an object of approval and disapproval alike. For many, the binding of peoples of multi-cultural backgrounds as one nation is a paradigm case of beauty in diversity (Brown 2013: 174). Some other commentators, on the other hand, have seen the amalgamation as forced unity

imposed on incompatible cultures, or, as Idejiora-Kalu (2019: 101) puts it, “immiscible...regions”. Achebe (2012: 1), lending his voice to this, states that “...the amalgamation of the southern and northern protectorates inextricably complicated Nigeria’s destiny. Animists, Muslims, and Christians alike were held together by a delicate, some say artificial, lattice”. The amalgamation has also bequeathed some pejorative terms about the country such as a *mere geographical expression*, and *artificial creation*, all depicting the country as socio-culturally incoherent (Brown 2013: 172; Levan and Ukata 2018: 10). Toyin and Heaton (2008: 158) note that, in spite of the political marriage of these diverse ethnic groups, in the early years of nationhood, there were many people “whose lives continued to be primarily centered on local communities that had existed for hundreds and thousands of years”. Suffice it to say that this centrifugal propensity has not only continued till today but has exacerbated and resulted in too many inter-ethnic conflicts, prominent among which was the 1967-1970 civil war (Idejiora-Kalu 2019: 101; Brown 2013: 172). It is, moreover, fair to state that several political structures have been crafted to give a sense of belonging to different nationalities. For example, the country, as at the time of this study, is made up of 6 geopolitical zones, 36 states (i.e., federal units, as federalism is the overarching political structure) and a Federal Capital Territory in Abuja³²; (all of which can be seen in Figure 3.3 below) as well as 774 local government areas created all in an attempt to bring the government closer to every tribe (Adegbami and Uche 2015: 59).

³² The states were increased from 30 to 36 in 1995 by the military government of General Sani Abacha while the Federal Capital Territory Abuja, being the seat of the federal government, was created by the Military government headed by General Murtala Muhammed in 1976, thus moving the FCT from Lagos (Adeniyi 2014: 69).

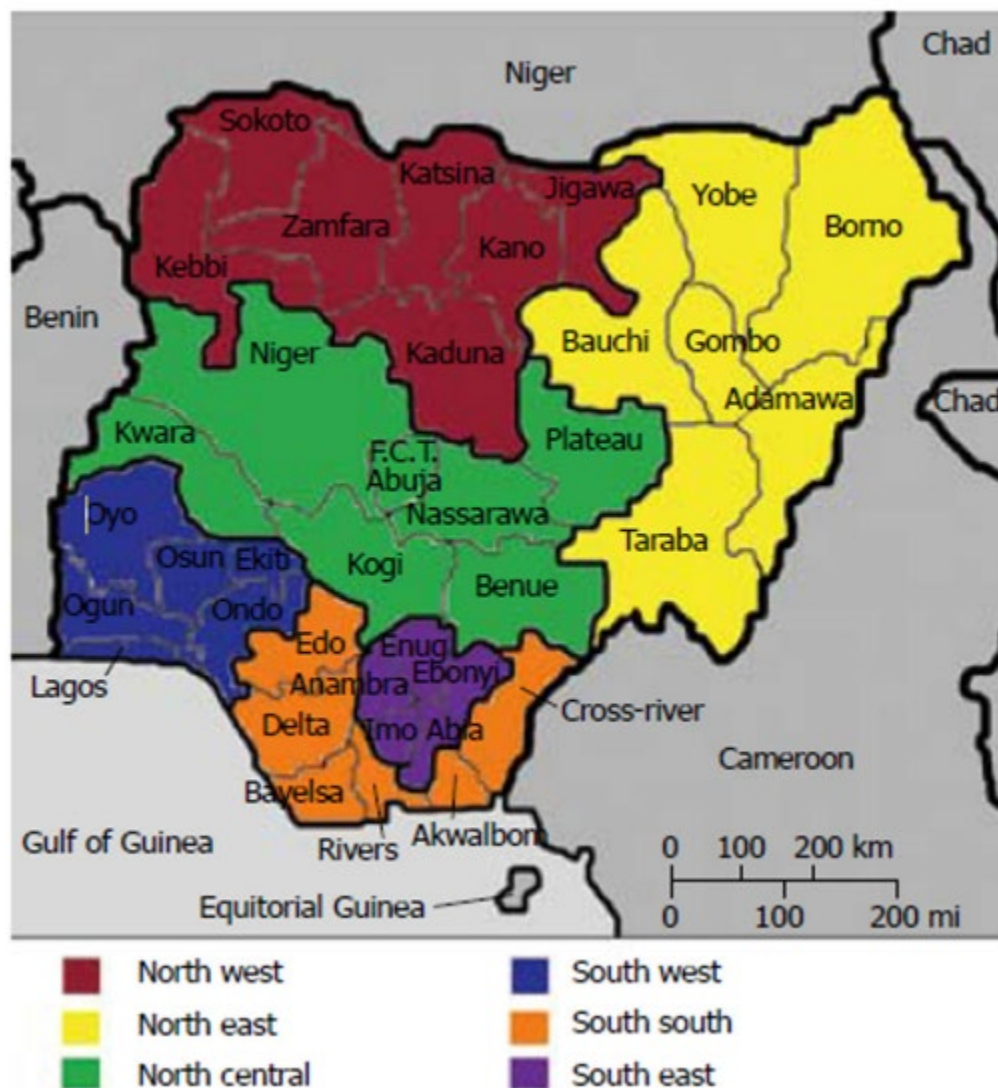


Figure 3.3: Nigerian map showing the 6 geopolitical zones and 36 states (as at the time of this study); from Akinlua *et al* (2015: 3)

Notwithstanding the multi-ethnic make-up of Nigeria, three ethnic elements, Hausa/Fulani, Igbo, and Yoruba, certainly due to their demographic advantage, have dominated the national political scene (Adegbami and Uche 2015: 59-60). Correspondently, and of course, as expected, this sociopolitical imbalance has had its sociolinguistic effects on the status of indigenous languages in Nigeria. Hausa, Igbo, and Yoruba are officially recognized as major and national languages, and thus enjoy high prestige relative to other indigenous languages (Emeka-Nwobia 2015: 113). Successive post-independence constitutions have specifically recognized these three major languages while giving no place to hundreds of other indigenous languages. For example, section 55 of the 1999 Nigerian Constitution, which is still the constitution in place during this study, states as follows: “the business of the National Assembly shall

be conducted in English, and in Hausa, Ibo³³ and Yoruba when adequate arrangements have been made therefore”. Conversely, the minority languages are endangered, are suffering attrition and some, according to Connell (1997: 2), are now extinct or close to extinction. Cases of language shift from the minor tribes to the domineering Hausa in the northern part of the country have been widely reported (Connell 1997; Kperogi 2006). The table below, as adapted from Connell (1997: 4), shows seven such languages in the Mambila region which is in the northern part of Nigeria:

Table 3.1: endangered and extinct languages of the Mambila region in Nigeria. Source: Connell (1997:4).

Languages	Number of Speakers
1. Cambap (aka Twendi)	35
2. Somyev (aka Kila)	20
3. Njanga	2
4. Njerep	6
5. Bung	3
6. Kasabe (aka Luo)	0
7. Yeni	0

The case of Hausa is a special one because even the colonial educational policy was in its favour and in disregard of the minor languages, as Banjo (1970: 65) recounts: “the policy in the north still remained...in favour of the development of Hausa as a lingua franca”. This seems to be another instantiation of the overarching British approach of improvising the peculiar local socio-cultural realities for the advancement of colonial administration (such as is the case with the famous indirect rule system). As recounted by Agheyisi (1984: 238), Hausa had always enjoyed a prominent place in the entire northern Nigeria because “as a subsidiary language of Islam³⁴ in the region, the Koran, as well as most of the Koranic law, had

³³Ngwudike and Otieno (2012: 177) claim that the word **Ibo** is the creation of the British and comes from the word **Igbo**. One can agree to this etymology judging from the fact that the English phonemic system does not have the voiced labiovelar plosive /gb/ but rather has a voiced bilabial plosive /b/ to which the former can easily be approximated. This further explains why Basden (1925: 32) states that “the word is now usually spelt and pronounced as **Ibo**, but to the native it is **Igbo**.” What is more, Achebe, a foremost Nigerian novelist of Igbo extraction, considers the word *Ibo* to be wrong, as can be seen in his 2012 historical account of his people in postcolonial Nigeria titled *There was a Country*. However, both terms are now used interchangeably in the literature.

³⁴The main language for propagating Islam is Arabic.

been translated into it, which gave it a special socio-cultural relevance in the context of the common Muslim heritage shared by most of the various ethnic groups in the region”. The reality in the south was quite different as there was no unifying religion, and thus “by comparison”, Kirk-Greene (1971: 128) records, “in the southern areas of Nigeria, where the Kwa languages are dominant, the lack of an alternative lingua franca means that English is very much the daily language of school children both outside and inside the school”.

Different factors, such as de-population, intermarriage among people of different linguistic groups, and lack of prestige, have been advanced as some of the known causes of the endangerment of the various minor languages (Kperogi 2006: 64-65; Connell 1997: 10). All of these can however be traced to one factor, which has been adequately discussed in the immediately preceding chapter: contact. Interestingly, the main threat to these indigenous languages, contrary to the submission of some scholars (e.g. Skutnabb-Kangas 2000, as cited in Schneider 2018: 43), did not mainly come from English but from fellow indigenous languages, as has been pointed out.

3.2 Pre-History of English in Nigeria

Schneider’s (2007: 199) Foundation Phase of his Dynamic Model account of English in Nigeria, which shall be fully discussed in section 3.3 below, starts from the early 19th century. However, there is a significant linguistic history vis-à-vis English that predates such time. The earliest contact of English with the coast of West Africa in general and Nigeria in particular has been unanimously ascribed to the agency of trade and commerce in the mid-16th century (Banjo 1970: 63; Banjo 1996: 1-2; Josiah and Essien 2012: 2 etc). The bulk of the commercial activities revolved around the infamous slave trade of which the Portuguese, having begun such trade as far back as 1441, served the role of European forerunner (Banjo 1970: 63; Eltis 2001: 20). Thus, scholars have agreed, based on irrefutable linguistic evidence, that the first ever European-born contact language to be spoken in the region that turned out to be Nigeria was Portuguese Pidgin (Banjo 1970: 63; Mufwene 2008: 188). Indeed, a school of thought exists which, according to Banjo (1996: 5), contends that Portuguese-based pidgin is the progenitor of all pidgins and creoles. In relation to NPE, it is easy to concur with this view, as relics of Portuguese cognate words such as *pikin* (child), *palava* (problem), *sabi* (to know), *dash* (to gift) still exist (Mafemi 1971; cited in Banjo 1996: 5). On the whole, one may be tempted to validate this perspective with the fact that the Portuguese, alongside the Spanish, were the first European nation to embark on explorative navigation around Africa, “establishing the first Empire on which the sun never sets” (Schneider 2018: 43). One can postulate that their explorative, sporadic contacts with speakers of other languages, driven by the need for communication, must have resulted in Portuguese-based pidgins in different parts of the world. But

whatever is the case, it is apparent that a Portuguese-based or influenced Pidgin preceded NPE. As the British ousted the Portuguese, so was the Portuguese-lexified Pidgin displaced and replaced by an English-based one through the process of relexification³⁵ (Banjo 2000: 29).

Meanwhile, it is worth pointing out another form of English which Banjo (1996: 8-9) observes is often confused with Pidgin, and is hypothetically and likely the first form of English to be spoken in Nigeria³⁶ by the locals: broken/minimal English. This demotic form of English, Banjo hypothesizes, emerged as a result of contact at individual level between the British and the indigenous populations. A major factor that differentiates this form of English from pidgin is that, whereas pidgin sprouted at group level (i.e. the British group with the indigenous group) without conscious language-learning processes, broken English emerged at the individual contact level and was based on a conscious language-learning process (e.g. Nigerian domestic servants and their masters) (Banjo 1996: 9). A feature we could then expect from such a form would be a lack of structural uniformity as there would be substantial variation from one individual to another. Also, and in relation to this, Ogbulogo (2005: 11-12) affirms that “the difference between the two is that broken English is less popular and less grammatical than the Pidgin”. Banjo contemplates the possibility that broken English later became refined as a result of “continued exposure to the target language” and stabilized into what, elsewhere in Banjo (1971: 169-171), he has tagged as the variety II of Nigerian English, which is fully discussed in section 3.4 below. We can then surmise that broken English is a clear case of interlanguage, unlike pidgin which has been growing in leaps and bounds without any overt grammatical re-invention. Although it is not a native language to the larger number of its speakers (Temitope 2013: 91), NPE has gained such a sociolinguistic stronghold that it has creolized in a part of the South South region³⁷, specifically in Warri and Sapele³⁸, although it remains a pidgin in other parts of the country (Elugbe and Omamor; cited in Ojarikre 2013: 126). The implication of

³⁵ This, as Trask and Stockwell (2007: 61) put it, is a process of “massive vocabulary replacement”, in this particular case, the English vocabulary replacing the Portuguese.

³⁶ Banjo (1996: 8) presents either pidgin or broken English as the first form of English to be spoken in Nigeria. But if we consider that Portuguese Pidgin preceded English Pidgin, then pidgin generally must have come earlier than broken English. In the case of contact with the British, on the other hand, if we consider the fact that individual contact, which Banjo claims to have birthed broken English, must have come before any group contact, which produced pidgin, we might safely conclude that broken English was spoken earlier than NPE. This historical position is maintained also by Balogun (2013: 91-92) who argues that Nigerian Pidgin emerged after broken English.

³⁷ Refer to Figure 3.3 above

³⁸ Refer to Figure 3.1 above.

this is that Nigerian pidgin is not a creole except in the instance of the two mentioned southern communities.

Mufwene (2003: 7), in agreement with other scholars such as Banjo (1970: 63), characterizes pidgins as “reduced linguistic systems which are used for specific communicative functions typically in trade between speakers of different mutually unintelligible languages”. So, one of the first substantial linguistic by-products of the sporadic contact of English traders with coastal Nigeria was pidgin, a reduced and simplified form of English (Banjo 1996: 6). This resulted from lack of full access to English by the indigenous people since the communication in such contact typically revolved only around the commodities of exchange (Schneider 2007: 24). Thus, Schneider’s (2018: 43) submission that the degree of contact determined the degree of change that has characterized English in the course of its colonial transmission is justified.

Thus apparently, pidgin English, regarded as one of the earliest forms of English spoken in Nigeria alongside broken English, was born through the agency of commerce between Nigerian people and the British along the coastal region. However, Banjo (1996: 2) notes that by the eighteenth century, Nigerians were already going to Britain to acquire the language. Citing Spencer (1971), Banjo (2000: 29) reveals such Nigerians were being “...sent by the trading companies to England to learn English and some accounting”. Evidently then, the contact between Nigerians and British traders at this time was being driven and sustained by commercial interests. The essence of this historical emphasis is to show that, although NPE was a home-grown form of English that emerged from the communicative constraints imposed by commercial interactions, standard English – or what Banjo (1996: 11) calls the metropolitan variety of English- had existed alongside pidgin before the missionary activities which started substantially in the nineteenth century. A prominent Nigerian figure, Antera Duke in Calabar, in the eighteenth century, for instance “...was keeping a diary in English” (Banjo 1970:63- 64). So, we can safely conclude with Banjo (2000: 29) that the standard version of the English language was being spoken then in Nigeria as a foreign language, although the number of speakers must have been infinitesimal, thus precluding any serious sociolinguistic impact.

Another historical sojourn of English that preceded the era of deliberate institutionalization of English by any British agent in Nigeria, was the homecoming of the manumitted slaves after the abolition of the slave trade in 1807 (Okere and Nwulu 2019: 25). This development, according to Banjo (1996: 11), created a link between the metropolitan variety spoken by the freed slaves and the home-grown varieties. In a counterintuitive outcome, these repatriates were going about venerating English and vilifying African languages rather than showing some level of solidarity with their long-missed indigenous languages as a

linguistic repudiation of the injustice of the slave trade (Banjo 1970: 64). This attitude towards English, one might surmise, was a precursor to the sociolinguistic scenario that would follow in which Standard English would be accorded high prestige as the language of the elites. But suffice it to say that the language, in the era before the 19th century, was still operating as a foreign language (Banjo 1996: 12).

3.3 The History of English in Nigeria according to Schneider's (2007) Dynamic Model

As has been discussed in section 2.3 in the immediately preceding chapter, Schneider's (2007) Dynamic Model (DM) is a uniformitarian model that provides the evolutionary stages that underly the development of postcolonial Englishes, of which Nigerian English is indisputably one. Each stage is moulded by "four constitutive parameters"; namely, sociopolitical context, sociolinguistic factors, identity construction, and the resultant linguistic peculiarities (Schneider 2007: 33). The evolution takes place as the STL strand and IDG strand, as explained in section 2.3, intermix. The application of this model to Nigerian English, as captured by Schneider (2007: 199-212), is herewith highlighted.

DM Phase 1: Foundation (19th century -1900)

The Foundation phase began with economic, political, and especially religious interests from the direction of the British (Schneider 2007:200). Although, as noted in section 3.2 above, commercial activities between the British and the coastal region of Nigeria had begun as far back as the mid-sixteenth century, such contact, due to its sporadic nature, could produce only pidgin English (Schneider 2007: 199-200; Banjo 1970: 63; Banjo 1996: 1-2; Josiah and Essien 2012: 2). The British missionaries came, in the early 19th-century, on the heels of the abolition of the slave trade (Schneider 2007: 200; Osisanwo 2016: 30). Obviously, however, the missionaries must have lived side-by-side with the British traders, who switched from the slave trade to other 'legitimate' forms of trade such as the palm oil trade, as seen in section 3.1 above. Banjo (1996: 12) identifies two conflicting beliefs about the motive of the missionaries. The first one is that the missionaries came to heal the psychological wounds inflicted on the Africans by the slave trade. In line with this school of thought, Osisanwo (2016: 30) cites Williams Wilberforce, an anti-slave trade movement leader, declaring that "it is the Bible that must regenerate Africa". The second view is that the missionaries came as the heralds of the colonialists. One expects this latter view to be popular with the nationalists among the IDG groups. For instance, as recounted by Falola and Heaton (2008: 126), the Yoruba people of Ijebu land³⁹ had, in the years preceding the 1880s⁴⁰, forbidden Christian missionaries from entering their land "because they feared that missionaries were agents of British

³⁹ Same as Ijebu-Ode in Figure 3.1 above.

⁴⁰ Ijebu land was forcefully occupied by the British in 1892 (Falola and Heaton 2008: 95).

imperialism”. Whatever the case, proselytizing the indigenous population required a more stable and sustained contact than that of the preceding slave trade.

The coming of the British missionaries and their adjacent British traders and the ensuing sociolinguistic scenario in Nigeria marked the beginning of the Foundation phase of Nigerian English, which, according to Schneider (2007:199), and in line with the historical reckoning above, started in the early nineteenth century. As recorded by Falola and Heaton (2008: 97-88), “the schools that the missionaries established focused heavily on speaking, reading, and writing in English...”. The abolition of the slave trade has already been pointed out as the major sociopolitical precipitator for the coming of the missionaries. Another major sociopolitical landmark of Phase 1 in Nigeria was the bombardment of Lagos by the British naval forces in 1851, purportedly to enforce the slave trade abolition, and the subsequent occupation of Lagos by the British (Schneider 2007: 200; Preye 2016: 216-217). We may then conclude that the STL group came in the following order: commercial, religious, and then political. The commercial ambitions of Britain were pursued by the Royal Niger Company, a British chartered company given the official prerogative to operate within the area captured in Figure 3.4 below on behalf of the British government around the Benue and Niger Rivers (Pearson 1971: 69). Thus, the STL group was composed of traders, missionaries, government officials, soldiers and other colonial personnel (Schneider 2007: 200). As these were from different strata of British society, we expect, as Schneider (2003: 244) has hypothesized, that the different varieties of the STL strand first harmonized in readiness to mix with the IDG strand.

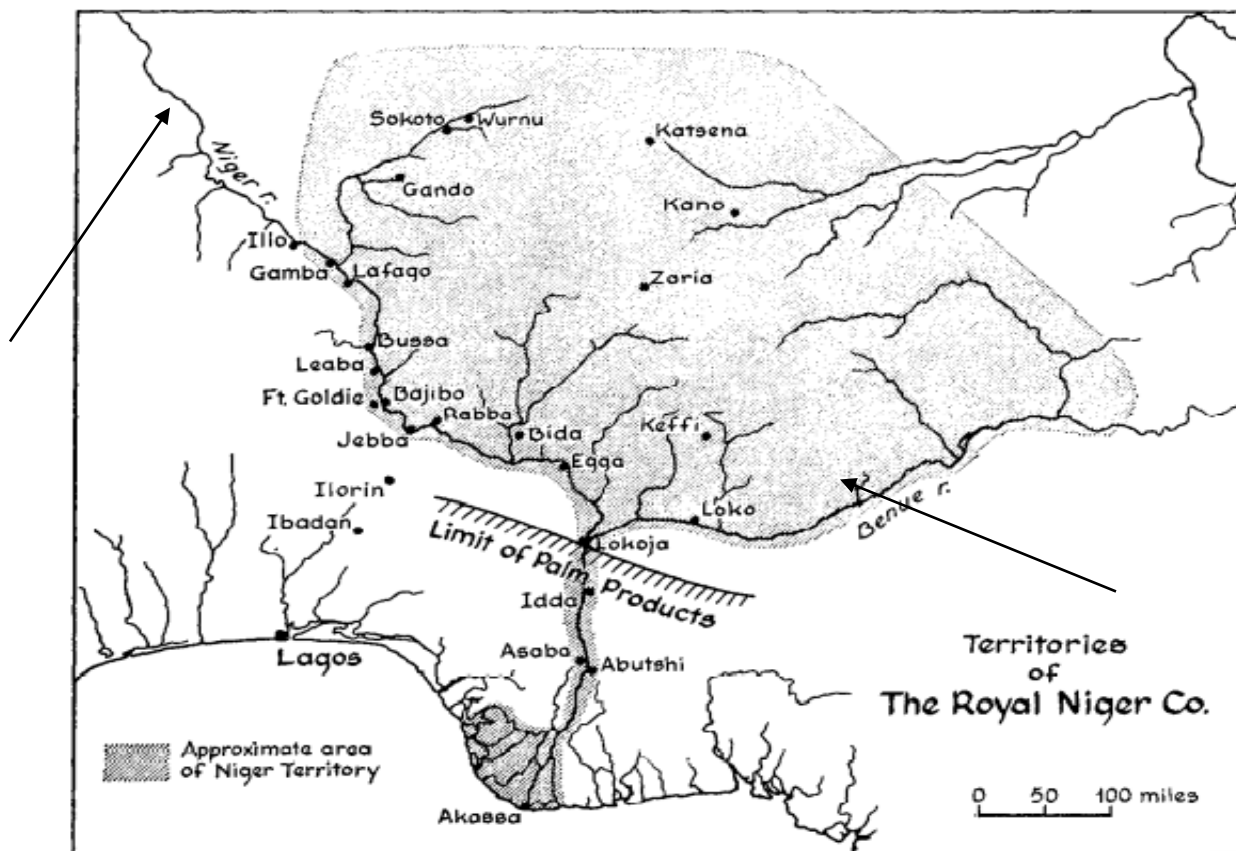


Figure 3.4: A map showing the (shaded) area covering the commercial and political prerogatives of the Royal Niger Company (RNC) as well as other important locations such as Lagos not under RNC; from Pearson (1971: 72).

One might envisage a general feeling of suspicion and hostility by the local population towards the Europeans, owing to the harrowing experience of the slave trade. But Schneider (2007: 200) observes that there is a dearth of information about the kind of contact situation that held during these times between the STL and IDG groups. Banjo (1996: 13, 15) speculates that intermediaries must have been either some of the repatriates who had not lost their indigenous languages, such as the renowned Bishop Ajayi Crowther, the first African bishop, or some locals who must have had some forms of English via their previous trade relationship with the Europeans.

In terms of identity construction, the STL group perceived themselves as citizens of a culturally superior homeland, as Banjo (1996: 15) notes that the communication between, for example, the missionaries, who were more integrated into the IDG group than other STL blocs, and the indigenous population was “hardly to be...between equals”. On the side of the IDG group, English was associated with so much prestige that they were often ready and eager, if circumstances permitted, to be assimilated into the British

cultural world (Banjo 1970: 64). We can then assume that the upward social mobility aspirations of the locals provided a fertile ground for the transplantation of English. Thus, “a new system of education came to be superimposed on the indigenous systems, the latter being banished more and more to the periphery until reduced to virtual non-existence” (Banjo 1996: 15).

DM Phase 2: Exonormative Stabilization (1900-late 1940s)

Schneider (2007: 201) places this phase in the evolution of English in Nigeria between 1900 and the late 1940s, although as will be seen later, some exonormative trends still persist till today. In line with the uniformitarian observation of Mufwene (2004: 212) that “trade colonies generally evolved into settlement or exploitation colonies”, the British colonial administration took over from its mercantile company, the Royal Niger Company, on January 1st, 1900, and the immediate sociopolitical motivation for the takeover was the need to activate the full presence of the British government in Nigeria against French and German-backed protectorates (George *et al.* 2021: 192). Thus, English gained a deeper penetration into the sociolinguistic fabric of Nigeria as the official “language of administration, education, commerce, and the law” (Schneider 2007: 201). Indeed, the new political configuration swelled the STL group as it created the need in the government for more British nationals, who came in large numbers, and the majority of whom, according to Schneider (2007: 202), were members of the upper/middle class and whose speech was Standard British English and RP-based. Thus, the exonormative norm became the standard in the country (Schneider 2007: 202). As Banjo (1970: 64) records, Nigerians were taught Standard British English because “in church as well as in State, there was need to produce a Nigerian elite to help the missionaries and the colonial administrators”. Suffice it to say, and as has been hinted at already, this exonormative disposition, according to Bamgbose (1992:148-149), has dogged the evolution of English in Nigeria. Perhaps, we may say that the presence of native British speakers, especially those who were teachers during this phase, must have helped a great deal in the early successful implantation of Standard British English, as suggested by Banjo (1996: 22-23) with a particular reference to the more acrolectal quality of English spoken in the northern part of Nigeria where there was a higher preponderance of British teachers at the time. Such success would later dwindle to a level, as it is at the point of this study, where the British exonormative norm exists (although elusively) only within narrow pedagogical confines. This reality is captured by Bamgbose (1992: 149) thus: “in our teaching and examinations, we concentrate on drilling and testing out of existence forms of speech that even the teachers will use freely when they do not have their textbooks open before them”.

Apparently, therefore, formal education became a veritable channel for propagating English (Schneider 2007: 202). But the other two main British ‘sectors’ i.e., the missionaries and the colonial government,

did not have the same goal, and consequently not the same approach to education. The target of the missionaries was to produce an IDG group that would be bilinguals of English and their respective indigenous languages, while the colonial government was only interested in maintaining *Pax Britannica* by pursuing the education of a few members of the elite who would make their contributions to the empire (Banjo 1996: 16-17), and thus were not as interested in the development of the indigenous languages as the missionaries were. The colonial policy that created an immediate need for such elites was the famous indirect rule, an administrative system in which a few members of the IDG group served as the interface between the colonial government and the rest of the IDG population (Schneider 2007: 201). Bamgbose (1996, cited in Schneider 2007: 202) recounts the ensuing linguistic scenario thus: “the first crop of Nigerian District Officers behaved as though they were British. They spoke English even to those with whom they shared a Nigerian language and their speeches were translated to appropriate Nigerian languages”. Of course, as has been noted, the controlled exposure of a select few from the IDG population to the scholastic variety of English was a recipe for the indigenization that characterizes the next phase (Mufwene 2008: 186; Schneider 2007: 24-25). Perhaps, it may be correct to state that the entrenchment of the scholastic variety might have been responsible for the inability of most Nigerian speakers of English, as noted by Banjo (1996: 99-100), to engage in the (native) informal varieties of the language. Of course, NPE became the ready linguistic complement of English for this sociolinguistic function. As Schneider (2007: 202) notes, “The expansion of English in formal domains had its counterpart in the spread of Nigerian Pidgin in everyday informal contexts”. An inescapable linguistic reality of this Exonormative Phase, however, as revealed by Schneider (2007: 203), is the incorporation of loan words from the IDG strand, such words as *juju* (charm), *akara* (bean cake), *sokoto* (a kind of traditional trouser) etc., all of which map out sociological domains peculiar to Nigerian flora, fauna and culture, and for which no exact equivalents existed in the exonormative code. What probably remains to be said, in relation to the differences in the methods and goals of the missionary societies and the colonial government in terms of formal education, is that the common denominator was the dominance of English over the indigenous languages.

The identity construction scenario at this phase of the evolution of English in Nigeria was such that the STL group presented themselves as being representatives of their British home-country but in line with the DM, became differentiated from their compatriots back at home by “the realities of the tropics, and were personally molded by the colonial experience” (Schneider 2007: 202). The IDG group, on the other hand, indeed perceived the STL members as ‘other’ people but not with whom to draw a hostile boundary; but often as representatives of a prestigious culture into which they longed to be assimilated.

DM Phase 3: Nativization (1940-)

Schneider (2007: 204) dates this phase from the late 1940s and up until a yet-to-be-identified time, thereby implying that some componential features of this phase are yet to be realized in Nigerian English. Two major sociopolitical precipitators of this phase – though external to the Nigerian English setting – were World War II and the political independence of India (Schneider 2007: 204). The relevant mood set in motion by these two events, a mood we can safely say must have spread like a wildfire among the IDG population, is captured thus by Ubaku *et al.* (2014: 60; my parenthesis):

(Nigerian) soldiers had witnessed that the whites were not superior to the Africans, following the defeats of the British by the Japanese in the Far East. Furthermore in India, these soldiers came in contact with Indian strong nationalistic feeling. They saw people who were not better off (sic) about to be granted their independence.

As we expect language to respond to external (i.e., extralinguistic) stimuli, and in line with the DM projection for this phase, a new variety of English emerged, “shaped strongly by phonological and structural transfer phenomenon” (Schneider 2017: 50). One may hypothesize that the WWII demystification of the British also thus came with corresponding linguistic effects, particularly of emboldening Nigerians to begin to reconfigure the English they had been exposed to. Indeed, Schneider (2007: 41) characterizes this stage as a point where the aspiration for political independence and linguistic independence gained “...momentum and confidence as time passes by”. A major sociolinguistic phenomenon of this in Nigeria was the very high preponderance of bilingualism in English, and, at least, one indigenous language among the IDG group (Schneider 2017: 50). Since, as Schneider (2010: 373) notes, “the burden of linguistic adjustment typically fell upon the indigenous populations”, Banjo (1970: 65) also confirms that the number of English-speaking Nigerians rose enormously at this historical point. One may safely assume that the higher the population of such speakers, as English had to interact with a wider spectrum of ecologies than had been the case in the previous phase, the more innovation there would be, thereby activating nativization.

As already noted, the general feeling among the IDG-strand members at this time was centered around agitation for political independence, which finally came through in 1960. As expected, there was the characteristic weakening of the tie between the elites of the IDG group and the colonial power⁴¹,

⁴¹ There is a kind of role swap here between the settlement colonies (e.g. America) and the exploitation colonies such as Nigeria since the weakening of the tie is typically between the STL group and the mother country in the former. See Schneider (2007: 40) for details of this in the general DM.

culminating in independence (Banjo 1996: 17). However, there was, after independence, as projected by Schneider (2007: 42), a remaining desire for cultural and psychological attachment to the colonial power, as Nigeria joined the Commonwealth of Nations in the same year of its independence (Ubaku *et al.* 2014: 65). Perhaps, the continued membership to such an organization is part of the tiny thread holding up Standard British English and RP as the standard within Nigerian pedagogical circles. Indeed, Schneider (2007: 42) submits that “... the desire to maintain contacts with the formal colonial power and to participate in international communication have the same effect as the physical presence of large numbers of English speakers”.

Furthermore, the desire for linguistic independence following political independence, which Schneider (2007: 41) associates with the nativization phase, took a rather radical dimension in the case of Nigeria. In the early sixties, thus the very decade of independence, the Nigerian government, pressured by Nigerian nationalists’ campaigns, decided to lower the significance of English at the national level (Banjo 1996: 18). This development, which was tagged by Banjo (1996: 19) as nationalistic in the attitudinal evolution towards English in Nigeria, saw the then government implementing the policy that a pass in English was voided as a prerequisite for the award of a school certificate by the West African Examination Council (WAEC). Needless to say, however, this negative attitude towards English waned and a positive universalist attitude soon prevailed again, “... an attitude which recognizes English as the most important international language... [and which] has encouraged the adaptation and appropriation of the language for the country’s practical and aesthetic needs...” (Banjo 1996: 20; my parenthesis).

A prominent feature of the Nativization Phase, and as evident in Nigeria, is the complaint tradition, a phenomenon which creates an opposition between the educated elite and speakers of the emerging variety (Schneider 2010: 374). Bamgbose (1992: 148) captures this reality in relation to Nigerian English thus: “many educated Nigerians still believe there is no such thing as Nigerian English, even though their own speech and usage provide ample evidence of its existence”. What we probably need to quickly add is that such conservative voices cannot be said to be totally unaware of the linguistic configurations characterizing Nigerian English, but actually, like the deficit linguists, regard them as substandard, and “...seek to sustain the external norm, e.g. by writing letters to newspapers to complain about declining standards in the use of English...” (Adeolu 2021: 84). It is not clear, however, if those in this conservative camp, as Schneider (2007: 43) claims, are thus exhibiting an identity in solidarity with the British cultural milieu. If so, we might conclude that they are a kind of relic of the assimilationist propensity of the exonormative stabilization phase.

Cognizance must also be taken of the domain expansion of NPE at this point in time, brought about by greater post-independence interethnic interactions, not only among the majority of the population, whose only lingua franca it is, but also among the elites, who resort to it for informal communication (Schneider 2007: 205). This is amply represented in Table 3.2 in Section 3.4 below. In fact, Adeolu (2021: 88), echoing Schneider (2007), has put up NPE as one of the promising candidates for the role of a national language, “a homogenous variety devoid of ethnic differences...”. Certainly, however, without “a fundamental reversal of official language attitudes and language policy...” (Schneider 2007: 212), NPE may forever be confined to the role of “familiarity or of comic discourse” (Banjo 1996: 32). Also, its registers and grammar would have to be developed enough for the conduct of national business (Banjo 1996: 30). In relation to these criteria, acrolectal Nigerian English obviously fares better.

The linguistic effects of the nativization phase in Nigeria, of course, and as presented in the DM, include structural nativization, a set of morpho-syntactic configurations peculiar to Nigerian English, cases of phonological transfer and heavy borrowing of lexical items from the indigenous languages; as well as code-mixing (Schneider 2017: 50; Schneider 2007: 209). Evident instances of such nativized structures and forms will be seen in the fully-fledged discussion on contemporary Nigerian English in section 3.4 below.

DM Phase 4: Endonormative Stabilization

As has been variously noted, Nigerian English, in spite of its distinctiveness and being widely acknowledged by linguists within and outside Nigeria, is yet to be officially recognized and, for example, to be adopted as a model for teaching in schools. Consequently, we may conclude that there is no codified, homogenous local standard (Schneider 2007:212). These are significant criteria for endonormative stabilization. Still, significant efforts have been made *towards* such codification through the publication of dictionaries and grammar guides (Schneider 2007: 212; Jowitt 1994: 23; Adeolu 2021: 85). Indeed, other characteristics of phase 4 are already present in Nigerian English. Literary creativity, a notable feature of this phase, has grown to such a level that Nigerian authors have received prestigious international awards, such as the Nobel Prize in Literature given to Wole Soyinka, the first Sub-Saharan African to receive such an award (Banjo 1996: 20). Another important element of phase 4 is the shift from the terminology “English in Nigeria” to “Nigerian English”, the latter having become a widely accepted term among Nigerian and non-Nigerian linguists. It seems obviously the case that the educated Nigerians who refute the existence of Nigerian English, as noted by Bamgbose (1992: 148), are either deficit-linguistics-oriented scholars (discussed in section 2.2) who consider linguistic innovations in the Outer Circle varieties of English as errors; or are those who mistake the term ‘Nigerian English’ for

substandard varieties (such as Banjo's Varieties I and II discussed below) including NPE (Schneider 2007: 207). The ironical twist is that even for those who deny the existence of Nigerian English, "their own speech and usage provide ample evidence of its existence" (Bamgbose 1992: 148). All of this shows that while endonormative stabilization is not "just around the corner", as remarked by Schneider (2007: 210), Nigerian English may, at least, be on the border between Phase 3 and Phase 4 of the Dynamic Model. Thus, Schneider confirms (2010: 381) that "in many real contexts subsequent phases overlap...".

3.4 Nigerian English

Having placed English in Nigeria in the proper socio-historical context, we can now begin to consider the concept of Nigerian English. But it needs to be stated up-front that Nigerian English is, by all standards, a *bona fide* member of such dialectal terminologies as *World Englishes*, *New Englishes*, and, of course, *Postcolonial Englishes* (Obiagbu 2018: 108). It is also perhaps worth noting that Nigeria is one of the countries that have the highest number of speakers of English with highly heterogeneous sociolinguistic variables such as ethnicity, indigenous languages, and education (Gut and Fuchs 2013: 244).

Two entry points have been offered for the conceptual definition of Nigerian English. The first one is an inclusive definition in terms of which Nigerian English is defined as encompassing all instances of English usage by Nigerians, thus including a wide spectrum of sociolinguistic variants (Banjo 1996:92). Conversely, Nigerian English can be seen exclusively as "Nigeria's distinctive currency in the international market of English", that is, the Nigerian version of the standard in the pool of international standards of English (Banjo 1993: 263), and thus, of course, exclusive of NPE. Rendered differently, Nigerian English in this latter sense is "an almost distinctly Nigerian variety of the English Language...which is at par with and has as much vitality as any other variety of English" (Adetugbo 1984: 17). Being a conglomerate of all instances of English spoken in Nigeria, the referent of the inclusive definition ranges from the Nigerian English that is most characterized by mother-tongue influence and learner's errors at one end to the most refined variant, otherwise known as the standard or educated Nigerian English at the other end (Ekpe 2011: 93, 97). Lending credence to the existence of the latter (i.e. exclusively defined, acrolectal Nigerian English), Odumuh (1987 cited in Ajani 2007: 1) regards it as "...a single superordinate variety of standard English in Nigeria which can be regarded as Nigerian English".

Mention probably also needs to be made again of pundits who do not believe in the existence of Nigerian English. Ajani (2007: 2) cites Vincent (1974) as claiming that what is erroneously regarded as Nigerian English is "bad English". In fact, Bamgbose (1992: 148) quotes an unnamed TEFL (Teaching English as a Foreign Language) Nigerian expert who asserts that "I do not believe that there is Nigerian English now

in the linguistic, demographic, and sociological senses in which there is an American English, Australian English and British English”. Equally, Salami (1968, as cited by Banjo 1996: 74) expresses skepticism about the possibility of there being a standard Nigerian English, due to the proliferation of variants which he (Salami) regards as errors. Invariably the orientation of these pundits is exonormative, which fits in well with the complaint tradition associated with the Nativization phase of the DM. Their error of judgment, as Banjo (1996: 92) concludes, is arguably motivated by what seems to be their failure to distinguish between a non-standard Nigerian English, which is characterized by “errors of imperfect learning”, and standard Nigerian English which exhibits “acceptable Nigerianisms”. Furthermore, one may argue that a ready antagonism against the existence of Nigerian English is the continued reflex of the retention of Standard British English and RP as the model of teaching in the educational sector.

3.4.1 *Varieties of Nigerian English*

As has been implied above, varietal differentiation within Nigerian English helps to invigorate the argument that, as much as there is the stigmatized variety due to the characteristic mother-tongue interference and learner’s errors, there is a Nigerian English that enjoys intra-national (i.e. internal) prestige as well as international currency.

Generally, varieties of Nigerian English have been identified using social (e.g., educational), diatopic (i.e., geographical) and diatypic (domains of usage) parameters. The first attempt to differentiate varieties of Nigerian English was that of Brosnahan (1958), which was based on educational stratification. His study identifies four varieties on the basis that “speakers of English in Nigeria encompass all gradations from British educated speakers of an approximation to the Received Pronunciation...to the large numbers whose knowledge of English is limited to a few words of a pidgin variety” (Brosnahan 1958: 99). Thus, Level I (sticking to Brosnahan’s style of labeling the varieties) is the English speech of those who have not been exposed to formal education. Basically, Brosnahan characterizes this variety of Nigerian English as a pidgin. The implication of this is that NPE is taken to be a variety of English in Nigeria, rather than a distinct language⁴².

Level II is the variety of Nigerian English spoken by those whose educational exposure has not gone beyond primary school. We may conclude that the English of this variety, which is “the most widely spoken and heard form of English in Nigeria”, is limited not only because of the “little contact with the colloquial standard”, as put forward by Brosnahan (1958: 100), but also by the educational policy which stipulates the use of the indigenous language of immediate environment as the language of instruction in

⁴² A full discussion on the status of NPE is available in Section 3.4.2 below.

the first three years of the six-year primary education period (Schneider 2007: 204). The variety of English spoken by Nigerians with only secondary school educational attainment is labeled as Level III. The sociolinguistic factors that carve out this variety of English, as Brosnahan (1958: 100) notes, include the presence of few university graduates and few native speakers of English as teachers as well as pedagogical syllabus contents that are more advanced than those that the Level II speakers have been exposed to. Lastly, the Level IV variety is spoken by Nigerians who have had a university education, and whose English is the closest to the so-called native varieties.

Banjo (1993: 264) considers Brosnahan's categorization of Nigerian English as too simplistic as it imposes a pre-determined structure (of education) on the data rather than allowing an objective analysis of linguistic data to yield the categorization structure. But perhaps more importantly, the weakness of this varietal differentiation is that some of the variables involved are time-bound. For instance, as rightly observed by Jowitt (1991, cited by Banjo 1993: 264), the three-tier educational structure (i.e., primary, secondary, and tertiary) on which Brosnahan's categorization is based is no longer obtainable in Nigeria, which now has a four-tier (primary, junior secondary, senior secondary, and tertiary) education system. In addition, contact between Nigerian students and native speakers (as teachers) is now a very distant reality, unlike it was during the time of the study. However, it must be noted, in an objective appraisal of the study, that Brosnahan factors in some determinants, though in passing, beyond levels of education. According to him, "...naturally opportunity for its use, innate ability and intelligence, perseverance with schemes of private studies and correspondence schools all tend to smooth out the differences left by different opportunities of formal education" (Brosnahan 1958: 100). Obviously, these are not time-bound variables.

Banjo (1971; 1993; 1996) has refined the classification by replacing Brosnahan's educational determinants with linguistic determinants and incorporates the twin criteria of social acceptability (within Nigeria) and international intelligibility as the litmus test for identifying the variety that can be regarded as the local standard. Like Brosnahan, Banjo's varietal categorization is meant to sift standard Nigerian English off from the non-standard varieties. The aim of identifying the Nigerian version of standard English, for Banjo (1971:173), is to find "a model to be cultivated in schools, by radio announcers, and by other people who are capable of influencing how people speak". Also, like Brosnahan, Banjo identifies four varieties of Nigerian English as discussed below.

Banjo's Variety I, like Brosnahan's Level I, is the variety spoken by Nigerians who have picked up English outside the educational system. Such Nigerians have to speak English to meet the day-to-day need of interacting with other Nigerians outside the boundaries of their respective indigenous languages

(Banjo 1986: 42). But unlike Brosnahan's Level I, Variety I is not NPE but, at the minimum, broken English, the reason being that Banjo, unlike Brosnahan, as already discussed above, does not consider NPE as a dialectal variety of Standard Nigerian English but as a distinct language in its own right. But why Banjo's Variety I speakers would not rather opt for pidgin, which, according to him (1996:3), is "much akin to that of the neighbouring indigenous languages", and thus expected to be easier to speak for them, remains a little obscure. In any case, Variety I 'suffers' the heaviest from mother-tongue interference as it is characterized by "wholesale transfer of phonological, syntactic, and lexical features of Kwa or Niger-Congo to English" (Bamgbose 1992: 149). Indeed, Banjo (1986: 41) has noted that those who speak this variety are operating in terms of "the thought-channels of an indigenous Nigerian language with overt English words". So, equally, the phonemic system of the mother-tongue is imposed on this level of English, such that, for example, the phonemic contrast between long and short vowels (e.g. /i:/ and /ɪ/) is obliterated as such a contrast is absent in the indigenous languages. As a result, homophonies that interrupt international intelligibility ensue. For instance, *sue* /su:/ and *zoo* /zu:/ are homophonous in the speech of Yoruba speakers of Variety I because the voiced alveolar fricative /z/ is non-existent in the Yoruba phonemic system. At the supra-segmental level of this variety, the syllable-timed rhythmic system of the indigenous languages replaces the stress-timed rhythm of English, as also generally noted by Gut (2004: 827). Also, Banjo (1996: 77) submits that the neutrality of such syntactic features as tense, number and gender in the indigenous languages makes the speakers of Variety I produce such sentences as:

1. *⁴³I buy it yesterday.
2. *The books on the table is mine.

But some deviations that characterize this variety are not products of mother-tongue interference but of imperfect language learning, such as overgeneralization resulting in expressions such as:

3. *He gave me *advices*.

Variety I is also limited in terms of vocabulary such that superordinate words are used rather than the particular hyponyms (e.g., *animal* instead of *horse*) (Banjo 1986: 43). This variety is not socially acceptable within Nigeria as it is stigmatized as illiterate nor is it internationally intelligible due to the characteristically heavy mother-tongue transfer (Banjo 1971: 169).

⁴³ An asterisk, in line with the convention in grammar, indicates an ungrammatical structure (Quirk, and Greenbaum 1973:v); in these cases, ungrammatical from a standard English 'perspective'.

Variety II is spoken by Nigerians who have had only a minimal exposure to education. Bamgbose (1992: 150) has correlated Brosnahan's Level III with Banjo's Variety II. Banjo (1993: 267) characterizes Variety II as being different from Variety I in "degree" rather than in "kind". In other words, substantial linguistic characteristics of Variety I still resurface in Variety II but at a lower proportion, owing to the influence of, at least, primary, and, at most, secondary education. Spoken by around seventy-five percent of the English-speaking population (Bamgbose 1992: 150), this variety shows some minimal phonemic contrasts (such as in the fricatives/affricates /s/ and /z/, /ʃ/ and /tʃ/ etc.) while vowels, especially the central ones (i.e., /ʌ/, /ə/ and /ɜ:/), as in Variety I, are still subject to the mother-tongue's 'limitations'. Banjo (1993: 268) further reveals that the major distinguishing factors between Variety I and II are in the richer vocabulary and the more refined syntax of the latter. Due to the high degree of mother-tongue influence on these two varieties, Banjo (1996: 96) has categorized the speakers of both as incipient bilinguals. In terms of the criteria for being regarded as standard Nigerian English, Banjo (1971: 169) submits that, although Variety II enjoys social acceptability apparently as a result of the demographic advantage of its speakers, it is low on the criteria of international intelligibility, obviously because of the confusion resulting from the mother-tongue 'incursions'.

Variety III, spoken by less than ten percent of Nigerians, constitutes the acrolectal variety of Nigerian English (Banjo 1996: 78)⁴⁴. This, certainly, is owing to its similarity (not sameness) to standard British English in phonology, syntax and semantics. Banjo (1971: 169) observes that the qualities that confer Nigerianess on this variety of Nigerian English are phonetics (e.g. /ɜ:/ may not be as central as it is in RP) and some lexical peculiarities. Examples of such lexical peculiarities, as identified by Schneider (2007: 203), include *akara* (beancake), *oba* (a title of mostly Yoruba traditional rulers), *elubo* (yam or cassava flour etc). Such lexical items, we may conclude, will continue to flourish in Nigerian English since they lack alternatives outside the Nigerian context. Other structural nativizations, a feature of phase 3 in the DM and associated with Variety III, include the following:

1. Special collocations, e.g. *not/on seat* (to be absent/present at one's desk or office).

go-slow (traffic jam/deadlock)

2. Semantic shift, e.g. *a corner* (a bend in a road)

to wet (e.g. flowers) (to water flowers)

⁴⁴ We can thus take Variety I and Variety II as basilectal and mesolectal varieties respectively.

3. Peculiar idiomatic expressions, e.g. *off-head* (offhand)

to take in (for a woman to become pregnant)

4. Consciously translated proverbs from indigenous languages, e.g. *proverbs are the palm oil with which words are eaten* (proverbs ease communication)

“a word is enough for the wise (wise people do not need too many details)

(Bamgbose 1992: 155-157; Banjo 1993: 270-271; Schneider 2007: 20-210)

Variety III is obviously then the English referenced in Achebe's quotation at the opening of this chapter, the Nigerian English “still in full communion with its ancestral home but altered to suit its new African surrounding” (Achebe 1965: 30). This variety has high intra-national (social) acceptability, as it enjoys overt prestige among the speakers of Variety I-II, and equally sufficient international intelligibility since it is free from the regional markedness in phonology that characterizes the two ‘lower’ varieties. Therefore, this variety has been proposed as the standard for codification and official adoption to replace standard British English and RP in the educational sector (Banjo 1971: 170). Obviously, then, this variety is the referent of the term ‘acrolectal Nigerian English’.

Variety IV, spoken by a very negligible number of Nigerians who have either been born and bred in any of the Inner Circle countries or those who have native speakers as parents, is a native variety by all linguistic reckonings (Banjo 1986: 46). The singular reason for the inclusion of this English as a variety of Nigerian English is the Nigerian citizenship of its speakers. Of course, this variety rates higher than Variety III on the scale of international intelligibility but ranks very low on internal, social acceptability as it is highly stigmatized as being snobbish or affected within Nigerian society (Banjo 1971: 170). Bamgbose (1992: 158), however, considers it unsatisfactory to include Variety IV as a variety of Nigerian English as it is totally a native variety in all its linguistic properties. For this study, we may concur with Bamgbose that Variety IV indeed does not have any relevant sociolinguistic implications in Nigeria. In response, however, Banjo (1993: 272) has noted that speakers of this variety do settle into Variety III after a few years of living in Nigeria⁴⁵. This merging, it seems, is no doubt a response of the speakers of Variety IV to the local social stigmatization of the variety, a clear manifestation of accommodation and identity theory (Schneider 2007: 26-28).

⁴⁵ On a methodological level for this study, this implies that there is no chance of having variety IV speakers as research subjects since the newscasters must have been resident in Nigeria for a long while.

Other existing attempts at varietal differentiation on a socio-educational level are basically modeled on the two foregoing schemas. For instance, Schneider (2007: 206) observes that Banjo's varieties I, II, and III correlate with Udofot's (2003) 'Non-standard', "Standard", and "Sophisticated" varieties. We may submit, as the final note on this topic, that although the purpose of identifying the varieties is to isolate the standard from the non-standard, every variety has its own crucial sociolinguistic functions, which are open to further research.

Banjo (1996: 73) explains diatopic stratification vis-à-vis Nigerian English as geographical varietal differentiation which captures the regional sociolinguistic realities. A major regional element at the root of this source of variation is the various indigenous languages, and so one would naturally expect a messy scenario in Nigeria since, for example, according to *Ethnologue* (a data pool of languages as cited by Taiwo (2013: 410)), there are 521 languages in Nigeria. Acknowledging this reality, Banjo (1979, cited in Okoro 2004: 164; my parenthesis) notes that "there are, theoretically, as many geographical varieties [in Nigeria] as there are indigenous languages on which it [English] has been superimposed". However, genetic relatedness among these many local languages has made it possible to streamline regional varieties of Nigerian English into Northern (Hausa-based), Western (Yoruba-based), and Eastern (Igbo-based) sub-varieties (Jibril 1986: 50-51; Banjo 1996: 93). Jibril (1986: 51), however, notes that even between these varieties the distance is diminishing. One expects this gap, though, to completely close only among speakers of the acrolectal, educated variety, such as Banjo's Variety III, on whom social pressure is most active. This shows some level of interaction between geographical variety and the educational/social variety discussed earlier. In particular, the extent to which the speech of an individual is indexical of regional/geographical idiosyncrasies is determined by the level of their educational/social attainment. In other words, the more educated a speaker is, the less his English would be marked by regional peculiarities. So, within each variety, of course, except variety IV, but especially varieties I and II, we would find different regional influences, mainly in terms of phonology (Banjo 1986: 47). For instance, because the voiced alveolar fricative /z/ is absent in the phonemic system of Yoruba, *zip* /zɪp/ and *sip* /sɪp/ are homophonous in the speech of Yoruba speakers of variety I (Banjo 1996: 76). For the Igbo speakers at the lower level of the continuum, *gate* and *get* are homophones since Igbo [e] (which many Igbo speakers tend to use for the FACE vowel) and [ɛ] are both allophones of the Igbo phoneme /e/ (Dunstan 1969: 94). In the northern (Hausa) regional variety, one of the shibboleths is the substitution of /f/ for /p/.

Diatypic varieties are products of variation across different domains or contexts of use (Banjo 1996: 74). Specifically, they are varieties as determined by field, tenor, and mode of discourse (1986: 47). Field has to do with the topic or subject of discourse (Halliday and Matthiesene 2014: 33), and so field will

manifest, for example, in terms of the register used while discussing a particular topic. Tenor, broadly divided into formal and informal poles in Banjo (1986: 48), has been fine-tuned into a four-point scale of “frozen, formal, consultative, and intimate” in Banjo (1996: 100). The mode borders on medium which can either be spoken or written (Halliday and Matthiesene 2014: 34). So, drawing from Adesanoye (1973), in which the writing competence of Nigerians is graded based on their level of education (1 for primary school leavers, 2 for secondary school leavers, and 3 for university graduates), Banjo (1996: 87) uses the schema below in Figure 3.5 to show the relationship between spoken and written varieties of Nigerian English:

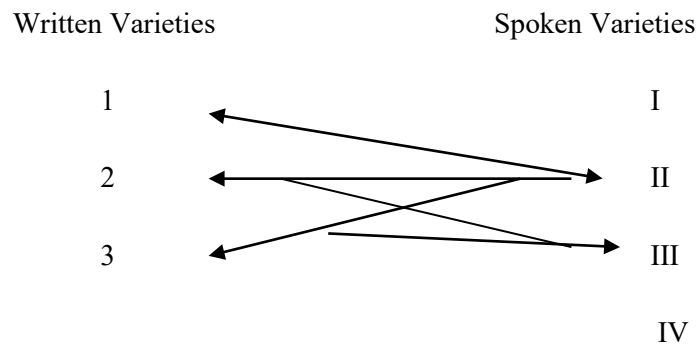


Figure 3.5: correlation between written and spoken mode of Nigerian English. Source: Banjo (1996: 87)

The implications of the above figure, according to Banjo (1996: 88), are as follows:

1. Speakers of Variety I do not have any identifiable written variety. This is not surprising considering the fact that they do not have any formal education, and have only picked up English, as it were, on the street.
2. Variety 1 writers are likely speakers of Variety II.
3. Variety 2 writers can be speakers of either Variety II or Variety III.
4. Variety 3 writers can equally be speakers of Variety II or Variety III.
5. Since the written varieties are graded strictly according to the level of educational exposure, Banjo has treated Variety IV as not being correlative with any written mode of Nigerian English because it is not “the product of the Nigerian educational system” (88). But since it is expected that the speakers of this variety would have been exposed to some level of education in the particular Inner Circle countries they grew up in, which would have made them literate, they may not be less than Variety 2 writers in competence. In any case, their socially stigmatized spoken variety is disqualified as a candidate for codification and adoption as standard Nigerian English.

Meanwhile, we may note with Banjo (1986: 47) that field and tenor diatypic variation is only mastered in Varieties III and IV, as a result of the speakers' general ability in English. In other words, speakers of these varieties are able to vary their use of the language accordingly. Conversely, the English of Varieties I and II is characterized by diatypic "stiffness" and "invariability" in that its speakers are unable to operate, for example, in the informal tenor.

On a final note, it is hardly surprising that substantial scholarship on Nigerian English has revolved around the identification and definition of what should be considered as the standard, considering its need to cross the hurdle of codification and adoption. The codification, at this point, however, is perhaps hanging more in the political balance rather than the linguistic balance as "the issue of national unity versus tribal rivalries" still persists (Schneider 2007: 210). While we await this requisite sociopolitical stabilization, there is the need to continue to refine the linguistic end. For example, the phonological data used for describing varietal distinctions above were obviously impressionistically derived. There is thus the need for more accurate descriptions of the phonological variables through instrumental means, the gap the current study is poised to fill. Also, we need to know if there is gender-based variation in the standard Nigerian English accents in terms of approximation to the two dominant native standards, i.e., RP and GenAm, an area which, as far as I know, is yet to be investigated. Citing Eze (2015), Amadi, Nnamani, and Ani (2023: 100) note that differences in linguistic forms occur in co-variation with gender differentiation as presented by the society. Indeed, Nigeria is a patriarchal society where men are accorded higher social prestige than women and the former culturally presented as being better leaders than the latter (Ademuson 2016: 24-25). For instance, more men are given more access to the public life than women (Dyrenko and Fuchs 2018:2564). Egbue (2012: 19-22) attributes the low representation of the female gender in the public to the cultural role allocation that burdens women with far more domestic roles (such as cooking of meals, housekeeping, children upbringing) than men. Meanwhile, we may note with Kperogi (2015: 91; my parenthesis) thus: "that it [i.e. Nigerian English] has not been consciously codified and systematized is inconsequential to its materiality". In fairness to Nigerian linguists, however, serious attempts have been made towards codification. Adeolu (2021: 85) remarks that Igboanusi (2002) published the first dictionary of Nigerian English, followed by Blench and Dendo (2005), Adegbite, Udofot and Ayoola (2014) as well as a book-length guide to the grammar of Nigerian English by Okoro (2011). What is indeed not yet in place, according to Schneider (2007: 212) is "an explicit codification" generally accepted by all Nigerians.

The argument regarding the existence of Nigerian English will probably not be complete without digging into the status of NPE in relation to the above-analyzed varietal differentiation of Nigerian English. This is more so as a major discrepancy between Brosnahan's and Banjo's schemes discussed above is that

whereas the former recognizes NPE as a variety of Nigerian English (his Level I) spoken by those who have not been exposed to formal education, the latter does not recognize NPE as a variety of Nigerian English at all, and so does not feature it in his varietal categories of Nigerian English.

3.4.2 *Nigerian Pidgin English and its Status*

Two broad perspectives exist as to the linguistic status of NPE. The first is that which claims that it is a stage in the varietal continuum of English in Nigeria. This view has been inspired by De Camp's (1971) idea of a Creole Continuum which, according to Akande (2010: 3), is expanded by Todd (1974) into the idea that where an English-based creole (or pidgin, as in the case of most of Nigeria) and its lexifier cohabit, there is a continuum between them. Those who hold this view, according to Banjo (1996:6), categorize all "English-based pidgins...as dialects of English occupying the extreme basilectal point in the dialect continuum". Furthermore, Akande (2010: 3) cites Tod (1994) as claiming that indeed there is a continuum of Nigerian English that includes NPE at the most basilectal end and Standard Nigerian English at the most acrolectal end. Akande (2010: 4) then uses the following equivalent but variously realized NPE sentences and their Standard English equivalent to illustrate these two ends

A bin kam, kariam go

. *A kam, kariam go*

A kam, kariam awe

A kam and kari it awe

I came and carried it away.

The idea, from this perspective, is that the same deep structure underlines the various above sentences, all of which, of course, have the same semantic implication. While we may not agree that just one instance of interrelated sentences, as above, is enough to prove a continuum relationship between NPE and Standard (Nigerian) English, the argument is not altogether dismissible. For one, at least, the same superstrate and substrate⁴⁶ were responsible for the emergence of both, albeit with a different level of contact intensity. Also, if we factor in the parameter of intelligibility, NPE is obviously closer to English than it is to any indigenous language. As Brosnahan (1958: 100; my parenthesis) notes, "to the speaker of RP, it [NPE] is almost unintelligible at first meeting, though pidgin speakers who come frequently into contact with

⁴⁶ Superstrate and substrate, according to Schneider (2007: 58), correspond respectively, to the Settler and Indigenous strands already discussed in section 2.3 of this study.

Europeans...may use a form of pidgin which is more or less intelligible to the RP speakers". But, then, Schneider (2007: 2) has revealed that intelligibility may be lost in view of peculiarities that characterize different regional varieties of English. In that case, one may indeed categorize NPE as a variety of English regardless of issues of intelligibility. Classifying NPE as a variety of English is consistent with Deuber (2006, as cited in Agbo and Plag 2020: 354; my parenthesis) who, from her study on tense-aspect marking, copula structure and verbal negation, concludes that Nigerian English and pidgin are "two varieties [of English] with no evidence of intermediate varieties".

The second main view is that which holds that NPE is a distinct language in its own right. A major argument in this line is that, although the vocabulary of NPE is substantially English, its grammatical structure and phonology are incongruent with English (Elugbe and Omamor 1991: 61). While other scholars such as Jowitt (1991, cited in Akande 2010: 4) have simply claimed that there is a defining dissimilarity between the grammar of English and that of NPE in order to stress the distinctive language status of the latter, Banjo (1996: 3; my parenthesis) has gone further by submitting that "its [NPE's] grammar [i.e. its syntax and phonology] is much akin to that of the neighbouring indigenous languages". The position of this school of thought, therefore, is that NPE is an indigenous Nigerian language much like Hausa, Igbo, Yoruba etc. To dissociate this pidgin from English, Banjo (1996: 6) names this variety, as some others have done, Nigerian Pidgin (NP) in preference to NPE⁴⁷. However, while it is true that the syntax and phonology of NPE are markedly different from that of English, the same can be said of the basilectal subvariety of Nigerian English i.e. Banjo's (1971: 169) variety I (or Brosnahan's (1958) Level II)⁴⁸. What is more, Banjo (1996: 100) himself has rightly observed how NPE becomes handy where Nigerians are usually unable to use acrolectal Nigerian English for informal purposes, thereby functioning as a kind of subvariety of the language designed for informal sociolinguistic functions, as it is, for example, "regarded as the language of humour par excellence" (99). In consonance with this, Jowitt (1991, cited in Schneider 2007: 207) reveals that "many Nigerians regard Pidgin English as the informal variety of the English language". It is indeed difficult to convincingly argue for the separate-language status of NPE as Agheyisi (1988: 231) has noted that the gap between NPE and Nigerian English is becoming less-and-less. The reference here may, however, be to a variety of NPE that is heavily

⁴⁷ There is even a third nomenclature, Anglo-Nigerian Pidgin (ANP), given by Mann (1993). The justification for this title, according to him, is "...the hybrid origin and nature of the language..." (197).

⁴⁸ As an addition to the earlier discussion in this regard, we may note that Bamgbose (1992: 150) has drawn up the following correspondence between Banjo's and Brosnahan's varietal differentiation schemes: Variety I = Level II, Variety II = Level III, Variety III = Level IV

influenced by the structure and forms of acrolectal Nigerian English, which, according to Schneider (2007: 208), is spoken by the educated population. Mann (1993: 171), in particular, has traced this variety to young people from an upper/middle class background.

Whatever the truth about the status of NPE, there are a number of indisputable sociolinguistic facts. Firstly, NPE enjoys higher speakership than standard English, since it is accessible to both educated and non-educated alike, albeit that it is neither officially recognized nor taught in schools (Agbo and Plag 2020: 2; Akande 2010: 5). Thus, NPE meets the first two⁴⁹ of the following four criteria, as highlighted by Banjo (1996: 29-30), for a national language that can replace English:

- a. The current rate of expansion of the language.
- b. The size of the population already speaking the proposed language.
- c. Current state of development of the language
- d. The current image of the language.

NPE does not satisfy the third criteria as it is “...non-formalized, non-graphized...” (Mann 2011, cited in Ofulue 2012: 26). Since the general attitude towards it, as captured by Ojarikre (2013: 127), is that of low prestige, as it is seen as ‘corrupt’ English whose use attracts punishment in some educational settings, it falls short of the fourth criteria as well. As an aside, we may note that its creolization in certain geographical areas implies either a language shift and/or language death in relation to the indigenous language(s) in such places. The current sociolinguistic strength of NPE is captured in Table 3.2 below:

⁴⁹ As per the first criteria, Ojarikre (2013: 126) has revealed that Nigerian Pidgin has expanded from being a lingua franca in just the coastal area to serving that purpose all over Nigeria. In relation to the size of the population speaking it, Balogun’s (2013: 93) study show that 98% and 74% of Nigerians in the informal and formal sectors respectively speak the language.

Table 3.2: domains of NPE (X = no use; *= low degree of use; *= medium degree of use; ****= high degree of use). Source: Ofulue (2012: 22)**

Domains of Use	NP
Administration/Work (Government,Parliament, National/State Assembly)	
Formal	X
Informal	***
Education	
Formal (in class)	*
Informal (outside class)	***
Mass Media (print and electronic)	****
New Media (internet and social media)	***
Political Campaigns	****
Religion (churches)	****
Commerce/Trade	****
Literature (novel, drama, poetry)	***
Entertainment	
Music	****
Humour (comedy)	****
Roles and Functions	
Ethnic/Cultural Identity	X
National Identity	***
Lingua Franca (communicative)	****
Social Identitty (integrative)	****
Group Identity (expressive)	****

What is clearly enunciated in this table is that any domain that requires communication with the generality of people in Nigeria (e.g. religion) must engage NPE. It is, however, unlikely that it will be adopted as language of instruction in schools as it lacks the overt prestige associated with acrolectal Nigerian English (Akande 2010: 6). But then one might expect it to be used as the language of instruction in school, however, in places where it is creolizing and where it thus ought to function as the language of immediate environment for instruction during the first three years of primary education, according to the

government policy on education (Schneider 2007: 204). Unfortunately, it is, however, not officially thus recognized, although a study carried out by Mann (1996: 100) shows that 37% of teachers and students in select Nigerian cities, including areas where NPE has creolized, prefer it as the medium of instruction. Meanwhile, the few but powerful elites use it either for its humorous potential and/or for the sociolinguistic utility of accessing the huge rank of the lower class, a function Standard Nigerian English is unable to perform in Nigeria. Thus, Schneider (2007: 207) notes that NPE "...suffers from the stigma of being nothing but broken English and from its association with socially inferior strata". Perhaps, the best word that summarizes the attitude of Nigerians, especially, the elites, towards NPE, as suggested by Akande (2010: 8), is ambivalence. They venerate it in informal settings, but vilify it in serious, formal discussions.

The argument regarding the status of NPE may go on but if we consider the fact that successful communication takes place between the speakers of NPE and those of standard English, as suggested by Bokamba (1991, cited in Schneider 2007: 208), we might agree with Brosnahan that NPE is indeed a variety of Nigerian English.

3.5 American English and Nigerian English

British colonial rule, as must have become explicit at this point, bequeathed Standard British English and spoken RP to Nigeria as an exonormative standard (Schneider 2007: 201-202; Ogbulogo 2005: 13). Thus, Standard British English and RP are retained to this day as the model for teaching in schools, as it is in many other Outer Circle countries (Schneider 2006: 67), a situation Bamgbose (1992: 149) views as being based on a myth of sorts in the face of the evolutionary reality of English usage in Nigeria. Expressing such a reality, Bamgbose (1996, cited in Honkanen 2020: 12) remarks that "post-imperial English in Nigeria has British origins, but it has now assumed Nigerian garb and acquired some American influences".

Indeed, GenAm is one of the two world reference accents of English, the other being RP. The position of GenAm is certainly not unconnected with "the remarkable political and economic success of the United States in the twentieth century that turned her into a global superpower" (Schneider 2007: 251). We may add the technological prowess of the USA, especially manifested in the form of superior military wares. In relation to the foregoing, Awonusi (1994: 77) identifies "economical, political, educational and cultural co-operation and interaction" as the means through which American English has diffused into Nigerian English. In addition, Igboanusi (2003: 601; 2006: 3) mentions the influence of the mass media, popular culture as well as the American Peace Corps, some of whose members served as English teachers up until 1993.

Some specific areas of the incursion of American English into Nigerian English have been identified. Citing Awonusi (1994), Ogbulogo (2005: 14-17) mentions two areas of phonological influence as follows:

3.0 Yod-dropping (i.e. the elision of the palatal approximant /j/) after coronal consonants⁵⁰, an American English innovation which Wells (1982: 247) terms as Later Yod-dropping, an earlier form of yod-dropping (e.g. in *threw*) being characteristic of both reference accents. Instances of yod-dropping in Nigerian English are in such words here transcribed in pairs such that the first shows the British norm and the second shows the American innovation influencing Nigerian English: *student* [stju:dent], [stu:dent]; *news* [nju:z], [nu:z]; *suit* [sju:t], [su:t]. However, this phonetic phenomenon may equally be traced to the influence of most indigenous Nigerian languages which do not have complex onsets such as CCV but rather simple ones such as CV (Dunstan 1969: 28).

4.0 Tapping of /t/ when it occurs intervocalically to produce either voiced /r/ or /d/ as in *butter* [bʌrə], *water* [wɔ:rə] etc. These examples also show that, although Schneider (2006: 68) lists rhoticity (the post-vocalic realization of /r/) as one of the American English innovations being adopted by other varieties of English, that rhoticity is not yet a reality in Nigerian English. Indeed, Gut (2004: 822) has noted that Nigerian English, like its RP parent, is still non-rhotic.

Igboanusi (2003: 603) says that the influence of American English on Nigerian English is most pronounced in the adoption of American words that have British alternatives. Ogbulogo (2005: 17) provides examples such as:

Particular American English words in Nigerian English	British English Alternatives
i. <i>chips</i>	<i>crisps</i>
ii. <i>connect</i> (telephone)	<i>put through</i>
iii. <i>kerosene</i>	<i>paraffin</i>
iv. <i>duplex</i>	<i>semi detached</i>
v. <i>raincoat</i>	<i>markintosh</i>

⁵⁰ Coronal consonants are consonants such as /d/, /t/, /n/ “produced with the blade of the tongue raised from its neutral position” (Ogbulogo 2015: 14).

Igboanusi (2003: 602) further reveals the propensity of Nigerian English towards deletion of the *to*-infinitive in such verb phrases as “help train”, “enable him achieve” rather than the British variants (e.g. “help to train”).

It seems certain, in the face of the leadership role America continues to play in the global economy and technology, that there would be a corresponding linguistic effect of its English variety penetrating deeper into other varieties, especially those of the Outer Circle and Expanding Circle, that are both norm-developing and norm-dependent respectively.

3.6 Indigenous Language Targets

As already noted in section 3.1, Nigeria enwombs well over 250 ethnic groups and not less than 400 indigenous languages (Banjo 1986: 37). In relation to their sociolinguistic functionality, Adekunle (1978, cited in Emeka-Nwobia 2015: 113) categorizes these indigenous languages into Classes A-C. Class A is made up of Hausa, Igbo, and Yoruba which are officially recognized as national languages and are widely spoken outside their immediate native environment by native speakers of other indigenous Nigerian languages. These three indigenous languages are popularly referenced as the three major indigenous languages of Nigeria, for obvious demographic and political reasons. Ayeomoni (2012: 15) reveals that the sociolinguistic relevance accorded Hausa, Igbo and Yoruba is ascribable to the higher demography of their native speakers, whose joint population, according to Obasohan (2015: 64), constitutes 68 percent of the Nigerian population. Agheyisi (2015: 238) cites the political restructuring of Nigeria, pursuant to the Richards Constitution in 1947⁵¹, into three administrative components- East, West, and North- in which Igbo, Yoruba, and Hausa are the prominent tribes, as the historical basis of the national prestige which these three indigenous languages ascended to. Class B includes such languages as Efik, Kanuri, Tiv etc. which, although they enjoy official recognition, are not spoken outside their native environment. Indigenous languages in Class C, like Kutep, Manda and many other minor indigenous languages, are neither officially recognized nor spoken beyond their locations of origin.

Aside from their sociolinguistic prominence, Hausa, Igbo, and Yoruba represent the major genetic categories of the Chadic branch of the Afroasiatic phylum and the Niger-Kordofanian phylum (Agheyisi 2015: 236). While Hausa belongs to the Chad family, Yoruba and Igbo, like many other southern Nigerian indigenous languages, fall into the Kwa sub-family of the Niger-Congo family (Tiffen 1974:

⁵¹ This constitution was named after the colonial governor (as the office then was named) of Nigeria between 1943-1947, Sir Arthur Fredrick Richards, who was instrumental in the drafting and operationalization of the constitution (Oligie 2018: 38).

27), Niger-Congo being a sub-phylum of the Niger-Kordofanian genetic group. We may then conclude that the choice of these languages is fairly representative of the Nigerian indigenous languages' genetic make-up.

This dissertation adopts current information on the monophthongs of Hausa, Igbo, and Yoruba as a part of its secondary data, in order to provide an endogenous basis of comparison to the primary English data, which will be made up of acoustic data processed through PRAAT software. The target indigenous languages' monophthongs are readily available in Dunstan (1969), whose overall aim is to "set out the sound system of twelve Nigerian languages...", and Tiffen's (1974) PhD thesis⁵², in both of which the sounds are impressionistically described. There is no acoustic data available for the monophthongs of any of these three languages.

The table below shows the number (and kind) of vowels in each of the three indigenous languages

Table 3.3: The vowels of Hausa, Igbo, and Yoruba

Languages	Monophthongs	Diphthongs	Nasalized
Hausa	10	2	-
Igbo	8	-	-
Yoruba	7	-	4

The quadrilaterals that follow present the vowel charts of Hausa, Igbo, and Yoruba as contained in the available impressionistic literature.

⁵²Tiffen's (1974) PhD focuses only on Hausa and Yoruba to the exclusion of Igbo, but provides a set of rich data for the first two languages.

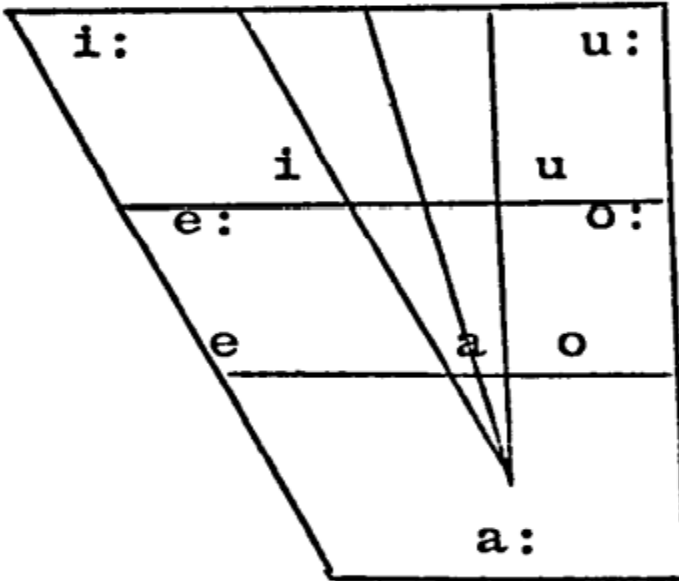


Figure 3.6: Hausa monophthongs sourced from Tiffen⁵³ (1974: 30)

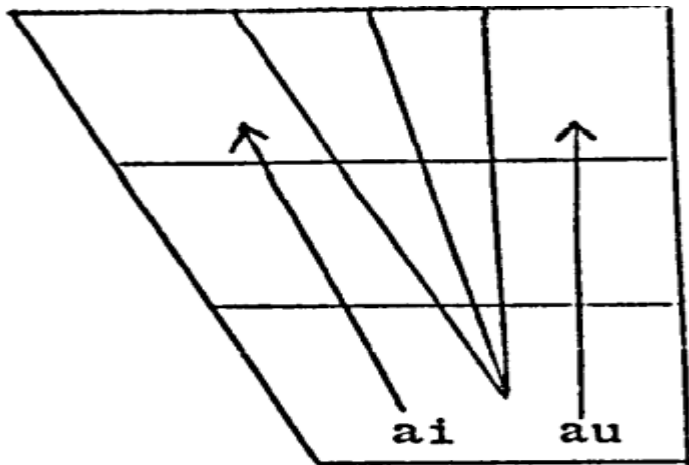


Figure 3.7: Hausa diphthongs sourced from Tiffen (1974: 30)

⁵³ It is important to note that Hausa, as evident in its vowel chart, has some level of short-versus-long monophthongal contrast. One would therefore expect their speakers to be more adept at making English short-long vocalic distinctions compared to other speakers, a postulation that awaits our confirmation in the course of the length analysis in Chapter 5.

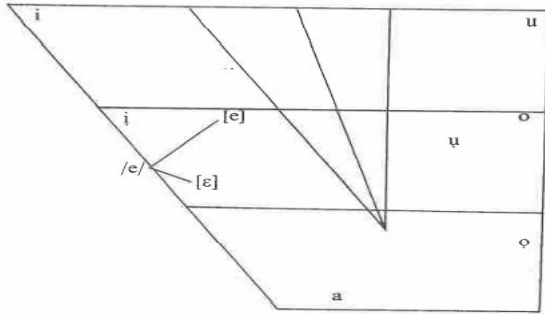


Figure 3.8: Igbo vowels copied from Dunstan (1969: 89)

Dunstan (1969: 90) explains that the allophonic variation of the mid-close /e/ (i.e. [e] and [ɛ]) in Figure 3.8 above has a fixed positional distribution. While [e] (which sounds much like the onset component of English FACE) occurs initially before a consonant followed by /i/, /o/, or /u/ e.g. *ewu*(goat), [ɛ] occurs elsewhere e.g. *ɛdɛ*(cocoyam).

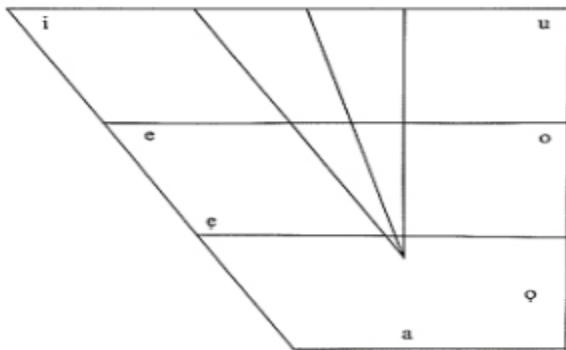


Figure 3.9: Yoruba oral vowels obtained from Dunstan (1969: 166)

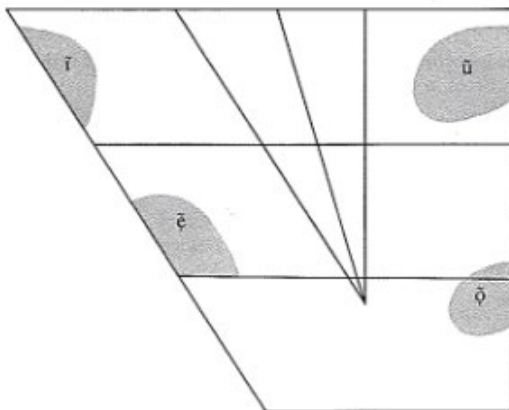


Figure 3.10: Yoruba nasalized vowels sourced from Dunstan (1969: 166)

The detailed descriptions of the Nigerian English monophthongs, which are the target of the current study, will emerge in the course of the analysis provided in the next chapter.

3.7 Conclusion

The interest of this chapter was to delve into the world of Nigerian English by exploring the existing related literature on the topic. To achieve this, the sociopolitical historical context of Nigeria was outlined (3.1). The pre-history of English in Nigeria (i.e. English before its official implantation via colonialism) received attention in Section 3.2 while in Section 3.3 the sojourn of English starting from the advent of colonial government was traced in the mould of Schneider's (2007) Dynamic Model, essentially highlighting the evolutionary trend of the language in the Nigerian socio-political landscape. Section 3.4 dealt with the maturation of the language in Nigeria as Nigerian English, an essential part of which is an offspring known as Nigerian Pidgin English. In 3.5, the extent of the incursion of American English into the British English-based Nigerian English received attention. Review of relevant literature on the three indigenous languages of the research subjects was done in section 3.6.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.0 Introduction

In this chapter, an in-depth discussion will be provided regarding the needed data and the methodological principles that underly the presentation and interpretation of the data, as will be practically done in chapter five. Specifically, I will be expounding on the chosen research design, data collection approach, data extraction, data analysis, research design limitations as well as ethical issues. Essentially, therefore, this chapter is devoted to explaining what is needed and what is to be done in order to arrive at reliable answers to the research questions contained in the introductory chapter. Thus, the methods of data collection and analysis are aimed at unveiling informative patterns in the mesolectal-to-acrolectal monophthongs of Nigerian English; and as they relate to variables such as gender, mother-tongue, and exogenous (RP and GenAm) influences.

4.1 The Acoustic Approach

Acoustic phonetics is generally concerned with the patterns and properties of sound waves created by the different movements of the vocal organs, more generally known as organs of speech, in the process of speech production (Harrington 2010: 81). These air waves are set in motion by the opening and closing of the vocal folds and propagated outwardly through the vocal tract and beyond the lips, through the air particles, to the ears of the listeners (Ladefoged 1996: 9, 96). In essence, each speech sound is a product of its source (which, in all cases of voiced sounds, into which vowels fall, is the vocal folds), the shape of the vocal tract, as well as radiation and reflection (echoes returning back into the vocal tract) at the lips⁵⁴ (Bekker 2009: 28; Ladefoged and Johnson 2015: 198). Depending on the shape of the vocal tract, the airstream vibrates in different frequencies simultaneously. More specifically, the shape vis-à-vis the vibration of the vocal tract moulds the airstream in a peculiar way to produce, for example, a distinct vowel. “These modes of vibration of the vocal tract”, as Ladefoged (1996: 94) states, “are known as formants”. The first/lowest two of these formants (i.e. F_1 and F_2) are the target of this dissertation. Sociolinguistic indexicality is inherent in these formants (Thomas 2002: 173; Foulkes, Scobbie & Watt 2010: 718) since they capture basic vowel quality.

⁵⁴ The theory that fully encompasses this phenomenon is the *Source/Filter Theory* copiously discussed in Bekker (2009: 26-32), and Ladefoged and Johnson (2015: 197-200).

F₁ and F₂ have generally been associated with vowel height and backness/frontness respectively, with the highest F₁ value corresponding to the lowest point of the tongue (typically, in English, for the TRAP /æ/ or START/ɑ:/ vowel) and the highest F₂ value correlating to the front-most positioning of the tongue (typically, in English, the FLEECE /i:/ vowel) (Watt and Fabricius 2002: 159, 162-163). Thus, as Watt and Fabricius (2002: 159; my parenthesis) note, “open vowels have higher F₁ values than close vowels do... [while] front vowels have higher F₂ values than back vowels”. This point is illustrated in the formant chart of American English monophthongal vowels in Figure 4.1 below.

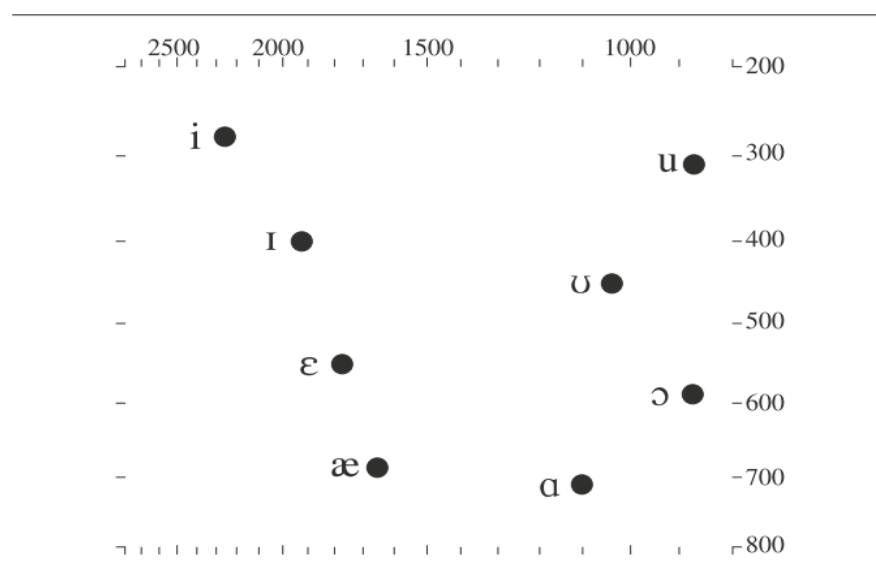


Figure 4.1: formant chart showing eight American English vowels; from Ladefoged and Johnson (2015: 207)

The formant chart above explains the rationale behind the traditional arrangement of vowels on the more traditional International Phonetic Alphabet (IPA) vowel chart.

4.2 Research Design

Research design, which Tavakoli (2012: 546), describes as the overarching “blueprint for the collection, measurement and analysis of data”, should be inextricably bound with the research questions, that is to say, immanent in the research questions is the nature of the research design to be adopted (Taherdoost 2022: 55; Sunderland 2010: 21). As could be deduced from the research questions of this dissertation, the study will undertake an acoustic analysis as a means of determining, firstly, the mesolectal-to-acrolectal monophthongal norms of Nigerian English; and, secondly, and as the comparative basis for determining this mesolectal-to-acrolectal norm, the degree of exogenous (RP and GenAm) and endogenous (the three major indigenous Nigerian languages) influence; and, lastly, the validity of the hypothesis that the female

speakers will approximate prestigious exogenous norms more than their male counterparts (Labov 1990: 210, 213, 215; Trudgill 1972: 179).

The third point above is obviously deductive in its design as “it applies an established hypothesis” to new data (Rasinger 2013: 11). This type of focus, according to Rasinger (2010: 53), requires quantitative research. Indeed, we preferably need incontrovertible numerical data and analysis to convincingly prove (or disprove)⁵⁵ the validity of an established relationship between two or more variables. Therefore, in this study, the phonological variables (the monophthongs of the research subjects) will be operationalized⁵⁶ via the instrumentality of PRAAT, which Van Heuven (2001: 345) has described as “...probably the most comprehensive toolbox for phonetic research available worldwide, as it is certainly the most affordable”. Determining the mesolectal-to-acrolectal monophthongal norms in relation to the ‘pull’ of the indigenous languages and exonormative accents (RP and GenAmE) is possible both qualitatively and quantitatively, as seen in Bekker (2009) in relation to South African English. As Gut (2004: 818) has rightly noted, the impressionistic (qualitative) approach has dominated the scene of the phonetic description of Nigerian English with the consequent “lack of quantitative data”.

As per the foregoing, this study essentially adopts a mixed methods design, which, according to Rose, McKinley & Baffoe-Djan (2020: 15), can be implemented “at any stage of the research: from the epistemological stance of the research, data collection or data analysis”. Thus, part of the secondary data is relevant qualitative information from the existing literature on the monophthongs of the three major indigenous Nigerian languages as well on the two reference accents, while the other part, , is the acoustic (and thus quantitative) information on the monophthongs of RP. To be sure, combining both quantitative and qualitative research designs will provide a methodologically balanced study and reinforce the validity of the research result. Doyle, Brady and Byrne (2009: 178) acknowledge this reality by noting that “the mixed methods approach can allow for the limitations of each approach to be neutralized while strengths are built upon thereby providing stronger and more accurate inferences”.

4.3 Study Population/Subjects/Participants

Fourteen newscasters comprising of seven male and seven female newscasters were purposively selected from the three television stations listed before. This provided both a balance in terms of gender and sufficient data for the proposed quantitative analysis. All newscasters were of roughly the same age i.e.,

⁵⁵ Or at least show a correlation.

⁵⁶ This, according to Rasinger (2010: 55), is the “...translation’ of (physical) properties of a case into a numerical value...”

40-50 at the time of broadcast (and time of analysis)⁵⁷. In order to arrive at a reasonably reliable conclusion, a benchmark was set of extracting ten tokens per monophthong per speaker. However, there were cases of low incidence of some monophthongs in some newscasts which led to the lower supply of such monophthongs. For example, in relation to words in the PALM lexical set, Wells (1982: 143) remarks that “no more than a handful of really common everyday words belong to it unambiguously”. Likewise, it was difficult in some cases to get up to ten incidences of FOOT or even GOOSE in some hour-long news broadcasts.

4.4 Data Collection

This study was focused on providing an acoustic analysis of the monophthongal norms of mesolectal-to-acrolectal Nigerian English as captured in the speech of selected Nigerian newscasters. As has been clearly established in the preceding chapters, English functions mainly as a second language in Nigeria (Adegbite 2004: 212). Therefore, standard features of the language that characterize acrolectal, and to a substantial degree, mesolectal varieties, are most reliably observable in certain formal settings (Schneider 2007: 204; Melefa 2019: 102). News-reading, being a formal context for which, according to Gut (2004: 817), newscasters receive “special speech training”, is therefore, arguably, the best source of data for mesolectal-to-acrolectal Nigerian English. Indeed, Melefa (2019: 98; my parenthesis), whose work provides an existing framework for the use of these afore-mentioned lects in Nigerian newscasters’ speech, asserts that “the popular view [is] that newscasters are models of good speech to language learners”.

Based on the foregoing, the primary data for this study has been sourced from approximately one hour-long news broadcasts anchored by male and female newscasters from three purposively selected television stations in Nigeria; namely, the *Nigerian Television Authority* (NTA), *Channels Television* and *African Independent Television* (AIT). Indeed, Thussu (2010: 362) has observed that television is “the most global and powerful of media...the most important purveyor of public information”. Melefa (2019: 104) recognizes the above-listed television stations as being among “the most vibrant television broadcasting entities in Nigeria”. For example, while NTA, which is the federal government-owned television station, has the widest coverage, as it is “a multichannel television station”, *Channels*

⁵⁷ While it is recognized that age might also play an important role in determining the nature and trajectory of mesolectal-to-acrolectal Nigerian English (with perhaps greater influence of GenAm among younger speakers in particular) only so much can be achieved in an MA-study. The effect of age will have to receive attention in later research.

Television, as of 2019, had clinched the popular *Nigerian Media Merit Award* (NMMA), as the best television station of the year, thirteen times (Igyuve *et al.*2020: 256, 254). One can probably safely assume, as Adam (2010: 633) notes, that the English language proficiency of the newscasters plays a central role in their success story.

The newscasts that served as the data for this work were downloaded from the YouTube platform, where they are freely available and, for time precision, were converted into WAV soundfiles (a sound format readable in PRAAT Longsound Windows) via freely-available online video converters, ready for instrumental processing in PRAAT. However, following Bekker's (2009) acoustically-based study of the vowels of South African English, this study also included, as its endogenous secondary data, impressionistic datasets of the three major Nigerian indigenous languages (Hausa, Igbo, and Yoruba), given that the selected broadcasters, whose speech constitute the primary data, have one of these indigenous languages as their mother-tongue. This data from indigenous languages, mainly monophthongs, as already stated in section 4.1 above, was sourced from existing phonetic descriptions (e.g. International Phonetic Association charts) for the three languages as captured in Dunstan (1969) and Tiffen's (1974).

Exogenous secondary data was related to the monophthongs of RP and GenAm. But while impressionistic data for both accents were used, acoustic data could only be obtained for RP. This is because although acoustic data are available for GenAm as contained in, for example, Ladefoged and Johnson (2015), they either appear in plotted graphs where the exact values of the relevant formants are not accessible, or they are given as un-normalized group values which would be a mismatch for the current study which derived its normalized group formant values from normalized individual speaker's formant values. It was, therefore, decided that, for an MA study, acoustic data for RP would suffice while also making necessary comparative references to the impressionistic data of both GenAm and RP. The acoustic RP data were derived from McKenna (1988) and Deterding (1997), the latter's data being those of "...five male and five female BBC broadcasters whose speech was included in the MARSEC (Machine Readable Spoken English Corpus) database" (Deterding 1997: 47). In McKenna (1988: 23), each vowel duration is measured under four phonological environments, namely, following voiceless stops, following voiced stops, following voiceless fricatives, and following voiced fricatives. For the purpose of this study, the lengths of each vowel under the four environments were summed up and averaged to arrive at the RP length for each vowel. Since the lengths of these referenced RP vowels in McKenna (1988: 23) were given in centiseconds, the lengths had to be converted to milliseconds to suit the purpose of the measurement template of the current dissertation. Thus, by a way of example, the average length of RP KIT vowel is 12.225cs. Converted to milliseconds, this becomes 112ms (see Table 5.2).The

impressionistic data were fetched from the classical work of Wells (1982) as well as Ladefoged and Johnson (2015). This type of overall broad data structure, as Bekker (2009: 3; my parenthesis) notes, is advantageous as “it compares the outcome of the acoustic analysis [of the primary data] with a range of other data sources in order to provide reasonably motivated arguments...”.

4.5 Instrumental Measurement and Analytical Tools

The measurement and analysis of the primary data was performed using PRAAT software, version 6:1:42 (Boersma and Weenink 2021). As observed by Foulkes, Scobbie & Watt (2010: 730), “acoustic analysis is now more widespread and much easier to perform than ever before thanks to the availability of free analysis packages such as Praat”. PRAAT software, developed in 1992 by Boersma and Weenink, both at the University of Amsterdam, is “a computer program for analyzing, synthesizing and manipulating speech” (Goedemans 2001: 341). According to one of its builders, Boersma (2001: 345), PRAAT “comes with finest algorithms”, and, according to Van Heuven (2001: 345), is built in such a way that the “flexible and well-planned structure of the program allowed its makers(s) to extend PRAAT’s functionality almost indefinitely”.

In relation to this dissertation, PRAAT has “flexible programs (which) provides direct access to the sound data” (Owren2008: 822) which, was saved in a soundfile folder on the computer. Therefore, each of the soundfiles for this study was imported into PRAAT from the sound folder where they had been stored.

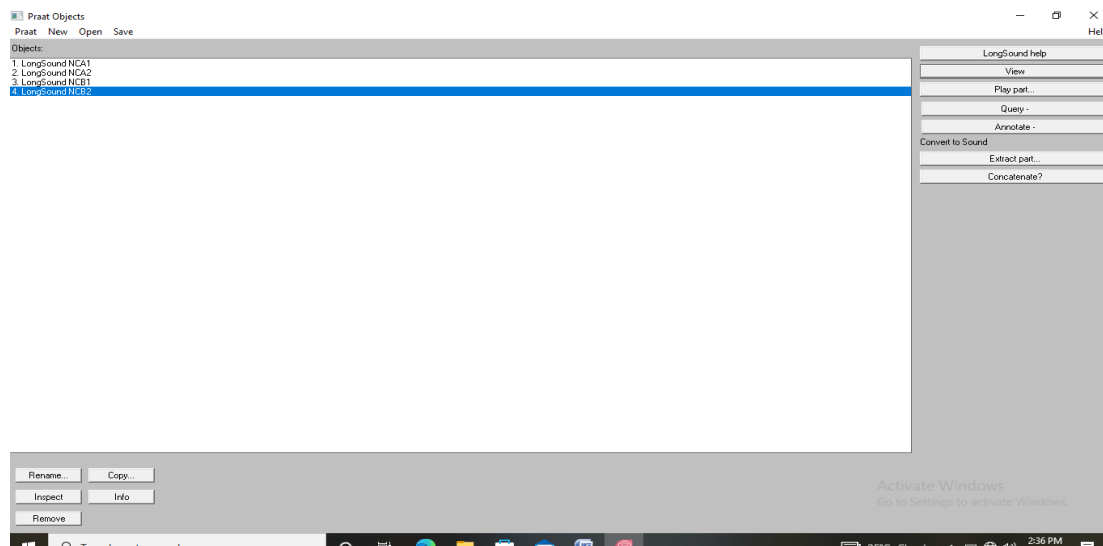


Figure 4.2: PRAAT interface showing imported soundfiles listed at the top left-hand corner

The next step was to engage the annotation feature of PRAAT which enables each soundfile to be supplemented by a TextGrid so that portions of the sound file containing the relevant monophthongs can be labeled accordingly in the TextGrid Editor window, as seen in Figure 4.3 below.

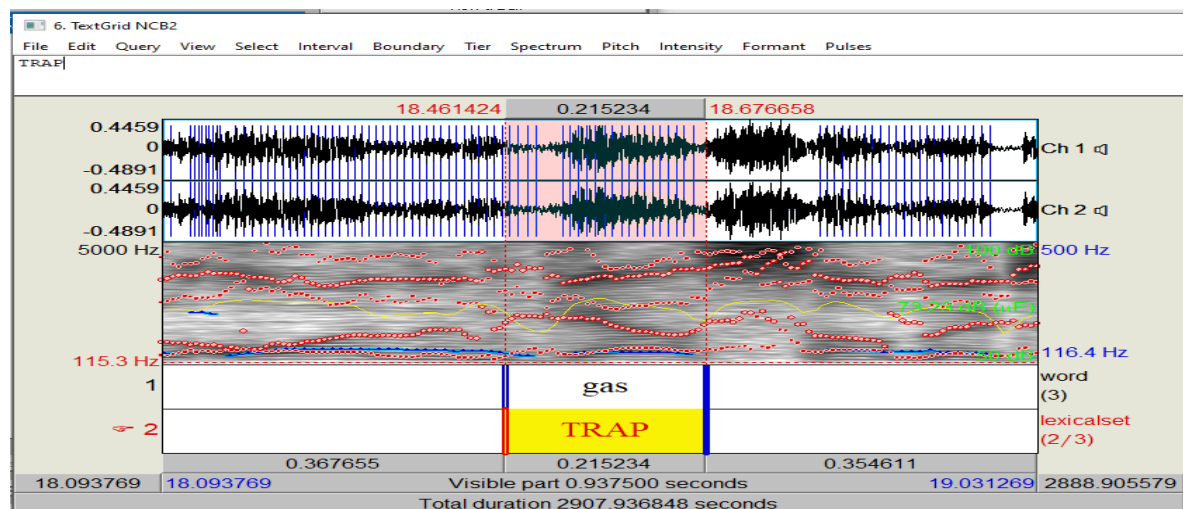


Figure 4.3: TextGrid Editor window in which the sound ‘gas’ containing the TRAP monophthong has been labeled.

The advantage of PRAAT’s Editor window, Boersma (2001: 242-243) notes, is that it makes it possible “to label and segment...speech recordings...in a window that typically also shows visible representations of the sound, the spectrogram, and perhaps the pitch contour” in the upper part of the window, and tiers (the number of which can be determined by the user) in the lower part, as can be seen in Figure 4.3 above. Such segmentation clearly assists with the exact determination of length (in milliseconds). Secondly, relevant (stressed) monophthongs can be tracked and the formant measurements taken at their midpoint (i.e. roughly 50% durational point). According to Bekker (2009: 126-127), “the central 50% ...would, in most cases, capture the traditional vowel target⁵⁸ (whether defined as a single time point or a period of time)...”. Taking the formant measurement at the centre also helps to circumvent or minimize the segmental influence of the adjacent consonants as presented by Peterson and Lehiste (1960), and thus, provides the ‘natural’ formants of the vowels.

Before taking the formant measurements, however, the formant ceiling was set according to a given subject (broadcaster)’s gender. Boersma (2020) has revealed that “an average adult female speaker has a

⁵⁸ This is the stage, as Bekker (2009: 45) puts it, in the vowel production that makes up “the target of the articulatory process”, thereby constituting the peak of the vocalic articulation.

vocal tract length that requires an average ceiling of 5500Hz, and an average adult male speaker...a vocal tract length that requires an average ceiling of 5000Hz...". So, this setting, available in the formant settings, was adjusted accordingly. The formant and length measurements were then copied and pasted into a Microsoft Office Excel master sheet for all the subjects. The gender-based formant ceiling touched on above, it should be noted, does not eliminate in any way the gender-based anatomically-induced differences in the formant values that PRAAT processes for a given sound. Therefore, there still remains the need for formant normalization as discussed in the next section.4.8

4.6 Vowel Boundaries and Segmentation

The overall population of monophthong tokens considered was restricted by the fact that monophthongs preceded and followed by sonorants such as /l/ and /r/ were not included for analysis since such vowels, according to Bekker (2009: 133), pose a boundary-indeterminacy issue. In other words, it would be practically impossible to determine the lengths of such vowels, length being a major investigation target of the current research.

Although Peterson and Lehiste (1960: 694) note that the segmentation, of sounds, vowel boundaries in the context of this research, sometimes rely on human judgement, efforts were made to ensure the accuracy of vocalic durations measured in this research by equally following established relevant acoustic cues. Having excluded vowels having sonorant boundaries as stated above, the tokens in this study are restricted to those preceded and/or succeeded by stops, fricatives and affricates. For the preceding voiceless stops (i.e. /k, p, t/), the beginning of the following vowel is marked by the commencement of periodic striation (i.e. the onset of voicing). In the case of succeeding voiceless stops, the vowel duration stops, as Bekker (2009: 128) states, at the point where the formants cease. Likewise, the point of lowest F1 values was taken as the boundaries of vowels preceded and succeeded by voiced plosives. Following Peterson and Lehiste (1960: 696), the onset of a vowel following a voiceless fricative was taken at the beginning of voicing in F1 region while the vocalic boundary before a voiceless fricative was acoustically signaled by the beginning of noise. But a vowel following a voiced fricative started at the point where the fricative noise stopped suddenly (Peterson and Lehiste 1960: 696-697). In line with Bekker (2009: 132), the boundary between a vowel and a succeeding voiced fricative was marked at the juncture of "intensity contour across the vowel and following voiced fricative". An affricate combines both plosive and fricative manner of articulation such that the initial part is plosive while the latter part is fricative (Ladefoged and Johnson 2015: 71).

Therefore, as in Bekker (2009: 132), vowels succeeding and preceding voiced and voiceless /dʒ/ and /tʃ/ respectively were treated as those succeeding or preceding plosive or fricative depending on the position of the affricate in question. For example, vowels succeeding the voiced affricate //dʒ/ were segmented as those succeeding voiced fricative /ʒ/ while those preceding it were treated like those preceding the voiced plosive /d/.

In addition to all the above segmentation criteria, the onset and offset of vowels are indicated also by the period of regular formant activity as shown by vocalic energy or amplitude which is visible in the spectrograph (Maxwell and Fletcher 2009: 59). This latter point was useful where the vowel of interest was not flanked by another segment.

4.7 Formant Normalization

Differences in vocal tract length between adult males and females (and, indeed, children) also produce corresponding differences in the “relative frequencies of the lower formants” (i.e.. F_1 and F_2 which, in part, constitute the interest of this study) (Watt and Fabricius 2002: 160). Specifically, Renals and King (2010: 819) note that “...for a female adult the observed formant frequencies are, on average, 20 percent higher than those for a male adult”. Vowel-formant normalization is, therefore, the process of eliminating the influence of vocal tract length so that the formants of both genders can be compared on a uniform scale for sociolinguistic effects (such as sociolectal categorization and prestige) (Watt and Fabricius 2002: 160). Generally, the following can be deduced from Thomas (2002: 174-175) as the aims of vowel normalization:

1. To retain the contrastiveness of the vowels of a language. This is justified by the fact that formants, as Ladefoged and Johnson (2011: 24) state, “distinguish...vowels”.
2. To model the physiological/perceptory process by which the human hearing system normalizes the anatomically-induced differences in a given vowel’s formants as produced by different speakers. One may, however, agree with Gobl and Ní Chasaide (2010: 416) that “in spite of improvements in recent years in the techniques for describing and modeling voice source variation, our abilities lag far behind what the human ear can effortlessly do”. As such, Foulkes, Scobbie & Watt (2010: 730) have described the human ear as “the best normalization mechanism yet developed”. This reality probably accounts for why many different formulas for normalizing vowels have been developed, as noted by Thomas (2002: 174). We may then conclude that perfectly modeling the physiological procedure by which the human ear normalizes vowels might still be a dream, at least for now.

3. To retain the underlining dialectal differences that are imbued in the vowel formants of different speakers.
4. To phase out the variations induced by unequal mouth sizes.

the last two aims above are the relevant ones for the current study as the interest is, among other things, sociolinguistic variety across male and female speakers of standard Nigerian English.

The first step towards circumventing the anatomical differences between adult male and adult female speakers (which could lead to incomparable formant values) was to adjust the formant ceiling in PRAAT as has been discussed in section 4.5 above. Then, the formants (F_1 and F_2) generated via PRAAT for this study were normalized using the automatic vowel normalization and plotting suite known as NORM Version 1.1 (Thomas and Kendall 2015)⁵⁹. By this, one can, hopefully, avoid the drawbacks which Thomas (2002: 174) reveals have dogged the different manual normalization formulas. This is because NORM provides different options (methods) for normalization which one can quickly run to compare and crosscheck with the particular chosen method (Lockwood 2017: 260). The method selected for this study is that of Watt and Fabricius (2002), which calculates the grand mean value of each speaker's centroid (also known as centre of gravity) on the F_1 ~ F_2 plane (i.e. the so-called vowel envelope). This method was chosen because, firstly, it allows "statistical comparison of vowel triangles for multiple speakers of different sexes" (Watt and Fabricius 2002:159). The method, therefore, meets the need of this study in that it allows for a database comprising of male and female speech. Secondly, Watt and Fabricius' method resonates well with the current study (and is thus appropriate) as it "derives from measurements in Hz of **F_1 and F_2 at the midpoint** of stressed spoken vowels" (Watt and Fabricius 2002: 161; my emphasis). Furthermore, as Thomas and Kendall (2015) reveal, a special feature of the Watt and Fabricius method is that it is vowel-extrinsic. Vowel-extrinsic normalization procedures, unlike their vowel-intrinsic counterparts, rely on information across different vowel tokens to execute the normalization (Adank, Smits, & Van Hout 2004: 3099). This method is therefore best suited for the current research; Flynn and Foulkes (2011: 683) note that in "a large-scale comparative study of vowel normalization methods... vowel-extrinsic...methods performed the best overall".

⁵⁹ Also normalized were the secondary acoustic data obtained from Deterding (1997) since the formants are in their raw Hertz formant in that work.

Activate Windows
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NORM requires the unnormalized formant data to be in tab-delimited text format, and then carries out the vowel-extrinsic⁶⁰ method of vowel normalization (i.e. that of Watt and Fabricius (2002)) chosen for this study, a procedure which, as Adank, Smits & Van Hout (2004: 3099) reveal, “assumes that information is required that is distributed across more than one vowel of a talker”. Another advantage is that NORM has the ability to generate plots either of each speaker’s normalized formants or those of all the speakers. Such plots and other statistical charts and tables, whose nature has been fully described in Section 4.8 above, will be used to carry out the analysis.

The primary data, comprising of the newscasts of seven male and seven female Nigerian newscasters with each newscast lasting for approximately one hour, were subjected to PRAAT instrumental analysis to determine the first and second formants as well as the length of the various monophthongs, since these data relate directly to the aim of this study. Specifically, the height vis-à-vis the backness/frontness and the length of each monophthong was determined acoustically, using the PRAAT software application.

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PRAAT-processed data were stored in a Microsoft Excel spreadsheet for the necessary statistical shapings. Excel also helps to store the F1 and F2 data in the format readable to NORM, a vowel normalization tool whose analytical operations in relation to this study are highlighted in section 4.7 above. The first statistical operation on the data was the calculation of the average (i.e. the mean) values, first, of the overall data for each monophthong so as to be able to compare mesolectal-to-acrolectal Nigerian English with the realities of the indigenous languages on the one hand, and the reference accents on the other hand. The second statistical calculation carried out was t-tests in order to determine the p-values for the data at different levels. P-value calculation, which is based on the mathematical model of probability, is meant to determine whether the difference between two groups is significant or due to chance. The extant convention is to represent the confidence level with p-values below 0.05 such that “if $p < 0.05$ (i.e., if p is smaller than five percent), the result is said to be statistically significant (i.e., not due to chance)), if it is larger, the result is said to be non-significant (i.e., likely due to chance)” (Stefanowitsch 2020: 174). So, for example, a p-value below the threshold of 0.05 for short-versus-long vowel data shows that the speakers were indeed able to contrast the short and the long vowels in their speech. Given the multiple comparisons carried out in the data analysis, Bonferonni corrections were applied to ascertain the reliability of the statistical significance at its various levels. Likewise, other statistical values such as t-values, degrees of freedom and measures of variance were reported. Based on the foregoing, charts were plotted and tables made to indicate the heights, frontness/backness and the length of the monophthongs. Such charts and tables pictorially display the general acoustic characteristics of all the subjects as well as those of the gender and L1 subgroups for the purpose of comparative analysis. Essentially, therefore, the charts and tables contained any of the following three categories of information: 1) the general features of the monophthongal norms of mesolectal-to-acrolectal Nigerian English as captured in the acoustic data; 2) the overall male monophthongal norms, and the overall female monophthongal norms as contained in the acoustic data; 3) contrastive features in the acoustic data, e.g short-versus-long vowel per gender; 4) male-versus-female monophthongal norms of vowel-quality as contained in the acoustic data so as to determine which gender gravitates more towards the prestige norm and/or which one is being pulled (more) by the influence of the indigenous language(s). All of these provided the bases for extensive comparative and contrastive analysis.

Overall, the secondary data provided an impressionistic as well as acoustic overview of the monophthongs of the two reference accents on the one hand, and relevant impressionistic data of the three major indigenous Nigerian languages, on the other hand, against which the PRAAT-processed primary data could be compared to determine the degree of influence of the traditional reference-accent or the mother-tongue on the newscasters’ English monophthongs.

4.9 Ethical Considerations

A couple of ethical considerations were taken into account in this study. But it must be noted that the dissertation falls into a low-risk research category since it did not entail direct human involvement. As the data are in the public domain, there was no need to obtain the official consent of the television stations whose news clips were used. Naturally, however, ethical clearance from the North-West University's ECLM⁶¹ was obtained for data collection and analysis. Although the data are in the public domain, it is ethically significant to anonymize the newscasters whose newscasts constitute the primary data for this study. This can forestall, for example, unsavoury profiling of the newscasters by members of the public who may have access to this study. To this end, therefore, the fourteen newscasters were tagged as NCA1YM, NCA2IF, NCA3YM, NCB1HF, NCB2HF, NCB3YF, NCB4IM, NCB5HM, NCB6IF, NCB7HM, NCC1YM, NCC2IM, NCC3IF, and NCC3YM. Besides protecting the identities and respective television stations of the subjects, these codes also helped the author to keep track of the relevant characteristic sociolinguistic variables of each subject. Only the researcher and the promoter had access to the newscasts that were used as data.

4.10 Conclusion

The chapter began by providing relevant details about the indigenous languages of the research subjects who served as a major source of the secondary data (Section 4.1). A context for data analysis was also created by discussing the theme of an acoustic approach in Section 4.2. Then, in Section 4.3, the overarching methodological framework (i.e. mixed methodology) that underpins the entire process leading to the targeted aim of the study was duly discussed. The study population was discussed in Section 4.4. In Section 4.5, data collection tools and procedure received attention. The chapter also delved into the analytical tools, mainly PRAAT and NORM, which were used to process the primary data collected from fourteen Nigerian newscasters (Sections 4.6 and 4.7). The nitty-gritty of the data analysis that was performed in the next chapter was treated under data analysis (4.8). Finally, the chapter clarified the ethical issues around the study, especially in relation to the primary data (Section 4.9).

⁶¹ Ethics Committee for Language Matters

CHAPTER FIVE

DATA PRESENTATION AND ANALYSIS

5.0 Introduction

The focus of this chapter, as implied in the heading, is two-fold: the presentation of the relevant data and their analysis. As spelled out in the preceding methodology chapter, the data, a considerable collection of tokens of monophthongal English vowels produced by fourteen Nigerian newscasters comprising of an equal number of males and females, have been operationalized (i.e., converted to numerical values) via, first, PRAAT and then NORM⁶². Three intrinsic features of the monophthongs constitute the focus of the analysis; namely, length, first formant (vowel height), and second formant (vowel frontness/backness). Where necessary, these phonetic features have been compared with the relevant indigenous languages, RP, and GenAm. Section 5.1 is devoted to an in-depth presentation and analysis of length-related matters in the data.

5.1 Length

Generally, length is considered a redundant element in the sound system of English (Ladefoged and Johnson 2015: 69). This is because the length difference between KIT and FLEECE, for instance, is equally marked by a difference in quality (height and/or backness) (Bekker 2009: 125). Vowel length, however, can be a useful variable in terms of distinguishing varieties of English, especially in the Outer Circle where English co-habits with other ‘interfering’ indigenous languages that may not have length as a contrastive feature. Of the three indigenous languages of the current research subjects (which are the three major indigenous languages in Nigeria), only one, Hausa, has cases of vowel length contrast, as seen in the impressionistic work of Dunstan (1969: 76, 89, 166) and figures 1-3 below:

⁶² Both PRAAT and NORM software packages have been copiously described in relation to their particular application to the current study in sections 4.8 and 4.6 respectively in the preceding Chapter Four.

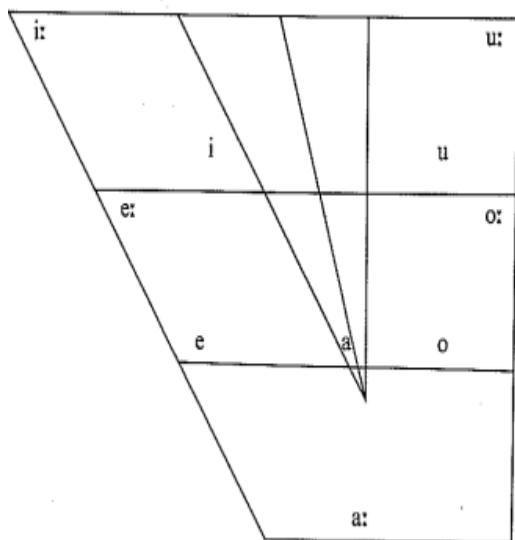


Figure 5.1: Hausa monophthongs

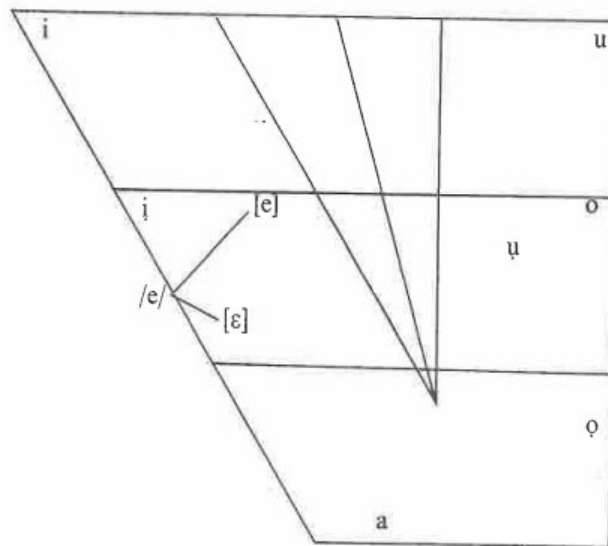


Figure 5.2: Igbo monophthongs

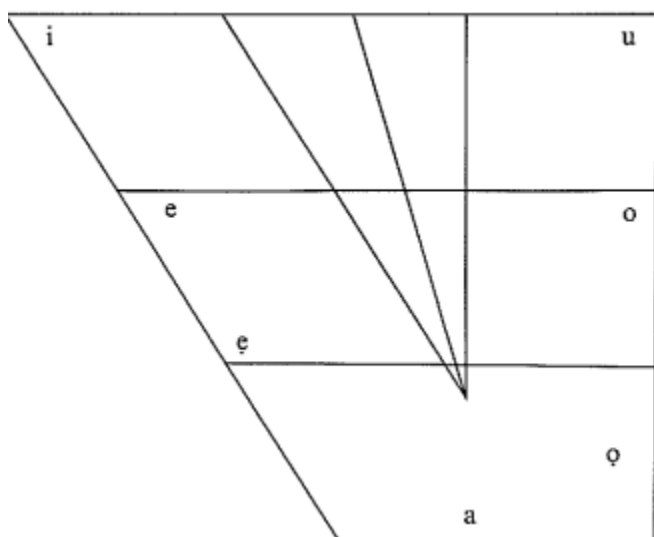


Figure 5.3: Yoruba monophthongs

Although Hausa, as seen in Figure 5.1 above, has vowel length contrast (five short monophthongs and five long ones), they are not entirely compatible with their English equivalents. For instance, Dunstan (1969: 81) reports that although Hausa features the contrast /i/ vs. /i:/, the latter can only occur in an unchecked syllable. In other words, it cannot occur in a position where it is closed by a consonant⁶³. Therefore, whereas we may expect an L1-Hausa speaker of English not to have any problem contrasting

⁶³ Compare, for example, English *seek* or *fleece*.

the length of the monophthongs in *sit* and *see*, a heavily Hausa-influenced English speaker (like the Yoruba-influenced one, of course) will in all likelihood struggle to contrast the monophthongs in *sit* and *seat*. Dunstan (1969: 94) further notes that there is some correspondence between Igbo /i/ and /i:/ and English /i:/ and /ɪ/, at least in terms of quality, in which case Igbo speakers may find it natural to contrast FLEECE and KIT. Furthermore, although both /a/ and /a:/ exist in Hausa, they are not as contrasted in terms of quality as, for example, the RP English /æ/ and /ɑ:/. So, Tiffen (1974: 30) reports that Hausa /a/ is somewhat closer to RP /ə/ and /ɜ:/ (instead of /æ/) than we might naturally expect. On the whole, however, one might expect Hausa speakers (and to a lesser degree, Igbo speakers) to be able to ‘handle’ the English length contrasts more easily compared to speakers of Yoruba, since Hausa and Igbo, unlike Yoruba, exhibit some articulatory assistance in this regard. This will be confirmed or disconfirmed from the analysis of the acoustic length data below.

Based on the foregoing, an ability of Nigerian speakers of English to contrast length in English monophthongs will be taken as a marker of the use of a mesolectal-to-acrolectal variety of Nigerian English (cf. Banjo 1996: 78).

5.1.1 Acoustic Information Regarding the Length of the Subjects’ English Monophthongs

The length of each monophthong was acoustically determined by querying its length (in seconds and then converted to milliseconds) within the already marked-out boundaries in PRAAT. Two statistical analyses were then executed in the relevant Excel spreadsheet; namely, average length per monophthong⁶⁴, and a t-test to determine whether the difference between the traditionally short and long vowels (in line with the RP model, on which Nigerian education is based) is statistically significant or not. The threshold of statistical significance, in line with the general convention, was set at a 0.05 p-value (probability value) such that “if $p < 0.05$ (i.e., if p is smaller than five percent), the result is said to be statistically significant (i.e., not due to chance), if it is larger, the result is said to be non-significant (i.e., likely due to chance)” (Stefanowitsch 2020: 174). Contextually, therefore, any p-value that is above 0.05 is interpreted to mean that any difference in average milliseconds between a short and long vowel is probably due to chance and that we therefore cannot conclude that the speaker is really able, in production, to distinguish between the traditionally long and short monophthongs in his/her speech. Any p-value below 0.05, however, shows that the subject is able to reliably contrast the short and long vowels in their speech production. Conventionally, the p-values are interpreted as follows:

⁶⁴ The target was to have ten tokens per monophthong per subject but, of course, there were some cases of lower incidence than ten tokens per vowel per speaker.

Table 5.1: p-values and their levels of significance adopted and modified from Stefanowitch (2020: 174). Key: $\geq$ greater than or equal to; $<$ less than

p-value	≥ 0.05	< 0.05	< 0.01	< 0.001
Degree of significance	not significant	significant	very significant	highly significant

Table 5.2 below shows the average length of each subject's short and long monophthongs as measured in seconds via PRAAT, but here converted to milliseconds (ms.) such that, for example, 0.11s = 110ms⁶⁵. Also contained in the table is the average length of each lexical set as realized by all the subjects, as well as their length in RP as derivable from McKenna (1988: 23) as presented in the table below⁶⁶. It should be mentioned that the tokens that made up the primary data for this research are also spread roughly equally across all four of these environments. For the primary data, the lengths of BATH⁶⁷, START, and PALM have been grouped together under the umbrella set of BATH since, unlike in GenAm where there is a TRAP-BATH merger, the subjects were clearly observing a similarity in quality across their BATH, START and PALM lexical sets, an RP norm. Likewise, THOUGHT, FORCE, and NORTH have been grouped together as THOUGHT since Nigerian English is non-rhotic (Gut 2004: 822); and this was also clearly observed to be the case in the primary data.

⁶⁵ It should be noted that the PRAAT values in seconds were first rounded off to two decimal places before being converted to milliseconds and that this is the standard used, for uniformity, for the entire length analysis in this study.

⁶⁶ See section 4.4 in chapter four to see how the calculation and conversion of the lengths were carried out

⁶⁷ The vocalic phonetic symbol this and other lexical sets stand for have been spelt out in section 2.7 in chapter two. Further relevant phonemic and phonetic details are provided in section 5.2 below as the lexical sets are treated one after another.

Table 5.2 showing the average length per monophthong per speaker, average length per vowel and RP length per vowel in milliseconds (ms.). Key: - shows zero incidence of the lexical set in the data sound-file.

SUBJECTS	NCA1YM	NCA3YM	NCC1YM	NCB4IM	NCC2IM	NCB5HM	NCB7HM	NCA2IF	NCB6IF	NCC3IF	NCB1HF	NCB2HF	NCB3YF	NCC4YF	AVERAGE	RP Length
L/SE TS																
TRAP	110	110	100	100	90	80	100	120	100	90	120	100	110	110	102	195
BATH	150	150	170	130	110	120	110	160	120	140	160	140	170	130	140	268
KIT	80	80	70	70	60	60	70	80	60	70	60	80	90	80	72	122
FLEECE	110	110	120	120	90	100	100	140	90	120	130	150	130	130	117	224
DRESS	90	80	100	100	80	70	80	100	70	70	80	100	100	80	85	138
SQUARE	160	160	140	110	110	100	90	90	170	140	180	120	220	150	138	-
LOT	90	80	90	100	60	70	110	80	80	90	100	80	80	90	85	149
CLOTH	-	100	90	100	100	50	130	140	80	100	150	120	110	100	97	-
THOUGHT	130	120	150	100	140	130	120	150	120	130	150	140	130	140	132	274
STRUT	80	90	100	80	70	50	80	90	80	80	70	80	100	80	80	139
NURSE	100	140	150	100	100	110	120	190	90	150	120	150	140	150	129	250
FOOT	100	50	80	90	80	90	50	90	40	80	50	120	80	100	78	137
GOOSE	130	150	140	100	80	90	110	150	120	130	110	130	190	110	124	207

A quick glance at the numerical variables in Table 5.2 above reveals that although the subjects did not realize durations as long as were observed in the RP instances, there is indeed a high preponderance of short-versus-long contrast in the monophthongs of mesolectal-to-acrolectal Nigerian speakers, as instantiated by the research subjects. The overall picture is succinctly captured in Figure 5.4 below. In order to appropriately track the contrast between short and long monophthongs as realized by the subjects, the monophthongs are grouped according to their positions on the IPA⁶⁸ vowel-chart, such that all the lexical sets that feature long and short vowels are grouped thus: 1) open front and back (i.e. TRAP /æ/ and BATH /ɑ:/) 2) close front (i.e. KIT /ɪ/ and FLEECE /i:/) 3) mid-front (i.e. DRESS /e/ and SQUARE⁶⁹/e:/) 4) mid-back (i.e. LOT (also CLOTH in mainstream RP) /ɒ/ and THOUGHT (also

⁶⁸ See appendix 1

⁶⁹Although traditionally SQUARE is a centralizing diphthongal vowel /eə/, especially in conservative RP, Wells (1982:157) notes that an opposition between DRESS and SQUARE is retained in other non-rhotic accents, and that

CLOTH in GenAm and conservative RP) /ɔ:/ 5) mid-central (i.e. STRUT /ʌ/ and NURSE /ɜ:/) and 6) close back (i.e. FOOT /ʊ/ and GOOSE /u:/).

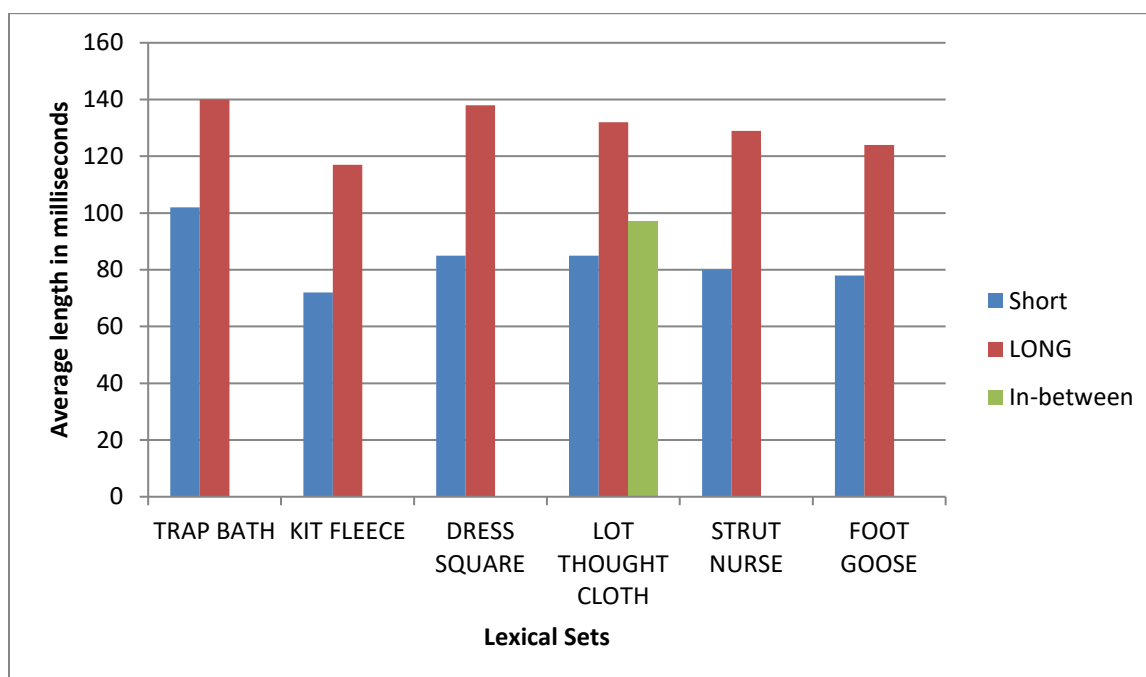


Figure 5.4: A Chart showing the overall average length for the short and long monophthongs produced by the research subjects.

The chart above graphically reveals considerable length differences between the traditionally short vowels and long vowels. Before proceeding with the analysis, it is perhaps worthwhile considering the status of the lexical set CLOTH, which I have tagged as *in-between* because it can be both short and long depending on the accent. While it is a short, lax vowel /ʊ/ (also known as flat-CLOTH) in mainstream RP, it is a long, rounded vowel /ɔ:/ (also known as broad-CLOTH) in GenAm (Wells 1982: 136). Wells (1982: 136-137) categorizes CLOTH-words into three categories. In the first category, containing words such as *off*, *cough*, *soft*, *cost* etc., “a more conservative kind of RP agrees with the GenAm vowel of THOUGHT, /ɔ:/, rather than the /ʊ/ of LOT”. In the remaining two categories, CLOTH does not have any history or trace of being realized as a long vowel in RP. Of all the CLOTH words in the data, only two (*off* (once) and *cost* (twice)) belong to Wells’ first category, the rest (*office(s)*, *officer(s)*, *boss*, *offer(ing)*, and *dog* all of which occur 20 times⁷⁰) belong to the latter two groups, having no history or trace of being a long

such opposition “is one of duration rather than quality”. This informs the adoption of SQUARE in this monophthong-focused study to further test the subjects’ ability to contrast short and long vowels.

⁷⁰ See Appendix 3

vowel in RP. We may now usefully compare the average difference in length between LOT and CLOTH on the one hand, and THOUGHT and CLOTH on the other hand, in order to establish the status of CLOTH in the current data. Whereas the average length of CLOTH in Figure 5.4 above is longer than the average length of LOT by just 12ms, THOUGHT is longer than CLOTH by 35ms. It is relatively obvious, therefore, that acrolectal Nigerian English CLOTH is short and thus belongs more with LOT, in conformity with RP (and in variance to GenAm), than with THOUGHT. What is more, the CLOTH vowel, as realized by the subjects and graphically presented in Figure 5.4 above, is shorter than TRAP which is traditionally a short vowel.

The overall average length differences between the (roughly equivalent in terms of vowel quality) short and long vowels are captured in Figure 5.5 below.

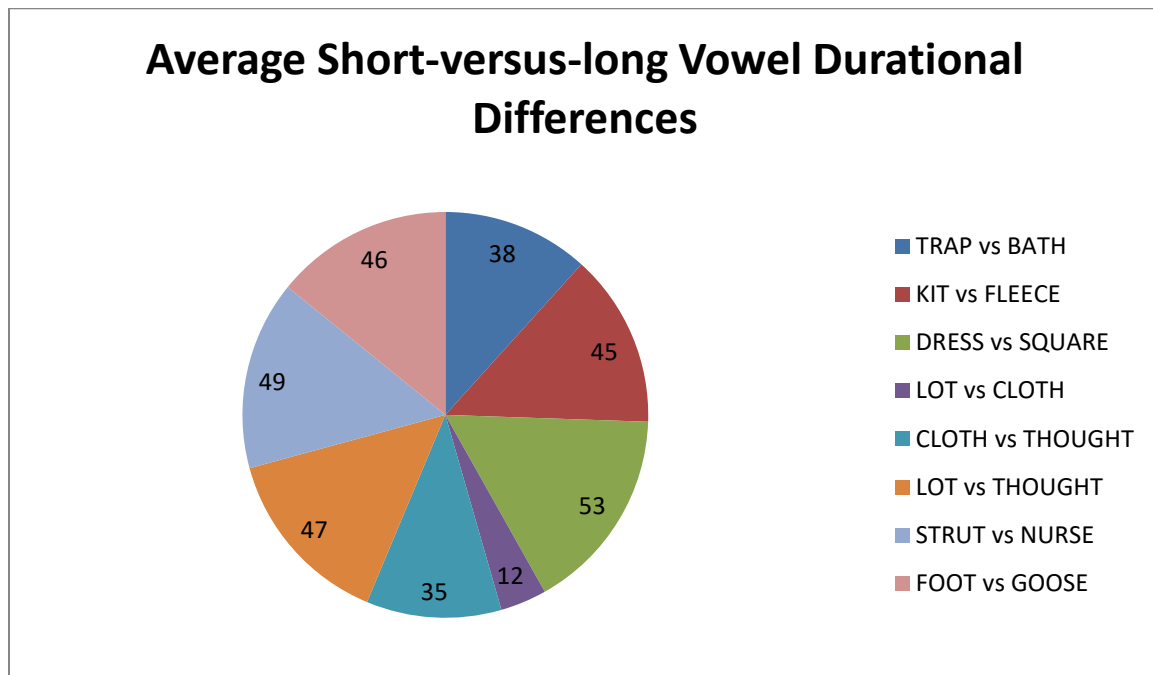


Figure 5.5 showing the average length differences between various pairs of short and long vowels.

The overall shortest length contrast the newscasters were able to make, as seen in Figure 5.5, occurs in LOT vs CLOTH, a further confirmation that the subjects' CLOTH is a short vowel. We may account for the possible lengthening of TRAP here by the fact that although it is phonemically short, there exists a long allophone of it in many varieties of British English, including RP (Wells 1982: 130). In fact, this accounts for why, in categorizing the English monophthongs according to length, McKenna (1988: 23) categorizes the phonetic symbol representing TRAP as neutral. The greatest short vs. long vowel contrast

the subjects made is that of DRESS vs SQUARE, with an average length difference of 53ms. Perhaps, this might be attributable to the original (historical) diphthongal nature of SQUARE.

5.1.2 Length Contrasts across Indigenous Language Subgroups

Given that one of the indigenous languages of focus in this study (i.e. Hausa) has some monophthongal length contrast unlike the other two (i.e. Igbo and Yoruba), it is worth examining whether such L1 realities played out in the way the subjects produced the traditionally short-versus-long English monophthongs. This will help us ascertain the extent of the influence of the subjects' L1 on their realization of English monophthongs in this respect. First Table 5.3 below shows the average length of each monophthong as realized by each L1 subgroup per lexical set⁷¹.

⁷¹ The reader is to note that since our earlier analysis has revealed that the research subjects did not really contrast between CLOTH and LOT, both lexical sets will henceforth be treated as one and co-named LOT.

Table 5.3: average length of each lexical set vowel as produced by each L1 subgroup

	Lexical Sets	Hausa Speakers' Average Length	Igbo Speakers' Average Length	Yoruba Speakers' Average Length
1	TRAP	100ms	100ms	110ms
2	BATH	130ms	130ms	150ms
3	KIT	60ms	70ms	80ms
4	FLEECE	120ms	110ms	120ms
5	DRESS	80ms	80ms	90ms
6	SQUARE	140ms	130ms	170ms
7	LOT	90ms	90ms	90ms
8	THOUGHT	140ms	130ms	130ms
9	STRUT	70ms	80ms	90ms
10	NURSE	130ms	120ms	130ms
11	FOOT	80ms	70ms	90ms
12	GOOSE	110ms	120ms	150ms

Using the table above, we can create a chart that graphically displays the degree of contrast produced by each indigenous language sub-group and in relation to each pair of closely related short and long monophthongs. This will provide a basis for comparison across the L1 subgroups, as seen below.

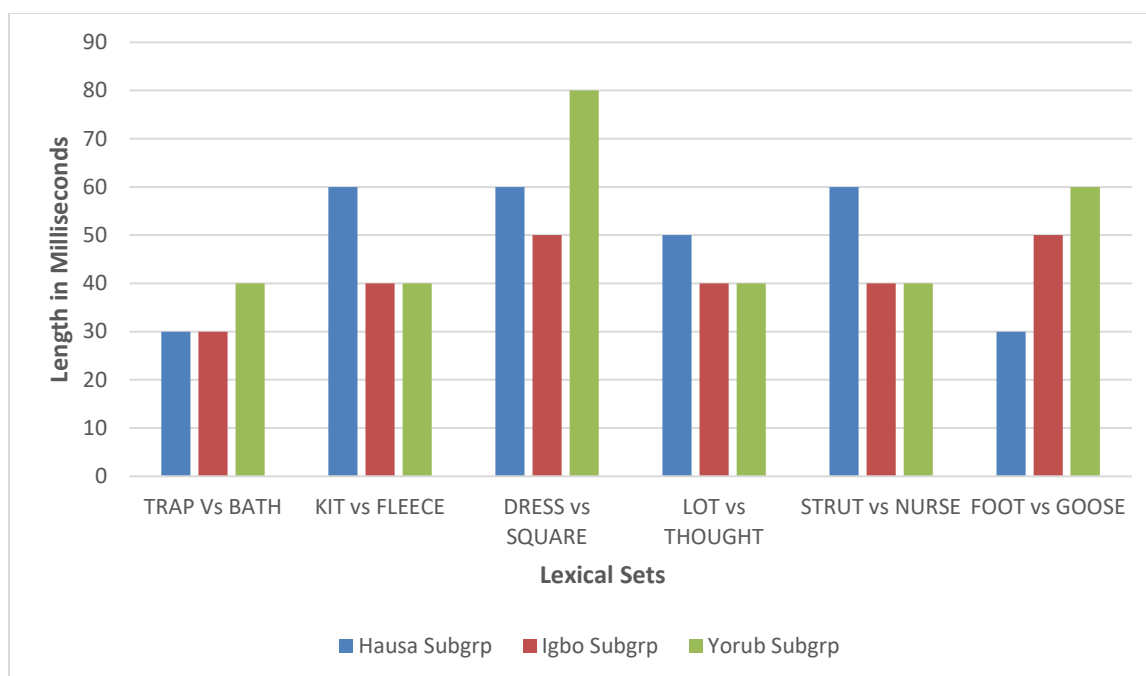


Figure 5.6: average length difference of contrasted short-versus-long monophthongs as realized by the members of each L1 subgroup.

The first point to note from Figure 5.6 above is that the three sub-groups were each able to observe some degree of opposition between the English short and long monophthongs. However, Hausa speakers recorded the largest durational contrast in three out of the six pairs (i.e. KIT vs. FLEECE, LOT vs. THOUGHT, and STRUT vs. NURSE) while the Yoruba subgroup produced the largest contrast in the other three pairs (i.e. TRAP vs. BATH, DRESS vs. SQUARE, and FOOT vs GOOSE). Based on these facts, we may infer that the length contrast in some Hausa monophthongs, as was earlier postulated, could have predisposed the speakers to handling certain English monophthongal durational oppositions better, at least, than the Igbo speakers (in whose L1 there is no vocalic length contrast). But then the Yoruba speakers, who, like the Igbo speakers, have no evidence of length contrast in their L1, have actually rivaled their Hausa counterparts in that they, like the latter subgroup, led the rest of the indigenous language sub-groups in relation to three of the short-versus-long monophthongal pairs.

5.1.3 Gender Dichotomy

A subordinate focus of this study is to compare the monophthongs of mesolectal-to-acrolectal Nigerian English as realized by male vs. female speakers and to thus determine which gender gravitates more towards the prestige norm. Here, we explore the degree of short-versus-long monophthongal contrast

across the two genders, again using average lengths as the basis for judgments in this regard. Table 5.4 below shows the average lengths of male and female speakers' monophthongs respectively. They have been grouped into five series relative to their positions on the IPA vowel chart, as already utilized for Figure 5.4. The table below shows the average duration of each lexical set as realized by each gender.

Table 5.4: average length of each lexical set vowel as produced by each gender

	Lexical Sets	Male Average Length	Female Average Length
1	TRAP	100ms	110ms
2	BATH	140ms	150ms
3	KIT	70ms	70ms
4	FLEECE	110ms	130ms
5	DRESS	90ms	90ms
6	SQUARE	130ms	160ms
7	LOT	90ms	100ms
8	THOUGHT	130ms	140ms
9	STRUT	80ms	80ms
10	NURSE	120ms	140ms
11	FOOT	80ms	80ms
12	GOOSE	110 ms	130ms

The extent to which both genders were able to contrast the length of closely related (in terms of quality) short and long vowels can now be usefully compared. The figure below presents such information graphically, and, hopefully, in a succinct manner.

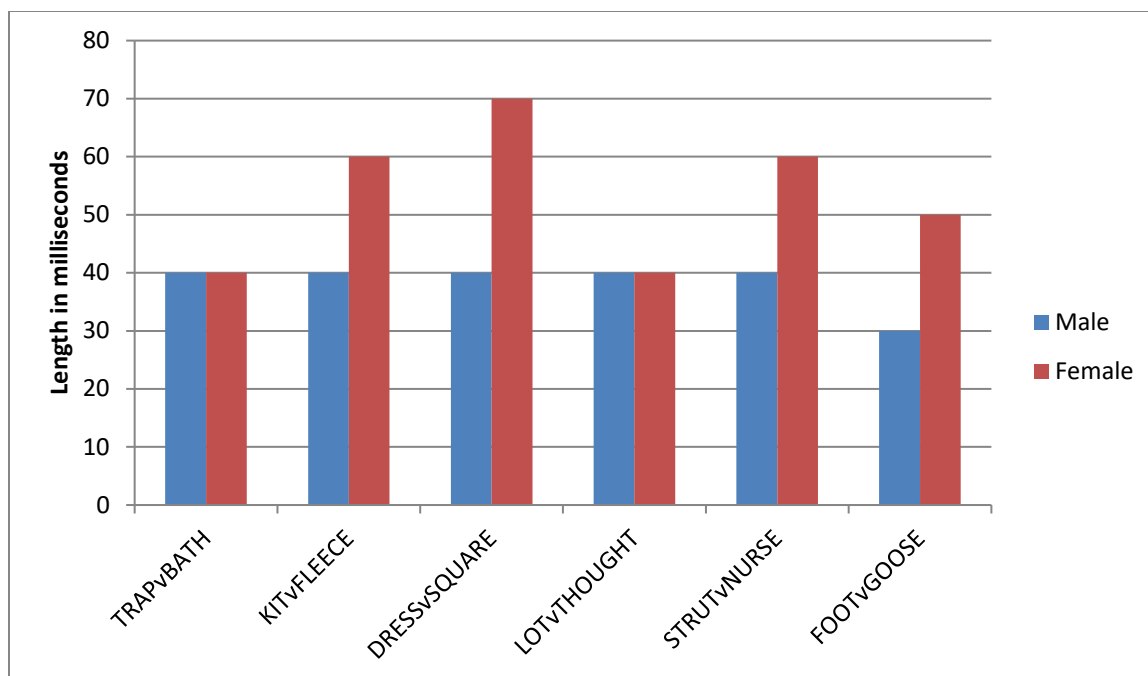


Figure 5.7: average length difference of contrasted short-versus-long monophthongs of male and female subjects.

Obviously, both genders, by observing longer duration in articulating the traditionally long vowels than they did for the traditionally short ones, as can be seen in Table 5.4 above, were able to phonetically distinguish between English short and long monophthongs in their speech.

However, Figure 5.7 above shows that male and female subjects were able to make similar short-versus-long monophthongal contrasts in only two pairs; namely, TRAP vs. BATH, and LOT vs. THOUGHT with the average length difference of 40ms in both cases. The female subject subgroup, however, has greater length contrasts in the rest of the five pairs of short-versus-long monophthongs (KIT vs. FLEECE, DRESS vs. SQUARE, STRUT vs. NURSE, and FOOT vs. GOOSE). In no instance did the male speakers observe a larger short-versus-long monophthongal contrast than the female speakers. In terms of the average length of short-versus-long monophthongal contrast, therefore, we may safely claim that the female subjects gravitated more towards the exonormative norm (and away from the endogenous influence) than their male counterparts did.

5.1.4 Statistical Significance of the Difference in Length between Short and Long Monophthongs

Thus far, we have based our judgments about length variation across the monophthongs of the research subjects on the average (mean) values measured in (milli)seconds via PRAAT. But although average values can, as we have seen above, show us differences across the data, we do not know yet how

statistically significant such differences are. In other words, we cannot tell whether such differences are due to chance (and as such cannot be relied on for any categorical statement, statistically-speaking) or whether the subjects, representative of mesolectal-to-acrolectal speakers of Nigerian English, are indeed able to contrast short and long vowels in their speech. Deriving relevant p-values by the means of the t-test (in Excel) makes up for this deficiency by verifying or falsifying the hints provided by the average values. The p-values are derived here at six levels: 1) the p-value for the overall short-versus-long data 2) the p-value for all Hausa Speakers' short-versus-long monophthongs 3) the p-value for all Igbo speakers' short-versus-long monophthongs 4) the p-value for all Yoruba speakers' short-versus-long monophthongs 5) the p-value for all male short-versus-long data and that of their female counterparts, and 6) the p-value for each pair/instance of contrasted short-versus-long monophthongs for each gender. The table below shows the p-values for (1) to (5) .

Table 5.5: p-values, t-values, degrees of freedom, and measures of variance of short-versus-long vowels for all the subjects, the L1 and the gender subgroups.

	Data Category	p-values	t-values	Degrees of Freedom	variance
1	Overall short-versus-long Monophthongs	2.48121E-79	-20.2014	1326	0.0016978
2	Overall Hausa Speakers' short-versus-long Monophthongs	4.30963E-25	0.001664	367	0.001664
3	Overall Igbo Speakers' short-versus-long Monophthongs	3.14415E-24	0.001638	463	0.001638
4	Overall Yoruba Speakers' short-versus-long Monophthongs	3.87242E-35	-13.1687	492	0.0016873
5	Overall Male Short-versus-long monophthongs	6.33511E-36	0.001479	649	0.0014788
6	Overall Female Short-versus-long monophthongs	1.60849E-46	0.00185	675	0.00185

The first point worth making is that the negative number at the end of each p-value above shows the number of 0s that begin each p-value. For instance, 6.37923E-05 means 0.0000637923 (i.e. five zeros before the '6'). Excel has simply shortened the numbers in its output to save space. So, Table 5 above shows p-values that are, statistically, highly significant. This implies that mesolectal-to-acrolectal Nigerian English reliably contrasts the length difference between the traditionally short and long English

monophthongs. Among the L1 subgroups, the Yoruba speakers' contrast shows the most statistically significant short-versus-long monophthongal opposition, followed by the Hausa subgroup and then lastly the Igbo subunit. Considering the fact that it is only Hausa that has some monophthongal length contrast, and not Yoruba (and of course, Igbo), the subjects' L1's can be said to have had no significant influence on their ability to contrast the traditionally short and long English vowels; at least in terms of length.

Like the L1 subgroups, both genders, as shown in Table 5.5 above, were able to make a statistically significant contrast between the short and long English vowels. Specifically, however, the p-value for the female group, having a greater number of initial zeros (i.e. 46), is more statistically significant than that of the male group (having 36 initial 0s). This, in conformity with the means analysis performed earlier (in Table 5.4 above), shows that (more) female speakers produce more contrast, length-wise, than their male counterparts. This reality emerges more clearly in the table that follows which also shows the statistics of the L1 subgroups per contrasted pair of monophthongs.

Table 5.6 showing the p-values for short-versus-long pairs of monophthongs for the L1 and gender subgroups.

	Contrasted Monophthong Pairs	Statistical Values	Hausa Subgrp	Igbo Subgrp	Yoruba Subgrp	Male Subgrp	Female Subgrp
1	TRAP vs BATH	p-value	0.001346	0.002001	4.78E-08	2.91E-07	1.14E-06
		t-value	-3.35301	-3.18307	-5.84677	-5.40475	-5.09206
		Degree of freedom	64	90	115	133	138
		Variance	0.001753	0.00186	0.00184	0.001836	0.001906
2	KIT vs FLEECE	p-value	1.33E-08	2.74E-07	1.54E-06	6.11E-09	3.54E-12
		t-value	-6.43225	-5.54048	-5.15158	-6.25886	-7.6485
		Degree of freedom	70	94	89	121	134
		Variance	0.001464	0.001599	0.001353	0.001256	0.001641

3	DRESS vs SQUARE	p-value	2.75E-05	0.001093	9.01E-08	2.09E-05	1.8E-09
		t-value	-4.64602	-3.44389	-6.05425	-4.52716	-6.72089
		Degree of freedom	47	56	62	79	87
		Variance	0.001088	0.001246	0.001706	0.000938	0.001809
4	LOT vs THOUGHT	p-value	3.03E-05	0.00032	8.02E-06	3.23E-07	5E-07
		t-value	-4.48043	-3.75948	-4.77411	-5.4268	-5.33108
		Degree of Freedom	66	81	80	115	114
		Variance	0.001646	0.001632	0.001347	0.001435	0.001591
5	STRUT vs NURSE	p-value	3.77E-08	6.42E-07	1.13E-09	4.43E-08	8.07E-16
		t-value	-6.2014	-5.35798	-6.78913	-5.816	-9.28674
		Degree of freedom	68	90	91	130	121
		Variance	0.001441	0.001611	0.001106	0.001255	0.001366
6	FOOT vs GOOSE	p-value	0.042946	0.000265	0.000652	0.000535	6.38E-05
		t-value	-2.08752	-3.98324	-3.66381	-3.65942	-4.25069
		Degree of Freedom	42	42	45	60	71
		Variance	0.002181	0.001165	0.00252	0.001439	0.002606

The p-values displayed in Table 5.6 above further establishes the point noted earlier that the subjects were able to observe the durational contrast between the traditionally short and long vowels, although not with the same significance across the L1 subgroups. Among the L1 subgroups, for example, the Yoruba speakers' statistics shows they observed 'better' (i.e. longer, thus more acrolectal) contrasts than the rest

of the indigenous language subunits in the following pairs: TRAP vs. BATH, DRESS vs. SQUARE, LOT vs. THOUGHT, and STRUT vs. NURSE. The Hausa speakers had the most statistically significant durational opposition only in the KIT vs FLEECE pair while the Igbo subgroup narrowly led in the FOOT vs. GOOSE pair. So this somewhat confirms our finding made under the average analysis above (subsection 5.1.2) that the Yoruba subgroup, in contrasting the English monophthongs, was not really being influenced by the lack of vocalic length contrast in their L1. It is worth-noting, however, that the average statistics do not always translate to statistical significance, as we have seen that whereas the Yoruba and Hausa subgroups were equivalents in terms of short-versus-long monophthongal contrast under the average length analysis, the Yoruba subgroup clearly led the Hausa (and, of course, the Igbo) subgroup in terms of statistical significance.

The p-values for the vowel pairs in Table 5.6 also confirm that both genders observed significant contrasts. However, in all of these instances, with the exception of TRAP vs. BATH, the female speakers, as indicated by the number of 0s starting their p-values, distinguished more robustly between the short and long English monophthongs than the male speakers.

5.2 Monophthongal Vowel Quality: Introduction

Having analyzed the lengths of the vowels of interest (i.e. monophthongs) in the data, especially as touching the subjects' ability to contrast them on the traditional short-versus-long basis, we now zoom in on the matter of quality. In particular, the attention is going to be on the first and second formant values which were measured in PRAAT and normalized (and recalibrated back into Hz-values) through the NORM suite. The three aims of doing this analysis are: 1) to determine the general monophthongal norms of mesolectal-to-acrolectal Nigerian English 2) to assess the extent of endogenous (i.e. indigenous languages) and exogenous (RP and GenAm) influence on mesolectal-to-acrolectal Nigerian English (at least as far as the traditional monophthongs are concerned), and 3) to compare and contrast the male and female productions of the relevant monophthongs in order to see which gender gravitates more towards the prestige norm and which gender is more under the influence of the indigenous languages. To achieve the foregoing, the analysis will be done vowel-by-vowel. Invariably, however, they will be lined up in such a way that monophthongs that are closely related in quality (e.g. KIT and FLEECE) will be treated, as it were, like a group for the purpose of comparison and contrast. For the purpose of providing a comprehensive comparative analysis, the qualities of each vowel will first be considered in the reference accents (i.e. RP and GenAm) both impressionistically and acoustically. The impressionistic data is sourced from extant works, prominent among which are Wells' (1982) classic work on accents of

English, and Ladefoged and Johnson's (2015) work, *A Course in Phonetics*. The acoustic description of the vowels of the reference accents is sourced mainly from Deterding (1997), who has provided comparatively convertible RP data in relation to the current study. On this basis, the qualities of the monophthongs of mesolectal-to-acrolectal Nigerian English, as contained in the processed acoustic data for this study, are fully analyzed and compared with the reference accents as well as the relevant indigenous languages.

By way of orientation and summary, please find four vowel charts below, providing the following: canonical RP values, the overall results of the current study and then two charts providing the results of the men and the women in this study.

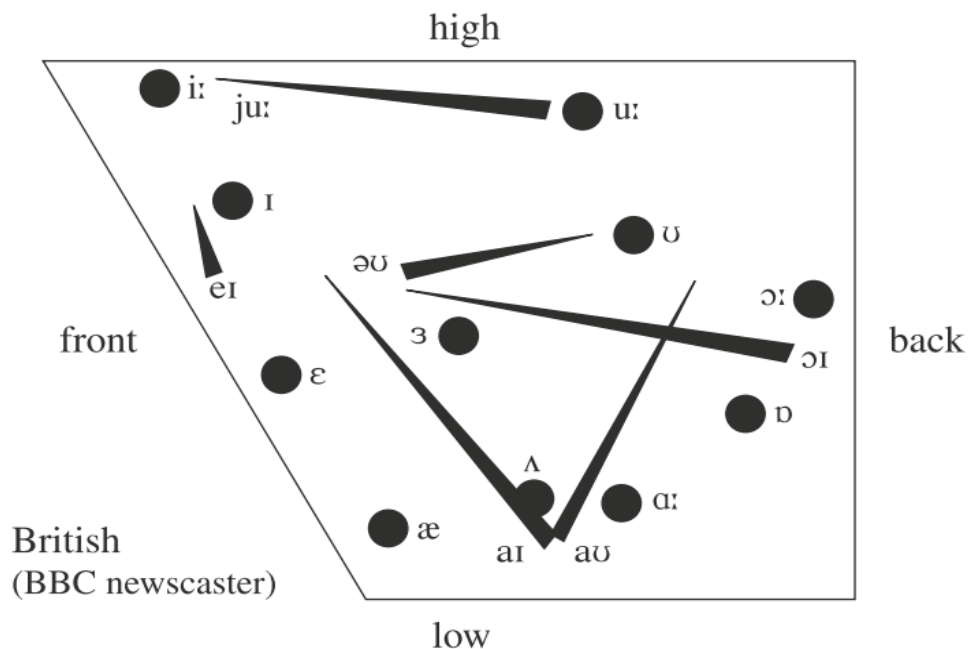


Figure 5.8 showing the impressionistic qualities of some RP vowels taken from Ladefoged and Johnson (2015: 96).

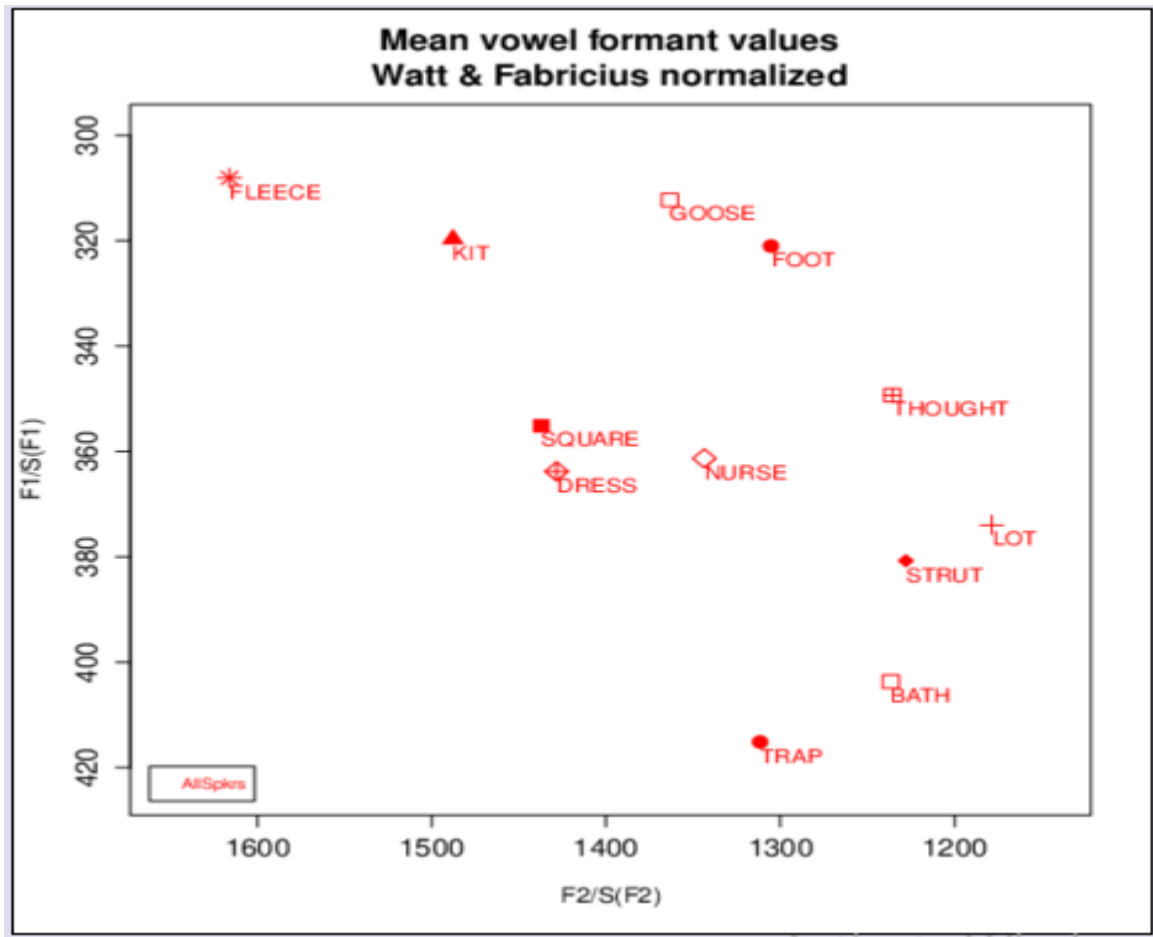


Figure 5.9: an acoustic plot of all the monophthongs as produced by the subjects

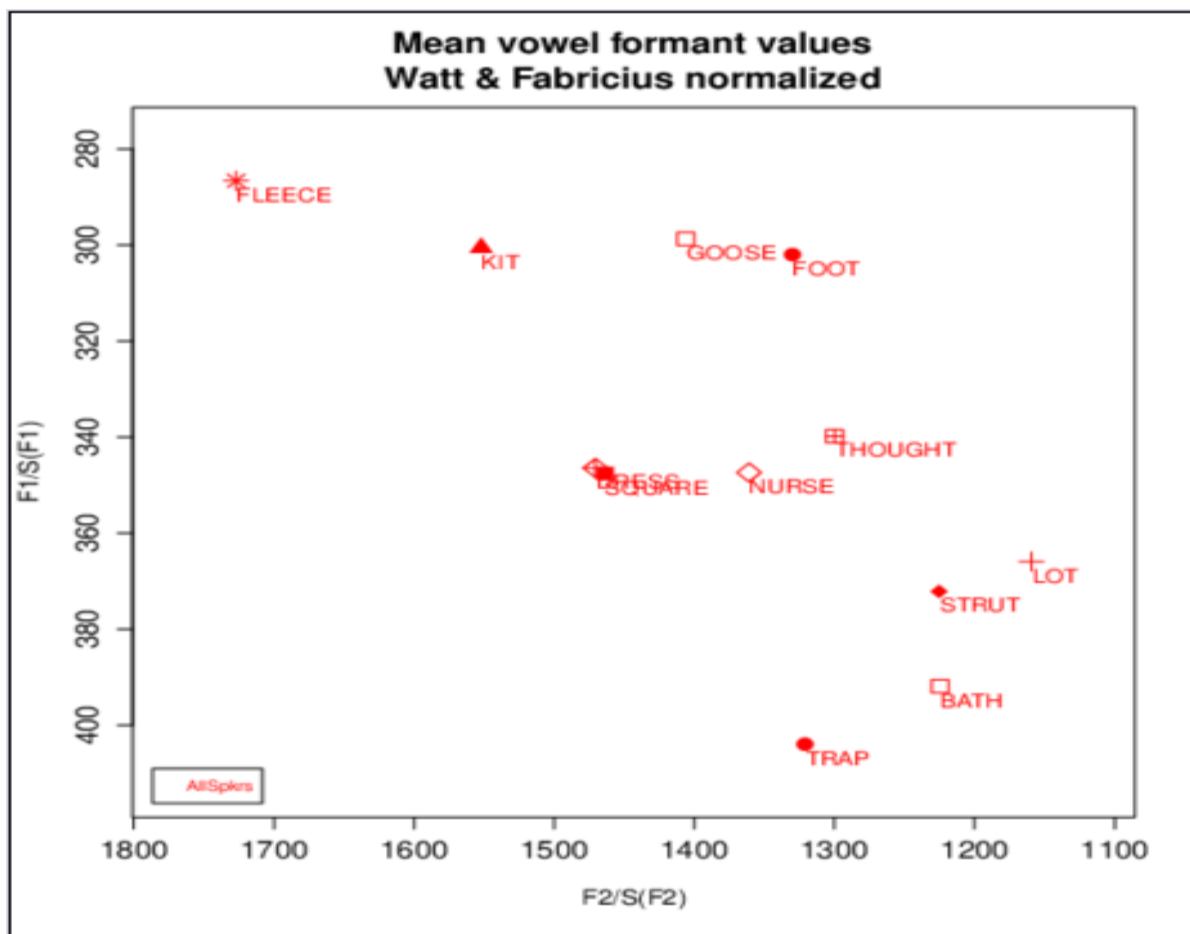


Figure 5.10: acoustic vowel chart showing the position of each monophthong as produced by the male subgroup

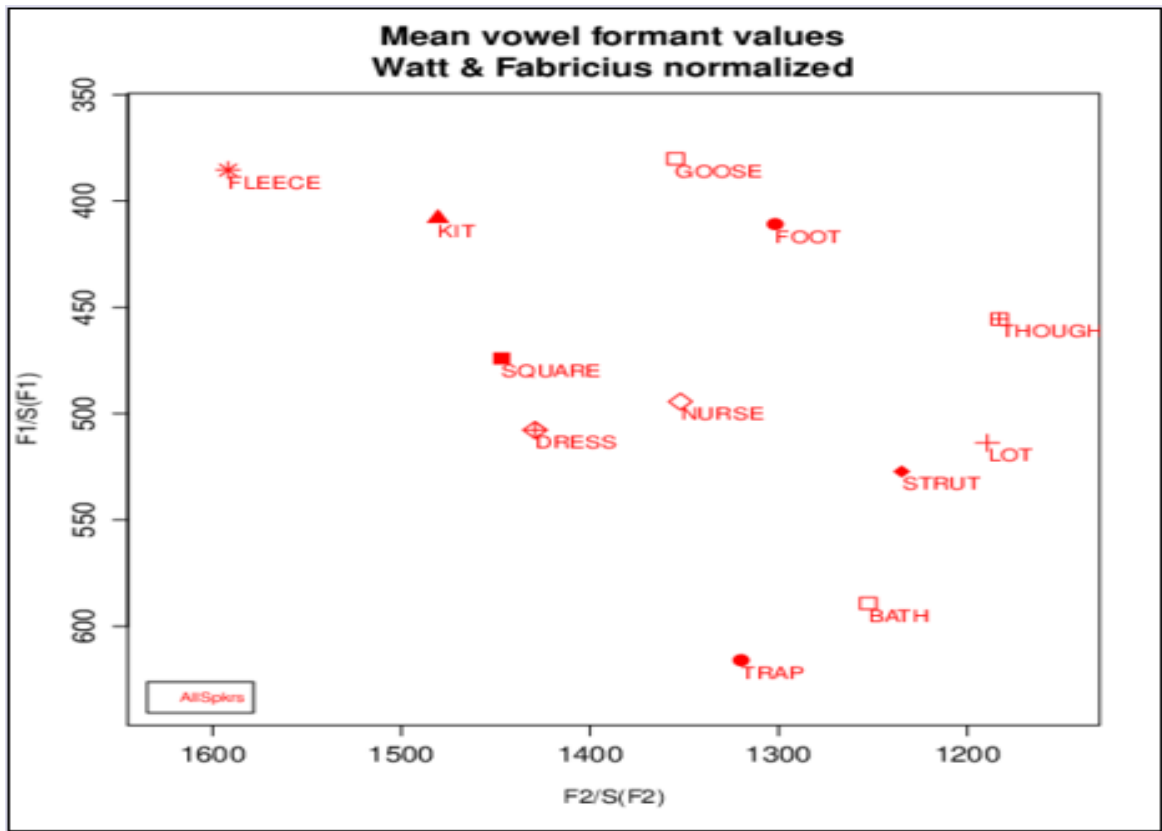


Figure 5.11: acoustic vowel chart showing the position of each monophthong as produced by the female subgroup

5.2.1 TRAP

5.2.1.1 Reference Accents

Impressionistic Description: Wells (1982: 129) describes TRAP as a vowel whose citation form in both reference accents is represented by /æ/. In Ladefoged (2015: 93), it is described as having “a low tongue position and, more important, an auditory quality that may be called low front”. But Wells (1982: 129) provides more details for it in relation to the IPA vowel chart: it is a front, almost open unrounded vowel; therefore, it is, in its prototypical realizations, nearly halfway between cardinal vowels 3 (i.e. [ɛ]) and 4 (i.e. [a]). Phonemically, TRAP is not significantly varied in each of the two reference accents but has some phonetic variation such as a much lengthened allophone which has been pointed out in relation to the length analysis of Figure 5.5 above. It should be noted, though, that TRAP and BATH belong together as /æ/ in GenAm while, in RP, BATH belongs with START and PALM as the long, backed /ɑ:/

With specific reference to GenAm, Trager (1930: 396) has, however, noted that “short α”, as he chooses to call it, “...has always been subject to change...”. In addition, Wells (1982: 470) observes that

“GenAm is not a single unified accent”, much as this is also the case with RP. The early Trager (1930: 398) describes a change in GenAm TRAP: towards the increased predominance of a “long, tense, slightly higher front” allophone which he represents with [Æ:], as against the short, lax and open front [æ].

Using the symbol [æ̥] rather than [Æ], apparently to denote the raised, tense status of TRAP in GenAm, Wells (1982: 478) notes that Trager’s identification is only the beginning of an ongoing upward-moving change in GenAm TRAP. The next stage is the mid qualities with “a centering offglide” thus yielding [ɛ̥ə] and [e̥ə]. This centering tendency gets to the level of the first element being front, close and tense, hence [i̥ə], such that the male and female names *Ian* and *Ann* respectively become homophonous. Wells (1982: 478) cites Labov (1971) as giving the sequential, environmental order in which this realization spreads thus: -m, n; -f, θ, s; -d; -b; -j; -g; -v, z; -p, t, k;. In other words, it starts from the environment before the bilabial and alveolar nasals, then to the environment before voiceless fricatives (except [f]), followed by the environment before [d]; etc.

In RP, TRAP is also phonetically varied. Wells (1982: 279) identifies four varieties of RP; namely, Mainstream RP, U-RP, Adoptive RP, and Near RP⁷². What is perhaps first worth-noting is that, in contrast to the GenAm trajectory, TRAP, especially in the speech of younger U-RP speakers, has “an opener quality [a]”, although the older but “outmoded” U-RP variant is the diphthongal [ɛæ] or [eæ] (Wells 1992: 281). Lewis (2003: 146) has equally noted the “lowered and retracted value that has become obvious over the last three or four decades” for Mainstream RP. This position correlates with that of Wells (1982: 281), who hints at the possibility of the opener variant [a] being a feature of adoptive RP. In summary, it is obvious that RP TRAP is an open and/or retracted variant unlike its counterpart in GenAm.

Acoustic Data: The acoustic details provided for the monophthongs of the RP reference accent by Deterding (1997: 49, 52) corroborates the impressionistic descriptions above. The data posits TRAP as having an F1 and F2 as captured below:

⁷² Wells (1982: 280) states that his Mainstream RP, “upper-middle-class RP”, is the same as Gimson’s (1980) General RP, which, according to Hannisdal (2006:16), is “the unmarked, neutral, modern type of RP, typically spoken by BBC newsreaders”. U-RP (or Upper-crust RP) is the variety Fabricius (2007:296) describes as “the upper-class sociolect”. It is the old, conservative variety of RP spoken by such people as “upper-class army officers” and elderly Oxbridge University dons (Wells 1982: 280). Adoptive RP, on the other hand, is the “variety of RP spoken by adults who did not speak RP as children” (Wells 1982: 283) while Near-RP is the educated variety with enough regional imprints to reveal the provenance of the speakers, either from England itself or from the former British colonies (Wells 1982: 297).

**Table 5.7: first and second formants of RP TRAP adapted from
Deterding (1997: 55)⁷³**

F1	F2
690.2	1524.6

Having the first formant value as 690.2Hz posits TRAP as being significantly open. Also, 1524.8 as F2 shows that TRAP is a front vowel compared, for example, to the backed BATH whose F2 is 1209.0. The lowered nature of TRAP in RP and its frontness are both evident in Figure 5.12, that follows, which shows the qualitative positioning of all RP monophthongs as contained in Deterding's (1997) data.

⁷³ Deterding's (1997) values are in raw Hertz as can be seen in Appendix 2. In order to make them comparable with my normalized primary data, I have normalized them using the same Watts and Fabricius (2002) method in the automatic vowel normalization and plotting suite known as NORM Version 1.1 (Thomas and Kendall 2015) which I used to normalize my primary data. It should also be noted that Deterding did not use the lexical set terminology to label his vowels but rather used the phonemic symbols as can equally be seen in Appendix 2. So, for example, I have labeled his /ɑ:/ as START, PALM, and BATH where necessary, /ɪ/ as KIT etc. since I mainly use Wells' (1982) lexical set terminology to describe the vowels in my primary data.

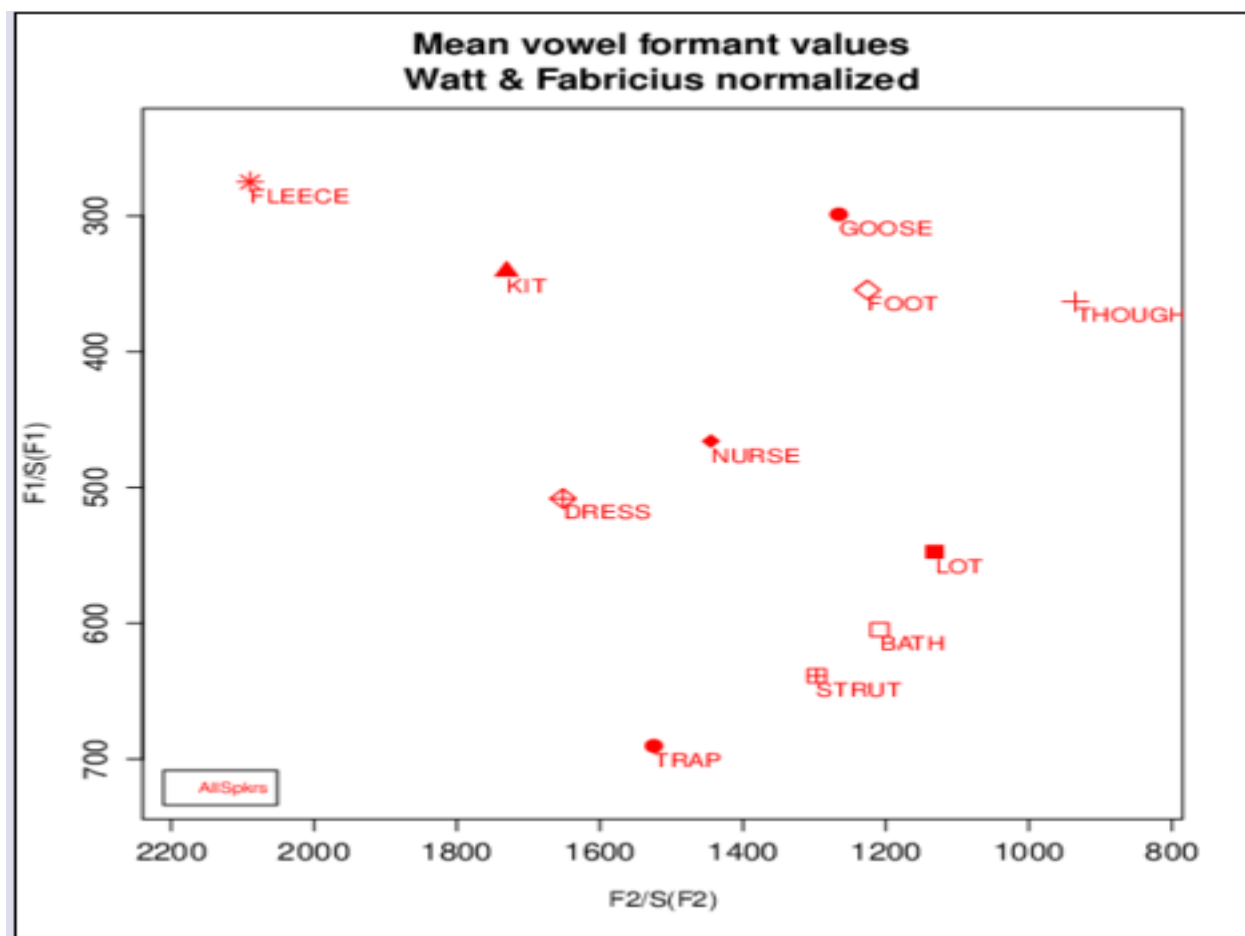


Figure 5.12: acoustic formant chart of RP monophthongs in Deterding (1997: 55)

Figure 5.12 above confirms TRAP as the most open monophthong in RP where it is being continuously lowered; unlike GenAm where it is being continuously raised, thus making the short equivalent of RP BATH (i.e. /ɑ:/) the most open vowel in RP (Ladefoged and Johnson 2015: 96).

5.2.1.2 TRAP in Mesolectal-to-acrolectal Nigerian English

We shall here analyze the TRAP realizations in the primary data to see how close they come to the reference accents as well as the differences among the research subjects, especially along the gender divide. On the global view of the data, the table below shows the (normalized) F1 and F2 values of TRAP in mesolectal-to-acrolectal Nigerian English:

Table 5.8: first and second formants values of TRAP as produced by all the research subjects

F1	F2
415.1	1311.6

The F1 in Table 5.8 (415.1Hz) above shows a quite close TRAP when compared to the RP value (690.2Hz), the former being closer by a difference of 275.1 Hz. In other words, mesolectal-to-acrolectal Nigerian English TRAP is not as open as it is in RP. There are two possible explanations for this development: (1) from the endogenous, indigenous languages perspective and (2) from the exogenous GenAm perspective. In the first place, none of the indigenous languages has a vowel that is the same in quality as English TRAP, judging from Figures 1-3 (the IPA charts for the three major indigenous languages presented earlier in this chapter). The possibility here is that the subjects' TRAP is being influenced by the closest front vowels to English TRAP in the indigenous languages: /e/. On the horizontal plane also, the subjects' TRAP is retracted: backed by a difference of 213Hz compared to that of RP. It is imperative, therefore, at this juncture, to streamline the acoustic data of the TRAP vowel along the indigenous languages to see the interplay of the subjects' L1's in their realizations of TRAP.

5.2.1.3 TRAP as Realized by Different Indigenous Language Subgroups

The table that follows presents the first and second formants of TRAP according to how each L1 subgroup of the research subjects produced it:

Table 5.9: average F1 and F2 values of TRAP as produced by L1 subgroups.

Mother Tongue	F1	F2
Hausa	614	1401.9
Igbo	591.3	1367.7
Yoruba	392.6	1255.3 ⁷⁴

⁷⁴ It should be noted that the sum-up of the group values here and indeed across each of the variables (indigenous languages or gender) will not (and indeed cannot) average up with overall values. In other words, the F1 values 614Hz, 591.3Hz, and 392.6Hz of Hausa, Igbo, and Yoruba TRAP respectively will not average up with the overall F1 value of 415.1Hz. This is unavoidable owing to the normalization procedure of Watt and Fabricius (2002) which calculates the grand mean value of each speaker's centroid (also known as centre of gravity) on the F₁-F₂ plane (i.e. the so-called vowel envelop) by using the minimum F1, minimum F2, maximum F1, and maximum F2 to execute the normalization. Therefore, the values that serve the basis of calculating the centre of gravity when all the data are

Clearly, none of the indigenous groups produced an English TRAP that is as open as that of the RP value captured in Table 5.7 above (i.e. 690.2Hz). However, we can still usefully compare the degree of openness/closeness of TRAP among the subjects based on their indigenous languages. First, we can note that, as is evident from Figures 5.1-5.3 above, none of the indigenous languages has a TRAP-like vowel. Therefore, lowering becomes a prestige norm and a lack of lowering is an influence of the speakers' L1's as it is in RP. The most open TRAP, and thus the prestige norm, was realized by the Hausa subgroup with an F1 of 614Hz. The Yoruba research subjects produced the closest English TRAP (392.6Hz), and thus the least prestigious norm. The Igbo subgroup's TRAP value (591.3Hz) shows that it is in-between those produced by the other two indigenous language subgroups. There is another point we may note from the vocalic realities in the speakers' mother-tongues vis-à-vis the vertical dimensions of their respective TRAP. The F1 values seem to have been 'pulled' by the vowel /e/ in the individual L1's. So, the Hausa speakers' TRAP (which is the most open) seems to have been influenced by their relatively open L1 /e/ while their Yoruba counterparts' (the least open) seems to have been pulled by their close /e/. Igbo has an /e/ that is in-between these two vocalic positions and so the Igbo subgroup produced a TRAP that is in-between that of the other two subgroups.

The horizontal dimension shows L1-Hausa speakers of English having the most fronted TRAP (1401.9Hz). While there is no readily explicable indigenous language reality for this, we may assume that their L1-influenced ability to produce an open TRAP close to that of RP speakers has equally predisposed them to realize RP-modeled fronted TRAP. The same reality, on the flip side, can be noticed with the Yoruba subgroup. This subgroup of the subjects who have the closest TRAP, farthest away from the RP norm on the vertical plane, correspondingly also have the most backed TRAP (1255.3Hz), the farthest away from the RP model on the horizontal dimension. Again, as it is with the L1-Igbo speaking subjects regarding the height being in-between the other two indigenous language groups, so it is regarding the horizontal dimension, with an F2 of 1367.7Hz. Based on the foregoing, we can conclude that subjects with a Hausa background are gravitating more towards RP than the rest of the indigenous groups. This is a satisfactory confirmation of some impressionistic descriptions of the influence of the three indigenous Nigerian languages on their speakers of English. For example, Banjo (1996: 22), affirming Dunstan (1969), remarks thus "...indeed at the phonemic level, Hausa has more in common with English than, say

together to get the overall normalized values will be different when each subgroup is normalized on their own terms. This, however, does not diminish the reliability of the data as we get the formant values for each subgroup based on their raw Hertz values. If anything, this procedure gives us the true picture of each subgroup as it does not allow one subgroup to 'hide' under the influence of another, which is what happens when they are all normalized together.

Igbo or Yoruba, the other two dominant languages of Nigeria...” The Yoruba subgroup produced the least prestigious norm.

We may, perhaps, also contemplate the influence of GenAm. As has been noted earlier, TRAP in GenAm is a front close vowel, phonetically speaking. Wells (1982: 129; my emphasis) particularly notes that “it is a striking fact that the current trend in pronunciation of this vowel is towards a **closer, longer** ...quality in the United States, but towards an opener, [a]-like...quality in England”. However, the overall F2 for TRAP in the data (1311.6Hz) shows a retracted or much more backed quality than the RP control data (1524.6Hz). This immediately detracts from the possibility of the influence of GenAm where the TRAP is fully fronted (see Wells 1982: 486). We are thus left with the influence of RP and the indigenous languages as has been expounded above.

5.2.1.4 Gender Dichotomy in the Production of TRAP

The table below captures the gender-based pronunciation of TRAP in the data.

Table 5.10: average F1 and F2 values of TRAP as produced by gender subgroups.

	F1	F2
Male	404	1321.1
Female	616	1319.9

None of the genders produced a fronted TRAP like that of RP which is 1524.6Hz, and it can be seen that TRAP on the horizontal dimension is essentially the same across gender, being only differentiated by 1.2Hz, which has no significance, acoustically speaking. However, TRAP in the speech of the female subgroup is in a more open position than that of the male subgroup, and thus nearer the RP norm. Whereas our referenced RP TRAP, being 690.2Hz, is only opener than that of the female subgroup by a difference of 74.2Hz, the difference between it (i.e. RP TRAP) and the male data is 286.2Hz. The foregoing realities are graphically represented below for clarity.

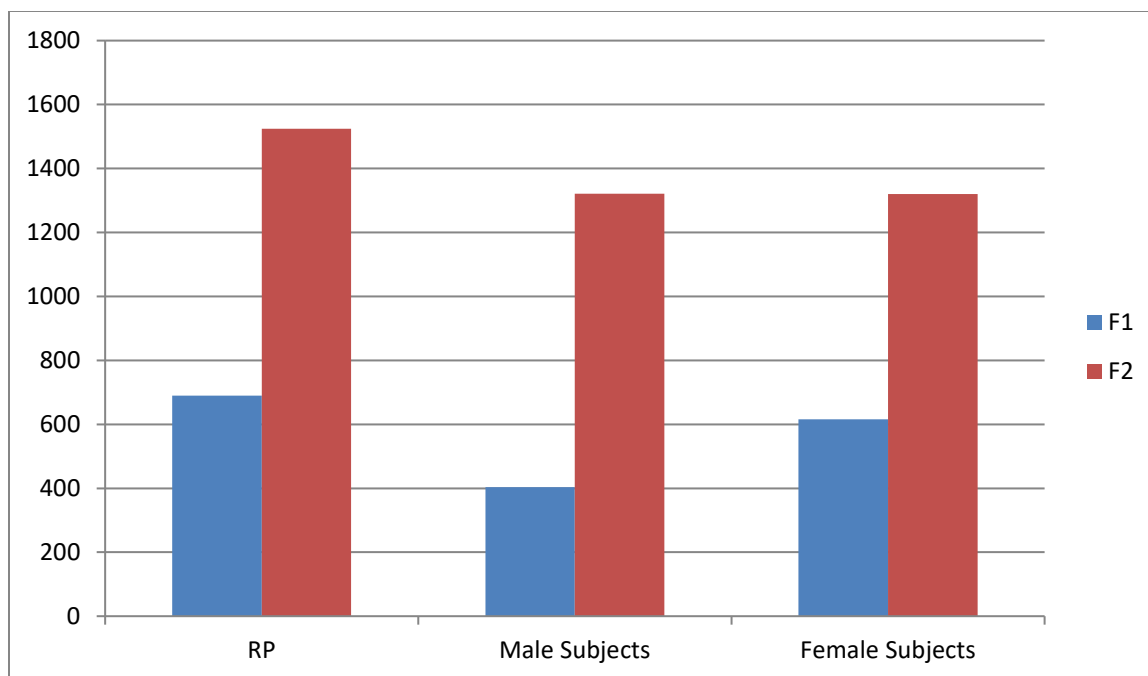


Figure 5.13: comparison of F1 and F2 values of RP TRAP with those of the male and female research subjects

From what we have seen so far, the female speakers are approximating the RP norm for TRAP more than their male counterparts, at least on the vertical plane, where most dialectal variation has taken place as far as English TRAP is concerned. The male subjects' TRAP is thus being pulled more, obviously, by the effect of the indigenous languages.

5.2.2 BATH

5.2.2.1 Reference Accents

Impressionistic Description: BATH is here taken as an umbrella term for the lexical sets BATH, START and PALM in line with Bekker (2009: 53) for two reasons. Firstly, Nigerian English, as noted by Gut (2004: 822), and indeed as heard in the speech of the subjects of the current study, is non-rhotic, thus merging START and PALM. Secondly, BATH is drafted into the group on account of the clear and impressionistically obvious non-merger of TRAP and BATH in the data. The length analysis above confirms this as well. BATH, START and PALM have the stressed vowel /ɑ:/ in RP, while BATH merges with TRAP in GenAm thus making it a lax or tense, short, front vowel in that accent (Wells 1982: 129; Ladefoged and Johnson 2015: 102-103). START AND PALM are differentiated in GenAm by the presence or otherwise of the non-prevocalic /r/, such that START has the stressed vowel /ɑr/ while PALM has the stressed vowel /ɑ/ (Wells 1982: 142-143, 157-158). While Ladefoged and Johnson (2015: 94)

qualify the vowel as low back, Carley and Mees (2020: 162) describe its quality as open back-central. Wells (1982: 158, 130), however, differentiates the quality of the vowel in both of the two reference accents, stating that it is a “fully open unrounded vowel lying between back and central” in RP but fully open central in GenAm. Regarding RP, Wells (1982: 281, 298) adds that the /ɑ:/ of START-PALM (and BATH) is particularly back in U-RP. Taking the foregoing into account, therefore, the BATH (as our cover term here) exogenous quality occurs within the vowel space of open back-central in terms of RP. Given the clearly non-GenAm values in the primary data, the GenAm reference will be ignored henceforth for this vowel.

Acoustic Data: We shall again revert to the re-processed (by means of normalization) acoustic RP data of Deterding (1997: 55). The purpose is both to corroborate the impressionistic description above and consequently provide a link between the description of RP and the acoustic data of the monophthongs of mesolectal-to-acrolectal Nigerian English. Deterding uses the phonetic symbol /ɑ:/ which, of course, covers RP BATH-START-PALM.

Table 5.11: first and second formants of RP BATH adapted from Deterding (1997:55)

F1	F2
604.7	1209

The acoustic data presented in Table 5.11 above shows that /ɑ:/ is indeed an open vowel. It is, however, not as open as its TRAP counterpart in Table 5.7 which is 690.2Hz. This upholds the point noted earlier about the continuous lowering of TRAP in RP. Indeed, Ladefoged and Johnson (2015: 96) have shown an opener /æ/ than /ɑ:/ in RP as can be seen in Figure 5.8 above.

With respect to the horizontal dimension (i.e. backness), Deterding’s acoustic data reveals a backed /ɑ:/ with an F2 of 1209Hz, compared to the fronted /æ/ of 1524.6Hz in Table 5.7. We shall now explore how the BATH (i.e. /ɑ:/ of BATH-START-PALM) of mesolectal-to-acrolectal Nigerian English compares with the exogenous data already provided .

5.2.2.2 BATH in Mesolectal-to-acrolectal Nigerian English

The table that follows presents the overall BATH acoustic data of mesolectal-to-acrolectal Nigerian English, as realized by the research subjects.

Table 5.12: first and second formants of BATH as realized by all the research subjects

F1	F2
403.7	1236.6

It is, probably, worth-noting that, in conformity with the RP pattern as seen both in Deterding's acoustic data in Figure 5.12 as well as the impressionistic Figure 5.8 above, mesolectal-to-acrolectal Nigerian English BATH (with a 403.7Hz F1 value) is not quite as open as its TRAP (415.1Hz). Certainly, the acoustic, 'vertical' difference between RP TRAP and BATH (see Figure 5.12) is wider than that obtainable in mesolectal-to-acrolectal Nigerian English. It is suggestive however that the research subjects imitated the RP model, as minimal as it might be, of having a lower TRAP than BATH. The acoustic plot of all the subjects' monophthongs presented in 5.9 above shows this.

As already implied, mesolectal-to-acrolectal Nigerian English BATH (with an F1 of 403.7Hz) is not as open as Deterding's RP data with an F1 of 604.7Hz. Here, the explanation seems locked in one direction: the influence of the mother-tongues. There is evidently a relatively open [a] in the three indigenous languages. But they are not back like RP /ɑ:/. The next nearest back vowels in the indigenous languages are /o/ (Hausa) and /ɔ/ (Igbo and Yoruba) all of which are not fully open. We may postulate, therefore, that in attempting to realize the backed BATH, some of the subjects are being influenced by the vertical dimension of the nearest back vowels in their L1, that is, /o/ or /ɔ/. Of course, there is no qualitative vocalic contrast in any of the indigenous languages corresponding to that between English /æ/ and /ɑ:/, as indeed has been noted by Tiffen (1974: 28, 30). But it is left to be seen if the mother-tongue exerts any influence along the horizontal dimension. This leads us to the second formant of BATH in the primary data.

The F2 in Table 5.12 above shows that the subjects realized BATH as a back vowel with a second formant value of 1236.6Hz. Although it is obviously not as back as RP BATH (1209Hz), it is satisfying that it is more backed when compared with the F2 of TRAP (1311.6Hz). This proves that the mesolectal-to-acrolectal Nigerian English speakers are able to qualitatively contrast between /æ/ and /ɑ:/ on the horizontal dimension (and, of course, along the vertical dimension as already seen in the preceding paragraph) and thus there is no TRAP-BATH merger (as it is in GenAm). Thus, we can reasonably say that the horizontal dimension of mesolectal-to-acrolectal Nigerian English BATH is modelling the RP norm.

We can further confirm the level of influence of the indigenous languages by dividing the BATH data along the different L1s of the subjects.

5.2.2.3 BATH as Realized by Different Indigenous Language Subgroups

The table that follows has the acoustic details (F1 and F2 values) of BATH as produced by the subjects according to their different mother-tongue subgroups.

Table 5.13: average F1 and F2 values of BATH as produced by L1 subgroups.

Mother Tongue	F1	F2
Hausa	583.4	1360.5
Igbo	561.5	1261.8
Yoruba	382.3	1165.6

The table above shows the Hausa subgroup having the most open and the most fronted BATH. The L1-Yoruba speakers have the least open and the most backed BATH while the Igbo subgroup is in-between on both vertical and horizontal planes. An interesting thing is that this is the same pattern as that found across the mother-tongues in the TRAP analysis. In any event, the speakers of all L1-subgroups were able to make a reasonable TRAP-BATH contrast; as will be seen shortly when the different degrees of contrast each subgroup was able to make between TRAP and BATH will be presented.

5.2.2.4 Gender Dichotomy in the Production of BATH

The table below displays the division of the acoustic data of the mesolectal-to-acrolectal Nigerian English BATH vowel along the gender dimension.

Table 5.14: average F1 and F2 values of BATH as produced by gender subgroups.

	F1	F2
Male	391.9	1224.6
Female	589.3	1252.5

First, it should be noted that since the F1 values of both male and female speakers in the table above (391.9Hz and 589.3Hz respectively) show a lower TRAP (404Hz and 616Hz respectively in Table 5.10) than BATH, each gender is imitating the RP norm rather than that of GenAm (where /æ/ is higher than /ɑ/). The female F1 value (589.3Hz), from 5.14 above, is almost as open as the RP's 604.7Hz, by a negligible difference of 15.4Hz, while the male's 391.9Hz is closer; away from the RP norm by a difference of 212.8Hz. It could be said, therefore, that the female speakers are gravitating towards the prestige norm while the male speakers' BATH vowel, as it is with TRAP, is being pulled by the influence of the indigenous languages. On the horizontal plane, both the male and female speakers, with 1224.6Hz and 1252.5Hz F2 values respectively, are approximating RP's 1209Hz F2 value, although the male

speakers are, technically speaking, nearer to the RP norm, but by a difference of just 27.9Hz in comparison to the female speakers. The female speakers are, thus, on the whole, approximating the prestige norm more than their male counterparts. As in the case with TRAP, the real issue here is that of height. We will now look at how different subgroups were able to produce a contrast between TRAP and BATH, in comparison with the contrast in Deterding's RP data.

5.2.2.5 Contrasts between /æ/ and /ɑ:/ in RP and Acrolectal-to-mesolectal Nigerian English

We shall now closely consider the contrasts between the /æ/ of the TRAP vowel and /ɑ:/ of BATH (namely, BATH-START-PALM) as realized by all the research subjects representing the mesolectal-to-acrolectal speakers of Nigerian English, as well as the gender and indigenous language subgroups, in comparison with Deterding's RP data. The next two figures capture the degree of such TRAP-BATH contrasts.

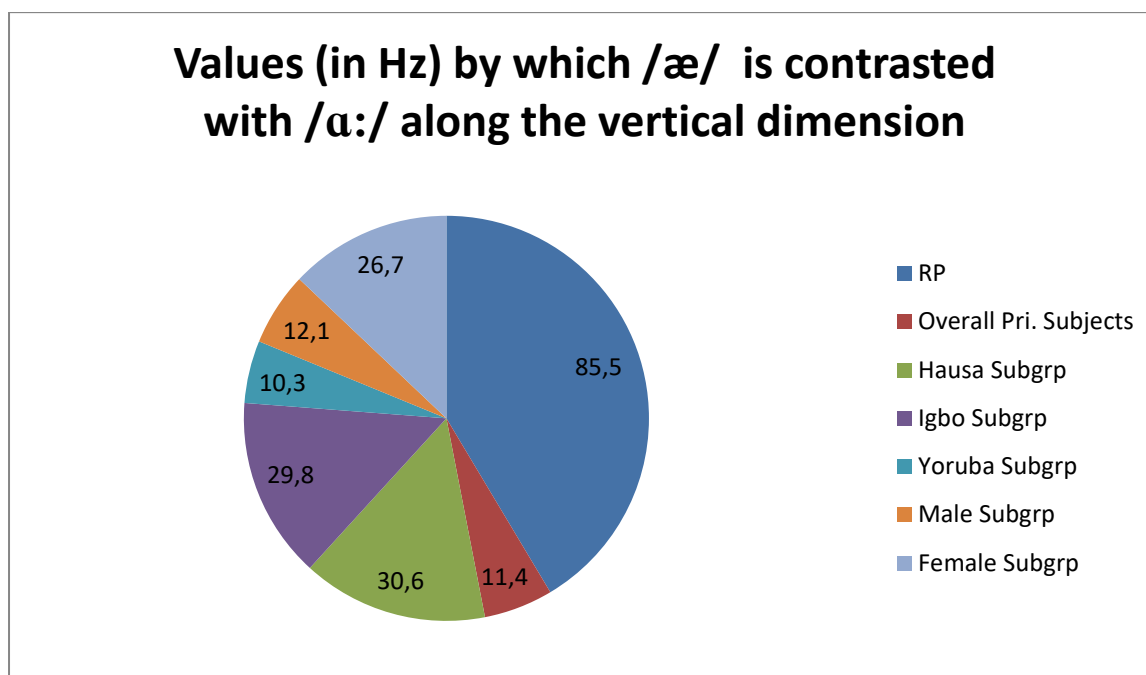


Figure 5.14 showing the contrasts between TRAP and BATH on the vertical dimension (i.e F1).

Figure 5.14 shows that the research subjects were able to make some qualitative contrasts in height between /æ/ and /ɑ:/, although such contrasts are yet a far-cry from what is obtainable in RP, for example, where the former vowel is opener than the latter by 85.5Hz. All the research subjects were able to contrast the two vowels only by an average difference of 11.4Hz. But at the subgroup levels, we can see better attempts. For example, among the indigenous language subgroups, the L1-Hausaspeakers of English were able to contrast the two vowels by 30.6Hz while the Yoruba subgroup made the least contrast, of 10.3Hz.

Consequently, the Hausa subgroup is gravitating more towards the RP norm than the rest of the L1 subgroups. Also, with a difference of 26.7Hz, the female subgroup is approximating the prestige RP standard more than the male subgroup.

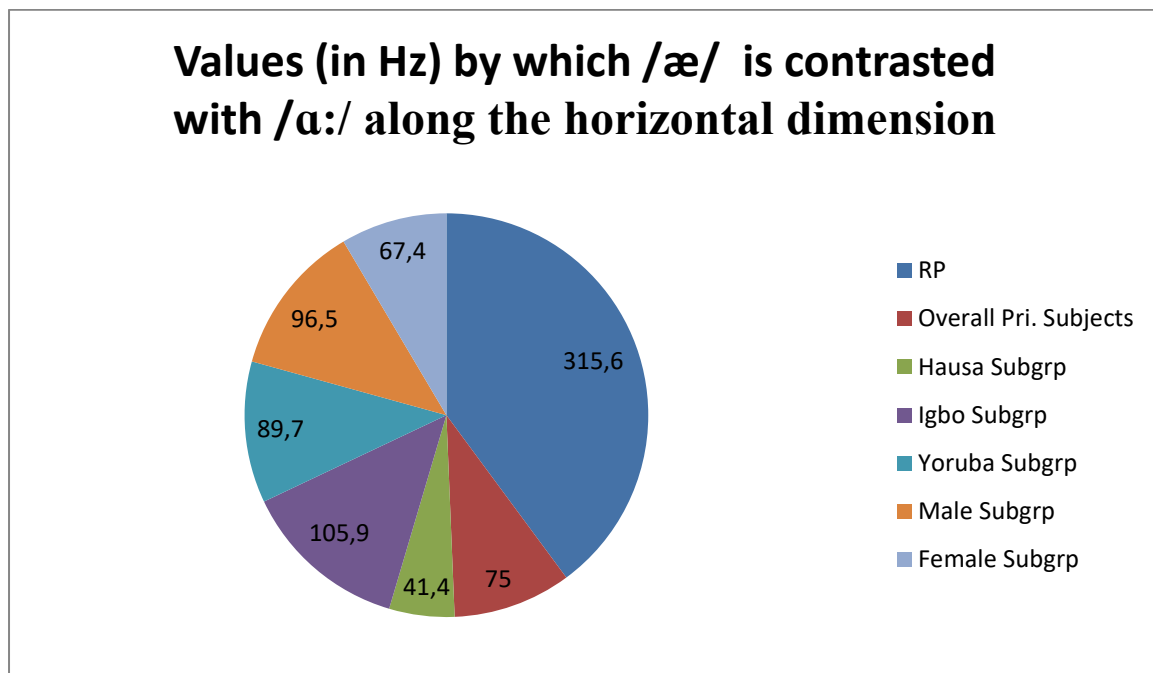


Figure 5.15: contrasts between TRAP and BATH on the horizontal dimension (i.e F2).

From the figure above, we can also see that the research subjects could observe the quality opposition between /æ/ and /ɑ:/ along the horizontal dimension, albeit very minimally compared to Deterding's RP data, where the former vowel is more fronted than the latter by 315.6Hz. The Igbo subgroup made the widest contrast with 105.9Hz, while the Hausa subgroup has the least contrast with 41.4Hz. In the gender group, the male subgroup has the wider contrast with 96.5Hz. But as we have noted in the concluding part of subsection 5.2.1.4, our focus, in this instance, is more on the vertical plane. Thus, our conclusion vis-à-vis the prestige norm or otherwise for the vowels in question is primarily based on the question of height. However, that the subjects could contrast /æ/ and /ɑ:/ along the horizontal dimension serves to confirm one major phenomenon: Nigerian English, like RP, has no TRAP-BATH merger, unlike GenAm. On the whole, going by the level of length contrast as can be seen in Table 5.2 above, we may remark that although mesolectal-to-acrolectal Nigerian English speakers were able to contrast /æ/ and /ɑ:/ in terms of quality, they are apparently doing so more markedly in terms of length.

5.2.3 KIT

5.2.3.1 Reference Accents

Impressionistic Data: The KIT vowel, according to Wells (1982: 127), is, in both reference accents, phonemically symbolized as /ɪ/. Carley and Mees (2020: 136-137) note that the KIT vowel (being a short vowel) contrasts with the FLEECE vowel (being long) not only length-wise but also qualitatively, describing KIT as being “just above close-mid, front-central, unrounded”. This description re-echoes Tiffen (1974: 4) who describes it as a “centralized front unrounded vowel, between close and half-close”. In other words, the KIT vowel is, phonetically, neither fully fronted nor fully close.

The KIT vowel (as well as DRESS) is, according to Ladefoged and Johnson (2015: 102), the least variable vowel across most accents. Wells (1982: 291), however, hints at some variation in RP along the age variable; while the closer and more fronted quality is associated particularly with conservative U-RP, an opener and more centralized quality characterizes the KIT of the younger generation of RP speakers.

Acoustic Data: Deterding’s (1997: 55) RP acoustic (but re-processed) data for KIT is as presented in the table below.

Table 5.15: first and second formants of RP KIT adapted from Deterding (1997: 55).

F1	F2
340.9	1730.6

Although the relative frontness and closeness of KIT as presented in Table 5.15 above will only be fully appreciated in relation to its tense counterpart (i.e. FLEECE), which will be considered shortly, we can, at least, for now, confirm that it is indeed a front vowel if we consider the F2 quality of the front vowel that we have seen already- TRAP which is 1524.6Hz. Also, the 340.9Hz F1 of KIT shows, at least, that the KIT in this data is closer, as expected, than the open TRAP with a 690.2Hz F1 value. We can say therefore that KIT in Deterding’s acoustic data agrees with its impressionistic descriptions as presented above.

5.2.3.2 KIT in Mesolectal-to-acrolectal Nigerian English

The table that follows captures the relevant (overall) acoustic information about KIT in the primary data as produced by all the research subjects.

Table 5.16: first and second formant values of KIT as produced by all the research subjects

F1	F2
319.7	1487.8

The research subjects produced a closer KIT than that of the RP speakers by a difference of 21.2Hz. Apparently, therefore, there is not much acoustic difference between the height of KIT in the RP data and that of the Nigerian mesolectal-to-acrolectal English speakers: the latter is only closer by a negligible amount, a difference which could have been informed by other non-linguistic factors, such as the number of speakers/tokens involved in each case. But RP KIT, with 1730.6Hz as the second formant, is certainly more substantially fronted than that of the research subjects (1487.8Hz); by 242.8Hz, which consequently makes the subjects' KIT a comparatively centralized one. Thus, the plane of variation is horizontal rather than vertical, and the vocalic realities in the mother-tongues provide some tenable explanations. As can be seen in Figures 1-3 presenting the vocalic spaces of the L1 vowels, both Hausa and Igbo⁷⁵ have KIT-like vowels (/i/ and /i/ respectively), Hausa /i/ particularly being retracted compared to English KIT. More generally, Dunstan (1969: 94) has noted that the "Igbo distinction between /i/ and /i/ is somewhat parallel to English /i:/ and /i/". In the same vein, Tiffen (1974: 30) reveals that the Hausa language possesses both /i:/ and /i/ (the latter being almost the same as English KIT but slightly more retracted). Yoruba, on the other hand, does not have any equivalent of KIT. We can trace the foregoing further by considering the acoustic information of the primary data across the various mother-tongue groups.

5.2.3.3 KIT as Realized by Different Indigenous Language Subgroups

The table below captures the first and second formants of KIT as produced by the subjects along their indigenous languages.

Table 5.17: average F1 and F2 values of KIT as produced by L1 subgroups.

	F1	F2
Hausa	385.1	1536.8
Igbo	344.9	1638.8
Yoruba	298.2	1449.6

The first thing to note here is that, as in the overall data, all the indigenous language subgroups produced a centralized KIT (compared with the comparatively fronted 1730.6Hz RP KIT in 5.15). In 5.17 above,

⁷⁵ Although in the case of Igbo, what is more apparent is the lowering.

the nearest KIT to the RP norm is that produced by the Igbo subgroup, having the most fronted KIT (1638.8Hz): even the height of their KIT (344.9Hz) is approximately the same as that of RP (340.9Hz). The presence of a KIT-like vowel /i/ in Igbo might be accountable for this with the slightly retracted nature of this KIT-like vowel also exacting some influence. The Hausa speakers' KIT is the next to that of the Igbo subgroup on the horizontal plane, more retracted than the latter by a difference of 102Hz. The influence of their L1 is again evidently the culprit here, as the Hausa vowel chart in Figure 5.1 shows a much more backed KIT-like vowel than that of Igbo in Figure 5.2. The Yoruba subgroup realized the most backed KIT (and thus the farthest from the RP norm). Although Yoruba has a FLEECE-like vowel /i/, it has no KIT equivalent like the other two mother-tongues. If the Yoruba speakers were influenced by the Yoruba FLEECE-like vowel, we would expect them to produce a much more fronted KIT. This is obviously not the case. It is unclear therefore whether the influence of the Yoruba FLEECE-like vowel can be confirmed on the vertical plane: the Yoruba subgroup produced a very close KIT with anF1 of 298.2Hz.

5.2.3.4 Gender Dichotomy in the Production of KIT

We shall now see how the male and female genders differ from each other in their production of KIT as presented in the table below.

Table 5.18: average F1 and F2 values of KIT as produced by gender subgroups.

	F1	F2
Male	300.6	1552.1
Female	408.1	1480.5

The table above shows that the male subgroup produces a closer KIT than the female subgroup. None of the gender subgroups, however, produces a value very close to the RP F1 value of 340.9Hz, although both are not too far from it. Whereas the male subgroup's KIT is closer than that of RP by 40.3Hz, the female subgroup is opener by 67.2Hz. Arguably, the male subgroup has produced a less standard KIT (i.e. a KIT closer to FLEECE) than their female counterparts. Indeed, it might turn out (as we will be able to determine later after FLEECE has been analyzed) that this is a result of the inability of the male speakers to properly contrast /i/ and the closer /i:/, a feature that has been noted to characterize Nigerian English (Dunstan 1969: 26). On the horizontal dimension, the male subgroup with an F2 of 1552.1Hz has a KIT nearer to that of the RP value (1730.6Hz) than the female subgroup (1480.6Hz). The same reason as that for producing a closer KIT is perhaps at play here (since the higher the KIT climbs the fronter it

becomes). A speculative observation that is perhaps also due here is that the over-centralization of KIT by the female speakers is a case of hypercorrection, as they want to make sure that they are as far away from any FLEECE-like pronunciation as possible. The females are thus endeavouring to produce a KIT that is clearly unFLEECE-like. A related factor might be that the female speakers are producing the relatively open and centralized KIT associated with younger speakers of RP. Tentatively, therefore, we can say that the female subgroup's KIT gravitates towards (or at least tries to capture via hypercorrection) the prestige norm. The validation or otherwise of this position awaits the analysis of FLEECE which follows shortly. In other words, we shall see whether the male subgroup (as well as the female group, of course) is able to contrast reasonably between KIT and FLEECE, qualitatively.

5.2.4 FLEECE

5.2.4.1 Reference Accents

Impressionistic Description: Wells (1982: 140) characterizes the FLEECE lexical set as having the stressed tense close front /i(:)/ in both reference accents. Being thus described, this vowel, as Ladefoged and Johnson (2015: 93) point out, is produced roughly with the tongue being “high and in the front of the mouth” but more exactly as having “the auditory quality we will call high, and the auditory quality front”. Phonemically, however, Wells (1982: 140) notes that FLEECE could be symbolized as /i/ (as it usually is in GenAm), /i:/ (as it usually is in RP thus placing more emphasis on the length than it is in GenAm), diphthongal /ii/, /ij/, /i:j/ or, according to Labov (1994, cited in Bekker 2009: 52), as /iy/. Wells (1982: 487) reports that diphthongal FLEECE (as well as GOOSE) in GenAm can be found in such places as Philadelphia, Pittsburgh, New Jersey, and Baltimore. A diphthongal variant is also sometimes found in RP, and more particularly in Cockney (Wells 1982: 299, 306). Suffice it to note that FLEECE is expected to be the highest (i.e. the closest) and the most fronted English monophthong (Watt and Fabricius 2002: 162-163).

An important environmental influence on the quality of FLEECE in RP and GenAm is the lateral /l/ in word-final position such that the FLEECE before it is realized as a centring offglide (e.g. *seal* [sɪəl]) even with the possible “auditory impression”, according to Wells (1982: 487), “of an intrusive semivowel” (e.g. [sɪjəl]). As an aside, it might be worth repeating here (as it has been stated in Section 4.8 in the preceding chapter) that words preceded or succeeded by sonorants such as /r/, /l/, and /j/ have been

excluded from the tokens that constitute the dataset for the current study⁷⁶ in order to avoid the boundary indeterminacy and associated acoustic problems they pose.

Acoustic Description: the table below captures the acoustic details of RP FLEECE as reported (but normalized by me) in Deterding (1997: 55).

Table 5.19: first and second formant values of RP FLEECE adapted from Deterding (1997: 55)

F1	F2
275.1	2089.4

The table above (with first formant value of 275.1Hz) shows that RP FLEECE, as reported in the impressionistic description, is indeed a close vowel. This becomes more evident when compared with the first formant of KIT (340.9Hz) in the same data. By implication, the FLEECE here is closer than KIT by 65.8Hz, which is substantial on the vertical dimension. Table 5.19 also reveals that FLEECE is of a more fronted quality (with an F2 of 2089.4Hz) than its counterpart KIT (1730.6Hz) by 358.6Hz. On the whole, Deterding's RP subjects show a substantial qualitative contrast between KIT and FLEECE, as seen in Figure 5.12, in conformity with the impressionistic descriptions.

5.2.4.2 FLEECE in mesolectal-to-acrolectal Nigerian English

The overall acoustic picture of the FLEECE vowel as produced by the research subjects is as presented in the table that follows.

Table 5.20: first and second formants of FLEECE as realized by all the research subjects

F1	F2
308.1	1616

The first formant in Table 5.20 indeed shows a close FLEECE but not as close as the RP variant of 275.1Hz. RP FLEECE is thus closer by 33Hz which, of course, is nothing too different. On the horizontal plane, the research subjects produced a significantly backer FLEECE (1616Hz) than the RP FLEECE of 2089.4Hz (the difference is 473.4Hz, which is quite significant). Here we may not be able to reference the influence of the indigenous languages since they have a vowel in the same position as English /i:/ as can

⁷⁶ See Appendix 3

be seen in Figures 1-3; nor can we invoke the possible influence of GenAm since FLEECE is essentially the same in both reference accents. The answer might lie in the analysis of subgroups' pronunciations, to which we now turn. In section 5.2.4.8 below we will also explore the quality contrasts between KIT and FLEECE by the research subjects vis-à-vis RP speakers.

5.2.4.3 Realizations of FLEECE by the L1 Subgroups of the Subjects

Below is a table showing the first and second formants of FLEECE according to how it was pronounced by the mother-tongue subgroups of the research subjects.

Table 5.21: average F1 and F2 values of FLEECE as produced by L1 subgroups.

Mother Tongue	F1	F2
Hausa	376.9	1683.1
Igbo	321.2	1796.9
Yoruba	276.3	1593.3

The first striking reality from the table above is that the same pattern in the L1 subgroup productions of KIT has been replicated here: the Igbo subgroup has the most fronted FLEECE but with a height that is in-between those of the other two subgroups; the Hausa subgroup produced the most open FLEECE but one which is in-between those of the other two subgroups in terms of F2; while the Yoruba subgroup produced the closest and the most backed FLEECE. A major difference this time around, however, is that whereas the Igbo subunit produced the nearest KIT to that of RP, here the Yoruba subgroup realized the nearest FLEECE (276.3Hz) to that of RP (275.1Hz), at least on the vertical dimension. Thus, the presence of a FLEECE-like vowel in Yoruba is arguably making a difference while the other subgroups maintained the status quo (i.e. they were maintaining the same degree of contrast between the two vowels as we will soon confirm; and thanks to the presence of a KIT-FLEECE-like contrast in their L1's).

5.2.4.4 Gender Dichotomy in the Production of FLEECE

The table below reveals how each of the two genders realizes FLEECE based on the first and second formants.

Table 5.22: average F1 and F2 values of FLEECE as produced by gender subgroups.

	F1	F2
Male	286.6	1727
Female	385.5	1591.8

As in the case of the L1 subgroups, the gender subgroups have also replicated here the same pattern as in their KIT production: the male subgroup produced a closer and fronter FLEECE while the female subgroup realized an opener and more centralized FLEECE. On face value, the male gender is thus approximating the RP values for FLEECE (which are 275.1Hz and 2089.4Hz respectively for F1 and F2) much more than their female counterparts. But we may probably begin to speculate that both genders struggled with the KIT-FLEECE quality opposition, but such that while the male speakers were collapsing the difference to FLEECE, their female counterparts were collapsing it to KIT, as may be gleaned from Figures 5.10 and 5.11. It remains to be seen, however, how each gender is able to contrast between KIT and FLEECE qualitatively.

5.2.4.5 Contrasts between /ɪ/ and /i:/ in RP and the Primary Data

The degree of quality contrast between KIT and FLEECE as realized by RP speakers and the research subjects is captured below.

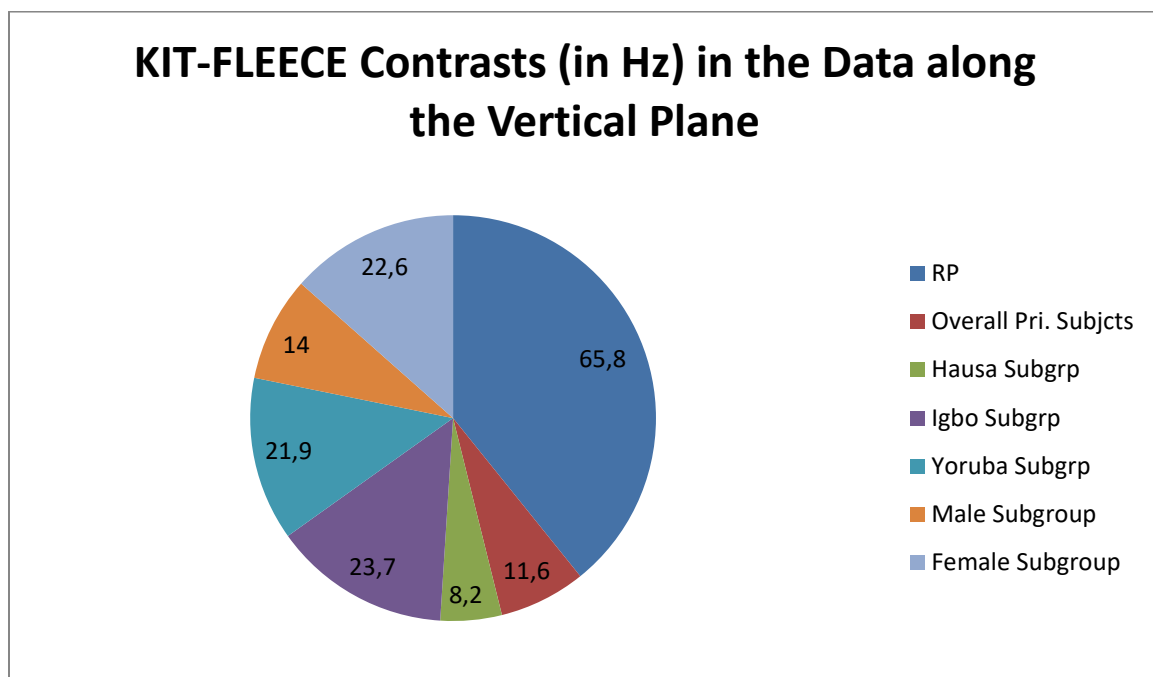


Figure 5.16: KIT-FLEECE quality contrasts in the speech of RP speakers, and the research subjects along the vertical plane

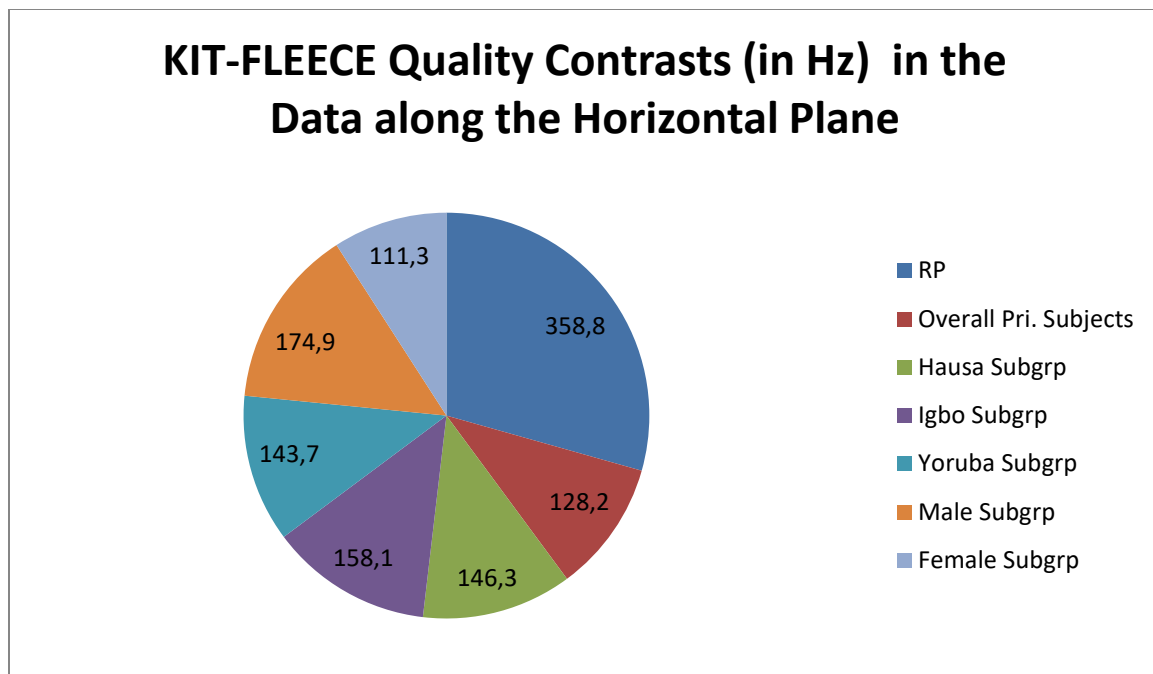


Figure 5.17: KIT-FLEECE quality contrasts in the speech of RP speakers, and the research subjects along the horizontal plane

The first remark that is in order, judging from the figures above, is that neither all the research subjects as a group nor any of the subgroups (L1 and gender) could contrast KIT and FLEECE as much as was done by RP speakers (with a KIT-FLEECE difference of 65.8Hz and 358.8Hz on the vertical and horizontal dimensions respectively). Meanwhile, all the subjects, whom we are taking as mesolectal-to-acrolectal Nigerian English speakers, could only contrast the heights of KIT and FLEECE by an average of 11.6Hz (Figure 5.16), which, although showing that their FLEECE is slightly higher (closer) than their KIT, as can be seen in Figure 5.9, is a far-cry from what is observed in RP. There is, however, a better contrast on the horizontal side with a contrasting difference of 128.2Hz (Figure 5.17).

As touching on the L1 subgroups, the Hausa subgroup has the least KIT-FLEECE contrasting value in terms of vowel height, at 8.2Hz (Figure 5.16). On the horizontal plane, however, their FLEECE is substantially more fronted than their KIT with a difference of 146.3Hz (Figure 5.17). Clearly, this reality correlates with what is obtainable in Hausa where, as can be seen in Figure 5.1, the KIT-like vowel is substantially backed away from the FLEECE-like vowel. On the other hand, the Igbo-L1 speakers of English produced the widest KIT-FLEECE opposition with vertical and horizontal contrasting differences of 23.7Hz and 158.1Hz respectively. Of course, the Igbo Language, as is seen in Figure 2, has KIT-FLEECE equivalents that are near to those of English, although not as much as they are in Hausa. The Yoruba subgroup comes next in terms of the KIT-FLEECE contrast with a 21.9Hz and 143.7Hz

contrasting difference on the vertical and horizontal planes respectively. The Yoruba speakers seem to possibly be influenced by the /i/-/e/ contrast in their L1 when contrasting their FLEECE and KIT – see Figure 5.3.

So, in general terms, exonormative pedagogical adherence, and the "special speech training" for such speakers as the research subjects (being newscasters), as enunciated by Gut (2004: 817), seem to have produced more exonormative norms in terms of a length distinction than quality opposition as far as the KIT-FLEECE opposition is concerned. Dunstan (1969: 26) has hinted at this by saying that the contrast between FLEECE and KIT is not natural to Nigerian speakers of English and that length differentiation of the two vowels, which, according to her, is enough to avoid lexical ambiguity, will be more easily achieved than quality opposition.

Coming to the gender subgroups, we observe that neither the female speakers nor the male speakers, strictly speaking, were substantially observing the KIT-FLEECE quality contrast in the sense that the difference in quality is not as pronounced as that found in RP. The limited contrasts the two genders were making show that the male speakers (with the contrasts of 14Hz and 174.9Hz of height and frontness respectively) realized both vowels as closer and fronter than their female counterparts (with a 22.6Hz and 111.3Hz contrast on the vertical and horizontal planes respectively) – see 5.22. Thus, this confirms our earlier speculation that the male speakers were collapsing the two vowels into FLEECE while the female speakers were collapsing them into KIT. So, no one gender can be said to be producing a more prestige norm than the other as far as KIT-FLEECE quality contrast is concerned.

5.2.5 DRESS

5.2.5.1 Reference Accents

Impressionistic Description: According to Wells (1982: 128), the DRESS vowel, traditionally named ‘Short E’, is phonemically symbolized as /e/ in RP but /ɛ/ in GenAm. The different symbols are meant to reveal a slight difference in quality, especially along the vertical plane, with /e/ showing a closer DRESS than the relatively opener /ɛ/ (Hannisdal 2006: 93). The vowel is described as front mid unrounded (Wells 1982: 128). Judging from the quality difference captured by the different symbols, DRESS is traditionally closer in RP than it is in GenAm, where it is slightly opener. Indeed, Ladefoged and Johnson (2015: 93-94) comment that /ɛ/ is “a little nearer to [æ]” than it is to [i] (expectedly, in traditional GenAm), and thus describe it as “mid-low front”.

Citing Lanham (1967), Bekker (2009: 207) gives the two allophones of DRESS in RP as 1) an unconditioned variant represented as [ɛ] in words like *bent*, *weather* etc; and 2) DRESS followed by the

dark lateral (i.e. dark /l/), in which case it becomes more open and retracted and thus phonetically symbolized as [ɫ̥] in such words as *bell*, *sell* etc. The second allophone, in its horizontal dimension, is not, however, peculiar to RP. In their treatise on GenAm, Carley and Mees (2020: 134) state that “... dark /l/ has the effect of making a preceding vowel more retracted” with greater effect on the traditional front and central vowels, DRESS inclusive. On further variation in DRESS in RP, Wells (1982: 291) notes that the closer and more fronted DRESS characterizes, particularly, older versions of RP, while the opener (and sometimes slightly centralized) variant features in the speech of the younger generation. But Hannisdal (2006: 93) has listed the lowering of DRESS from [e] to [ɛ] as one of the “changes well-established with many RP speakers, but ... still very much in progress”. Referencing Trudgill (2004) in relation to south-east British English (RP, in short), Torgersen and Kerswill (2004:9) reveal that the lowering of TRAP, noted earlier, has triggered a drag-chain shift⁷⁷ in all the front lax vowels of which, of course, DRESS is a member.

Acoustic Description: the relevant acoustic description of the exonormative DRESS vowel, for which RP has been chosen (as is the case with all the exonormative acoustic values used throughout this study due to the inaccessibility of adaptable GenAm acoustic data), is captured in the table below.

Table 5.23: first and second formants of RP DRESS adapted from Deterding (1997: 55)

F1	F2
508.2	1651.7

The table above shows that DRESS, in height, is indeed located between FLEECE-KIT and TRAP, as impressionistically described in Ladefoged and Johnson (2015: 93-94). With an F1 value of 508.2Hz, it is far opener than KIT (340.9Hz as seen in 5.15) and closer than TRAP (690.2Hz), all in the same RP dataset. Its frontness is also depicted with the F2 value of 1651.7Hz, compared to a back vowel such as BATH (1209Hz) or another front vowel like KIT with an F2 of 1730.6Hz.

5.2.5.2 Mesolectal-to-acrolectal Nigerian English DRESS

Table 5.24 that follows contains the acoustic information of DRESS in terms of its height and frontness, as produced by the research subjects.

⁷⁷The notion of a drag-chain shift has been explained in a footnote in section 2.4 of this dissertation.

Table 5.24: first and second formant of DRESS as realized by all the research subjects

F1	F2
363.8	1428.3

DRESS of the research subjects, as depicted in Table 5.24 above, like in the RP dataset, conforms to the impressionistic description of being located, in terms of height, between KIT (319.7Hz) and TRAP (415.1Hz), all in the same speech of the same set of speakers. Although the subjects obviously did not realize their DRESS as open as that of the RP speakers, DRESS maintains the same basic pattern as that of RP by being slightly closer to KIT than it is to TRAP (see Figures 5.9 and 5.12). One expects, though, a DRESS as close as that of the subjects to be much more fronted than it is in Table 5.24 above. Surprisingly, we have a substantially centralized DRESS (1428.3Hz) as is more graphically seen in Figure 5.9. Essentially, therefore, both planes of the subjects' DRESS vary significantly from those of RP speakers. While its close quality might resonate with the conservative RP norm, its backness does not. Neither does it align with the GenAm (slightly-lowered) norm either. Meanwhile, all the indigenous languages of the speakers have vocalic equivalents of DRESS, but with some variation, especially in Hausa and Igbo. Tiffen (1974: 30) impressionistically describes the Hausa equivalent of English DRESS, /e/, as being located between RP DRESS and TRAP in the vowel space, such that the qualitative opposition between the two vowels is obliterated in Hausa-influenced English. The Igbo equivalent of DRESS, /e/, has two allophonic variants, as are shown in Figure 5.2 in this chapter, with one, [e], sounding like the first element of the FACE vowel and the other, [ɛ], actually sounding like RP DRESS (Dunstan 1969: 94). This makes it difficult for Igbo-influenced speakers of English to distinguish between, for example, *bait* and *bet*. The Yoruba equivalent of (conservative) RP DRESS is /e/, although there is also what we can take as vowel number 3, /ɛ/, which is an equivalent of GenAm DRESS or that of younger, mainstream RP speakers. We can hopefully ascertain if all of these have played any role in the DRESS of the research subjects by delineating the data along the boundaries of the indigenous languages.

5.2.5.3 Realization of DRESS by Different L1 Subgroups

Below are the acoustic characteristics (in terms of first and second formants) of the research subjects according to their different mother-tongues.

Table 5.25: average F1 and F2 values of DRESS as produced by L1 subgroups.

	F1	F2
Hausa	487.3	1540.4
Igbo	463.5	1517.4
Yoruba	341.2	1373.3

Here lies the beginning of the unraveling of the mystery of close but centralized DRESS as seen in the overall DRESS data in Table 5.24: the L1-Yoruba speakers produced quite a comparatively close but substantially backed DRESS while the rest of the indigenous language subgroups produced comparatively open front DRESS. We have noted that Yoruba has two vowels around the vocalic regions of DRESS, one (i.e. /ɛ/) corresponding to GenAm DRESS and the other (i.e. /e/) to conservative RP DRESS. Both vowels are, however, front vowels. This, however, doesn't really help explain the English production of DRESS of speakers of this language. Hausa speakers produced the most open and most fronted DRESS vowel (F1 and F2 of 487.3Hz and 1540.4Hz respectively) followed by Igbo speakers (with an F1 and F2 of 463.5Hz and 1517.4Hz). Thus, Hausa speakers have the most prestigious, mainstream RP-like DRESS while Yoruba speakers' DRESS is the furthest away from the RP norm. The Igbo subgroup's DRESS is in-between but close enough to that of Hausa speakers as to also be considered as prestigious.

5.2.5.4 Gender Dichotomy in the Production of DRESS

The table below captures the overall average first and second formant values for the production of DRESS per gender.

Table 5.26: average F1 and F2 values of DRESS as produced by gender subgroups.

	F1	F2
Male	346.6	1470.6
Female	507.8	1429.1

From the Table above, the female gender produced a significantly opener DRESS than that of their male counterparts, while being slightly more centralized. In fact, the female F1 (507.8Hz) is essentially the same as that of Deterding's RP speakers (508.2Hz), who, like the research subjects, are newscasters. From the foregoing, therefore, it is reasonably safe to conclude that the female gender is approximating, at least on the vertical plane, the norm of the younger generation of RP speakers, the norm that can be

said to be in vogue and thus the prestige norm. The male speakers, on the other hand, have produced a DRESS like that of the Yoruba speakers, which does not conform to the current (mainstream RP) exogenous prestige standard.

5.2.6 SQUARE

5.2.6.1 Reference Accents

Historically, the SQUARE vowel has been a centring diphthong in RP, phonemically symbolized as /eə/ (thus having a DRESS-like first element); but as /er/ or /æ:r/ in GenAm (Wells 1982: 155-156). Hannisdal (2006: 93) does confirm, however, that the production of SQUARE as a long monophthong [ɛ:] is one of the well-established innovations in RP, although the change is yet to be completed. One, therefore, expects, as with other changes in RP, that conservative RP speakers still maintain the diphthongal quality while the monophthongal quality would be popular among relatively younger speakers. Indeed, Lewis (2003: 148) asserts thus: “[the] majority of the occasions on which this phoneme is heard from speakers of all but old-fashioned and/or socially conspicuous accents the value is certainly monophthongal”. The socially conscious RP speakers are adoptive RP speakers while the old-fashioned speakers are usually the U-RP speakers in line with Wells’ (1992: 280, 283-284) classifications of RP. Wells (1982:299), in particular, categorizes the monophthongal realization of SQUARE, [ɛ:], as a feature of Near-RP. In its monophthongal realization, therefore, the schwa-like quality is smoothened out, leaving it with a lengthened DRESS-like quality. Capturing its DRESS-relatedness, Wells (1982: 256) describes the quality of the first element as being almost half-open front. Paraphrasing Lanham and McDonald (1979), Bekker (2009: 215) asserts that DRESS often seems to drag SQUARE in the same direction as itself, such that where a close DRESS exists, there is likely to also exist a close SQUARE. The implication is that the most reliable contrasting feature between DRESS and SQUARE is length rather than quality.

5.2.6.2 Acoustic Description of SQUARE in Mesolectal-to-acrolectal Nigerian English

Deterding (1997), which we have been using to describe the acoustic details of RP monophthongs, does not, unfortunately, contain SQUARE; nor is there any other readily accessible material that serves this purpose; all probably as a result of its traditional diphthongal realization. We shall therefore proceed to consider the acoustic details of it in the primary data as summarily captured in the table below.

Table 5.27: first and second formants of SQUARE as produced by all the research subjects

F1	F2
355.1	1437

From the table above, we see that the subjects' SQUARE is neither as open as their TRAP (415.1Hz) nor as close as their FLEECE (308.1Hz). In other words, like their DRESS (363.8Hz), SQUARE is in-between these two extreme ends. The subjects' SQUARE, as can be seen in Figure 5.9, is however slightly closer than their DRESS. On the horizontal dimension, with an F2 of 1437Hz, the subjects' SQUARE is only slightly more fronted than their DRESS. So we can say that their SQUARE, like their DRESS, is centralized. Essentially, therefore, the SQUARE vowel is following the same acoustic pattern as their DRESS vowel. This pattern confirms a link, as Bekker (2009: 372) deduces, between DRESS and SQUARE in any idiolect. We now proceed to see if the same reality obtains across the mother-tongue subgroups.

5.2.6.3 Comparison of Different L1 Speakers' Productions of SQUARE

The table that follows shows how the different indigenous language speakers realized SQUARE in the primary data.

Table 5.28: average F1 and F2 values of SQUARE as produced by L1 subgroups.

Mother Tongue	F1	F2
Hausa	453.9	1505.3
Igbo	445.7	1570.4
Yoruba	334.9	1390.7

It is striking that almost exactly the same acoustic pattern as that of DRESS across the L1 subgroups has been replicated here with SQUARE (the one exception being that the Hausa subgroup produced the most fronted DRESS while the Igbo subunit produced the most fronted SQUARE). So, like with DRESS, the Yoruba speakers produced the closest (F1 of 334.9Hz) yet the most centralized (F2 of 1390.7Hz) SQUARE. The Hausa subgroup realized the most open SQUARE (F1: 453.9Hz) followed by the Igbo subgroup (F1: 445.7Hz). Consequently, the L1-Yorubaspeakers can be said to have the least prestigious SQUARE.

5.2.6.4 Gender Dichotomy in the Production of SQUARE by the Subjects

The table below shows the first and second formant values of SQUARE as realized by the two genders.

Table 5.29: average F1 and F2 values of SQUARE as produced by gender subgroups.

	F1	F2
Male	347.6	1463.7
Female	474	1446.7

From the table above, it is clear that the female speakers produce opener (474Hz) and slightly more backed (1446.7Hz) SQUARE vowels than their male counterparts, the latter collectively having an F1 and F2 of 347.6Hz and 1463.7Hz respectively. This, again, shows a pattern that is consistent with the DRESS productions of each gender on both vertical and horizontal planes, with the female gender approximating the norm of younger RP speakers, while the male speakers' norm is more likely to be influenced by their indigenous languages. Furthermore, this and the foregoing establish that the above referenced unidirectional connection, as Bekker (2009: 372) deduces, between DRESS and SQUARE is not a speculation but a reality. In other words, in this instance of mesolectal-to-acrolectal Nigerian English, speakers with an opener DRESS vowel (i.e. the females) are seen producing an opener SQUARE, and vice versa. However, the female subgroup also has a slightly opener and slightly more backed DRESS than SQUARE while the male party's DRESS and SQUARE essentially overlap as can be seen in Figures 5.10 and 5.11 above. More on this issue of a quality contrast is provided in the next section

5.2.6.5 DRESS-SQUARE Quality Opposition in Mesolectal-to-acrolectal Nigerian English

Earlier in this chapter, in Figure 5.5, it was shown that the research subjects were able to markedly contrast DRESS and SQUARE using length. In fact, the largest short-versus-long vowel difference occurs between that pair. We will now consider the quality difference between the two vowels as realized by the subjects as whole, the different L1 subgroups, and the gender subgroups, as captured in Figures 5.18 and 5.19 below.

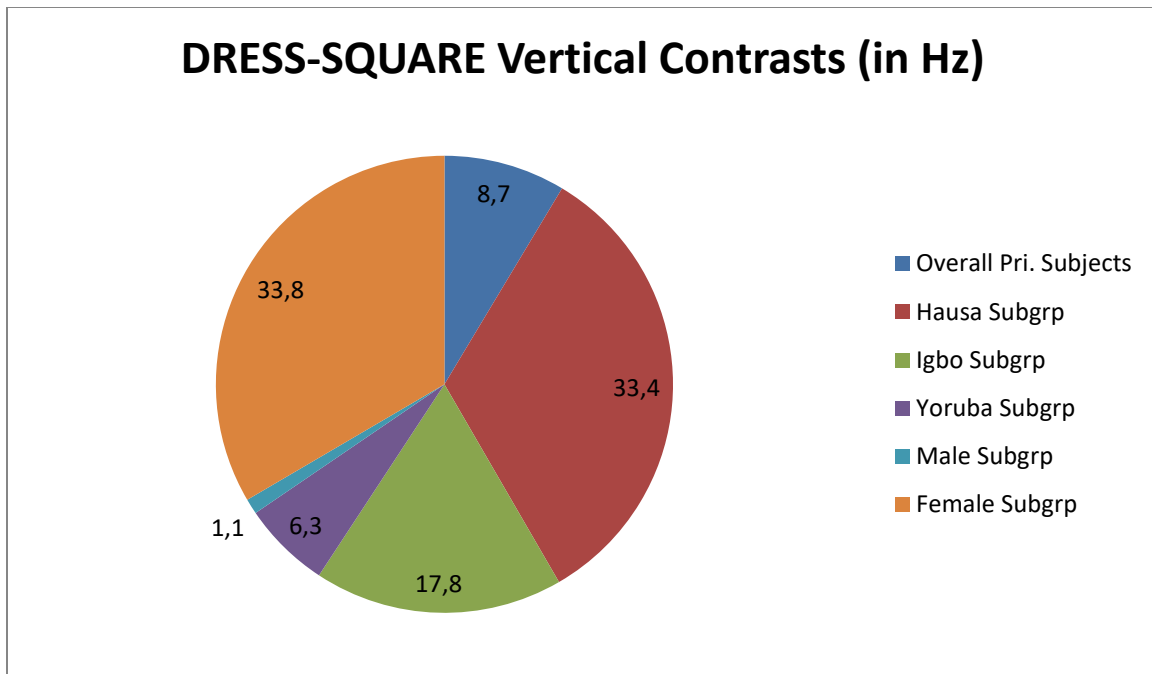


Figure 5.18: quality contrasts between DRESS and SQUARE in the overall data, and other subgroups along the vertical plane⁷⁸

⁷⁸ We do not have contrast in RP here and in the following Figure 5.19 because our RP data have no SQUARE data.

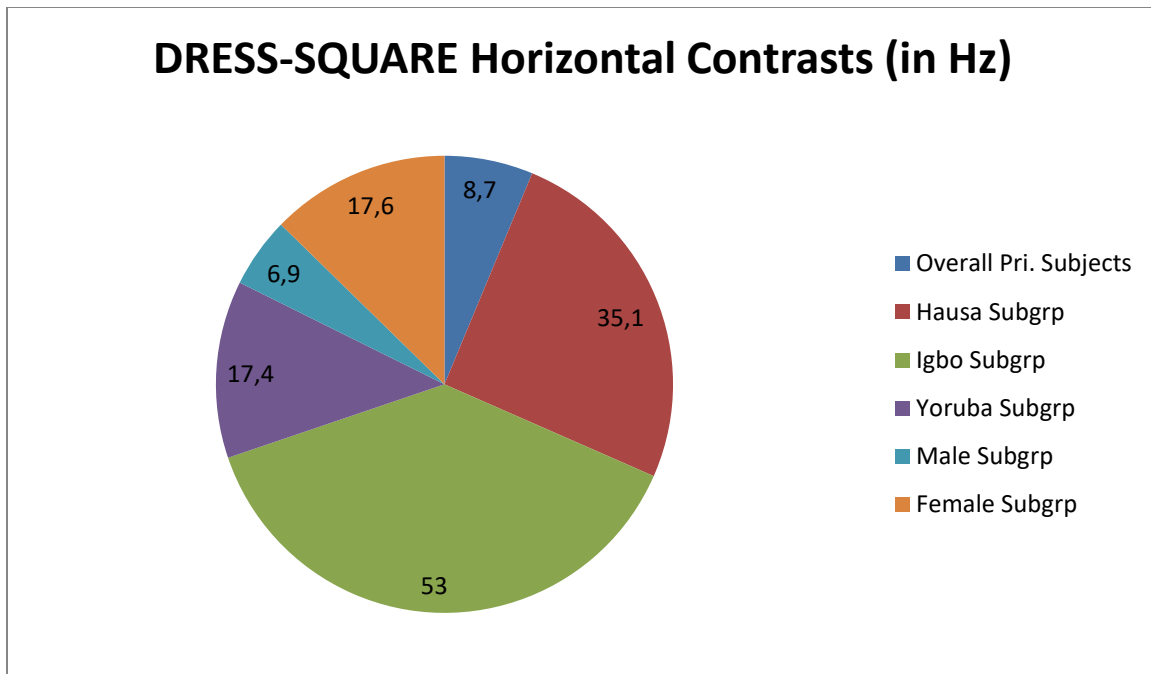


Figure 5.19: quality contrasts between DRESS and SQUARE in the overall data, and other subgroups along the horizontal plane

From Figures 5.18 and 5.19 above, it is clear that the subjects, with the contrasting differences of just 8.7Hz on both the vertical and horizontal planes, are not recording any significant opposition between the two vowels in terms of quality (at least on average). These contrasting values are impressionistically indiscernible as Ladefoged (1996: 21) pegs the lowest frequency difference the human ear can hear at 16-20Hz. In other words, they realized both vowels essentially with the same quality. The subjects were able, however, as we have seen, to contrast the vowels in terms of length. Therefore, the opposition between DRESS and SQUARE in mesolectal-to-acrolectal Nigerian English is primarily a matter of length.

Among the indigenous language subgroups, the Yoruba subgroup has the least contrasting quality with contrasting values of 6.3Hz and 17.4Hz vis-à-vis the first and second formants respectively. The Hausa and Igbo subgroups made better efforts but in different ways. So, while the Hausa speakers made a better contrast (than Igbo speakers) on the vertical dimension (with a difference of 33.4Hz), the Igbo speakers observed some relevant opposition on the horizontal plane (with a difference of 53Hz). The contrasting value on the other plane for the Igbo subgroup shows no perceptible contrast (i.e. 17.8Hz on the vertical plane) while Hausa speakers marked an acoustically relevant contrast of 35.1Hz on the horizontal dimension, although this was achieved by producing a more fronted DRESS than SQUARE, unlike the general pattern across the overall data and other subgroups (except the male subgroup) in which it was the other way round.

The female subgroup, was making a better contrast than their male counterparts. While the females contrasted the two vowels with a difference of 33.8Hz on the vertical side, the male speakers only made a difference of 1.1Hz. Furthermore, whereas the female speakers contrasted the two vowels with a difference of 17.6Hz on the horizontal plane, the male observed just 6.9Hz. The larger difference between the female DRESS and SQUARE is no doubt due to their (prestige-based) lowering of the former vowel (see previous section). And indeed the lowering of both vowels, at their individual levels, by the female speakers (in contrast to their male counterparts), is in fact prestigious.

5.2.7 LOT

5.2.7.1 Reference Accents

Impressionistic Description: Both LOT and CLOTH will be discussed in this section. As such, LOT will be used as a cover term for the two lexical sets merged in the primary data. The motivation for the foregoing is that the length analysis in section 5.1.1 has revealed that both vowels were realized by the subjects as the same short vocoid /ɒ/, just as it is in mainstream RP where both lexical sets belong together. LOT, as a *distinct* lexical set, varies phonologically, and consequently, phonetically in both reference accents. As Wells (1982: 130) puts it, the vowel, with the orthography of *o* (as in *stop*) or *a* (as in *yacht*), is phonemically symbolized as /ɒ/ in RP but as /ɑ/ in GenAm. By implication, PALM, also symbolized as /ɑ/, merges with LOT in GenAm. LOT, then, phonemically belongs with PALM in GenAm. Phonetically, /ɑ/ is a long, completely low, central-back vowel while /ɒ/ is short, fully back but not as fully open as /ɑ/ (Wells 1982: 130). Ladefoged and Johnson (2015: 97) describe the RP LOT /ɒ/ as being more back than the GenAm LOT /ɑ/. Meanwhile, it is worth noting that /ɒ/, used to represent the mainstream RP LOT, is outside the phonemic inventory of GenAm (Ladefoged and Johnson 2015: 97).

CLOTH, on the other hand, belongs with THOUGHT in GenAm (Wells 1982: 136). In consonance with Wells (1982: 281), Hannisdal (2006: 17, 93) notes that the realization of CLOTH vowels (e.g. *cost*, *off*) as a lax short /ɒ/ (and thus merged with LOT) is only a feature of mainstream RP speakers as noted earlier: U-RP speakers realize it, like in GenAm, as the long /ɔ:/, a feature that is “considered affected and obsolete”.

Acoustic Description: Deterding’s (1997: 55) RP acoustic data has LOT with the values as presented in the table below.

Table 5.30: first and second formants of RP LOT adapted from Deterding(1997: 55)

F1	F2
547.3	1132.1

From Figure 5.12 (which shows the acoustic quality of Deterding's RP monophthongs), RP LOT is clearly a back vowel, more backed than RP BATH; but the former is definitely not as open as the latter. However, the quality opposition of interest, as we will see later, is that between LOT and THOUGHT.

5.2.7.2 Acoustic Details of LOT in Mesolectal-to-acrolectal Nigerian English

The reader is reminded that LOT is henceforth adopted as an umbrella term for the lexical sets LOT and CLOTH for the compelling reasons already provided. The LOT vowel as realized by the research subjects acoustically as presented in the Table 5.31 that follows.

Table 5.31: first and second formants of LOT as produced by all the subjects

F1	F2
374	1178.6

With an F1 value of 374Hz, as seen in Table 5.31 above, the subjects' LOT is definitely not as open as that of Deterding's RP speakers, which is at 547.3Hz. Although their F2 (1178.6Hz) shows a slightly more fronted LOT than it is in the RP data (1132.1Hz), with a difference of just 46.5Hz, the subjects' LOT is not too far from that of RP, acoustically speaking, along the horizontal dimension. While the 46.5Hz difference between RP LOT and that of the subjects along the horizontal plane is 'excusable' on the ground of non-linguistic factors such as the number of subjects in both data, the vertical difference of 173.3Hz, in terms of which the subjects' LOT is higher (more raised) than that of the sampled RP, needs to be accounted for in terms of linguistic factors. We cannot make recourse to GenAm here because GenAm LOT is, of course, neither fully backed nor raised. It is only the RP LOT that is so characterized. From Figures 1-3, showing the phonemic inventories of the three indigenous languages of the subjects, it can be seen that there is no exact equivalent to RP /ɒ/. There are, however, rounded back vowels in the indigenous languages around that space (of RP / ɒ/) which are likely to interfere in the subjects' pronunciation of the LOT vowel. A closer look at the data along mother-tongue differences will help to further clarify this position.

5.2.7.3 LOT as Produced by the Indigenous Language Subgroups

The division of the primary data along the mother-tongues of the subjects is provided in the table below.

Table 5.32: average F1 and F2 values of LOT as produced by L1 subgroups

	F1	F2
Hausa	527.8	1396.1
Igbo	456	1123.5
Yoruba	358.2	1056.3

From the table above, Hausa speakers' LOT (527.8Hz) is the nearest to that of RP (547.3Hz) in terms of height but is far more fronted (1396.1Hz) than that of RP (1132.1Hz). Indeed, the Hausa subgroup has the most open and the most fronted LOT compared to the rest of the indigenous language subgroups. This is an accurate one-on-one replica of what obtains in the Hausa vowel system. As can be seen in Figure 5.1, the Hausa short vowel /o/, which the speakers were apparently approximating in their production of LOT, is in the general vocalic space of LOT but is substantially fronted, and certainly more fronted than its equivalents in the remaining two local Nigerian languages. The Igbo subgroup also has an open LOT (456Hz) but not as open as that realized by the Hausa speakers. Meanwhile, there is a rounded open back vowel /ɔ/ in Igbo which is fully back (see Figure 5.2). The horizontal dimension of these speakers' LOT (F2 of 1123.5Hz) thus aligns with this positioning, while making it approximately the same as that of RP as well (1132.1Hz). The Yoruba subgroup produced a fully backed, in fact more backed LOT (1056.3Hz) than that of RP (1132.1Hz), and the most backed of the three indigenous language subgroups. Yoruba, like Igbo, has rounded back /ɔ/ but it is apparently opener and a little more fronted than its Igbo equivalent (see Figures 5.2 and 5.3). Obviously, this is not the vowel influencing the Yoruba subgroup's production of LOT. There is, however, another short rounded mid-close fully back Yoruba vowel /o/, which we can conclude to be a possible influence on the type of LOT pronounced by the Yoruba subjects. Therefore, in summary, the Yoruba subclass produced the farthest LOT from the RP norm while the Hausa and Igbo subgroups approximated the RP norm.

5.2.7.4 Gender Dichotomy in the Production of LOT

The average F1 and F2 values of each gender's realization of LOT are as captured in the following table.

Table 5.33: average F1 and F2 values of LOT as produced by gender subgroups.

	F1	F2
Male	366	1159.3
Female	513.8	1189.2

From the table above, both genders are not too far from the RP norm on the horizontal dimension (RP having 1132.1Hz) but are far apart on the vertical plane thereby leaving height as the area of focus. Apparently, the female speakers' average F1 (513.8Hz) shows they are able to produce an open LOT while the male average F1 (361Hz) reveals a closer LOT. In fact, the RP LOT (547.3Hz) is only slightly opener than that of the female subgroup, thus depicting the female speakers as approximating the prestige norm while the male speakers LOT is possibly being pulled by the mother-tongue influence; like that of the Yoruba subunit.

5.2.8 THOUGHT

5.2.8.1 Reference Accents

Impressionistic Description: The three lexical sets THOUGHT, FORCE and NORTH have been grouped together here because the exonormative standard in the pedagogy of English in Nigeria, and indeed the reference accent being modeled by the research subjects thus far in this study, is RP, where the three lexical sets, equally represented as /ɔ:/, are phonemically the same. Bekker (2009: 53) has equally treated them so. The merger of the historically distinct FORCE and NORTH lexical sets into /ɔ:/ has been completed in RP, although some older RP speakers still distinguish the two by using /ɔə/ in FORCE words rather than /ɔ:/ (Wells 1982: 161). In GenAm, while the contrast between the FORCE and NORTH lexical sets is still being maintained in some accents, merger has taken place in others and, generally, the merger is ongoing in GenAm (Wells 1982: 159, 160-161).

Where they are contrasted in GenAm, the NORTH vowel is represented as /ɔr/, a mid-open back vowel followed by /r/, and FORCE as /or/, a long mid-close back vowel (Wells 1982: 146; Roach 2000: 14, 20). Whereas the resulting merger in GenAm is /or/ (i.e. FORCE), in RP it is /ɔ:/, a mid-back vowel located between /o/ (of GenAm FORCE) and /ɔ/ (of GenAm NORTH) but nearer the former. We might quickly add though that RP /ɔ:/, as Harrington, Palethorpe & Watson (2000: 66) note with reference to Gimson (1966), has been phonetically closing, a point also reported on by Wells (1990: 6), and Wells (1982: 293).

Acoustic Description: The acoustic information regarding the vertical and horizontal properties of RP /ɔ:/ is provided in the table below, and has been adapted from Deterding (1997: 55).

Table 5.34: first and second formants of RP THOUGHT adapted from Deterding (1997: 55)

F1	F2
363.2	935

With an F1 of 363.2Hz, the data above shows a close RP /ɔ:/, as can equally be seen in Figure 5.12 above. This reality, capturing the impressionistically noted continuous raising of RP /ɔ:/, is also depicted in Harrington, Palethorpe & Watson's (2000: 70) acoustic study of the monophthongs in the Queen's Christmas broadcasts for the 1950s, 1960s and 1980s periods as presented in Figure 5.20 below.

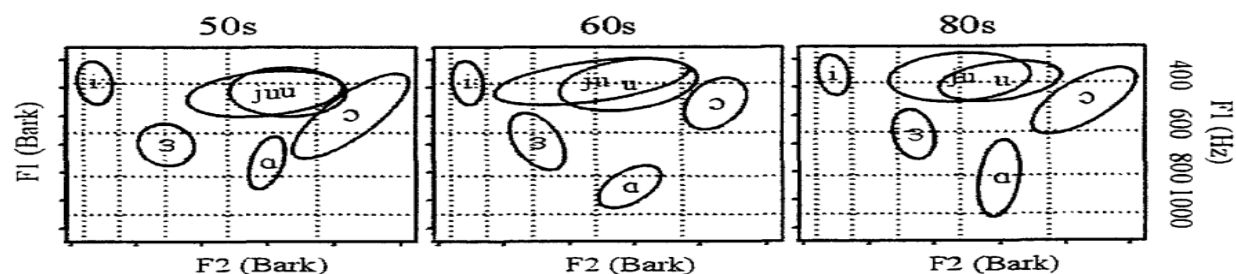


Figure 5.20 capturing the raising of the RP THOUGHT vowel in the Christmas Addresses by the Queen taken from Harrington, Palethorpe & Watson (2000: 70)

With an F2 of 935Hz, and as graphically seen in Figure 5.12, this vowel is the most backed of all the monophthongs in Deterding's RP data; as is also the case in Figure 5.20 above. We may reference two phonetic developments as being responsible for this horizontal position of THOUGHT. The first is that RP THOUGHT has gained more lip roundedness than it used to have (Wells 1990: 6). As Bekker (2009: 357) affirms, "a reduction in lip-rounding is...linked to greater degree of acoustic fronting"; thus we expect, as a corollary, that an increase in lip-rounding would result in a greater degree of acoustic backing. The second factor is the fronting of GOOSE (Trudgill 2008: 7), which must have left THOUGHT more (comparatively) backed than it used to be. GOOSE is traditionally expected to have the lowest F2 (i.e. to be the most backed) of all the monophthongs (Watt and Fabricius 2002: 164). With the fronting of GOOSE a 'place' is left open for THOUGHT in this regard.

5.2.8.2 Acoustic Description of THOUGHT in Mesolectal-to-acrolectal Nigerian English

The table below shows the first and second formants of THOUGHT in the speech of the research subjects

Table 5.35: first and second formants of THOUGHT as realized by all the research subjects

F1	F2
349.3	1235.6

Being closer than RP THOUGHT by the difference of a virtually insignificant 13.9Hz, the research subjects' THOUGHT shows a vertical quality consistent with the sampled exonormative RP standard. On the horizontal plane, however, there is a huge discrepancy, as the subjects' F2 shows a more fronted THOUGHT by a substantial difference of 300.6Hz. There is no evidence of such fronting of THOUGHT in the RP exogenous data, acoustic or impressionistic, as already discussed. Looking at the direction of the indigenous languages, we also see no particular evidence of fronting of the back vowels in the vocalic region of THOUGHT, except for Hausa /o/ as noted in the analysis of LOT. We cannot reference GenAm either, where /ɔ/ is only slightly more fronted than it is in RP (Ladefoged and Johnson 2015: 96). We will see how this plays out among the different indigenous language subgroups.

5.2.8.3 Differences in the Pronunciation of THOUGHT among Mother-tongue Subclasses

Displayed in the following table are the different first and second formant values of THOUGHT as realized by the three L1 subclasses that made up the research subjects.

Table 5.36: average F1 and F2 values of THOUGHT as produced by L1 subgroups.

Mother Tongue	F1	F2
Hausa	450.2	1251
Igbo	420.7	1210.1
Yoruba	330.3	1270.4

From 5.36 above, it can be seen that all the indigenous subgroups produced a much more fronted THOUGHT in comparison to the RP value (935Hz). Except for Hausa that has a significantly fronted (but short)/o/ vowel in the region of LOT, the indigenous languages do not provide any possible explanation for this reality. The Yoruba subgroup has the nearest THOUGHT (330.3Hz) to that of our sampled RP (363.2Hz) in terms of height. The F1 of the THOUGHT vowel, as produced by rest of the L1 subgroups, shows a comparatively open vowel, a reality that also has no concrete bearing with their indigenous languages. We may, however, note that an open THOUGHT is characteristic of conservative RP. So, we can very tentatively conclude that all of the indigenous subgroups might be imitating *some* RP norm in

the vertical dimension of their THOUGHT vowels (Yoruba approximating mainstream RP while the rest modelling the old RP norm) but with no traceable influence of RP, GenAm or their L1's on the horizontal plane.

5.2.8.4 Gender Dichotomy in the Production of THOUGHT

The table that follows shows the overall average values of the first and second formants of THOUGHT in the primary data, as presented separately by the two genders.

Table 5.37: average F1 and F2 values of THOUGHT as produced by gender subgroups.

	F1	F2
Male	339.8	1299.9
Female	455.5	1182.9

The table above shows that the male gender, with an F1 value of 339.8, is catching up with the trend of the raising of THOUGHT in RP. The female gender produces a significantly opener THOUGHT (than that of the males) by a difference of 115.7Hz. This is not however uncommon in RP as Wells (1982: 145) reveals that “old-fashioned RP has an opener quality” for /ɔ:/. Although each gender produces a more fronted THOUGHT than our sampled RP, the female speakers are able to realize a more backed vowel than their male counterparts by a difference of 117Hz. So we can say that while the male gender is producing what is consistent with the current mainstream RP norm on the vertical plane, the female gender is producing something more like the old-model THOUGHT in terms of the height of this vowel. The female speakers are, however, nearer the general RP norm on the horizontal dimension. As usual, however, it remains to be seen, as we now do below, how much each gender is contrasting between /ɔ:/ and /ɒ/ in terms of quality.

5.2.8.5 LOT-THOUGHT Quality Contrasts in Mesolectal-to-acrolectal Nigerian English

The RLOT-THOUGHT opposition, as pointed out in impressionistic descriptions, and evident in the acoustic data of Deterding (1997: 55) displayed earlier as Figure 5.12, is where LOT is opener and more fronted than THOUGHT. We now turn to see how the subjects and their sociolinguistic subgroups contrasted the two monophthongs.

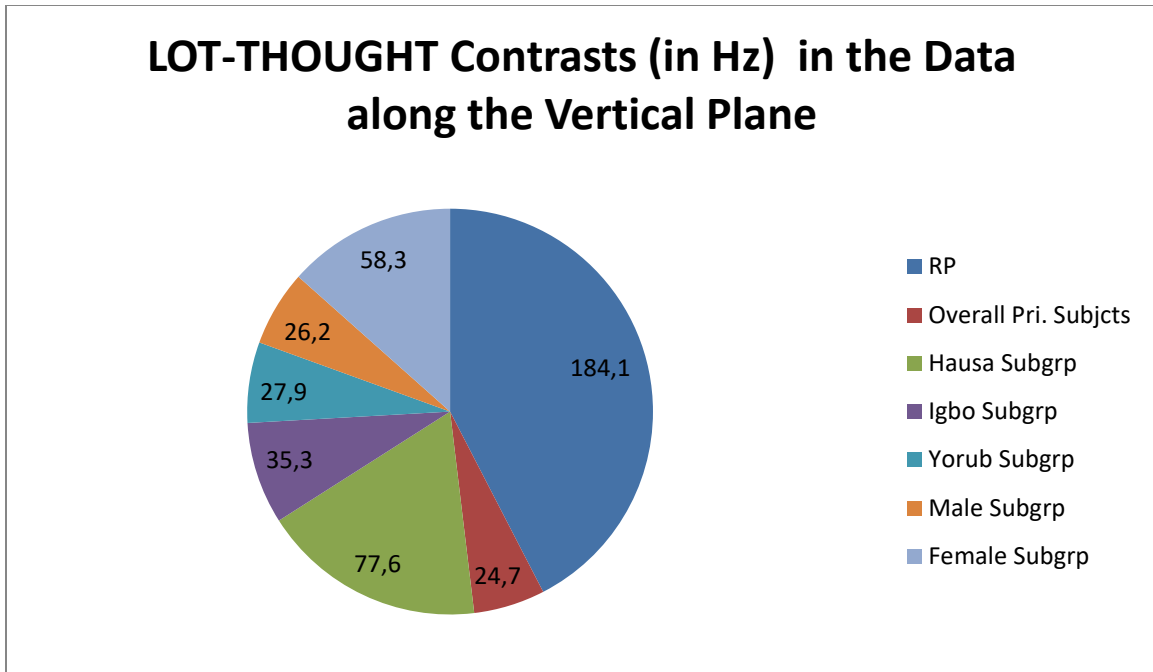


Figure 5.21: LOT-THOUGHT contrasts by the sampled RP speakers and research subjects and their sociolinguistic subunits along the vertical dimension.

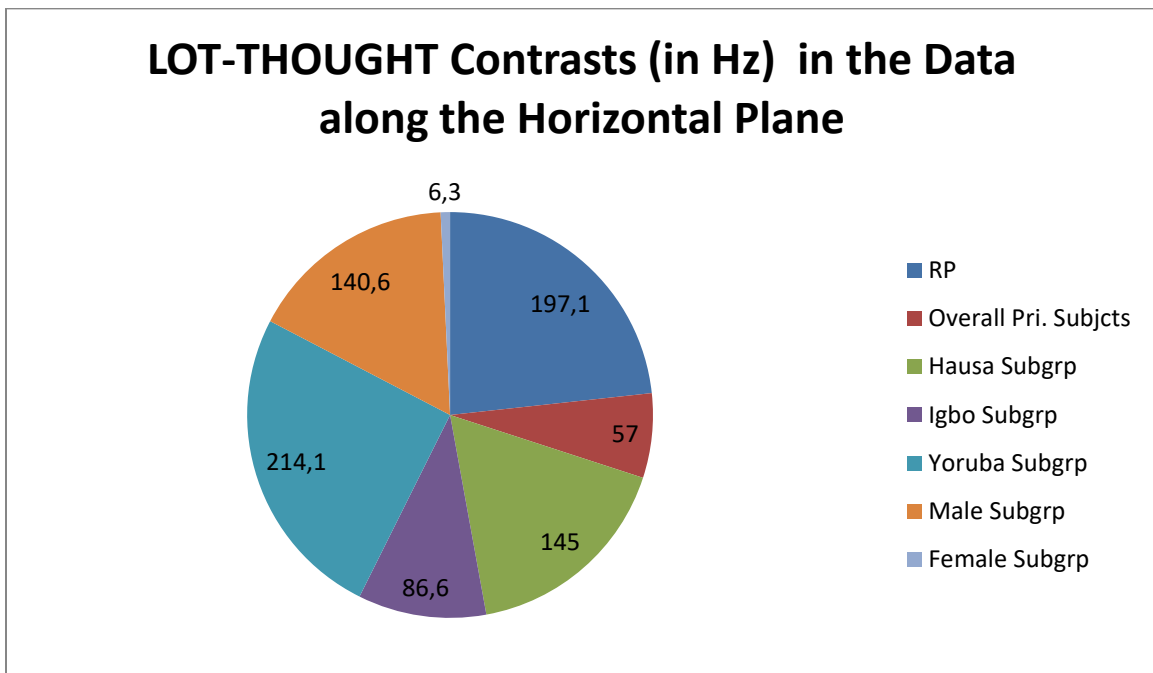


Figure 5.22: LOT-THOUGHT contrasts by the sampled RP speakers and research subjects and their sociolinguistic subunits along the horizontal dimension.

The research subjects as a whole, as well as in their subgroups, successfully produced the basic RP model of an opener LOT than THOUGHT, although none of them observed as wide a contrast as seen in the RP data, where LOT is opener by a difference of 184.1Hz (see Figure 5.21). Among the indigenous language subunits, the Hausa speakers had the largest opposition with a 77.6Hz difference while the Yoruba subgroup marked the least contrast with a difference of 27.9Hz. The Igbo subunit stayed in-between with a 35.3Hz difference. So the closest to the RP norm, at least on the vertical dimension, is the Hausa subgroup while the Yoruba subunit is the furthest away from the exogenous norm. In the gender subgroups, the female speakers recorded a wider contrast (58.3Hz) in comparison to the male speakers (26.2Hz).

On the horizontal plane, the subjects also showed some acoustic quality contrasts between the two vocoids. However, it should be noted that only the Hausa speakers and the female subgroups modeled the RP norm of a fronter LOT than THOUGHT. The subjects as a unit, the Igbo and Yoruba subgroups as well as the male speakers marked the contrast in an opposite direction i.e. by having a fronter THOUGHT than LOT. So, among the indigenous subgroups, the Hausa speakers were the closest to the RP norm even though Igbo marked the largest opposition. Counter-intuitively the male speakers had a more RP-like contrast than their female counterparts on the horizontal plane. We can only speculate in this regard that the focus of prestige here lies on the vertical plane.

5.2.9 STRUT

5.2.9.1 Reference Accents

Impressionistic Description: STRUT, a short, lax vowel, is phonemically represented as /ʌ/, which describes the vowel as being in the vocalic space of mid-low (or a little opener) and central (Ladefoged and Johnson 2015: 97, 106). This monophthong, which is mainly checked (i.e. closed by a consonant), is a product of the FOOT-STRUT Split from Middle English short /u/ in such words as *bus*, *luck*, *suck* (Wells 1982: 132). This happened, as Trudgill (2008: 7) explains, as Middle English /u/ gradually became unrounded in certain contexts, thus yielding [ɪ] (i.e. the unrounded pair of /u/) and then later lowered to produce [ʌ]. Evidence of this is the fact that in northern England accents, such a split has not taken place and thus both *put* and *putt* are still pronounced [pʊt] (Wells 1982: 197; Przedlacka and Ashby 2019: 396).

A number of related views exist as to the phonetic realization of STRUT in GenAm. Wells (1982: 480) reasons that, although STRUT phonemically exists as /ʌ/ in GenAm, there is actually no contrast, phonetically, between /ʌ/ and schwa[ə] and thus STRUT can be taken as /ə/. Ladefoged and Johnson (2015: 97), however, categorically state that the STRUT vowel is schwa /ə/ in American English. An

illuminating view in this regard is that of Carly and Mees (2020: 127) who adopt the view of some other authors who claim that the schwa vowel is realized as [ʌ] when it is stressed and / ə/ when it is unstressed. Phonetically, therefore, and for some authors, the description mid-low does not capture GenAm STRUT since the vowel is not lowered as it is in RP. Meanwhile, Wells (1982: 485) has listed STRUT as one of the monophthongs that have the tendency of becoming diphthongal (with an [ə]-like inglide) in GenAm when stressed and succeeded by a final voiced consonant, the others being KIT, DRESS, and FOOT.

While, as hinted above, the traditional characteristic of RP STRUT is that it is relatively open and central, Wells (1982: 281) has identified the STRUT of U-RP speakers as being back, just like BATH. Trudgill (2008:7) reveals a progressive fronting of STRUT (close to the vowel space of TRAP) as one of the changes taking place in RP, which one expects to be characteristic of especially young mainstream RP speakers. Wells (1990: 6) has equally noted the fronter /ʌ/ as a product of one of the “vowel qualities that have altered over the last hundred years” in RP. Hannisdal (2006: 95) thus observes that STRUT, in RP, “is in danger of being confused with the lowered TRAP vowel [a]”. Collins and Mees (2012: 231) cite Daniel Jones as advising foreign learners of English thus: “If all efforts to obtain the precise sound ʌ fail, the best substitute is a”. In what seems to be an apparent move to avoid this confusion, Hannisdal (2006: 95) reports that there are now, however, cases of raised and retracted STRUT in RP. But obviously, however, what is still largely in vogue is the lowered, fronted /ʌ/.

Acoustic Description: The acoustic values of our sampled RP STRUT are as provided below.

Table 5.38: first and second formants of RP STRUT adapted from Deterding (1997: 55)

F1	F2
638.6	1296.9

With an F1 value of 638.6Hz, RP STRUT, as seen in Table 5.38 above, is indeed an open vowel. In fact, it is the only monophthong that is almost as open as the most open vowel, TRAP (690.2), TRAP being opener only by the acoustically minimal difference of 51.6Hz. The foregoing agrees perfectly with the impressionistic description given earlier regarding RP STRUT. Corroborating the impressionistic description is also the fact that this referenced RP STRUT is more fronted than all the traditionally back monophthongs (i.e. BATH, LOT, THOUGHT, FOOT and GOOSE) as can be seen in Figure 5.12 above. We can thus confirm it as a canonically central vowel.

5. 2.9.2 STRUT in Mesolectal-to-acrolectal Nigerian English

Captured in the following table are the first and second formant values of STRUT as realized by the research subjects.

Table 5.39: first and second formants of STRUT as realized by all the research subjects

F1	F2
380.7	1227.9

Table 5.39 above shows a very close STRUT (380.7Hz) compared to the open one (638.6Hz) produced by RP speakers, the latter being opener by a quite substantial acoustic difference of 257.9Hz. But compared to the other monophthongs produced by the same speakers, this STRUT is a mid-open vowel as can be confirmed from Figure 5.9. The only two vowels that are really more open are BATH and TRAP. On the horizontal plane, the STRUT produced by the subjects (1227.9Hz) is almost as fronted as that produced by the RP speakers (1296.9Hz). But when compared to the other vowels in the primary data (Figure 5.9), we are clearly dealing with a comparatively backed vowel. Therefore, when compared with the exogenous RP standard, mesolectal-to-acrolectal Nigerian English STRUT is far from the prestige norm on the vertical dimension, although near to it (in absolute terms) on the horizontal plane. Where the subjects are not producing the vowel as it is in the reference accents, therefore, we expect to see some kind of approximation to one or more L1 vowels. This will come to light as we consider how different L1 subgroups realized their STRUT vowel.

5. 2.9.3 STRUT as Pronounced by the Mother-tongue Subgroups

We will see in the table that follows the F1 and F2 of the STRUT vowel, as produced by Hausa, Igbo, and Yoruba speakers.

Table 5.40: average F1 and F2 values of STRUT as produced by L1 subgroups.

Mother Tongue	F1	F2
Hausa	533.4	1352.6
Igbo	498	1259.5
Yoruba	359.5	1135.5

The Hausa subgroup here produced the most open (533.4Hz) and the most fronted STRUT (1352.6Hz) and thus the nearest to the RP norm (with F1 and F2 values of 638.6Hz and 1296.9Hz respectively). There is obviously no influence of this subgroup's L1 on the horizontal dimension of their STRUT. But on the vertical plane, it does seem that the mother-tongue /a/, which is a mid-open vowel as seen in Figure 5.1, is possibly having some pull. What is more, this L1 vowel is a central vowel like STRUT (though not as open as RP STRUT in Figure 5.8 as to be its equivalent⁷⁹). The Igbo subgroup has a relatively open (498Hz) and fronted (1259.5Hz) STRUT. Like their Hausa counterparts, their STRUT is almost as fronted as that of RP, but not as lowered on the vertical dimension. The Igbo vowel the speakers also seem to be approximating is /a/ but the speakers seem to have raised it in realizing their STRUT in order not to sound TRAP-like. The Yoruba speakers produced a close (359.5Hz) and backed (1135.5Hz) STRUT. They were also very likely trying to approximate their L1 /a/, which they, however raised and backed in their attempt to perhaps, as in the case of the Igbo speakers, avoid overlap with their own TRAP pronunciations. We may also note that this L1 /a/, as can be confirmed in Figures 1-3, is more backed than it is in the other two mother-tongues, namely, Hausa and Igbo. Thus, the Yoruba subgroup produced, it seems, the most L1-influenced STRUT and the least prestigious one.

5. 2.9.4 Gender Dichotomy in the Production of STRUT

The table below acoustically shows how each gender realized their STRUT in the data.

Table 5.41: average F1 and F2 values of STRUT as produced by gender subgroups.

	F1	F2
Male	372.1	1225.2
Female	527.2	1234.7

The table above shows that the area of acoustic variation between the two genders for this vowel is in terms of height, as they maintained almost the same horizontal point: 1225.2Hz (male) and 1234.7Hz (female) which are not too far from the RP reality which is 1296.9Hz. On the vertical side, the male speakers' STRUT is a close one (372.1Hz) and thus not the variant in vogue. On the other hand, the female gender realized a comparatively open STRUT with an F1 of 527.2Hz, although not exactly as

⁷⁹ Igbo and Yoruba also have this same /a/ but which are not really equivalents of STRUT as they are completely open, unlike STRUT. In addition, Igbo /a/ is not a central vowel, but rather fronted.

open as that of the RP speakers (638.6Hz). Therefore, the female speakers were apparently producing a more prestigious STRUT than their male counterparts.

5.2.10 NURSE

5.2.10.1 Reference Accents

Impressionistically, Wells (1982: 157) describes the NURSE vowel, symbolized as /ɜ:/ in RP and as /ɜr/ in GenAm, as a traditionally long mid-central vowel. Phonetically, however, Wells further states that it is a long schwa [ə:] in GenAm where it has r-colouring⁸⁰. Ladefoged and Johnson (2015: 97) agree with this view by asserting that the difference between STRUT and NURSE in GenAm is that the latter is r-coloured, being in almost all cases found with a following /r/ in its lexical incidence. Carley and Mees (2020: 127) note that some writers go a step further by differentiating between the strong and weak r-coloured schwa by symbolizing the two vowels in such words as *further* and *murmur* thus: [mɜ̃mɜ̃] and [fɜ̃ðɜ̃]. But in terms of Wells' (1982: 166) lexical sets, only the former (i.e. [ɜ̃]) is NURSE, while the latter (i.e. [ɜ̃]) belongs to the lettER lexical set (a so-called weak, unstressed vowel). Meanwhile, in relation to RP, Wells (1982: 281) asserts that the NURSE of U-RP speakers is quite open such that the word *nurse* is realized as [nɜ:s]. The corollary is that it is not so open in mainstream RP. So *nurse* is [nɜ:s], *burst* [bɜ:st], *church* [tʃɜ:tʃ] etc.

Acoustic Description: the table that follows contains the first and second formant values of NURSE as found in Deterding's RP data.

Table 5.42: first and second formants of RP NURSE as adapted from Deterding (1997: 55)

F1	F2
465.9	1444.7

⁸⁰ R-colouring occurs (only in rhotic GenAm), as the articulation of a non-prevocalic r, with the articulation of the preceding vowel. Whereas the realization of the /r/ usually starts, in other vowels, in the final part of the preceding vowel, its realization starts from the beginning of NURSE such that NURSE is entirely realized as one r-coloured vowel, phonetically symbolized as [ɜ̃]. In other words, [ə] and [r] occur simultaneously, and not chronologically (Ladefoged and Johnson 2015: 99; Carley and Mees 2020: 134).

The acoustic details in Table 5.42 show that the RP speakers' NURSE is not as open as their STRUT but substantially more fronted than their STRUT. This conforms to its impressionistic description as being in the mid-central vocalic position, as graphically confirmable from Figure 5.12. This is representative of the mainstream variety as it is not as open as the conservative RP [ɜ:] is expected to be (Wells 1982: 281).

5.2.10.2 NURSE in Mesolectal-to-acrolectal Nigerian English

NURSE has no vocalic equivalent in the three sampled Nigerian indigenous languages. As seen in Figure 5.1, however, Hausa has a central (but fully open) vowel /a:/, which might have imbued the speech of Hausa L1 speakers with some vocalic centrality, a projection we will confirm later when we analyze the data along the line of the different mother-tongues. The relevant acoustic properties of the research subjects' NURSE, depicting mesolectal-to-acrolectal Nigerian English values, are presented in the table that follows:

Table 5.43: first and second formants of NURSE as produced by all the subjects

F1	F2
361.3	1343.6

NURSE in Table 5.43 above, as realized by the research subjects, is, relative to the RP norm, closer and a bit more backed. Our referenced RP NURSE is more open by a difference of 104.6Hz and fronter by the acoustic gap of 101.2Hz. Within the same data-set, however, there is not that much difference on the vertical plane with STRUT being only slightly opener by 19.4Hz (bearing in mind that Ladefoged (1996: 21) has revealed that the human ear can still detect a sound between 16-20Hz). At its own minimal level, this is still an imitation of the RP model where STRUT is opener than NURSE. The same pattern is observable on the horizontal plane where, like in our referenced RP data, NURSE is fronter than STRUT. All of these will be more systematically presented later when we will look deeper into the STRUT-NURSE contrast.

5.2.10.3 NURSE of Different L1 Subgroups of the Research Subjects

The table below captures the normalized first and second formant frequencies as produced by the subjects; and across the different L1 subgroups.

Table 5.44: average F1 and F2 values of NURSE as produced by L1 subgroups.

Mother Tongue	F1	F2
Hausa	488	1442.8
Igbo	456.8	1424.9
Yoruba	336.4	1271.7

From the table above, we can see that the L1-Igbo speakers realized a NURSE (with F1 and F2 values of 456.8Hz and 1424.9Hz respectively) that is the closest to that of our sampled RP data (with F1 and F2 values of 465.9Hz and 1444.7 Hz respectively). In other words, RP NURSE is only slightly more open and more front than that of the L1-Igbo speakers by the acoustically inconsequential differences of 9.1Hz and 19.9Hz on the vertical and horizontal planes respectively. Considering that the Igbo Language does not have any central vowel (see Figure 5.2 above), the NURSE produced by members of the Igbo subgroup can be said to be totally free from L1 influence, and thus approximating the (RP) prestige norm. The Hausa subgroup's NURSE (with an F1 and F2 of 488Hz and 1442.8Hz respectively) is, similarly, a little opener and more back than RP NURSE, by 22.1Hz and the insignificant 2Hz, respectively. The Yoruba subgroup has the closest and the most backed NURSE, the same pattern we noticed with their STRUT in 5.40 above, and so the farthest from our referenced RP norm. A possible L1 influence cannot be postulated here because, as we can see in Figure 5.3, there are no long monophthongs in Yoruba. We may, however, possibly invoke an intra-system pattern of their STRUT pulling their NURSE in the same direction. In any case, the Yoruba subgroup has a NURSE furthest from the prestige norm.

5.2.10.4 Gender Dichotomy in the Production of NURSE

Both genders each realized their NURSE vowel as presented in the table below.

Table 5.45: average F1 and F2 values of NURSE as produced by gender subgroups.

	F1	F2
Male	347.4	1361
Female	494.4	1352

As can be seen from Table 5.45, both male and female subjects have virtually the same NURSE in terms of frontness/backness. But NURSE in each gender's speech is not exactly as fronted as that of RP, which has an F2 of 1444.7 Hz. Between the two genders, however, a wide acoustic dichotomy along the vertical

plane exists. The female speakers can be said to have produced a comparatively open NURSE, opener than that of their male counterparts by a difference of 147Hz; and, importantly, closer to the RP norm of 465.9Hz. It is noteworthy that the female gender's NURSE is even slightly more open than that obtainable in our RP data, by 28.5Hz – perhaps evidence of slight hypercorrection. Based on the foregoing, it is evident that the female subjects approximated the prestige exonormative norm much more than the male subjects.

5.2.10.5 STRUT-NURSE Contrasts in the Data

Different STRUT-NURSE acoustic oppositions in the data are as graphically presented below:

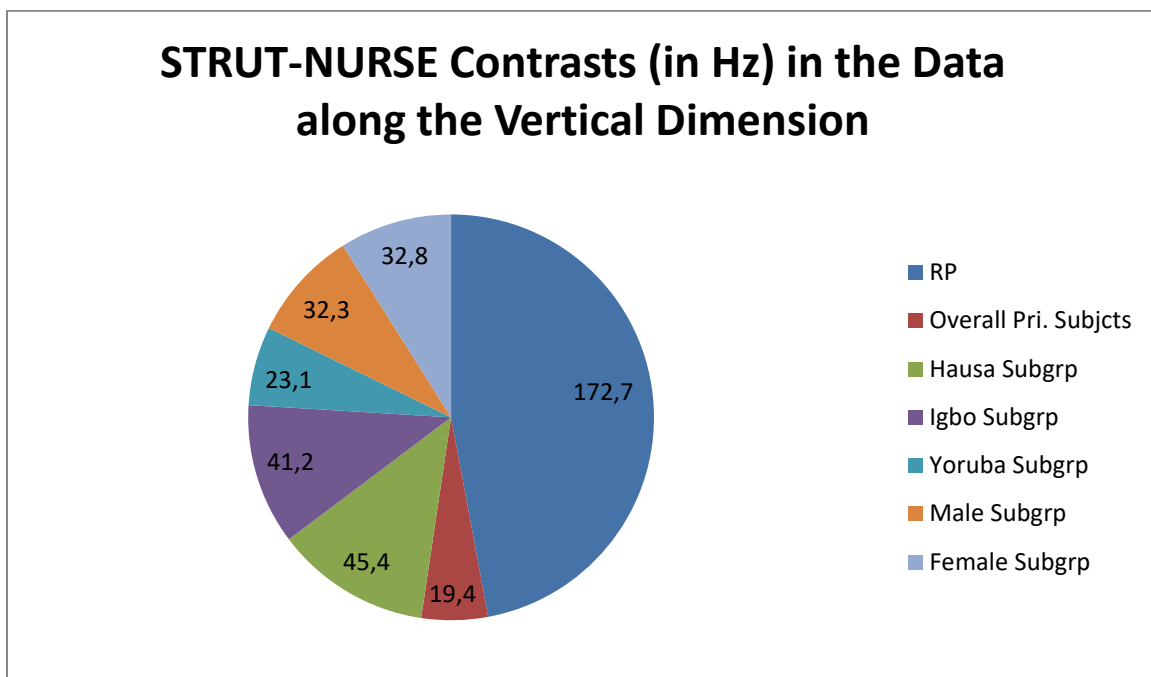


Figure 5.23: STRUT-NURSE contrasts in the sampled RP data, and mesolectal-to-acrolectal Nigerian English and their sociolinguistic subunits along the vertical plane

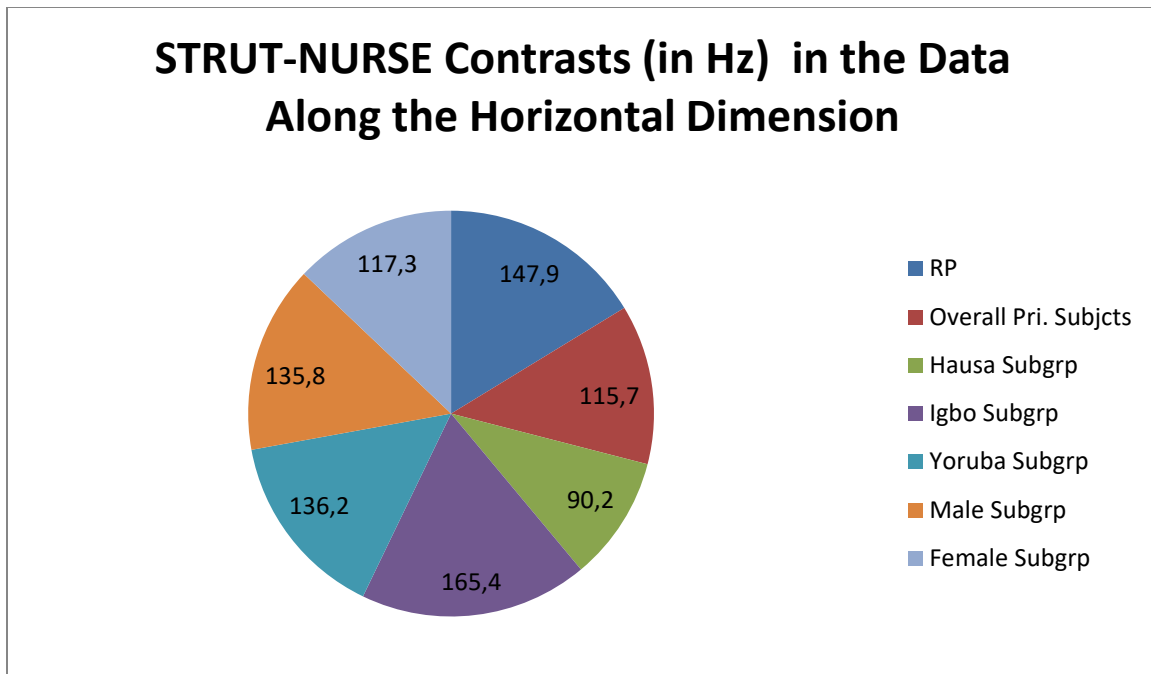


Figure 5.24: STRUT-NURSE contrasts in the sampled RP data, and mesolectal-to-acrolectal Nigerian English and their sociolinguistic subunits along the horizontal plane

Figures 5.23 and 5.24 above show substantial STRUT-NURSE quality opposition in RP, in which the STRUT vowel is more open and more back than NURSE by 172.7Hz (see Figure 5.23) and 147.9Hz (see Figure 5.24) on the vertical and horizontal planes respectively. The first thing to note is that this same pattern (of opener and backer STRUT than NURSE) is maintained, albeit often with acoustically minimal differences, across the primary data and its sociolinguistic subsets. Among the indigenous subgroups, the Hausa L1-speakers observed the widest opposition in height but the least contrast along the horizontal plane. The Igbo subgroup made a 41.2Hz opposition between the two vowels on the vertical plane but had the widest horizontal difference of 165.4Hz, even wider than that made by the RP speakers (147.9Hz). Indeed, considering that Igbo does not have any central vowel, we may safely say that the Igbo subgroup is nearest to the RP norm. The Yoruba subclass has the least contrast on the vertical plane (with a difference of 23.1Hz) but a substantial quality difference of 136.2Hz on the horizontal dimension. This subgroup realized the two vowels as comparatively close (their STRUT probably pulling their NURSE as has been suggested earlier).

There is no particularly special pattern in the STRUT-NURSE quality opposition made by the two gender subgroups. Essentially, the male speakers and their female counterparts were making virtually the same

quality contrasts between the two vowels. At individual vowel level, however, we have seen the female speakers producing more RP-like STRUT and NURSE vowels than their male counterparts.

5.2.11 FOOT

5.2.11.1 Reference Accents

Impressionistic Details: FOOT /ʊ/ is a short, lax vowel which, by implication, can only occur in a checked position, and never in word-final position (Wells 1982: 133). Carley and Mees (2020: 139) describe its phonetic positioning as being “just above close-mid, back-central” which agrees with the one given by Wells (1982: 133). Figure 5.8 above, taken from Ladefoged and Johnson (2015: 96), confirms this positioning in RP. GenAm FOOT has a diphthongal allophone ending in [ə] when prosodically significant (e.g. being stressed) and followed by a voiced consonant, as in *pudding* [pʊədɪŋ], *stood* [stʊəd] (Wells 1982: 485). As has been noted above, FOOT is still being realized in STRUT words such as *cut* in accents (e.g. those of the north of England) where the FOOT-STRUT Split is yet to take effect (Trudgill 2008: 4). In his phonetic update of RP, Wells (1990: 6) reports that FOOT has become “less back” than it used to be. Citing Fabricius (2007), Bekker (2009: 332) traces the commencement of FOOT-Fronting to the 1960s, which became consolidated in the 70s and early 80s. Wells (1982: 133) acknowledges the traditional, backed variant of FOOT as being associated with the old-model norm in England, and the fronted/centralized variant as being the innovation in vogue. Also, there is the case of hypercorrection found in near-RP, as noted by Wells (1982: 353), in which /ʊ/ is lowered and articulated as [ə~ʌ].

Acoustic Details: As in the previous cases, we can gain significant insight into the acoustic nature of FOOT in RP which, as has been copiously seen, serves as the model for Nigerian English. The table below, therefore, shows the first and second formant values of RP FOOT as adapted from Deterding (1997: 55).

Table 5.46: first and second formants of RP FOOT adapted from Deterding (1997: 55).

F1	F2
354.6	1225.8

We note that the acoustic information presented in Table 5.46 above complies with the impressionistic description given earlier. Perhaps the first thing we can see is that the F1 value (i.e. 354.6Hz) shows that RP FOOT is indeed slightly closer than its THOUGHT (363.2Hz) as can be seen in Figure 5.12 above.

The second formant of FOOT (1225.8z) also shows that it is quite a central vowel when compared with the backed THOUGHT (935Hz).

5.2.11.2 FOOT in Mesolectal-to-acrolectal Nigerian English

The table that follows shows the overall acoustic characteristics (F1 and F2) of the FOOT vowel as realized by the research subjects.

Table 5.47: first and second formants of FOOT as produced by all the research subjects

F1	F2
321	1305.3

It is interesting here, as seen in Table 5.47 above, to see that although FOOT in mesolectal-to-acrolectal Nigerian English (with an F1 of 320.6Hz) is not exactly as open as that of RP (F1 of 354.6Hz), it is more fronted than RP FOOT by 79.5Hz, FOOT-fronting having become a feature of mainstream RP. In general, therefore, and unlike any other vowel before now, FOOT produced by the research subjects is robustly approximating the exonormative RP norm. It remains to be seen, however, how members of each sociolinguistic sub-group (mother-tongue and gender) differ in their realizations of this vowel.

5.2.11.3 Native L1 Speakers' Differences in their Articulations of FOOT

The following table shows how each indigenous language subgroup produced their FOOT in terms of first and second formants.

Table 5.48: average F1 and F2 values of FOOT as produced by L1 subgroups.

Mother Tongue	F1	F2
Hausa	398	1309.6
Igbo	337.6	1406.2
Yoruba	302.5	1271.7

L1-Hausa speakers have the most open FOOT (with an F1 of 398Hz), even opener than that of the RP speakers with an F1 of 354.6Hz. Compared to the Igbo subgroup, this subgroup also has a backed FOOT (F2 of 1309.6Hz) but one which is still substantially more fronted than the RP norm of 1225.8Hz. There is, perhaps, an influence here of the Hausa short FOOT-like vowel /u/ which is a somewhat centralized back vowel. But as this vowel is opener and more fronted than its neighbouring GOOSE-like /u:/ (see

Figure 5.1), we will be able to confirm an L1 influence later (when we consider the FOOT-GOOSE contrast) only if it is discovered that the Hausa subgroup's FOOT is opener and more fronted than their GOOSE. Of course, such a pattern could also be the influence of RP. But it will just be the case that the Hausa speakers' L1 exerted a positive influence on their FOOT-GOOSE quality contrast (if the pattern is confirmed). Meanwhile, the L1-Igbo speakers' FOOT is nearest to the RP norm on the vertical plane, the former being closer by just 17Hz. The horizontal dimension of this subgroup's FOOT is, however, a huge jump from the reality of RP as it is more fronted than RP by 180.4Hz. Although this horizontal positioning of FOOT can be taken as one of the latest innovations in RP (thereby conferring the status of prestige on it), we can perhaps also detect here the interplay of mother-tongue influence. From Figures 5.2-5.3 in this chapter, it is confirmable that the Igbo language has the most fronted FOOT-like vowel, /u/ (although it is opener than the Hausa FOOT-like vowel /u/, a reality that did not reflect in both subgroups' vertical realizations of FOOT), which the speakers have possibly approximated to while producing their English FOOT). The L1-Yoruba speakers pronounced the least open FOOT, which can be ascribed to the fact that Yoruba, unlike the rest of the two mother-tongues, has only one vowel /u/ in the vocalic space of FOOT, and it is in a peripheral position (see Figure 5.3 above). Like the other two subgroups, the Yoruba subgroup's FOOT is more fronted than it is in RP. There is no further traceable influence of the L1 here except to postulate that, by the virtue of their professional intermingling, the fronting of FOOT as found among the Igbo and Hausa subgroups has been emulated by L1-Yoruba speakers, who arguably produced the least prestigious variant (or the least hypercorrected).

5.2.11.4 Gender Dichotomy in the Production of FOOT

Below are the first and second formant values of FOOT as realized by each of the two genders.

Table 5.49: average F1 and F2 values of FOOT as produced by gender subgroups.

	F1	F2
Male	302	1330
Female	410.9	1301.8

In terms of height, both genders are almost equidistantly far from our sampled RP FOOT (F1 of 354.6Hz): up (for the male) and down (for the female) in the traditional vowel space. In other words, the male speakers' FOOT is closer than that of RP by 52.6Hz, while that of the female subgroup is opener (than RP) by 56.3Hz. Both genders realized a more fronted FOOT than that obtainable in RP (F2 of 1225.8Hz). The females' open FOOT resonates with the hypercorrection found in near-RP in which /u/ is

often lowered and articulated as [ə~ʌ] (Wells 1982: 353). Generally, however, it is unclear, at this point, which gender is approximating the RP norm more. Perhaps, such an assessment will be made possible by examining how much they were able to contrast FOOT and GOOSE.

5.2.12 GOOSE

5.2.12.1 Reference Accents

Impressionistic Description: Phonemically, the GOOSE vowel is represented as /u:/ and /u/ in RP and GenAm respectively. It, however, has the same traditional description in both accents: a long, tense, high (close) back vowel (Wells 1982:147; Ladefoged and Johnson 2015: 21). Unlike its nearest companion, FOOT, GOOSE is a free vowel (i.e. it can occur in word-final position, e.g. *sue*). When it occurs in such a word-final position, it assumes some diphthongal realizations which Wells (1982: 147) represents as /ou/. Carley and Mees (2020: 130) have emphasized that GOOSE, contrary to the misconception in some quarters, is not a long version of FOOT but a markedly different vowel in terms of quality, as we have seen in the description of their qualities already.

An interesting development related to GOOSE, which has been widely acknowledged, is its movement, like FOOT, towards the front position; popularly known as GOOSE-Fronting (i.e. [ʊ:]) (Trudgill 2008:7; Wells 1990: 6). In the GenAm accent of Chicago, for example, Wells (1982:487) reports that the fronted GOOSE has overt prestige, being characteristic of educated speech, while the back variant is considered a speech feature of the uneducated. However, in the UK context, the conservative, old-model speech norm, which is still upheld by British elocutionists as the standard, is the most back variant (Wells 1982: 148). However, Hannisdal (2006:93), just like Gimson and Cruttenden (2000; cited in Trudgill 2008: 7), has reported the fronting of /u:/ to [ʊ:] as “well-established with many RP speakers, but ... still very much in progress”. Bekker (2009: 32) hints at extreme cases of GOOSE-fronting where it is realized as close-to-[y:] thus raising the possibility that the difference between GOOSE and FLEECE is a matter of lip-rounding (which is beyond the scope of the current study) rather than in terms of a front-back horizontal quality differentiation. Since the backest variant is a feature of conservative U-RP speakers (except after palatal approximant /j/ where it is also fronted) (Wells 1982: 281), we expect the fronted (central) variant to be characteristic of mainstream RP speakers.

Acoustic Description: The acoustic details of RP GOOSE in relation to the first and second formants, as obtainable from Deterding (1997: 55), are presented in the table below.

Table 5.50: first and second formants of RP GOOSE adapted from Deterding (1997: 55).

F1	F2
299	1266

In compliance with the impressionistic description already given, the acoustic details of RP GOOSE in Table 5.50 above show a closer GOOSE (299Hz) than FOOT (354.6Hz) by a gap of 55.6Hz. On the horizontal dimension also, RP GOOSE (1266Hz) above is fronter than FOOT (1225.8) by 40.2Hz. All of this confirms the accuracy of the impressionistic descriptions.

5.2.12.2 GOOSE in mesolectal-to-acrolectal Nigerian English

The table below presents the overall first and second formant values of GOOSE as produced by the fourteen research subjects of the current study.

Table 5.51: first and second formants of GOOSE as realized by all the research subjects

F1	F2
312.3	1363.5

The height of the subjects' GOOSE vowel above is virtually the same as that of RP (299Hz), the latter being opener only by 13.3Hz. So we can safely say that mesolectal-to-acrolectal Nigerian English GOOSE, with its first formant value of 312.3Hz, is a close vowel, indeed the second closest of all the monophthongs in the primary dataset, after FLEECE, as can be confirmed from Figure 5.9 in this chapter. GOOSE being acoustically a close monophthong, here, is in line with the projection of Watt and Fabricius (2002: 164) that GOOSE has the lowest F1 (along with FLEECCE) among the English vowels. Interestingly, however, this GOOSE, like it is with its FOOT counterpart in the same dataset, is fronter (1363.5Hz) than RP GOOSE (1266Hz), and that by the non-negligible frequency of 97.5Hz. We may postulate here that FOOT and GOOSE have been pulling each other in the same direction. Frontness, as we have seen, is a prestige feature of mainstream RP and thus the fronted nature of GOOSE in the current data might be evidence of some form of hypercorrection.

5.2.12.3 The Production of GOOSE by the L1 Speakers of the Three Indigenous Languages

Below is the breakdown of how members of each indigenous language of the subjects realized GOOSE.

Table 5.52: average F1 and F2 values of GOOSE as produced by L1 subgroups.

Mother Tongue	F1	F2
Hausa	363.1	1315.2
Igbo	324	1625.3
Yoruba	293.9	1308.9

Except for the Yoruba subgroup, the L1 subgroups have a lower GOOSE vowel than in RP where the F1 is 299Hz, and the three mother-tongue subgroups have a fronter GOOSE than their counterpart in RP. As with their FOOT vowel, the L1-Igbospeakers have the most fronted GOOSE which is fronter than that of RP speakers by the huge acoustic difference of 359.3Hz. There is an unlikely influence of the fronted Igbo L1 /ʊ/ (considering that it is a short vowel). Also, both the Hausa and Yoruba subunits produced a GOOSE vowel almost equally more-fronted than that of the sampled RP norm. Since this is the same pattern maintained in their productions of FOOT (with the Hausa speakers realizing a more fronted FOOT than that realized by the Yoruba speakers), we may postulate some kind of FOOT-GOOSE parallelism here (as we saw too with DRESS and SQUARE). Mother-tongue influence seems unlikely since both Hausa and Yoruba have only fully-backed-fully-close GOOSE-like equivalents.

5.2.12.4 Gender Dichotomy in the Production of GOOSE

We now turn to consider the production of GOOSE by the gender subgroups as revealed in 5.53 below.

Table 5.53: average F1 and F2 values of GOOSE as produced by gender subgroups.

	F1	F2
Male	298.7	1406.2
Female	380.1	1354.6

The male speakers produced a GOOSE that is approximately of the same height (298.7Hz) as that of the sampled RP speakers (299Hz). The female speakers produced a substantially opener GOOSE (380.1Hz) which has no record of exonormative prestige. A truer picture of which gender is gravitating more towards the prestige model, as has been the case in all the previous closely related monophthongal pairs in terms of quality, will emerge when we consider how much each gender was able to observe a FOOT-GOOSE contrast. Along the horizontal plane, the same acoustic pattern we have seen so far - with all the subjects at different levels having a fronter GOOSE than that obtainable in our sampled RP data - persists

here. The female subgroup is, however, nearer the RP norm than the male subunit is. In both cases, we may infer the sociolinguistic phenomenon of hypercorrection as being at play here.

5.2.12.5 FOOT-GOOSE Contrasts in the Data

The following charts capture the extent of the acoustic contrast between FOOT and GOOSE as realized by RP speakers and the primary research subjects; in general and in their different sociolinguistic subcategories.

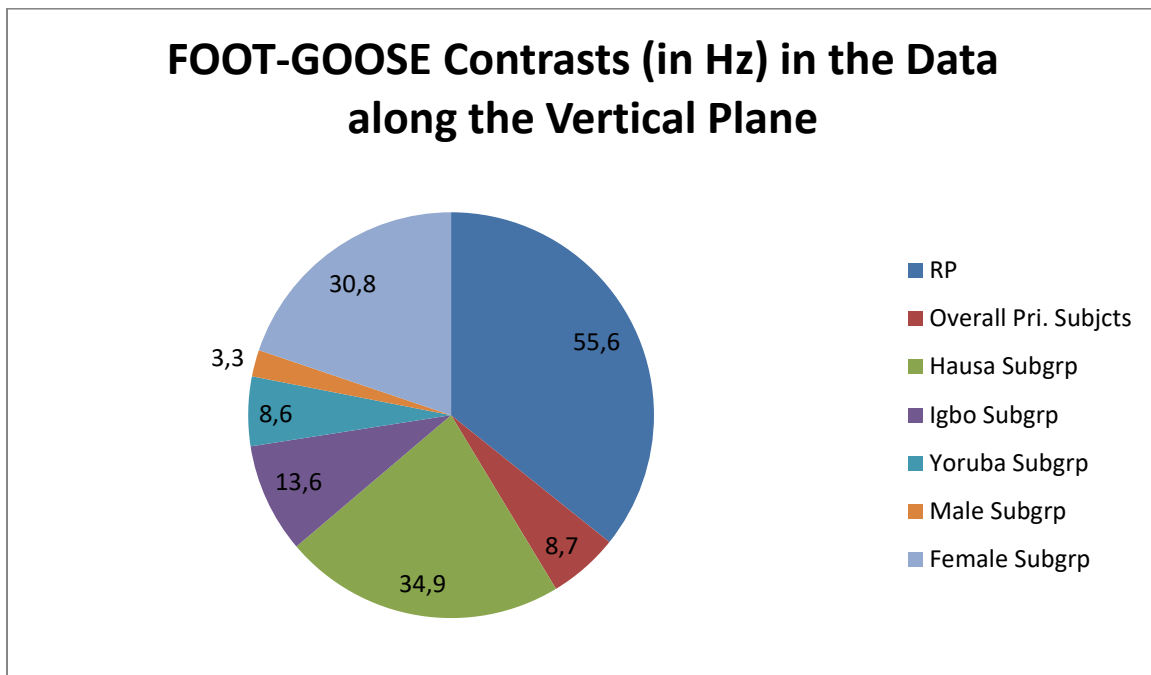


Figure 5.25: FOOT-GOOSE contrasts in the sampled RP data, and mesolectal-to-acrolectal Nigerian English and their sociolinguistic subunits along the vertical plane

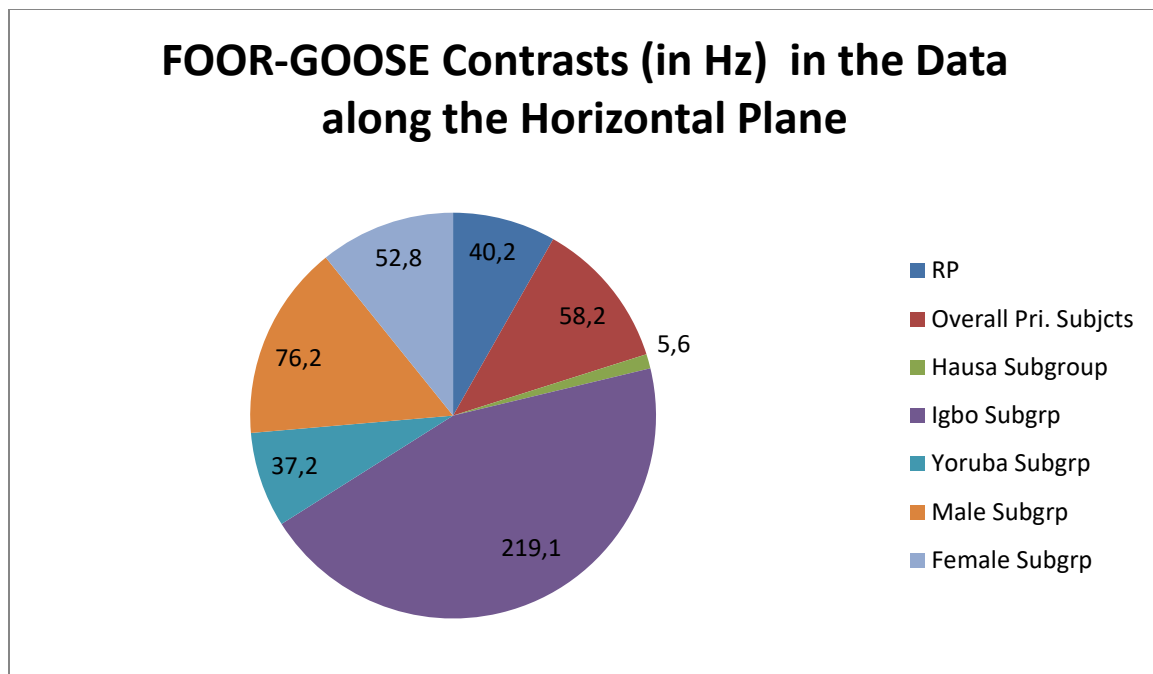


Figure 5.26: FOOT-GOOSE contrasts in the sampled RP data, and mesolectal-to-acrolectal Nigerian English and their sociolinguistic subunits along the horizontal plane

As we can conclude from Figures 5.25 and 5.26 above, the RP speakers contrasted their GOOSE and FOOT vowels by closing and fronting the former by an acoustic difference of 55.6Hz and 40.2Hz. We may note that these are the smallest quality contrasts compared to the rest of the RP monophthongal pairs we have considered, thereby showing that FOOT and GOOSE are closer to each other in RP than other qualitatively-related monophthongal pairs. Meanwhile, the same pattern of a fronter and closer GOOSE than FOOT was generally maintained by the research subjects, and across their sociolinguistic subunits, in many by very negligible acoustic differences though. Among the indigenous subgroups, while the Hausa speakers marked the relatively largest contrast of 34.9Hz along the vertical dimension, the Igbo and Yoruba subgroups could only achieve contrasts of 13.6Hz and 8.6Hz respectively along that line, acoustic differences that are below the frequency the human ear can recognize (Ladefoged 1996: 21). On the horizontal plane, only the Igbo and Yoruba subgroups were able to produce acoustically relevant contrasts. But particularly, the Igbo speakers fronted their GOOSE beyond their FOOT by the huge difference of 219.1Hz, a contrast that far outpaces even the one achieved by the RP speakers. However, we do not find such an opposition made by the Hausa speakers, whose L1 also has a/u/ and /u:/ contrast in which the former is opener and a little more fronted than the latter. Based on the foregoing, it is difficult

to say that any particular L1 subgroup has approximated the exogenous RP norm more than any other in terms of contrast.

On the gender side, while the male speakers made an acoustically relevant opposition on the horizontal plane, their contrast on the vertical plane fell far short of the frequency the human ear can pick up on: 3.3Hz. The female speakers, on the other hand, achieved considerable and perceptible contrasts on both vertical and horizontal planes. Thus, in this sense, the female gender has modeled the RP norm better than its male counterpart.

5.3 Conclusion

This chapter has presented and analyzed both the primary and secondary data, the former consisting of English monophthongs processed via PRAAT and the NORM Suite. The analysis was done along the two main phonetic dimensions of length and quality. The quality analysis was based on the first formant (i.e. height) and the second formant (i.e. frontness/backness). So, while section 5.1 was devoted to length analysis, section 5.2 delved into the analysis of quality. The secondary data, a collection of RP monophthongs, served as the basis of exogenous comparison with the monophthongs produced by subjects expected to be mesolectal-to-acrolectal speakers of Nigerian English. Aside from the analyses of the monophthongs of the subjects as a whole, the data were also streamlined along the sociolinguistic units of the indigenous languages of the subjects and their gender. This all enabled us to also track the degree of influence of the subjects' L1 on their monophthongs. The gender angle helped to trace which gender is approximating the prestige norm more to prove (or disprove) the hypothesis that female speakers of Nigerian English approximate prestigious linguistic norms more than their male counterparts, as would be expected on the basis of conclusions enunciated by sociolinguists such as Labov (1990: 210, 213, 215) and Trudgill (1972: 179).

CHAPTER SIX

CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

6.0 Introduction

This dissertation has undertaken an investigation of the acoustic nature of the monophthongs of mesolectal-to-acrolectal Nigerian English as instantiated in the speech of fourteen Nigerian newscasters. The purpose of this last chapter, in conformity with the proposed outline provided in chapter one, is to provide a conclusion of the current study in form of a summary of the findings, a discussion of the limitations encountered during the course of the study, and some recommendations for future research. Essentially, therefore, this chapter is meant to provide a ‘good landing’ for the entire study as a basis from which future research can smoothly and safely take off.

6.1 Brief Overview of the Research Purpose, Research Questions and Methodology

This study was poised to fill a research gap which existed as a result of a lack of relevant acoustic descriptions of the Nigerian English sound system (as a distinct member-variety of World Englishes) in general and of the vowels of the standard variety of this English dialect in particular. Of particular interest was the extent to which both the endogenous influence of the indigenous languages and the exogenous influence of RP and/or GenAm are ‘pulling on’ the traditional English monophthongs of the research subjects. Also incorporated is the gender perspective, relative to an already existing postulation in variationist sociolinguistics that female speakers naturally tend towards the prestige norm more than their male counterparts, all other sociolinguistic variables being equal (Labov 2001: 266; Wells 1982: 19). Besides its utility of (in)validating this already-existing hypothesis for theoretical purpose, this gender perspective was to assist in arriving at conclusions as to what the most acrolectal Nigerian English norms are most likely to be (if indeed the female speech is more acrolectal than the males’ in reference to the so-called monophthongal vowels).

In tandem with the above-discussed purpose, the research was guided and shaped by three research questions which centered on the determination of the mesolectal-to-acrolectal norms of Nigerian English as reflected in the speech of female and male Nigerian newscasters and with specific reference to the monophthongs; (1) what is the extent to which these norms can be accounted for by (a) the influence of RP, (b) the influence of GenAm and/or (c) the influence of the African-language mother-tongues; (2) whether the speech of the female newscasters is more acrolectal than that of the male newscasters and; (3) if the anticipated less prestigious forms associated with the male broadcasters are the result of greater mother-tongue influence.

As hinted on earlier, fourteen Nigerian broadcasters from reputable Nigerian television stations served as the research subjects for the current research. The television stations include the government-owned *Nigerian Television Authority* (NTA), the multiple award-winning *Channels Television*, and *African Independent Television* (AIT). The fourteen subjects consisted of seven males and seven females. On the mother-tongue distribution, the subjects were L1 speakers of the three major Nigerian indigenous languages as follows: five L1-Yoruba speakers, five L1-Igbospeakers and four L1-Hausa speakers. These newscasters, by the nature of their training for broadcasting not only to an intra-national Nigerian audience but also to international listeners, are expected to be speakers of standard Nigerian English.

To further provide empirically reliable answers to the research questions above, relevant secondary data had to be accessed regarding the vowel system of the subjects' mother-tongues on the one hand, and of the two reference accents on the other. These secondary data helped copiously to clearly ascertain to which of the two ends (endogenous or exogenous) any particular subject's (or group of subjects') monophthongs were gravitating. As there were no available acoustic data for the indigenous languages, the data from such languages were impressionistic. Although there were acoustic data for GenAm, they were not in a format convertible for the purposes of the current study. Therefore, GenAm data used in the study were impressionistic. Fortunately, however, both relevant acoustic and impressionistic data were available for RP.

In terms of the primary data, the subjects' monophthongs were extracted via PRAAT, and then normalized via the NORM suite in order to neutralize the effect of vocal length difference between male and female vowels, which would have otherwise made it impossible to usefully compare the speech of both genders on a uniform scale⁸¹. Because the acoustic data for RP, derived from Deterding (1997), was in raw-Hz form⁸², they had to be normalized in the same way as the primary data. For the primary data, since each newscast lasted for approximately one hour, the target was to measure ten tokens per monophthong⁸³ per speaker. But there were cases of low incidence vowels such as PALM, SQUARE, and CLOTH etc. that did not meet up with this target.

⁸¹ See chapter 4 for a detailed discussion on this and other methodological issues.

⁸² See Appendix 2.

⁸³ Using Wells' (1982) lexical sets, the monophthongs included TRAP, BATH, START, PALM, KIT, FLEECE, DRESS, SQUARE (although traditionally diphthongal), LOT, CLOTH, THOUGHT, FORCE, NORTH, FOOT, GOOSE, STRUT, and NURSE (See section 2.7 of chapter 2 of this dissertation for more details about these lexical sets).

6.2 Summary of Findings

This section will provide distilled information regarding the findings of the analysis carried out on the data in chapter four. Although attention will be fixed on each vowel (in terms of their length and quality), equal cognizance will also be taken of each group of vowels closely related in quality (e.g. KIT vs. FLEECE). For each lexical set, the order of discussion will be as follows: the acoustic nature of each vowel as realized by all the subjects (thus representing the overall mesolectal-to-acrolectal Nigerian English norm), then as realized by each L1 subgroup; and then as realized by each gender. The discussions will attend to both length and quality considerations.

6.2.1 TRAP: In conformity with its traditional nature, this vowel was realized by the subjects as a short vowel. However, it is the longest of all the traditionally short vowels produced by the subjects, thereby showing the effect of its long allophone, characteristic of the reference accents as well (McKenna 1988: 22; Wells 1982: 129-130). Among the L1 subgroups, the L1-Yoruba subjects realized a longer TRAP than the other two (Hausa and Igbo), while the female speakers recorded a longer duration than their male counterparts. The statistical relevance of this comes to light when the TRAP-BATH contrast by each subgroup is discussed shortly.

In terms of quality, the overall picture of this vowel is that of a mid-open somewhat centralized vocoid in mesolectal-to-acrolectal Nigerian English, unlike in RP where it often fully open (at least in contemporary mainstream RP) and fronted; and unlike in GenAm where it is phonetically close and fronted. Phonetically speaking, therefore, mesolectal-to-acrolectal Nigerian English TRAP is ‘trapped’ between the RP and GenAm norms.

The Hausa subgroup, however, approximated the RP norm more closely by having an opener and more fronted TRAP (though still centralized in comparison to the sampled RP norm). The Yoruba subgroup had a TRAP farthest from the RP norm, presumably being the most influenced by their L1. TRAP in Igbo English is somewhere in-between, actually nearer Hausa English.

Turning to gender differences, the female speakers’ TRAP is nearer the RP norm than the male speakers’ was, as the former had a substantially opener TRAP than the latter while both had approximately the same horizontal ‘position’. Thus, the female speakers, being apparently less influenced by their mother-tongues, produced a more prestigious TRAP than their male counterparts.

6.2.2 BATH: because the ‘real’ BATH vowel produced by the subjects is a long back one (thus approximating the RP norm, rather than the fronted GenAm norm), it was merged with START and PALM; and the three lexical sets were thus dealt with together under the cover term BATH.

The vowel was longer in the speech of the L1-Yoruba and female subgroups than it was in their respective counterparts. Still on length, the L1-Yoruba speakers showed a greater TRAP-BATH contrast, as established by a t-test, than the remaining two L1 groups. The male subgroup also produced a larger TRAP-BATH durational opposition, in terms of statistical relevance, than the female speakers, here being the only instance in which the former outdid the latter in terms of length contrast between the traditionally short and long vowels.

Quality-wise, the overall mesolectal-to-acrolectal Nigerian English BATH, interestingly, is almost as backed as that of the RP norm. This Nigerian English BATH was also approximating the RP norm, albeit minimally, by being closer than its TRAP counterpart (unlike in GenAm where, as a result of an ever-closer TRAP, /ɑ:/ is opener than /æ/). Since there is no BATH equivalent in the speakers' L1's, just like there is no TRAP equivalent, one can take the close quality of BATH (as is the case in question) as also a possible influence of the speakers' mother-tongues.

The same pattern noted regarding the subjects' TRAP vis-à-vis the L1 subgroups was replicated in relation to BATH, with the L1-Hausa subgroup (with substantially lowered BATH) having the nearest quality to the RP norm. The farthest from the exogenous standard is that of the L1-Yoruba subgroup; while the L1-Igbo speakers produced a BATH that is 'in-between' but closer to that of the L1-Hausa speakers.

As in the case with the production of TRAP, the female speakers, having a significantly opener quality, articulated a BATH that modeled that of RP, and were thus presumably less influenced by their L1's. Consequently, the female speakers were approximating the prestige norm in their realization of BATH more than their male counterparts.

In terms of producing a robust TRAP-BATH quality contrast, among the mother-tongue subgroups the L1-Hausa speakers marked a larger contrast than the rest of the subgroups on the vertical plane while the L1-Igbo subjects observed the largest contrast along the horizontal plane. The female speakers had a greater opposition than the male speakers on the vertical plane while the reverse was the case on the horizontal dimension.

6.2.3 KIT: the entire group of subjects, and in their various L1 and gender subdivisions, pronounced KIT as a short vowel. But in relation to the mother-tongue subdivisions, the L1-Hausa speakers produced the shortest KIT while the L1-Yoruba speakers produced the longest, with L1-Igbo member-subjects' KIT being in-between. Meanwhile both genders realized KIT with basically the same duration i.e. the difference was not statistically significant.

As a whole, all the subjects produced their KIT as a close monophthong but less fronted than its RP counterpart. The latter reality was traced to the influence of the indigenous languages.

Owing to what can be considered as an apparently ‘positive’ influence of their L1, the Igbo subgroup approximated RP KIT much more than the rest of the speakers. In terms of proximity to the RP norm, the next subgroup to Igbo is Hausa. Interestingly, both subgroups have two qualitatively contrasting vowels in their L1’s within the vocalic space of KIT and FLEECE. L1-Yoruba speakers pronounced the closest KIT, in fact, closer than that of RP, and the most backed KIT; thus the most distant from any known RP norm.

On the gender side, the female speakers, by producing an opener and more centralized KIT than the male speakers, showed receptivity to the contemporary RP norm.

6.2.4 FLEECE: Like in RP (although not to the same degree), the subjects lengthened their FLEECE in contrast to the short KIT. The Hausa subgroup, however, made the greatest contrast, while the Yoruba subjects observed the least KIT-FLEECE contrast in terms of length (according to the t-test analysis), results that are traceable to the L1’s since, unlike Yoruba, both Hausa and Igbo have two vowels in the KIT-FLEECE vocalic space. The female subjects, in their subgroup, marked a better KIT-FLEECE durational contrast than the male subjects. Thus, the females have again shown a closer approximation to the exogenous standard than their male counterparts.

In terms of quality, the research subjects raised and fronted this vowel (to contrast it with the opener and centralized KIT) to produce it as indeed a peripheral vowel. The quality opposition between FLEECE and KIT was, generally, more pronounced along the horizontal plane. The contrast in height was so minimal that it is not likely to be auditorily perceptible.

Although none of the indigenous language subgroups raised and fronted their FLEECE exactly as in RP, so as to contrast it with their KIT, they nonetheless observed some reasonable quality opposition by somewhat raising their FLEECE and substantially fronting it (in contrast with their KIT vowel). Of the three indigenous L1 groups, Igbo speakers marked the greatest contrast by fronting and raising their FLEECE further away from their KIT than the other two subgroups. This was followed, interestingly, by Yoruba speakers, whose L1, unlike the Hausa subgroup, with the smallest FLEECE-KIT contrast, has only one vowel in the FLEECE-KIT vocalic space.

The male speakers closed and fronted their FLEECE more than the female speakers. However, while the female speakers marked a greater FLEECE-KIT opposition in terms of height, the male speakers observed a wider contrast along the horizontal plane. Thus, the male speakers were ‘collapsing’ the two

vowels into FLEECE while the female speakers were collapsing them into KIT. So, both genders were somewhat on a par in terms of prestige regarding the FLEECE-KIT contrast.

6.2.5 DRESS: DRESS is a short monophthong in the speech of mesolectal-to-acrolectal Nigerian English speakers. Both Hausa and Igbo speakers, who maintained basically the same length in their articulation of DRESS, produced a shorter KIT vowel than was observable in the speech of the Yoruba speakers. As in the case of short KIT, both genders also recorded effectively the same length for DRESS.

Turning to quality, the subjects, as a whole, realized a close and centralized DRESS when compared to the RP data. This was shown to be a result of the influence of the L1's where, although DRESS-like vowels occur, there are significant differences from RP-norms.

Looking across the three mother-tongue subgroups, L1-Hausa speakers had the most open and most fronted DRESS. L1-Yoruba speakers produced the closest and the most backed DRESS, thus the furthest from the exogenous standard, and in some tension with their L1, where there is actually an open front DRESS-like /ɛ/. Meanwhile, the female speakers almost accurately modeled the mainstream RP norm in their realization of DRESS, while the male speakers were obviously being pulled by the mother-tongue by having a comparatively close and centralized DRESS.

6.2.6 SQUARE: the subjects (and in their L1 and gender subdivisions) showed a longer duration for their SQUARE vowel, as expected, than their DRESS vowel. The Yoruba subgroup made the most statistically significant DRESS-SQUARE durational differentiation (established by a t-test) compared to Hausa and Igbo). Hausa speakers, who have a short-long vocalic contrast around the region of DRESS-SQUARE in their L1, came next while the Igbo speakers have the least contrast. The latter case can be attributed, this time around, no doubt to the influence of the L1 where there is no short-long contrast in the vowels around the 'space' of DRESS-SQUARE.

No acoustic data from RP was available for SQUARE to compare that of the subjects to. In terms of the primary data, we saw that there is an (albeit a small) acoustic difference between the two vowels i.e. SQUARE is closer and fronter than DRESS in mesolectal-to-acrolectal Nigerian English, as represented in the speech of the research subjects. We should note, however, that these acoustic differences were so small that they certainly would not yield any impressionistic perception, at least in terms of quality. The subjects, in reality, were thus producing both DRESS and SQUARE as the same vowel, quality-wise. The only substantial contrast the subjects made between the two vowels was in terms of length. In fact, the DRESS-SQUARE length difference was the longest of all the short-versus-long monophthongs durational oppositions.

The same reality noted with the overall data above was replicated across the indigenous subgroups, except in the case of the L1-Hausa speakers, whose DRESS was fronter than their SQUARE. The Igbo subgroup produced the greatest acoustic contrast along the horizontal dimension by fronting their SQUARE farther away from their DRESS than did the rest of the L1 subgroups. The Hausa speakers, however, had a closer SQUARE (in comparison to DRESS) than did others, although not with much of a difference vis-à-vis Igbo speakers. The Yoruba subgroup had the least contrast. The overall picture is that Igbo marked the largest quality contrast.

The female speakers showed a substantial SQUARE-DRESS contrast by raising and fronting their SQUARE away from their DRESS with acoustic frequencies, going by Ladefoged (1996: 21), that the human ear can detect. On the other hand, the male speakers' differences both on the vertical and horizontal planes were such that they would in all likelihood be imperceptible to the human ear. Thus, we can conclude that the female speech, in this regard, is more acrolectal than that of the male speakers. Indeed, the lowering of both vowels, at their individual levels, by the female speakers (in contrast to their raising by the male speakers), as was noted in subsection 5.2.6.5 in the previous chapter five, is in fact in conformity with the prestige norm.

6.2.7 LOT: in terms of length, the subjects realized LOT as a short vowel, thereby showing the RP norm (rather than the GenAm norm that realizes it as a long vowel). Furthermore, unlike in GenAm, where LOT is an unrounded, completely lowered centralized vowel, the subjects, modeling the RP norm, produced this vowel as a rounded mid-open back vowel. In fact, it was substantially more raised than it is in RP, thereby showing even further distance away from the GenAm model, although the absence of a LOT-like vowel in the speakers' mother-tongues was shown to have been responsible for their excessively close Nigerian English LOT.

On the L1 indigenous language side, L1-Hausa speakers had the most RP-like LOT, essentially the same as RP in height but more fronted than its RP counterpart (though not as fronted as their /ɑ:/ as to suggest possible influence of GenAm). Next to Hausa was the Igbo subgroup while L1-Yoruba speakers had a LOT that is most unlike that of RP (though still maintaining the RP model by being rounded, fully back and closer than their BATH vowel): it was highly raised and substantially more back than its RP counterpart.

Between the two genders, the females were far nearer the RP norm than the males, the latter being obviously under the influence of their indigenous home languages, which are devoid of any LOT equivalent but have comparatively raised short vowels around the relevant region.

6.2.8 THOUGHT: the monophthong herein taken as THOUGHT included all tokens belonging to the lexical sets THOUGHT, FORCE and NORTH; and for two reasons. Firstly, in Nigerian English, it being a non-rhotic variety (unlike GenAm, but like RP and as clearly evidenced in the primary data), THOUGHT and NORTH belong together. Secondly, and again like RP, FORCE and NORTH are clearly merged in Nigerian English. Accordingly, therefore, the subjects realized their THOUGHT (i.e. /ɔ:/) as a longer vowel than their LOT vowel. The Yoruba subgroup, as shown by t-test results, recorded the most statistically significant LOT-THOUGHT durational opposition among the L1 subdivisions (although the *average* length differences showed the L1-Hausa subgroup as having the longest contrast). The Igbo subgroup observed the least contrast, thus being the farthest from what would be considered the exogenous norm. In terms of the gender subgroups, both subgroups were on a par in terms of their LOT-THOUGHT length contrast.

THOUGHT is a rounded centralized mid-close monophthong in the speech of the subjects; actually slightly closer than it is in RP in which THOUGHT has been noted to have been ‘closing’ since the 1950s. A major point of departure, however, in comparison to the sampled RP norm, is that the subjects centralized their THOUGHT vowel substantially more than it is in RP, where it happens to be the most backed of all the back monophthongs. As an aside, this extreme/peripheral horizontal position of THOUGHT in RP was found to be a result of more lip-roundedness which THOUGHT has recently gained in RP (Wells 1990: 6), as well as the continuous fronting of the otherwise peripheral GOOSE, which created a potential high-back ‘space’ for THOUGHT to raise into. The horizontal position of the subjects’ THOUGHT, on the other hand, was attributed to the influence of either their L1’s or GenAm where /ɔ:/ is also fronted. But in reality, it is hard to imagine a scenario where GenAm was affecting only one dimension of the two vocalic planes (and only this one vowel).

When broken into the mother-tongues subcategories, the overall acoustic positioning of THOUGHT above was seen to have been created by especially the L1-Yoruba speakers who, in contrast to others, raised and centralized this vowel quite substantially. For the remaining two L1 subgroups (i.e. Igbo and Hausa), it was either the case that their THOUGHT was being influenced by their L1’s or that they were simply realizing the pre-1950s RP model (as it was both considerably opener and more centralized than the current RP norm), the latter possibility being the more probable of the two scenarios.

The male speakers, like the Yoruba speakers, produced a very close and centralized THOUGHT, the centralization being explainable in the light of L1 influence (although at the same time being consistent with that of modern RP). The female speakers’ open centralized THOUGHT can be taken as a replica of the old model RP. Since the two acoustic dimensions of the female speakers’ THOUGHT have some RP

antecedents while only the vertical dimension of the male THOUGHT is approximating RP norm, we may conclude that the female gender approximated the exogenous influence more than their male counterparts.

6.2.9 STRUT: the subjects overall (and in subgroups) produced STRUT as a relatively short vowel when compared to its NURSE counterpart. The extent of the durational contrast between the pair is summarized under NURSE below.

This central vowel was realized as a relatively mid front vocoid, unlike in RP where it is open central-to-front. Thus, the main area of variation is in the height.

At the first language level, however, the Hausa and Igbo subgroups produced the two most RP-like STRUT vowels, with their comparatively open front realization. The Hausa speakers, especially, produced what, at least in terms of auditory perception, is something not that different from the RP /ʌ/. The Yoruba-L1 speakers realized the closest and most backed STRUT, thus the farthest from the current exogenous RP reality. A minimal but ‘positive’ influence of the L1 was noticed in the case of the first two subgroups since both have, in their L1’s, a /a/ vowel roughly in the same region as that of RP STRUT. Yoruba equally has an /a/ around that region but the speakers were obviously not being ‘helped’ by this reality.

Like in many of the preceding instances, the female speakers were nearer the RP norm in their production of STRUT than the male speakers, with the former lowering and fronting it nearly as much as that of RP speakers, while the latter had a comparatively raised and centralized variant.

6.2.10 NURSE: As already hinted at above, the subjects produced their NURSE as a longer vowel than their STRUT. In the mother-tongue subgroups, the average length contrasts showed the Hausa subgroup as marking the largest absolute STRUT-NURSE opposition (Yoruba and Igbo tied) and as almost rivaling the Yoruba subgroup in terms of the statistical significance of the difference (as determined via a t-test analysis) in which the latter group led by a narrow difference. Meanwhile, the female subgroup observed a longer STRUT-NURSE contrast than the male subgroup.

In terms of quality, the subjects pronounced this central vowel as closer and more centralized relative to the RP norm, which is opener and fronter. The same pattern noted in the indigenous language subgroups’ realizations of STRUT was replicated here (not surprisingly, though, as both central monophthongs are equally lacking in the speakers’ L1’s): the Hausa speakers recorded the most open (in fact, a bit opener than that of RP, thereby suggesting hypercorrection) and most fronted NURSE, and thus the closest to the

exogenous norm. All the subgroups, however, had a closer and fronter NURSE relative to their STRUT, a testament to the modeling of the RP-norm.

Like in the case of STRUT, the female subjects approximated the RP norm for NURSE more, with a substantially opener NURSE than that produced by the male speakers.

6.2.11 FOOT: all the subjects – and in all their sociolinguistic subdivisions - were able to shorten their FOOT, relative to their GOOSE, as is the case in the reference accents.

The overall acoustic data shows that the subjects quite reliably approximated the current exogenous RP norm for this vowel by producing a close fronted [ʊ], fronting being the ‘trendy’ fashion for this vowel in RP. In fact, in what appears as a form of hypercorrection, the subjects actually fronted their FOOT more than it is in the RP data.

The hypercorrection hinted at above seems more in evidence in the speech of the L1-Igbo speakers who fronted their FOOT far more than the sampled RP speakers. The other two L1 subgroups showed a /ʊ/ only slightly more in advance of the exogenous norm. In essence, all the indigenous language subgroups were approximating the (very current) RP standard for FOOT, with Igbo speakers leading the way.

Both the male and female speakers can be said to be almost on a par in terms of their modeling of the RP norm, as the two genders both had a FOOT vowel similarly fronted in comparison to the RP-norm. While the male speakers, however, had a comparatively close FOOT, the female speakers had a more open variant, thereby resonating with hypercorrection in near-RP, in which /ʊ/ is often lowered and articulated (‘incorrectly’) as [ə~ʌ] (Wells 1982: 353).

6.2.12 GOOSE: this monophthong was lengthened by all the research subjects relative to their comparatively shortened FOOT. Average length analysis showed that the Yoruba subgroup made the greatest FOOT-GOOSE contrast, with the Igbo subgroup coming not too far after; and the Hausa subgroup trailing behind both. In terms of statistical significance, the t-test revealed that both the Igbo and Yoruba subgroups were approximately on a par in the durational opposition of the two monophthongs. In both instances, the Hausa speakers made the least contrast in terms of length. Following what has been the general trajectory, the female speakers marked a statistically more significant FOOT-GOOSE contrast in terms of length.

As in RP, the GOOSE produced by the research subjects is closer and fronter than their FOOT. This is unlike GenAm where GOOSE is phonetically backer than FOOT.

The same general pattern above for FOOT was recorded across the three L1 member-subjects, with the Igbo subgroup, as it was with FOOT, still leading the way in terms of fronting (again, a possible case of hypercorrection); possibly also traceable to the influence of their L1 since the Igbo equivalent of FOOT, /ʊ/, is the most fronted compared to Hausa and, especially, Yoruba. In relation to this, it should be noted that, in subsection 5.2.12.3 in chapter five, we have hinted on the possibility of FOOT-GOOSE parallelism in the Nigerian English monophthongal system.

With respect to gender differences, both genders modeled the RP norm of a fronter and closer GOOSE than FOOT. But while the male speakers achieved approximately the same height as the RP subjects, the female speakers were nearer the RP norm on the horizontal plane. The male speakers' GOOSE was thus particularly characterized by hypercorrection (over-fronted GOOSE). Thus, it can be said that the male speakers were more conscious of the RP model in their realization of GOOSE than the female speakers were; one of the rare cases in the data where this seems to be the case.

6.3 Limitations of the Study

Just as is expected with any research, the current study had some limitations, especially related to data collection. First, five television stations were initially earmarked for the data collection. However, two of the stations were found not to have complete records of their newscasts on the YouTube platform or on their official websites. Only clips of the newscasts (which were not sufficient for the needed tokens) were found here and there. Thus, the broadcaster-subjects were drawn from three, albeit arguably the most prominent, television news stations. To make up for the shortage of the two television stations, however, a sufficient number of news broadcasts were drawn from the three television stations that had more-than-an-hour-or-so newscast per subject. Therefore, the reduced number of the television stations did not negatively impact the volume of tokens harvested for the study.

Furthermore, the targeted L1 subgroups did not have an equal number of subjects as projected at the outset of the study. This was brought about by the fact that while the subjects with Yoruba and Igbo L1's were broadcasters found across all the three television stations, the four L1-Hausa speakers were broadcasters with the government-owned NTA. Indeed, L1-Hausa speaking journalists are hard to come by in many news stations except in the government-owned ones such as NTA, where, being a national government establishment, the Federal Character principle⁸⁴ makes it mandatory for indigenes of different

⁸⁴ The Federal Character principle is a legal framework of integration in Nigeria, which, according to Majekodunmi (2013: 67), is "the recognition of the plural nature of the country in recruitment, distribution of administrative and political offices and power as well as the resources of the country" and thus meant to resolve the likely issue of unfairness to, and sidetracking of, any ethnic group.

ethnic groups to be fairly represented in the staffing. So, while the Igbo and Yoruba subgroups each had five subjects, the Hausa subgroup had one subject less (i.e. four subjects). One is, however, persuaded that such a shortage was not low enough as to diminish the validity of the findings.

6.4 Recommendations for Future Research

As a way of building meaningfully on the current study, there is a need to pursue apparent-time sociolinguistic investigation in order to appraise any change-in-progress in the Nigerian English vowel system. This immediately requires an expansion of the linguistic and sociolinguistic foci of the current study i.e. to include the entire vowel system-monophthongal, diphthongal, and triphthongal- of Nigerian English and to also include other sociolinguistic variables such as age and social class. Such future research will help in detecting the direction of English in Nigeria, which is relevant for the codification of standard Nigerian English; while at the same time lending further credence to Schneider's evolutionary projection of postcolonial Englishes. Besides this, and considering the multilingual make-up of Nigerian society vis-à-vis the role of education in moulding the quality of English spoken by Nigerians, future research needs to focus on the intersection of age, education, and indigenous languages in shaping Nigerian English, not only at the phonetic level this time around, but also at other levels of linguistic analysis. Moreover, the indigenous languages themselves need to be subject to acoustic analysis for more accurate descriptions. Future research towards this end will be quite significant and relevant.

6.5 Final Conclusion

This study has investigated the acoustic nature of the monophthongs of mesolectal-to-acrolectal Nigerian English spoken by selected Nigerian newscasters. The study has revealed that, contrary to claims regarding the recent incursion of GenAm, Nigerian mesolectal-to-acrolectal monophthongal norms model those of RP. This was evident, most especially, in instances such as BATH, CLOTH, STRUT, and NURSE, where there are substantial dialectal differences between GenAm and RP. Also, mesolectal-to-acrolectal speakers of Nigerian English, based on these findings, can make relevant contrasts across closely-related English monophthongal pairs, in terms of both duration and quality, but more especially in terms of length; as there were cases of acoustic quality differences between vowels that would definitely not be picked up by the human ear. There were, however, no cases of indistinguishable short-versus-long length differences.

Furthermore, it seems the L1's of the subjects played some role in shaping the monophthongs of the Nigerian English spoken by the subjects, especially in terms of quality. In terms of length, the subjects as a unit and in their different sociolinguistic subcategories robustly marked the traditional short and long

vowel contrasts. It is worth noting, however, that the female speakers showed better short-versus-long vowel oppositions than their male counterparts, thus marking a closer predisposition to the prestige norm. With respect to quality and the different L1-groups, Yoruba speakers' monophthongal qualities were, in most cases, found to be the furthest away from the exogenous norms. But the monophthongs produced by the speakers of the other two mother-tongues modeled RP more closely. Beyond the respective L1's influence, there is a possible historical-cum-pedagogical explanation for the different degrees of approximation of the mother-tongue subgroups to the relatively current RP norm. As noted by Banjo (1996: 23), English has been operating in a second language status in southern Nigeria (where the Yoruba people are domiciled) far longer than in the predominantly Hausa-speaking north. Banjo (1996: 23) observes that "at a time the pupils in the south had ceased to have direct exposure to native speakers of English, the language continued to be taught to pupils in the north by native speakers". Thus, indigenization started far earlier in the south than in the north. In the south itself, indigenization began earlier in the Yoruba-speaking areas seeing that the British colonial government's activities, whose method of propagating the language activated indigenization, began in the Yoruba-speaking area of Lagos; annexed by the British in 1861 and from there spreading its tentacles to the hinterland (Black 2015: 125). The norms we have noted among the L1 subgroups might therefore be relics of these historical factors, with the Yoruba speakers producing the least RP-like monophthongs (due to greater indigenization), while the Hausa speakers had the most RP like monophthongs and the Igbo speakers getting somewhere in-between. We may, therefore, propose a temporal/historical continuum vis-à-vis the displacement of the RP norm, a potential field for future research.

Finally, the female speakers had, in almost all cases, more prestige qualities than their male counterparts; the former gravitated more towards the exogenous norms (and thus away from the influence of their L1's) than the latter. Thus, the well-established claim in variationist sociolinguistics that female speakers tend to avoid stigmatized linguistic norms more than male speakers is upheld.

APPENDIX 1: THE INTERNATIONAL PHONETIC ALPHABET (IPA)

THE INTERNATIONAL PHONETIC ALPHABET (revised to 2015)

CONSONANTS (PULMONIC)

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	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b			t d		ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ
Nasal	m	ɱ		n		ɳ	ɲ	ŋ	ɴ		
Trill	ʙ			r					ʀ		
Tap or Flap		ⱱ		ɾ		ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Lateral fricative				ɬ ɮ							
Approximant		ʋ		ɹ		ɻ	j	ɰ			
Lateral approximant				l		ɭ	ʎ	ʟ			

Symbols to the right in a cell are voiced, to the left are voiceless. Shaded areas denote articulations judged impossible.

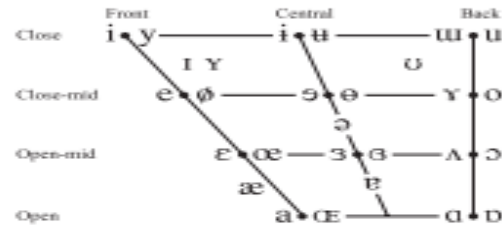
CONSONANTS (NON-PULMONIC)

Clicks	Voiced implosives	Ejectives
ʘ Bilabial	ɓ Bilabial	ʼ Ejectives
ǀ Dental	ɗ Dental/alveolar	ɓ' Bilabial
ǃ (Post)alveolar	ɟ Palatal	ɗ' Dental/alveolar
ǂ Palatoalveolar	ɡ Velar	ɟ' Palatal
ǁ Alveolar lateral	ʄ Uvular	ɡ' Velar
		ʂ' Alveolar fricative

OTHER SYMBOLS

ʍ Voiceless labial-velar fricative	ɕ ʑ Alveolo-palatal fricatives
ʋ̹ Voiced labial-velar approximant	ɺ Voiced alveolar lateral flap
ɥ Voiced labial-palatal approximant	ɺ̥ Simultaneous ʃ and x
ħ Voiceless epiglottal fricative	Affricates and double articulations can be represented by two symbols joined by a tie bar if necessary.
ʕ̣ Voiced epiglottal fricative	
ʕ̤ Epiglottal plosive	

VOWELS



Where symbols appear in pairs, the one to the right represents a rounded vowel.

SUPRASEGMENTALS

ˈ Primary stress	ˌ Secondary stress
ː Long	eː
ˑ Half-long	eˑ
˚ Extra-short	e˚
ˌ Minor (foot) group	
ˈ Major (Intonation) group	
ˌ Syllable break	ˌi.ækt
ˌ Linking (absence of a break)	

TONES AND WORD ACCENTS

LEVEL	CONTOUR
˥ Extra high	˥ or ˨ Rising
˨ High	˥ or ˨ Falling
˨ Mid	˥ or ˨ High rising
˨ Low	˥ or ˨ Low rising
˥ Extra low	˥ or ˨ Rising-falling
˥ Downstep	˥ or ˨ Global rise
˥ Upstep	˥ or ˨ Global fall

DIACRITICS Some diacritics may be placed above a symbol with a descender, e.g. ɲ̥̄

˥ Voiceless	˥ n̥ d̥	˥ Breathy voiced	˥ h̤ a̤	˥ Dental	˥ t̪ d̪
˥ Voiced	˥ s̤ ʒ̤	˥ Creatively voiced	˥ b̤ a̤	˥ Apical	˥ t̪ d̪
˥ Aspirated	˥ tʰ dʰ	˥ Linguolabial	˥ t̬ d̬	˥ Laminar	˥ t̬ d̬
˥ More rounded	˥ ɔ̞ ɔ̠	˥ Labialized	˥ tʷ dʷ	˥ Nasalized	˥ ẽ
˥ Less rounded	˥ ɔ̠ ɔ̞	˥ Palatalized	˥ tʲ dʲ	˥ Nasal release	˥ d̪ⁿ
˥ Advanced	˥ ʉ	˥ Velarized	˥ tˠ dˠ	˥ Lateral release	˥ d̪ˡ
˥ Retracted	˥ ɐ̠	˥ Pharyngealized	˥ tˤ dˤ	˥ No audible release	˥ d̪ⁿ
˥ Centralized	˥ ẽ	˥ Velarized or pharyngealized	˥ ɫ		
˥ Mid-centralized	˥ ẽ	˥ Raised	˥ ɛ̥ (ɛ̥ = voiced alveolar fricative)		
˥ Syllabic	˥ ɲ̩	˥ Lowered	˥ ɸ̥ (ɸ̥ = voiced bilabial approximant)		
˥ Non-syllabic	˥ ɸ̥	˥ Advanced Tongue Root	˥ ɸ̥		
˥ Rhoticity	˥ ɸ̥ ɸ̥	˥ Retracted Tongue Root	˥ ɸ̥		

APPENDIX 2: DETERDING'S (1997) SAMPLED RP MONOPHTHONGAL DATA IN RAW HERTZ

A. MALE SPEAKERS

	B			C			H			J			K		
	F1	F2	F3	F1	F2	F3	F1	F2	F3	F1	F2	F3	F1	F2	F3
i:	281	2016	2337	276	2218	3090	280	2600	3128	302	2008	2517	261	2402	2752
ɪ	335	1430	2198	396	1659	2592	367	1987	2887	395	1670	2450	344	2041	2653
e	490	1397	2127	509	1520	2590	444	1923	2902	512	1587	2544	515	1823	2573
æ	661	1328	2139	546	1542	2306	579	1769	2790	790	1558	2559	872	1555	2522
ʌ	635	1237	2186	537	1219	2383	687	1382	2833	704	1204	2553	659	1251	2798
ɑ:	694	1202	2183	540	1108	2195	625	1165	2738	649	1117	2524	720	1185	2811
ɒ	611	1113	2111	482	1042	2200	609	1125	2753	558	1000	2574	530	956	2769
ɔ:	419	906	2157	397	709	2627	448	925	2802	425	835	2657	388	764	2854
ʊ	370	1195	2055	378	1323	2332	391	1136	2642	387	1268	2391	368	945	2804
u:	321	1247	2149	298	1373	2234	327	1123	2659	343	1343	2404	291	870	2593
ɜ:	472	1265	2183	507	1397	2482	523	1468	2748	462	1398	2523	425	1651	2506

B. FEMALE SPEAKERS

	A			D			E			F			G		
	F1	F2	F3	F1	F2	F3	F1	F2	F3	F1	F2	F3	F1	F2	F3
i:	304	2664	3248	284	2694	3315	300	2582	3234	321	2606	3161	306	2725	3055
ɪ	365	2157	2953	387	2215	2960	410	2070	3032	392	2147	2887	364	2279	2977
e	853	2054	3056	620	2157	2968	634	1926	2992	738	2065	2906	750	2114	3063
æ	1067	1690	2791	971	1892	2761	1045	1766	3121	972	1884	2744	1033	1761	2928
ʌ	1044	1495	2740	950	1512	2851	843	1464	2929	875	1489	2638	860	1335	2998
ɑ:	1010	1304	2815	903	1305	2876	903	1393	2945	895	1327	2685	837	1250	2883
ɒ	761	1243	2661	765	1216	2791	680	1249	2869	823	1243	2651	727	1123	2980
ɔ:	398	934	2669	373	849	2778	334	959	3027	427	876	2689	412	823	2817
ʊ	391	1798	2627	421	1361	2740	415	1234	2702	406	1199	2638	418	1109	2780
u:	333	1529	2657	319	1521	2627	328	1396	2746	343	1437	2683	316	1302	2657
ɜ:	443	1762	2663	746	1627	2842	517	1676	2953	695	1705	2762	631	1704	2974

APPENDIX 3: SUBJECTS, TOKENS AND ACOUSTIC DATA IN THEIR RAW FORMS

1	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length		Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
2	NCA1YM	M	Yoruba	TRAP	fact	769.9437	1373.412	0.126431		NCA1YM	M	Yoruba		after	693.1034	1148.21	0.126431
3	NCA1YM	M	Yoruba		advocate	780.8327	1443.748	0.093318		NCA1YM	M	Yoruba		path	711.5892	1319.437	0.123421
4	NCA1YM	M	Yoruba		actors	770.6365	1371.886	0.108369		NCA1YM	M	Yoruba	PALM	father	631.2491	1019.313	0.120411
5	NCA1YM	M	Yoruba		chapter	755.3755	1381.03	0.109875		NCA1YM	M	Yoruba	KIT	visit	487.0953	1585.635	0.075257
6	NCA1YM	M	Yoruba		adds	737.1967	1350.528	0.162554		NCA1YM	M	Yoruba		bit	418.1605	2082.222	0.093318
7	NCA1YM	M	Yoruba		tactics	754.3569	1374.796	0.108369		NCA1YM	M	Yoruba		citizen	378.5216	1344.636	0.028597
8	NCA1YM	M	Yoruba		capture	729.2763	1534.013	0.081277		NCA1YM	M	Yoruba		fifth	425.3562	1642.391	0.145998
9	NCA1YM	M	Yoruba		back	680.0969	1303.365	0.075257		NCA1YM	M	Yoruba		issue	417.537	1919.327	0.096328
0	NCA1YM	M	Yoruba		that	747.7983	1437.723	0.123421		NCA1YM	M	Yoruba		bigger	404.0439	1865.602	0.063216
1	NCA1YM	M	Yoruba		factor	677.9088	1306.326	0.072246		NCA1YM	M	Yoruba		decision	450.1163	1838.395	0.072246
2	NCA1YM	M	Yoruba	START	argues	709.1809	1097.454	0.219749		NCA1YM	M	Yoruba		civil	467.433	1681.54	0.078267
3	NCA1YM	M	Yoruba		guard	666.9036	1046.748	0.108369		NCA1YM	M	Yoruba		figure	440.8174	1763.066	0.078267
4	NCA1YM	M	Yoruba		parties	734.3314	862.0724	0.126431		NCA1YM	M	Yoruba		with	379.6656	1481.093	0.042144
5	NCA1YM	M	Yoruba		charge	685.9232	1001.149	0.165564		NCA1YM	M	Yoruba	FLEECE	chief	400.6019	1852.92	0.042144
6	NCA1YM	M	Yoruba		carve	660.597	1142.438	0.11439		NCA1YM	M	Yoruba		speak	348.1181	2102.333	0.102349
7	NCA1YM	M	Yoruba		art	643.7154	918.2725	0.224265		NCA1YM	M	Yoruba		see	305.2983	2225.299	0.177606
8	NCA1YM	M	Yoruba		harvard	730.9415	1032.888	0.1174		NCA1YM	M	Yoruba		be	296.7856	2251.2	0.123421
9	NCA1YM	M	Yoruba		cardinal	689.7692	1273.184	0.099339		NCA1YM	M	Yoruba		accede	340.6449	2275.082	0.168575
0	NCA1YM	M	Yoruba		chart	721.8114	922.3154	0.155029		NCA1YM	M	Yoruba		speaking	342.6473	2006.157	0.048164
1	NCA1YM	M	Yoruba		target	730.1418	1067.169	0.180616		NCA1YM	M	Yoruba		people	325.8139	1942.979	0.090308
2	NCA1YM	M	Yoruba	BATH	staff	742.4331	1322.878	0.100844		NCA1YM	M	Yoruba		peace	346.4578	2253.994	0.084287
3	NCA1YM	M	Yoruba		impasse	629.9472	885.3261	0.240821		NCA1YM	M	Yoruba		received	343.1724	2116.857	0.11439
4	NCA1YM	M	Yoruba		vast	680.197	954.7849	0.174595		NCA1YM	M	Yoruba		defeat	375.4754	2224.862	0.174595
5	NCA1YM	M	Yoruba		disaster	628.5644	1069.611	0.189647		NCA1YM	M	Yoruba	DRESS	head	551.821	1639.377	0.11138

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length		Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCA1YM	M	Yoruba		special	568.4156	1475.31	0.093318		NCA1YM	M	Yoruba		border	569.808	2640.018	0.186636
NCA1YM	M	Yoruba		federal	583.8678	1590.324	0.084287		NCA1YM	M	Yoruba		support	576.4765	2654.999	0.102349
NCA1YM	M	Yoruba		set	552.4809	1612.326	0.11138		NCA1YM	M	Yoruba		fourth	578.0608	2848.407	0.198677
NCA1YM	M	Yoruba		february	583.405	1542.033	0.066226		NCA1YM	M	Yoruba		according	522.9953	1379.855	0.102349
NCA1YM	M	Yoruba		said	609.1319	1749.627	0.162554		NCA1YM	M	Yoruba		before	627.4451	2519.558	0.174595
NCA1YM	M	Yoruba		expert	535.3537	1779.389	0.087298		NCA1YM	M	Yoruba	THOUGHT	because	539.9843	964.8047	0.129441
NCA1YM	M	Yoruba		assess	570.8708	1493.024	0.078267		NCA1YM	M	Yoruba		august	531.2877	592.444	0.096328
NCA1YM	M	Yoruba		affected	527.6354	1660.044	0.042144		NCA1YM	M	Yoruba	STRUT	but	535.9267	1202.442	0.042144
NCA1YM	M	Yoruba	SQUARE	compared	578.741	1676.834	0.153523		NCA1YM	M	Yoruba		governor	540.5305	1286.674	0.075257
NCA1YM	M	Yoruba		airport	564.8674	1696.963	0.159544		NCA1YM	M	Yoruba		such	581.5825	1444.578	0.1174
NCA1YM	M	Yoruba	LOT	top	637.5429	1251.769	0.073751		NCA1YM	M	Yoruba		industrial	612.956	1022.913	0.108369
NCA1YM	M	Yoruba		possible	663.5686	829.7845	0.078267		NCA1YM	M	Yoruba		suspect	679.5136	1099.975	0.069236
NCA1YM	M	Yoruba		copy	650.8211	902.0992	0.054185		NCA1YM	M	Yoruba		other	636.0446	969.4559	0.096328
NCA1YM	M	Yoruba		God	645.1337	646.3716	0.124926		NCA1YM	M	Yoruba		dozen	625.7714	1146.855	0.1174
NCA1YM	M	Yoruba		hospital	649.2411	956.8359	0.072246		NCA1YM	M	Yoruba		publishing	634.5602	1031.24	0.054185
NCA1YM	M	Yoruba		doctor	489.8284	1357.253	0.045154		NCA1YM	M	Yoruba		public	660.9114	1030.387	0.066226
NCA1YM	M	Yoruba		hostel	606.7381	802.2718	0.096328		NCA1YM	M	Yoruba		cut	560.2992	1168.875	0.034618
NCA1YM	M	Yoruba		body	542.1052	861.8749	0.11439		NCA1YM	M	Yoruba	NURSE	thirty	603.5898	1565.246	0.141482
NCA1YM	M	Yoruba		stop	661.6672	909.0645	0.150513		NCA1YM	M	Yoruba		diverted	515.3297	1481.792	0.108369
NCA1YM	M	Yoruba		got	632.3083	918.8135	0.069236		NCA1YM	M	Yoruba		church	499.3108	1550.641	0.144493
NCA1YM	M	Yoruba	FORCE	four	538.3485	545.1647	0.165564		NCA1YM	M	Yoruba		further	546.1794	1305.947	0.072246
NCA1YM	M	Yoruba		force	466.6803	1532.403	0.108369		NCA1YM	M	Yoruba		assertion	560.8498	1479.98	0.096328
NCA1YM	M	Yoruba		corporal	617.3287	1053.111	0.081277		NCA1YM	M	Yoruba		curbing	568.958	1436.125	0.060205
NCA1YM	M	Yoruba		reported	604.5708	2571.269	0.105359		NCA1YM	M	Yoruba		tertiary	560.7553	1597.717	0.069236

Subject	M/F	Home Lan L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan L/Set	Words	F1	F2	Length
NCA1YM	M	Yoruba	diverse	485.5426	1234.402	0.120411	NCA3YM	M	Yoruba	card	743.8163	837.3248	0.204698
NCA1YM	M	Yoruba	circumsta	497.6583	1528.386	0.048164	NCA3YM	M	Yoruba	car	748.4065	1020.368	0.273934
NCA1YM	M	Yoruba	FOOT should	383.4344	1738.059	0.078267	NCA3YM	M	Yoruba	part	803.0369	963.7759	0.138472
NCA1YM	M	Yoruba	good	444.1616	1151.197	0.159544	NCA3YM	M	Yoruba	parks	698.2035	1135.718	0.096328
NCA1YM	M	Yoruba	push	557.2254	1064.334	0.063216	NCA3YM	M	Yoruba	garden	688.8098	1146.53	0.123421
NCA1YM	M	Yoruba	GOOSE who	449.5746	1473.405	0.201688	NCA3YM	M	Yoruba	partnering	665.9057	1035.743	0.105359
NCA1YM	M	Yoruba	constitutiv	368.3635	1861.569	0.072246	NCA3YM	M	Yoruba	gaurds	826.613	1078.45	0.23179
NCA1YM	M	Yoruba	two	420.0195	1577.552	0.150513	NCA3YM	M	Yoruba	BATH after	779.4815	1669.207	0.081277
NCA1YM	M	Yoruba	student	360.6556	1624.789	0.073751	NCA3YM	M	Yoruba	staff	880.6509	1792.911	0.145998
NCA1YM	M	Yoruba	huge	294.577	1630.209	0.246842	NCA3YM	M	Yoruba	PALM father	473.6579	888.0022	0.141482
NCA1YM	M	Yoruba	Tuesday	349.3507	1965.99	0.102349	NCA3YM	M	Yoruba	KIT figures	488.6765	1702.162	0.102349
NCA1YM	M	Yoruba	boost	359.5449	1333.556	0.150513	NCA3YM	M	Yoruba	six	434.1177	1819.563	0.078267
NCA1YM	M	Yoruba	institution	394.4357	2077.97	0.076762	NCA3YM	M	Yoruba	citizen	462.1131	1637.244	0.072246
NCA3YM	M	Yoruba	TRAP				NCA3YM	M	Yoruba	victim	518.7391	1785.454	0.072246
NCA3YM	M	Yoruba	catholic	691.2705	1425.239	0.096328	NCA3YM	M	Yoruba	participan	445.9254	1578.054	0.057195
NCA3YM	M	Yoruba	attacked	791.5824	1653.927	0.156534	NCA3YM	M	Yoruba	position	410.0752	1798.86	0.084287
NCA3YM	M	Yoruba	act	935.8557	1802.463	0.165564	NCA3YM	M	Yoruba	activities	408.4722	1903.994	0.076762
NCA3YM	M	Yoruba	capital	749.9102	1538.268	0.081277	NCA3YM	M	Yoruba	FLEECE speaker	357.6932	2139.147	0.063216
NCA3YM	M	Yoruba	impact (ve	716.7347	1623.21	0.112885	NCA3YM	M	Yoruba	people's	367.3676	2058.583	0.087298
NCA3YM	M	Yoruba	gas	781.0852	1578.217	0.126431	NCA3YM	M	Yoruba	chief	325.8111	2036.828	0.096328
NCA3YM	M	Yoruba	happen	762.7835	1683.375	0.094823	NCA3YM	M	Yoruba	speaking	339.0087	1942.331	0.091813
NCA3YM	M	Yoruba	access	777.6575	1376.13	0.103854	NCA3YM	M	Yoruba	vehicle	347.2809	2325.442	0.156534
NCA3YM	M	Yoruba	sacrifice	765.0407	1633.149	0.081277	NCA3YM	M	Yoruba	receiving	320.1903	2491.586	0.162554
NCA3YM	M	Yoruba	cash	715.0879	1400.028	0.082782	NCA3YM	M	Yoruba	DRESS set	542.4563	1539.288	0.078267
Subject	M/F	Home Lan L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan L/Set	Words	F1	F2	Length
NCA3YM	M	Yoruba	deputy	529.9037	1601.747	0.069236	NCA3YM	M	Yoruba	husband	899.0332	903.6053	0.1174
NCA3YM	M	Yoruba	get	565.1791	1862.811	0.070741	NCA3YM	M	Yoruba	abductors	820.1287	1222.655	0.093318
NCA3YM	M	Yoruba	whether	653.7447	1671.662	0.090308	NCA3YM	M	Yoruba	discussed	589.3651	1269.62	0.103854
NCA3YM	M	Yoruba	investmer	622.859	1844.715	0.069236	NCA3YM	M	Yoruba	productio	748.9266	1353.899	0.096328
NCA3YM	M	Yoruba	second	648.7308	1612.396	0.096328	NCA3YM	M	Yoruba	suffered	551.8926	1082.139	0.067731
NCA3YM	M	Yoruba	heading	608.0319	1791.909	0.081277	NCA3YM	M	Yoruba	such	537.1652	1375.795	0.048164
NCA3YM	M	Yoruba	sexual	566.8717	1780.753	0.078267	NCA3YM	M	Yoruba	governme	740.3172	2364.106	0.102349
NCA3YM	M	Yoruba	death	479.688	1956.126	0.123882	NCA3YM	M	Yoruba	suspect	754.5087	814.585	0.085793
NCA3YM	M	Yoruba	SQUARE affairs	567.7112	1622.459	0.198677	NCA3YM	M	Yoruba	NURSE service	523.1378	1563.58	0.102349
NCA3YM	M	Yoruba	chairpers	594.7421	1565.266	0.126431	NCA3YM	M	Yoruba	urge	533.3768	1529.429	0.162554
NCA3YM	M	Yoruba	LOT option	797.4147	974.3121	0.099339	NCA3YM	M	Yoruba	church	580.072	1573.277	0.180616
NCA3YM	M	Yoruba	ad-hoc	729.5882	1122.707	0.064721	NCA3YM	M	Yoruba	urban	592.6468	1550.328	0.147503
NCA3YM	M	Yoruba	CLOTH officer	652.1056	1146.899	0.096328	NCA3YM	M	Yoruba	first	460.3291	1815.953	0.103854
NCA3YM	M	Yoruba	FORCE forty	460.6811	657.0514	0.099339	NCA3YM	M	Yoruba	third	550.2133	1617.997	0.234801
NCA3YM	M	Yoruba	important	568.5781	3157.681	0.106864	NCA3YM	M	Yoruba	persons	536.1572	1749.759	0.084287
NCA3YM	M	Yoruba	forth	592.2811	3225.792	0.138472	NCA3YM	M	Yoruba	occurred	597.7956	1610.614	0.120411
NCA3YM	M	Yoruba	before	494.7313	3197.55	0.180616	NCA3YM	M	Yoruba	thirty	468.3217	1673.084	0.1174
NCA3YM	M	Yoruba	according	577.1747	3012.545	0.090308	NCA3YM	M	Yoruba	FOOT took	452.3807	1733.675	0.045154
NCA3YM	M	Yoruba	report	338.6072	851.2852	0.138472	NCA3YM	M	Yoruba	GOOSE choose	333.8894	1423.806	0.162554
NCA3YM	M	Yoruba	unfortuna	549.2518	3666.025	0.079772	NCA3YM	M	Yoruba	two	362.4568	1842.508	0.129441
NCA3YM	M	Yoruba	port	631.2118	3122.946	0.100844	NCA3YM	M	Yoruba	do	291.4937	902.6571	0.150513
NCA3YM	M	Yoruba	fourth	606.6745	3129.346	0.138472							
NCA3YM	M	Yoruba	THOUGHT fought	681.4106	3063	0.093318	NCC1YM	M	Yoruba	TRAP capital	719.2053	1580.61	0.067731
NCA3YM	M	Yoruba	STRUT governor	771.587	1352.852	0.088803	NCC1YM	M	Yoruba	action	716.3994	1393.178	0.120411

Subject	M/F	Home Lan L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan L/Set	Words	F1	F2	Length
NCC1YM	M	Yoruba	adding	820.311	1579.437	0.144493	NCC1YM	M	Yoruba	city	299.1917	1897.316	0.069236
NCC1YM	M	Yoruba	fact	843.8261	1581.446	0.129441	NCC1YM	M	Yoruba	ship	405.3297	1666.395	0.06171
NCC1YM	M	Yoruba	Saturday	582.8471	1298.912	0.096328	NCC1YM	M	Yoruba	shift	346.7445	1954.442	0.070741
NCC1YM	M	Yoruba	dissatisfie	642.8971	1283.696	0.088803	NCC1YM	M	Yoruba	resisted	347.366	1693.971	0.057195
NCC1YM	M	Yoruba	baton	639.7262	1448.517	0.112885	NCC1YM	M	Yoruba	biggest	337.9543	1838.632	0.087298
NCC1YM	M	Yoruba	vacuum	682.9969	1299.973	0.088803	NCC1YM	M	Yoruba	hips	402.4709	2035.834	0.112885
NCC1YM	M	Yoruba	captain	695.2327	1587.906	0.093318	NCC1YM	M	Yoruba	give	308.2898	1842.362	0.088803
NCC1YM	M	Yoruba	START cars	762.9621	2204.276	0.252862	NCC1YM	M	Yoruba	FLEECE chief	278.1372	2176.218	0.099339
NCC1YM	M	Yoruba	argument	716.2765	1670.487	0.165564	NCC1YM	M	Yoruba	deep	283.4387	2165.857	0.105359
NCC1YM	M	Yoruba	hard	741.9497	1793.445	0.156534	NCC1YM	M	Yoruba	sea	256.7582	2278.805	0.16707
NCC1YM	M	Yoruba	card	702.2829	1056.946	0.185131	NCC1YM	M	Yoruba	repeatedl	268.7083	2187.634	0.099339
NCC1YM	M	Yoruba	guard	743.4361	1362.835	0.165564	NCC1YM	M	Yoruba	seek	297.531	2305.586	0.087298
NCC1YM	M	Yoruba	charges	807.8395	1444.753	0.177606	NCC1YM	M	Yoruba	people	302.7941	1836.269	0.076762
NCC1YM	M	Yoruba	are	656.0338	973.613	0.180616	NCC1YM	M	Yoruba	easier	272.0714	2213.07	0.185131
NCC1YM	M	Yoruba	pardon	657.7662	986.8166	0.168575	NCC1YM	M	Yoruba	received	308.038	2168.644	0.100844
NCC1YM	M	Yoruba	parties	680.6657	1075.918	0.124926	NCC1YM	M	Yoruba	speaking	293.9546	2181.541	0.112885
NCC1YM	M	Yoruba	BATH passed	682.4599	1054.905	0.188141	NCC1YM	M	Yoruba	feature	317.0741	2170.694	0.132452
NCC1YM	M	Yoruba	cast	642.5094	1039.886	0.144869	NCC1YM	M	Yoruba	DRESS federal	512.8326	1637.689	0.087298
NCC1YM	M	Yoruba	staff	736.7597	2002.869	0.201688	NCC1YM	M	Yoruba	tested	460.3279	1596.105	0.090308
NCC1YM	M	Yoruba	basket	751.1275	2263.049	0.129441	NCC1YM	M	Yoruba	steady	392.6786	1682.848	0.081277
NCC1YM	M	Yoruba	after	675.1966	1085.198	0.158039	NCC1YM	M	Yoruba	set	527.283	1683.384	0.096328
NCC1YM	M	Yoruba	disaster	624.5871	1112.986	0.135462	NCC1YM	M	Yoruba	dead	511.8989	2019.332	0.161049
NCC1YM	M	Yoruba	KIT official	353.3775	1816.601	0.078267	NCC1YM	M	Yoruba	decade	391.0098	1863.512	0.073751
NCC1YM	M	Yoruba	fishing	312.5713	1962.804	0.033113	NCC1YM	M	Yoruba	heading	425.6829	1807.935	0.070741

Subject	M/F	Home Lan L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan L/Set	Words	F1	F2	Length
NCC1YM	M	Yoruba	guests	505.5	1681.23	0.156534	NCC1YM	M	Yoruba	governme	559.3025	828.9708	0.123421
NCC1YM	M	Yoruba	gets	507.0903	1766.184	0.097834	NCC1YM	M	Yoruba	republic	711.5795	1479.504	0.100844
NCC1YM	M	Yoruba	SQUARE fair	480.7141	1963.059	0.14374	NCC1YM	M	Yoruba	suspect	602.9358	982.4712	0.081277
NCC1YM	M	Yoruba	chair	566.8605	1562.975	0.141482	NCC1YM	M	Yoruba	governor's	606.3791	946.4035	0.087298
NCC1YM	M	Yoruba	where	467.1031	1651.067	0.142987	NCC1YM	M	Yoruba	judgemen	582.4797	1010.237	0.108369
NCC1YM	M	Yoruba	LOT stop	521.4477	975.3257	0.063216	NCC1YM	M	Yoruba	up	679.4867	852.4229	0.100844
NCC1YM	M	Yoruba	spotted	518.3772	872.4829	0.085792	NCC1YM	M	Yoruba	NURSE urged	596.3653	1601.401	0.194162
NCC1YM	M	Yoruba	body	555.2961	1059.926	0.11138	NCC1YM	M	Yoruba	certified	507.3085	1922.246	0.096328
NCC1YM	M	Yoruba	God	524.5873	1048.81	0.11439	NCC1YM	M	Yoruba	further	509.4504	1153.724	0.141482
NCC1YM	M	Yoruba	CLOTH officer	557.6225	816.5975	0.087298	NCC1YM	M	Yoruba	thirteen	457.8701	1481.672	0.132452
NCC1YM	M	Yoruba	offer	556.2365	701.5032	0.099339	NCC1YM	M	Yoruba	hurdles	579.5961	1252.353	0.171585
NCC1YM	M	Yoruba	FORCE before	629.3761	2275.075	0.156534	NCC1YM	M	Yoruba	conservat	494.4233	1474.915	0.11439
NCC1YM	M	Yoruba	according	419.083	877.5785	0.105359	NCC1YM	M	Yoruba	diverse	533.3044	1339.064	0.213729
NCC1YM	M	Yoruba	board	525.4878	1008.6	0.17008	NCC1YM	M	Yoruba	service	500.6983	1353.175	0.150513
NCC1YM	M	Yoruba	reports	573.7778	2071.688	0.147503	NCC1YM	M	Yoruba	heard	466.9963	1526.542	0.155029
NCC1YM	M	Yoruba	course	477.6016	640.8776	0.17008	NCC1YM	M	Yoruba	FOOT putting	352.7796	2048.286	0.069236
NCC1YM	M	Yoruba	court	499.2917	666.6055	0.16707	NCC1YM	M	Yoruba	should	335.6611	1841.118	0.060205
NCC1YM	M	Yoruba	border	601.9456	938.3461	0.11439	NCC1YM	M	Yoruba	could	338.2943	1124.503	0.105359
NCC1YM	M	Yoruba	supportec	525.3569	1903.053	0.139977	NCC1YM	M	Yoruba	GOOSE using	1805.782	3049.305	0.132452
NCC1YM	M	Yoruba	ordering	532.2761	1745.558	0.150513	NCC1YM	M	Yoruba	who	251.2853	941.9119	0.141482
NCC1YM	M	Yoruba	short	622.558	2041.781	0.204698	NCC1YM	M	Yoruba	huge	251.3137	2018.87	0.198677
NCC1YM	M	Yoruba	THOUGHT causing	548.5577	1477.764	0.149008	NCC1YM	M	Yoruba	do	278.5784	1020.041	0.112885
NCC1YM	M	Yoruba	STRUT sub	619.1382	875.3929	0.11439	NCC1YM	M	Yoruba	suit	277.5858	1230.752	0.153523
NCC1YM	M	Yoruba	but	511.8985	1447.546	0.078267	NCC1YM	M	Yoruba	food	287.9626	845.3305	0.141482

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCC2IM	M	IGBO	TRAP	access	652.3303	1669.898	0.05268	NCC2IM	M	IGBO		tradition	385.9329	1172.075	0.094823
NCC2IM	M	IGBO		added	855.4533	1246.857	0.186636	NCC2IM	M	IGBO		cities	402.62	1837.464	0.046659
NCC2IM	M	IGBO		capital	629.7229	1219.341	0.0587	NCC2IM	M	IGBO		sitting	400.0805	2480.428	0.079772
NCC2IM	M	IGBO		had	561.6941	888.9225	0.043649	NCC2IM	M	IGBO	FLEECE	ease	331.5761	2233.947	0.093318
NCC2IM	M	IGBO		act	880.2359	1567.223	0.132452	NCC2IM	M	IGBO		see	329.0954	2431.362	0.118905
NCC2IM	M	IGBO		package	697.7005	1416.732	0.061479	NCC2IM	M	IGBO		chief	403.0883	2423.426	0.078267
NCC2IM	M	IGBO	START	guardians	725.5496	1293.926	0.126431	NCC2IM	M	IGBO		peace	336.8101	2558.163	0.108369
NCC2IM	M	IGBO		charged	669.5247	1192.406	0.155029	NCC2IM	M	IGBO		perceived	373.5258	2432.716	0.078267
NCC2IM	M	IGBO		harsh	709.6064	1191.301	0.115895	NCC2IM	M	IGBO		people	301.84	2303.553	0.070741
NCC2IM	M	IGBO		departme	653.5916	1110.509	0.099339	NCC2IM	M	IGBO		east	561.8475	1968.621	0.126431
NCC2IM	M	IGBO		apart	665.0068	1609.194	0.088803	NCC2IM	M	IGBO		disease	446.4465	2012.836	0.099339
NCC2IM	M	IGBO		part	740.8187	1162.286	0.127936	NCC2IM	M	IGBO		key	309.1858	2363.359	0.069236
NCC2IM	M	IGBO		partnering	624.9036	1230.155	0.063216	NCC2IM	M	IGBO	DRESS	heads	532.1557	1767.279	0.112885
NCC2IM	M	IGBO		parties	710.0752	1129.048	0.147503	NCC2IM	M	IGBO		federal	501.2572	1312.182	0.048164
NCC2IM	M	IGBO		start	724.5298	1142.694	0.135462	NCC2IM	M	IGBO		indefinite	488.8845	1737.143	0.054185
NCC2IM	M	IGBO		hearty	673.9422	1565.021	0.084287	NCC2IM	M	IGBO		sector	588.807	1935.279	0.11138
NCC2IM	M	IGBO	BATH	past	768.9545	1216.989	0.1174	NCC2IM	M	IGBO		effected	635.361	1714.785	0.082782
NCC2IM	M	IGBO		after	700.8766	1146.558	0.103854	NCC2IM	M	IGBO		get	544.318	1866.846	0.11138
NCC2IM	M	IGBO	KIT	provision	350.5623	1208.428	0.048164	NCC2IM	M	IGBO		expert	626.3479	1717.476	0.072246
NCC2IM	M	IGBO		issued	360.8966	2676.824	0.072246	NCC2IM	M	IGBO		said	500.659	1814.745	0.096228
NCC2IM	M	IGBO		difficulty	356.1284	2286.244	0.018062	NCC2IM	M	IGBO		second	560.7497	1633.118	0.039092
NCC2IM	M	IGBO		officials	338.6515	1550.464	0.039133	NCC2IM	M	IGBO		respect	572.1571	1958.437	0.078267
NCC2IM	M	IGBO		civil	413.2164	1319.246	0.040639	NCC2IM	M	IGBO	SQUARE	care	689.3698	1798.506	0.107241
NCC2IM	M	IGBO		kits	330.3849	2288.753	0.099339	NCC2IM	M	IGBO	LOT	topics	622.9992	1148.673	0.075257

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCC2IM	M	IGBO		hospital	630.4829	1189.59	0.06171	NCC2IM	M	IGBO		other	628.1129	1051.522	0.084287
NCC2IM	M	IGBO		adoption	587.1638	1371.11	0.072246	NCC2IM	M	IGBO		hub	604.7557	1001.696	0.073751
NCC2IM	M	IGBO	CLOTH	cost	573.9633	1023.463	0.121916	NCC2IM	M	IGBO	NURSE	universiti	532.8963	1404.771	0.072246
NCC2IM	M	IGBO		office	763.0368	1155.24	0.081277	NCC2IM	M	IGBO		burden	499.2079	1623.815	0.093318
NCC2IM	M	IGBO	FORCE	report	479.873	742.825	0.155033	NCC2IM	M	IGBO		circumsta	559.7251	1665.737	0.048164
NCC2IM	M	IGBO		according	631.1257	1054.913	0.11138	NCC2IM	M	IGBO		service	489.8647	1460.889	0.084287
NCC2IM	M	IGBO		endorsing	527.1681	1374.542	0.05569	NCC2IM	M	IGBO		purpose	609.6569	1320.799	0.081277
NCC2IM	M	IGBO		four	245.1994	540.4327	0.195667	NCC2IM	M	IGBO		circular	720.0398	2002.87	0.091813
NCC2IM	M	IGBO		core	524.2795	752.7864	0.142988	NCC2IM	M	IGBO		urged	587.5881	1623.82	0.177606
NCC2IM	M	IGBO		support	453.4549	941.5137	0.087298	NCC2IM	M	IGBO		birth	480.2363	1365.633	0.120411
NCC2IM	M	IGBO		fore	479.1499	551.813	0.207708	NCC2IM	M	IGBO		first	614.8646	1872.806	0.100844
NCC2IM	M	IGBO		court	471.4607	942.2892	0.103854	NCC2IM	M	IGBO		certain	517.1953	1567.124	0.106864
NCC2IM	M	IGBO		order	760.6136	2669.368	0.182121	NCC2IM	M	IGBO	FOOT	took	337.8783	1121.833	0.05569
NCC2IM	M	IGBO		course	510.5622	2096.744	0.191152	NCC2IM	M	IGBO		stood	347.1573	1193.718	0.124926
NCC2IM	M	IGBO	THOUGHT	auspices	669.3508	1084.306	0.11138	NCC2IM	M	IGBO		push	303.4124	1350.299	0.078267
NCC2IM	M	IGBO		taught	523.3818	1089.435	0.096328	NCC2IM	M	IGBO		cushion	392.5297	2506.914	0.045154
NCC2IM	M	IGBO	STRUT	buses	585.0998	1014.624	0.075257	NCC2IM	M	IGBO		put	358.8837	1065.816	0.076762
NCC2IM	M	IGBO		subsidy	541.6346	1095.313	0.042144	NCC2IM	M	IGBO	GOOSE	students	335.0039	2538.093	0.055314
NCC2IM	M	IGBO		governme	624.2396	1164.471	0.063216	NCC2IM	M	IGBO		pursuit	383.8879	2209.469	0.096328
NCC2IM	M	IGBO		governor	661.1142	1257.279	0.081277	NCC2IM	M	IGBO		refuted	300.6036	1958.388	0.085793
NCC2IM	M	IGBO		public	593.7749	1020.408	0.0587	NCC2IM	M	IGBO		reduce	305.531	2209.53	0.096328
NCC2IM	M	IGBO		upper	701.0352	1106.004	0.081277	NCC2IM	M	IGBO		distribute	299.7011	931.4804	0.082782
NCC2IM	M	IGBO		budget	572.6644	1424.062	0.066226								
NCC2IM	M	IGBO		industrial	501.3705	1854.932	0.079772	NCB4IM	M	IGBO	TRAP	perhaps	833.09	1399.071	0.096328

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCB4IM	M	IGBO		back	843.541	1532.845	0.159544	NCB4IM	M	IGBO		hit	288.4118	2323.702	0.093318
NCB4IM	M	IGBO		capital	729.5054	1550.61	0.118905	NCB4IM	M	IGBO	FLEECE	seasonal	320.7358	1842.591	0.051174
NCB4IM	M	IGBO		dispatch	702.8279	1219.52	0.1174	NCB4IM	M	IGBO		each	368.3738	2086.643	0.064721
NCB4IM	M	IGBO		embattled	907.9207	1299.446	0.102349	NCB4IM	M	IGBO		speak	340.4928	2340.121	0.096328
NCB4IM	M	IGBO		action	869.2513	1442.129	0.081277	NCB4IM	M	IGBO		achieve	411.5418	2104.182	0.135462
NCB4IM	M	IGBO		factor	802.6205	1555.35	0.070741	NCB4IM	M	IGBO		peak	358.9121	2347.812	0.129441
NCB4IM	M	IGBO		attitude	849.9162	1469.766	0.096328	NCB4IM	M	IGBO		peace	265.942	2311.374	0.194162
NCB4IM	M	IGBO	START	part	775.0356	1090.276	0.218244	NCB4IM	M	IGBO		people	423.5521	2120.371	0.1174
NCB4IM	M	IGBO		party	704.0068	1179.549	0.207708	NCB4IM	M	IGBO		deceased	303.8599	2337.052	0.069236
NCB4IM	M	IGBO		target	616.8541	1786.448	0.075257	NCB4IM	M	IGBO		eve	322.8172	2325.533	0.310057
NCB4IM	M	IGBO	BATH	disaster	823.5944	1511.58	0.104983	NCB4IM	M	IGBO		beating	302.9078	2174.194	0.06171
NCB4IM	M	IGBO		task	693.4662	1378.088	0.108369	NCB4IM	M	IGBO	DRESS	decimal	550.7953	1895.185	0.108369
NCB4IM	M	IGBO		after	741.3045	1221.578	0.189647	NCB4IM	M	IGBO		death	599.0374	1775.1	0.11439
NCB4IM	M	IGBO		passes	744.4881	1133.74	0.11138	NCB4IM	M	IGBO		effective	474.8123	1972.221	0.057195
NCB4IM	M	IGBO		past	731.7665	1277.514	0.064721	NCB4IM	M	IGBO		investment	540.9616	1521.346	0.081277
NCB4IM	M	IGBO		basket	650.6146	1238.98	0.0587	NCB4IM	M	IGBO		accepted	590.7659	1675.897	0.136967
NCB4IM	M	IGBO	KIT	predicted	418.2349	2139.659	0.069236	NCB4IM	M	IGBO		efforts	588.8828	1838.698	0.126807
NCB4IM	M	IGBO		cities	337.3365	2121.659	0.057195	NCB4IM	M	IGBO		head	504.9891	1763.763	0.174595
NCB4IM	M	IGBO		assistant	360.2074	1889.092	0.034618	NCB4IM	M	IGBO		get	482.2457	1681.391	0.043649
NCB4IM	M	IGBO		give	390.9946	2172.582	0.081277	NCB4IM	M	IGBO		guest	656.4206	1996.588	0.084287
NCB4IM	M	IGBO		difficult	360.2306	2436.813	0.046659	NCB4IM	M	IGBO		best	605.8434	1747.163	0.060205
NCB4IM	M	IGBO		issues	291.8045	2234.9	0.090308	NCB4IM	M	IGBO	SQUARE	fair	499.0493	1747.28	0.099339
NCB4IM	M	IGBO		citizens	324.2774	2120.794	0.063216	NCB4IM	M	IGBO		share	548.5818	1625.897	0.11138
NCB4IM	M	IGBO		visit	368.0705	2115.596	0.0587	NCB4IM	M	IGBO	LOT	popularly	516.1216	1093.481	0.043649

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCB4IM	M	IGBO		topic	613.6864	714.7584	0.085793	NCB4IM	M	IGBO	NURSE	services	573.1351	1628.299	0.066226
NCB4IM	M	IGBO	FORCE	sport	544.3834	862.2316	0.057195	NCB4IM	M	IGBO		first	582.6489	1677.325	0.093318
NCB4IM	M	IGBO		order	590.35	703.8322	0.159544	NCB4IM	M	IGBO		converged	524.4007	1571.782	0.191152
NCB4IM	M	IGBO		report	566.6393	2666.971	0.141482	NCB4IM	M	IGBO		virtues	582.8099	1779.794	0.138472
NCB4IM	M	IGBO		force	651.04	1733.869	0.180616	NCB4IM	M	IGBO		further	602.4344	1115.594	0.085793
NCB4IM	M	IGBO		corporal	712.3079	1009.946	0.076762	NCB4IM	M	IGBO		birth	531.7121	1721.13	0.108369
NCB4IM	M	IGBO		according	501.3371	947.7496	0.078267	NCB4IM	M	IGBO		urging	593.3055	1874.132	0.141482
NCB4IM	M	IGBO		fortunate	572.0707	1177.859	0.049669	NCB4IM	M	IGBO		circumstances	487.856	1698.906	0.033113
NCB4IM	M	IGBO		support	492.9762	736.0557	0.153523	NCB4IM	M	IGBO		urban	620.5688	1161.068	0.11138
NCB4IM	M	IGBO		course	473.4201	1147.338	0.097834	NCB4IM	M	IGBO		avert	774.6264	1244.895	0.043649
NCB4IM	M	IGBO		before	556.5311	891.051	0.109875	NCB4IM	M	IGBO		certain	560.4286	1737.201	0.102349
NCB4IM	M	IGBO	THOUGHT	cause	579.2213	1007.087	0.087298	NCB4IM	M	IGBO	FOOT	good	345.7315	1978.565	0.075257
NCB4IM	M	IGBO		august	672.2175	1194.375	0.090308	NCB4IM	M	IGBO		stood	432.8015	2259.341	0.066226
NCB4IM	M	IGBO		because	497.7401	1103.919	0.085793	NCB4IM	M	IGBO		should	427.1631	698.4967	0.127936
NCB4IM	M	IGBO		thought	547.8775	2406.664	0.075257	NCB4IM	M	IGBO	GOOSE	choosing	500.9203	2330.724	0.11439
NCB4IM	M	IGBO	STRUT	other	650.5652	1158.095	0.105359	NCB4IM	M	IGBO		executed	456.5863	2087.554	0.075257
NCB4IM	M	IGBO		sudden	620.7336	1045.166	0.075257	NCB4IM	M	IGBO		shooting	429.4748	2542.037	0.103854
NCB4IM	M	IGBO		government	767.5706	1488.014	0.102349	NCB4IM	M	IGBO		prosecution	304.7331	1818.259	0.087298
NCB4IM	M	IGBO		discuss	622.1636	1084.041	0.126431	NCB4IM	M	IGBO		contribution	351.7985	932.4864	0.094823
NCB4IM	M	IGBO		republic	783.3713	982.1326	0.043649								
NCB4IM	M	IGBO		public	741.8346	1229.376	0.054185	NCB7HM	M	Hausa	TRAP	action	869.1119	1377.792	0.103854
NCB4IM	M	IGBO		subsequent	641.775	1822.639	0.051174	NCB7HM	M	Hausa		tactical	635.3975	1455.957	0.05569
NCB4IM	M	IGBO		scuffle	720.995	851.4366	0.05268	NCB7HM	M	Hausa		atmosphere	791.5442	1372.154	0.126431
NCB4IM	M	IGBO		governor	630.2507	1328.455	0.108369	NCB7HM	M	Hausa		has	444.9968	1365.986	0.108369

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCB7HM	M	Hausa		departme	687.6355	1207.799	0.11439	NCB7HM	M	Hausa		best	429.0352	1670.078	0.093318
NCB7HM	M	Hausa		parties	564.723	1188.613	0.123421	NCB7HM	M	Hausa		steps	464.4676	1599.543	0.096328
NCB7HM	M	Hausa	BATH	staff	500.6301	1266.114	0.105359	NCB7HM	M	Hausa		set	462.3777	1547.824	0.061171
NCB7HM	M	Hausa	KIT	system	325.8818	1504.809	0.036123	NCB7HM	M	Hausa		affect	442.1409	1633.891	0.060205
NCB7HM	M	Hausa		assistant	334.2925	1559.599	0.060205	NCB7HM	M	Hausa	SQUARE	chairman	491.8857	1618.225	0.090308
NCB7HM	M	Hausa		picture	305.9485	2027.888	0.045154	NCB7HM	M	Hausa	LOT	bodies	422.5573	1046.024	0.108369
NCB7HM	M	Hausa		fifty	328.4595	1929.064	0.069236	NCB7HM	M	Hausa	CLOTH	officers	738.1737	2285.068	0.127936
NCB7HM	M	Hausa		shift	335.833	1902.373	0.064721	NCB7HM	M	Hausa	FORCE	court	369.6986	803.2576	0.106864
NCB7HM	M	Hausa		television	337.9624	2018.43	0.096328	NCB7HM	M	Hausa		report	374.5798	752.5751	0.100844
NCB7HM	M	Hausa		issue	261.5224	2087.95	0.11439	NCB7HM	M	Hausa		before	417.0615	1205.778	0.189647
NCB7HM	M	Hausa		bit	318.1697	1943.452	0.060205	NCB7HM	M	Hausa		fourth	374.9289	822.5192	0.162554
NCB7HM	M	Hausa	FLEECE	chief	285.8414	2048.065	0.127936	NCB7HM	M	Hausa		endorse	378.9766	936.5284	0.155029
NCB7HM	M	Hausa		seeks	357.4866	1824.786	0.060205	NCB7HM	M	Hausa		store	414.0439	887.0549	0.145998
NCB7HM	M	Hausa		east	241.4637	2198.372	0.097834	NCB7HM	M	Hausa		important	502.0084	883.6913	0.081277
NCB7HM	M	Hausa		people	272.546	2095.154	0.099339	NCB7HM	M	Hausa		support	399.5233	605.5838	0.127936
NCB7HM	M	Hausa		details	231.28	2371.095	0.1174	NCB7HM	M	Hausa		sport	410.9045	961.347	0.103854
NCB7HM	M	Hausa		peace	265.4826	2433.457	0.118905	NCB7HM	M	Hausa	THOUGHT	because	445.1002	1498.728	0.069236
NCB7HM	M	Hausa		feed	270.1767	2273.659	0.11138	NCB7HM	M	Hausa		auditors	412.691	962.1222	0.115895
NCB7HM	M	Hausa		disease	263.3966	1944.053	0.106864	NCB7HM	M	Hausa	STRUT	subseque	477.7789	1154.485	0.0587
NCB7HM	M	Hausa	DRESS	federal	443.9174	1476.332	0.066226	NCB7HM	M	Hausa		such	435.3812	1407.478	0.072246
NCB7HM	M	Hausa		heads	460.5809	1783.504	0.090308	NCB7HM	M	Hausa		governme	636.7757	1213.957	0.126431
NCB7HM	M	Hausa		expected	471.3977	2044.91	0.0587	NCB7HM	M	Hausa		discussio	530.2408	1325.312	0.097834
NCB7HM	M	Hausa		concessio	395.5234	1653.913	0.066226	NCB7HM	M	Hausa		utterly	575.2229	979.2866	0.099339
NCB7HM	M	Hausa		special	394.2946	1665.882	0.051174	NCB7HM	M	Hausa		public	719.5174	1159.937	0.063216

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCB7HM	M	Hausa		abduction	508.2548	1181.811	0.064721	NCB5HM	M	Hausa		app	803.2512	1298.521	0.1761
NCB7HM	M	Hausa		couple	812.5682	2101.46	0.0587	NCB5HM	M	Hausa		apple	731.9826	1288.389	0.082782
NCB7HM	M	Hausa	NURSE	first	441.0283	1307.926	0.081277	NCB5HM	M	Hausa		tap	710.8266	1463.484	0.034618
NCB7HM	M	Hausa		serving	462.8865	1531.121	0.096328	NCB5HM	M	Hausa		passage	648.1552	1297.37	0.060205
NCB7HM	M	Hausa		desert	574.2785	1322.368	0.126431	NCB5HM	M	Hausa	START	part	711.4125	1491.417	0.091813
NCB7HM	M	Hausa		herdsmer	427.3272	1523.507	0.105359	NCB5HM	M	Hausa		bombarde	690.3531	1550.223	0.135462
NCB7HM	M	Hausa		thirtieth	421.5358	1530.354	0.130946	NCB5HM	M	Hausa		regard	681.0224	1511.818	0.191152
NCB7HM	M	Hausa		anniversa	429.7466	1297.361	0.135462	NCB5HM	M	Hausa		partner	676.6818	1076.755	0.093318
NCB7HM	M	Hausa		university	458.3014	1411.072	0.135462	NCB5HM	M	Hausa		charge	673.4649	1640.795	0.189647
NCB7HM	M	Hausa		third	421.9347	1401.445	0.133957	NCB5HM	M	Hausa		departme	740.8508	1646.48	0.105359
NCB7HM	M	Hausa	FOOT	good	363.0858	1773.65	0.039133	NCB5HM	M	Hausa		partnersh	755.574	1150.307	0.063216
NCB7HM	M	Hausa		took	342.0281	1119.243	0.043649	NCB5HM	M	Hausa	BATH	after	678.0533	1206.039	0.051174
NCB7HM	M	Hausa		would	327.9631	1131.357	0.054185	NCB5HM	M	Hausa		tasked	709.9226	1326.596	0.153523
NCB7HM	M	Hausa		put	410.9648	1326.595	0.06171	NCB5HM	M	Hausa	KIT	business	461.4446	1811.875	0.099339
NCB7HM	M	Hausa	GOOSE	boost	291.8076	878.0894	0.123421	NCB5HM	M	Hausa		system	410.1903	1401.895	0.043649
NCB7HM	M	Hausa		confusing	277.6429	1778.528	0.108369	NCB5HM	M	Hausa		desist	458.0952	1908.226	0.078267
NCB7HM	M	Hausa		contributi	243.164	2050.267	0.081277	NCB5HM	M	Hausa		citizen	431.9232	1412.416	0.042144
NCB7HM	M	Hausa		google	377.3136	644.1603	0.110251	NCB5HM	M	Hausa		big	372.827	1860.214	0.060205
NCB5HM	M	Hausa	TRAP	capacity	735.1512	1415.32	0.11138	NCB5HM	M	Hausa		activities	403.984	1482.517	0.046659
NCB5HM	M	Hausa		capital	681.7321	1591.487	0.066226	NCB5HM	M	Hausa		visited	444.9115	1540.993	0.040639
NCB5HM	M	Hausa		has	672.0068	1223.201	0.0587	NCB5HM	M	Hausa		digital	313.95	2122.201	0.049669
NCB5HM	M	Hausa		action	903.1367	1401.127	0.102349	NCB5HM	M	Hausa	FLEECE	seeking	324.0174	2221.257	0.081277
NCB5HM	M	Hausa		contacted	709.2389	1595.888	0.048164	NCB5HM	M	Hausa		key	388.0789	2279.273	0.126431
												chief	391.1456	1843.654	0.042144

Subject	M/F	Home Lan L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan L/Set	Words	F1	F2	Length
NCB5HM	M	Hausa	details	294.909	2235.75	0.11439	NCB5HM	M	Hausa	support	421.5352	645.1855	0.112885
NCB5HM	M	Hausa	receive	261.932	2125.629	0.127936	NCB5HM	M	Hausa	fourth	424.4273	606.8422	0.161049
NCB5HM	M	Hausa	achieved	368.9963	2129.131	0.120411	NCB5HM	M	Hausa	store	418.6341	772.1029	0.159544
NCB5HM	M	Hausa	executive	481.0832	1730.751	0.081277	NCB5HM	M	Hausa	boards	410.2895	670.558	0.221254
NCB5HM	M	Hausa	second	655.5522	1657.494	0.048164	NCB5HM	M	Hausa	resources	422.3609	779.19	0.11138
NCB5HM	M	Hausa	step	617.4434	1670.931	0.073751	NCB5HM	M	Hausa	THOUGHT because	616.7233	1593.605	0.144493
NCB5HM	M	Hausa	cheques	676.609	1714.908	0.072246	NCB5HM	M	Hausa	STRUT public	611.8547	1122.394	0.043649
NCB5HM	M	Hausa	gesture	538.7782	1608.175	0.087298	NCB5HM	M	Hausa	budget	567.326	1634.213	0.064721
NCB5HM	M	Hausa	special	400.9955	1745.29	0.054185	NCB5HM	M	Hausa	customer	606.7364	1256.188	0.060205
NCB5HM	M	Hausa	sector	712.1599	1599.067	0.049669	NCB5HM	M	Hausa	deduction	672.0168	1721.378	0.040639
NCB5HM	M	Hausa	set	576.5247	1588.187	0.05569	NCB5HM	M	Hausa	governme	625.4378	1171.172	0.0587
NCB5HM	M	Hausa	expected	671.6301	1533.501	0.043649	NCB5HM	M	Hausa	cut	593.4052	1286.119	0.051174
NCB5HM	M	Hausa	head	602.9106	1808.243	0.097834	NCB5HM	M	Hausa	governor	550.207	1351.816	0.05569
NCB5HM	M	Hausa	SQUARE chairman	448.4281	1891.773	0.100844	NCB5HM	M	Hausa	such	657.3359	1557.495	0.066226
NCB5HM	M	Hausa	LOT possible	411.9146	831.1332	0.081277	NCB5HM	M	Hausa	up	807.9968	1369.54	0.046659
NCB5HM	M	Hausa	body	617.9069	840.001	0.070741	NCB5HM	M	Hausa	conductin	590.3699	1264.095	0.05268
NCB5HM	M	Hausa	hospital	520.2451	1052.892	0.030103	NCB5HM	M	Hausa	NURSE first	564.0964	1032.665	0.090308
NCB5HM	M	Hausa	ad-hoc	795.2594	3050.148	0.099339	NCB5HM	M	Hausa	service	640.0873	1579.965	0.109875
NCB5HM	M	Hausa	CLOTH office	636.6432	957.662	0.054185	NCB5HM	M	Hausa	persons	478.6372	1180.397	0.123421
NCB5HM	M	Hausa	offer	691.4071	2031.603	0.042144	NCB5HM	M	Hausa	urged	681.587	1530.504	0.218244
NCB5HM	M	Hausa	FORCE report	351.1375	675.3668	0.129441	NCB5HM	M	Hausa	further	656.1162	1274.13	0.0587
NCB5HM	M	Hausa	order	437.9724	917.8802	0.091813	NCB5HM	M	Hausa	reserve	586.2472	1501.085	0.036123
NCB5HM	M	Hausa	court	387.5939	642.4123	0.129441	NCB5HM	M	Hausa	FOOT could	347.8061	811.8499	0.099339
NCB5HM	M	Hausa	reporter	510.1194	717.7952	0.097834	NCB5HM	M	Hausa	should	375.1483	964.86	0.078267

Subject	M/F	Home Lan L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan L/Set	Words	F1	F2	Length
NCB5HM	M	Hausa	do	351.9972	767.8239	0.132452	NCB2HF	F	Hausa	START cardiac	783.9439	1935.013	0.108369
NCB5HM	M	Hausa	shooting	322.9515	840.5317	0.090308	NCB2HF	F	Hausa	START heart	858.8817	1433.589	0.11439
NCB5HM	M	Hausa	food	389.1711	717.6465	0.069236	NCB2HF	F	Hausa	BATH staff	433.5595	1361.867	0.159544
NCB5HM	M	Hausa	students	208.9707	1545.784	0.054185	NCB2HF	F	Hausa	BATH passing	833.5174	2105.097	0.126431
NCB5HM	M	Hausa	studio	392.5873	1506.935	0.093318	NCB2HF	F	Hausa	BATH caster	785.6458	1377.333	0.162554
NCB5HM	M	Hausa	producers	326.8335	2220.921	0.129441	NCB2HF	F	Hausa	BATH ask	957.6347	1611.203	0.201688
NCB5HM	M	Hausa	boost	326.6529	1177.743	0.064721	NCB2HF	F	Hausa	KIT ticket	438.8404	2472.865	0.046659
NCB5HM	M	Hausa	google	396.1976	827.5694	0.103854	NCB2HF	F	Hausa	KIT television	383.0827	1315.729	0.064721
							NCB2HF	F	Hausa	KIT edition	430.8269	1411.778	0.079772
NCB2HF	F	Hausa	TRAP bags	929.3748	1566.175	0.115143	NCB2HF	F	Hausa	KIT particular	378.0118	2066.281	0.054185
NCB2HF	F	Hausa	TRAP impactful	997.9264	1625.852	0.047035	NCB2HF	F	Hausa	KIT victims	470.9991	1326.879	0.084287
NCB2HF	F	Hausa	TRAP capital	818.9452	1691.49	0.087298	NCB2HF	F	Hausa	KIT civil	438.3821	1340.488	0.072246
NCB2HF	F	Hausa	TRAP added	860.7879	1567.254	0.101596	NCB2HF	F	Hausa	KIT city	315.6676	1387.233	0.066226
NCB2HF	F	Hausa	TRAP capacity	974.5129	1384.026	0.126431	NCB2HF	F	Hausa	KIT decision	395.9163	1701.516	0.091813
NCB2HF	F	Hausa	TRAP happy	855.8954	1788.077	0.112885	NCB2HF	F	Hausa	KIT position	387.3981	1309.471	0.103854
NCB2HF	F	Hausa	TRAP factor	827.0718	1827.736	0.093318	NCB2HF	F	Hausa	KIT shift	467.0159	1403.279	0.090308
NCB2HF	F	Hausa	TRAP attack	862.7745	1302.191	0.073751	NCB2HF	F	Hausa	FLEECE receives	406.064	1521.585	0.233295
NCB2HF	F	Hausa	TRAP capital	959.2746	1500.738	0.076762	NCB2HF	F	Hausa	FLEECE seeks	471.182	1328.676	0.168575
NCB2HF	F	Hausa	TRAP has	782.5181	1628.87	0.132452	NCB2HF	F	Hausa	FLEECE people	385.5221	1525.746	0.085792
NCB2HF	F	Hausa	START embark	962.8635	1795.063	0.130946	NCB2HF	F	Hausa	FLEECE chief	449.7864	1294.406	0.082782
NCB2HF	F	Hausa	START part	1141.086	2321.124	0.121916	NCB2HF	F	Hausa	FLEECE seated	830.1713	2203.157	0.115895
NCB2HF	F	Hausa	START park	1083.928	1135.628	0.099339	NCB2HF	F	Hausa	FLEECE received	450.4708	1459.571	0.099715
NCB2HF	F	Hausa	START art	656.4063	1089.424	0.108369	NCB2HF	F	Hausa	FLEECE speaker	418.4749	1655.199	0.141482
NCB2HF	F	Hausa	START guardian	786.4912	1684.459	0.186636	NCB2HF	F	Hausa	FLEECE deeply	397.4114	1183.279	0.075257

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCB2HF	F	Hausa	FLEECE	key	461.8397	1429.224	0.276944	NCB2HF	F	Hausa	FORCE	according	610.3269	1781.8	0.103854
NCB2HF	F	Hausa	DRESS	extra	708.7533	2234.961	0.162554	NCB2HF	F	Hausa	FORCE	unfortuna	769.9023	2121.305	0.11439
NCB2HF	F	Hausa	DRESS	set	646.2727	1993.854	0.063216	NCB2HF	F	Hausa	FORCE	endorse	794.909	1535.673	0.221254
NCB2HF	F	Hausa	DRESS	sector	751.2078	1995.398	0.063216	NCB2HF	F	Hausa	FORCE	support	651.24	1135.449	0.204698
NCB2HF	F	Hausa	DRESS	concessio	583.9982	1821.901	0.064721	NCB2HF	F	Hausa	FORCE	resources	465.05	1342.463	0.153523
NCB2HF	F	Hausa	DRESS	guests	673.9457	1857.249	0.130946	NCB2HF	F	Hausa	FORCE	horse	846.5877	1284.379	0.1761
NCB2HF	F	Hausa	DRESS	suggest	569.9088	1764.24	0.096328	NCB2HF	F	Hausa	FORCE	fourth	634.0847	1816.895	0.072246
NCB2HF	F	Hausa	DRESS	efforts	823.6706	1619.667	0.078267	NCB2HF	F	Hausa	FORCE	order	667.9521	1672.771	0.161049
NCB2HF	F	Hausa	DRESS	technical	676.9664	1828.299	0.063216	NCB2HF	F	Hausa	FORCE	force	442.511	1318.599	0.11439
NCB2HF	F	Hausa	DRESS	success	740.8259	1662.26	0.16707	NCB2HF	F	Hausa	THOUGHT	caucus	794.5794	1517.539	0.093318
NCB2HF	F	Hausa	DRESS	better	696.5694	1947.995	0.098586	NCB2HF	F	Hausa	STRUT	touch	665.0361	1922.156	0.096328
NCB2HF	F	Hausa	SQUARE	air	584.0271	1891.705	0.165564	NCB2HF	F	Hausa	STRUT	but	722.325	1816.007	0.102349
NCB2HF	F	Hausa	SQUARE	square	534.492	1309.407	0.115895	NCB2HF	F	Hausa	STRUT	introducti	744.973	1587.142	0.042144
NCB2HF	F	Hausa	SQUARE	care	544.2632	1602.944	0.107993	NCB2HF	F	Hausa	STRUT	conductec	618.3058	1869.636	0.071494
NCB2HF	F	Hausa	SQUARE	fair	645.018	1605.881	0.106112	NCB2HF	F	Hausa	STRUT	governors	640.5815	1687.655	0.072999
NCB2HF	F	Hausa	LOT	cost	617.3017	1140.293	0.039133	NCB2HF	F	Hausa	STRUT	induction	819.7043	1634.584	0.067731
NCB2HF	F	Hausa	LOT	popular	927.2446	1214.767	0.073751	NCB2HF	F	Hausa	STRUT	republic	791.8897	1368.544	0.103854
NCB2HF	F	Hausa	LOT	doctors	808.1816	1936.789	0.070741	NCB2HF	F	Hausa	STRUT	justice	745.601	1552.134	0.088803
NCB2HF	F	Hausa	LOT	hospital	720.3158	1475.161	0.081277	NCB2HF	F	Hausa	STRUT	reduction	818.5421	1528.648	0.081277
NCB2HF	F	Hausa	LOT	positive	972.2596	1444.88	0.100844	NCB2HF	F	Hausa	NURSE	first	771.7837	1665.757	0.090308
NCB2HF	F	Hausa	LOT	copy	713.3478	1945.322	0.066226	NCB2HF	F	Hausa	NURSE	heard	714.622	1941.041	0.206203
NCB2HF	F	Hausa	LOT	body	775.5333	1879.789	0.100091	NCB2HF	F	Hausa	NURSE	thirty	571.188	2062.245	0.165564
NCB2HF	F	Hausa	CLOTH	offices	748.5728	2214.07	0.090308	NCB2HF	F	Hausa	NURSE	serve	683.3431	1761.469	0.237811
NCB2HF	F	Hausa	CLOTH	offered	876.9004	1622.835	0.147503	NCB2HF	F	Hausa	NURSE	urging	613.1141	1724.369	0.11439

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCB2HF	F	Hausa	NURSE	third	629.3769	1704.191	0.22878	NCB1HF	F	Hausa	TRAP	absolute	812.7665	1521.719	0.093318
NCB2HF	F	Hausa	NURSE	person	590.6094	1912.047	0.1174	NCB1HF	F	Hausa	START	embarked	844.7553	1196.678	0.150513
NCB2HF	F	Hausa	NURSE	service	714.5214	1805.311	0.204698	NCB1HF	F	Hausa	START	guard	727.9129	1169.448	0.279954
NCB2HF	F	Hausa	NURSE	disturbing	756.4541	1638.482	0.075257	NCB1HF	F	Hausa	START	part	973.8459	1024.029	0.186636
NCB2HF	F	Hausa	FOOT	good	537.3923	1537.35	0.0587	NCB1HF	F	Hausa	START	charges	889.0293	1262.518	0.135462
NCB2HF	F	Hausa	FOOT	pudding	507.9029	1420.634	0.057195	NCB1HF	F	Hausa	START	regardless	936.1206	1611.847	0.171585
NCB2HF	F	Hausa	FOOT	should	417.0121	1215.425	0.129441	NCB1HF	F	Hausa	START	hardship	991.0152	1144.332	0.150513
NCB2HF	F	Hausa	FOOT	books	421.0351	1347.578	0.243831	NCB1HF	F	Hausa	START	partnersh	933.6454	1255.432	0.103854
NCB2HF	F	Hausa	GOOSE	reduce	336.8455	1133.909	0.28447	NCB1HF	F	Hausa	BATH	past	881.4871	1267.967	0.135462
NCB2HF	F	Hausa	GOOSE	use	466.2175	1416.399	0.121916	NCB1HF	F	Hausa	KIT	this	382.167	2066.561	0.087298
NCB2HF	F	Hausa	GOOSE	two	325.9967	1137.507	0.1174	NCB1HF	F	Hausa	KIT	skipping	419.2076	1466.652	0.045154
NCB2HF	F	Hausa	GOOSE	due	459.7796	1387.481	0.121163	NCB1HF	F	Hausa	KIT	officials	374.4916	2558.888	0.042144
NCB2HF	F	Hausa	GOOSE	constitut	354.5546	1615.87	0.084287	NCB1HF	F	Hausa	KIT	issues	399.8171	2537.462	0.054185
NCB2HF	F	Hausa	GOOSE	students	466.1341	1755.663	0.051174	NCB1HF	F	Hausa	KIT	addition	397.843	2563.768	0.057195
NCB2HF	F	Hausa	GOOSE	institutor	413.546	1238.115	0.100844	NCB1HF	F	Hausa	KIT	sit	533.0369	2131.234	0.048164
NCB1HF	F	Hausa	TRAP	capital	944.0324	1760.06	0.081277	NCB1HF	F	Hausa	KIT	activities	373.8382	1865.576	0.063216
NCB1HF	F	Hausa	TRAP	action	915.5201	1776.541	0.084287	NCB1HF	F	Hausa	KIT	difficulty	470.7947	1992.78	0.069236
NCB1HF	F	Hausa	TRAP	africa	1029.378	1751.253	0.11439	NCB1HF	F	Hausa	KIT	civil	441.3597	1874.227	0.057195
NCB1HF	F	Hausa	TRAP	adds	986.2905	1723.892	0.186636	NCB1HF	F	Hausa	KIT	legitimate	404.1778	2250.127	0.040639
NCB1HF	F	Hausa	TRAP	access	994.8316	2278.289	0.129441	NCB1HF	F	Hausa	FLEECE	east	406.8737	3058.979	0.120411
NCB1HF	F	Hausa	TRAP	back	865.8658	1580.578	0.153523	NCB1HF	F	Hausa	FLEECE	speaker	405.6503	2878.653	0.090308
NCB1HF	F	Hausa	TRAP	tagged	1031.929	1730.012	0.183626	NCB1HF	F	Hausa	FLEECE	people	364.0294	2750.866	0.063216
NCB1HF	F	Hausa	TRAP	factor	966.452	1483.042	0.073751	NCB1HF	F	Hausa	FLEECE	detail	433.0932	2960.121	0.144493
								NCB1HF	F	Hausa	FLEECE	impedes	371.1334	2862.423	0.135462

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCB1HF	F	Hausa	FLEECE	fees	365.9084	3073.572	0.072246	NCB1HF	F	Hausa	FORCE	sources	519.374	1887.737	0.11138
NCB1HF	F	Hausa	FLEECE	received	338.9236	2907.8	0.198677	NCB1HF	F	Hausa	FORCE	four	499.3382	1727.559	0.138472
NCB1HF	F	Hausa	FLEECE	see	445.8745	1599.875	0.147503	NCB1HF	F	Hausa	FORCE	force	477.6638	1603.011	0.186636
NCB1HF	F	Hausa	FLEECE	vehicle	384.6074	1690.972	0.142988	NCB1HF	F	Hausa	FORCE	support	535.1891	751.4274	0.141482
NCB1HF	F	Hausa	DRESS	indefinite	620.2507	2090.511	0.135462	NCB1HF	F	Hausa	FORCE	board	445.3291	705.4204	0.243831
NCB1HF	F	Hausa	DRESS	federal	568.5958	1965.277	0.066226	NCB1HF	F	Hausa	FORCE	order	520.6339	2918.723	0.204698
NCB1HF	F	Hausa	DRESS	secular	591.7959	1977.456	0.060205	NCB1HF	F	Hausa	FORCE	course	555.0489	1774.12	0.120411
NCB1HF	F	Hausa	DRESS	deputy	546.4806	2087.35	0.093318	NCB1HF	F	Hausa	FORCE	forty	543.5867	1926.394	0.1174
NCB1HF	F	Hausa	DRESS	set	583.511	2008.486	0.072246	NCB1HF	F	Hausa	FORCE	sport	779.5065	2182.402	0.1174
NCB1HF	F	Hausa	DRESS	effort	721.6146	2248.743	0.096328	NCB1HF	F	Hausa	THOUGHT	august	376.6338	505.0002	0.138472
NCB1HF	F	Hausa	DRESS	head	534.6186	2093.035	0.105359	NCB1HF	F	Hausa	THOUGHT	audio	601.2535	1972.62	0.168575
NCB1HF	F	Hausa	DRESS	special	678.431	1914.984	0.087298	NCB1HF	F	Hausa	STRUT	governme	715.5619	1331.079	0.084287
NCB1HF	F	Hausa	DRESS	section	555.877	2150.611	0.057195	NCB1HF	F	Hausa	STRUT	update	845.7365	1367.088	0.084287
NCB1HF	F	Hausa	DRESS	get	562.1436	1906.705	0.045154	NCB1HF	F	Hausa	STRUT	upward	868.719	1391.821	0.060205
NCB1HF	F	Hausa	SQUARE	care	563.8768	2012.006	0.108369	NCB1HF	F	Hausa	STRUT	industrial	510.006	1386.528	0.067731
NCB1HF	F	Hausa	SQUARE	chaired	589.4312	2232.675	0.161802	NCB1HF	F	Hausa	STRUT	other	659.9326	1181.222	0.069236
NCB1HF	F	Hausa	SQUARE	there	546.5207	1879.338	0.162554	NCB1HF	F	Hausa	STRUT	republic	673.6064	1157.792	0.06171
NCB1HF	F	Hausa	LOT	doctors	752.9623	1339.034	0.22577	NCB1HF	F	Hausa	STRUT	public	744.637	1072.022	0.057195
NCB1HF	F	Hausa	LOT	dot	514.6884	962.8112	0.087298	NCB1HF	F	Hausa	STRUT	does	556.8312	1177.217	0.066226
NCB1HF	F	Hausa	LOT	ad-hoc	579.4808	860.6517	0.109875	NCB1HF	F	Hausa	NURSE	service	568.3385	1709.74	0.1174
NCB1HF	F	Hausa	LOT	hostel	432.9671	1469.571	0.099339	NCB1HF	F	Hausa	NURSE	personally	705.5755	1939.105	0.102349
NCB1HF	F	Hausa	CLOTH	dog	638.1835	692.8389	0.096328	NCB1HF	F	Hausa	NURSE	universiti	608.2983	1846.954	0.090308
NCB1HF	F	Hausa	CLOTH	offices	776.2134	2313.954	0.218244	NCB1HF	F	Hausa	NURSE	tertiary	545.1427	1929.511	0.102349
NCB1HF	F	Hausa	FORCE	report	662.3029	2262.396	0.087298	NCB1HF	F	Hausa	NURSE	urges	587.976	1313.414	0.126431

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCA2IF	F	Igbo	TRAP	capital	880.727	1684.261	0.078267	NCA2IF	F	Igbo	FLEECE	seeking	474.4137	1577.15	0.11439
NCA2IF	F	Igbo	TRAP	package	995.6345	1876.846	0.1174	NCA2IF	F	Igbo	FLEECE	people	399.6562	1915.207	0.096328
NCA2IF	F	Igbo	TRAP	back	871.8675	1634.854	0.155029	NCA2IF	F	Igbo	FLEECE	see	495.7017	2840.009	0.13772
NCA2IF	F	Igbo	START	partner	847.0767	981.1038	0.126431	NCA2IF	F	Igbo	FLEECE	speaking	357.6477	2914.862	0.106864
NCA2IF	F	Igbo	START	far	704.9031	1074.497	0.143364	NCA2IF	F	Igbo	FLEECE	chief	501.659	2692.875	0.109875
NCA2IF	F	Igbo	START	party	696.6578	1102.019	0.146186	NCA2IF	F	Igbo	FLEECE	peace	410.1523	3028.869	0.17309
NCA2IF	F	Igbo	START	bar	631.295	1011.613	0.191904	NCA2IF	F	Igbo	DRESS	ahead	676.172	1881.668	0.137661
NCA2IF	F	Igbo	START	bargain	714.2121	978.5687	0.215234	NCA2IF	F	Igbo	DRESS	special	816.8616	1703.438	0.086545
NCA2IF	F	Igbo	START	charge	754.8316	1067.051	0.17008	NCA2IF	F	Igbo	DRESS	effect	824.2246	1745.114	0.145621
NCA2IF	F	Igbo	START	part	975.5016	3447.546	0.130194	NCA2IF	F	Igbo	DRESS	acceptanc	783.202	1750.681	0.086545
NCA2IF	F	Igbo	START	target	829.8643	1122.54	0.135462	NCA2IF	F	Igbo	DRESS	federal	644.4573	1516.865	0.075257
NCA2IF	F	Igbo	BATH	fast	1000.991	1718.924	0.223085	NCA2IF	F	Igbo	DRESS	section	641.6102	1878.044	0.0587
NCA2IF	F	Igbo	BATH	after	957.3542	1666.87	0.106864	NCA2IF	F	Igbo	DRESS	death	649.8009	1658.436	0.118905
NCA2IF	F	Igbo	BATH	staff	869.7699	1537.342	0.147503	NCA2IF	F	Igbo	DRESS	peddler	770.6945	1803.192	0.05569
NCA2IF	F	Igbo	KIT	ticket	601.2505	1803.8	0.078455	NCA2IF	F	Igbo	DRESS	architectu	782.8556	2040.963	0.103854
NCA2IF	F	Igbo	KIT	position	579.3283	1788.227	0.06171	NCA2IF	F	Igbo	DRESS	guests	939.7804	1986.377	0.135462
NCA2IF	F	Igbo	KIT	officially	496.6024	1791	0.064721	NCA2IF	F	Igbo	SQUARE	square	523.4186	1881.732	0.093318
NCA2IF	F	Igbo	KIT	sitting	461.2155	1775.026	0.045907	NCA2IF	F	Igbo	LOT	doctor	604.628	1354.565	0.079772
NCA2IF	F	Igbo	KIT	fifth	482.4042	2037.525	0.162554	NCA2IF	F	Igbo	CLOTH	off	631.7215	1024.78	0.137047
NCA2IF	F	Igbo	KIT	which	437.7748	1728.887	0.054185	NCA2IF	F	Igbo	CLOTH	officer	684.7144	991.3333	0.138472
NCA2IF	F	Igbo	KIT	victim	529.991	2012.768	0.096328	NCA2IF	F	Igbo	FORCE	forge	508.8315	750.874	0.176993
NCA2IF	F	Igbo	KIT	six	530.2743	1825.057	0.050422	NCA2IF	F	Igbo	FORCE	enforcem	502.3682	1069.56	0.099339
NCA2IF	F	Igbo	KIT	tip	540.7976	1930.011	0.064721	NCA2IF	F	Igbo	FORCE	court	551.8349	812.965	0.128689
NCA2IF	F	Igbo	KIT	activities	507.6196	1983.505	0.073751	NCA2IF	F	Igbo	FORCE	reported	475.6871	649.2574	0.121916

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCA2IF	F	Igbo	FORCE	before	521.5577	911.743	0.218244	NCA2IF	F	Igbo	GOOSE	accused	487.1866	1985.485	0.144493
NCA2IF	F	Igbo	FORCE	bordering	575.5742	966.1082	0.141482	NCA2IF	F	Igbo	GOOSE	two	406.1462	2042.991	0.206203
NCA2IF	F	Igbo	FORCE	according	457.0794	914.224	0.105359	NCA2IF	F	Igbo	GOOSE	Tuesday	354.1124	2636.171	0.127936
NCA2IF	F	Igbo	THOUGHT	sought	535.3356	730.9317	0.145998	NCA2IF	F	Igbo	GOOSE	due	394.8417	1857.114	0.128689
NCA2IF	F	Igbo	THOUGHT	daughter	495.4888	682.7172	0.109875								
NCA2IF	F	Igbo	STRUT	governor	757.6938	1263.172	0.090872	NCC3IF	F	Igbo	TRAP	fact	903.4152	1517.199	0.054185
NCA2IF	F	Igbo	STRUT	justice	547.5129	1680.539	0.063216	NCC3IF	F	Igbo	TRAP	action	1202.398	1872.043	0.100844
NCA2IF	F	Igbo	STRUT	republic	679.6603	946.4193	0.070741	NCC3IF	F	Igbo	TRAP	bags	1020.946	1731.674	0.132452
NCA2IF	F	Igbo	STRUT	other	673.1486	1451.713	0.115143	NCC3IF	F	Igbo	TRAP	adding	1114.624	1796.344	0.109875
NCA2IF	F	Igbo	STRUT	couple	630.7725	1079.44	0.07996	NCC3IF	F	Igbo	TRAP	intact	935.9168	1700.368	0.039133
NCA2IF	F	Igbo	STRUT	abducted	646.4689	1242.193	0.103854	NCC3IF	F	Igbo	TRAP	activists	1047.461	1685.391	0.145998
NCA2IF	F	Igbo	STRUT	suspect	686.2758	1194.067	0.096328	NCC3IF	F	Igbo	TRAP	capacity	863.2905	1517.302	0.082782
NCA2IF	F	Igbo	NURSE	assertion	654.3789	1746.753	0.161049	NCC3IF	F	Igbo	TRAP	category	1024.561	1880.536	0.084287
NCA2IF	F	Igbo	NURSE	serve	691.6426	1603.985	0.206956	NCC3IF	F	Igbo	START	parks	1035.082	1204.462	0.130946
NCA2IF	F	Igbo	NURSE	further	636.6675	1494.222	0.150513	NCC3IF	F	Igbo	START	part	937.0818	1165.31	0.203193
NCA2IF	F	Igbo	NURSE	conferred	736.6874	1849.289	0.17309	NCC3IF	F	Igbo	START	star	1026.665	1048.414	0.153523
NCA2IF	F	Igbo	NURSE	service	633.5691	1741.088	0.185131	NCC3IF	F	Igbo	START	carted	846.8999	1193.118	0.124926
NCA2IF	F	Igbo	NURSE	confirm	607.6466	1675.906	0.17008	NCC3IF	F	Igbo	START	far	659.3998	1070.555	0.269419
NCA2IF	F	Igbo	NURSE	occurred	606.5049	1661.995	0.239316	NCC3IF	F	Igbo	BATH	disaster	931.5478	1387.758	0.141482
NCA2IF	F	Igbo	NURSE	preferred	804.634	1981.1	0.183626	NCC3IF	F	Igbo	BATH	fast	956.5615	1045.617	0.100844
NCA2IF	F	Igbo	NURSE	search	623.4782	1639.727	0.215234	NCC3IF	F	Igbo	BATH	after	906.5501	1384.658	0.069236
NCA2IF	F	Igbo	FOOT	should	407.3883	1958.645	0.098586	NCC3IF	F	Igbo	BATH	castle	1089.539	1654.406	0.070741
NCA2IF	F	Igbo	FOOT	would	446.4866	1639.33	0.099339	NCC3IF	F	Igbo	PALM	cassava	895.2556	1525.219	0.112885
NCA2IF	F	Igbo	FOOT	putting	525.9276	1669.052	0.0587	NCC3IF	F	Igbo	KIT	visit	510.8666	2204.429	0.102349

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCC3IF	F	Igbo	KIT	different	509.4222	2096.147	0.046659	NCC3IF	F	Igbo	DRESS	sexual	787.2981	1848.428	0.0587
NCC3IF	F	Igbo	KIT	giving	517.8188	2317.882	0.063216	NCC3IF	F	Igbo	DRESS	best	695.1905	1837.868	0.081277
NCC3IF	F	Igbo	KIT	fifty	493.518	2492.984	0.063216	NCC3IF	F	Igbo	DRESS	set	654.9036	1823.787	0.066226
NCC3IF	F	Igbo	KIT	additional	467.1272	2423.304	0.081277	NCC3IF	F	Igbo	SQUARE	shared	717.9493	2054.914	0.160673
NCC3IF	F	Igbo	KIT	statistics	537.5001	2076.926	0.109875	NCC3IF	F	Igbo	SQUARE	chair	726.5715	2183.648	0.126431
NCC3IF	F	Igbo	KIT	assistant	555.4299	1701.82	0.039133	NCC3IF	F	Igbo	LOT	ad-hoc	591.1826	952.8062	0.109875
NCC3IF	F	Igbo	KIT	issue	474.9524	2782.697	0.145998	NCC3IF	F	Igbo	LOT	bodies	594.3902	762.0398	0.121916
NCC3IF	F	Igbo	KIT	civil	526.0393	1717.624	0.042144	NCC3IF	F	Igbo	LOT	spot	635.6404	906.4185	0.112885
NCC3IF	F	Igbo	FLEECE	vehicle	443.3876	2900.752	0.144493	NCC3IF	F	Igbo	LOT	God	689.7117	1128.227	0.046659
NCC3IF	F	Igbo	FLEECE	each	349.1002	2133.729	0.135462	NCC3IF	F	Igbo	LOT	doctor	690.3871	993.7878	0.066226
NCC3IF	F	Igbo	FLEECE	people	451.6565	2678.418	0.120411	NCC3IF	F	Igbo	CLOTH	officers	621.4373	924.6503	0.103854
NCC3IF	F	Igbo	FLEECE	received	448.2382	1325.044	0.183626	NCC3IF	F	Igbo	CLOTH	cost	712.0092	1009.066	0.129441
NCC3IF	F	Igbo	FLEECE	speech	449.8278	2575.661	0.090308	NCC3IF	F	Igbo	CLOTH	office	721.9228	1142.469	0.06886
NCC3IF	F	Igbo	FLEECE	peace	419.6311	2227.498	0.144493	NCC3IF	F	Igbo	FORCE	border	533.5539	758.8773	0.102349
NCC3IF	F	Igbo	FLEECE	teach	401.9108	2813.069	0.063216	NCC3IF	F	Igbo	FORCE	corps	593.4972	2617.579	0.135462
NCC3IF	F	Igbo	FLEECE	speakers	447.9443	2453.891	0.082782	NCC3IF	F	Igbo	FORCE	orderly	617.8348	2895.64	0.147503
NCC3IF	F	Igbo	FLEECE	east	369.8455	989.5447	0.118905	NCC3IF	F	Igbo	FORCE	transporte	489.3762	913.408	0.152018
NCC3IF	F	Igbo	FLEECE	defeated	426.4666	2562.169	0.120411	NCC3IF	F	Igbo	FORCE	hoarded	481.0242	803.283	0.127936
NCC3IF	F	Igbo	DRESS	federal	651.6784	1769.102	0.06171	NCC3IF	F	Igbo	FORCE	according	608.5417	1177.547	0.049669
NCC3IF	F	Igbo	DRESS	excess	756.1299	2070.795	0.066226	NCC3IF	F	Igbo	FORCE	reporting	524.833	2114.849	0.164059
NCC3IF	F	Igbo	DRESS	better	653.8869	1917.383	0.090308	NCC3IF	F	Igbo	FORCE	sport	594.3715	669.8762	0.091813
NCC3IF	F	Igbo	DRESS	effect	738.6404	1929.977	0.094823	NCC3IF	F	Igbo	FORCE	four	645.3104	2967.71	0.138472
NCC3IF	F	Igbo	DRESS	separate	701.8645	1918.388	0.0587	NCC3IF	F	Igbo	FORCE	score	589.8986	597.4223	0.189647
NCC3IF	F	Igbo	DRESS	assessment	670.3387	1826.596	0.069236	NCC3IF	F	Igbo	STRUT	custom	793.4959	1252.692	0.05268

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCC3IF	F	Igbo	STRUT	governme	852.0853	1486.591	0.085792	NCC3IF	F	Igbo	GOOSE	do	479.0436	1519.458	0.192657
NCC3IF	F	Igbo	STRUT	suffered	864.5957	1633.377	0.067731	NCC3IF	F	Igbo	GOOSE	constitute	437.3552	2477.455	0.11138
NCC3IF	F	Igbo	STRUT	subsidy	715.2235	1160.205	0.045154	NCC3IF	F	Igbo	GOOSE	pursuit	452.083	2683.26	0.069236
NCC3IF	F	Igbo	STRUT	public	712.7003	1066.135	0.073751	NCC3IF	F	Igbo	GOOSE	reduce	384.0505	2556.813	0.165564
NCC3IF	F	Igbo	STRUT	others	1079.304	1282.692	0.156534								
NCC3IF	F	Igbo	STRUT	budgetary	918.3927	1448.877	0.072246	NCB6IF	F	Igbo	TRAP	acting	760.2537	1375.07	0.102349
NCC3IF	F	Igbo	STRUT	subseque	699.9274	1208.846	0.079772	NCB6IF	F	Igbo	TRAP	that	719.7226	1133.764	0.139977
NCC3IF	F	Igbo	STRUT	governor	881.8284	2308.975	0.096328	NCB6IF	F	Igbo	TRAP	gathering	712.9674	1316.975	0.097834
NCC3IF	F	Igbo	NURSE	service	630.3683	1580.308	0.142987	NCB6IF	F	Igbo	TRAP	attacks	771.1641	1312.273	0.091813
NCC3IF	F	Igbo	NURSE	verge	669.4109	1570.123	0.206203	NCB6IF	F	Igbo	TRAP	access	922.761	1213.281	0.112885
NCC3IF	F	Igbo	NURSE	thirty	659.9652	1758.118	0.084287	NCB6IF	F	Igbo	TRAP	applicant	766.3454	1156.657	0.096328
NCC3IF	F	Igbo	NURSE	purpose	662.3015	1718.297	0.109875	NCB6IF	F	Igbo	TRAP	manufact	710.1607	1144.708	0.039133
NCC3IF	F	Igbo	NURSE	urged	706.8803	1763.384	0.188141	NCB6IF	F	Igbo	TRAP	back	753.3971	1168.305	0.129441
NCC3IF	F	Igbo	NURSE	diverted	634.2011	1529.993	0.158039	NCB6IF	F	Igbo	TRAP	action	773.6866	1362.847	0.075257
NCC3IF	F	Igbo	NURSE	persons	671.5659	1545.946	0.150513	NCB6IF	F	Igbo	TRAP	tagged	871.1485	1409.709	0.133957
NCC3IF	F	Igbo	NURSE	insurgenc	626.6575	1712.447	0.100844	NCB6IF	F	Igbo	START	staff	795.1208	1287.924	0.120411
NCC3IF	F	Igbo	NURSE	urgent	666.2423	1546.383	0.182121	NCB6IF	F	Igbo	START	departme	697.0882	1225.161	0.085793
NCC3IF	F	Igbo	FOOT	cushion	513.8227	2025.93	0.06171	NCB6IF	F	Igbo	START	far	709.9968	1142.356	0.168575
NCC3IF	F	Igbo	FOOT	good	477.9696	1463.984	0.093318	NCB6IF	F	Igbo	START	charging	725.1367	1224.695	0.106864
NCC3IF	F	Igbo	FOOT	should	476.593	1958.46	0.084287	NCB6IF	F	Igbo	BATH	staff	810.6145	1286.222	0.123421
NCC3IF	F	Igbo	FOOT	put	517.0591	1108.611	0.05569	NCB6IF	F	Igbo	BATH	passed	758.549	1221.442	0.1761
NCC3IF	F	Igbo	FOOT	took	463.6006	1645.542	0.090308	NCB6IF	F	Igbo	BATH	task	780.9716	1335.316	0.084287
NCC3IF	F	Igbo	GOOSE	food	459.4075	977.6843	0.097834	NCB6IF	F	Igbo	BATH	passing	773.5581	1185.47	0.11138
NCC3IF	F	Igbo	GOOSE	two	461.3529	2194.865	0.145998	NCB6IF	F	Igbo	KIT	decision	474.9437	1799.587	0.084287

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCB6IF	F	Igbo	KIT	differen	429.9543	1725.473	0.060205	NCB6IF	F	Igbo	DRESS	objection	542.8411	1546.582	0.057195
NCB6IF	F	Igbo	KIT	activities	659.9768	1718.627	0.030103	NCB6IF	F	Igbo	DRESS	sessions	551.0103	1586.805	0.079772
NCB6IF	F	Igbo	KIT	fished	379.3701	1551.452	0.072246	NCB6IF	F	Igbo	DRESS	set	588.0518	1705.667	0.081277
NCB6IF	F	Igbo	KIT	facilities	531.4472	1411.518	0.034618	NCB6IF	F	Igbo	SQUARE	chaired	564.5227	1617.389	0.080901
NCB6IF	F	Igbo	KIT	six	522.171	1678.382	0.046659	NCB6IF	F	Igbo	SQUARE	air	586.4931	1742.064	0.260388
NCB6IF	F	Igbo	KIT	victory	446.5803	1809.598	0.040639	NCB6IF	F	Igbo	LOT	spots	499.1643	721.2157	0.120411
NCB6IF	F	Igbo	KIT	this	440.5748	2069.626	0.108369	NCB6IF	F	Igbo	LOT	top	606.4627	1040.206	0.063216
NCB6IF	F	Igbo	KIT	particular	452.3638	1818.239	0.057195	NCB6IF	F	Igbo	LOT	ad-hoc	585.6176	1036.295	0.075257
NCB6IF	F	Igbo	FLEECE	peace	462.8365	2314.79	0.180616	NCB6IF	F	Igbo	LOT	doctor	603.8902	1245.803	0.05569
NCB6IF	F	Igbo	FLEECE	seized	517.7619	1779.098	0.097834	NCB6IF	F	Igbo	LOT	forgotten	614.7277	1199.069	0.072246
NCB6IF	F	Igbo	FLEECE	deceased	421.0936	1818.925	0.093318	NCB6IF	F	Igbo	CLOTH	boss	555.2056	828.928	0.063216
NCB6IF	F	Igbo	FLEECE	chief	435.584	2301.176	0.120411	NCB6IF	F	Igbo	CLOTH	offering	712.2647	951.8259	0.105359
NCB6IF	F	Igbo	FLEECE	seeking	477.0834	1604.508	0.075257	NCB6IF	F	Igbo	FORCE	reports	535.3555	769.4354	0.141482
NCB6IF	F	Igbo	FLEECE	people	406.5564	2115.536	0.054185	NCB6IF	F	Igbo	FORCE	borders	637.5263	1061.334	0.123421
NCB6IF	F	Igbo	FLEECE	speaking	537.15	1957.33	0.096328	NCB6IF	F	Igbo	FORCE	support	562.9921	1006.4	0.093318
NCB6IF	F	Igbo	FLEECE	vehicle	389.6118	2144.567	0.097834	NCB6IF	F	Igbo	FORCE	court	559.6201	1025.864	0.099339
NCB6IF	F	Igbo	FLEECE	seeks	415.0337	1861.864	0.027092	NCB6IF	F	Igbo	FORCE	order	605.3846	963.7684	0.126431
NCB6IF	F	Igbo	FLEECE	details	441.5115	1853.533	0.084287	NCB6IF	F	Igbo	FORCE	enforcem	592.4513	1015.141	0.060205
NCB6IF	F	Igbo	DRESS	second	602.576	1538.809	0.048164	NCB6IF	F	Igbo	FORCE	before	591.2917	948.43	0.121916
NCB6IF	F	Igbo	DRESS	effect	617.1987	1537.393	0.057195	NCB6IF	F	Igbo	FORCE	four	527.7419	592.8123	0.162554
NCB6IF	F	Igbo	DRESS	accepted	609.5003	1337.358	0.039133	NCB6IF	F	Igbo	THOUGHT	daughter	552.5756	1106.399	0.112885
NCB6IF	F	Igbo	DRESS	exit	628.4164	1751.582	0.072246	NCB6IF	F	Igbo	THOUGHT	author	622.243	921.0917	0.1174
NCB6IF	F	Igbo	DRESS	secretary	581.4551	1530.528	0.045154	NCB6IF	F	Igbo	STRUT	governors	650.0961	1242.498	0.075257
NCB6IF	F	Igbo	DRESS	federal	604.2398	1569.594	0.072246	NCB6IF	F	Igbo	STRUT	subsidy	568.6563	1013.839	0.048164

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCB6IF	F	Igbo	STRUT	governme	722.382	1205.429	0.087298	NCB3YF	F	Yoruba		african	769.9613	1377.046	0.097366
NCB6IF	F	Igbo	STRUT	public	740.3763	1222.113	0.070741	NCB3YF	F	Yoruba		ambassad	750.8431	1313.337	0.117144
NCB6IF	F	Igbo	STRUT	abduction	667.8593	1210.753	0.063216	NCB3YF	F	Yoruba		happy	768.2234	1485.56	0.082153
NCB6IF	F	Igbo	STRUT	other	591.6816	1086.772	0.090308	NCB3YF	F	Yoruba	START	start	706.3489	1370.362	0.1174
NCB6IF	F	Igbo	STRUT	update	643.1436	1020.112	0.084287	NCB3YF	F	Yoruba		carve	790.107	1545.591	0.150513
NCB6IF	F	Igbo	STRUT	introducti	608.1091	1403.094	0.064721	NCB3YF	F	Yoruba		artisans	509.6085	1104.536	0.158039
NCB6IF	F	Igbo	NURSE	person	580.308	1541.884	0.087298	NCB3YF	F	Yoruba		far	679.9182	1098.409	0.272321
NCB6IF	F	Igbo	NURSE	services	543.4302	1611.043	0.069236	NCB3YF	F	Yoruba		heart	754.1559	1456.589	0.123229
NCB6IF	F	Igbo	NURSE	purposes	577.9244	1361.912	0.087298	NCB3YF	F	Yoruba		part	628.1279	1012.699	0.255586
NCB6IF	F	Igbo	NURSE	urging	633.3662	1477.522	0.133957	NCB3YF	F	Yoruba	BATH	asking	695.929	1087.064	0.170391
NCB6IF	F	Igbo	NURSE	further	598.8536	1099.005	0.043649	NCB3YF	F	Yoruba		disaster	570.72	1107.94	0.176476
NCB6IF	F	Igbo	NURSE	Thursday	617.6704	1439.291	0.102349	NCB3YF	F	Yoruba		staff	613.4765	1195.335	0.23733
NCB6IF	F	Igbo	FOOT	put	488.1582	1251.546	0.037628	NCB3YF	F	Yoruba		after	817.292	1821.703	0.069982
NCB6IF	F	Igbo	FOOT	cushion	468.6922	1580.204	0.036123	NCB3YF	F	Yoruba		task	671.2579	1200.552	0.184083
NCB6IF	F	Igbo	FOOT	foot	442.7554	1180.56	0.042144	NCB3YF	F	Yoruba		fast	640.9861	1125.951	0.144528
NCB6IF	F	Igbo	GOOSE	suit	475.3464	1110.567	0.090308	NCB3YF	F	Yoruba	KIT	activity	364.3168	1031.442	0.072246
NCB6IF	F	Igbo	GOOSE	two	502.3297	1022.11	0.161049	NCB3YF	F	Yoruba		six	329.5149	2103.906	0.06171
NCB6IF	F	Igbo	GOOSE	contributi	468.4085	2021.927	0.096328	NCB3YF	F	Yoruba		gift	529.9668	2222.423	0.161049
								NCB3YF	F	Yoruba		typical	460.2334	1812.617	0.024342
NCB3YF	F	Yoruba	TRAP	back	619.3176	1220.269	0.11439	NCB3YF	F	Yoruba		visited	490.0643	1903.467	0.088238
NCB3YF	F	Yoruba		capital	786.0253	1606.412	0.094823	NCB3YF	F	Yoruba		fish	428.7155	1857.159	0.085195
NCB3YF	F	Yoruba		add	773.3971	1219.319	0.225159	NCB3YF	F	Yoruba		fifth	362.3723	2318.835	0.12475
NCB3YF	F	Yoruba		sad	803.2974	1734.669	0.091281	NCB3YF	F	Yoruba		citizens	427.7076	1842.574	0.054768
NCB3YF	F	Yoruba		category	691.3509	1494.058	0.07911	NCB3YF	F	Yoruba		ticking	555.4093	1496.779	0.047162

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCB3YF	F	Yoruba	FLEECE	keep	313.5615	1191.435	0.060205	NCB3YF	F	Yoruba		course	421.5817	797.1657	0.109875
NCB3YF	F	Yoruba		indeed	332.8081	2168.177	0.213729	NCB3YF	F	Yoruba		important	517.3184	1003.195	0.097834
NCB3YF	F	Yoruba		featured	391.2212	2185.322	0.109875	NCB3YF	F	Yoruba		horse	519.2711	770.3205	0.23733
NCB3YF	F	Yoruba		chief	346.1688	2060.882	0.081277	NCB3YF	F	Yoruba		fortunate	510.5857	979.0945	0.062375
NCB3YF	F	Yoruba		easily	301.6622	2368.396	0.164059	NCB3YF	F	Yoruba		recorded	373.1585	731.8199	0.127793
NCB3YF	F	Yoruba		people	318.1642	1574.13	0.078267	NCB3YF	F	Yoruba		shortly	662.2919	1135.736	0.129314
NCB3YF	F	Yoruba		heed	303.7814	3390.017	0.206903	NCB3YF	F	Yoruba	THOUGHT	cause	369.6708	738.9686	0.159544
NCB3YF	F	Yoruba		see	419.625	1787.705	0.088238	NCB3YF	F	Yoruba		daughter	429.5772	878.666	0.126272
NCB3YF	F	Yoruba	DRESS	step	612.3045	1595.897	0.072246	NCB3YF	F	Yoruba		pause	459.371	867.3199	0.124926
NCB3YF	F	Yoruba		possess	606.7537	1943.154	0.182121	NCB3YF	F	Yoruba	STRUT	others	636.917	992.4058	0.123421
NCB3YF	F	Yoruba		successes	711.8004	1684.541	0.100409	NCB3YF	F	Yoruba		such	673.3003	1356.342	0.121916
NCB3YF	F	Yoruba		federal	552.0129	1628.402	0.060854	NCB3YF	F	Yoruba		abducted	626.5112	1332.126	0.085793
NCB3YF	F	Yoruba		effort	696.3508	1723.606	0.094323	NCB3YF	F	Yoruba		suspect	667.8207	1309.039	0.094823
NCB3YF	F	Yoruba		expect	575.4888	1140.033	0.097366	NCB3YF	F	Yoruba		governme	487.9929	964.419	0.082153
NCB3YF	F	Yoruba		sector	681.2124	1755.912	0.085195	NCB3YF	F	Yoruba		public	655.183	1120.896	0.073025
NCB3YF	F	Yoruba		guess	653.0542	1926.25	0.144528	NCB3YF	F	Yoruba		touch	730.114	1474.71	0.106494
NCB3YF	F	Yoruba		head	576.21	1797.011	0.111058	NCB3YF	F	Yoruba		couple	552.6758	1123.878	0.076067
NCB3YF	F	Yoruba		best	803.6675	1817.695	0.098888	NCB3YF	F	Yoruba		productio	497.9926	968.4981	0.104973
NCB3YF	F	Yoruba	SQUARE	impaired	575.6258	1666.704	0.1174	NCB3YF	F	Yoruba		but	667.8556	1323.902	0.085195
NCB3YF	F	Yoruba		shared	572.7148	1828.283	0.208461	NCB3YF	F	Yoruba	NURSE	served	704.4644	1862.659	0.169327
NCB3YF	F	Yoruba		there	458.5458	1897.169	0.338655	NCB3YF	F	Yoruba		heard	599.9977	1701.71	0.099339
NCB3YF	F	Yoruba	LOT	positive	645.6695	996.3771	0.082153	NCB3YF	F	Yoruba		urging	609.7657	1565.887	0.115622
NCB3YF	F	Yoruba	CLOTH	officers	711.2577	1084.98	0.11258	NCB3YF	F	Yoruba		anniversa	583.8366	966.9274	0.149092
NCB3YF	F	Yoruba	FORCE	report	492.2483	817.1559	0.1174	NCB3YF	F	Yoruba		occurred	633.8925	1160.127	0.193211

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length	Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCB3YF	F	Yoruba		service	653.5512	1521.108	0.132357	NCC4YF	F	Yoruba		departme	785.9736	1552.156	0.11138
NCB3YF	F	Yoruba	FOOT	good	493.6932	1349.161	0.044025	NCC4YF	F	Yoruba		car	898.3733	1343.215	0.282965
NCB3YF	F	Yoruba		cooked	480.891	1469.356	0.106676	NCC4YF	F	Yoruba		charged	820.8907	1539.665	0.171585
NCB3YF	F	Yoruba		good	462.5514	1586.854	0.083674	NCC4YF	F	Yoruba		started	827.446	1532.355	0.090308
NCB3YF	F	Yoruba	GOOSE	studio	330.9541	1801.66	0.045154	NCC4YF	F	Yoruba		depart	887.9363	1533.626	0.108369
NCB3YF	F	Yoruba		do	387.3364	1165.258	0.234801	NCC4YF	F	Yoruba		partnersh	852.0762	1532.448	0.099339
NCB3YF	F	Yoruba		foods	370.4906	877.5314	0.209213	NCC4YF	F	Yoruba	BATH	after	980.0314	1499.756	0.120411
NCB3YF	F	Yoruba		two	364.3558	885.5976	0.165564	NCC4YF	F	Yoruba		task	821.8664	1607.816	0.123534
NCB3YF	F	Yoruba		refuse	428.0518	1313.425	0.267757	NCC4YF	F	Yoruba		path	856.5067	1351.001	0.094121
NCB3YF	F	Yoruba		zoo	386.9846	799.3953	0.216031	NCC4YF	F	Yoruba		asked	879.0543	1501.175	0.150006
NCB3YF	F	Yoruba		constitute	438.4662	1234.253	0.225159	NCC4YF	F	Yoruba		half	869.3316	1467.266	0.132452
NCB3YF	F	Yoruba		too	359.1993	955.9449	0.150613	NCC4YF	F	Yoruba		basket	818.6507	1541.023	0.081277
								NCC4YF	F	Yoruba	KIT	petition	436.5597	2445.384	0.057195
NCC4YF	F	Yoruba	TRAP	has	857.7185	1607.713	0.156534	NCC4YF	F	Yoruba		civil	492.687	2017.495	0.082356
NCC4YF	F	Yoruba		action	936.4954	1785.377	0.1174	NCC4YF	F	Yoruba		decision	459.2458	2547.198	0.105886
NCC4YF	F	Yoruba		attack	823.333	1386.506	0.096328	NCC4YF	F	Yoruba		issue	522.594	2627.122	0.105886
NCC4YF	F	Yoruba		contacted	908.8416	1697.336	0.105359	NCC4YF	F	Yoruba		citizens	529.8983	1894.531	0.058826
NCC4YF	F	Yoruba		fashion	808.9664	1689.148	0.09118	NCC4YF	F	Yoruba		give	588.4566	2671.196	0.120593
NCC4YF	F	Yoruba		pact	981.8577	1558.867	0.129441	NCC4YF	F	Yoruba		businessse	492.4969	1759.779	0.076474
NCC4YF	F	Yoruba		backed	895.1496	1556.748	0.1174	NCC4YF	F	Yoruba		sitting	550.1295	2049.649	0.060205
NCC4YF	F	Yoruba		asset	850.9661	1552.723	0.084287	NCC4YF	F	Yoruba		shifted	540.1663	2163.457	0.069236
NCC4YF	F	Yoruba		battle	890.2043	1481.113	0.096328	NCC4YF	F	Yoruba		fix	542.82	2444.105	0.048164
NCC4YF	F	Yoruba		capital	884.3367	1720.146	0.1174	NCC4YF	F	Yoruba	FLEECE	people	472.6387	2641.692	0.105359
NCC4YF	F	Yoruba	START	party	984.937	1540.95	0.129441	NCC4YF	F	Yoruba		east	331.5685	2376.842	0.129441

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length		Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCC4YF	F	Yoruba		peaceful	433.5155	1885.135	0.090308		NCC4YF	F	Yoruba		hospital	692.342	1245.505	0.069236
NCC4YF	F	Yoruba		succeed	435.4419	2794.607	0.126475		NCC4YF	F	Yoruba	CLOTH	officer	784.4441	1303.124	0.099339
NCC4YF	F	Yoruba		speakers	499.9024	2617.013	0.105359		NCC4YF	F	Yoruba		offices	876.0075	1373.536	0.126431
NCC4YF	F	Yoruba		seat	478.1448	2465.518	0.132452		NCC4YF	F	Yoruba		offer	799.503	1240.673	0.069236
NCC4YF	F	Yoruba		see	485.239	2522.026	0.162554		NCC4YF	F	Yoruba	FORCE	court	613.4304	913.1927	0.081277
NCC4YF	F	Yoruba		feature	505.1627	2412.283	0.105359		NCC4YF	F	Yoruba		portion	588.3963	987.0084	0.1174
NCC4YF	F	Yoruba		heats	497.6171	2483.099	0.171585		NCC4YF	F	Yoruba		source	651.6277	996.7622	0.165564
NCC4YF	F	Yoruba		vehicle	430.174	2465.592	0.159544		NCC4YF	F	Yoruba		reported	558.704	928.9144	0.120411
NCC4YF	F	Yoruba	DRESS	evidence	504.9712	2048.801	0.096328		NCC4YF	F	Yoruba		force	597.0468	941.1841	0.208832
NCC4YF	F	Yoruba		session	613.1108	1851.895	0.045154		NCC4YF	F	Yoruba		according	608.5322	1264.885	0.06765
NCC4YF	F	Yoruba		second	796.3037	1776.79	0.036123		NCC4YF	F	Yoruba		resources	638.0905	890.0813	0.111769
NCC4YF	F	Yoruba		federal	713.6699	1678.167	0.045154		NCC4YF	F	Yoruba		before	602.1581	858.7941	0.108369
NCC4YF	F	Yoruba		death	652.5213	1921.903	0.096328		NCC4YF	F	Yoruba		order	584.7115	831.0107	0.165564
NCC4YF	F	Yoruba		said	640.0989	2032.182	0.147503		NCC4YF	F	Yoruba		corps	626.6031	989.9563	0.240821
NCC4YF	F	Yoruba		effort	687.0873	1794.648	0.09118		NCC4YF	F	Yoruba	THOUGHT	cautioned	527.4154	1074.973	0.108369
NCC4YF	F	Yoruba		headed	611.1766	2113.3	0.055884		NCC4YF	F	Yoruba	STRUT	other	701.9001	1564.372	0.069236
NCC4YF	F	Yoruba		step	674.3832	1790.236	0.069236		NCC4YF	F	Yoruba		governme	601.078	1422.846	0.060205
NCC4YF	F	Yoruba		set	680.3125	1861.167	0.090308		NCC4YF	F	Yoruba		public	783.8332	1270.8	0.069236
NCC4YF	F	Yoruba	SQUARE	there	639.3116	1916.424	0.078831		NCC4YF	F	Yoruba		cup	813.2012	1305.579	0.081277
NCC4YF	F	Yoruba		shared	673.1595	2009.975	0.255872		NCC4YF	F	Yoruba		suspect	695.4613	1426.854	0.072246
NCC4YF	F	Yoruba		bare	612.6163	1964.997	0.131699		NCC4YF	F	Yoruba		reduction	662.0237	1605.183	0.082356
NCC4YF	F	Yoruba		care	661.9395	1901.513	0.132075		NCC4YF	F	Yoruba		governor	701.344	1421.836	0.094121
NCC4YF	F	Yoruba	LOT	positive	720.7791	1257.956	0.108369		NCC4YF	F	Yoruba		such	791.3634	1623.15	0.081277
NCC4YF	F	Yoruba		shot	725.2978	1259.205	0.096328		NCC4YF	F	Yoruba		budget	701.5935	1444.757	0.102349

Subject	M/F	Home Lan	L/Set	Words	F1	F2	Length
NCC4YF	F	Yoruba		upper	772.4184	1327.458	0.072246
NCC4YF	F	Yoruba	NURSE	university	563.3784	1728.384	0.141482
NCC4YF	F	Yoruba		heard	609.8933	1603.174	0.156534
NCC4YF	F	Yoruba		occurred	635.5941	1536.312	0.195667
NCC4YF	F	Yoruba		verdict	646.0641	1659.116	0.132358
NCC4YF	F	Yoruba		urged	703.5249	1624.639	0.179419
NCC4YF	F	Yoruba		thirty	647.7581	1596.366	0.093318
NCC4YF	F	Yoruba		survey	670.9843	1496.232	0.11138
NCC4YF	F	Yoruba		third	617.2789	1551.44	0.216739
NCC4YF	F	Yoruba		service	664.8992	1686.812	0.141482
NCC4YF	F	Yoruba		further	658.4091	1316.181	0.093318
NCC4YF	F	Yoruba	FOOT	could	460.2519	1303.938	0.06171
NCC4YF	F	Yoruba		should	554.3318	2064.55	0.11471
NCC4YF	F	Yoruba		good	524.4228	1233.228	0.147064
NCC4YF	F	Yoruba		put	533.7194	1272.732	0.078267
NCC4YF	F	Yoruba	GOOSE	two	409.7856	1360.817	0.153523
NCC4YF	F	Yoruba		student	464.3943	1749.225	0.087298
NCC4YF	F	Yoruba		Tuesday	416.9074	1998.926	0.11138
NCC4YF	F	Yoruba		institution	447.3542	2134.035	0.099339
NCC4YF	F	Yoruba		reduce	429.6105	2220.492	0.138241
NCC4YF	F	Yoruba		contribution	489.6318	2238.562	0.108828
NCC4YF	F	Yoruba		constitution	495.7312	2488.239	0.090308

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