A PHONOLOGICAL INVESTIGATION OF VOWEL WEAKENING AND UNSTRESSED SYLLABLE OBSCURATION IN EDUCATED YORUBA ENGLISH

BY

AKINJOBI ADENIKE ADEBOLA
B.A (ED) ENGLISH (ILORIN), M.A ENGLISH, IBADAN

A THESIS IN THE DEPARTMENT OF LINGUISTICS AND AFRICAN LANGUAGES SUBMITTED TO THE FACULTY OF ARTS IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY
UNIVERSITY OF IBADAN

2004

ABSTRACT

In Standard spoken English, unstressing reduces otherwise strong vowels to the weak schwa sound / ə / or / ɪ / and also makes a syllabic consonant the peak of an unstressed syllable. This work set out to test the quality and duration of vowels and syllables found in unstressed positions of words and word groups in Educated Yoruba English. It also attempted the description of the rhythm of Educated Yoruba English that has been hypothetically observed to be markedly different from that of Standard English.

The data for this investigation were gathered from three hundred educated Yoruba Nigerian users of English as a second language who had acquired higher education but had not been exposed to English in any first language setting. The data were subjected to perceptual and acoustic analyses. The perceptual analysis derived a generalization based on occurrence counting of the different sounds used in the place of / ə / or / ɪ / and converting them to simple percentages. The highest percentage for the variants of each sound was taken as norm. To corroborate the findings from

perceptual analysis, the acoustic analysis was undertaken with a PC based speech analysis system that displays sound waveforms to a resolution of 48 KHZ thereby allowing precise measurement of the duration of various speech sounds. The system also extracts fundamental and formant frequencies based on the Fast Fourier Transform and Linear Predictive Coding.

The weak / ə / vowel in polysyllabic and disyllabic words was rendered as strong vowels by 97.1% and 92.5% of the subjects while 86% and 82.2% rendered the weak / ɪ / sound as strong vowels. Appropriately, 83% uttered strong vowels in the stressed syllables of words that can function as Nouns/Adjectives or Verbs while 72.8% inappropriately used strong vowels in the syllables that should have / ə / as their peaks since they are expected to be weak. The findings of the perceptual and acoustic analyses confirm a preponderance of strong vowels and a scarce use of the weak vowels / ə / and / ɪ / in Educated Yoruba English. The use of the strong rather than the weak forms of grammatical words in word groups was also established. The scarce use of weak vowels converts the full vowel-timing alternative

description for Nigerian English to the previous popular description of syllable timing for Yoruba English as a sub-variety of Nigerian English.

The findings of this study contribute immensely to the description of Nigerian English stress and rhythm. Linguists, especially phoneticians, phonologists, applied linguists, sociolinguists, second language researchers as well as teachers and learners of English as a second language will also benefit from the study.

KEY WORDS: Phonology, Unstressing, Perceptual analysis, Acoustic analysis, Yoruba English

Word Count: 426

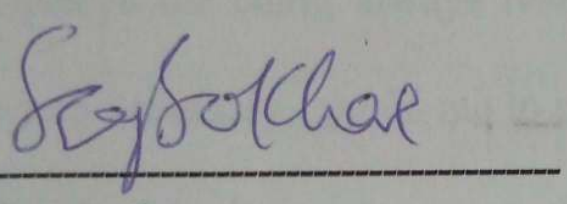
DEDICATION

Dedicated to
My LATE husband and best Friend:
Olufemi Akinbode Akinjobi

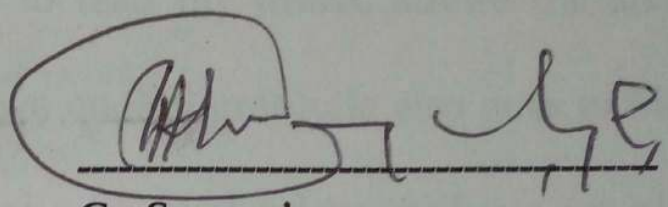
For encouraging me to go ahead; just as if you knew you'd be gone too soon.

CERTIFICATION

We certify that this work was carried out by **Akinjobi Adenike Adebola** of the Department of Linguistics and African languages, University of Ibadan, under our supervision.



Supervisor
Prof F.O Egbokhare
Department of Linguistics and African Languages,
University of Ibadan.



Co-Supervisor
Prof A.L Oyeleye
Department of English,
University of Ibadan.

ACKNOWLEDGEMENT

My profound gratitude goes to the King of Kings, Almighty Lord Jesus for making this work become a reality despite all odds. May His Mighty Name be praised for ever and ever. Amen.

I appreciate wholeheartedly the support and encouragement of my able supervisors, Professor F. O Egbokhare and Professor A.L Oyeleye for being always ready to read my drafts, advise me and when necessary, 'push' me to move on. My gratitude also goes to Mr Tunde Adegbola who stunned me with his kind-heartedness for his immense contribution to the acoustic part of my analyses. May the Lord bless you for my sake. I also thank Mr. Sunday for his unforgettable help concerning the gathering of the data for this research. He proved to be a wonderful brother.

I also want to appreciate the efforts of my teacher and 'father' Late Prof Amayo who encouraged me to further develop my interest in Phonetics and Phonology. May your gentle soul rest in perfect peace. I must recognize with gratitude the efforts of Prof. Niyi

Osundare who encouraged me to "take some steps backward so as to take a leap" and has ever since given me the necessary supports. I must appreciate the encouragement and assistance of a very wonderful mentor, Professor Bayo Adekanye. May the Hand of God continue to uphold you. And to my dear friend indeed, Mrs Teju Ajao, may the Glory of the Lord never depart from you. I must not forget to thank Mr. John for keeping the computer working for me, for being always willing to help irrespective of his own schedules; and for being a source of courage. I appreciate the efforts of Mr Gbenga Olaoye and Mrs Okeniyi who were always there to help even at odd times. And to Mrs Ayinde, thanks for your support.

I also appreciate the contributions of Dr Alo, Dr Dasylva, Professor Ogundeji, Dr Raji-Oyelade, Dr Adeyanju, Dr Oluwole, Dr Adetimirin, Dr Omobowale, Mr Olorunyomi, and Dr Lamidi for those soft words of encouragement. In the same vein, I want to appreciate the contributions and encouragement of Dr Oyetade, Dr Duro Adeleke, Dr Olateju, Mrs Bankale and Dr Adesina.

My warm gratitude is expressed to my family members by birth and marriage, nuclear and extended, who have always stood by me. I appreciate the encouragements of my father His Highness Oba M.B Orimogunje

Bamiteko, the Onigogo of Igogo- Ekiti and my mother Chief Mrs Macelina Adunni Bamiteko, the Iyalode of Igogo- Ekiti. I also thank my mother Mrs Bisi Akinboyede for her loving support; she was there all the time despite all odds saying 'it is well'. To Mr and Mrs Fasanmi, I say thank you for being so wonderful all the time. I must remember my loving sister and brother, Mr and Mrs Kuye who stood by me at the darkest period of my life proving false the belief that friends are undependable.

I also thank my father and mother in the Lord, Pastor and Mrs. Omobowale for the prayers of sustenance and words of courage. May the anointing of God never depart from you and yours. To my sisters and brothers- Mrs Funmilayo Popoola , Mr and Mrs Kupoluyi, Miss Wemimo Akinboyede, Yomi Akinboyede, Ife Akinboyede. Also to Mr and Mrs Segun Bamiteko, Mr and Mrs Ogundipe, Mr and Mrs Kunle Bamiteko and Mr and Mrs Fabunmi, I say 'your efforts are appreciated'.

To my loving darlings Mr Jimi and Ade Akintola, thank you very much for re-typing the virus infected documents in record time

and for being there for Micheal and Mosadoluwa all the time. I appreciate the efforts of my dependable younger ones: Racheal Dada, Lanre Bamiteko, Jumoke Bamiteko, Siju Bamiteko, Tayo Odeyemi, Deji Olofinlade, Rosemary, Gloria and Oluwaseun Wakili are appreciated. Thank you for keeping the boys away from my computer.

With lots of love to my sweetheart and honey: Micheal and Mosadoluwa for being strong for me and for enduring the light that is always on when it should be off at night. I want to thank all my friends, Aunty Bose Adekunle, Mr and Mrs Eniola, Mrs Olubode, Mrs Solaja, Aunty Doyin, Mr Yomi Bakare, Mr Biodun Abe, Mr and Mrs Adeduntan, Mr and Mrs Adewusi, Mr and Mrs Sola Mogaji, Mr and Mrs Akinboye and all others. May the joy of the Lord never depart from you.

TABLE OF CONTENTS

Abbreviations and Symbols

/ɔ/	
/ɛ/	
/o/	
[ˋ]	Primary Stress
[ˊ]	High Tone
[ˎ]	Low Tone
S	Strong Syllable
W	Weak syllable
σ	Syllable
c	Consonant
μ	Mora
RP	Received Pronunciation
EYE	Educated Yoruba English
KHZ	Kilohertz
Ms	Milliseconds

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

1.0 General Introduction

1.1 Historical Setting

One remarkable thing about the peculiar and distinctive form of English used in Nigeria today is that it is a by-product of our historical experience. Bamgbose (1982) views the present form and status of English as resulting from the contact between English and Nigerian languages in the socio-cultural and political situation, which consequently converted English to a second language with a distinctive nigerian flavor.

The historical situations which resulted in the nativization of English in Nigeria today were derived from diaries, old letters and other documents of transaction between the white men and the natives. According to Omolewa (1985:15), 'the most decisive factor which perhaps generates a need for the adoption of a new language is contact'. He identifies the need for communication between two people with diverse languages as a motivating factor for the adoption of a common language. He illustrates this with a letter written by

Alaafin Ladigbo to Captain Ross in 1926 which he states was written in 'working English' (see also Adekunle 1979).

Oyeleye (1990) and (Ogu 1992) also claim that trade in goods and slaves, missionary activities and colonial rule were agents of the contact that resulted in the entrenchment of English as a functional language in Nigeria. They further identify the contact with the Portuguese traders along the coast in the 15th century as the beginning of the historical events that culminated in the formation of the entity 'Nigeria'. A form of portuguese-based pidgin was claimed to have developed as a result of the language contact between the Portuguese traders (who were the first to trade with the people along the coast) and the natives. Odumuh (1998) however notes that when the English traders arrived, there was a substitution of the English-based pidgin for the Portuguese-based pidgin. This, according to (Ogu 1992), occurred simultaneously with the English displacing the Portuguese in the pepper trade.

The need for interpreters by both Portuguese and (especially) English traders was also said to have resulted in the natives' interest

in the acquisition of the English language though a majority of them at this point in history spoke a form of English that was far removed from the native speakers. This form of English, however, took care of their pragmatic needs. The exposure to English was claimed to have increased with the abolition of the slave trade in the 1830s. The freed slaves that returned to their origins in Lagos, Badagry and Abeokuta were said to have done so with some skills in English which they consequently passed on to their families and relations who were eager to learn.

The Mission was also claimed to have had a remarkable role in the expansion of English in Nigeria since the phase for the formal acquisition of the language through schooling in Nigeria was initiated through it. Where the missionaries succeeded in winning converts, they built schools using English as the medium of instruction. Banjo (1995) refers to this period as 'the era of informal colonization' being a transitional period for English to cease being a foreign language and become a second language by playing certain sociological role not

only within the school but also in the southern part of the country where it became a lingua franca.

Colonial rule was said to have further entrenched the use of English in Nigeria because with it came the imposition of the language of the 'master' thereby giving to English the status of an undeclared but obvious 'national language'. Banjo notes that proficiency in the language not only guaranteed a high status in society but also conferred generous financial rewards as a result of relatively good employment. The psychological side of this development was the quest of the natives to learn English, which they believed to be more prestigious than their own languages. By 1897, 'effective learning and teaching of English language' was the condition laid down by government to giving grants to schools.

Jibril (1982) also claims that until the 20th century, the influence of the government in the northern part of Nigeria was minimal. This he attributes to religious differences since the missions that handled the schools were Christians and most northerners were Muslims. However in 1922, Katsina College was established. According to Jibril,

as opposed to the southern experience where English, German, West Indian, American, Scottish, and Serra-Leonian teachers taught, English teachers taught in the north. He observes that this accounts for the contrast between Hausa (Nigerian) spoken English on the one hand and Yoruba and Igbo (Nigerian) spoken English on the other. However, Jibril's grouping of Igbo and Yoruba English together does not portray the reality of the striking differences between these two geo-tribal varieties of Nigerian English.

All the claims on the historical situations above point to contact as a crucial factor in the entrenchment and acculturation of English in Nigeria where today it performs the functions of a second language and a lingua franca being the language of education, media, legal system, elitism, administration and literature.

1.2 The Linguistic Setting of Nigeria

Grimes (1996) *Ethnologue* estimates the population of the Federal Republic of Nigeria to be 100,580,000. 478 languages are also listed for the country out of which 470 are living languages, one a second language (i.e. English), and seven extinct. Earlier, Bamgbose

(1971) posited about 400 languages based on the census conducted in 1963 (see also Gut & Milde 2002). Jibril (1982) however posited about 200, claiming that Bamgbose's figure is exaggerated. Whatever figure is posited as the number of the languages in Nigeria, a basic fact of less controversial stand is that Nigeria is a country with numerous languages and that English performs the functions of a second language in the country.

1.2.1 Yoruba

In view of the large number of languages in Nigeria, and the numerous language groups with their linguistic peculiarities that make use of English as a second language in Nigeria, educated Yoruba speakers of English have been selected as the population for current research.

Yoruba is one of the languages with large numbers of speakers in Nigeria. It has been observed to have about eighteen million, eight hundred and fifty thousand (18, 850,000) speakers (Grimes 1996). It is spoken by people in the south western part of Nigeria in areas such as Oyo, Ogun, Ekiti, Osun, Ondo, Kwara, Lagos and parts of Kogi and

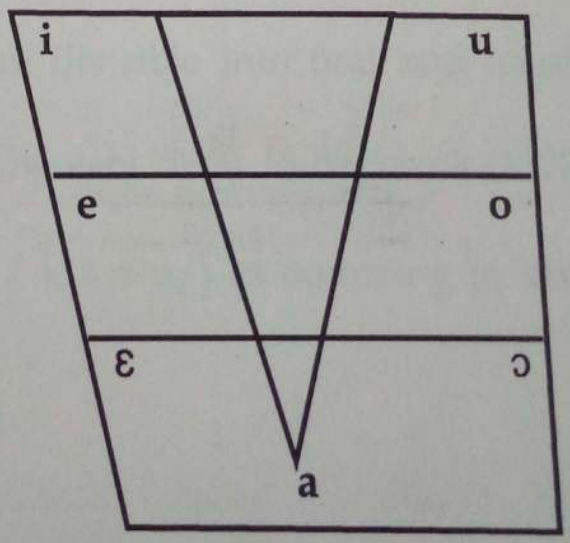
Edo State. Yoruba belongs to the Yoruboid Group of languages that also belongs to the Benue Congo of Niger Congo.

1.3 Aspects of the Phonology of Yoruba Language

Yoruba is one of the three major Nigerian languages and it constitutes the population sample for current research. The discussion of the phonology of this language will concentrate more on relevant features to the present work leaving out the features that are not directly related to it. Therefore, to be discussed are Yoruba vowel system, syllable structures and tone as a suprasegmental of pitch that is very important to a discussion of the Nigerian languages.

1.3.1 Yoruba Vowels

Figure 1

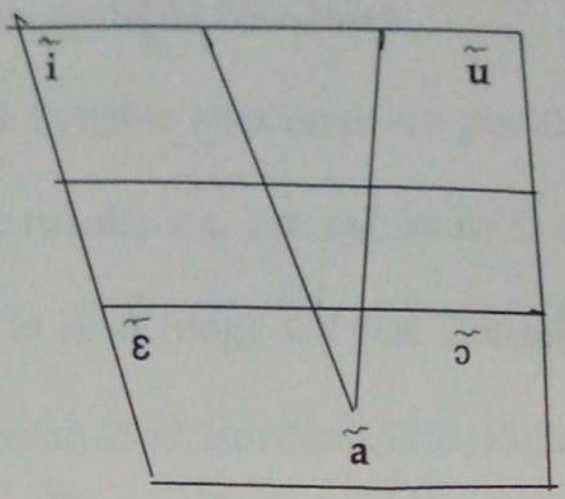


Yoruba Vowels
(Adapted from Owolabi 2003)

Yoruba language has seven vowels which are i, e, ẹ, a, o, ọ, u (Dustan 1969, Pulleyblank 1992, Owolabi 2003). These sounds are represented phonemically as / i e ɛ a o ɔ u /. These can be observed to be relatively few when compared to the twenty vowels found in Standard English. Yoruba vowels are all short and it has been observed that the occurrences of long vowels in the language are often due to phonetically conditioned vowel lengthening or the occurrence of two identical vowels in a sequence (Jibril 1982). Pulleyblank (1992) also argues that vowel lengthening in Yoruba is often a result of an optional pattern of deletion as in the contrast between ***egúngún/eégún*** (masquerade) and ***agogo/ aago*** (bell).

Yoruba vowels are divisible into oral and nasal vowels (Dunstan 1969, Pulleyblank 1992, Owolabi 2003). Pulleyblank (1992: 261) identifies the vowels /i, ẹ, ọ, u/ (i.e. / i, ɛ ɔ u/) as occurring in Yoruba language with contrastive nasalization.

Figure 2



Yoruba Nasal Vowels

(Adapted from Owolabi 2003)

The distinction between strong and reduced vowels does not occur in Yoruba where all vowels are rendered in their strong forms as opposed to what obtains in Standard English where the vowels found in unstressed positions are rendered weaker than those found in stressed positions. The common vowel that is found in such unstressed positions in English, which is / ə /, is not present in Yoruba and there is therefore the tendency to substitute strong vowels for it by Yoruba speakers of English.

1.3.2 Yoruba Syllable Structures

Three Syllable structures are possible in Yoruba. These are N (i.e. syllabic nasals) e.g. /ṇ, ṃ/ as in *Ó ń bọ̀* (he is coming); V (i.e. Vowels) as in *A já* (dog); CV (i.e. Consonants and Vowels) as in *bọ́* (drop) (Dunstan 1969, Rowland 1969, Pulleyblank 1992). It is therefore observable that the syllable structure of Yoruba is relatively simple when compared to that of Standard English where several structures abound due to the possibility of consonant clusters in the language (see Chapter 2).

One of the typical features of rhythm in English, which is the reduction of the vowels that occur in unstressed syllables, is not attested in Yoruba where all syllables are rendered with relatively equal prominence.

1.3.3 Tone Levels in the Yoruba Language

Pike (1948:3) defines as tonal any language 'having lexically significant, contrastive, but relative pitch on each syllable' (Hyman 1975). Therefore, unlike stress, different tones can lexically contrast in a given phonological environment (Hyman 1975, Gut & Milde 2002).

1.3.2 Yoruba Syllable Structures

Three Syllable structures are possible in Yoruba. These are N (i.e. syllabic nasals) e.g. /ṇ, ṃ/ as in *Ó ń bọ̀* (he is coming); V (i.e. Vowels) as in *A já* (dog); CV (i.e. Consonants and Vowels) as in *bọ́* (drop) (Dunstan 1969, Rowland 1969, Pulleyblank 1992). It is therefore observable that the syllable structure of Yoruba is relatively simple when compared to that of Standard English where several structures abound due to the possibility of consonant clusters in the language (see Chapter 2).

One of the typical features of rhythm in English, which is the reduction of the vowels that occur in unstressed syllables, is not attested in Yoruba where all syllables are rendered with relatively equal prominence.

1.3.3 Tone Levels in the Yoruba Language

Pike (1948:3) defines as tonal any language 'having lexically significant, contrastive, but relative pitch on each syllable' (Hyman 1975). Therefore, unlike stress, different tones can lexically contrast in a given phonological environment (Hyman 1975, Gut & Milde 2002).

The contrastive use of pitch on the syllables of words to contrast the meaning of such words with other words of the same form is a vital feature of African languages (Odden 1995, Crystal 1997). Tone is therefore considered a feature of the lexicon (Gut and Milde 2002). Existing literature also affirms that most Nigerian languages are tonal languages (Williamson 1984, Egbokhare 1994, Odden 1995).

Most Nigerian languages therefore make use of level (or register) tone and Yoruba is not an exception. The three levels of tone found in Yoruba are high (marked ´), mid (unmarked), and low (marked `).

E.g. Ó lọ́ high-high [o lɔ] it's twisted

Ó lọ high-mid [o lɔ] he went

Ó lọ̀ high-low [o lɔ] it's ground

1.4 The General Properties of Stress and Rhythm

1.4.1 Stress

According to Hyman (1975:204), of all the Suprasegmentals of prominence, stress receives by far the greatest treatment. Various

definitions have been offered by linguists who perceive stress from either the phonetic or the phonological perspective or both. Stressed syllables have been described in phonetic terms (i.e. from the point of view of the speaker) as produced with a stronger burst in initiatory energy - a more powerful contraction of the chest muscles -than unstressed syllables are (Giegerich 1992). According to Giegerich (1992: 179), acoustically, this increased energy-input results in greater loudness, increased duration and often a change of pitch.

Prominence has been identified as a basic characteristic of stressed syllables. Roach (1991:86) asserts that highly stressed syllables are more prominent than weakly stressed syllables or unstressed syllables. According to him, we can look on stressed syllables as occurring against a 'background' of weak syllables so that their prominence is increased in contrast with these background qualities. Crystal (1997) claims that the hearer identifies this prominence as the force or intensity of air coming from the lungs that is perceived as loudness. However, on the contrary, various researches earlier conducted on cues to stress have revealed loudness as the least

significant cue to stress while pitch prominence has been found the most important (see Fry 1955, 1958, Bolinger 1958, Liberman 1960)

Crutenden (1986:16) views the term 'stress' in relation to prominence in a more general rather than specific way irrespective of how such prominence is achieved. He argues that in the past, the word 'stress' has been used in different confusing ways. Sometimes it has been used simply to refer to syllables or vowels made prominent for linguistic purposes either in words or sentences or 'breath – force' or loudness despite the fact that loudness plays a minor role in producing prominence.

Robins (1971:102) argues against equating stress with prominence. He believes that stress is an articulatory term and it should be distinguished from prominence which he terms 'a more subjective term relating to the more noticeable acoustic impression conveyed by certain parts of a stretch of speech as against the rest'. He therefore viewed stress as 'a generic term for the relative greater prominence exerted in the articulation of part of an utterance.'

Roach (1990) opines that though there are controversies on the nature of stress, it is almost certainly true that: in all languages, some syllables are in some sense stronger than other syllables and these are the syllables that possess the potential to be described as stressed. He goes on to claim that the differences between strong and weak syllables are of some linguistic importance in every language because strong and weak syllables do not occur randomly.

These claims, in the case of Yoruba language, may be untrue because prominence contrast between syllables and the alternation between strong and weak syllables are not attested in the language.

1.4.2 Free Versus Fixed Stress

Traditionally, word stress systems have been classified along various dimensions, one of which is the distinction between fixed systems where the location of stress is predictable (i.e. rule-governed) and where stress assignment is unpredictable (i.e. distinctive) (Hyman 1975, Krager 1995).

Hyman (1975:204) says that languages that restrict the placement of stress to one particular syllable within each word are said to have fixed or non-phonemic stress. Therefore languages such as Hungarian, Turkish, Polish and French qualify as having fixed or non-phonemic stress because their stress systems are relatively predictable.

In Hungarian the first syllable of a word is usually assigned the primary stress, in Polish the penultimate, in Turkish and French the last. In these languages, stress has a demarcative function because it signals word boundaries. In Hungarian for instance, the presence of stress indicates the beginning of a new word (see Martinet 1960; cf. Hyman 1975).

Languages with free stress on the other hand are believed to have the prominence associated with stress on different syllables of different words depending on the nature of each word. English has been viewed as a language where stress (being unpredictable) acquires a lexical function since it has to be marked on lexical items, whereas in a language such as Hungarian, a rule of stress assignment

should feature among the phonological rules i.e. stress the first vowel after the initial word boundary of a Hungarian word:

V ⟶ [+Stress] / # # _____

However in languages with lexical stress such as English, the assignment of stress to a word is one of the underlying phonological forms, therefore no rule of stress assignment is required (Hyman 1975, Kager 1995). There are however some peculiar cases of some bi-syllabic Noun/Verb and Adjective/Verb pairs in English where the first syllable is assigned the primary stress in the Noun or Adjective form and the second in the Verb form. In these instances, English stress becomes predictable but the fact that these words form a close system in English makes them not so significant for generalisation.

1.4.3 The Phonetic Correlates of Stress

It has been observed that though speech sounds could be described in physical or acoustic terms, the phonetic nature of stress has been found to be highly controversial. Stress has been expressed by many in the literature reviewed to have no direct physical correlate

and that none of the physical correlates associated with stress could be quantified in absolute terms. The argument here is that there is more than one cue associated with stress and that in most instances, the cues combine to realize the prominence required on a stressed syllable (Jibril 1982, Giegerich 1992, Kager 1995). Kager (1995:367) further acknowledges the mental reality of prominence as an undisputable phonetic correlate of stress but maintained that 'an unambiguous phonetic correlate has not yet been discovered'.

Many linguists have proposed a range of three to four features as the phonetic correlates of stress and the primacy of pitch has been expressed by many (Fromkin and Rodman 1974, Crutenden 1986,Roach 1991, Egbokhare 1994). Fromkin and Rodman (1974) view a change in pitch (usually by raising it), loudness and length as three phonetic features of a stressed syllable.

However, Hyman (1975) opines that while it was long believed that the primary phonetic cue to stress is intensity (i.e. the energy expended in producing the stressed syllable), phonetic investigations (such as conducted by Fry 1955, Mul Uhlenbeck 1956) have revealed

intensity as an unreliable correlate of stress. Pitch and duration have been found to be more effective. Hyman notes that pitch is the most effective phonetic signal of stress as it is clearly the most important cue of tone too. He therefore views the difference between stress and tone as a linguistic rather than a phonetic one.

Roach (1991) addresses the question of stress from two perspectives - what the speaker does in producing stressed syllables (i.e. from the point of view of production) and what makes a listener view a sound as stressed (i.e. from the point of view of perception). He explains further that the production of stress is believed to depend on the speaker using more muscular energy than is used for unstressed syllables. On perception, Roach observes that many experiments have been carried out and that different sound characteristics have been found to be important in making a syllable recognizably stressed. However all stressed syllables have been found to have one characteristic in common: prominence (see also Fry 1955, 1958, Jibril 1982 Ohala 1977, Adams 1979, and Roach 1991).

The four cues identified by Roach are loudness, length, pitch and quality. He opines that the four cues may signal stress or syllables may be made prominent by means of only one or two of them. He, however, notes that loudness has been discovered through experimental research to have much less effect while pitch produces the strongest effects followed closely by length.

Egbokhare (1994) proposes a hierarchy of these cues which listeners employ to identify stress on a syllable as abstracted from the investigations of Fry (1955) and Bolinger (1958). These in the order of their importance are pitch modulation, duration, intensity and segmental quality. He notes that what signals stress is not necessarily increased pitch but pitch modulation.

Of high relevance to the present study is the perception of duration as an important correlate of stress. Gut and Milde (2002) observe that recent measurements of the acoustic correlates of speech rhythm are based on durational cues (see also Ramus et.al. 1999, Gibbon and Gut 2001, Grabe and Low 2001). Vowel lengthening,

vowel weakening, phoneme elision and consonant change are therefore expected where duration is viewed as a correlate of stress.

1.5 Rhythm

Wales (1989) claims that the word 'rhythm' derives from the Greek word 'rhuthmos' which means 'flow' and that in phonetics and prosody, it is generally described as the pattern of accented and unaccented or unstressed syllables in a language (see also Quirk and Greenbaum 1987). According to Gut and Milde (2002:1) speech rhythm was understood to be a periodic recurrence of events. Some linguists consider rhythm as a characteristic of stress-timed languages. However, from a wider and more acceptable perspective, Giegerich (1992:258) claims that all speech sounds if delivered fluently without hesitation or interruption are said to have rhythm which may be syllable-timed or stress-timed. When a language is syllable-timed, the syllables tend to recur at isochronous intervals. For stress-timed languages, the intervals between stressed syllables tend to be isochronous.

It is fairly a general notion that a language such as English could be classified as stress-timed while a tonal language such as Yoruba could be classified as syllable-timed(see Dunstan 1969, O,connor 1984, Gut and Milde 2002). Abercrombie (1967:36) explains that with the syllable-timed rhythm, the chest pulses which are the syllable-producing process supply the periodic recurrence of movement, consequently making the syllable recur at equal intervals of time. But with the stress-timed rhythm, the stress-producing process supplies the periodic recurrence of movement, consequently making the stressed syllables isochronous. The major difference therefore between syllable-timed rhythm and stress-timed rhythm is that with the former every syllable will be produced at equal (or equivalent) intervals of time, while for the latter, the equal (or equivalent) intervals will be from one stressed syllable to the other, irrespective of the number of syllables that may be unstressed between them.

Bolinger (1981) proposes another description for English rhythm. He suggests that 'the most important factor is neither the

number of syllables nor the number of stresses but the pattern made in any section of continuous speech by the mixture of syllables containing full vowels with syllables containing reduced vowels' (Crutenden 1986:25). This implies that a full vowel, whether stressed or unstressed, will be taken with other reduced vowels following it to determine a rhythm unit. This opposes the earlier stress-timed rhythm description where all unstressed syllables are taken with the stressed syllable to identify a rhythm unit.

Bolinger's full-vowel timing description which has been discussed and illustrated by Crutenden (1986) has been proposed by Udofot (2000) as an alternative description for Nigerian English rhythm. Therefore as a contribution to the definition of Nigerian English pronunciation, current research aims at confirming this possibility and testing the probability of a full-vowel timing description cyclically resulting in the earlier popular syllable-timing description proposed for Nigerian English. This assumption is based on the tendency for most vowels in Nigerian English to be rendered in their strong forms (see also Ufomata 1990, Eka 1996, Udofot 2000).

1.6 Acoustic Phonetics

Acoustic phonetics studies the sound waves that form the physical link between the speaker and the hearer. It is concerned with the transmission of sound waves through the air. For instance, the physical events that produce the perceptual effects of vowel quality, the intensity of different sounds and the fundamental frequency of voiced sounds (which is closely related to pitch) can be discovered, measured and extracted by the use of acoustic instruments.

Acoustic analysis is done using specially developed instruments such as spectrograph. However recent developments in the use of computers are making it possible to carry out acoustic analysis on a much larger scale (Roach 1991, 1992). According to Nolan (1992), acoustic phonetics has become arguably the most successful branch of phonetics because it has been viewed to be more objective and scientific than the traditional auditory method. It has therefore been used in present research to supplement and corroborate the findings which were derived perceptually through auditory means.

1.7 The Received Pronunciation (RP)

The Received Pronunciation (RP) is the accent of British English that is usually chosen for descriptive and teaching purposes (especially Second Language teaching). Though more widespread in London and in the South-East of England, it does not belong to a particular geographical area (Roach 1992). It has been identified as the language of the very educated and it is the language mainly used by the mass media in 'prestige broadcasting'. So it is also called 'BBC pronunciation'.

This model has been chosen as a standard in the present research because it is used by the educated, devoid of regional dialectal constraints and consistent. The control for the research is a Briton who schooled at the University of London and holds a doctoral degree. Just one RP speaker is used as the control in this study because it is an established fact in the literature of Standard English that unstressed syllables and vowels are weakened and made obscure. The concern of this study is to establish whether these phenomena are present in the spoken English of educated Yoruba.

The control is just an example needed to demonstrate these phenomena in Standard English. It is therefore important to note here that this study is an applied comparative work.

1.8. Aim and Objectives of the Study

There is a fair agreement on the notion that there is a marked difference in the assignment of stress by educated Yoruba users of English from that of Standard English (or the RP standard) (Dunstan 1969, O' Connor 1975, Jowitt 1991, Kujore 1991). A lot has been done on Nigerian English stress assignment. This work therefore does not focus centrally on describing the stress patterns of English words as used by educated Yoruba speakers of English but rather it is a description of the fundamental characteristics of vowel weakening and unstressed syllable obscuration in spoken English as employed by educated Yoruba users.

Vowel weakening and unstressed syllable obscuration is one of the important features that account for the peculiar rhythm of English language, which makes it different from that of other languages (even from other languages that use stress). The relative absence of these

phenomena is one of the crucial factors that account for the loss of the typical rhythm of Standard English in Nigerian English usage generally and Yoruba English specifically.

This investigation therefore aims at finding answers to a set of research questions with the purpose of establishing a description for Nigerian English rhythm especially concerning the influence of stress on the vowels of Standard English since notable variations have been observed in the spoken English of educated Yoruba speakers. This is in the interest of the development of Nigerian English in this era of the 'new Englishes' and the need for the establishment of a 'local' standard to which speakers and learners may refer for normative guidance.

1.9 Research Methodology

1.9.1 Research Questions

1. Is the rhythm of Educated Yoruba English the same as that of Standard English where there is consideration for stressed and unstressed syllable alternation?

2. When vowels occur in unstressed syllables in Educated Yoruba English, do they get reduced to / ə / or / ɪ/ or retain their strong forms?

3. Is the Standard English characteristic feature of using the weak forms of grammatical words employed in Educated Yoruba English word groups such as phrases and sentences?

4. Do educated Yoruba speakers of English foreground the stressed syllables by making the unstressed syllables obscure?

5. Are the stress patterns of Educated Yoruba English markedly different from that of Standard English as claimed in earlier researches?

1.9.2 Nature of the Research

This research is both quantitative and qualitative in nature. There was a cross-sectional study of the linguistic performance of three hundred subjects through the use of objective instruments (intended to test specific items) to give room to generalization of research result after appropriate perceptual and acoustic analyses.

The researcher used prepared texts which were read into tapes by the subjects. This was to minimize the possibility of eliciting inappropriate responses that might not include the items the researcher intended to investigate. There was also the recording and analysis of spontaneous speech to corroborate the findings from the reading of prepared texts. It also eliminates the possible constraints of reading prepared text.

1.9.3 Subjects

The subjects of this research were drawn from the class of educated Yoruba speakers of English. It has been fairly established that there are about four hundred and seventy languages in Nigeria (see Section 1.2). Yoruba, Igbo and Hausa have the largest population of speakers: Yoruba has about sixteen million, Igbo about twelve million while Hausa has about thirteen million speakers (Grimes (ed) 1996). Due to the large population of Nigeria and the complex language system, one of these three major languages provided the data used in the research.

The selection of Yoruba English is in the light of the fact that the Nigerian spoken English cannot be viewed as totally homogeneous considering the diverse local languages. This calls for a 'geo-tribal' description such as intended in this investigation. It also has a large number of educated speakers. Judging by the fact that the mothertongue is a factor in language performance, it becomes very likely that an educated Nigerian English speech will reflect some elements of Yoruba pronunciation. It also follows logically that other major languages that supply the population of Nigerian speakers of English will exert some influence too. Consequently, Nigerian spoken English is very likely to have variations or dialects depending on major spheres of influences. Identifying these spheres will make us identify points of convergence which will define what may rightly become standard Nigerian English. So far Nigerian English remains to be formally defined though scholars generally recognize some commonalities in the spoken English of Nigerians.

The Yoruba subjects were selected by a purposive sampling method from a larger pool of potential subjects. In order to achieve a

certain degree of homogeneity and to control the intrusion of other extraneous variables, the subjects were drawn from the educated Yoruba speakers of English. Educated Yoruba English (EYE) speakers as used in this respect refers to Yoruba people who acquired English as a second language. These are Yoruba who were neither born nor nurtured in the first language setting. had put in about three years of post secondary school education.

Brosnaham (1969) uses education as a delimiting factor for a standard to be established. This experimental group also coincides with Banjo's Variety 3 on the 'clines' he set up for Nigerian English in relation to intelligibility and social acceptability.

A native British English speaker who attended the University of London and speaks the RP Standard English was used as a control against whose performance those of the experimental group were assessed.

1.9.4 Data Gathering Method

The data for the research was gathered through the process of reading into tapes prepared texts on the items to be tested. This process though useful in controlling the required variables might be viewed as quite unnatural since subjects were not free to produce natural speech forms.

This extraneous variable was therefore controlled by designing the text (to be read) in a manner that the subjects (though reading prepared texts) were not conscious of which spoken language features were being tested. Spontaneous speech was also recorded and analyzed so as to corroborate the findings from the main data gathered through the reading of prepared texts.

1.9.5 Data Analysis Method

The data collected from three hundred subjects as samples for the educated Yoruba speakers of English were listened to and consequently sorted out into various items that were being tested. The data gathered were subjected to both perceptual and acoustic analyses. The token of the variants

of the items being tested were converted into numbers and a statistical calculation of the tokens carried out to determine how often a variant occurs. The generalization was based on counting the number of occurrences of each variant, converting them to percentages and the higher percentage taken as the norm.

The acoustic analyses aimed at corroborating the findings from perceptual analysis were done with a PC based sound analysis system consisting of a Pentium 111/1 MHZ Processor, 40 GB of Audio Visual Hard Disk and a Full Duplex Multi 1/0 Audio Capture Card. The software consists of a suite of sound processing packages including COOL Edit Pro, Sound Forge and Speech Filing System (SFS). The system displays sound waveforms to a resolution 48 KHZ in the time domain thereby allowing precise measurement of the duration of various speech sounds. It extracts fundamental and formant frequencies based on the Fast Fourier Transform (FFT) and Linear Predictive Coding (LPC). It is also capable of displaying spectrograms.

Recent measurements of the acoustic correlates of speech rhythm has been observed to be based on durational cues (see Ramus and Nespor 1999,

Gibbon and Gut 2001, Grabe & Low 2001, Milde & Gut 2002).This approach has been realized to have succeeded in describing the rhythmic differences between languages as well as between varieties of one language as is the case with the present investigation.

The durations of the unstressed vowels and syllables of Educated Yoruba English (EYE) subjects and the control, measured in milliseconds, were plotted graphically into column bars and XY scatter charts. The numerical data for the formants were also accessed and constructed into XY Scatter charts to establish a difference in the quality of the vowels produced by the EYE subjects and the control. This was to assist in determining durational and acoustic values of the various realizations and to establish how deviant they were from Standard English.

After having determined the regular pattern of vowel weakening and unstressed syllable obscuration in Educated Yoruba English, an attempt was made at describing the rhythm pattern of Nigerian English. Some of the utterances produced by the EYE subjects were then subjected to a formal description based on the application of the metrical theory.

The theories used in the analysis are metrical theory and full-vowel timing theory as proposed by Bolinger (1981) and discussed in Crutenden (1986). The application of the full vowel timing theory in this investigation is to test the possibility of a full-vowel timing description for educated Yoruba English. This description has been proposed for Nigerian English by Udofot (2000). It was not found in the vast literature reviewed that Nigerian English rhythm has ever been described as stress timed. This is due to the preponderance of strong vowels in opposition to weak vowels which is the norm in standard usage (see Jowitt 1991, Ufomata 1990, Eka 1996, Udofot 2000).

The control, though a frame of reference might not be enough proof for observable deviation or variation. Other RP sources such as Gimson's Pronunciation Dictionary, Gimson's A *Practical Course of English Pronunciation: A Perceptual Approach* with the pronunciation cassettes, Peter Roach's *English Phonetics and Phonology* with the pronunciation cassettes, and O'Connor's *Better English Pronunciation* with the pronunciation cassettes were also used as frames of reference.

1.9.6 Limitations and Constraints

This research is limited to educated Yoruba spoken English. Even within educated Yoruba spoken English, it is restricted to the aspect of rhythm and even further narrowed down to the use of vowel weakening and unstressed syllable obscuration and its influence on the rhythm of educated Yoruba English. (This however does not imply a total avoidance of the test of the use of strong forms but present research assumes that educated Yoruba encounter less difficulty in the use of the strong forms of English vowels).

In the course of the instrumental analysis, the resolution of the spectrograph display made it a bit difficult to achieve the visual discrimination between the control's formants and that of the EYE subjects. This was, however, taken care of by supplementing the spectrograms with XY Scatter charts constructed by accessing the numerical data for the formants as read by the computer.

1.9.7 Relevance

In recent times, there has been a surge of interest in the development of world 'Englishes'. In the light of the fact that Yoruba English is a variety of Nigerian English and that several efforts are now being made to describe and codify Nigerian English, this work will contribute immensely to the description of Nigerian spoken English. It will answer some salient questions regarding how it differs markedly from Standard English.

It will be of interest to linguists especially those in the areas of second language acquisition, phonetics, phonology, applied linguistics and sociolinguistics. It will assist language teachers and learners since it is aimed at establishing a regular pattern for a 'geo-tribal' sub-variety of Nigerian English as well as describing the phonetic activities that account for the differences between Standard English and Nigerian English rhythms.

It will be of use for language planners and government in taking decisions concerning how to establish a standard variety, what variety to encourage and accept especially for teaching and learning purposes, what to emphasize and what to de-emphasize.

1.9.8 Definition of Terms

Vowel weakening

Vowel weakening is used to refer to the unstressing effect of reducing otherwise strong vowels to the schwa / ə / or / ɪ / when they occur in unstressed syllables.

Obscuration

Obscuration in the context of this work refers to the Standard English process of making an unstressed syllable as concealed as possible in contrast with stressed syllables that are made as prominent as possible. This is often achieved by vowel and syllable duration reduction, vowel or consonant elision, vowel reduction etc

Educated Yoruba English

This refers to the English language as spoken by Yorubas who were born and nurtured in Yorubaland and who have obtained not less than OND or NCE qualifications.

Control

Being an applied comparative study, the control as used in this discourse is a standard means of confirming and illustrating the established phenomena of vowel weakening and unstressed syllable obscuration in Standard (RP) English.

CHAPTER TWO

2.0 Standard English Suprasegmentals of Pitch

2.1 The Syllable

The syllable has been observed as a widely discussed unit of language (Hyman 1975, Roach 1991, Lehiste 1992). Hyman (1975:188) states that 'most phonologists, to the extent that they have accepted it, deal with the syllable as a phonological unit'. This is on the basis of the phonotactic (or sequential) constraints of a given language, subject to certain universal tendencies.

Blevins, (1995: 207), however, claims that just as the feet of metrical theory supply rhythm organization to phonological strings, syllables can be viewed as the structural units providing melodic organization to such strings. He explains further that while phonologists from a wide range of theoretical perspectives agree that the syllable plays an important role as a prosodic constituent, agreement is by no means universal on the precise nature of the syllable. He, however, argues in favour of the syllable as a phonological constituent based on the following four factors:

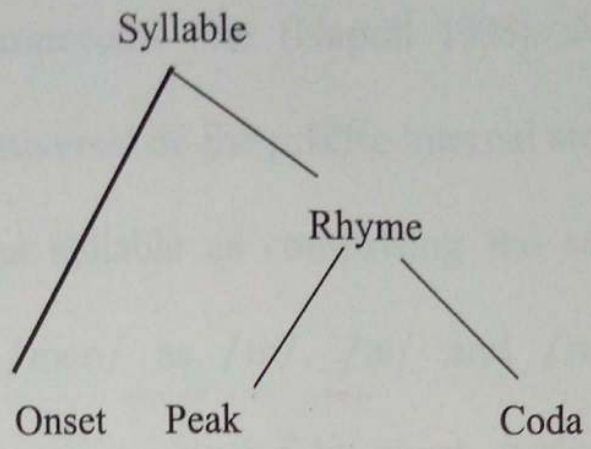
- The syllable is a domain for phonological processes and/or constraints e.g. pharyngealisation in Arabic and Berber dialects (see Ali-Ani 1970, Ghazeli 1977 and Hoberman 1987 c.f. Blevins 1995).
- The syllable edge is a locus since there are phonological rules (such as aspiration and the b-deletion rule in English) that apply at syllable edges (see also Fromkin and Rodman 1974).
- The syllable is a target structure for language games. For instance, White (1955) describes a language game in Luvane where /-ti-/ is suffixed to each syllable of the word (c.f. Blevins 1995).
- It is widely found in the literature that the syllable is identifiable by native intuition.

Roach (1990) opines that the syllable may be described both phonetically and phonologically. It may be described phonetically in terms of how they are produced and how they sound, and phonologically in terms of the possible combinations of phonemes.

Phonetically, syllables are usually described as constituting a centre which has little or no obstruction to airflow and which sounds comparatively loud (i.e. vowels and liquids). Before and after this centre are sounds that are produced with greater obstruction to airflow, which are not as loud as the sound at the centre (i.e. consonants). Roach however recognizes that there is a problem with the phonetic description of the syllable especially on the matter of recognizing syllable boundaries in words with consonant clusters e.g. should 'extra' / ekstrə / be divided as /ek+strə /, / eks+trə / or /ekstr+ə/? Usually, according to Roach, the second or third possibilities are chosen but it is not easy to say which of these is the correct choice.

Phonologically, Roach views the syllable as comprising an obligatory vowel, which is the nucleus, and two margins, which are the onset (i.e. the consonant(s) before the nucleus and the coda (i.e. the consonants after the nucleus). He however observes as more 'refined', recent works in phonology in which the vowel and the coda (if there is anyone) are termed as the rhyme.

Figure 3



Adapted from Roach (1990)

Phonetically, the syllable has been described in terms of physiological properties. It has been described acoustically in terms of sonority and articulatorily in terms of increasing and decreasing apertures. There is also the motor theory where each syllable has been observed to correlate to a chest pulse (see Abercrombie 1967).

2.1.1 The Internal Structure and Weight of the English Syllable

As a prosodic constituent, the syllable is attested in the literature to play an important role (Napoli 1996). Agreement is however by no means universal on the precise internal structure of the syllable. Some view the syllable as comprising the segments that constitute them (e.g. /man/ as /m/, /æ/ and /n/), some as comprising moras, some as constituted by onset, nucleus and coda, others as onset and rime which is further divisible into nucleus and coda (see Blevins 1995).

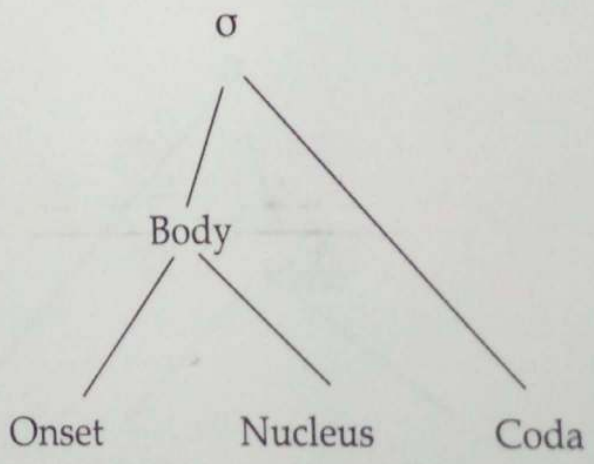
Napoli (1996) claims that vowels are [+ syllabic] because they are the nucleus of the syllable while consonants, which either precede or succeed the nucleus as onset or coda, are [-syllabic]. Though a syllable may have no onset or coda, it must have a nucleus since every syllable obligatorily has a beat, which is carried by the nucleus (i.e. the vowel). Blevins (1995) summarizes the various proposals on the internal structure of the syllable as follows:

The flat structure (i.e. no sub-constituents but the segments themselves as proposed in Anderson (1968), Kahn (1976), Clement and Keyser (1983) e.g. /man/ as /m/, /æ/ and /n/.

Moraic Approaches: σ → c μ (μ) as proposed in Hyman (1985) McCarthy and Prince (1986), Hayes (1989): Here the syllable (σ) is composed of consonant(s) or non (C) and one obligatory mora or in the case of a bimoraic syllable, more than one (i.e. μ (μ));

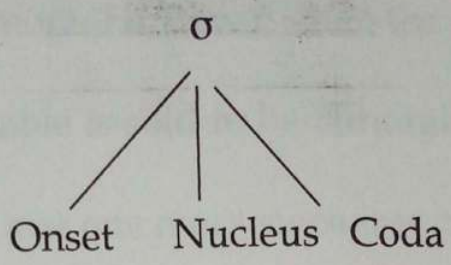
Binary Branching with Body: σ → body coda; body → onset nucleus as proposed in McCathy (1979), Venneman (1985) e.g.

Figure 4



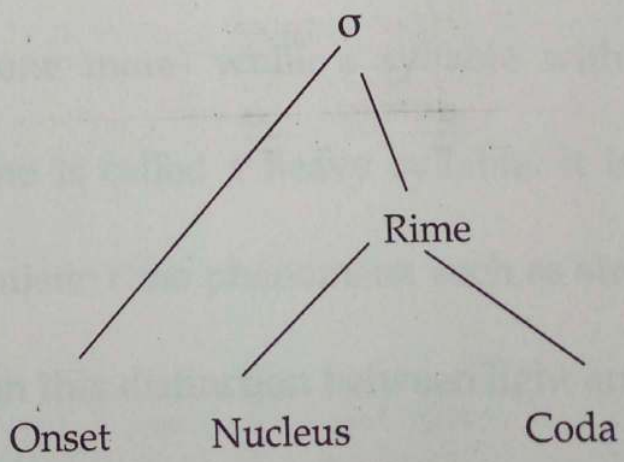
Ternary Branching: σ → onset nucleus coda as cited in Hockett (1955), Haugen (1956), and Davis (1985) e.g.

Figure 5



Binary Branching with Rime: σ → onset rime; rime → nucleus Coda as discussed in Chao (1941), Pike and Pike (1947), Selkirk (1982) e.g.

Figure 6



According to Napoli (1996), in the situation where the syllable is divided into onset and rime and rime is further divided into nucleus and coda, if the rime contains only one segment, it is said that the syllable consists of one mora. However when the rime contains two or more segments, the syllable is said to be bimoraic e.g. *re`deem* has the first syllable containing just one mora since it is comprised of a single-segment rime while the second syllable which is *–deem* is bimoraic since it contains a long vowel and a consonant as the rime.

The number of moras it contains affects the weight of the syllable. A light syllable has a rime of a single short segment in the nucleus (i.e. has one mora) while a syllable with more than one element in the rime is called a heavy syllable. It is common in the literature that linguistic rime phenomena such as stress and metre are frequently based on this distinction between light and heavy syllables. For instance, there is a tendency for the heavy syllables to have stress assigned to them rather than the light syllables (Roach 1991, Steriade 1992).

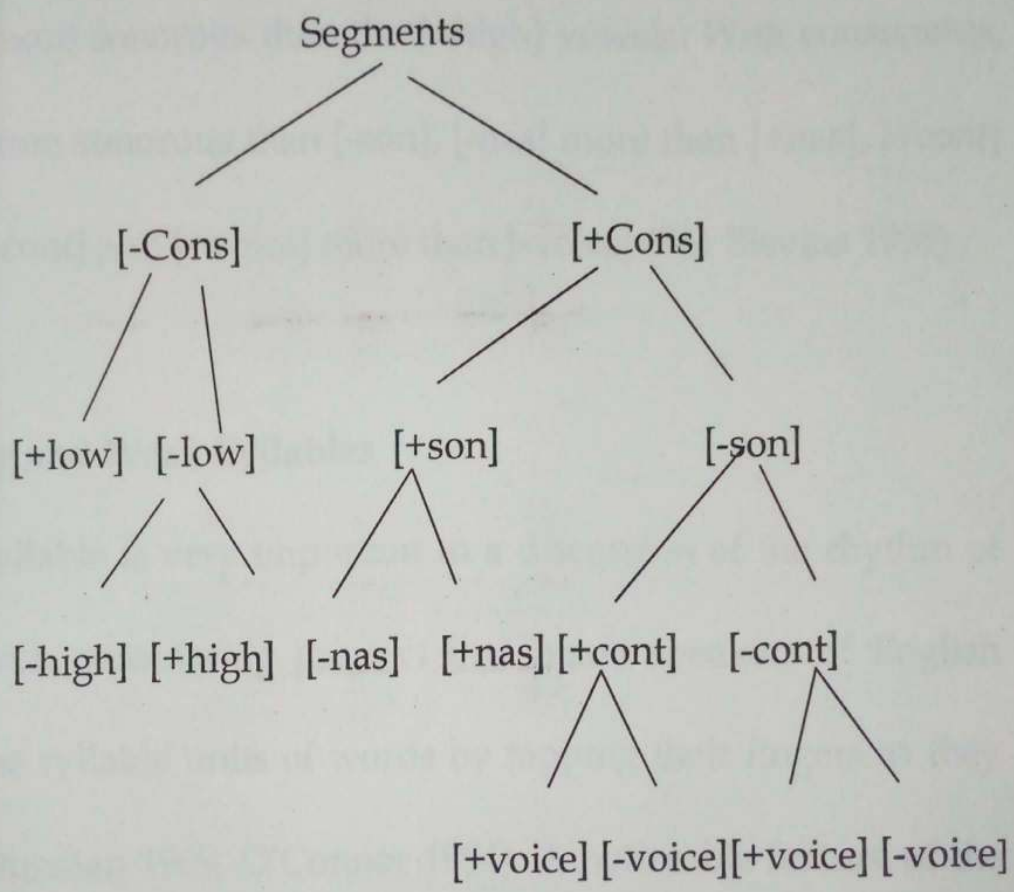
2.1.2 The Syllable and Sonority

The relationship between the syllable and sonority is one that has been recognized by many scholars (Roach 1991, Blevins 1995, Onuigbo 1996). Blevins (1995) claims that the relationship has been recognized for a century or more as it is stated by Jespersen (1904) that in each utterance there are as many syllables as there are clear peaks of sonority. It is also observed by Sievers (1881) that in general, between a member of a syllable and the syllable peak, only sounds of higher sonority are permitted. These scholars believe that there are as many syllables in a word as there are clear peaks of sonority.

According to Steriade (1992), Whitney (1965) formulated the Sonority Principle – the idea being that in the optimal syllable, sounds are arranged in a sequence of first increasing and then decreasing sonority. Steriade therefore views sonority as a scalar property corresponding roughly to the degree of vocal tract aperture and to the segments' audibility. He therefore proposes a working universal sonority scale for sounds of human languages where for each node the

left branch is more sonorous than the right branch and sonority relations for a given feature are only defined with respect to segment with the feature specification of the mother node.

Figure 7



A working Universal Sonority Scale (Blevin 1995)

The working sonority scale proposed by Blevins (1995) views the left branches of the nodes as more sonorous than the right branches. Therefore, vowels are more sonorous than consonants and low vowels are more sonorous than high vowels. Of the [–low] vowels the [–high] vowels are more sonorous than the [+high] vowels. With consonants, [+son] are more sonorous than [-son], [-nas] more than [+nas], [+cont] more than [-cont] and [+voice] more than [-voice] (See Blevins 1995)

2.1.3 Strong and Weak Syllables

The syllable is very important to a discussion of the rhythm of English speech considering the fact that many speakers of English decide on the syllable units of words by tapping their fingers as they count (see Dunstan 1969, O'Connor 1984). A noticeable feature of the English language is that many syllables are weak while some are strong. According to Roach (1991), the terms 'strong' and 'weak' are used to refer to the phonetic characteristics of syllables which could be described partly in terms of stress by saying, for example, that strong syllables are stressed while weak syllables are unstressed.

Consonants and vowels in unstressed syllables are subjected to elision or reduction while they get reinforced phonetically in stressed positions. According to Hyman (1975:161) in order to capture these 'natural processes', the concepts of 'strengthening' and 'weakening' have been discussed within the framework of theoretical phonology. There is a general tendency for all unstressed vowels in English syllables to shorten and become of lower intensity. Consequently they gravitate towards the weak centralized vowel / ə / or /ɪ/ and sometimes / ʊ /, if not to disappear altogether (Wise 1957).

Giegerich (1992) points out the high relevance of the syllable to a discussion of stress assignment in a stress language such as English. In order to be able to bear stress, a syllable must satisfy certain structural requirements. A stressed syllable is often heavy, while an unstressed syllable is often light.

2.2 Standard English Stress

Stress is very important to a discussion of intelligibility in relation to the English language. Odlin (1989: 117) claims that stress

patterns are crucial in pronunciation since they affect syllables and the segments that constitute syllables. He illustrates with the alternation in English between certain nouns and verbs such as 'combine' /`kɒmbaɪn/ (noun) and 'combine' /kəm`baɪn/ (verb) where the first syllables of these graphically identical words have different vowel sounds varying according to the acoustic prominence of the syllable. The strong /ɒ / sound in the noun form weakens to the schwa / ə / when the stress is shifted to the second syllable in the verb form. According to Odlin, such alternations have important implications not only for speech production but also for comprehension.

Cutler (1984) observes that stress patterns play a crucial role in listeners' recognition of words and Bansal (1976) also identifies errors in stress as the most important cause of unintelligibility in Indians' pronunciation. He illustrates this assertion with examples from his research where British listeners misperceived and consequently misidentified Indian speakers' utterances. For instance, ***`talking a`mong them`selves*** was mispronounced as ***talking among***

`themselves* and therefore misperceived (by British listeners) as *`talking a`mong `damsels (Odlin 1989). Tiffins (1974) also identifies differences in the intelligibility of Nigerian English which were traced to stress errors and to native language. According to Tiffins, Yoruba speakers of English used in the study displayed more errors in stress than the Hausa speakers. This resulted in the inability of the British listeners to identify what the Yoruba speakers had said.

Some basic characteristics have been identified with stress assignment in English. Stress is culminative in the English language. Every content word has at least one stressed syllable and even monosyllabic grammatical words are assigned stress when they occur in isolation. English stress is also hierarchical in nature. A prominence hierarchy may occur among multiple stresses. For instance in polysyllabic or complex words, one syllable among the multiple syllables will be made more prominent than the others (i.e. assigned the primary stress). Another which will be next in the hierarchy of prominence to the one assigned the primary stress will bear the secondary stress while all other syllables left in the word will have the

least prominence e.g. *eradication* has the primary stress on the syllable -*ca*- while -*ra*- takes the secondary stress. All the other remaining syllables are unstressed. Before the addition of the suffix '*-ion*', the primary stress must have been on--*ra*- in the verb form *eradicate*.

However, whether a syllable is assigned the primary or secondary stress, the vowel that occurs within the syllable as its nucleus retains its strong quality consequently making the syllable strong. But when the syllable is unstressed, the vowel quality is usually affected and the vowel gets reduced to / ə / or /ɪ/ and sometimes / ʊ / or gets totally elided as in the word 'chocolate' / ʧɒklɪt /.

Stress has also been found to be rhythmic in the English language. In English, stressed and unstressed syllables alternate and clashes are usually avoided. Stress contrasts are often enhanced segmentally as stressed syllables may be lengthened by vowel lengthening or germination and unstressed syllables weakened by vowel reduction. There is a common characteristic of reducing

otherwise strong vowels to the weak sound schwa in unstressed positions in English e.g. 'grammar' / `græmə / and 'grammarian' /græmeəriən/ where the strong vowel /æ/ has been reduced to /ə/ when the stress shifted (Roach 1991, Giegerich 1992, Kager 1995).

2.2.1 Word Stress

The study of word stress has been found to address the location of prominent syllables within words as well as the rhythmic, positional, quantitative and morphological factors that govern patterns of syllable prominence (Kager 1995). English stress has been acknowledged to be complex due to the fact that the syllables that are assigned stress in English words cannot be predicted arbitrarily as is the case with certain languages such as French where the last syllables of words are often assigned the stress. Some linguists however still believe that a set of rules with exceptions would do better than viewing stress as a property of individual words, each to be learnt with its distinct pattern (see Crutenden 1986, Roach 1991).

Crutenden (1986) notes that languages (such as English), which do not use stress delimitatively and use it distinctively only to a very restricted extent, may have their word stress predictable but only by a set of complex rules. These rules, which may have many exceptions, still prove a better option than not having rules at all. To Crutenden, a general rule with exceptions is still more economical than listing every word with its unique pattern which will therefore imply listing everything as an exception. Crutenden therefore proposes a set of rules for English word stress depending on the class of the word (i.e. whether the word is a noun, verb, adjective etc.). He also observes morphological features such as stems, suffixes etc.

i) *Verbs and Adjectives*

a) Stress on the penultimate syllable when the final syllable has a short vowel in an open syllable or is followed by not more than one consonant e.g. *sur`render, `polish, as`tonish.*

b) Otherwise stress on the final syllable (subject to rule (iii) below) e.g. *main`tain, se`vere, de`fend.*

ii) *Nouns*

a) If the final syllable has a short vowel, disregard it and apply rules under (i) above e.g. *`elephant, `moment, comp`lexion.*

b) If the final syllable has a long vowel, it is stressed (subject to (iii) below) e.g. *po`lice, ma`chine, ca`tarrh.*

iii) Words of more than two syllables with long final vowels should be stressed on the antipenultimate syllable e.g. *`anecdote, `fahrenheit, `pedigree.*

However, there are apparently a number of exceptions to these basic rules of stress assignment in English discussed by Crutenden (1986). Such exceptions include words such as *po`sition, `window, kanga`roo.* He also discusses the influence of suffixes on stress assignment in English. This is attributed to the fact that stressing in English often involves counting the syllables backward. He identified three types of suffixes, which are:

- suffixes that leave the stress on the stem (e.g. *ful`fil /ful`fillment, `usual/`usually);*

- suffixes that take the stress themselves (e.g. *`limit/limi`tation, `china/chi`nese);*
- and suffixes that shift the stress on the stem (e.g. e`conomy/eco`nomic, `apply, appli`cation).

Roach (1991) also makes an attempt to establish the rules of word stress in English. With two syllable words, either the first or second syllable is stressed (not both). If the word is a verb, and the second syllable contains a long vowel, or diphthong, or it ends in more than a consonant, that second syllable is stressed e.g. *a`pply* / ə`plai/, a`*rrive* /ə `raɪv/, a`*ttract* /ə `trækt/. If the final syllable contains a short vowel and one or no final consonant, the first syllable is stressed e.g. *`enter*/ /ˈentə /, *`envy* / `envɪ /, *`equal* /`ɪkwəl/. The final syllable is also unstressed if it contains / əʊ / e.g. *`follow* /`fɒləʊ /, *`borrow* /`bɒrəʊ /, *`window* /`wɪndəʊ /. Roach listed all other verbs as exceptions.

Roach further claims that the rules above can also be applied to adjectives e.g. *`lovely* / `lʌvlɪ / *di`vine* /dɪ`vain/, *`even*

/ `ɪvn /, *cor`rect* / kɒ`rekt /. As with the other rules, there are also exceptions e.g. *`honest* / `ɒnɪst / *and `perfect* / `pɜ:fɪkt / both end with two consonants and yet they have the first syllables assigned the stress. Nouns, according to Roach, also have their stress assigned to the first syllable when the second syllable contains a short vowel, otherwise the second syllable is assigned the stress e.g. *`money* /`mɒnɪ/, *e`state* /ɪ`steɪt/, *ba`lloon* /bə`lu:n/. Other two-syllable adjectives are also believed to behave in like manner.

Three-syllable words have been observed to be more complicated. If the word is a verb and the last syllable contains a short vowel and ends with not more than one consonant, that syllable will be unstressed. The stress will be assigned to the penultimate syllable (i.e. the preceding syllable) e.g. *en`counter* / ɪŋ`kauntə/, *de`termine* /dɪ`tɜ:mɪn/. However, if the final syllable contains a long vowel or diphthong, or ends with more than one consonant, that final syllable will be stressed e.g. *enter`tain* /entə`teɪn/, *resu`rrect* /rezə`rekt/. With three-syllable nouns, when the final syllable contains a short vowel or

/ əʊ/, it is unstressed. But if the syllable preceding this final syllable ends with more than one consonant, the middle syllable will be stressed e.g. *`potato* /pə`teɪtə /, *disaster* /dɪ`za:stə /. When the final syllable of a three-syllable word contains a short vowel and the middle syllable contains a short vowel, and ends with not more than one consonant, the final as well as the middle syllable is left unstressed and the first syllable is assigned the primary stress e.g. *`quantity* / `kwɒntɪtɪ /, *`cinema* / `sɪnəmə /. The same rule also applies to adjectives e.g. *opportune* / `ɒpətju:n/, *derelict* / `derəlikt/.

What has been observed from the complex rules proposed by Crutenden (1986) and Roach (1991) is that they could guide as hints to the complex stress system of English though they possess many exceptions. One is tempted to agree with Roach that it seems better to produce some stress rules than to claim that there is no rule or regularity in English word stress. Of high relevance to the present study is that Crutenden and Roach (as well as some other linguists) agree on the influence of syllable weight on stress assignment. The

quality as well as the quantity of the vowel in the syllable and that of the consonant often determines whether a syllable should be stressed or not. The weightier the rhyme, the higher the tendency for such a syllable to be assigned stress (see also Giegerich 1992).

2.2.2 Sentence Stress

Though word stress rules remain valid when such words occur in sentences, when English words occur as part of a sentence, the stress assigned to the words become gradable. Some one-syllable words that are usually stressed when they occur in isolation become unstressed while others have the primary stress they take when in isolation converted to tertiary stress with just one word of the 'string' taking the strongest stress. All lexical items of the open classes (such as nouns, adjectives, adverbs and verbs) have an inherent stress pattern while those of the closed classes (such as pronouns, conjunctions, determiners, prepositions, and auxiliary verbs) are often unstressed (Colson 1982, O'Connor 1984, Crutenden 1986, Roach 1991, Onuigbo 1996, Akinjobi 2000).

These one-syllable closed class words of English referred to hereunder as grammatical words therefore have more than one pronunciation – one strong and the other weak. The following are the grammatical words of English in their strong and weak instances of pronunciation and the environments in which each variant occurs.

Table 1

The Strong and Weak Forms of Standard English Grammatical Words

Words	Stressed Strong Forms	Unstressed Weak Forms	Contexts of weak variants
Determiners			
'a' (used only before a consonant sound)	/eɪ/	/ ə /	All weak contexts
'an' (before vowels)	/ æn /	/ ən/ / n /	Every weak context except after /t/ or /d/
'the'	/ ð i:/	/ð ə / / ðɪ/	Before consonants Before vowels
'some'	/ sʌm /	/ səm /	All weak contexts
Conjunction s			
'and'	/ ænd/	/m̥/ /ŋ̥/ /ənd, ən/	After labials e.g. /get ʌp m̥ gəʊ / After velars e.g. /bæg ŋ̥ bægɪdʒ / Other weak contexts
'that'	/ ð æt/	/ ð ət/	All weak contexts

'but'	/bʌt/	/ bət/	All weak contexts
'or'	/ ɔ:/	/ ɒ /	All weak contexts
Prepositions			
'to'	/tu: /	/ tə / / tʊ /	Before consonants Before vowels
'for'	/ fɔ:/	/ fə / / fər /	Before consonants Before vowels
'from'	/frɔm/	/ frəm /	All weak contexts
'of'	/ ɔv /	/f/ / əv /	Before voiceless consonants All other weak contexts
'by'	/ baɪ /	/bə/	All weak contexts
'at'	/ æt /	/ ət /	All weak contexts
Pronouns			
I	/ aɪ /	/ ə /	All weak contexts
'me'	/ mi: /	/ mə /	All weak contexts
'my'	/maɪ/	/ mə /	All weak contexts
'you'	/ ju: /	/jʊ/ /jə /	Before vowels Before consonants
'he'	/hi:/	/ ɪ /	All weak contexts except at the beginning of a word group where /hi: / is used.

'his'	/ hɪz /	/ ɪz /	All weak contexts except at the beginning of a word group where /hɪz/ is used.
'her'	/ hɜ:/	/ ə /	All weak contexts except at the beginning of a word group where /hɜ:/ is used.
'him'	/ hɪm /	/ ɪm /	All weak contexts
'their'	/ ð eə /	/ ð ə/	All weak contexts
'them'	/ð em/	/ð əm/	All weak contexts
'us'	/ʌs/	/ əs/	All weak contexts
Auxiliary Verbs			
'shall'	/ ʃæl /	/ ʃəl, ʃl̩ /	All weak contexts
'should'	/ ʃʊd /	/ ʃəd /	All weak contexts
'would'	/ wʊd /	/ d / /wəd/	After I, he, she, we. you, they Every other weak context
'will'	/wɪl/	/ əl / / l / / l̩ /	After vowels and /l/ After I, he, she, we, you, they After consonants except /l/
'must'	/mʌst/	/ məst /	All weak contexts

'are'	/ a: /	/ ə / / ər /	Before consonants Before vowels
'were'	/ wɜ:/	/ wə /	All weak contexts
'was'	/ wɒz /	/ wəz /	All weak contexts
'is'	/ ɪz /	/ s / / z / / ɪz /	After / p, t, k, f, θ/ After vowels and voiced consonants except / z,ʒ,d / Used after / s, z, ʃ,ʒ , ʧ, ʤ /
'do'	/du:/	/ dʊ / / də /	Before vowels Before consonants
'does'	/dɒz/	/dəz/	All weak contexts
'am'	/æm/	/ m / / əm /	After I All other weak contexts
'has'	/hæz/	/ əz / / s / z /	After / s, z, ʃ,ʒ , ʧ ʤ / After / p, t, k, f, θ, / All other weak contexts except at the beginning of a word group where /hæz/ is used.
'have'	/hæv/	/ v / / əv /	After I, we, you, they All other contexts except at the beginning of a word where /hæv/ is used.

'be'	/bi:/	/ bɪ /	All weak contexts
'had'	/hæd/	/ d / / əd /	After I, he, she, we, they, you Every other context except at the beginning of a word group where /hæd/ is used.
'can'	/kæn/	/kən, kn̩/	All weak contexts

(Adapted from Wise 1957, O, Connor 1975, Roach 1991)

It should be noted however that though the weak forms are used when these words occur in a group, the strong forms are used in the following circumstances:

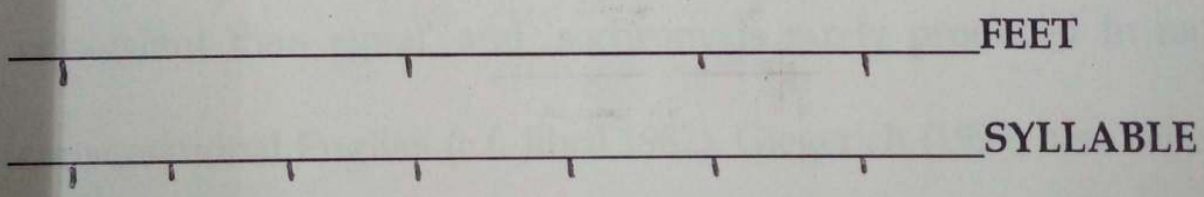
- When that word is emphasized in the utterance e.g. Mary gave it to *her* (not *him*).
- Whenever the grammatical word occurs as the last word in the group e.g. 'John will'. O,Connor (1984) observes that *him, his , her, us,* are exceptions to this second condition because they weaken in word final positions.

2.3 Standard English Rhythm

English has been viewed by many linguists as a stress-timed language. This implies in the Abercrombian sense that the periodic recurrence of movement is supplied by the stress pulses. This results in the stressed syllables occurring at regular intervals of time (Abercrombie 1967, Dunstan 1969, O'Connor 1984, Quirk and Greenbaum 1987, Wales 1989, Crystal 1992, Onuigbo 1996).

Wales (1989) claims that the succession of stressed and unstressed syllables or words in the stream of English speech produces a natural, even fairly regular, rhythm. Quirk and Greenbaum also opine that except when stress has a contrastive function, English connected speech usually has stresses on the open class items and no stresses on the close system words (i.e. grammatical words) used in the same context. Consequently, the natural rhythm of English is seen as providing roughly equal intervals of time between the stresses when unaffected by factors such as hesitation (which may slow down the speaker) or excitement (which may speed him up).

Crutenden (1986) also observes that often English is described as a stress-timed language because English rhythm has an isochrony based on stress. He therefore terms the stretch of utterances from one stressed syllable to the last unstressed syllable before the next stressed syllable a rhythm group. Therefore in an English rhythm group, all syllables are not equal. A stressed syllable is generally longer than an unstressed one especially if the unstressed syllable has a reduced vowel. This has therefore led to the establishment of another phonetic level above the syllable: the feet. Segments are organized into syllables and syllables into feet e.g.



This is the house that Jack built

Giegerich (1992)

The dichotomous classification of languages into syllable-timed and stress-timed has been argued against by some linguists. Though upholding the theory of stress isochrony in English, Crutenden (1986)

claims that all the syllables in a rhythm group cannot be compressed to be equal to the next rhythm group in exact timing if there are many syllables involved. He argues further that when compared with the so-called syllable-timed languages, the classification is not so sharp. This is because all the evidence suggests that both stresses and the number of syllables influence rhythm in all languages but that particular languages have a tendency to give greater or lesser weight to the stress factor.

Knowles (1974) also argues that viewing English rhythm in terms of isochrony in the Abercrombian sense is a misinterpretation of rhythm because the intervals between accented syllables are 'more equivalent than equal' and isochrony is rarely produced in natural conversational English (c.f. Jibril 1982). Giegerich (1992) also reiterates a similar view. To him, the dichotomous classification of languages could be misleading especially in relation to syllable-timing and stress-timing since some languages of the world have shown the signs of being both syllable-timed and stress-timed e.g. Spanish. He therefore views the distinction between syllable-timed languages and

stress-timed languages as scalar rather than dichotomous. To him the question of foot duration in English has been highly controversial in the long history of experimental studies. Despite his reservations, Giegerich still views English rhythm as being at least more stress-timed than syllable-timed. However he views the stress-timing as being more valid as a perception phenomenon than it is in precise physical terms in speech production.

Bolinger (1981) therefore proposes a different approach to the description of English rhythm. Rather than view English rhythm as a result of stress timing, he views it in terms of the patterns made in any section of continuous speech by a mixture of syllables containing full vowels with syllables containing reduced vowels. With Bolinger's theory, the basic unit of rhythm is a full 'vowelled' syllable together with any reduced 'vowelled' syllables that follow it. Each rhythm unit must therefore contain only one full 'vowelled' syllable (c.f. Crutenden 1986).

Crutenden notes that these theories of stress-timing and full-vowel timing differ in that the latter suggests that a reduced

'vowelled' syllable following a full 'vowelled' syllable 'borrows time' from it so that together they are roughly equal to a full 'vowelled' syllable forming a rhythm unit on its own. He illustrates with the utterances:

1. Those porcupines aren't dangerous.

F F F F F F R R

2. The wallabies are dangerous.

R F R R R F R R

Stress timed isochrony would suggest the same rhythm in both sentences which are each divided into an anacrusis (i.e. the unstressed syllables at the beginning of utterances) and two rhythm groups. Full vowel timing would on the other hand suggest six rhythm units in sentence 1 (with the three syllables of 'dangerous' constituting one unit) while only two rhythm units are recognized in sentence 2 (one of four syllables and one of three).

Crutenden believes full-vowel timing seems to account for the instrumentally measured facts of English syllable duration more successfully than stress-timed isochrony. However, he still

acknowledge that the theory of stress-timed isochrony cannot be totally disposed of since without it there would be no reason for the reduction of some syllables and vowels in the first place.

It therefore becomes important to note at this juncture that whatever form of description is employed for Standard English rhythm, the rhythm effect has a lot to do with stressing and unstressing. Therefore, segmental processes such as vowel lengthening in stressed syllables, vowel weakening in unstressed syllables, phoneme elision and consonantal changes in unstressed syllables are therefore of high relevance. These concepts are therefore germane to the present research which emphasizes vowel weakening and unstressed syllable obscuration in educated Yoruba English. This is based on the hypothesis that vowel strengthening does not seem as problematic to Nigerian users of English as vowel weakening is and that though in standard English more syllables are weakened than are strengthened, the reverse is the case in Nigerian English.

CHAPTER THREE

3.0 Nigerian English

The question of whether there is a form of English that could be regarded as Nigerian or not has become irrelevant presently. This is because dominant in the literature reviewed is the recognition of the evolution of a form of English that is obviously different from Standard English and peculiarly Nigerian (see Banjo 1995). Making a reference to Adetugbo (1979, 1980) and Balogun (1980), Ogu (1992) notes that diachronically, a variety of English (though yet to be fully described) has been identified as Nigerian. Kachru (1995) also notes in his foreword to *New Englishes* that the African cannon of the English language (of which Nigerian English is a variety) has been established and recognized and that it is indeed a vital component of World Englishes.

Obviously there are features at every level of language that could be marked distinctively as Nigerian (see, Ufomata 1990, Jowitt 1991, Egbe 1992). Rather than belabor the question of whether

Nigerian English exists or not, Bamgbose in an article published in the *National Concord* of eleventh of July, 1986, proposed that the concentration should be on the interesting task of specifying, describing and analyzing the forms of this variety (c.f. Jibril 1982).

After this publication, a lot has been done on the task of describing the Nigerian English in relation to phonology, syntax, lexis and semantics. Notable scholars in these different fields have come out with different data to support their claims that there exists a variety of English that is Nigerian (see Kujore 1985, Ufomata 1990, Jowitt 1991,Banjo 1995). Jowitt claims that there is such an abundance of data that a sizeable team is needed to collect and catalogue them.

However, what has been observed in the literature reviewed for the present work is that much has been done in the area of lexis, syntax, semantics and segmental phonology, while much is still left undone in the area of the Nigerian English suprasegmentals especially on the rhythm of Nigerian English. Remarkable contributions in this area are the works of Eka (1985) and Udofot (2000). Though they both worked on the description of the rhythm of Nigerian English, Eka,

describes the rhythm of Nigerian English as inelastic-timed while Udofot proposes Bolinger's full-vowel timing theory. However, in the two works, vowel weakening and unstressed syllable obscuration (though mentioned) have not been thoroughly focused upon, especially the acoustic description. Therefore, the present study of vowel weakening and unstressed syllable obscuration in Educated Yoruba English is an attempt at defining the quality and quantity of the vowels found in unstressed positions in Educated Yoruba English and how they influence the peculiar rhythm of that 'geo-tribal' variety of Nigerian English. This has been, hypothetically, observed to be markedly different from that of Standard English.

This work emphasizes Nigerian English usage so as to avoid the controversy generated by the term *Nigerian English* especially in relation to standardization. Though (as earlier observed), there is a fairly general agreement on the existence of certain features that are typically Nigerian, the question of whether these variations are passable as standard forms as one would refer to British English and

American English has generated (and is still generating) much controversy.

According to Adeniran (1977:228) the first procedural question the linguist has to answer is which of the varieties of the language used in the community (in speech, writing or in both) is to be picked as the standard? He therefore goes on to adopt Robin's (1964:57) definition of the standard variety as that 'dialect enjoying prestige as the speech of educated people of the capital city or of some other socially respected group'.

Kachru (1982) identifies 'four arms of codification' (i.e. agents of standardization) as: authoritative (e.g. the academies set up for some languages in Europe); sociological, attitudinal; psychological and educational (e.g. through the use of instruments such as the dictionary, the mass media etc). Banjo (1995), on the other hand, views social acceptability and international intelligibility as essential criteria for identifying a standard. He however explains that though social acceptability is clearly subject to the democratic process and

international intelligibility more elite inclined, the standard will have to be located between the products of the two criteria.

The need for the codification of the variations referred to as Nigerian English has been emphasized. For instance, Kujore (1990) notes that the establishment of the Standard variety of Nigerian English has remained a myth because of the lack of codification of these variations. Therefore, Banjo in his foreword to Kujore's *English Usage: Some Notable Nigerian Variations* craves for a purely descriptive study in terms of *how* the language is spoken rather than *who*, *why* and *when* - these being sociolinguistic concerns (see also Jowitt 1990). According to Kujore (1985), there is therefore the need to describe these variations scientifically for the effective codification of its grammar and form so as to have a common point of reference to which learners and users may turn for normative guidance.

3.1 Nigerian English and Its Stratification

Having ascertained that there is a particular type of English that could be termed Nigerian; there is the need to visit the term *Nigerian*

English for a clarification of description. Odumuh (1998) describes the term *Nigerian English* as used in Nigeria from two senses. According to him, in one sense it is used to refer to a dialect of English which is neither pidgin nor Standard British English found in Nigeria (this description being elastic and permitting shades of variation). In another sense, it is viewed as denoting Standard Nigerian usage. The second sense of use in Odumuh's classification is more relevant to the present study. This work is an attempt at describing the quality and quantity of the vowels found in unstressed positions and whether unstressed syllables get obscured (as is the case in Standard English) or not in educated Yoruba (Nigerian) English usage. This will consequently be a contribution towards a definition of a standard spoken form of Nigerian English.

Banjo (1971) stratifies the English spoken in Nigeria using points on a cline. This was done based on the extent of mother tongue influence and approximation to world standard. Variety 1 is said to have the greatest density of mother tongue transfer, Varieties 11 and 111 as being locally acceptable and internationally intelligible but

obviously with variations that differ from the standard, and Variety 1V as the spoken form of those that have been exposed to English in first language settings .He therefore recommends Varieties 11 and 111 as 'endonormative models since they are home-grown' (c.f. Bamgbose 1995). Bamgbose (1995) however queries the inclusion of Variety 1V in the stratification since it does not arise in the same kind of circumstances as the other three that are 'home grown'.

Jibril (1982) stratifies Nigerian English using a 'geo-tribal' dichotomous approach. He employs terms such as Hausa English, Southern English, which he further stratifies into two as Yoruba and Igbo English (which he discusses as if they were sub-varieties of Southern English). He goes further to employ social terms such as Basic Hausa English and Sophisticated Hausa English, Southern and Sophisticated Southern English, and even Southern-Influenced Hausa English.

The idea of merging Southern English (whether Basic or Sophisticated) into one seems untenable since it is obvious that Yoruba (Nigerian) English differs from Igbo (Nigerian) English. For

instance, it has been observed that the vowel harmony principle of the Igbo language often affects the speaker's performance in English due to the fact that there is a tendency to transfer the principle to English (Ladefoged 1968, Williamson and Emenanjo 1992). Though the Northern/ Southern dichotomous classification of Nigerian English looks unrealistic, a basic fact is that in a multilingual society such as Nigeria, the influence of the local languages on the speakers' performance in English cannot be ignored. There must therefore be the study of geo-tribal varieties (such as this) so as to attain a standard based on points of convergence. It is incontestable that even when the evolving Nigerian English might have emerged as Standard Nigerian English it will still be marked by 'geo-linguistic' differences.

Jowitt (1991) identifies a broad concept of popular Nigerian English viewing the usage of every Nigerian user as a mixture of standard forms and Popular Nigerian English forms, which are in turn, composed of 'errors and variants'. His own proposed standard- The Near World Standard 'home grown' Nigerian English - also coincides with educational attainment.

The probing question at this juncture is whether it is actually possible to describe Nigerian spoken English in terms of geo-tribal dichotomies or as an entity. This is because the spoken Nigerian English may not submit easily to generalization, as may be the case with syntax and lexis because of the greater influence of the mother tongue. It may therefore be easier to describe Nigerian English in terms of tribal groupings such as Yoruba Spoken English, Igbo Spoken English and Hausa Spoken English. Another problem to encounter is the fact that these tribes have dialectal variant forms. There is also the problem of the many minority languages with their peculiar spoken forms.

This work therefore concentrates on the variety of English of Educated considering the fact that the Received Pronunciation (RP) which is taken as British Standard English does not belong to any geographical setting and is therefore devoid of dialectal constraints. It was abstracted from educated speeches and recognized as the model for teaching and learning (especially for second language teaching) and prestige broadcasting (see 1.7).

3.2. Nigerian English Vowels

It seems a matter of less controversy that Nigerian spoken English has its peculiar features at the segmental as well as supra-segmental levels (Dunstan 1969, Adegbite and Akindele 1992, Odumuh 1993, Banjo 1995, Bamgbose 1995).According to Dunstan (1969) it is with vowels that speakers of the Nigerian languages have particular difficulty because only few of the Nigerian languages have more than seven vowels while some even have fewer. Therefore learning to make the number of contrasts required for English is hard for them.

Odumuh (1993) claims that Nigerian English vowels /i: e a u: ei ai / may be said to have approximately the same quality as their counterparts in SBE (Standard British English). He goes further to identify two cases of what he terms 'vowel coalescence' claiming that /a/ and /a: / coalesce into /a:/, /e/ and /3:/ coalesce into /3:/ and that / u / in SBE is usually rendered /ua/ or /u:/ in Nigerian English. Apart from the vowel length distinction, which does not seem a feature of Nigerian English, which Odumuh marked as its feature,

the source of Odumuh's data is not stated and the question of whether Nigerian English, especially the spoken form, could be marked collectively without consideration for first-language-influenced differences seems unrealistic. Jibril (1982) also proposed the following vowels for Nigerian English:

i:	ʌ	aʊ
i	ɔ	
e	ɔ:	
ɛ	ʊ	
æ	u:	
a	a:	
ə	ɔi	

He also adds as marginal /iə , ɛə , ʊə /and goes further to explain that though the vowels in Nigerian English are similar to RP, they differ in their distributions.

There is a need to critically observe Jibril's claims since he further proposes two vowel groups still based on the North/South dichotomy earlier discussed in section 3.1. This he did by putting up the argument that Igbo and Yoruba are so similar that 'little purpose

will be served by setting up a different vowel system for each of them'. This however is a basis for further research since current work is not on vowel differentiation but rather on the quality and strength of the vowels found in unstressed positions in educated Yoruba English.

Another important observation is that the vowels proposed as Nigerian English vowels look like a summary of the vowels proposed for the regional varieties. Jibril's claims are basically derived on the basis of impressionistic means and they are not backed up with acoustic facts to give credence to the claims.

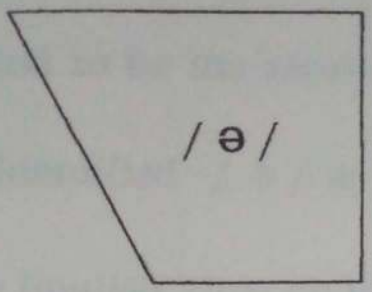
3.2.1 Vowels / ə / and / ɪ / in Standard English and Nigerian English Usage

Four different kinds of sounds that often function as syllabic peaks of weak syllables are attested in Standard English. These are: / ə, ɪ, ʊ / and any of the syllabic consonants /n̩, n̩, m̩ / (Gimson 1975, O,Connon 1975, Roach 1991, Onuigbo 1996) . The most remarkable of these sounds are / ə /, / ɪ/ and / ʊ / (in that order) since / ə / does not occur at all in stressed syllables while the other sounds could

function both in stressed and unstressed positions. Phonologically, in Standard English the presence of the vowel / ə / in a syllable automatically signals the syllable as unstressed.

/ ə /, a mid- central and lax vowel produced with the lips in neutral position and the tongue lying almost inert in the floor of the mouth with only a slight arch in the centre, has the highest rate of occurrence in Standard English. This is because vowels that are realized in their strong forms in stressed positions get reduced to the weak vowel / ə / in unstressed positions e.g. /æ/ in *drama* / dræmə / gets reduced to / ə / when the stress shifts in *dramatic* /drəmætɪk /. It should however be noted that though it is a common occurrence to reduce strong vowels to / ə / in unstressed positions in English, it is not always the case. There are certain exceptions where strong vowels occur in unstressed positions (see also Onuigbo 1996).

Figure 8



/ ə / Mid- Central and Lax

/ɪ/, another sound that is commonly found in unstressed positions in English has been described as a close front unrounded vowel in the general area of /i:/and /i/ which are strong vowels. Roach (1991) claims it does not possess the exact quality of the / ɪ / that is found in stressed positions. Contrary to what is common in the literature reviewed, he proposes the /i/ symbol since:

> The / i / vowel is neither the / i: / of 'beat' nor the / ɪ / of 'bit' and is not in contrast with them.

The same applies for / ʊ / which he claims:

> is neither the / u: / of 'shoe' nor the / ʊ / of 'book' but a weak vowel that shares the characteristics of both.

The most frequently occurring vowel in Standard English, / ə /, has been observed to be the rarest sound in Nigerian English usage. Ufomata (1990) identified / ə / as a reduced vowel sound that is not used in Nigerian English 'thus giving an appearance of many accented syllables in an utterance and a preponderance of strong forms'. She argues further that the typical rhythm of Standard English is lacking in Nigerian English due to the absence of the schwa / ə / in the unstressed syllables where, rather, the strong vowels are often used.

Jibril (1982) claims that a sound that is similar to Standard English / ə / is present in Hausa and that it is the phonetic exponent of certain Hausa short vowels. He observed in his study that Hausa English / ə / lives up to the reputation of RP / ə / as a 'convenient resting-ground for off-duty vowels' since the RP / ə / tested in his study surfaced as / ə / 53.6 per cent of the time in Hausa English regardless of what its orthographic representation was. He however found out that its distribution does not correspond to that of RP.

Jowitt (1991) also attests that RP / ə / occurs only in unstressed syllables and can be regarded as an end product of stress-timing but that this kind of weakening does not occur in Nigerian English MTS (mother tongues) or PNE (Popular Nigerian English). He claims that the sound / ə /, though present in Hausa English does not manifest in the position it occupies in RP. According to Jowitt, the RP / ə / is often realized as [a] in Hausa English and Hausa English / ə / may feature even in stressed syllables as opposed to the phonological distribution of RP / ə /.

3.3 Stress Assignment in Nigerian English

There is a fair agreement on the notion that stress and other suprasegmentals of pitch as important features of spoken English language are problematic for Nigerian users of English (Dunstan 1969, Banjo 1970, Kujore 1991, Onuigbo 1996). Kujore (1985) draws our attention to two major areas (which are of much relevance to the present study) in Nigerian English usage: the area of stress patterns

and vowel sounds. According to him, the most striking characteristic of Nigerian pronunciation is the 'delayed primary stress, a feature which seems to betray the influence of local languages with a rising rhythm as opposed to the falling rhythm of Standard English'. Kujore attempts defining the stress assignment rules of Nigerian English and came up with the following:

- The principal stress falls on the last syllable of verbs ending with –ass, -ate, -bit,-fy, -ise/-ize/-yse, -ish, -ment, -ute e.g. *canvass, abbreviate, exhibit, amplify, advertise, distinguish, comment, attribute*. The same applies to nouns ending with –ene, -ine,--oir, -in, one e.g. *gangrene, ampicilin, iodine, abattoir, baritone*. Compound nouns and forms such as *aeroplane, backbite, wardrobe, watchman* are also noted to have their stress assigned to the last syllable.

- Some words are also noted to have their stress assigned to the penultimate syllable e.g. *advertisement, beneficent, embarrassment, omnipotent*. Nouns that end with –er, -or, -sphere are also affected by this rule e.g. *accelerator, fertilizer, atmosphere*.

He observes that certain words that end with –ive, –tory and –ture that could function as nouns and adjectives are also assigned penultimate stress. E.g. *administrative, primitive, accusative, ablative, compensatory, laboratory, agriculture, legislature.* Kujore discusses instances of stress pattern reversal as in *acute, cabal, canoe, cassette* where the first syllables are assigned the primary stress in Nigerian English rather than the second syllables which are assigned the stress in Standard English.

Though approached from different perspectives, there is a striking resemblance between the analysis of Kujore (1985) and Jowitt (1991). Jowitt observes a tendency to shift the primary stress to the right in Nigerian English. This he notes to be more systematic with verbs than with nouns and adjectives. Compound words and complex noun phrases with pre-modification have been observed to have a tendency to shift primary stress as far to the right as possible.

Jowitt (ibid) observes that at the sentence level, the same tendency is there to shift stress as far to the right as possible. This,

according to him, results in a tendency to assign nuclear stress to an unsuitable word in the sentence. He also notes that the contrastive use of stress, which is important in Standard English, is not often used in Nigerian English. When there is the need to emphasize a particular word in contrast with other words in a group in Standard English, the nuclear stress is assigned to that word irrespective of its location in the group e.g.

The *lecturer* bought the Benz. (Not the *student*)

However in the opinion of Amayo (1980), in Nigerian English usage stress is converted to tone. The conversion formula is 'primary stress converts to high tone, all other stresses to low tone'. He also claims that the mid-tone that appears in some form of Nigerian English is a variant conversion of secondary and tertiary stress.

3.4 The Rhythm of Nigerian English

Rhythm has been found a major area of deviation by Nigerian speakers of English from Standard English usage (O'Connor 1984,

Ufomata 1990, Gut and Milde 2002). Despite the fact that Standard English has been described as stress-timed (though a new description of full-vowel timing has been proposed), Nigerian English has never been described as stress-timed due to the marked difference between the rhythm of Nigerian English and that of Standard English. Nigerian English rhythm has earlier been described as syllable-timed due to the supposed influence of the Nigerian languages, which are mostly tonal (Dunstan 1969, Adetugbo 1977, Amayo 1980, Bamgbose 1982, O'Connor 1984, Jowitt 1991, Milde and Gut 2002).

According to Dunstan, however close a Nigerian speaker may approximate to consonant and vowel quality, if he uses syllable-timing when speaking English, he may well be faced with the problem of total incomprehension on the part of any listener who is a native speaker of English. O'Connor also sees such language as Yoruba which possesses syllable rhythm as a hindrance to its speakers in acquiring the rhythm of the English language since 'if every syllable is made the same length

in English it gives the effect of a machine-gun firing and makes the utterance difficult to understand'.

However in recent times, the description of Nigerian English as syllable-timed has been questioned. Eka (1993) studied rhythm in the English speeches of some penultimate year Education English undergraduates and suggests that Nigerian English be better described as 'inelastic-timed'. He claimed that Nigerian English does not possess the rhythm of Standard English due to the failure to 'squeeze-in' or stretch-out' the syllables in a rhythm unit as is the case in Standard English which he claims is 'elastic-timed'. The in-elasticity of Nigerian English, according to Eka, is caused by the frequency of more prominent syllables than used by native speakers. What is observed here looks more like a terminology switch than a totally new description since 'elastic' and' in-elastic timing' as used in the work seems to reflect the age-long distinction between stressed-timed and syllable-timed languages.

Udofot (2000) also carried out research on the rhythm of Nigerian English offering an alternative to the earlier description of syllable-timing. The subjects, whom she selected by a stratified random sampling technique from twenty linguistic groups in Nigeria were sixty Nigerians of varied linguistic, educational and socio-economic backgrounds. The rhythm of their speech forms was compared to that of a native speaker and a striking difference was observed. She likens the rhythm of educated Nigerian spoken English to 'the pulsation of an African drum, heard as rhythmic but hardly varying its tempo'.

She then opines that the stress-timing theory will not fairly describe Nigerian English rhythm and that syllable-timing, though observed in the speech forms of the 'Non-Standard Variety', will not be appropriate too. This she claims is because the tendency to use syllable-timing dwindles as one move up the Nigerian social strata to the standard and ultimately, the sophisticated.

Udofot also rejects Eka's inelastic-timing on the ground that though it is an apt description it cannot 'systematically apply'. The

argument she puts up as accounting for the claim above is that 'the analysis of the experimental groups shows some weak syllables and many strong syllables'. In other words there is a mixture of full and reduced vowels but the reduced syllables are not regular or predictable enough, nor are they 'squeezed in' or 'stretched out' within the given time." Udofot therefore proposes full-vowel timing as an alternative description for Nigerian English rhythm based on the observation of certain performance features such as:

- A proliferation of prominent syllables
- A tendency to have more or less even syllable duration than the native speaker.

Udofot's findings are quite interesting and the procedure more valid for generalization than that of Eka (1993) because her subjects were drawn from a wide range of linguistic, socio-economic and educational backgrounds. However, concerning the use of reduced vowels in Nigerian English, the following questions could be raised:

- Are certain vowels that are supposed to be reduced actually reduced in Nigerian English usage as observed by Udofot (2000)?

- How consistent are these forms in words and sentences of various users from different linguistic backgrounds to merit her generalization?

Udofot's full-vowel timing alternative to the previous description of Nigerian English rhythm as syllable-timed however may be questioned on the grounds that the rhythm descriptions are often based on equivalent rather than equal timing. For instance, the description of Standard English rhythm as stress-timed has not been viewed in terms of accurate timing as the term ordinarily implies but in equivalent terms. Many definitions of English rhythm have used the term 'roughly' to indicate that the timing is inaccurate (Dunstan 1969, O,Connor 1984).

It is also a matter of less controversy that there are many prominent syllables in Nigerian English. Having therefore observed

that stress-timing and syllable-timing do not imply equal timing but equivalent timing, the question therefore arises as to whether full vowel timing as proposed by Bolinger (1981) and suggested as an alternative description for Nigerian English by Udofot (2000) would mean that 'a full vowel followed by other reduced vowels' would be equal or equivalent to another of similar composition in Nigerian English.

Though it has been found to have accounted for the instrumentally measured facts of English more successfully than stress-timing, a major factor to be considered here as with earlier descriptions is that of equivalent rather than equal timing. Crutenden (1986) claims that with full-vowel timing, the rhythm groups are found to be roughly equal to one another when a full vowel is taken with the reduced vowels following it. These reduced vowels are seen as 'borrowing time' from the full vowel. The question then is if equal timing has been viewed as more of a perception phenomenon than it is (in precise

physical terms) in speech production, the question of not running into the same problem of accurate timing with full-vowel timing remains.

Gut and Milde (2002) also researched into the prosody of Nigerian English. Read and semi-spontaneous speech was analyzed acoustically based on durational cues. The subjects were five Nigerian speakers of English all born and educated in Nigeria. They all hold university degrees and they speak Ibiobio, Efik, Igbo, Edo and Yoruba as first languages. Three British speakers were used and two speakers of Anyi, two speakers of Ega and one speaker of Ibiobio constitute the West African participants.

According to Gut and Milde, significant differences were found between the speech rhythm and the syllable structures of Nigerian English and British English speakers. The tonal structure of Nigerian English speakers was also found to be more similar to that of a tone language than an intonational language. Though the claims of Gut and Milde are backed with some acoustic data and charts (which are scarce

in previous researches on Nigerian English), certain fundamental issues could be raised:

- The subjects, drawn from different linguistic backgrounds, were taken together as a homogenous group. As earlier mentioned, a viable study of spoken Nigerian English needs to take into consideration 'geo-tribal' peculiarities. Therefore, Gut and Milde's generalization, based on a mixture of subjects from different linguistic backgrounds, needs further clarification.

- Considering the population of Nigerian English speakers, the five subjects used are not significant enough for the kind of generalization made by Gut and Milde. Therefore there is a need for a larger number of subjects to verify the claims.

This current research on vowel weakening and unstressed syllable obscuration in educated Yoruba English is therefore a geo-tribal approach to the study of Nigerian English rhythm. It intends to review the earlier description of Nigerian English rhythm as syllable-timed in comparison with Udofot's full-vowel timing suggestion.

There is however the assumption that Nigerian English rhythm tends more towards full-vowel timing than stress-timing. But if there is a fair agreement on the notion that there are more full vowels in Nigerian English than reduced vowels, will the attempt at a full-vowel description not cyclically result in syllable-timing (especially when timing is not viewed in terms of equality but equivalence)? Udofot herself attests a tendency towards even syllable duration in Nigerian English.

CHAPTER THREE

3.0 Nigerian English

The question of whether there is a form of English that could be regarded as Nigerian or not has become irrelevant presently. This is because dominant in the literature reviewed is the recognition of the evolution of a form of English that is obviously different from Standard English and peculiarly Nigerian (see Banjo 1995). Making a reference to Adetugbo (1979, 1980) and Balogun (1980), Ogu (1992) notes that diachronically, a variety of English (though yet to be fully described) has been identified as Nigerian. Kachru (1995) also notes in his foreword to *New Englishes* that the African cannon of the English language (of which Nigerian English is a variety) has been established and recognized and that it is indeed a vital component of World Englishes.

Obviously there are features at every level of language that could be marked distinctively as Nigerian (see, Ufomata 1990, Jowitt 1991, Egbe 1992). Rather than belabor the question of whether

CHAPTER THREE

3.0 Nigerian English

The question of whether there is a form of English that could be regarded as Nigerian or not has become irrelevant presently. This is because dominant in the literature reviewed is the recognition of the evolution of a form of English that is obviously different from Standard English and peculiarly Nigerian (see Banjo 1995). Making a reference to Adetugbo (1979, 1980) and Balogun (1980), Ogu (1992) notes that diachronically, a variety of English (though yet to be fully described) has been identified as Nigerian. Kachru (1995) also notes in his foreword to *New Englishes* that the African cannon of the English language (of which Nigerian English is a variety) has been established and recognized and that it is indeed a vital component of World Englishes.

Obviously there are features at every level of language that could be marked distinctively as Nigerian (see, Ufomata 1990, Jowitt 1991, Egbe 1992). Rather than belabor the question of whether

Nigerian English exists or not, Bamgbose in an article published in the *National Concord* of eleventh of July, 1986, proposed that the concentration should be on the interesting task of specifying, describing and analyzing the forms of this variety (c.f. Jibril 1982).

After this publication, a lot has been done on the task of describing the Nigerian English in relation to phonology, syntax, lexis and semantics. Notable scholars in these different fields have come out with different data to support their claims that there exists a variety of English that is Nigerian (see Kujore 1985, Ufomata 1990, Jowitt 1991,Banjo 1995). Jowitt claims that there is such an abundance of data that a sizeable team is needed to collect and catalogue them.

However, what has been observed in the literature reviewed for the present work is that much has been done in the area of lexis, syntax, semantics and segmental phonology, while much is still left undone in the area of the Nigerian English suprasegmentals especially on the rhythm of Nigerian English. Remarkable contributions in this area are the works of Eka (1985) and Udofot (2000). Though they both worked on the description of the rhythm of Nigerian English, Eka,

describes the rhythm of Nigerian English as inelastic-timed while Udofot proposes Bolinger's full-vowel timing theory. However, in the two works, vowel weakening and unstressed syllable obscuration (though mentioned) have not been thoroughly focused upon, especially the acoustic description. Therefore, the present study of vowel weakening and unstressed syllable obscuration in Educated Yoruba English is an attempt at defining the quality and quantity of the vowels found in unstressed positions in Educated Yoruba English and how they influence the peculiar rhythm of that 'geo-tribal' variety of Nigerian English. This has been, hypothetically, observed to be markedly different from that of Standard English.

This work emphasizes Nigerian English usage so as to avoid the controversy generated by the term *Nigerian English* especially in relation to standardization. Though (as earlier observed), there is a fairly general agreement on the existence of certain features that are typically Nigerian, the question of whether these variations are passable as standard forms as one would refer to British English and

American English has generated (and is still generating) much controversy.

According to Adeniran (1977:228) the first procedural question the linguist has to answer is which of the varieties of the language used in the community (in speech, writing or in both) is to be picked as the standard? He therefore goes on to adopt Robin's (1964:57) definition of the standard variety as that 'dialect enjoying prestige as the speech of educated people of the capital city or of some other socially respected group'.

Kachru (1987) identifies 'four arms of codification' (i.e. agents of standardization) as: authoritative (e.g. the academies set up for some languages in Europe); sociological, attitudinal; psychological and educational (e.g. through the use of instruments such as the dictionary, the mass media etc). Banjo (1995), on the other hand, views social acceptability and international intelligibility as essential criteria for identifying a standard. He however explains that though social acceptability is clearly subject to the democratic process and

international intelligibility more elite inclined, the standard will have to be located between the products of the two criteria.

The need for the codification of the variations referred to as Nigerian English has been emphasized. For instance, Kujore (1990) notes that the establishment of the Standard variety of Nigerian English has remained a myth because of the lack of codification of these variations. Therefore, Banjo in his foreword to Kujore's *English Usage: Some Notable Nigerian Variations* craves for a purely descriptive study in terms of *how* the language is spoken rather than *who, why* and *when* - these being sociolinguistic concerns (see also Jowitt 1990). According to Kujore (1985), there is therefore the need to describe these variations scientifically for the effective codification of its grammar and form so as to have a common point of reference to which learners and users may turn for normative guidance.

3.1 Nigerian English and Its Stratification

Having ascertained that there is a particular type of English that could be termed Nigerian; there is the need to visit the term *Nigerian*

English for a clarification of description. Odumuh (1998) describes the term *Nigerian English* as used in Nigeria from two senses. According to him, in one sense it is used to refer to a dialect of English which is neither pidgin nor Standard British English found in Nigeria (this description being elastic and permitting shades of variation). In another sense, it is viewed as denoting Standard Nigerian usage. The second sense of use in Odumuh's classification is more relevant to the present study. This work is an attempt at describing the quality and quantity of the vowels found in unstressed positions and whether unstressed syllables get obscured (as is the case in Standard English) or not in educated Yoruba (Nigerian) English usage. This will consequently be a contribution towards a definition of a standard spoken form of Nigerian English.

Banjo (1971) stratifies the English spoken in Nigeria using points on a cline. This was done based on the extent of mother tongue influence and approximation to world standard. Variety 1 is said to have the greatest density of mother tongue transfer, Varieties 11 and 111 as being locally acceptable and internationally intelligible but

obviously with variations that differ from the standard, and Variety 1V as the spoken form of those that have been exposed to English in first language settings .He therefore recommends Varieties 11 and 111 as 'endonormative models since they are home-grown' (c.f. Bamgbose 1995). Bamgbose (1995) however queries the inclusion of Variety 1V in the stratification since it does not arise in the same kind of circumstances as the other three that are 'home grown'.

Jibril (1982) stratifies Nigerian English using a 'geo-tribal' dichotomous approach. He employs terms such as Hausa English, Southern English, which he further stratifies into two as Yoruba and Igbo English (which he discusses as if they were sub-varieties of Southern English). He goes further to employ social terms such as Basic Hausa English and Sophisticated Hausa English, Southern and Sophisticated Southern English, and even Southern-Influenced Hausa English.

The idea of merging Southern English (whether Basic or Sophisticated) into one seems untenable since it is obvious that Yoruba (Nigerian) English differs from Igbo (Nigerian) English. For

instance, it has been observed that the vowel harmony principle of the Igbo language often affects the speaker's performance in English due to the fact that there is a tendency to transfer the principle to English (Ladefoged 1968, Williamson and Emenanjo 1992). Though the Northern/ Southern dichotomous classification of Nigerian English looks unrealistic, a basic fact is that in a multilingual society such as Nigeria, the influence of the local languages on the speakers' performance in English cannot be ignored. There must therefore be the study of geo-tribal varieties (such as this) so as to attain a standard based on points of convergence. It is incontestable that even when the evolving Nigerian English might have emerged as Standard Nigerian English it will still be marked by 'geo-linguistic' differences.

Jowitt (1991) identifies a broad concept of popular Nigerian English viewing the usage of every Nigerian user as a mixture of standard forms and Popular Nigerian English forms, which are in turn, composed of 'errors and variants'. His own proposed standard- The Near World Standard 'home grown' Nigerian English - also coincides with educational attainment.

The probing question at this juncture is whether it is actually possible to describe Nigerian spoken English in terms of geo-tribal dichotomies or as an entity. This is because the spoken Nigerian English may not submit easily to generalization, as may be the case with syntax and lexis because of the greater influence of the mother tongue. It may therefore be easier to describe Nigerian English in terms of tribal groupings such as Yoruba Spoken English, Igbo Spoken English and Hausa Spoken English. Another problem to encounter is the fact that these tribes have dialectal variant forms. There is also the problem of the many minority languages with their peculiar spoken forms.

This work therefore concentrates on the variety of English of Educated considering the fact that the Received Pronunciation (RP) which is taken as British Standard English does not belong to any geographical setting and is therefore devoid of dialectal constraints. It was abstracted from educated speeches and recognized as the model for teaching and learning (especially for second language teaching) and prestige broadcasting (see 1.7).

3.2. Nigerian English Vowels

It seems a matter of less controversy that Nigerian spoken English has its peculiar features at the segmental as well as supra-segmental levels (Dunstan 1969, Adegbite and Akindele 1992, Odumuh 1993, Banjo 1995, Bamgbose 1995).According to Dunstan (1969) it is with vowels that speakers of the Nigerian languages have particular difficulty because only few of the Nigerian languages have more than seven vowels while some even have fewer. Therefore learning to make the number of contrasts required for English is hard for them.

Odumuh (1993) claims that Nigerian English vowels /i: e a u: ei ai / may be said to have approximately the same quality as their counterparts in SBE (Standard British English). He goes further to identify two cases of what he terms 'vowel coalescence' claiming that /a/ and /a: / coalesce into /a:/, /e/ and /3:/ coalesce into /3:/ and that / u / in SBE is usually rendered /ua/ or /u:/ in Nigerian English. Apart from the vowel length distinction, which does not seem a feature of Nigerian English, which Odumuh marked as its feature,

the source of Odumuh's data is not stated and the question of whether Nigerian English, especially the spoken form, could be marked collectively without consideration for first-language-influenced differences seems unrealistic. Jibril (1982) also proposed the following vowels for Nigerian English:

i:	ʌ	aω
i	ɔ	
e	ɔ:	
ɛ	ω	
æ	u:	
a	a:	
ə	ɔi	

He also adds as marginal /iə , ɛə , ωə /and goes further to explain that though the vowels in Nigerian English are similar to RP, they differ in their distributions.

There is a need to critically observe Jibril's claims since he further proposes two vowel groups still based on the North/South dichotomy earlier discussed in section 3.1. This he did by putting up the argument that Igbo and Yoruba are so similar that 'little purpose

the source of Odumuh's data is not stated and the question of whether Nigerian English, especially the spoken form, could be marked collectively without consideration for first-language-influenced differences seems unrealistic. Jibril (1982) also proposed the following vowels for Nigerian English:

i:	ʌ	aω
i	ɔ	
e	ɔ:	
ɛ	ω	
æ	u:	
a	a:	
ə	ɔi	

He also adds as marginal /iə , ɛə , ωə /and goes further to explain that though the vowels in Nigerian English are similar to RP, they differ in their distributions.

There is a need to critically observe Jibril's claims since he further proposes two vowel groups still based on the North/South dichotomy earlier discussed in section 3.1. This he did by putting up the argument that Igbo and Yoruba are so similar that 'little purpose

will be served by setting up a different vowel system for each of them'. This however is a basis for further research since current work is not on vowel differentiation but rather on the quality and strength of the vowels found in unstressed positions in educated Yoruba English.

Another important observation is that the vowels proposed as Nigerian English vowels look like a summary of the vowels proposed for the regional varieties. Jibril's claims are basically derived on the basis of impressionistic means and they are not backed up with acoustic facts to give credence to the claims.

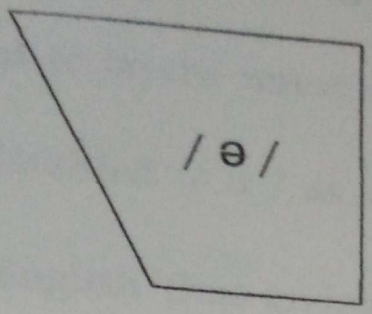
3.2.1 Vowels / ə / and / ɪ / in Standard English and Nigerian English Usage

Four different kinds of sounds that often function as syllabic peaks of weak syllables are attested in Standard English. These are: / ə, ɪ, ʊ / and any of the syllabic consonants /ŋ̩, n̩, m̩ / (Gimson 1975, O,Connon 1975, Roach 1991, Onuigbo 1996) . The most remarkable of these sounds are / ə /, / ɪ/ and / ʊ / (in that order) since / ə / does not occur at all in stressed syllables while the other sounds could

function both in stressed and unstressed positions. Phonologically, in Standard English the presence of the vowel / ə / in a syllable automatically signals the syllable as unstressed.

/ ə /, a mid- central and lax vowel produced with the lips in neutral position and the tongue lying almost inert in the floor of the mouth with only a slight arch in the centre, has the highest rate of occurrence in Standard English. This is because vowels that are realized in their strong forms in stressed positions get reduced to the weak vowel / ə / in unstressed positions e.g. /æ/ in *drama* / dræmə / gets reduced to / ə / when the stress shifts in *dramatic* /drəmætɪk /. It should however be noted that though it is a common occurrence to reduce strong vowels to / ə / in unstressed positions in English, it is not always the case. There are certain exceptions where strong vowels occur in unstressed positions (see also Onuigbo 1996).

Figure 8



/ ə / Mid- Central and Lax

/ɪ/, another sound that is commonly found in unstressed positions in English has been described as a close front unrounded vowel in the general area of /i:/and /i/ which are strong vowels. Roach (1991) claims it does not possess the exact quality of the / ɪ / that is found in stressed positions. Contrary to what is common in the literature reviewed, he proposes the /i/ symbol since:

> The / i / vowel is neither the / i: / of 'beat' nor the / ɪ / of 'bit' and is not in contrast with them.

The same applies for / ʊ / which he claims:

> is neither the / u: / of 'shoe' nor the / ʊ / of 'book' but a weak vowel that shares the characteristics of both.

The most frequently occurring vowel in Standard English, / ə /, has been observed to be the rarest sound in Nigerian English usage. Ufomata (1990) identified / ə / as a reduced vowel sound that is not used in Nigerian English 'thus giving an appearance of many accented syllables in an utterance and a preponderance of strong forms'. She argues further that the typical rhythm of Standard English is lacking in Nigerian English due to the absence of the schwa / ə / in the unstressed syllables where, rather, the strong vowels are often used.

Jibril (1982) claims that a sound that is similar to Standard English / ə / is present in Hausa and that it is the phonetic exponent of certain Hausa short vowels. He observed in his study that Hausa English / ə / lives up to the reputation of RP / ə / as a 'convenient resting-ground for off-duty vowels' since the RP / ə / tested in his study surfaced as / ə / 53.6 per cent of the time in Hausa English regardless of what its orthographic representation was. He however found out that its distribution does not correspond to that of RP.

Jowitt (1991) also attests that RP / ə / occurs only in unstressed syllables and can be regarded as an end product of stress-timing but that this kind of weakening does not occur in Nigerian English MTS (mother tongues) or PNE (Popular Nigerian English). He claims that the sound / ə /, though present in Hausa English does not manifest in the position it occupies in RP. According to Jowitt, the RP / ə / is often realized as [a] in Hausa English and Hausa English / ə / may feature even in stressed syllables as opposed to the phonological distribution of RP / ə /.

3.3 Stress Assignment in Nigerian English

There is a fair agreement on the notion that stress and other suprasegmentals of pitch as important features of spoken English language are problematic for Nigerian users of English (Dunstan 1969, Banjo 1970, Kujore 1991, Onuigbo 1996). Kujore (1985) draws our attention to two major areas (which are of much relevance to the present study) in Nigerian English usage: the area of stress patterns

and vowel sounds. According to him, the most striking characteristic of Nigerian pronunciation is the 'delayed primary stress, a feature which seems to betray the influence of local languages with a rising rhythm as opposed to the falling rhythm of Standard English'. Kujore attempts defining the stress assignment rules of Nigerian English and came up with the following:

- The principal stress falls on the last syllable of verbs ending with -ass, -ate, -bit,-fy, -ise/-ize/-yse, -ish, -ment, -ute e.g. *canvass, abbreviate, exhibit, amplify, advertise, distinguish, comment, attribute.* The same applies to nouns ending with –ene, -ine,--oir, -in, one e.g. *gangrene, ampicilin, iodine, abattoir, baritone.* Compound nouns and forms such as *aeroplane, backbite, wardrobe, watchman* are also noted to have their stress assigned to the last syllable.

- Some words are also noted to have their stress assigned to the penultimate syllable e.g. *advertisement, beneficent, embarrassment, omnipotent.* Nouns that end with –er, -or, -sphere are also affected by this rule e.g. *accelerator, fertilizer, atmosphere.*

He observes that certain words that end with –ive, –tory and –ture that could function as nouns and adjectives are also assigned penultimate stress. E.g. *administrative, primitive, accusative, ablative, compensatory, laboratory, agriculture, legislature.* Kujore discusses instances of stress pattern reversal as in *acute, cabal, canoe, cassette* where the first syllables are assigned the primary stress in Nigerian English rather than the second syllables which are assigned the stress in Standard English.

Though approached from different perspectives, there is a striking resemblance between the analysis of Kujore (1985) and Jowitt (1991). Jowitt observes a tendency to shift the primary stress to the right in Nigerian English. This he notes to be more systematic with verbs than with nouns and adjectives. Compound words and complex noun phrases with pre-modification have been observed to have a tendency to shift primary stress as far to the right as possible.

Jowitt (ibid) observes that at the sentence level, the same endency is there to shift stress as far to the right as possible. This,

according to him, results in a tendency to assign nuclear stress to an unsuitable word in the sentence. He also notes that the contrastive use of stress, which is important in Standard English, is not often used in Nigerian English. When there is the need to emphasize a particular word in contrast with other words in a group in Standard English, the nuclear stress is assigned to that word irrespective of its location in the group e.g.

The *lecturer* bought the Benz. (Not the *student*)

However in the opinion of Amayo (1980), in Nigerian English usage stress is converted to tone. The conversion formula is 'primary stress converts to high tone, all other stresses to low tone'. He also claims that the mid-tone that appears in some form of Nigerian English is a variant conversion of secondary and tertiary stress.

3.4 The Rhythm of Nigerian English

Rhythm has been found a major area of deviation by Nigerian speakers of English from Standard English usage (O'Connor 1984,

Ufomata 1990, Gut and Milde 2002). Despite the fact that Standard English has been described as stress-timed (though a new description of full-vowel timing has been proposed), Nigerian English has never been described as stress-timed due to the marked difference between the rhythm of Nigerian English and that of Standard English. Nigerian English rhythm has earlier been described as syllable-timed due to the supposed influence of the Nigerian languages, which are mostly tonal (Dunstan 1969, Adetugbo 1977, Amayo 1980, Bamgbose 1982, O'Connor 1984, Jowitt 1991, Milde and Gut 2002).

According to Dunstan, however close a Nigerian speaker may approximate to consonant and vowel quality, if he uses syllable-timing when speaking English, he may well be faced with the problem of total incomprehension on the part of any listener who is a native speaker of English. O'Connor also sees such language as Yoruba which possesses syllable rhythm as a hindrance to its speakers in acquiring the rhythm of the English language since 'if every syllable is made the same length

in English it gives the effect of a machine-gun firing and makes the utterance difficult to understand'.

However in recent times, the description of Nigerian English as syllable-timed has been questioned. Eka (1993) studied rhythm in the English speeches of some penultimate year Education English undergraduates and suggests that Nigerian English be better described as 'inelastic-timed'. He claimed that Nigerian English does not possess the rhythm of Standard English due to the failure to 'squeeze-in' or stretch-out' the syllables in a rhythm unit as is the case in Standard English which he claims is 'elastic-timed'. The in-elasticity of Nigerian English, according to Eka, is caused by the frequency of more prominent syllables than used by native speakers. What is observed here looks more like a terminology switch than a totally new description since 'elastic' and' in-elastic timing' as used in the work seems to reflect the age-long distinction between stressed-timed and syllable-timed languages.

Udofot (2000) also carried out research on the rhythm of Nigerian English offering an alternative to the earlier description of syllable-timing. The subjects, whom she selected by a stratified random sampling technique from twenty linguistic groups in Nigeria were sixty Nigerians of varied linguistic, educational and socio-economic backgrounds. The rhythm of their speech forms was compared to that of a native speaker and a striking difference was observed. She likens the rhythm of educated Nigerian spoken English to 'the pulsation of an African drum, heard as rhythmic but hardly varying its tempo'.

She then opines that the stress-timing theory will not fairly describe Nigerian English rhythm and that syllable-timing, though observed in the speech forms of the 'Non-Standard Variety', will not be appropriate too. This she claims is because the tendency to use syllable-timing dwindles as one move up the Nigerian social strata to the standard and ultimately, the sophisticated.

Udofot also rejects Eka's inelastic-timing on the ground that though it is an apt description it cannot 'systematically apply'. The

argument she puts up as accounting for the claim above is that 'the analysis of the experimental groups shows some weak syllables and many strong syllables'. In other words there is a mixture of full and reduced vowels but the reduced syllables are not regular or predictable enough, nor are they 'squeezed in' or 'stretched out' within the given time." Udofot therefore proposes full-vowel timing as an alternative description for Nigerian English rhythm based on the observation of certain performance features such as:

- A proliferation of prominent syllables
- A tendency to have more or less even syllable duration than the native speaker.

Udofot's findings are quite interesting and the procedure more valid for generalization than that of Eka (1993) because her subjects were drawn from a wide range of linguistic, socio-economic and educational backgrounds. However, concerning the use of reduced vowels in Nigerian English, the following questions could be raised:

- Are certain vowels that are supposed to be reduced actually reduced in Nigerian English usage as observed by Udofot (2000)?

- How consistent are these forms in words and sentences of various users from different linguistic backgrounds to merit her generalization?

Udofot's full-vowel timing alternative to the previous description of Nigerian English rhythm as syllable-timed however may be questioned on the grounds that the rhythm descriptions are often based on equivalent rather than equal timing. For instance, the description of Standard English rhythm as stress-timed has not been viewed in terms of accurate timing as the term ordinarily implies but in equivalent terms. Many definitions of English rhythm have used the term 'roughly' to indicate that the timing is inaccurate (Dunstan 1969, O,Connor 1984).

It is also a matter of less controversy that there are many prominent syllables in Nigerian English. Having therefore observed

that stress-timing and syllable-timing do not imply equal timing but equivalent timing, the question therefore arises as to whether full vowel timing as proposed by Bolinger (1981) and suggested as an alternative description for Nigerian English by Udofot (2000) would mean that 'a full vowel followed by other reduced vowels' would be equal or equivalent to another of similar composition in Nigerian English.

Though it has been found to have accounted for the instrumentally measured facts of English more successfully than stress-timing, a major factor to be considered here as with earlier descriptions is that of equivalent rather than equal timing. Crutenden (1986) claims that with full-vowel timing, the rhythm groups are found to be roughly equal to one another when a full vowel is taken with the reduced vowels following it. These reduced vowels are seen as 'borrowing time' from the full vowel. The question then is if equal timing has been viewed as more of a perception phenomenon than it is (in precise

physical terms) in speech production, the question of not running into the same problem of accurate timing with full-vowel timing remains.

Gut and Milde (2002) also researched into the prosody of Nigerian English. Read and semi-spontaneous speech was analyzed acoustically based on durational cues. The subjects were five Nigerian speakers of English all born and educated in Nigeria. They all hold university degrees and they speak Ibiobio, Efik, Igbo, Edo and Yoruba as first languages. Three British speakers were used and two speakers of Anyi, two speakers of Ega and one speaker of Ibiobio constitute the West African participants.

According to Gut and Milde, significant differences were found between the speech rhythm and the syllable structures of Nigerian English and British English speakers. The tonal structure of Nigerian English speakers was also found to be more similar to that of a tone language than an intonational language. Though the claims of Gut and Milde are backed with some acoustic data and charts (which are scarce

in previous researches on Nigerian English), certain fundamental issues could be raised:

- The subjects, drawn from different linguistic backgrounds, were taken together as a homogenous group. As earlier mentioned, a viable study of spoken Nigerian English needs to take into consideration 'geo-tribal' peculiarities. Therefore, Gut and Milde's generalization, based on a mixture of subjects from different linguistic backgrounds, needs further clarification.

- Considering the population of Nigerian English speakers, the five subjects used are not significant enough for the kind of generalization made by Gut and Milde. Therefore there is a need for a larger number of subjects to verify the claims.

This current research on vowel weakening and unstressed syllable obscuration in educated Yoruba English is therefore a geo-tribal approach to the study of Nigerian English rhythm. It intends to review the earlier description of Nigerian English rhythm as syllable-timed in comparison with Udofot's full-vowel timing suggestion.

There is however the assumption that Nigerian English rhythm tends more towards full-vowel timing than stress-timing. But if there is a fair agreement on the notion that there are more full vowels in Nigerian English than reduced vowels, will the attempt at a full-vowel description not cyclically result in syllable-timing (especially when timing is not viewed in terms of equality but equivalence)? Udofot herself attests a tendency towards even syllable duration in Nigerian English.

CHAPTER FOUR

4.0 Theoretical Framework

4.1 Phonological Theories

According to Giegerich (1992), a theory is a set of devices employed to account for (or perhaps 'explain') a given range of phenomena. It can therefore be said that phonological theories should account for the phonetic regularities that occur in the speech events of a language. No valid discussion of language phenomena can be done without employing theoretical constructs in the analysis of whatever is perceived as linguistic facts. This chapter therefore aims at discussing some phonological theories with particular emphasis on those that are employed in the present research and the reasons for the selection of such theories.

4.1.1 Generative Stress Rules

One of the theoretical constructs employed in the present research is metrical theory which is an offshoot of generative phonology. Therefore, there is a need to discuss generative phonology for a clearer presentation of the metrical theory. In *The Sound Pattern*

of English (SPE), Chomsky and Halle formalized stress rules for English. Crutenden (1986) terms the effort as the most influential for over fifteen years. The basic assumption of SPE is that in most cases, rather than mark stress in the lexicon, it can be predicted by rules and that the many exemptions to these rules do not invalidate the general rules.

The stress rules of SPE apply to the output of the syntactic component of grammar. That is, to a surface structure with 'a proper labeled bracketing of a string of formatives'. When the stress rule is to be applied to a sentence for instance, certain readjustments have to be made before the stress rules can apply. The sentence has a constituent structure marked and each constituent has a category label such as N(Noun), V(Verb) or NP(Noun Phrase). The surface structure is readjusted by being divided into 'phonological phrases'. These phonological phrases, according to Crutenden, are often coterminous with sentences.

Stress therefore applies cyclically within sentences. It applies first to the smallest constituent such as stems or words without affixes, then to larger constituents such as stems with affixes, then to even larger constituents such as compounds and phrases; and ultimately to phonological phrases which are viewed as being coterminous with sentences in SPE. According to Schane (1973) cyclic rules have three essential properties:

- The rules make reference to syntactic categorization
- The entire set of rules can be applied more than once
- The manner in which the rules are applied in each cycle is determined by the size of the syntactic units-the rules apply to increasingly larger syntactic constructs.

In SPE, all vowels are initially marked as [- stress]. Particular vowels are then assigned primary stress by rule and then marked as [1 stress]. Any previous stress is then weakened each

time [1 stress] is applied. This converts the initial primary stresses to secondary and secondary stresses to tertiary e.g. *education*

[[educat] ion]

1
1 2} } First cycle

1 3}
2 1}
} Second cycle
3 1}

The final vowel of 'educat-' is assigned the primary stress (i.e. [1 stress]) in the first cycle because it is long. However since words with long final vowels that are more than two syllables long may be assigned a primary stress on the antepenultimate vowel, the primary stress is therefore assigned to 'e-'. The initial [1 stress] which was assigned to '-cat' is therefore downgraded to secondary (i.e. [2 stress]). Since primary and secondary stress cannot both occur in a word, the secondary stress is further downgraded to tertiary (i.e. [3 stress]). The first cycle therefore explains the assignment of stress to the verb form 'educat-'

The addition of the suffix '-ion' in the second cycle accounts for the reassignment of stress. The suffix '-ion' by rule will assign stress to the vowel immediately preceding it. The penultimate syllable of any word ending with the suffix -ion is usually assigned the primary stress. The primary stress is then relocated. Therefore the final vowel of the stem receives [1 stress] again and the previous stress on the first vowel 'e-' gets downgraded to [2 stress] and further to [3 stress].

When stress is applied above the word, a distinction is made between compound words and other constituents above the word. When the group is a compound word, [1 stress] is reassigned to the left element of the group or pair after each must have been initially assigned [1 stress]. The compound Rule assigns stress to the left element of a compound word e.g.

Black board (a board on which we write)

1 1 Main Stress Rule

1 2 Compound Rule

However, in the case of higher constituents above the word such as with phrases and sentences, the Nuclear Stress Rule is applied after the Main Stress Rule must have been applied. The Nuclear Stress Rule assigns primary stress to the rightmost element of a phrase or sentence. Therefore the right element is reassigned the [1 stress] while all other initial stresses are downgraded further e.g.

black	board	(a board that is black)
1	1	Main Stress Rule
2	1	Nuclear Stress Rule

The Nuclear Stress Rule as earlier expressed also applies above the phrase e.g. *Old Tom grows roses.* Applying the Main Stress Rule, each word will be assigned [1 stress]. The Nuclear Stress Rule will assign

[1 stress] to the right element of the NP *Old Tom* and the VP *grows roses.* When the two phrases are put together in the sentence, the right element *roses* is reassigned [1 stress] while the other stresses are further downgraded – primary to secondary and secondary to tertiary.

Old Tom grows roses

1 1 1 1 Main stress Rule

2 1 2 1 Nuclear Stress Rule (phrase)

3 2 3 1 Nuclear Stress Rule (sentence)

Adapted from Crutenden (1986)

4.1.2 Metrical Phonology

Metrical Phonology (as earlier mentioned) is an offshoot of Generative Phonology. Liberman and Prince (1977) initiated metrical phonology as an alternative approach to stress description due to the dissatisfaction with the SPE system. The SPE considers stress as a feature (such as nasality) such that sounds could be described as [+stress] or [-stress] using the binary approach. Metrical phonology is

therefore a reinterpretation of the basic descriptive data contained in SPE. It is a family of sub-theories of generative phonology intended to characterize insightfully the properties of stress and stress rules. According to Hayes (1992), metrical theory holds that unlike other phonological properties, stress is not a feature but rather the hierarchical rhythmic organization of utterances.

To Liberman and Prince (1977), the phonetic and phonological differences between stress and other ordinary features (such as nasality and voicing) can only be accounted for if the assumption that stress is a feature is abandoned. Phonetically, stress has been found to be unusual since it has no invariant physical correlates but is rather an abstract property that is instantiated physically by a variety of mechanisms (such as length and pitch) which differ across languages. Phonologically, stress has been found to possess the following characteristics:

- It is culminative: each word or phrase has a single strongest syllable. Stress is rhythmically distributed: syllables bearing equal levels of stress tend to occur at roughly equal intervals

whereas a rhythmic distribution of phonological property other than stress is rare.

- Stress is hierarchical: in most stress languages, stress occurs in an indeterminate number of degrees (primary, secondary, and tertiary) unlike other feature that have a limited predetermined number of contrasting phonological values (Hayes 1992).

4.1.3 Metrical Stress Rules

Metrical phonologists believe phonological representations are not strictly linear and that they do not merely consist of segments arranged in a sequence like beads on a string. Rather segments are viewed as constituting the bottom level of a hierarchy of phonological units (Giegerich 1992). Napoli (1996) identifies a prosodic hierarchy which has at its base mora. Mora groups into syllables, syllables into foot and foot into prosodic word e.g.

PW	Prosodic Word	misesipi	(1)
F	Foot	mise sipi	(2)
σ	Syllable	mi se si pi	(3)
μ	Mora	mi se si pi	(4)

(Napoli 1996)

The levels of the prosodic hierarchy form the domains that are relevant to stress and rhythm.

Metrical phonologists reinterprete the basic descriptive data of SPE by eliminating the numbering of stress levels with its characteristic lowering each time [1 stress] is added. These are replaced by a system in which stress is defined on a tree structure in which nodes are used. These nodes divide binary into Strong (S) and Weak (W) nodes. Sister nodes are labelled S W or W S . S stands for stronger than W and W stands for weaker than S. No other labelling or branching is permissible. Therefore, branching such as:

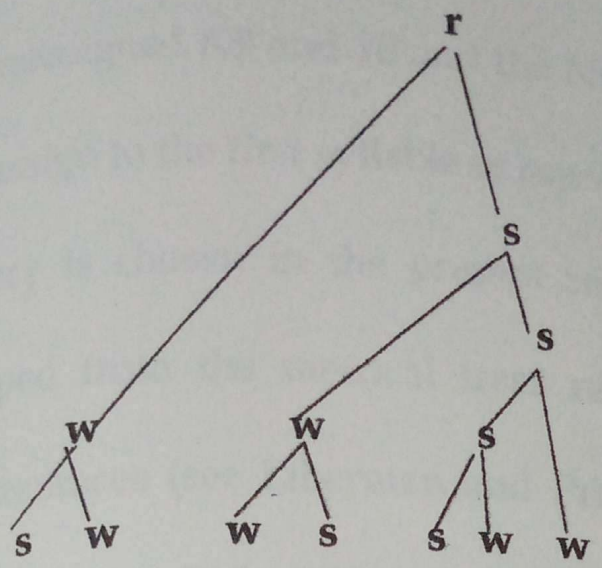
S S W W

are not allowed. This does not only apply at word level but also at sentence level.

An English Stress Rule (ESR) assigns [+ Stress] to all the vowels in words. This is done by repeated application beginning from the end of a word. Like SPE, this involves skipping in certain cases over short vowels or vowels that are followed by only one consonant. The ESR assigns plus and minus notations to the binary features (Crutenden 1986).

The Metrical Stress Rule erects a tree structure on the basic framework provided by the [+ Stress]. This structure assigns (S)trong and (W)eak nodes in a hierarchy of relative prominence. All the vowels that are [- Stress] are associated with weak syllables while the vowels that are [+ Stress] are associated most commonly with strong syllables (though in some cases they are associated with weak syllables). The two rules that govern the assignment of the S and W nodes are Lexical Category Prominence Rule (i.e. LCPR) for words and Compound and Nuclear Stress Rule (NSR) for constituents above the word.

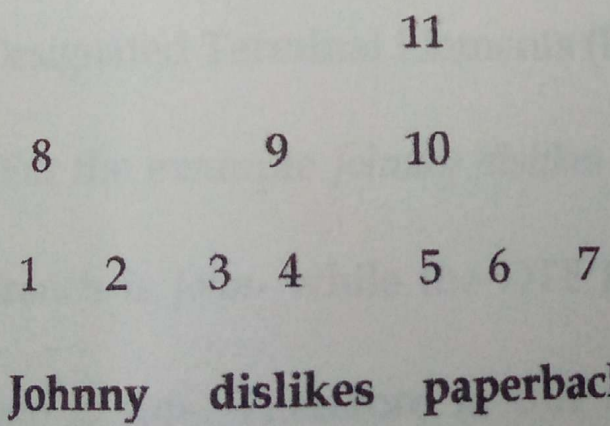
Figure 9



Crutenden (1986)

Figure 10

The Metrical grid for the sentence is as follows:



Crutenden (1986)

There are seven syllables assigned the numbers 1-7, the stressed syllables are reassigned 8,9 and 10 and the Nuclear Stress Rule (NSR) is applied to assign to the first syllable of *paperback* the Nuclear Stress. Metrical theory is chosen in the present research because metrical grids developed from the metrical trees represent the timing and rhythm of utterances (see Liberman and Prince 1977). The Relative Prominence Projection Rule (RPPR) is applied on the tree to construct the grids. According to Liberman and Prince:

> In any constituent in which the strong-weak relation is defined, the designated terminal element of its strong subconstituent is metrically stronger than the designated terminal element of its weak subconstituent.

The Designated Terminal Elements (DTE) are located at the base of the tree. For the example *Johnny dislikes paperbacks*, the DTE for the weak (W) branch is *John-* while the DTE for the strong (S) branch of the Root node is *pap-*. Therefore in this sentence, *Pap-* is metrically stronger than *John-* and should therefore be made more prominent in the group.

4.3 Rhythm Descriptions and Theories

All speeches that are fluently delivered without hesitation and interruption are said to have rhythm. Certain phonetic events are observed to recur at roughly isochronous intervals. These phonetic events are usually the determinants of the rhythm of such a language. Therefore, a language may be syllable-timed or stress-timed; and there is also the introduction of full-vowel timing for Standard English by Bolinger (1981). The phonetic event determines the timing; if the speech is syllable-timed the syllables will recur at isochronous intervals and if it is stress-timed, the stresses will do the same. With full-vowel timing, the full vowels are also viewed as occurring at regular intervals whether stressed or unstressed.

The earlier dichotomous classification of world languages into syllable-timed and stress-timed has been described as misleading (see Jibril 1982, Giegerich 1992). This is because some languages have been observed to show signs of being both syllable-timed and stress-timed. For instance in Spanish, both syllables and stresses have been

observed to recur at intervals that appear to be rhythmically structured. Giegerich (ibid) therefore views the distinction between stress-timed and syllable-timed languages as scalar rather than dichotomous. Some languages when put on the scale tilt towards stress-timing while others tilt towards syllable-timing. The one that is more characteristic of such languages therefore describes them.

Crutenden (1986:25) claims that although there has been a long adherence to the principle of foot isochrony on the part of phoneticians, experimental measurement of foot duration in English has not shown that foot isochrony exists on the production side of English speech. It has remained a matter of controversy. He therefore concludes that foot duration is more valid as a matter of perception rather than production.

4.2.1 Syllable-Timing Theory

The syllable-timing theory proposes that the rhythm of some languages is determined by the syllables that constitute the words of the language recurring at roughly isochronous intervals in connected

speech. This implies that for such languages, the syllables are uttered within equivalent timing units e.g. Yoruba:

Ajá ti ó gbé ẹja ni yi

Á ja ti ó gbe ẹ ja ni yi

1 2 3 4 5 6 7 8 9

The intervals from 1 to 2, 2 to 3 etc are viewed as roughly isochronous in Yoruba language. The need to refer to syllable-timing in this discourse is due to the fact that English is a second language in Nigeria. Since most Nigerian languages are tonal and consequently syllable-timed, the influence of tone and syllable-timing cannot be ruled out in a study of features relating to the rhythm of any of the sub-varieties of Nigerian English. It has already been established that the rhythm of Nigerian English differs markedly from that of Standard English (Dunstan 1969, O'Connor 1984, Ufomata 1990, Udofot 2000).

4.2.2 Stress-Timing Theory

English has been extensively defined as a stress-timed language (Dunstan 1969, O'Connor 1984, Onuigbo 1996). In a stress-timed language, stress is seen as occurring at roughly equal timing intervals in connected speech. Stress is therefore viewed as the important timing unit of connected speech in English. This theory therefore views stress isochrony as maintained by variation in the delivery rate of individual syllables. The durations of the syllables are not equivalent, as is the case in syllable-timed languages. Rather, some syllables are made prominent while others are rendered obscure and weak. Utterances are therefore divided into feet, a foot being a stretch of phonetic material that begins at the onset of a stressed syllable and ends at the onset of the next stressed syllable e.g.

`Mary ar`rived and `ran a`way
A → B → C → D

Irrespective of the number of syllables between them, stress-timing

theory proposes equivalent timing in the production of A-B, B-C and C-D. There are therefore 4 rhythm units in the sentence.

These are: /ˈmeɑrɪɑ /ʃraɪvdɑn/ ˈr ænɑ /ˈweɪ

4.2.3 Full-Vowel Timing Theory

The basic unit of rhythm identified by the full-vowel timing theory is a full vowelled syllable together with any reduced vowelled syllable(s) that follow it. Full-vowel timing was proposed by Bolinger (1981) and discussed in Crutenden (1986) as an alternative description for Standard English rhythm. This theory proposes that neither the syllable nor the number of stresses is the most important determiner of the rhythm of English. Rather, the patterns that are made in any section of continuous speech by the mixture of syllables that contain full vowels and those that contain reduced vowels are viewed as vital determiners of English rhythm. Each rhythm unit therefore consists of a full vowel and the entire reduced vowels before the next full vowel.

Full-vowel timing has been chosen as one of the theories for this analysis because there has been, in recent times, a proposition of this description for the rhythm of Nigerian English, stress-timing having been observed an impossible description for Nigerian English and syllable-timing being viewed as inappropriate (see Section 3.4). Full-vowel timing is therefore viewed as an alternative because it recognizes the influence of prominent syllables rather than stressed syllables (Udofot 2000).

However it has been observed that there are more prominent syllables with strong vowels in Nigerian English and that there is the possibility of the full-vowel timing application eventually equating with syllable-timing as a description for Nigerian English. This is due to the fact that reduced vowels are scarcely, if ever used (when used at all) by Nigerian speakers of English and the implication of this is the tendency for every syllable to contain a full vowel and consequently become a rhythm unit.

4.3 Pilot Study

The Pilot study was aimed at testing the set of research questions raised in section 1.8.1. Answers to these questions were sought from the data gathered from the subjects who read prepared texts that have been designed to test the precise language items the study intended to investigate. Being a pilot study, only one hundred educated Yoruba speakers were used and the analysis of the data was restricted to the perceptual aspect.

Educated Yoruba speakers from ages 20-50 who were born, nurtured and educated in Yorubaland in Nigeria were randomly selected from different work populations and sub-dialectal backgrounds. The majority of the subjects are university graduates from different fields of study and they have all undergone two to three years of post-secondary education.

Since it is difficult to know the exact number of the 'educated' Yoruba people due to the unavailability of such data, one hundred subjects were used for this pilot study considering the fact that

between 42% and 51% of the Nigerian population is educated and that Yoruba is only a language group out of over four hundred (See Grimes 1996). The concept 'educated', though not classified according to qualification by this source, is assumed in the present study to refer to people who have put in two to three years of post secondary education.

4.3.1 Analysis

The prepared texts used in testing the validity of the research questions raised were divided into two basic groups. The first, Section A tests unstressing in words, while Section B tests unstressing in sentences. Section A therefore tests the weakening of otherwise strong vowels in unstressed positions in:

(a) disyllabic words;

(b) polysyllabic words;

(c) cases of stress shift on words that may function as nouns/adjectives and verbs depending on the syllable that is stressed and the quality of the vowel;

(d) words that have their stresses shifted from their earlier positions to others due to the addition of certain suffixes;

(e) syllables with syllabic consonants as peaks or nuclei;

(f) nonsensical words to test the intuition of educated Yoruba users of English on stress assignment and vowel quality.

Section B tests the use of the weak forms of grammatical words or form words in English word groups.

4.3.2 Unstressing in English Content Words

English words of more than one syllable are known to have one of the syllables they are made of assigned primary stress. The vowel in the stressed syllable must be strong while there is a very high tendency for the vowel in the unstressed syllable to be weak. This phenomenon is tested in this section of the study.

4.3.2.1 Unstressing in Disyllabic and Polysyllabic words

The part on disyllabic words is aimed at testing the reduction of otherwise strong vowels to the weak vowels / ə / and /ɪ/ when they occur in unstressed positions in words of two or more syllables in Yoruba English usage. Monosyllabic words are not tested in this work because all monosyllabic English words bear stress on the only syllable they are made of when they occur in isolation. Consequently,

the rhythm phenomenon – vowel weakening - becomes irrelevant to them since each monosyllabic word must have stress assigned to the only strong vowel it possesses.

However, when two syllables are involved, one must take the primary stress while the other is unstressed. And where the syllables are many, one syllable will take the primary stress, another possibly the secondary stress while all others will be left unstressed.

To test unstressing by converting otherwise strong vowels to schwa / ə / in disyllabic words, 33 instances of / ə / occurred in the text which was read by one hundred subjects bringing the anticipated number of / ə / occurrence to 3300. The quality of this sound in Standard English is weak. This implies that all the tested sounds were expected to be rendered weak. The Educated Yoruba English (EYE) variants for the / ə / sound as found in the data are [a] which constituted 41.2% of the output, [ɔ] 33.7%, others (i.e. [e e: u u: o o: ɔ: i i: ɛ iɔ]) constituting 72.1% of the output. / ə /, the sound expected to be found in all the contexts of use constituted an insignificant 2.8% of

the tokens of occurrence. Only 2.8% of the tokens of occurrence were reduced (Red) while 97.2% were strong (Str).

Testing the reduction to / ɪ / sound in disyllabic words of Educated Yoruba English users, 1500 instances of reduction to / ɪ / in unstressed positions were expected. However, [ɛ] was realized in 60.6% instances, [e e: a ei] realized in 25.3% while [i] which is a close sound to the RP [ɪ] was realized in 12.2% of the instances of occurrence, and the weak [ə], 1.9%. There was an insignificant 14.1% output of reduced vowels while strong vowels totaled up to 85.9%.

The number of [ə] sounds anticipated in the test on unstressing in polysyllabic words was 4300. Only an insignificant 3.3 % of the number was realized as [ə] while 3.7% was elided and others realized as [a o ɔ e ɛ i u iɔ i ə] bearing 93% of the tokens of occurrence. Only 7% of the tokens were weak while 93% were strong. 1600 tokens of / ɪ / sounds were anticipated in the data gathered on the reduction of otherwise strong vowels to the weak / ɪ / in the polysyllabic words tested. Only 17.3% of the tokens were realized as [ɪ], 0.6% were realized as [ə], while a significant percentage of 67.6 was realized as

the strong vowel [ɛ]. 14.5% of the tokens was realized as the strong vowels [e: e ei ie]. The strong vowels in the data constituted 82.1% of the tokens while the weak vowels constituted 17.9%.

4.3.2.2 Unstressing in Stress shifts from Nouns/Adjectives to Verbs

Vowel weakening and unstressed syllable obscuration is also tested in words that could function as both nouns/adjectives and verbs by the use of stress shift from one syllable to another and the weakening of an otherwise strong vowel in the weak syllable. With nouns and adjectives in Standard English, the first syllable is assigned primary stress. However, in the data, 66.9% of the tokens of occurrence have their primary stresses assigned to the first syllable while 33.1% of the words tested have their primary stresses assigned to the second and third syllables respectively.

With verbs in Standard English, the stress should shift to the second syllable (i.e. 95% of the anticipated stress assignment should be on the second syllable while just a negligible 5% should be on the

first). In EYE, stress was appropriately assigned to the second syllable in 56.4% of the instances; it was assigned to the first in 41%, while it was assigned to the third in 2.6% of the instances. The observation here is that with words that could function as both nouns/adjectives and verbs, Educated Yoruba English users could assign primary stress fairly accurately.

However, with vowel weakening and obscuration in nouns/adjectives in Standard English, the first syllable, which bears the primary stress, should have no reduced vowels (Red.) because all the vowels are expected to be strong since they occur in stressed syllables. In EYE, 83.6% of the tokens of sounds were strong, while 16.4% were weak. With the verbs, 90% reduced vowel occurrences and 10% strong vowel occurrences were anticipated from the data in Standard English. The EYE variant, however, inappropriately presented 76.2% of the tokens of occurrence as strong vowels while appropriately reduced vowels constituted only an insignificant 23.8% of the tokens.

4.3.2.3 Unstressing in Words (Roots/Stems) with Suffixes

Some suffixes are known in Standard English to shift primary stress from their former position to another syllable in the word when they are added to roots or stems. This shift in stress in Standard English is usually accompanied in Standard English by vowel reduction such that the syllable to which the stress was initially assigned will have its strong vowel reduced to [ə].

In this study, 20 of such words were tested in the text read by the 100 subjects. The / e / sound in *phonetics* is supposed to get reduced to / ə / when the suffix *–ian* is added to the root. In EYE, there is 100% production of the strong sound / ɛ /. Such is the case with all the words tested in this section. All the vowels that were supposed to be weakened were retained by all the subjects in their strong forms e.g. *`grammar* / `græmə / and *grammarian* /grə`meəriən/. Rather than reduce the / æ / sound in the first syllable of *`grammar to* / ə / in *gra`mmarian*, the strong sound / a / is used in both instances. The only exception to this pattern is found in

`german, ger`manic where an insignificant 3% produced / ə / in the weak syllable. What is established here is a total deviation from the norm in Standard English.

4.3.2.4 Unstressing in Syllables with Syllabic Consonants as Peaks

In Standard English, syllabic consonants only occur in unstressed and supposedly weakened syllables. The test conducted on this revealed that there is a deviant treatment of such syllables in EYE where rather than use syllabic consonants, vowels were either inserted or substituted for the syllabic consonants. With the words *muddle, pebble, madden, panel* and *bottle,* a majority of the subjects produced [-dul], [-bul] [-din] [-nɛl] [-tul].

For *bacon, passion, television* and *ribbon,* [ɔ] was inserted in 68%, 83%, 99% and 57% of the instances of occurrence respectively. For *sizzle, wrestle, hospital,* [u] was inserted in 91%, 100% and 38% of the instances while for *happen, little,* and *principle,* 92%, 68% and 96% respectively. [a] was inserted in the realization of the words *peasant,*

principal, petal, and *total* in 89%, 98%, 99%, and 62%, of the instances of occurrence.

What is observed here is a total deviation from standard usage; rather than obscure the unstressed syllables by using the syllabic consonants as their peaks, they were converted to their non-syllabic counterparts with vowels inserted between them and the preceding consonants.

4.3.2.5 Unstressing in 'English' Nonsensical Words: Testing EYE Users' Intuition on Stress assignment and Vowel Weakening

Ten nonsensical words formed after the patterns of English words were used to test the intuition of the EYE subjects on stress assignment and vowel weakening. With the words *`dadal, da`dal* and *dada`dal,* where stresses were supposed to be placed on the 1st, 2nd, and 3rd syllables respectively, 74% of the EYE subjects appropriately assigned primary stress to the first syllable of *`dadal,* 71% inappropriately assigned stress to the 1st syllable instead of the 2nd syllable of *da`dal* while only an insignificant 29% assigned stress to the

correct syllable. In the case of *dada`dal*, where the 3rd syllable should be assigned primary stress, a marginal 57% appropriately assigned stress while 34% assigned stress to the 2nd syllable, and 9% assigned stress to the 1st.

For *in`pend* and *`inpend*, 59% of the subjects appropriately assigned stress to the 2nd syllable of *in`pend* while only 22% appropriately assigned stress to the 1st syllable of *`inpend* and 78% inappropriately assigned the primary stress to the 2nd syllable. For *a `bet, pro`soon, ex`tern, and ob`nort,* primary stress is appropriately assigned to the 2nd syllable by 50%, 42%, and 56% of the EYE subjects.

On the EYE subjects' intuition on vowel quality in unstressed syllables, it was realized that, the strong vowels were used in all instances of occurrence irrespective of whether the syllables in which they occur were stressed or not. As with earlier analyses, a substitution of vowels that are not English was observed; but these too were strong vowels.

4.3.3 Unstressing of Grammatical Words in English Sentences

English grammatical words such as auxiliary verbs, determiners, pronouns, prepositions and conjunctions are known to have their strong and weak forms. The strong forms are used in isolation and in contexts of emphasis while the weak forms are more commonly used in word groups. These weak forms were tested in the second part of the text read by the subjects.

4.3.3.1 Conjunctions

The conjunctions *and, that, but* and *or* were tested in the various forms they were expected to take when they occur in certain environments in weak contexts. Where *and* was expected to be realized as / m̥ / after labials such as /p/ (e.g. get up and dress up), it was realized as [an] by 54% of the subjects, while 46% realized it as [and] and none as /m̥ /. After velars, (e.g. bag and baggage), *and* is realized in Standard English as [ŋ̥] but it was realized by the majority of the EYE subjects (i.e. 58%)as [an], as [and] by 20%, as [ənd] by a negligible 13%, and as the appropriate [ŋ̥] by no one.

54% of the subjects realized *that* as [ðat]while 46% realize it as [dat], and no one produced the expected [ðət]. All the subjects (i.e. 100%) realized *but* as [bɔt] and no one produced the expected RP [bət]. *or* however was realized as [ɔ] by 100% of the subjects. The /ɔ/ produced could pass for the English/ ɒ /even though they are not the quite same (See Dunstan 1969). It was also observed here that the greater percentage of the vowel sounds realized as the variants of the anticipated Standard English forms were strong in quality.

4.3.3.2 Pronouns and Prepositions

Her was realized as [a] instead of the RP [ə] by 82% of the subjects, *to* which should have been [tə], as [to] by 50% and as [tu] rather than [tʊ] by 60%. In Standard English, *for* is realized as / fə / before a consonant or / fər / before a vowel. 92% of the EYE subjects, however, realized *for* as [fɔ] before a consonant, 100% of the instances while 92% produced [fɔ] again where / fər / was expected, i.e. before a vowel. Only a negligible 8% of the subjects observed the

consonant/vowel rule and no vowel reduction was observed in either contexts.

She was produced as [ʃɪ] in all the contexts of occurrence while *from*, which is produced in Standard English as / frəm / was realized by 96% of the subjects as [frɔm], while *of* was realized as [ɔf] rather than the Standard English [əv] by 100% of the subjects. *I* was realized as the strong diphthong [ai] rather than the Standard English weak sound [ə] in all contexts. *I'm* is [am] with the strong sound [a] in 50% of the instances while the remaining 50% was shared between [aiəm], [aəm], [aiem], and [əm] which occurred in a negligible 10% of the instances.

My, me and *you* were realized as [mai], [mi] and [ju] rather than the RP /mə /, /mɪ/ and /jʊ/in all contexts by all the subjects. *They* was [de] instead of the RP [ðə] in 58% of the instances of occurrence, [ðe] in 32% and as [ðə] in 10%. Where *there* occurred before a consonant and was expected to be produced as [ðə], it was produced

as [dea] in 49% of the instances of occurrence, as [ðea] in 41% and [ðə] in just a negligible 10%.

Where *there* occurred before a vowel and should have been produced as [ðər], it was still realized as [dea] in 50% of the instances while the other 50% was produced as [ðea]. *Us* was realized as [ɔs] instead of [əs] in 90% of the instances of occurrence and only in 10% of the instances was it realized it as [əs]. *his* was produced as [is] rather than the Standard English [ɪz] in all contexts.

4.3.3.3 Determiners

A was produced as [e] rather than [ə] by 87% of the subjects while *an* was produced as [an] rather than [ən] by 80%. In the context where *an* occurs after /t/ and /d/ and is expected to be realized as [n] in RP, all the EYE subjects realized it as [an]. In RP, *the* is produced as [ðɪ] when it occurs before a vowel and as [ðə] when it occurs before a consonant. In the pilot data, it was observed that no such distinction was made by the EYE subjects. Rather, [di] was used by 45% of the subjects, [ðɪ] by another 45% and [ðə] by only 10%. *Some* which was

supposed to be produced as [səm] was produced as [sɔm] by 90% of the subjects while a negligible 10% produced it as [s m] with a strong vowel.

4.3.3.4 Auxiliary Verbs

In Standard English, *shall* and *should* are realized as / ʃ əl / and / ʃəd / in weak contexts. A majority of the EYE subjects' i.e. 87% and 100% respectively, produced them as / ʃal / and / ʃud / (87%). *Have* was also produced as [av] rather than the weak RP / əv / in 89% of the instances of occurrence. In contexts where it should have been produced as [v] e.g. after I and other subject pronouns, the subjects produced 69% of the instances appropriately. This is most likely due to the clue provided by the orthography which represents them as I've, *we've, they've* etc.

Was was 100% realized as [wɔs], rather than [wəz], *were* before vowels as [wɛ] in 43% of the instances of occurrence, [wa] in 28%, while a negligible 8% realized the sound as [wə] and no occurrence of the appropriate [wər] was observed. *Does* was 100% realized as [dɔs]

as opposed to the RP /dəz / while *had* was also produced as [ad] rather than / əd / in 54% of the instances of occurrence. *Will* was realized in most contexts as /wil/ rather than the variants /l/, / l /, /əl / (i.e. 74%, 50% and 67% respectively). Rather than realize the RP /məst/ i.e. must and / ə / i.e. are, [mɔst] and [a] were 100% produced by all the subjects. *Do* which should be /də/ before consonants and /dʊ/ before vowels in unstressed weak contexts was constantly produced as /du/ by the EYE subjects.

4.3.4 Rhythm

Due to the largeness of the quantity of data gathered for this study, three sentences extracted from the text were used in the analysis of rhythm in this pilot study. This was to test the theories to be used in the analysis of the main work and their viability.

4.3.4.1 Full-Vowel Timing Analysis

1. 'Get up and dress up', Sam said to her.
2. Susan met Kate on her way to London.
3. Suddenly another man came from the crowd.

'Get up and dress up', Sam said to her.

Control/RP: [get ʌpm̩ dres ʌp sæm sedtʊə]

EYE: [gɛt ɔp an drɛs ɔp sam sɛd to a]

Susan met Kate on her way to London.

Control/RP: [su:sn met keitənə weitə lʌndən]

EYE: [su san mɛt ke:t ɔn a we: to lɔn dɔn]

3. Suddenly another man came from the crowd

Control/RP: [sʌdnliə nʌðə mæn keimfrəmðə kraʊd]

EYE: [sɔ̲ din li a nɔ ða man ke:m frɔm ði kraod]

All the indications are that the full-vowel timing description will be better for Nigerian spoken English rhythm than stress-timing which the evidence makes out as totally inapplicable. However, there is a cyclical implication of the full-vowel timing description resulting in syllable timing, since, as observed above, all the syllables produced by the EYE subject contained full vowels. If a rhythm unit is taken as a syllable containing a full vowel and all the syllables containing reduced vowels after it, then the data analyzed in this section clearly shows, different rhythm units were realized by the Control/ RP and the EYE subject. In Sentence 1, the Control/RP produced six rhythm

units while the EYE subject produced nine. In Sentence 2, whereas the Control/RP produced five rhythm units, the EYE subject produced eleven. In Sentence 3, there were five rhythm units realized by the Control/RP while the EYE subject produced eleven.

It therefore becomes important to note that it is the preponderance of strong vowels and the scarce use of reduced vowels by the educated Yoruba speakers of English tested in this pilot study that accounts for the disparity in the number of rhythm groups mentioned above. The findings of this study will therefore have to be considered against the background of the syllable timing description previously proposed for Nigerian English rhythm.

The conclusion of the present study is that, after a careful consideration of the larger data, there is a tendency for the full vowel description, i.e. the alternative description by Udofot (2000), to yield the same number of rhythm groups as the earlier syllable timing description.

4.3.4.2 Metrical Analysis

Two sentences extracted from the text were used in applying the metrical theory to the data. These are:

1. Suddenly, another man came from the crowd
2. As he waved he did an acrobatic display

	`Suddenly	a`nother	`man	`came	from the	`crowd
Control	S W W	W S W	S	S	W W	S
EYE:	S S W	S S S	S	S	S S	S

	As	he	`waved	he	`did	an	acro`batic	dis`play
Control:	W	W	S	W	S	W	WW S W	W S
EYE:	S	W	S	W	S	S	S S S W	W S

The tendency in EYE is to have many of the syllables that are supposed to be rendered weak produced in their strong forms in the sentences, especially words whose vowels should be assigned the feature [-Stress] were rendered in their strong forms and therefore assigned the feature [+Stress].

4.3.5 Findings from Pilot study

The quantitative component of the present study confirms the view that there is a preponderance of strong syllables in educated Yoruba English (EYE) and that little or no attention is ever paid to the

basic characteristic of Standard English where the weak vowel / ə / is the most frequently occurring vowel in word groups. The grammatical words that occur in the sentences were also produced in their strong forms rather than weakened by vowel reduction and elision, as is the case in Standard English.

The pilot study therefore demonstrated that educated Yoruba speakers of English have a stress assignment pattern that is markedly different from that of Standard English and that, the vowels that occur in the syllables taken to be unstressed in Standard English are actually produced in their strong forms. This study also provides some basis for insisting that a full-vowel timing analysis is very likely to yield the same number of rhythm groups, and as a result, end up becoming virtually synonymous with the earlier syllable-timing description of EYE arising from the almost total absence of reduced vowels in educated Yoruba English usage.

CHAPTER FIVE: PERCEPTUAL ANALYSIS

5.0 Main Data Analysis and Discussion

Three hundred educated speakers of Yoruba were made to read the texts used in investigating vowel weakening and unstressed syllable obscuration in Educated Yoruba English (EYE). They have put in two to three years of post secondary education. As earlier noted in the pilot study in Chapter Four, the prepared texts used in finding valid answers to the research questions raised in this study were divided into two basic parts. Part A tests the weakening of otherwise strong vowels in unstressed positions in:

- disyllabic words;
- polysyllabic words;
- cases of stress shifting on words that may function as Nouns/Adjectives and Verbs depending on the syllable that is stressed and the quality of the vowel;
- words that have their stresses shifted from their earlier positions to others due to the addition of certain suffixes;
- Syllables with syllabic consonants as peaks or nuclei;
- Nonsensical words designed to test the intuitions of Nigerian users of English vis-à-vis stress assignment and vowel quality.

Part B tests the use of the weak forms of function words in English word groups.

5.1 Word Stress

5.1.1 Vowel Weakening and Word Stress

When English words occur in isolation, they are usually stressed irrespective of whether they are content words or function words. When they are monosyllabic, the only syllable they are made of is stressed and when they are disyllabic or polysyllabic, one of the syllables will be stressed while the others will be unstressed. However with polysyllabic words that are long, the tendency is that one syllable will be assigned primary stress and the syllable that is next in prominence to that one assigned a secondary stress while all other syllables are left unstressed.

Monosyllabic words were not tested in this work because a monosyllabic English word would bear stress on the only syllable it is

made of when it occurs in isolation. Consequently, it always contains a strong vowel in isolation and the rhythm phenomenon – vowel weakening becomes irrelevant to it since it must have its primary stress assigned to the only strong vowel it possesses.

5.1.1.1 Vowel Weakening in Disyllabic and Polysyllabic Words

This part is aimed at testing the reduction of otherwise strong vowels to the weak vowels / ə / and /ɪ/ when they occur in unstressed positions in words of two or more syllables in educated Yoruba English.

Table 2 Vowel Reduction in Disyllabic Words Testing the Schwa /ə/ sound

	Sounds	Tokens of Occurrence	%	Vowel Quality (Strong/Weak)
R.P	ə	33	100	Red
EYE Variants	ə	286	2.9	Red
	a	4064	41.0	Str
	e	820	8.3	Str
	e:	50	0.5	Str
	u	105	1.1	Str
	u:	51	0.5	Str
	o	390	3.9	Str
	o:	49	0.5	Str
	ɔ	3316	33.5	Str
	ɔ:	140	1.4	Str
	i	26	0.3	Str
	i:	234	2.6	Str
	ɛ	58	0.5	Str
	iɔ	320	3.2	Str

There were 9900 instances of the / ə / sound expected from the disyllabic words read by EYE subjects. This implies that the sounds produced should all be reduced and weak. However, only 286 instances of the / ə / sound were realized by these EYE subjects. This constituted an insignificant 2.9% of the expected response. Majority of the EYE subjects realized the strong vowel [a] which constituted 41%, while next to [a] is [ɔ] which constituted 33.5% of the expected response instead of the / ə / sound. The remainder are shared by [ˌu, u:, o, o: ɔ:, i, i: ɛ and iɔ] which are all strong and quantitative vowels.

Table 3 Vowel Reduction in Disyllabic words
Testing the /I/ Sound

	R.P	EYE VARIANTS							
Sounds	I	(15×300=4500	i	ə	e	e:	ɛ	a	ei
Tokens of occurence	15		515	118	586	389	2717	146	29
%	100		11.4	2.6	13.0	8.6	60.3	3.2	0.6
STR/RED	RED		RED	STR	STR	STR	STR	STR	STR

Otherwise strong vowels were expected to be reduced to the weak / ɪ / sound in 4500 instances in the data gathered from the EYE subjects. However, 515 instances of /i/, which is close to the expected sound, were gathered while 118 instances of the weak / ə /were realized. These constituted 11.4% and 2.6% (summing up to a negligible 14% of the expected weak / ɪ / sound). This implies that 86% of the instances of the weak / ɪ / sound expected were rendered as strong rather than weak vowels. In majority of the instances, the strong /ɛ/, rather than the weak / ɪ /, was produced (60.3% of the instances precisely).

Table 4 Testing Elision in Unstressed Positions in Disyllabic Words

Words	Forehead R.P : fɔrɪd			Students R.P : stju:dnt		
	Sounds	No of subjs	%	Sounds	No of subjs	%
EYE VARIANTS	fɔ:ɛ:d	150	50	studɛnt		
	fɔ: ɛ d	81	27	studɪnt	169	56.3
	fɔ ɛ d	69	23		131	43.7

Elision, a weakening technique also used as a form of unstressing in Standard English, was tested in the disyllabic words used for this

study. The words *forehead* and *student* were read by the EYE subjects and it was discovered that 150 of the subjects, constituting 50% of the sample, produced / fɔ: ɛ:d /, 81 subjects, constituting 27%, produced / fɔ: ɛd /, while 69 subjects, constituting 23%, produced / fɔɛd /. None produced the appropriate form / fɔrɪd /. *Student* was produced as / studɛnt / by 169 of the EYE subjects while 131 produced /studɪnt/, the percentages being 56.3 and 43.7 respectively. The observation here is that majority of the subjects produced / studɛnt /, and a significant 43.7% inserted a /ɪ/ sound and produced / studɪnt / rather than / studn̩t /.

Table 5 **Vowel Reduction in Polysyllabic Words Testing the Shwa / ə / Sound**

	RP		EYE VARIANTS										
Sounds	/ ə		ə	ø	a	o	ɔ	e	ɛ	i	u	i ə	iɔ
Tokens of occurence	43	43×300 = 12900	450	519	4250	1420	3501	359	561	330	36	50	1429
%	100		3.5	4.0	32.9	11.0	27.1	2.8	4.3	2.6	0.3	0.4	11.0
STR./RED	Red		Red	Red	Str	Str	Str	Str	Str	Str	Str	Str	Str

The / ə / sound was anticipated in 12,900 instances from the EYE subjects. 450 subjects constituting a negligible 3.5% produced /ə/, 519 elided the sound (bringing the weakened sounds to 7.5%) while in the remaining 11,931 instances, constituting a remarkable 92.5%, different strong vowels were substituted for the weak/ə/.

Table 6 Vowel Reduction in Polysyllabic Words Testing the /I/ Sounds

	RP		EYE VARIANTS						
Sounds	I	16 ×300 = 4800	ə	I	e	e:	ɛ	ei	ie
Tokens of occurrence	16		53	801	186	198	3223	44	295
%	100		1.1	16.7	3.9	4.1	67.1	0.9	6.1
STR./RED.	Red		Red	Red	Str	Str	Str	Str	Str

16 instances of the unstressed /ɪ/ sound were used to test its occurrence in unstressed syllables in some polysyllabic words of Standard English. 4,800 instances were expected from the three hundred EYE subjects used for the investigation. 801 instances were realized as

/ i /. This constituted a negligible 16.7% of the expected number of occurrences while / ə /, another weak vowel, was found in 53 instances which constituted 1.1% of the instances. This brings the percentage of the weakened sounds to still a negligible 17.8% while the remaining 82.2% were constituted by sounds that are not Standard English but strong sounds such as /e,e:,ei and ie /.

51.1.2 Vowel reduction in Words that could function as Nouns /Adjectives or Verbs when the Primary Stress is Reassigned

Table 7
Stress Assignment

Word Classes		Nouns/Adjectives				Verbs				
Varieties		RP	EYE Variants			R.P		EYE Variants		
Syllables stressed	20×300= 6000	1	1st	2nd	3rd	1st	2nd	1st	2nd	3rd
Tokens of occurrence		6000	4020	1909	71	300	5700	2450	3374	176
%		100	67	31.8	1.2	5.0	95.0	40.8	56.2	2.9

Twenty words were used to test unstressing in stress shifts from nouns/adjectives to verbs in words that could function as nouns/adjectives and verbs where placement of stress determines the

class of the word. In Standard English, vowels of syllables of such words that were initially stressed get reduced and weakened when they change their classes based on the reassignment of stress.

With the forms of the words that could function as nouns/adjectives, the 300 subjects were expected to produce 6000 words that have their first syllables assigned the primary stress as it is the case in Standard English. However, it was observed that 4020 of the EYE subjects assigned the primary stress to the 1st syllable, 1909 to the 2nd syllable and 71 to the 3rd syllable. These constituted 67%, 31.8% and 1.2% of the EYE subjects respectively. This implies that majority of the EYE subjects assign primary stress to the appropriate 1st syllable in the noun/adjective forms of the words that fall into this group.

With the form of the words that function as verbs, the norm in Standard English is to assign the primary stress to the 2nd syllable of such words. There are however a few cases where the primary stress is retained on the first syllable as in the case of `desolate / `desələt / and `deso late / `desə leɪt / where the only difference is that the 2nd

syllable of the verb form takes a secondary stress and contains a diphthong which is a strong vowel.

5700 instances of the words (constituting 95.5% of the instances) were expected to have their primary stresses assigned to the 2nd syllable while 300 (constituting 5% of the instances) were to be assigned the primary stresses on the 1st syllable. The EYE subjects assigned the primary stress to the 2nd syllable in 3374 instances (constituting 56.2%), the 1st syllable in 2450 instances (constituting 40.8%) and the 3rd syllable in 176 instances (constituting 2.9%). This implies that majority of the subjects appropriately assign the primary stress to the 2nd syllable in most instances. The EYE subjects tend to find it easier to stress English words with fixed stress. Unfortunately, these are very limited in number hence they are said to belong to a closed set.

It was however observed that a remarkable 40.8% inappropriately assigned the primary stress to the 1st syllable because only 5% of the instances of stress assignment on the verb form was expected to be allotted to the 1st syllable. This showed that the subjects

found it more difficult to appropriately assign stress to the verb form of the words than the noun/adjective forms.

While in Standard English none of the words should have the 3rd syllable assigned the primary stress, it was observed with the EYE subjects that some of the subjects inappropriately assigned the primary stress to the 3rd syllable both in the noun/adjective forms and the verb form. This, though a negligible quantity, lends some credence to the claims that Nigerians have a tendency to shift stress to the rightmost syllables of words (see . Kujore 1975, Jowitt 1990).

Table 8
Vowel Quality

Nouns/Adjectives				Verbs			
R.P		EYE		R.P		EYE	
STR	RED	STR	RED	STR	RED	STR	RED
6000	-	4981	1019	600	5400	4366	1634
100%	0	83%	17%	10%	90%	72.8%	27.2%

With the noun/adjective forms of the words that could function as nouns/adjectives or verbs, 6000 instances of the tested vowels were expected to be strong while none was expected to be weak since all the vowels tested occurred in stressed syllables. It was observed

however that there were 4981 instances of strong vowel, which constituted 83% of the expected instances of occurrence, and 1019 weak sounds, which constituted 17%. This implies that a remarkable percentage of the EYE subjects appropriately strengthened the vowels in the stressed syllables of the nouns/adjective forms of the words. However, a negligible percentage (i.e.17%) rendered weak vowels where strong vowels were expected to be rendered.

With the verb form of these words where in most cases stress must have shifted away from the previous syllables which in consequence must have led to the weakening of otherwise strong syllables, 5400 instances were expected to be reduced while 600 were expected to be strong. These constituted 90% and 10% respectively. The EYE subjects inappropriately produced 4366 of the instances as strong and 1634 appropriately as weak. These constitutes 72.8% and 27.2% respectively. A preference for strong vowels in positions where weak vowels were expected was also observed here. Rather than weaken the vowels in the unstressed syllables, they were rendered in their strong forms.

Table 9 **Summation Table: Vowel Weakening and Word Stress**

Vowel Strength	Vowel reduction in Disyllabic Words		Vowel reduction in Polysyllabic Words		Vowel reduction and Stress shifts in words that could function as Nouns/Adj or Verbs	
	/ ə /	/ɪ/	/ ə /	/ ɪ /	Nouns/Adj	Verbs
Strong Vowels	97.1 %	86%	92.5%	82.2%	*83%	72.8%
Reduced vowels	2.9%	14%	7.5%	17.8%	17%	27.2%

* Appropriate use of strong vowels.

It could be deduced from the summation table above that with word stress, there is a preponderance of strong syllables and vowels in educated Yoruba English as opposed to Standard English usage where there is a preponderance of weak syllables and vowels. The 83% realization of the appropriate use of strong vowels in the case of stress assignment on words that could function as nouns/adjectives or verbs confirms the suspicion that educated Yoruba speakers of English are very likely not to encounter difficulty in the use of strong vowels.

5.1.1.3 Vowel Reduction in Words with Suffixes

Table 10

Root/Stem+Suffixes	Anticipated RP Vowel Change	Vowel Quality	Realized EYE Variants	Vowel Quality	
Pho`netics→Phone`tician	ɛ →I	str- weak	ɛ → ɛ	str-str	
`Politics →Poli`tician	ɒ→ ɒ	**str-str	ɔ → ɔ	str-str	
`Comedy→Co`median	ɒ→ ə	str-weak	ɔ → ɔ	str-str __	
`Grammar→Gra`mmarian	æ→ ə	str-weak	a→e, a→ ə	276 str-str	24 *str-weak
`Canada→ Ca`nadian	æ→ ə	str-weak	a→a	str-str	
`Colony→Co`lonian	ɒ→ ə	str-weak	o, ɔ → o ɔ	str-str	
`Final→ Fi`nality	ø→æ	weak-str	a→ a	str-str	
`Atom→ A`tomic	æ→ ə	str-weak	a→ a	str-str	
`Tutor→ Tu`torial	ə →ɔ:	weak-str	ɔ →o	str-str	
`Drama→ Dra`matic	æ→ ə	str-weak	a→ a	str-str	
`Strategy→ Stra`tegic	æ→ ə	str-weak	a→ a	str-str	
E`radicate→ radi`cation	æ→ æ	**str-str	a→ a	str-str	
Ex`hort→ Exhor`tation	I→ ɛ	weak-str	ɛ → ɛ	str-str	
E`conomy→ Eco`nomic	ɒ→ ə	str-weak	ɔ → ɔ	str-str	
`Execute→ Exe`cution	ɛ → ɛ	**str-str	ɛ → ɛ	str-str	
In`ferior→ Inferi`ority	ə →ɒ	weak-str	iɔ → ɔ	str-str	
`Curious→ Curi`osity	ə →ɒ	weak-str	iɔ → ɔ	str-str	
`Photograph→Pho`tograp her	əʊ→ ə	str-weak	ɔ,o→ ɔ	str-str	
Ge`ography→Geo`graphic	ɒ→ ə ə	str-weak	ɔ → ɔ	str-str	
`German→ Ger`manic	ɜ:→ ə	str-weak	a→ a,e,a→ ə	287 str-str	*13 str-wk

*Appropriate use of weakening

** Appropriate use of a strong vowel due to the presence of secondary stress.

The table above was the result of the investigation of vowel weakening in words with suffixes in the spoken English of educated Yoruba English speakers. The subjects displayed a tendency to produce strong vowels where they were supposed to produce weak vowels. Therefore a shift in stress due to the addition of a suffix did not result in the weakening of the vowel in the syllable from which stress has shifted. These vowels, which in Standard English are supposed to be consequently unstressed, are still produced in their strong forms.

The two cases where there were exceptions are negligible. For example, with ***grammar/grammarian,*** 92% of the subjects produced a strong ***-a-*** in the syllable ***-mar*** which is expected to be unstressed in ***grammar*** while just a negligible 8% produced the Standard English shwa / ə /. With ***german/ germanic,*** 95.7% of the subjects produced the strong ***-a-*** in the syllable ***-man*** which in Standard English is expected to be the weak vowel / ə / while just a negligible 4.3% produced the weak vowel / ə /.

In Standard English, with words such as `politics/poli`tician, e`radicate/e radi`cation `execute / exe`cution where two syllables are stressed, one bearing the primary stress and one the secondary, the vowel is retained as strong in the two forms (i.e. in the one without a suffix and one with a suffix). This is because vowels in both primarily and secondarily stressed syllables are rendered strong and not weakened. The EYE subjects appropriately use strong vowels in these words therefore confirming the assumption that EYE speakers of English do not encounter problems in the use of strong vowels but weak ones.

5.11.4 Unstressing in Words that have syllables with Syllabic Consonants as Peaks

Table 11

Words	% of the instances of vowel insertion	% of the instances of Vowel substitution	% of the instances of the appropriate use of syllabic consonants	Words	% of the instances of vowel insertion	% of the instances of Vowel substitution	% of the instances of the appropriate use of syllabic consonants
bible	79	15	6	*Peasant*	100	-	-
bacon	99	-	1	*little*	92	-	8
sizzle	87	-	13	*madden*	98	-	2
hospital	87	-	13	*principal*	92	-	8
student	100	-	-	*principle*	94	-	6
passion	86	-	14	*panel*	94	-	6
happen	97	-	3	*petal*	93	-	7
television	94	-	6	*ribbon*	91	-	9
wrestle	100	-	-	*bottle*	93	-	7
muddle	96	-	4	*total*	96	-	4

In Standard English, some words have syllables with syllabic consonants such as / n̩, l̩ / as peaks rather than vowels that are usually found in that position. Such syllables that always occur word finally are usually unstressed. It has been observed in the case of the educated Yoruba subjects that rather than use syllabic consonants as

the peak of such syllables, vowels were either inserted between the preceding consonant and the syllabic consonant or substituted for the syllabic consonant e.g. ***pebble*** / pebl̩ / is either / pebul / or / pebu /. Only few cases of the substitution of vowels for the syllabic consonants were found and this occurred with the word ***pebble*** / pebl̩ / which was produced as [pebu] 15% of the instances of occurrence. It has also been discovered in this investigation that the vowels inserted or substituted for the syllabic consonants by the EYE subjects were usually quantitative and strong.

In the production of the word ***pebble***, 79% of the EYE subjects produced the unstressed syllable / -bl̩ / as [-bul], 15% as [bu] and only 6% appropriately produced [-bl̩]. The ***-con*** of ***bacon*** was produced as [kɔn] by 66% of the EYE subjects while [kun] and [kən] were produced by 25% and 8% respectively. Only 1% of the subjects produced the appropriate [kn̩].

The [-zl̩] of ***sizzle*** was produced as [-zul] by 78% of the EYE subjects while [-sul] was produced by 9% and only a negligible 13% produced the appropriate [-zl̩]. In the production of the unstressed -***tal*** of ***hospital***, 34% uttered [-tul], 31% [-tal], 22% [-təl], 11% [-dl̩] and only an insignificant 2% rendered the Standard English [-tl̩]. A majority of the subjects inappropriately inserted different vowels in the syllable and the vowels inserted were perceived as strong vowels except in the case of just 22% of the subjects who

inserted the weak sound [ə]. The *-dent* of *student* was rendered by 56% as [- dɛnt], 43% as [-dint] and 1% as [- dənts]. It was observed here that those that attempted to produce the syllable as [-dn̩t] still inserted the vowel [i] rather than appropriately produce the syllabic consonant /n̩/.

The unstressed syllable / -ʃn̩ / of ***passion***, was produced as [-ʃɔn] by 86% of the EYE subjects while only an insignificant 14% produced the appropriate [-ʃn̩]. 91% of the subjects also produced the / pn̩ / of ***happen*** as [- pun], 6% as [-pin] and only a negligible 3% produced the appropriate [-pn̩]. The / -ʃn̩ / of ***television*** was produced as [-ʃɔn] by 79% of the subjects, as [ʒɔn] by 15% and appropriately as [ʒn̩] by an insignificant 6%. None of the EYE subjects appropriately produced the / -sl̩ / of the word ***wrestle*** while a significant 63% produced it as [-sul], 29% and 8% as [- stul] and [-zul] respectively.

The word ***muddle*** had its unstressed syllable /-dl̩ / produced as [-dul] by 96% of the subjects while only an insignificant 4% produced the appropriate [-dl̩]. ***Peasant*** had its unstressed syllable /-znt / produced as [-sant] by 90%, [-zant] by 10% while non of the subjects produced the appropriate [-znt]. The /-tl̩ / of ***little*** was produced as [-tul] by a significant 74%, as [-rul] by 10%, [-dul] by 8%, and as the appropriate [-tl̩] by only 8% of the EYE subjects. The unstressed syllable /-dn̩ / of ***madden*** was produced as

[-dɪn] by 98% while only a negligible 2% produced the appropriate sound [-dn̩].

The /-pl̩ / of ***principal*** was rendered as [-pal] by 92% of the EYE subjects while an insignificant 8% appropriately produced [-pl̩]. The [-pl̩] of ***principle*** was rendered as [-pul] by 94% and only as the Standard English [-pl̩] by 6%. An interesting observation about the words ***principal*** and ***principle*** is that though they are homophones in Standard English, a possible spelling influence was observed in the EYE production of their word-final unstressed syllables, the ***-pal*** (/-pl̩) of principal being produced as [-pal] while the ***-ple*** (/-pl̩ /) of ***principle*** was produced as [-pul].

The / -nl̩ / of ***panel*** was produced by 94% of the subjects as [-nl̩] while only 6% produced the appropriate [-nl̩]. The / -tl̩ / of ***petal*** was rendered as [-tal] by 93% of the subjects with an insignificant 7% rendering the appropriate [-tl̩] while the / -bn̩ / of ribbon was rendered by 53% as [- bɔn], 38% as [-bin] and an insignificant 9% as the appropriate [-bn̩]. The / -tl̩ / of ***bottle*** was produced by 93% as [-tul] and by only 7 % of the subjects as [-tl̩] which is standard. ***Total*** has its unstressed ***-tal*** produced as [-tal] by 57% of the subjects, as[-tul] by 39% while the appropriate [-tl̩] was rendered by only 4%.

It has also been confirmed here that with the syllables that have syllabic consonants rather than vowels as their peaks, strong vowels are often inserted between the preceding consonant and the supposed

syllabic consonant. It is also sometimes substituted for the syllabic consonant. This further confirms a preponderance of strong vowels in *educated* Yoruba English.

5.1.1.5 Unstressing in English Nonsensical words: Testing EYE Speakers Intuition on Stress Assignment and Vowel Quality

Table 12

Words	RP				EYE Variants			
	Sounds	Stress			Sounds	Stress		
		1st syl	2nd syl.	3rd syl.		1st syl.	2nd syl	3rd syl.
`dadal	`dædl	x			dadal 300 100% `dædl 0	241 80%	59 20%	
da`dal	də`dæl		x		dadal 300 100% də`dæl 0	213 71%	87 29%	
a`bet	ə`bet		x		a`bet 300 100% ə`bet 0	154 51%	146 49%	
pro`soon	prə`su:n		x		prosu:n 261 87% prosun 39 13% prə`su:n 0	114 38%	186 62%	
in`pend	ɪn`pend		x		inpend 300 100% In`pend 0	123 41%	177 59%	

`inpend	`ɪnpənd	x			inpend 300 100% `ɪnpənd 0	74 25%	226 75%	
ob`nort	əb`nɔ:t		x		ɔbnɔ:t 300 100% əb`nɔ:t 0	127 42%	173 58%	
ex`tern	ɪks`t ɜ:n		x		eks`tan 300 100% ɪks`t :n 0		100 100 %	
dada`da	dədə`dæ			x	dadada 300 100% dədə`dæ 0	18 6%	102 34%	180 60%
`peopal	`pi:pl	x			pi:pal 237 79% piopal 36 12% popal 27 9%	222 74%	78 26%	

Ten nonsensical words were designed to test the intuition of educated Yoruba speakers of English on vowel weakening and stress assignment. Following the phonological pattern of English, the nonsensical word ***`dadal*** /`dædl̩/ should have a strong vowel in the first stressed syllable while the unstressed second syllable should have the syllabic consonant / l̩ / as its peak. All the EYE subjects used strong vowels in the first stressed syllable and inserted the strong

vowel [a] between the [d] of the second syllable and [l] which in Standard English is supposed to be syllabic. The first syllable was appropriately stressed by 80% of the subjects while 20% stressed the second syllable.

The word ***da`dal*** /də`dæl / with the stress on the second syllable was also produced as [dadal] with the strong vowel [a] retained in the first unstressed syllable which should have its vowel reduced to / ə / due to unstressing. It was noted here that a strong vowel was appropriately used in the second syllable which was expected to be stressed. 71% of the subjects inappropriately stressed the first rather than the second syllable.

The two vowels in the stressed and unstressed syllables of ***a`bet*** were produced by all the subjects as strong while stress was assigned to the first rather than the second syllable by 51% of the subjects and the second syllable was appropriately stressed by 49%. The unstressed syllable ***pro-*** of ***pro`soon*** was rendered with the strong vowel [o] by all the subjects while 62% assigned stress appropriately to the second syllable and 38% to the first. With the words ***in`pend*** and ***`inpend***, all

the subjects used strong vowels in the syllable ***-pend*** irrespective of whether it was supposed to be stressed or not. 59% appropriately assigned stress to the second syllable of ***in`pend*** while 41% assigned stress to the first syllable. With ***`inpend*** however, 75% inappropriately assigned stress to the second syllable which was expected to be unstressed while 25% assigned stress to the appropriate syllable. All the subjects produced the strong vowel [ɔ] in the first unstressed syllable of ***ob`nort*** which in Standard English would have weakened to / ə /. 58% appropriately assigned stress to the second syllable ***-nort*** while 42% inappropriately assigned stress to the first syllable.

The intuition test on vowel quality and stress assignment further confirms a preponderance of strong vowels in educated Yoruba English. The use of strong vowels in their appropriate positions has been confirmed not to be problematic for EYE users but rather the weakening of vowels in unstressed positions. The EYE subjects' intuition on stress assignment has been observed to be irregular and unpredictable.

5.1.2 Vowel Weakening and Sentence Stress

As earlier discussed in Section 2.2.2 a typical characteristic of spoken English is the tendency for certain words which are often referred to as grammatical, form or function words to have two variants depending on the context of use. Words that belong to categories such as pronouns, prepositions, conjunctions, determiners and auxiliary verbs have their strong and weak forms. The weak forms are often used in sentences while the strong forms are used in their citation contexts. The weak forms found in sentences often contain the weak vowels / ə / and / ɪ /. These are analyzed perceptually in this section.

A passage was read by the subjects and the tokens of occurrence of the various sounds used for each grammatical word in particular contexts counted and converted to percentages as done with the section on word stress. The greater percentage was taken as norm.

5.1.2.1 Pronouns and Prepositions in Unstressed Positions in English Sentences

Table 13

Words	RP	EYE Variants
'her' as / ə /	[ə]	[a] 76% [ɛ] 14% [ɛ] 10%
'to' as /tə /	[tə]	[tʊ] 46% [to] 43% [tə] 11%
'to' as / tʊ /	[tʊ]	[tʊ] 49% [to] 44% [tə] 7%
'for' as /fər/ before vowels	[f ə r]	[fɔ] 95% [fɔr] 5% [fər] 0
'for' as /fə / before consonants	[f ə]	[fɔ] 100%
'she' as /ʃɪ/	[ʃɪ]	[ʃi] 100%
'from' as /frəm /	[frəm]	[frɔm] 94% [frəm] 6%
'of' as / əv/	[əv]	[ɔf] 100% [əv] 0
I as / ə /	[ə]	[ai] 100%
'I'm' as / əm/	[əm]	[aiəm] 09% [ȧm] 52% [am] 17% [aiem] 12% [əm] 10%

'my' as / mə /	[mə]	[mai] 100% [mə] 0
'me' as /mɪ/	[mɪ]	[mi] 100%
'they' as /ðə /	[ðə]	[de] 54% [ðe] 34% [ðə] 12 %
'at' as / ət/	[ət]	[at] 84% [ət] 16%
'you' as / jʊ /	[jʊ]	[ju] 100%
'you' as / jə /	[jə]	[ju] 100% [jə] 0
'he' as / ɪ/	[ɪ]	[i] 85% [hi] 15%
'him' as / ɪm /	[ɪm]	[im] 73% [him] 27%
their' as / ðə /	[ðə]	[dea] 47% [ðea] 37% [ðeə] 16% [ðə] 0
'their' as / ðər/	[ðər]	[dea] 52% [ðea] 45% [ðear] 03%
'us' as /əs/	[əs]	[ɔs] 86% [əs] 14%
'his' as / ɪz/	[ɪz]	[is] 100%

Her which was supposed to have the weak form / ə / in the context of the passage was realized as the strong sound [a] 76% of the instances of occurrence, [ɛ] 14%of the instances, and as the appropriate weak sound / ə / only 10%. ***To*** was expected to be realized as /tʊ] before a vowel, and as /tə / before a consonant in its

weak positions. The subjects realized the anticipated /tʊ / as [tu] 49%, as [to] 44% and as [tə] 7% of the instances of occurrence. In 46% of the instances of expected occurrence of [tə], it was realized as [tu], as [to] 43% of the instances, and as the appropriate [tə] a negligible 11% of the instances.

Where *for* was expected to be [fər] before vowels and [fə] before consonants, [fər] was realized as [fɔ] 95% of the instancesand as [fɔr] in 5% of the instances of occurrence. The appropriate [fər] was not realized at all and in all the instances tested, the expected [fə] was realized as [fɔ]. All the tested instances of *she* (/ʃɪ/) were realized as [ʃi]. *From* was realized as [frɔm] 94% of the instances of occurrence and as the appropriate [frəm] only 6% of the instances. All the instances of occurrence of *of* in the data gathered from the EYE subjects were realized as [ɔf] with none realizing the appropriate [əv].

I which in Standard English sentences should be realized as / ə / was realized as [ai] in all the instances of occurrence. ***I'm*** which was expected to be realized as the weak / əm/ was produced as [am] with the strong vowel [a] 52% of the instances where it occurs, [aɛm] 17%, [aiem] 12%, [aiəm] 9% and only as the appropriate [əm] 10% of the instances. ***My*** was produced in all instances as [mai] with the strong diphthong [ai] while no instance of the appropriate /mə / was realized.

Me was realized as [mi] in all instances of occurrence while ***they*** which in Standard English is expected to be realized as /ðə / was realized as [de] 54%, [ðe] 34%, and only as the appropriate [ðə] 12% of the instances of occurrence. ***At*** was produced as [at] a remarkable 84% of the instances while only 16% produced the appropriate [ət]. When ***you*** occurs before a vowel in Standard English it is realized as / jʊ / while it is realized as / jə / when it occurs before a consonant. The EYE subjects produced both jʊ] and [jə] as [ju] in all

the instances of occurrence making no distinction between the variant before a vowel and the one before a consonant.

He was produced as [i] 85% of the instances and as [hi] 15%. The [u] and [i] sounds substituted for Standard English by the EYE subjects are the nearest sounds to them in Yoruba language and they are stronger than the weak /ʊ/ and / ɪ / of English. It should also be noted here that though the [h] of 'he' is elided; it could be viewed more as a feature of Yoruba language where /h/ as a sound is not remarkably phonemic rather than a conscious effort at unstressing. ***Him*** was produced as [im] 73% of the instances of occurrence and as [him] 27%. As in the case of the EYE elision of the /h/ in ***he***, the elision of the /h/ in ***him*** also looks more as a result of the influence of the non-phonemic presentation of the /h/ sound in Yoruba language than a conscious effort at unstressing.

Where ***their*** was expected to be produced as / ðə / before a consonant, it was realized as [dea] 47%, ðea 37% and ðeə 16% of the instances. None of the instances of occurrence was realized as the

appropriate [ðə]. Where ***their*** precedes a vowel and it was expected to be produced as / ðər /, it was realized as [dea] 52%, [ðea] 45% and [ðear] 3% with no instance realized as the appropriate / ðər /. Here too, the distinction was not made between the weak form before a vowel and that before a consonant. And in all the instances, strong vowels rather than weak ones were used. ***Us*** was realized as [ɔs] with the strong vowel [ɔ] 86% of the instances of occurrence and only appropriately as [əs] a negligible 14% of the instances tested. ***His*** was realized in all instances as [is] by the EYE subjects.

5.1.2.1 Conjunctions in Unstressed Positions in English Sentences

Table 14

Words	RP	EYE Variants
'and' as /m̩/ after labials	[m̩]	[and] 47% [an]53% [m] 0
'and' as /ŋ̩/ after velars	[ŋ̩]	[an] 56% [and] 31% [am] 13% [ŋ] 0
'and' as / ən /, / ənd / in other contexts	[ən, ənd]	[an] 60% [and] 24% [ənd] 16% [ən] 0
'that' as / ðət / in weak contexts	[ðət]	[ðat] 51% [dat] 45% [ðət] 04%
'but' as /bət/ in weak contexts	[bət]	[bɔt] 100% [bət] 0
'or' as /ʊ/ in weak contexts	[ʊ]	[ɔ] 100%

The conjunction ***and*** is produced in Standard English as the syllabic / m̩ / after labials, / ŋ̩ / after velars and as / ən /, and / ənd / in other unstressed contexts. The EYE subjects realized / m̩ / and / ŋ̩ / as [an] 53% and 56%, as [and] 39% and 24% of their respective instances of occurrence. / ŋ̩ / was realized as [am] 5% of the instances of its occurrence and non of the instances was realized as the appropriate /m̩/ or / ŋ̩ /. In other weak contexts tested ***and*** was

realized as [an] 60%, [and] 24% and as [ənd] only a negligible 16% of the instances of occurrence.

That which is expected to be weakened to / ðət / in English sentences was produced as [ðat] in 51%, [dat] in 45% and only as the appropriate [ðət] in a negligible 4% of the instances of occurrence of the expected / ðət /. ***But*** and ***or*** were produced as [bɔt] and [ɔ] in 100% of the instances of their expected occurrence. None of the instances was realized as the appropriate weak / bət / and / ɒ /.

5.1.2.2 Determiners in Unstressed Positions in English Sentences

Table 15

Words	RP	EYE Variants
'a' as /ə/ before consonants	[ə]	[e] 85% [ə] 15%
'an' as /ən/ before vowels	[ən]	[an] 92% [ən] 08%
'the' as /ðə/ before consonants	[ðə]	[di] 37% [ði] 39% [ðə] 24%
'the' as /ðɪ/ before vowel	[ðɪ]	[di] 35% [ði] 42% [ðə] 23%
some as / səm / in weak contexts	[səm]	[sɔm] 87% [səm] 13%

The determiners *a* before consonants and ***an*** before vowels are expected to be rendered in their weak forms / ə / and / ən / in

Standard English. The EYE subjects produced ***a*** as the strong vowel [e] 85% and as the appropriate weak vowel / ə / 15 % of the instances of its occurrence. The word ***an*** was realized as the strong syllable [an] 92%of the instances and as the Standard English weak syllable [ən], 8% of the instances of production.

The is rendered as / ðə / before consonants and as / ðɪ / before vowels in Standard English. The EYE subjects realized / ðə / as [ði] 39%, [di] 37% and only as the appropriate [ðə] 24% of the instances of production. Where ***the*** occurred before a vowel and was expected to be produced as / ðɪ /, it was produced as [ði] 42%, [di] 35% and as [ðə] 23% of the instances of use. ***Some*** was realized in 87% of the instances of production as [sɔm] with the strong vowel [ɔ] rather than the weak vowel [ə] and only as the appropriate [səm] a negligible 13% of the instances of use.

5.1.2.4 Auxiliary Verbs in Unstressed Positions in English Sentences

Table 16

Words	RP	EYE Variants
'shall' as / ʃəl /	[ʃəl]	[ʃal] 84% [ʃəl] 16%
'should' as /ʃəd/	[ʃəd]	[ʃud] 100% [ʃəd] 0%
'would' as /wəd/	[wəd]	[wud] 100% [wəd] 0%
'have' as /əv/	[əv]	[av] 85% [hav]15% [əv] 0
'had' as /əd/	[əd]	[ad] 58% [had] 42% [əd] %
'was' as /wəz/	[wəz]	[wɔs] 100% [wəz] 0
'were' as /wə/ before consonants	[wə]	[w ɛ] 42% [w ɛ:] 18% [wa] 25% [wə] 15%
'were' as /wər/ before vowels	[wər]	[wɛ] 45% [wɛ:] 13% [wa] 31% [wə] 11% [wər] 0
'does' as /dəz/	[dəz]	[dɔs] 100%
'is' as /z/	[z]	[is] 88% [z] 12%

'be' as /bɪ/	[bɪ]	[bi] 100%
'has' as / əz /	[əz]	[as] 87% [az] 13% [əz] 0
'I'm' as / əm/	[əm]	[am] 79% [aiəm] 21% [əm] 0
'will' as / əl/ after vowels and /1/	[əl]	[wil] 72% [wl] 22 [l] 06%
'must' as /məst/ in all weak contexts	[məst]	[mɔst] 100% [məst] 0
'are' as / ə / before consonants	[ə]	[a] 100% [ə] 0
'are' as / ər / before vowels	[ər]	[a] 97% [ar] 03% [ər] 0
'do' as /də/ before consonants	[də]	[du] 100% [də] 0
'do' as /dʊ/ before vowels	[dʊ]	[du] 100% [dʊ] 0

Shall which in weak contexts should be realized as /ʃəl / was realized as [ʃal] with the strong vowel [a] 84% and as the appropriate [ʃəl] 16% of the instances in which it occurred in the passage. ***Should*** and ***would*** were produced as [ʃud] and [wud] with the strong vowel [u] in all the instances of their occurrence (i.e. 100%). At no instance were they produced as their appropriate weak forms /ʃəd/ and /wəd/. Where

have was expected to be realized as / əv /, the EYE subjects produced [av] 85%of the instances and [hav] with the strong vowel [a] 15% of the instances. At no instance was the appropriate weak form [əv] realized. Where ***had*** was expected to be realized as /əd/, the Eye subjects produced [ad] 58%of the instances and [had] 42% of the instances of expected occurrence. The appropriate weak /əd/ was not produced in any instance. ***Was*** was produced as [wɔs] with the strong vowel [ɔ] in all instances and at no instance as the expected weak form /wəz/.

Were was realized as [wɛ] 42%of the instances, [wa] 25%, [wɛ:] 18%, and as the expected [wə] before consonants, only a negligible 15% of the instances of production. It could be noted here that 85% of the sounds substituted for the weak sound /ə / were strong vowels. Where *were* should be produced as / wər / before vowels in word groups in Standard English, it was produced as [wɛ] 45% of the instances, [wa] 31%, [wɛ:] 13%, as its weak counterpart [wə], 11% and at no instance as the appropriate weak form [wər]. With this variant too, strong vowels were substituted for the weak vowel / ə / in 89% of the instances of its

occurrence and no distinction was made between the form of the word to be used before a consonant and the one before a vowel.

Does was produced in all the instances of its occurrence in the passage as [dɔs] rather than the weak form / dəz /. *Is*, expected to be produced as /z/ after vowels and voiced consonants except / z, ʒ, ʤ /, was realized by the EYE subjects as [is] 88% and [z] only 12% of the instances of occurrence. The auxiliary verb *be* was produced as [bi] in all instances of occurrence while *has* which should have the weak form / əz / in word groups was produced as [as] 87% and [az] with the strong vowel [a] 13% of the instances of expected production of / əz /. The appropriate / əz / was not produced at any instance.

The contracted *I'm* which is expected to be realized as / əm / was realized as [am] 79% and [aiəm] 21% of the instances of occurrence. / əm / was not realized in any of the instances by the EYE subjects. *Will* before vowels and /l/ should be realized as / əl /. It was however produced as [wil] 72%of the instances, [wl] 22% and as /l/ 6% of the expected instances of occurrence for the appropriate /əl/.

In all the instances tested ***must*** and ***are*** were produced as [mɔst] and [a] with the strong vowels [ɔ] and [a] rather than the appropriate weak [məst] and [ə]. Where ***are*** occurs before a vowel and was expected to be realized as [ər], it was produced as [a] 97% of the instances and as [ar], with the strong vowel [a], 3% of the instances. It was not produced as the appropriate / ər/ in any of the instances. ***Do*** was expected to be produced as / də / before consonants and as /dʊ / before vowels. It was however realized in all the instances tested for both / də / and / dʊ / as [du].

It has been discovered through the investigation of vowel weakening and sentence stress in educated Yoruba English that the weak forms of English function words such as conjunctions, determiners, pronouns and auxiliary verbs are scarcely used in Educated Yoruba English. The weak schwa / ə / which is the commonest vowel found in the weak forms of these words is often not found in the function words produced by the EYE subjects in English sentences. This further confirms a preponderance of strong vowels in educated Yoruba English and a consequent tendency towards a syllable timed rhythm.

CHAPTER SIX: ACOUSTIC ANALYSIS, FINDINGS AND CONCLUSION

6.0 Main Data Analysis and Discussion

6.1 Description of Instruments

6.1.1 Tape Recorder

A portable cassette tape recorder was used to record a prepared text designed to test vowel weakening and unstressed syllable obscuration in the spoken English of educated Yoruba speakers of English. The recorded data was then transferred to a computer for instrumental analysis.

The problem of ambient noise was encountered considering the fact that the various recordings were not done in a sound-treated room. The noise reduction facility of the software Cool Edit Pro was utilized in the pre-processing of the sounds to eliminate some of the noise intrusion. These include click/pop elimination, hiss and random noise reduction. Though it was not possible to eliminate all the noise, the residual noise did not affect the measurement of the vowel and syllable duration in any appreciable way. However it interfered with the determination of

formant frequencies. This was however taken care of by supplementing the spectrograms with XY Scatter charts constructed by accessing the numerical data for the formants as read by the computer. (The spectrograms were constructed with the accessed numerical data by the computer).

6.1.2 Computer Hardware

The computer hardware used for this analysis is a PC based sound analysis system consisting of a Pentium III /I MHZ Processor, 40 GB of Audio/Visual Hard Disk and a Full Duplex Multi 1/0 Audio Capture Card.

6.1.3 Software

The software consists of a suite of sound processing packages including COOL Edit Pro, Sound Forge and a speech acoustic software - Speech Filing System (SFS) developed at University College, London. The system displays sound waveforms to a resolution 48 KHZ in the time domain thereby allowing precise measurement of the duration of various

speech sounds. It extracts fundamental and formant frequencies based on the Fast Fourier Transform (FFT) and Linear Predictive Coding (LPC). It is also capable of displaying spectrograms.

6.2 Analysis

The perceptual analysis earlier carried out on this work was based on perception and the counting of tokens of occurrence. The acoustic analysis done in this section is therefore aimed at corroborating the findings from perceptual analysis. It provides the quantitative and graphical information which was subjected to statistical analysis in order to test the application of vowel weakening and unstressed syllable obscuration in the spoken English of educated Yoruba speakers of English. The acoustic information therefore is a supplement of the information earlier extracted through the auditory approach.

In order to enable a thorough study, ten subjects were selected out of the three hundred used for the perceptual analysis. Two words were selected from each section and the duration of the unstressed syllables and the unstressed vowels in each of the words measured. As an RP

speaker, the duration of the control's rendition of the vowels and the syllables were also measured to confirm established claims on the quantity of Standard English unstressed vowels and syllables and to compare with the EYE subjects'.

In section A1 ***heedless*** and ***doctor*** were selected from the disyllabic word group while ***amateur*** and ***ambassador*** were selected from the polysyllabic word group in Section B. ***Absent*** and ***Combine*** were selected from Section C to test vowel reduction and unstressed syllable obscuration in words that function as both Noun/Adjectives and Verbs in English. From Section D, ***phonetics/phonetician*** and ***comedy/comedian*** were selected for testing vowel reduction and unstressed syllable obscuration in root words that have otherwise strong vowels reduced when suffixes are added to them and there is a resultant shift in stress. ***Pebble*** and ***Bacon*** were selected from the words in Section E to test unstressing in syllables with syllabic consonants as peak.

6.2.1 Measurement of Stressed/Unstressed Syllables and Vowel Duration

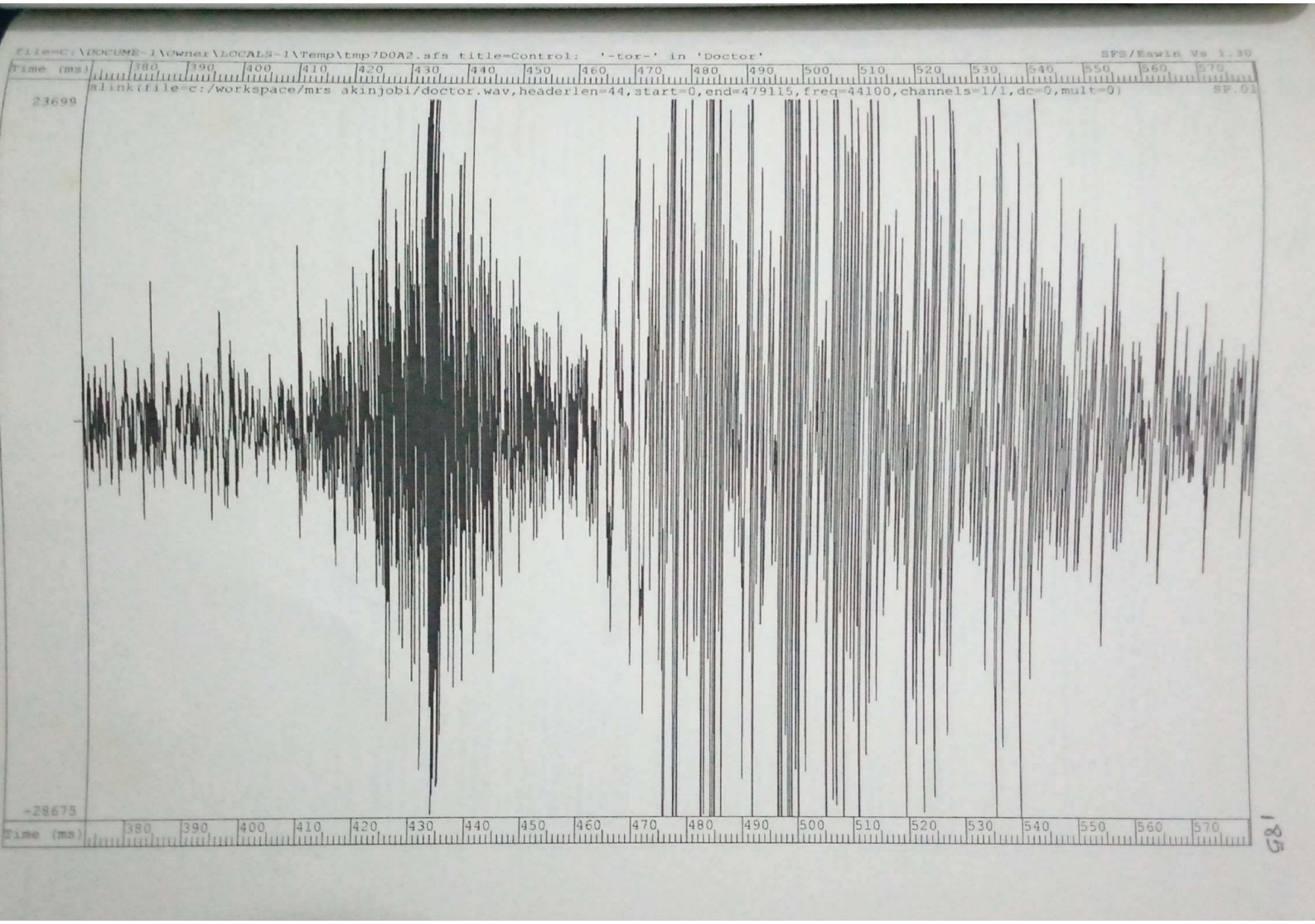
Recent researches into the acoustic correlates of speech rhythm have been observed to be based on durational cues (see Ranus and Nespor 1999, Gibbon and Gut 2001, Grabe & Low 2001, Milde & Gut 2002). These approaches have succeeded in describing rhythmic differences between languages as well as between varieties of a language (Milde & Gut 2002). The following is the process by which the duration of the stressed and unstressed syllables of the words which constitute the data for this acoustic analysis were measured:

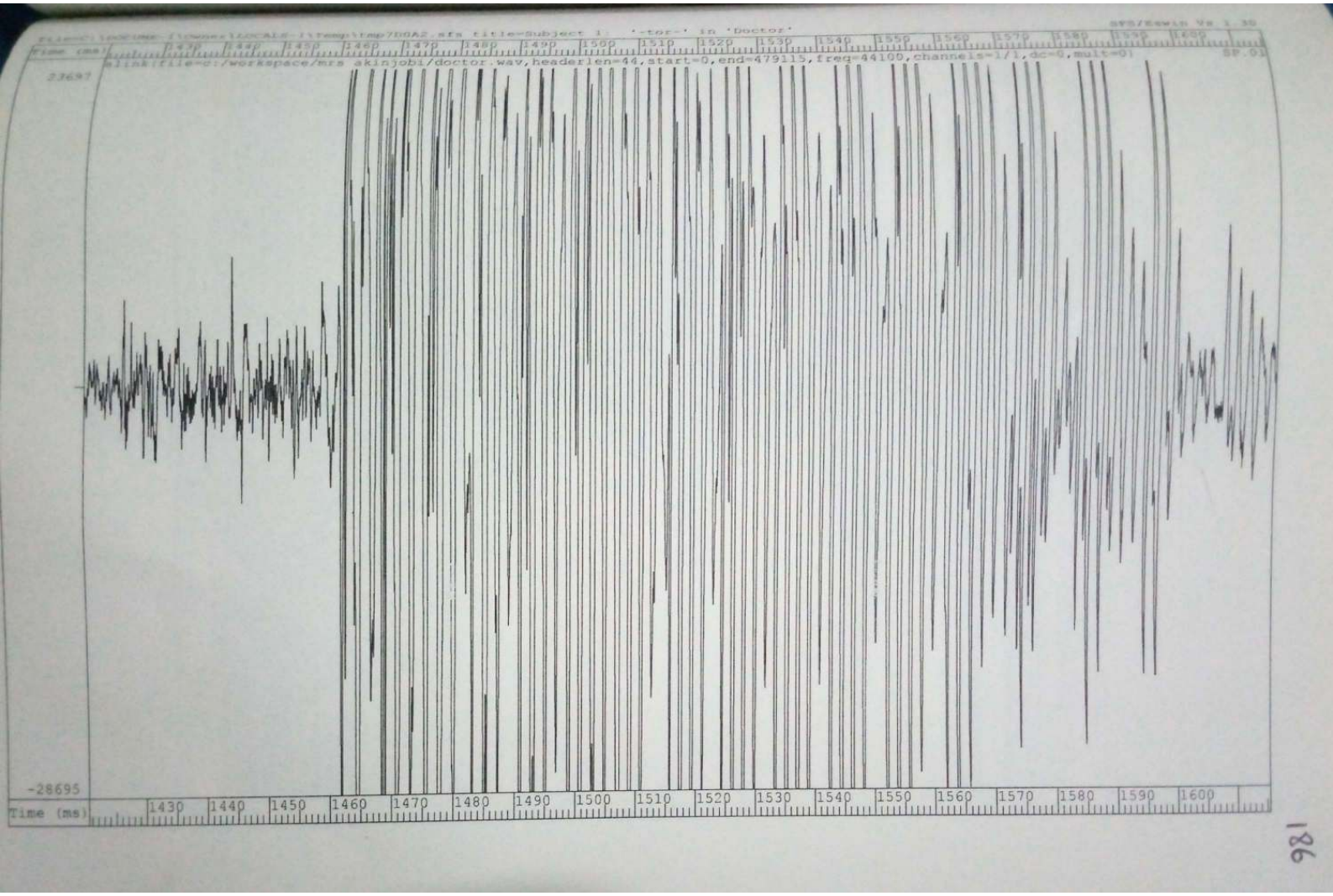
- The waveform of each subject's rendition of each word was displayed on the computer.
- The waveforms of the relevant syllables and vowel sounds for each subject were then extracted from each word to get their appropriate duration in milliseconds.

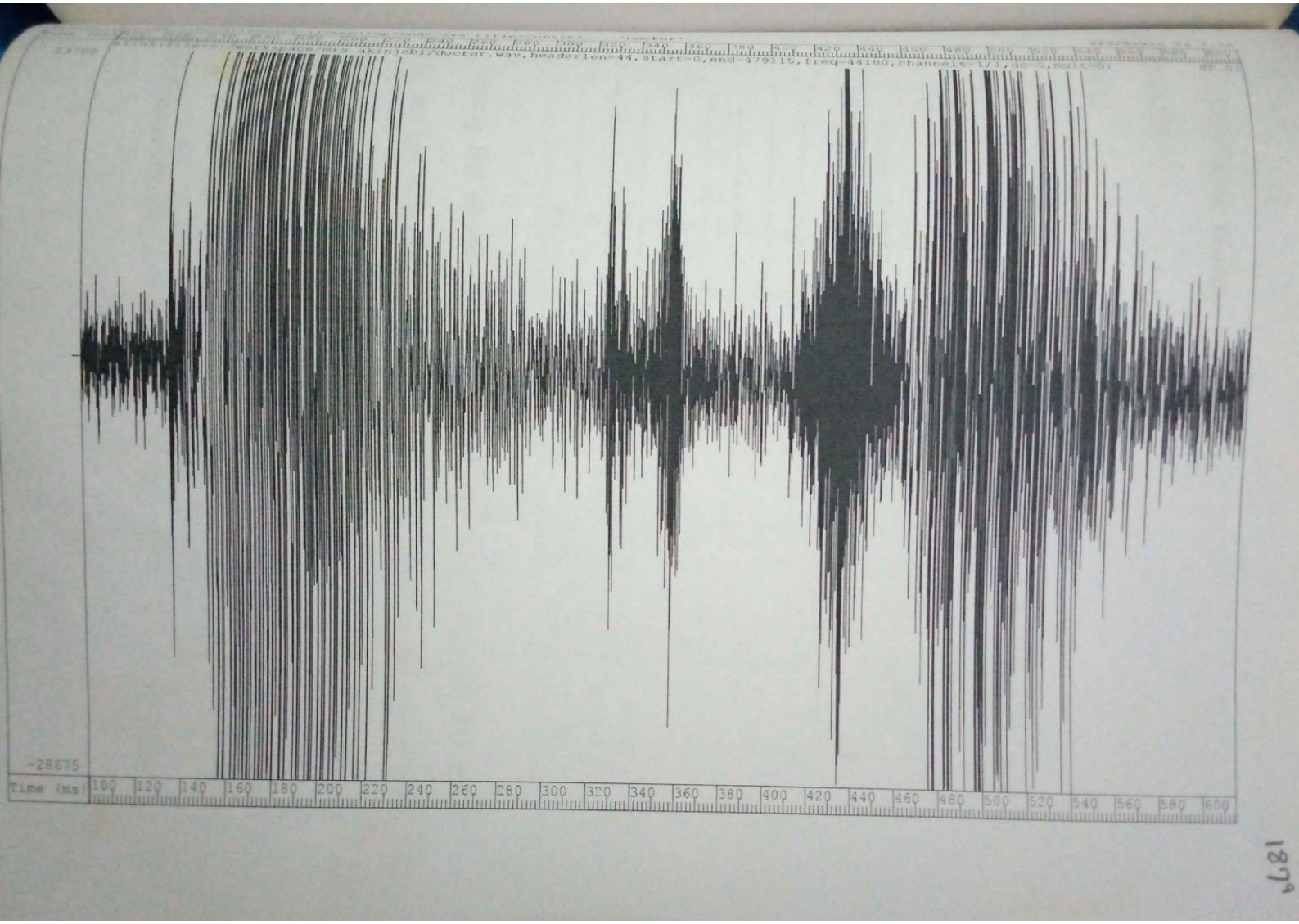
The measurement of the duration was done with the consciousness of the variable nature of speech since no two people can produce the same sound exactly the same way. The different shapes and sizes of vocal organs also have a tendency to imprint their own

characteristic features on acoustic speech signals. There was also the recognition of the co-articulatory nature of natural speech (See Harrington J and Cassidy F 1999). To take care of these variables therefore, the extractions and duration measurements were done repeatedly for accuracy and consistency.

The nature of the recordings (since they were not done in a sound-treated room), made the speech signals suffer some level of amplitude distortion due to excessive gain in the recording instrument. This made the measuring procedure tedious but did not affect the accuracy of the duration measurements.







1879

6.2.2 Disyllabic Words

HEEDLESS

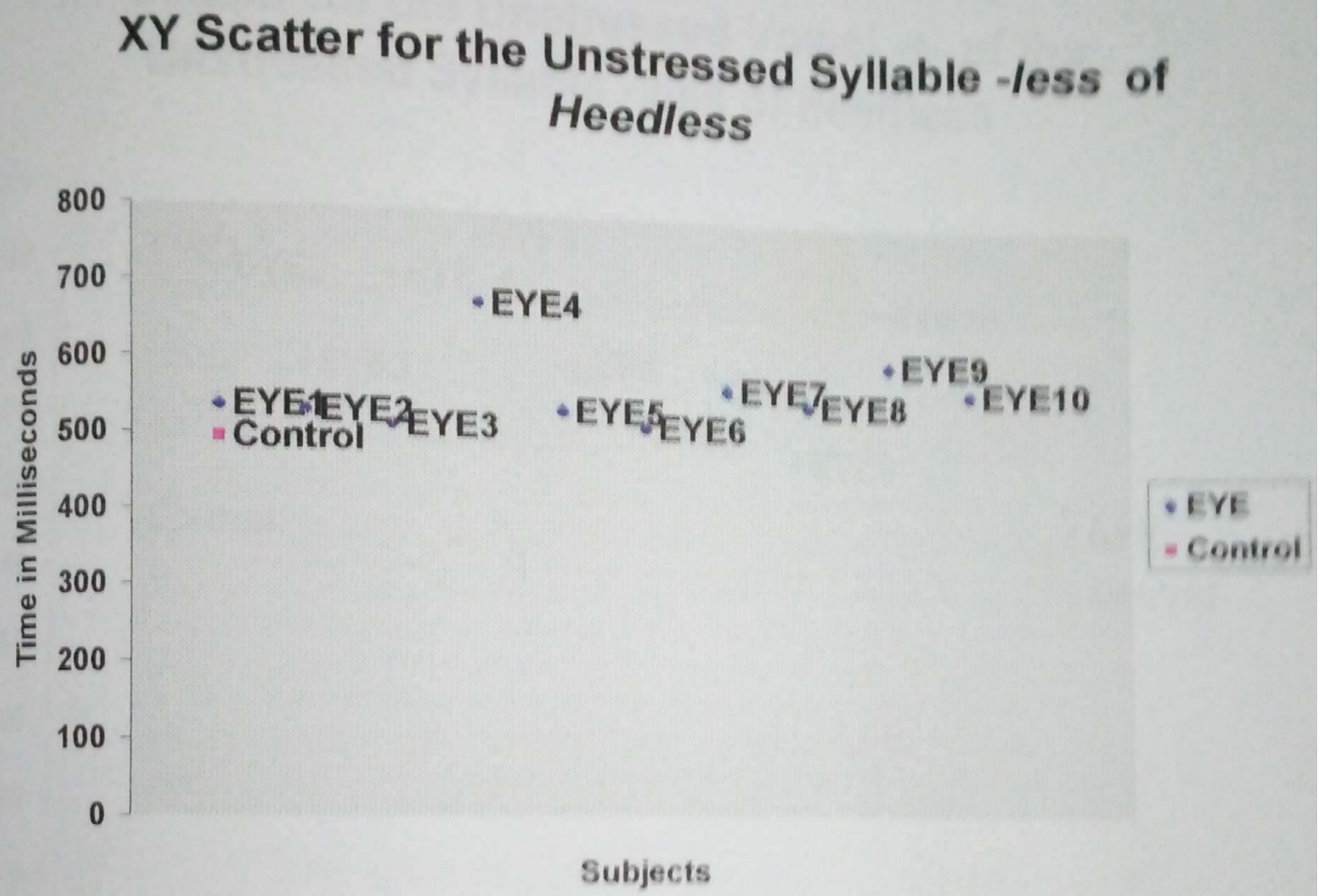
Table 17

Subjects	Duration of Unstressed Syllable	Duration of Unstressed Vowel
Control/RP	*-less* of heedless	*-e-* of heedless
EYE Subject 1	492.7	92.4
2	535.3	160.7
3	529.2	157.5
4	513	133.2
5	677.4	158.4
6	537.2	169.4
7	517.2	135.7
8	571.8	120.2
9	551.8	133.6
10	608.9	113.3
	571.7	153.9

Testing the duration of unstressed syllable *-less* in the word *heedless*, the ten subjects have durations that range between 517.2ms and 608.9ms. The control has duration of 492.7ms. The educated Yoruba subjects have a range between 113.3ms and169.4ms for the duration of the unstressed vowel *-e-* in the unstressed syllable *-less* of the word ***heedless*** while the control has 92.4ms. The educated Yoruba

subjects have a longer duration in the production of the unstressed syllable *-less* and the unstressed vowel *-e-* than the control.

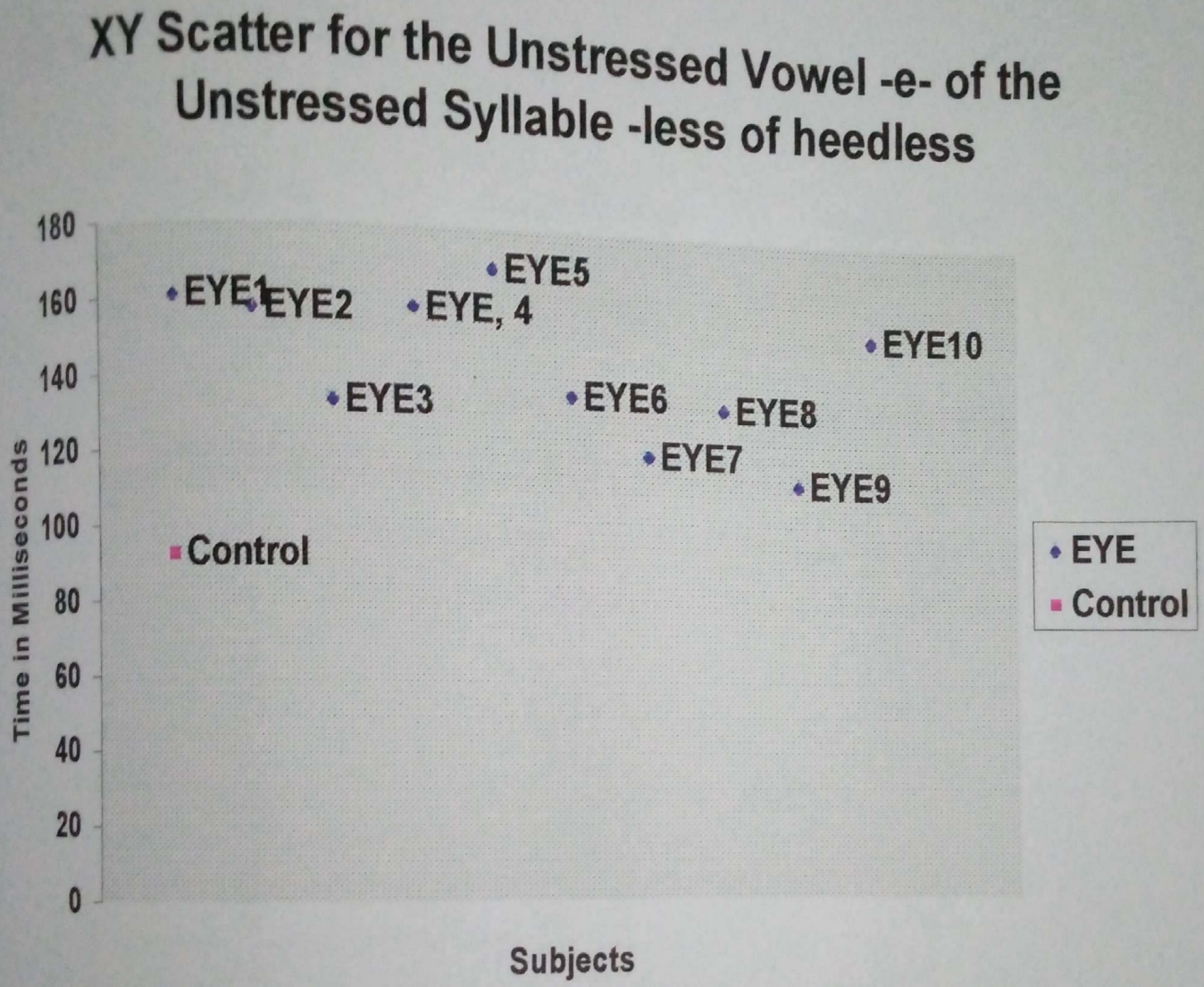
Figure 11



It is observed from this scatter that the RP speaker's rendition of ***-less*** is under 500ms while those of the EYE subjects range between 500ms and 700ms. This implies that the

EYE subjects have a longer duration than the control in the production of the unstressed syllable *-less* of ***heedless.***

Figure 12



It is observed here that the control produced *-e-* / ɪ / under 100 milliseconds while the EYE subjects produced the

vowel with durations that range between 120ms and 180ms. This implies that all the EYE subjects took longer periods to produce the sound than the control.

DOCTOR

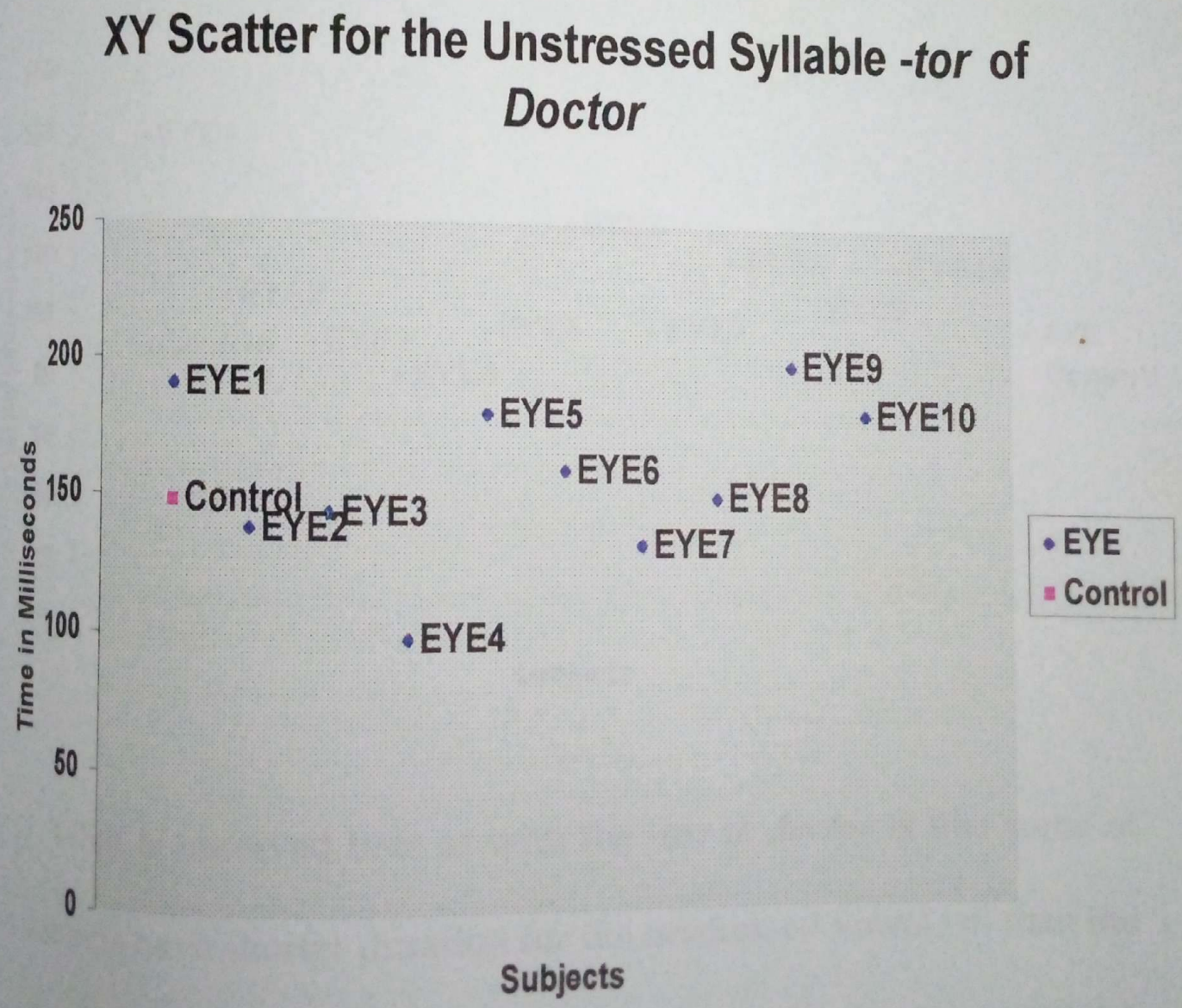
Table 18

Subjects	Duration of Unstressed Syllable	Duration of Unstressed Vowel
	-tor of doctor	***-o-*** of doctor
Control/RP	148.3	88.9
EYE 1	190.5	156.2
2	137.9	104.8
3	143.5	90.1
4	97.6	79.3
5	179.3	94.1
6	158.6	128.3
7	131.5	93.7
8	148.5	116.1
9	197.6	101.2
10	179.5	115

In the duration of the unstressed syllable ***-tor*** and the unstressed vowel ***-o-*** of ***doctor,*** the subjects have a range of 97.6ms to 197.6ms and 90.1ms to 156.2ms respectively. It is observed here that some of the EYE subjects have shorter durations

than the control. Subject 4 has a duration of 97.6ms for producing *-tor* and 79.3ms for producing *-o-*. However on the average, the subjects have a mean of 156.5ms and 106.1ms respectively). This implies that despite the few exceptions, on the average, the EYE subjects still took longer durations to produce the unstressed syllable *-tor-* and the unstressed vowel *-o-* of ***doctor*** when compared with the control.

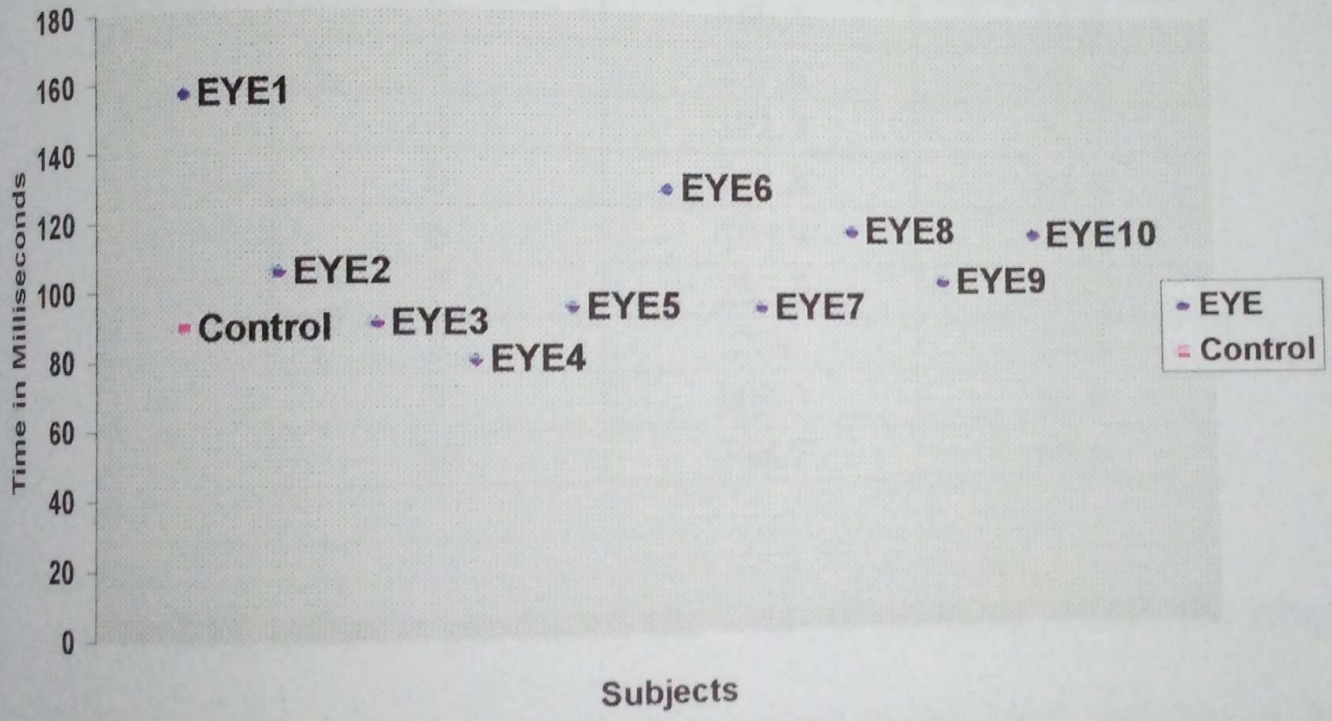
Figure 13



The chart above presents some EYE subjects as having shorter duration in the production of the unstressed syllable *-tor* than the control. But majority of the EYE subjects still have longer durations.

Figure 14

XY Scatter for the Unstressed Vowel -o- of *Doctor*



What is observed here as with the *-tor* of ***doctor*** is that some of the subjects have shorter duration for the unstressed vowel *-o-* than the control. However, majority of the subjects also have longer durations.

6.2.3 Polysyllabic Words

AMATEUR

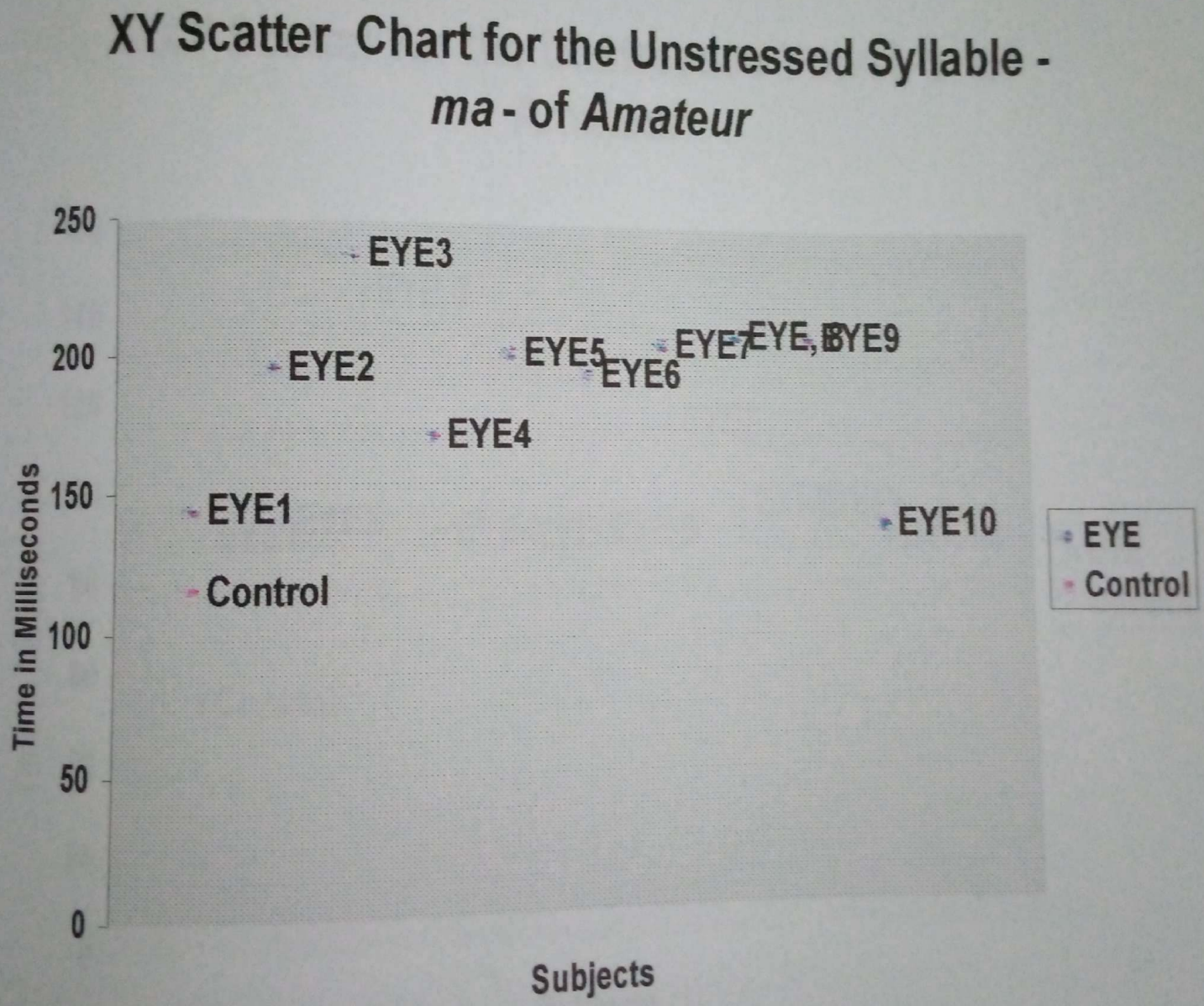
Table 19

Subjects	Duration of Unstressed Syllable	Duration of Unstressed Vowel
Control/RP	*-ma-* of *amateur*	*--a--* of *amateur*
EYE 1	115	53.6
2	144.4	90.2
3	195.3	93.6
4	237.6	145.5
5	171.3	91.5
6	201.8	90.3
7	193.9	91.4
8	205.5	116.3
9	209	97.5
10	208.5	96.8
	138.7	89.6

The EYE subjects produced the *-ma-* of ***amateur*** within the range of 144.5ms and 209ms while the *-a-* vowel in the *-ma-* syllable of the word was produced within the range of 89.6ms and 145.5ms. However for the control, *-ma-* was produced in 115ms and the *-a-* in 53.6ms.

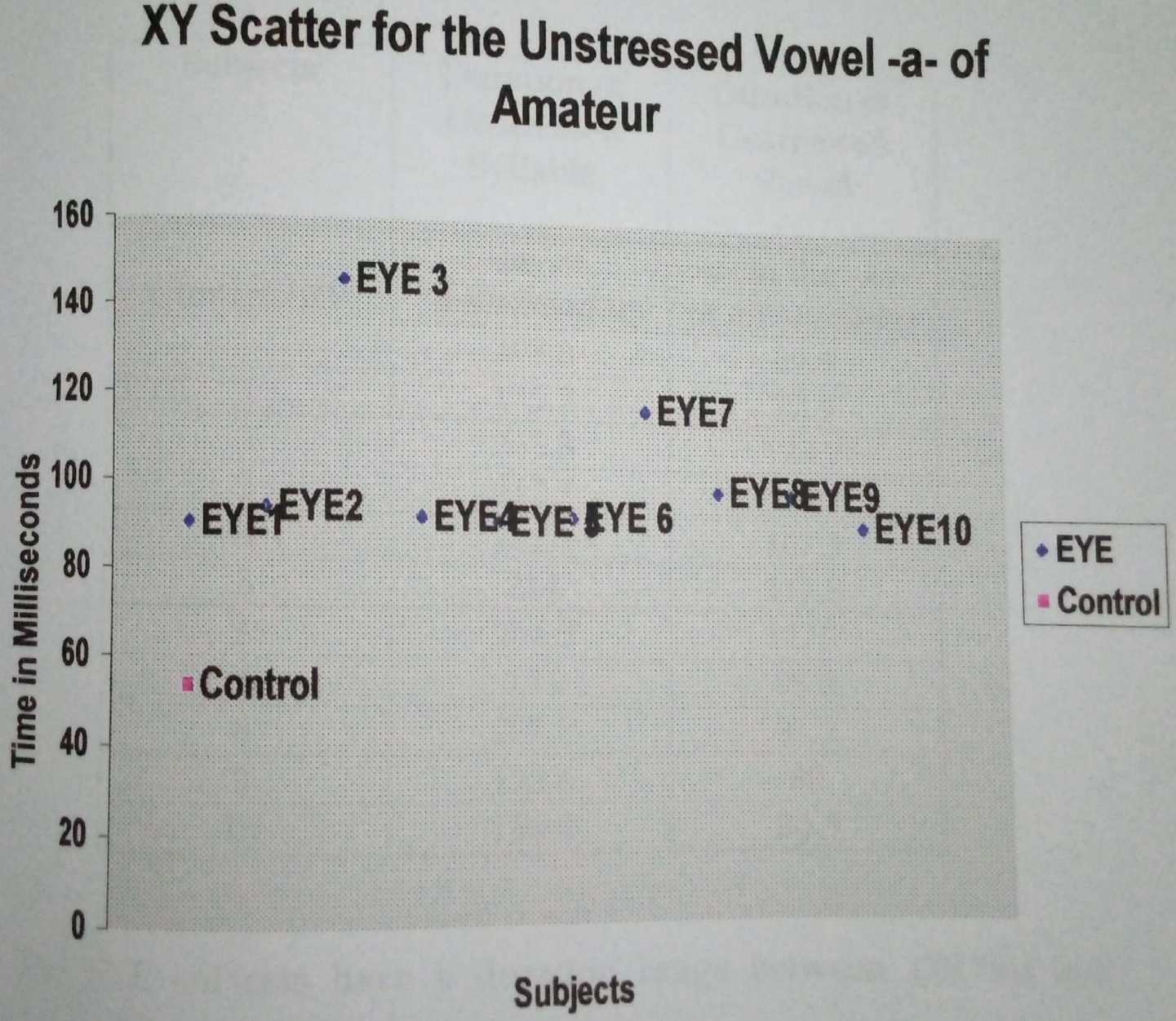
What is discovered here again is a longer duration in the rendition of unstressed syllables and vowels by EYE subjects.

Figure 15



It is also established by the chart above that the EYE subjects took longer time in producing the unstressed syllable –*ma*- of ***amateur*** than the control.

Figure 16



It is also established by the chart above that the EYE subjects have longer durations in the production of the unstressed vowel *-a-* of the unstressed syllable *-ma-* of ***amateur***.

Table 20

AMBASSADOR

Subjects	Duration of Unstressed Syllable	Duration of Unstressed Vowel
Control/RP	*-sa-* of ***ambassador***	*-a-* in the *-sa-* of ***ambassador***
	208.3	89.6
EYE 1	175.7	72.9
2	265.8	124.7
3	212.7	106.1
4	211.1	107.9
5	214	111.5
6	234.5	117.7
7	195	98.8
8	207.7	91.2
9	193.6	80
10	190.4	80.3

The EYE subjects have a duration range between 175.7ms and 265.8ms in the production of the unstressed syllable *-sa-* of ***ambassador***. For the vowel *-a-* in the unstressed syllable *-sa-* of ***ambassador***, the EYE subjects have a duration range between 72.9ms and 124.7ms. There is

another striking observation as realized in the rendition of the word *doctor*. There were instances where some of the subjects have shorter durations than the control. However the mean for the duration of *-sa-* is 209.9ms and 99.1ms for the rendition of the vowel *-a-*. The means for the syllable *-sa-* and the vowel *-a-* for the EYE group still surpassed the control's. This still implies that the EYE speakers have a tendency towards longer duration for unstressed syllables and vowels than is attested for RP speakers.

Figure 17

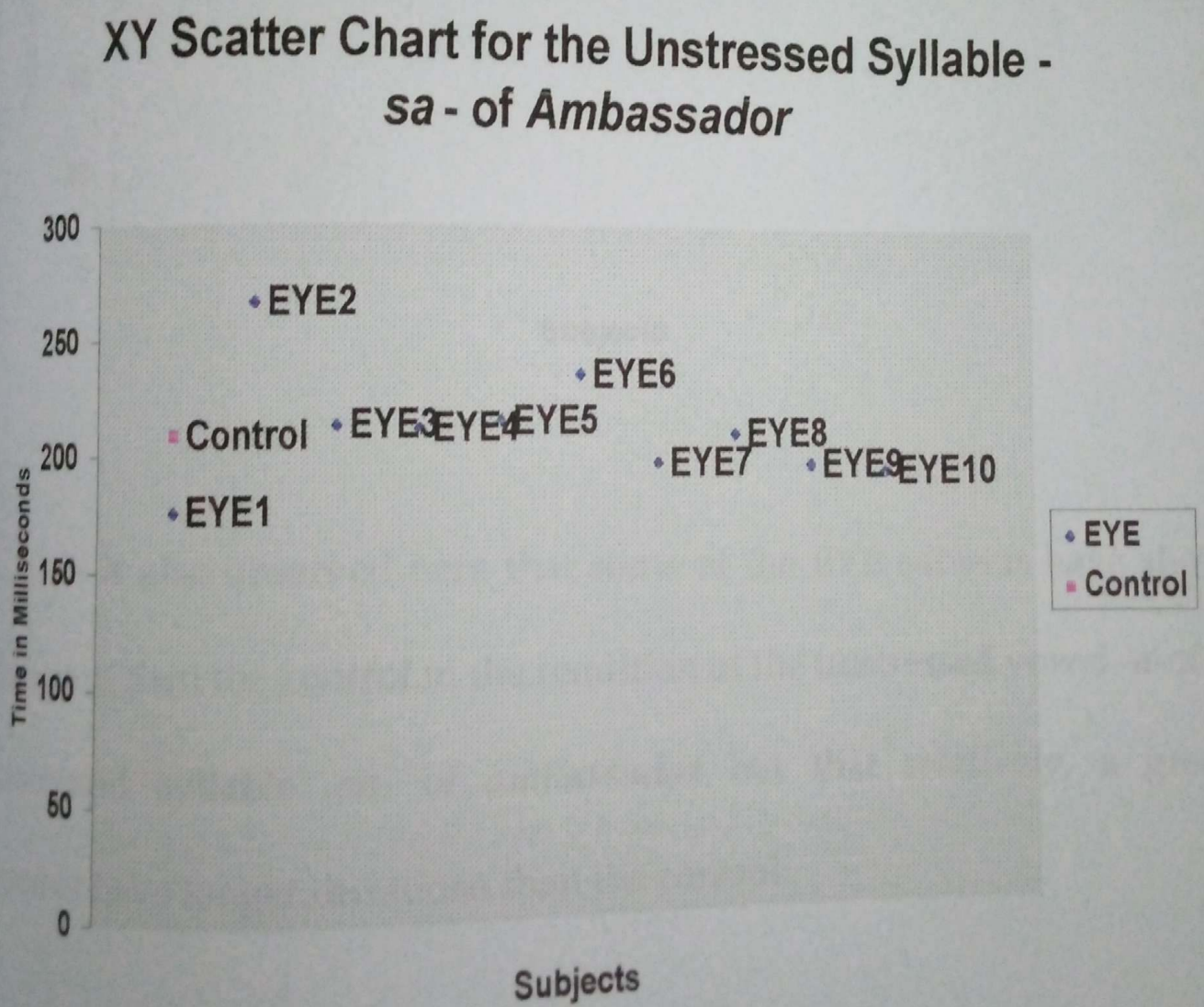
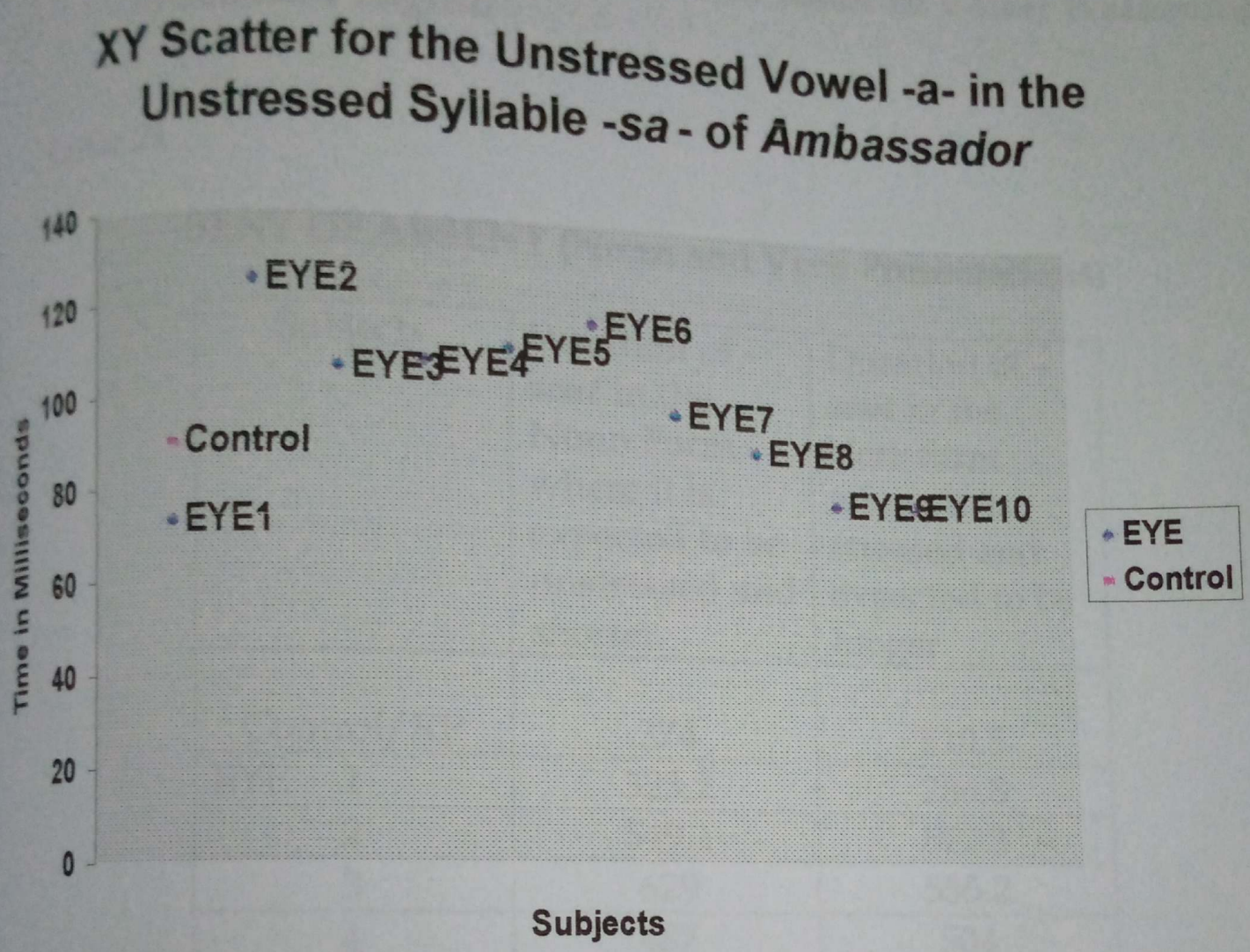


Figure 18



It is also observed here that some of the EYE subjects have shorter durations than the control in the rendition of the unstressed vowel -***a***-of the unstressed syllable -***sa***- of ***ambassador*** but that relatively, a greater number have longer durations than the control.

6.3 Unstressing in Words that Function as Nouns/Adjectives and Verbs where shifts of Stress often result in Vowel Weakening in Standard English

Table 21

SENT OF ABSENT (Noun and Verb Presentations)

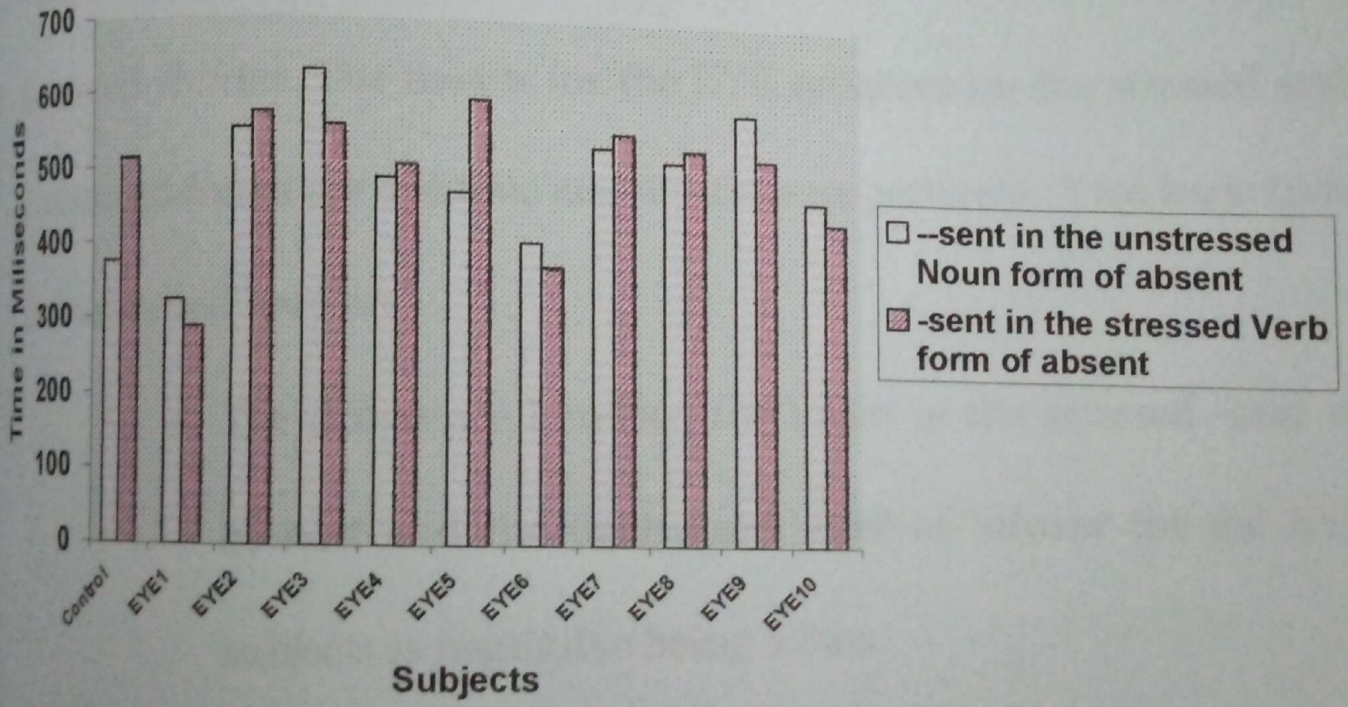
Subjects	Duration of –*sent* in the Noun Form where it is expected to be unstressed and shorter	Duration of –*sent* in the Verb form where it is stressed and expected to be longer
Control/RP	374	510.5
EYE 1	323.2	286.8
2	549.1	572.3
3	629	555.2
4	487	504
5	468.5	592.1
6	402.5	370.4
7	531.3	549.5
8	513	530
9	580.1	518.6
10	464.6	435.9

In Standard English the *–sent* in the word `*absent* for the noun presentation is expected to be unstressed and consequently shorter than the *-sent* in the verb form *ab`sent* which is expected to contain a strong

stressed vowel which should be longer than the noun form (the unstressed *-e-* / e / in the word having been reduced to the weak / ə / in the noun form. It is observed from this analysis that the duration distinction between the *–sent* in the noun form and the *-sent* in the verb form was not observed by most EYE subjects.

Figure 19

Clustered Column for the Stressed and Unstressed -sent in the Verb and Noun Presentations of Absent



The first twin Column on this clustered column is the control's. She is observed to have rendered *–sent* within the duration of 374ms in the

noun form and *-sent* in the verb form within the duration of 510.5ms. It can be observed here that the duration of the stressed *-sent* increased by 136.5ms above that of the unstressed version.

With the EYE subjects however, the expected increase in duration is not remarkable except for Subject 5 who has an increase of 123.6ms in the verb form. The other EYE subjects either have no remarkable increase or, in interesting cases, a reduction in duration such that the noun form which is expected to be shorter was rendered longer and the stressed verb form which was expected to be longer consequently rendered shorter. The means for the EYE speakers for the stressed and unstressed forms are 494.8ms and 491.5ms respectively. Two basic facts that are noted here are

- The difference between the mean of the stressed *-sent* of *ab`sent* and the unstressed *-sent* of *`absent* for the EYE subjects is negligible being 3.3ms.
- The longer duration (494.8ms) is allotted to the noun form which is expected to be shorter while the shorter duration

(491.5ms) is allotted to the verb form which is expected to be stressed, consequently stronger and longer.

The differences between the *–sent* of the noun form and that of the verb form were calculated for the EYE subjects.

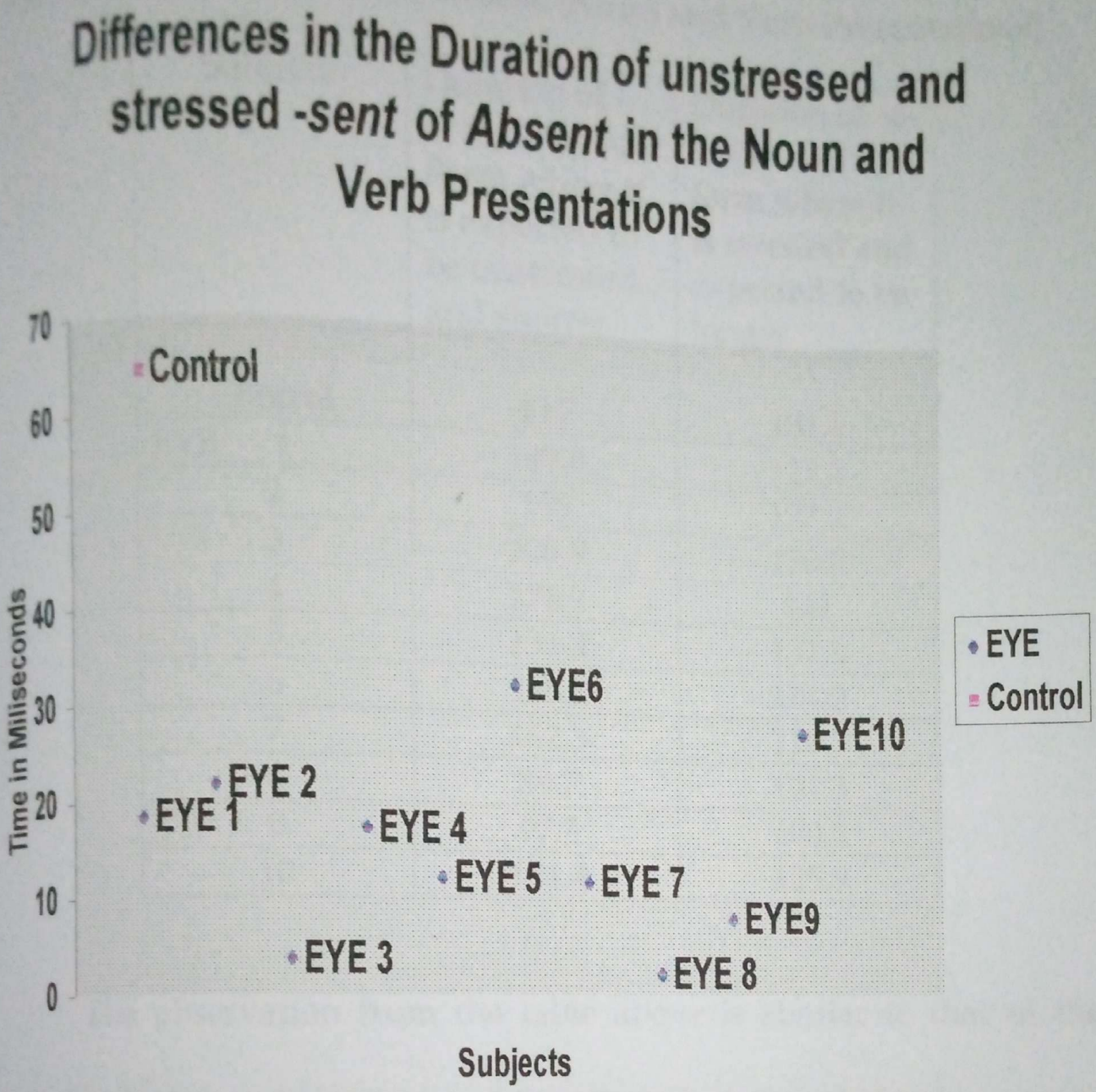
Table 22

The differences in the Duration of *-Sent* in the Noun and the Verb Forms.

Subjects	Control	1	2	3	4	5	6	7	8	9	10	Mean of the Differences for EYE Subjects
Differences in Duration	136.5	36.4	23.2	73.8	17	123.6	32.1	18.2	17	61.5	28.7	**43.2**

While the control's difference is 136.5 ms, it is observed here that the mean of the differences in duration for the EYE subjects which is 43.2ms further confirms that the EYE subjects hardly differentiated between the noun and verb forms of *–sent*. It is observed here that the EYE Subjects all have differences that are not so remarkable in the duration of the unstressed *-sent* of *`absent* and the stressed *-sent* of *ab`sent*. The control however is observed to have a remarkable difference between the durations of the two forms.

Figure 20



The XY Scatter chart above reveals a remarkable difference in the distinction made by the control for this investigation in the production of the stressed and unstressed *-sent* in the noun and verb forms of the word absent and that of the EYE subjects.

Table 23

The vowel **-*e*- in the -*sent* of *Absent* (Noun and Verb Presentations)**

Subjects	Duration of -*e*- in the Noun Form where it is expected to be unstressed and shorter	Duration of -*e*- in the Verb form where it is stressed and expected to be longer
Control	43.7	131.1
EYE 1	149.5	121.2
2	195	177.2
3	105.9	150.8
4	176.7	141
5	131.8	137.3
6	115.3	114.2
7	162.3	119.3
8	89.7	101.3
9	97.3	100.2
10	101.4	125.9

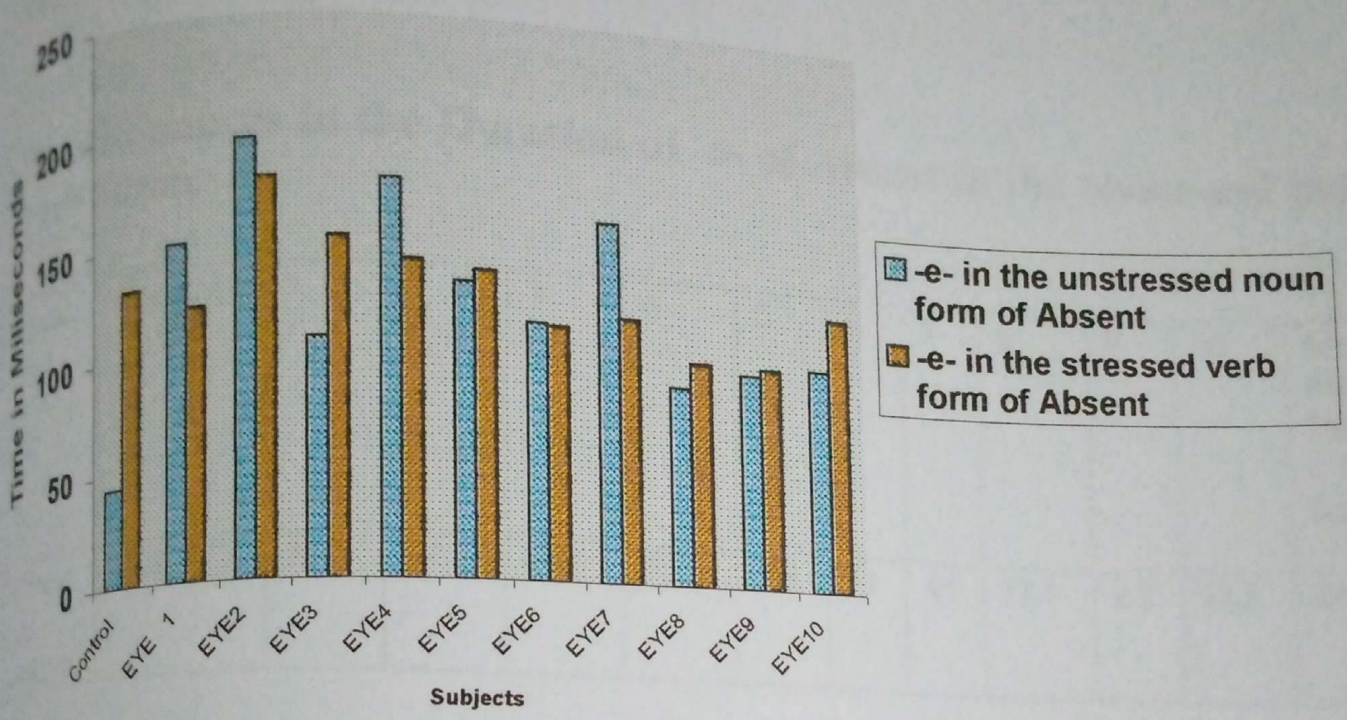
The observation from the table above is similar to that of the syllable duration. It is observed that there is a remarkable increase in the duration of the stressed -*e*- when compared to the unstressed version in the rendition of the control. The unstressed -*e*- was produced

in 43.7ms while the stressed version was produced in 131.1ms (the difference in duration being 87.4ms). For the EYE subjects however, the differences were not so remarkable. The few cases where there were increases in duration as expected, the differences were negligible. Subject 1 has a difference of 28.4ms, subject 3 – 44.9ms, subject 5 – 5.5ms, subject 9 – 2.9ms and subject 10 – 24.5ms.

The mean for the EYE subjects is 132.5 for the unstressed vowel –*e*- and 128.8 for the stressed version. This implies a negligible difference of 3.7. Another remarkable observation here is that the 3.7 difference in the mean of the EYE subjects derived from the duration difference in the production of the stressed and unstressed –*e*- does not apply as in Standard English because greater duration was applied to the unstressed syllable which is expected to be shorter while the stressed syllable which was expected to be longer was rendered shorter.

Figure 21

Clustered Column for the Stressed and Unstressed -e- in the Verb and Noun Presentations of Absent



The first clustered column above shows the performance of the control who has a remarkable duration distinction between the stressed and unstressed versions of the vowel *–e-* while the other columns belong to the EYE subjects who have not so remarkable distinctions between the twin bars. It can also be observed from the chart that for the EYE subjects, the

first bar of each pair (which represent the unstressed -*e*- duration) are even higher than the second bars (which represent the stressed -*e*- duration).

Table 24

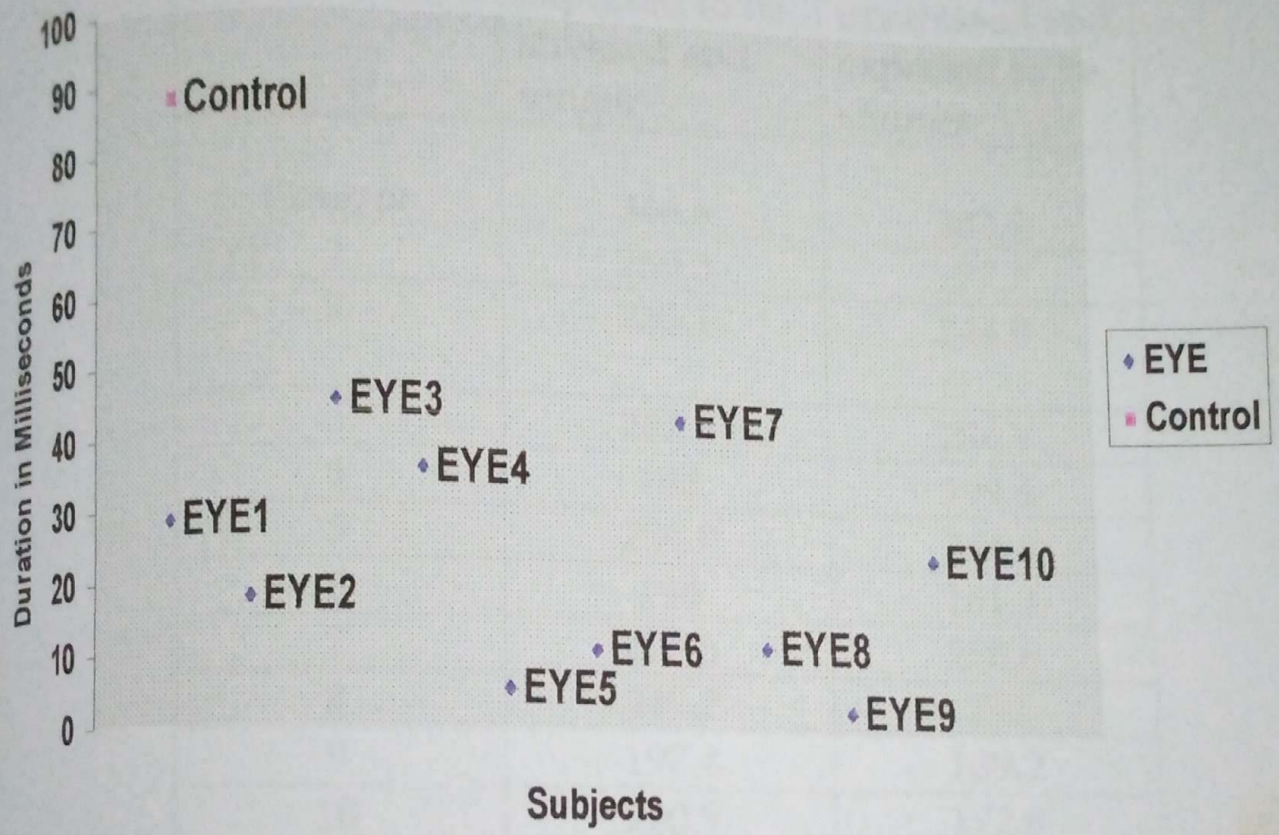
The differences in the Duration of -*e*- of *Absent* in the Noun and the Verb Forms.

Subjects	Control	1	2	3	4	5	6	7	8	9	10	Mean of the Differences for EYE Speakers
Differences in Duration	87.4	28.4	17.8	44.9	35.7	5.5	11	43	11.6	2.9	24.5	22.5

It could be observed here too that the mean of the differences for the EYE subjects is 22.5ms which is not so remarkable especially considering the fact that the bulk of the differences are not in accordance with the Standard English pattern of making the stressed vowel longer than the unstressed vowel. The control however has a remarkable difference of 87.4.

Figure 22

XY Scatter for the Difference in the Duration of *e-* in the Stressed and Unstressed *-sent* in the Verb and Noun Presention of *Absent*



It could be observed from the scatter above that the EYE subjects have a duration difference that ranges between 0 and 50ms while the Control has a duration difference of almost 80ms.

Table 25

Com- of Combine (Noun and Verb Presentations)

Subjects	Duration of *com-* in the Noun Form where it is expected to be stressed and longer	Duration of *com-* in the Verb form where it is unstressed and expected to be shorter
Control	346.6	282.2
EYE 1	259.3	277.7
2	233.1	244.9
3	262.9	286.7
4	182	199.4
5	256.9	244.6
6	194	161.3
7	270.6	258.6
8	249.7	252
9	197.4	189.2
10	200.9	172.8

Com- in the word ***combine*** is supposed to be stressed in the noun form while it is unstressed in the verb form. The noun form is therefore expected to have a longer duration than the verb form. The control for this research produced the noun form of *com-* in 346.6ms and the verb

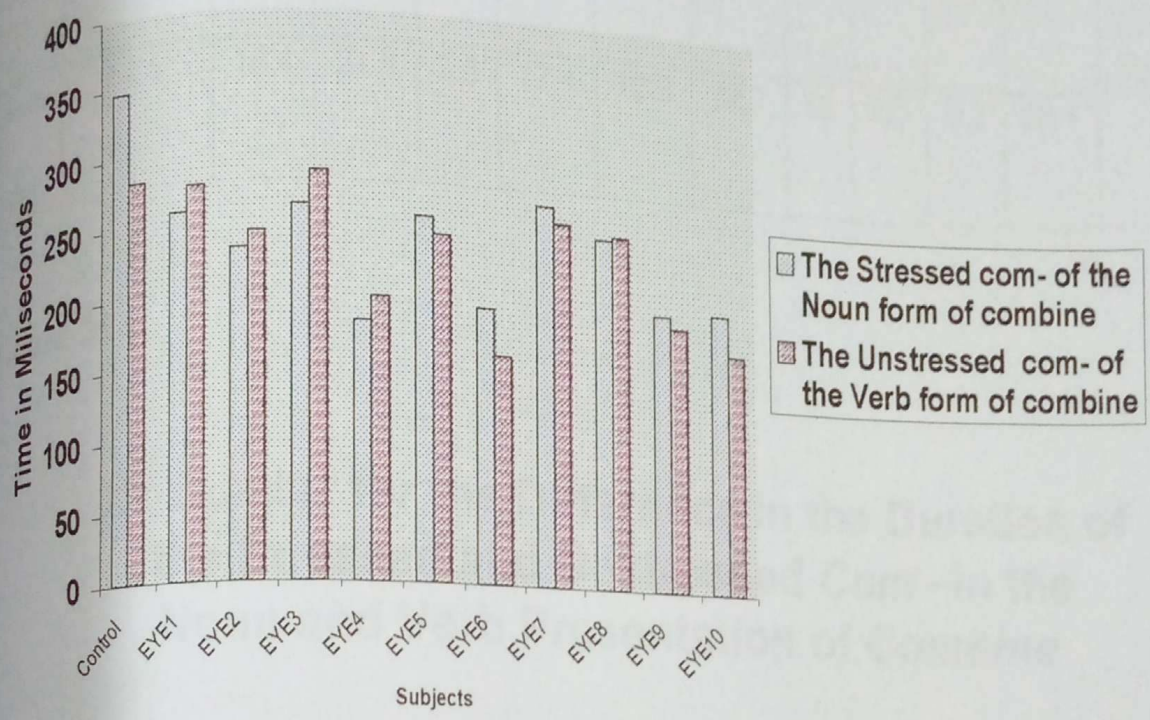
form in 282.2ms. This implies that the duration was reduced by 64.4ms in the rendition of the unstressed version.

With the EYE subject however, no remarkable difference in duration was established. Subjects 5, 6, 9 and 10 were the only ones who reduced the duration by 12.3ms, 32.7ms, 12ms, 8.2ms and 28.1ms respectively. The other subjects increased rather than reduced the duration as opposed to what obtains in Standard English. It is noted here that even with the subjects who reduced the durations; the differences are not very remarkable. In the same vein, the subjects who increased rather than decrease also make no remarkable distinction between the two forms (the differences are -18.4, -21.8, -3.8, -17.4,-2.3 ms respectively).

The means for the duration of the stressed *com-* and the unstressed version for the EYE subjects were also established to be only marginally different. The mean for the stressed form as rendered by the EYE subjects is 241.2ms while that of the unstressed form is 233.6ms - the difference being an insignificant 7.6ms.

Figure 23

Clustered Column for the Stressed and Unstressed *Com* - in the Noun and Verb Presentations of *Combine*



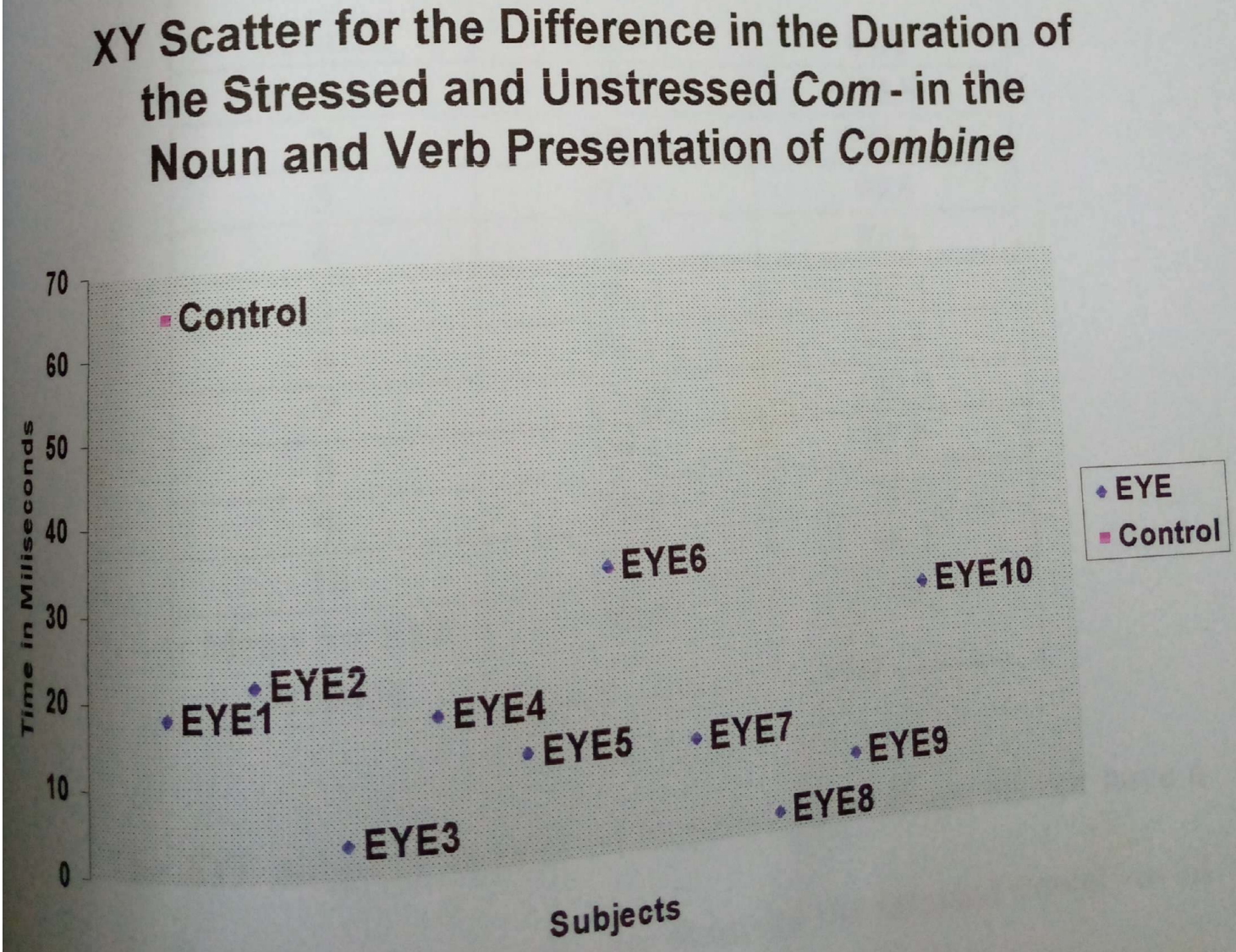
It has also been established here too that the EYE subjects did not distinguish stressed and unstressed syllables by making the stressed ones longer. As opposed to what is established in Standard English. Sometimes the syllables that were expected to be made longer due to the influence of stress were rendered shorter.

Table 26

Differences in the Duration of *Com-* in the Noun and the Verb Forms.

	Control	1	2	3	4	5	6	7	8	9	10	Mean of he Differences for EYE Subjects
	64.4	18.4	21.8	3.8	17.4	12.3	32.7	12	2.3	8.2	28.1	**15.7**

Figure 24



This XY Scatter chart shows a difference range between 2ms and 20ms for the EYE speakers while the control has a remarkable difference of above 60ms.

Table 27

The vowel *-o-* in the com- of combine (Noun and Verb Presentations)

Subjects	Duration of *-o-* in the Noun Form where it is expected to be stressed and longer	Duration of *-o-* in the Verb form where it is unstressed and expected to be shorter
Control	76.7	64.4
Subject 1	105.8	104.9
2	109.2	105.4
3	80.3	99.4
4	90.2	82.6
5	126.4	122.3
6	74.1	73.2
7	135.3	132.3
8	99.4	87.8
9	75.0	76.0
10	88.6	66.2
Mean for EYE Subjects	**98.4**	**95**

The EYE subjects as noticed in previous analysis do not have a remarkable differentiation in the rendition of the stressed vowel *-o-* of

com- in the stressed noun form and its unstressed counterpart in the unstressed verb form. There is however a particular subject (i.e. subject 10) who had a duration difference of 22.4 in accordance with what obtains in Standard English. Some of the other EYE subjects even have longer durations for the unstressed version of **–o-** as opposed to what is established in Standard English. On the average, the mean for the EYE subjects for the stressed **–o-** is 98.4ms while 95ms is for the unstressed *–o-*. This also shows an insignificant difference of 3.4ms.

Figure 25

The Clustered Column for the Stressed and Unstressed -o- in the Noun and Verb Forms of *Combine*

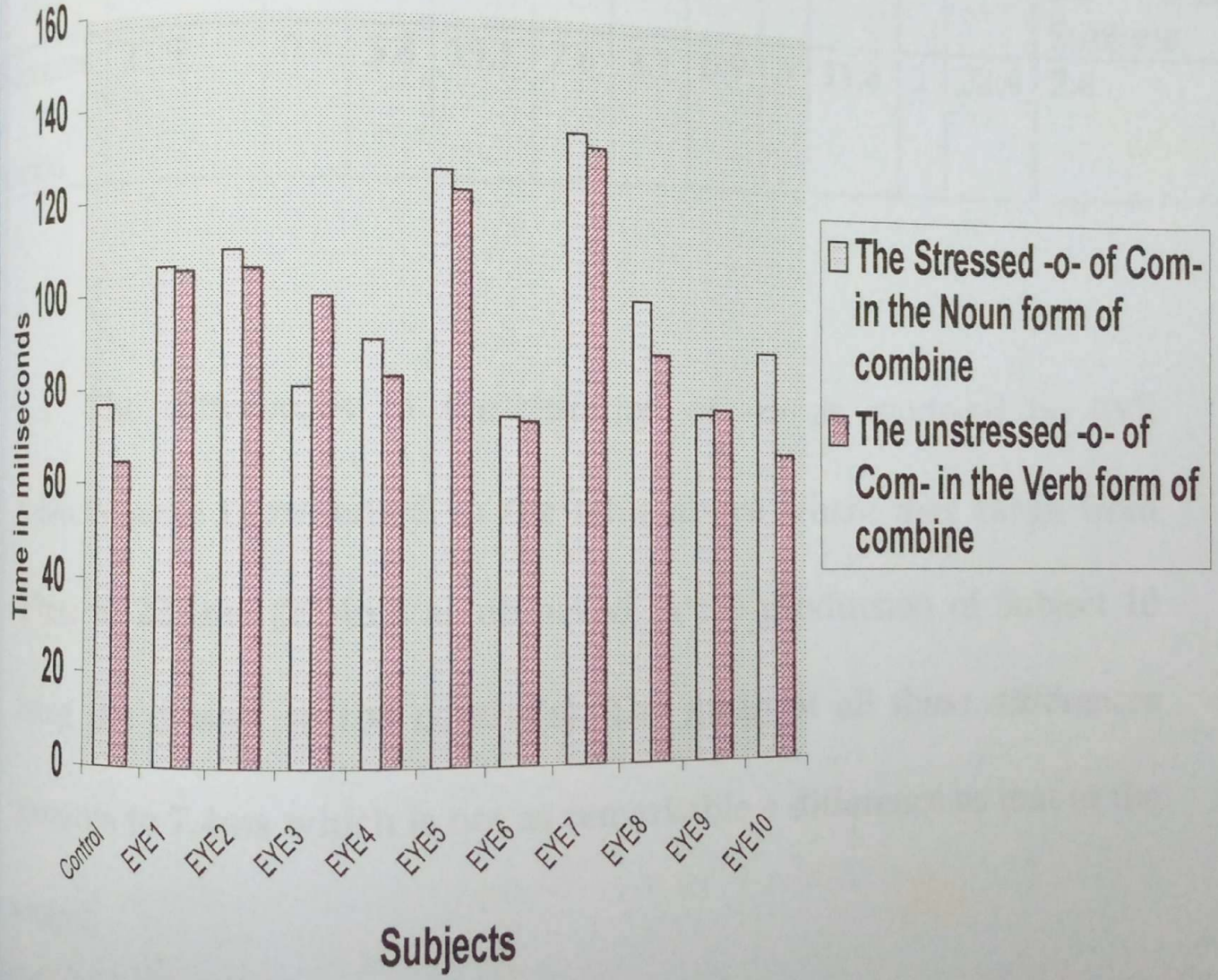


Table 28

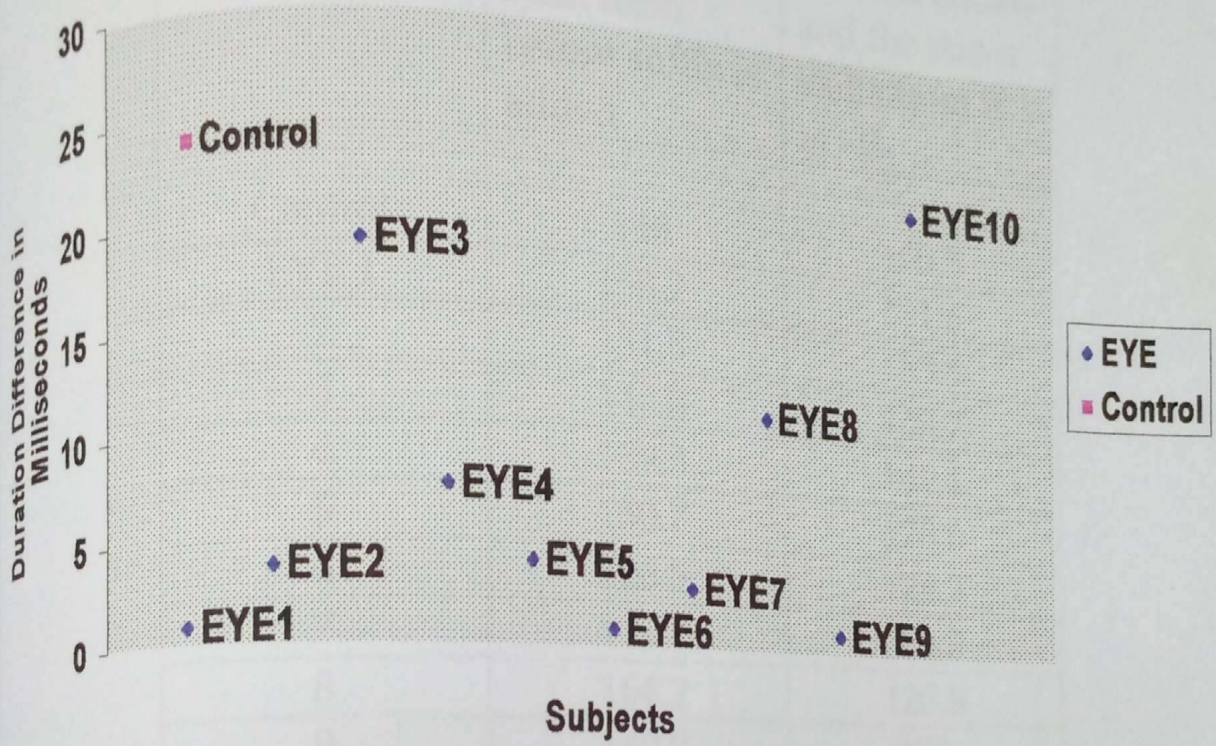
The differences in the Duration of -o- of *Combine* in the Noun and the Verb Forms.

bjects	Control	1	2	3	4	5	6	7	8	9	10	Mean of the Differences for EYE Subjects
ifferences Duration	23.9	0.9	3.8	19.1	7.6	4.1	0.9	3	11.6	1	22.4	**7.4**

The differences in the duration of *-o-* as rendered by EYE subjects were represented in the table above where they range from 0.9ms to 22.4ms (22.4ms as observed in the production of Subject 10 being the closest to the control's). The mean of all these differences amounts to 7.4ms which is not as remarkable a difference as that of the control.

Figure 26

XY Scatter for the Difference in the Duration of the -o- of Com- in the Stressed and Unstressed Noun and Verb Presentations of Combine



As observed in the XY Scatter above, the majority of EYE subjects occupy the lower duration portion of the chart while only two are close to the control's.

6.4 Unstressing in Words that have their Vowels reduced when Suffixes are added and there is a shift in stress.

Table 29

-ne- of Phonetics/Phonetician

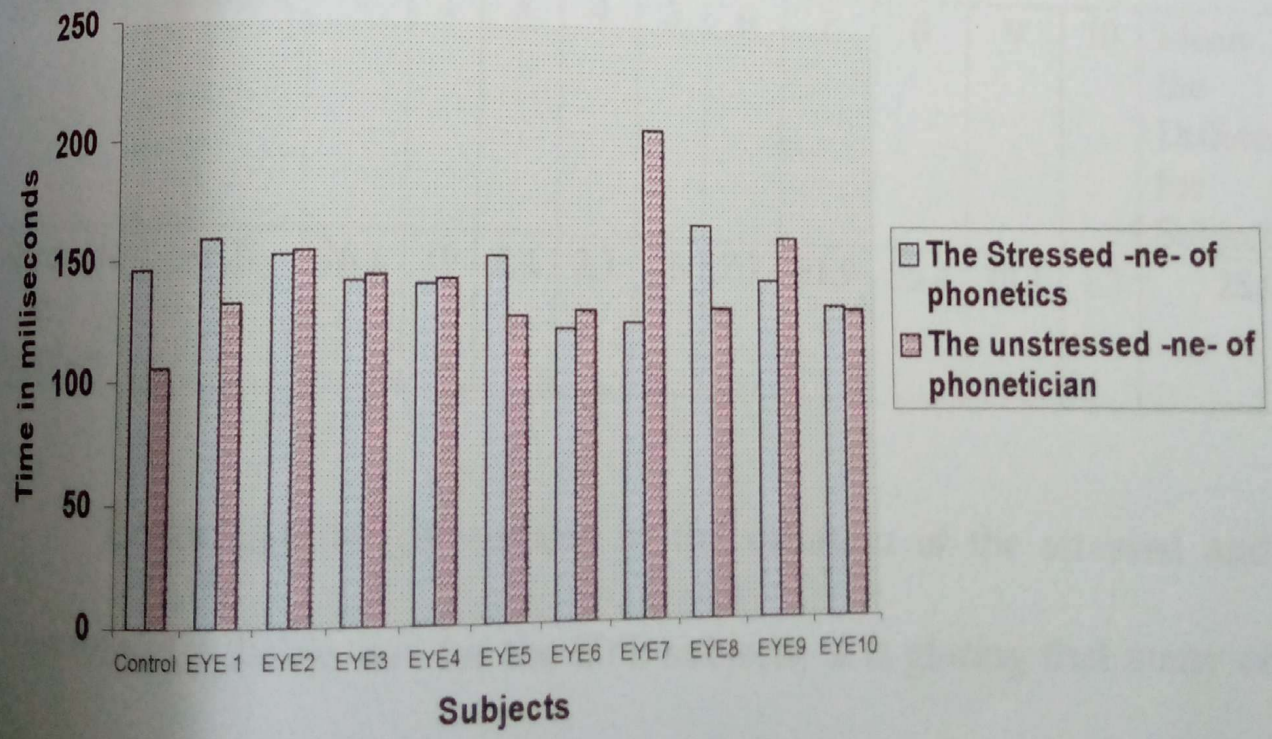
Subjects	Duration of –*ne-* when stressed in the stem form before suffix is added	Duration of –*ne-*after the suffix is added and the stress shifts from it to **–ti-**
Control	146	105.5
EYE 1	158.2	131.6
2	151.5	153.4
3	140.8	143.2
4	139.3	141.4
5	150.7	125.6
6	120.5	128.2
7	122.6	204.5
8	164.2	128.8
9	140.9	159
10	130.2	128.9
Mean for EYE subjects	**141.9**	**144.5**

The word ***phonetics*** assigns the primary stress to the –***ne***- syllable in the word while the addition of the suffix –***ian*** shifts the stress to the syllable -*ti*- consequently unstressing the –***ne***- syllable in phonetician. Most

EYE subjects do not make any remarkable distinction between the stressed *-ne-* and the unstressed *-ne-* as can be deciphered from the table and the clustered column. The mean for the EYE subjects for the stressed syllable *-ne-* is 141.9ms while that of the unstressed syllable is 144.4ms. It is observed here that on the average, the syllable whose duration should be reduced was made longer while the one that should be made longer was reduced.

Figure 27

The Clustered Columns for the Stressed *-ne-* of *Phonetics* and the Unstressed *-ne-* of *Phonetician*



The clustered column above shows the control as making a distinction between the duration of the stressed and unstressed syllable, rendering the stressed syllable *-ne-* of ***phonetics*** longer than the unstressed *-ne-* of ***phonetician***. It is observed here that majority of the EYE subjects, except Subjects 1, 5 and 8 did not make remarkable distinctions between these forms. Some of the bars which represent the unstressed syllable *-ne-* of ***phonetician*** are even observed to be longer than the stressed *-ne-* of phonetics.

Table 30

The differences in the Duration of the stressed *-ne-* of *phonetics* and the Unstressed-*ne-* of *phonetician*

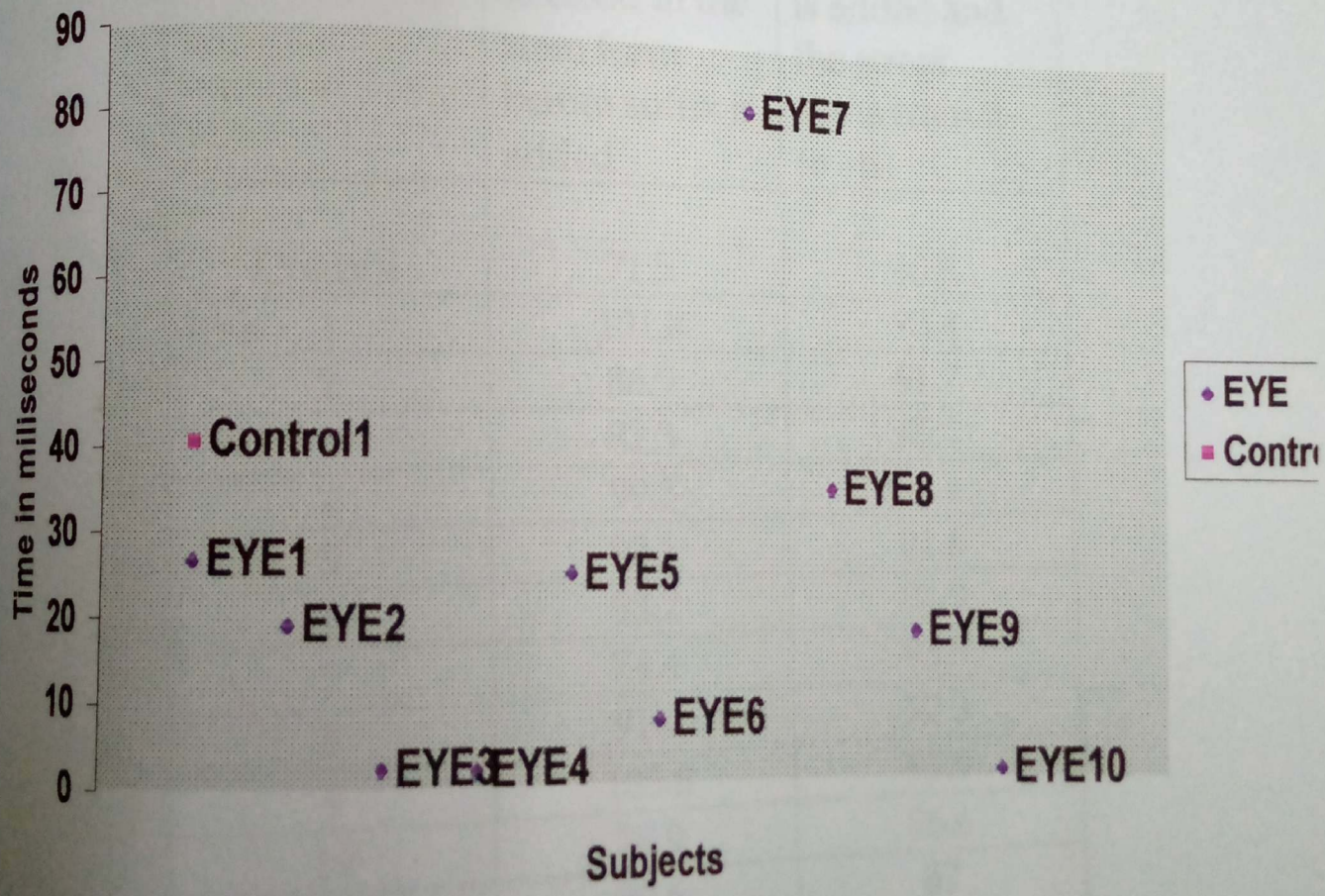
Subjects	Control	1	2	3	4	5	6	7	8	9	10	Mean of the Differences for EYE Subjects
Differences in Duration	40.5	26.6	19	2.4	2.1	25	7.7	81.9	35.4	18.1	1.3	**25.9**

Observing the differences in the duration of the stressed and unstressed syllable *-ne-* for the EYE subjects, it is glaring that many of the differences are not applied in the direction of Standard English

usage. The longest duration difference was rendered by Subject 7 but contrary to what obtains in Standard English, the syllable that was expected to be stressed was rendered shorter than the one that was expected to be reduced.

Figure 27

XY Scatter for the Difference in the Duration of the Stressed *-ne-* of *Phonetics* and the Unstressed *-ne-* of *Phonetician*



The XY scatter shows the control as having the difference of above 40ms while there is only one EYE subject with a higher duration difference. (Note that it has been observed earlier that the application of the duration difference for this subject is not in accordance with Standard English usage but rather in the opposite direction.)

Table 31

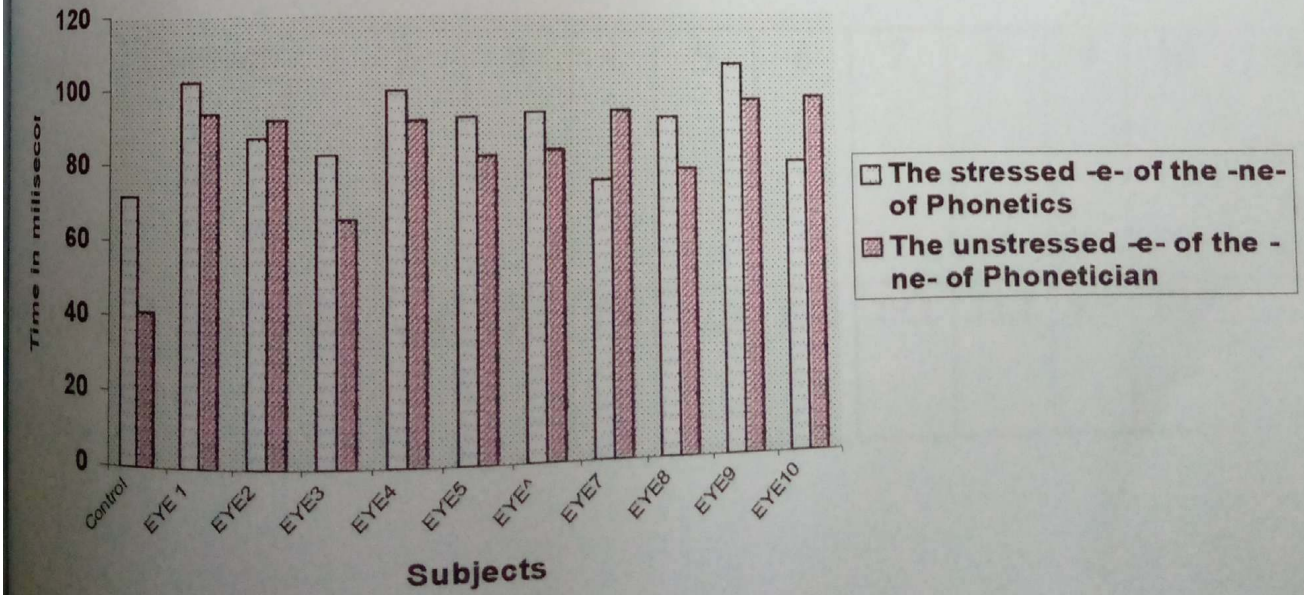
The vowel *-e-* in the *-ne-* of *Phonetics/Phonetician*

Subjects	Duration of *-e-* when stressed in the stem form before suffix is added	Duration of *-e-* after the suffix is added and the stress shifts from it to **-ti-**
Control	71.5	40.9
EYE 1	101.8	93.4
2	86.9	91.7
3	82.3	65.2
4	99.3	91.4
5	92.1	81.6
6	93.2	82.9
7	74.4	93.5
8	91.4	77.3
9	105.8	95.9
10	78.9	96.6
Mean for EYE Subjects	**90.6**	**87**

What is observed here are some differences in duration which conform to Standard English usage when compared to the other information obtained from earlier analyses. Though not so significant, majority of the subjects reduced the duration of the *-e-* vowel of ***phonetics*** when the suffix ***-ian*** is added to it in ***phonetician***. Despite this, it is still realized that the difference in the means of the durations of the stressed *-e-* and the unstressed *-e-* as produced by these EYE subjects is not so remarkable. The stressed *-e-* has a mean of 90.6 while the unstressed *-e-* has a mean of 87 with only a difference of 3.6ms.

Figure 29

The Clustered Columns for the Stressed -e- of the -ne of *Phonetics* and the Unstressed -e- of the *-ne-* of *Phonetician*



It is observed from the clustered columns above that there is a remarkable reduction in the control's rendition of the unstressed *-e-* vowel in ***phonetician***. The EYE subjects are observed not to make remarkable distinctions as that of the control though their performance with this particular sound conformed more to Standard English usage than those earlier analyzed. However, EYE Subjects 2, 7 and 10 are still observed to have their differences not conforming to Standard English usage.

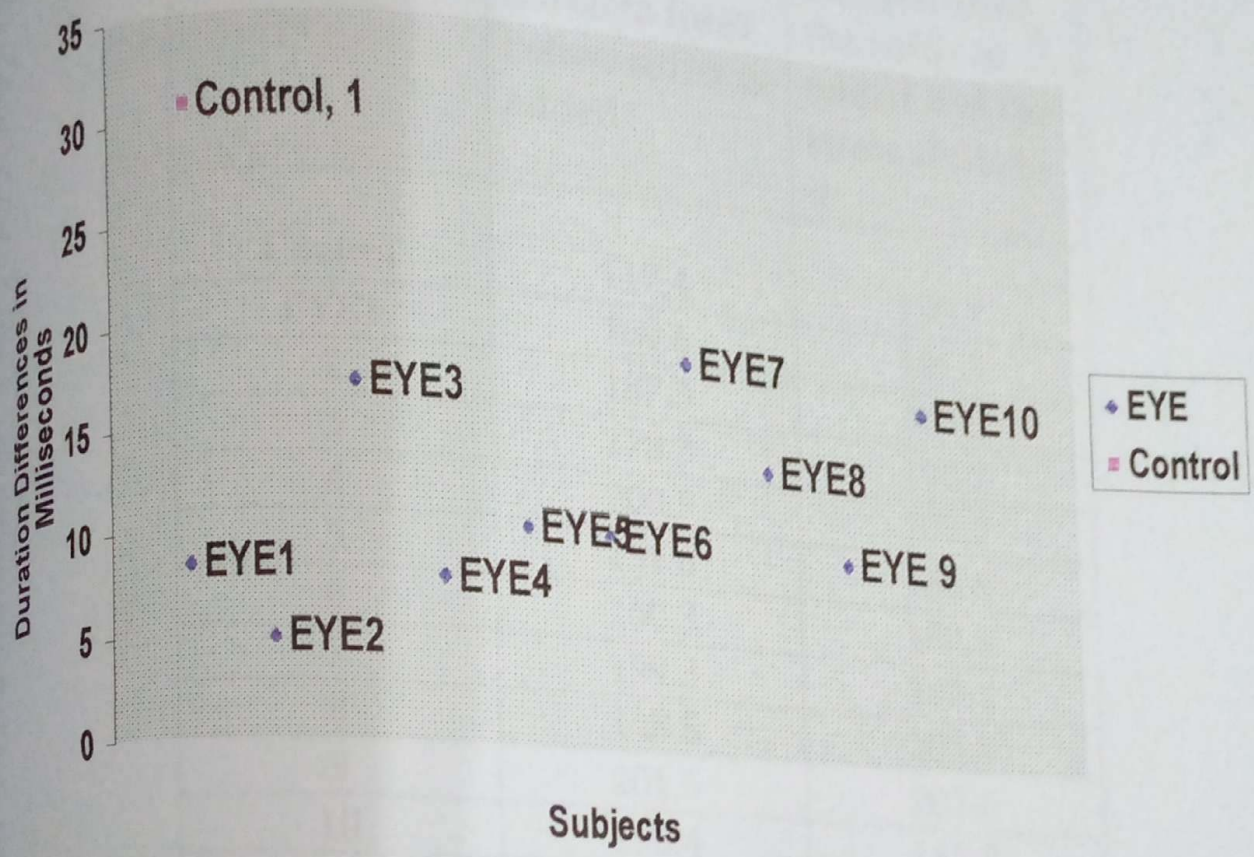
Table 32

The differences in the Durations of -e- of *Phonetics* and -e- of *Phonetician*

Subjects	Control	1	2	3	4	5	6	7	8	9	10	Mean of the Differences for EYE Subjects
Differences in Duration	30.6	8.4	4.8	17.1	7.9	10.5	10.3	19.1	14.1	9.9	17.7	**12**

Figure 30

XY Scatter for the Difference in the Duration of the Stressed -e- of *Phonetics* and the Unstressed -e- of *Phonetician*



It is observed from the XY Scatter above that though there is a relative differentiation in duration of the rendition of the *-e-* vowel by EYE subjects, the control is still observed to have a higher duration difference than the EYE subjects.

Table 33

***-me-* of Comedy/Comedian**

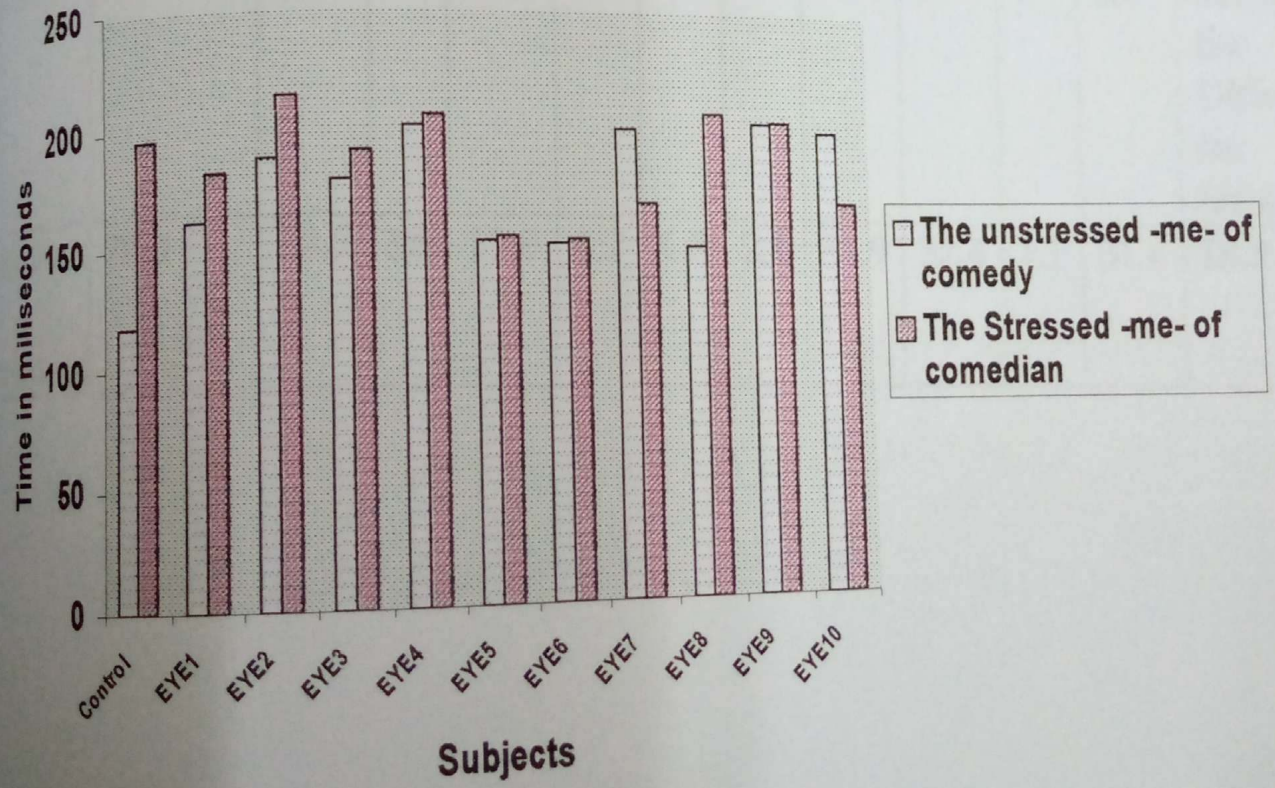
Subjects	Duration of *-me-* when unstressed in the stem form before suffix is added	Duration of *-me-* when stressed after the suffix is added and the stress shifts to it
Control	117.4	195.7
EYE1	160.6	181.3
2	187.3	213.3
3	178.3	190.2
4	200.5	205.2
5	151.8	153.6
6	150.3	152.4
7	199.3	167.4
8	148.5	205.9
9	201.5	202.6
10	198.4	167.0
Mean for EYE subjects	**177.7**	**183.9**

The word ***Comedy*** has its stress assigned to ***co-*** and the other syllables are therefore unstressed. However, when the suffix ***-ian*** is added, the stress shifts to ***-me-*** , and ***co-*** gets unstressed in the word ***comedian***. It is observed from the table above that the EYE subjects do not have

remarkable increase in duration in their rendition of the *-me-* of *Comedian* which is expected to be longer in duration than the *-me-* of *comedy*. Some even reduced the duration rather than increased it. The mean for the EYE subjects is 177.7ms for the unstressed *-me-* and 183.9ms for the stressed *-me-*, the difference between the two being an insignificant 6.2ms. The control however has a difference of 78.3ms.

Figure 31

The Clustered Columns for the Stressed *-me-* of *Comedian* and the Unstressed *-me-* of *Comedy*



In the production of the unstressed *-me-* of ***comedy*** and the stressed *-me-* of ***comedian,*** the Control is observed to have a shorter duration for the ***-me-*** of comedy and a longer duration for the ***-me-*** of comedian. The EYE subjects except Subject 9 are observed not to make such a remarkable distinction in the duration of these syllables and in the few instances where there are, the distinctions do not conform to Standard English usage.

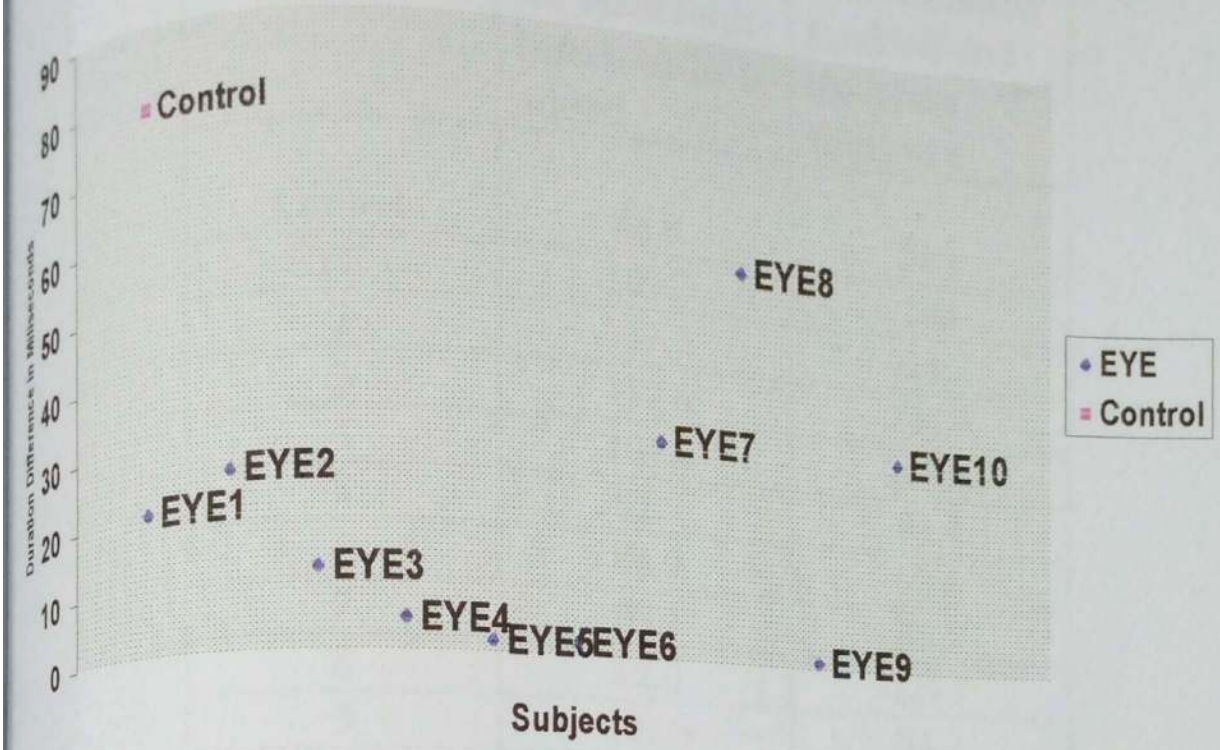
Table 34

The differences in the Duration of the Unstressed *-me-* of *Comedy* and -the Stressed *me-* of *Comedian*

ubjects	Control	1	2	3	4	5	6	7	8	9	10	Mean c the Difference for EY Subjects
ifferences uration	78.3	20.7	26	11.9	4.7	1.8	2.1	31.9	57.4	1.1	31.4	**18.9**

Figure 32

XY Scatter for the Difference in the Duration of the Stressed -*me*- of Comedian and the Unstressed -*me*- of Comedy



The EYE subjects are observed to have shorter differences in the durations of the unstressed –*me*- of ***comedy*** and the stressed –***me***- of ***comedian***. The Control as observed from this XY Scatter chart has a higher difference in duration than the EYE subjects.

Table 35

The vowel *–e-* in the *–me-* of *Comedy/Comedian*

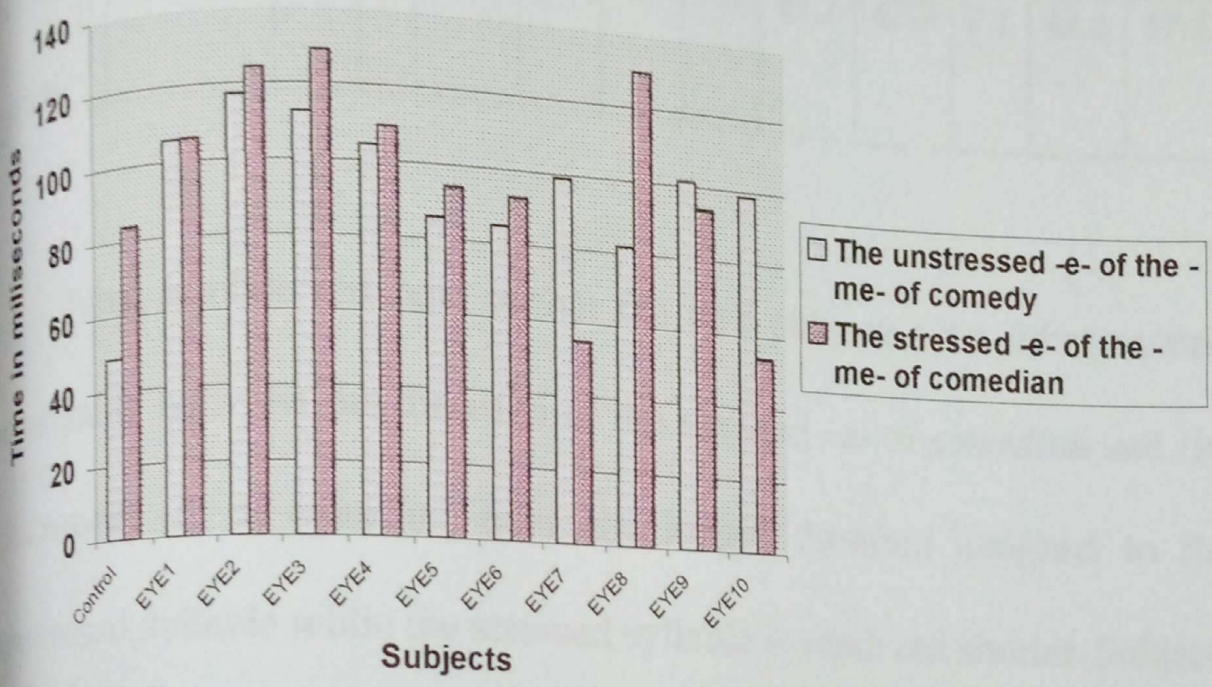
Subjects	Duration of *–e-* when unstressed in the stem form before suffix is added	Duration of *–e-* when stressed after the suffix is added and the stress shifts to it
Control	48.8	84.1
EYE 1	105.7	106
2	117.2	124.2
3	112.6	128.9
4	104.4	109.3
5	85.9	94.4
6	84.9	92.8
7	99.2	55.5
8	82.0	129.7
9	101.3	94.2
10	98.7	54.3
Mean for EYE subjects	**99.2**	**99**

The duration of the unstressed *–e-* in ***comedy*** and the stressed *–e-* of ***comedian*** for most EYE subjects are not so different. The mean for the unstressed *–e-* is 99.2 while the mean for the stressed *–e-* is 99. It is even important to note here that on the average, the unstressed *-e-* has a longer duration than the stressed *–e-* for the EYE subjects.

This as earlier mentioned does not conform to what obtains in Standard English usage.

Figure 33

The Clustered Columns for the Unstressed -e- of the *-me-* of *Comedy* and the Stressed -e- of the *-me-* of *Comedian*



Except for Subject 8, the durations of the unstressed vowel – *e*- for the EYE subjects as observed in the clustered columns above are not very different from that of the stressed version which in Standard English is expected to be longer. The control as observed in same clustered columns makes a remarkable distinction between the versions of the vowel.

Table 36

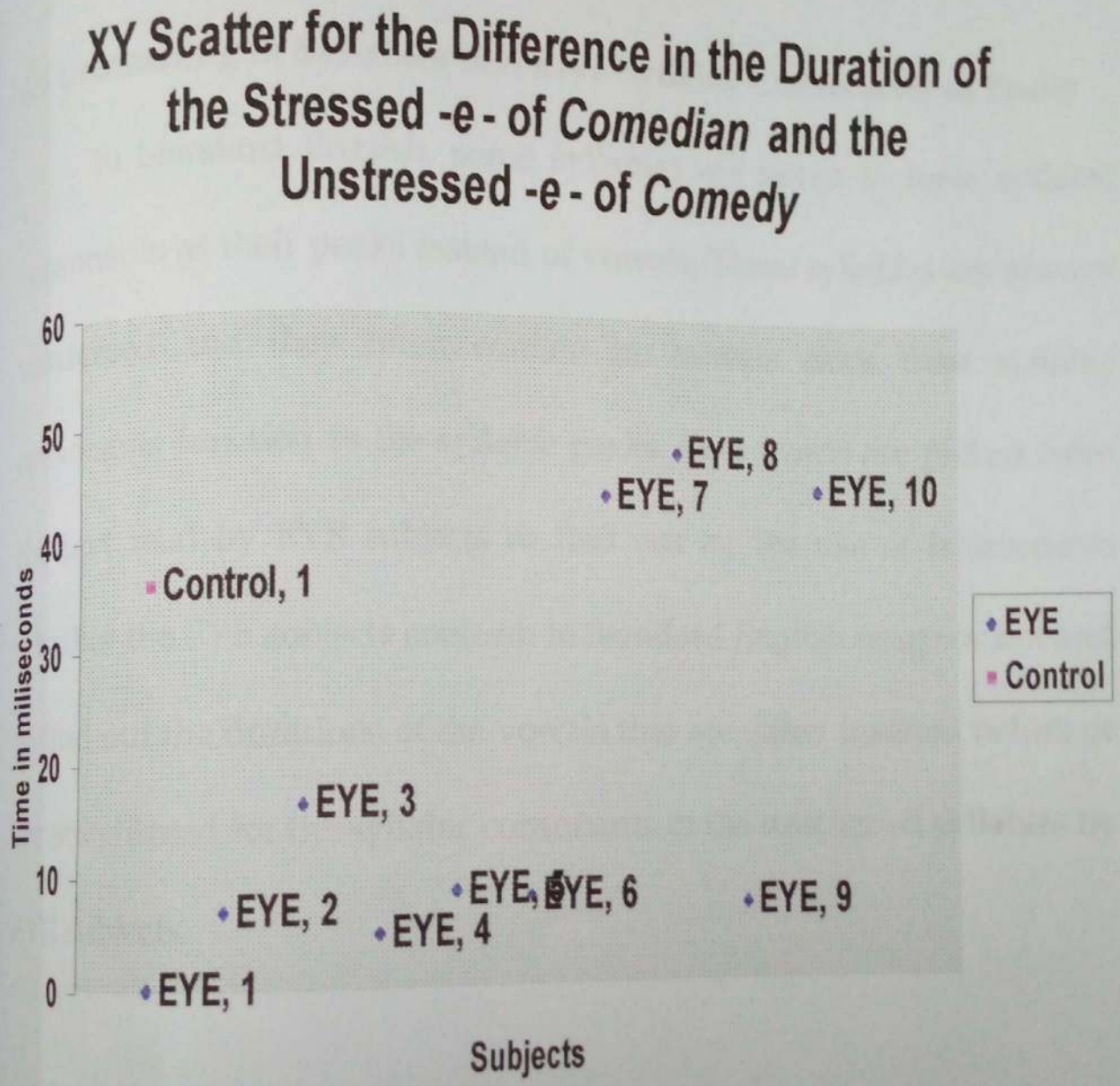
The differences in the Duration of the Unstressed *-e-* of *Comedy* and the Stressed *-e-* of *Comedian*

Subjects	Control	1	2	3	4	5	6	7	8	9	10	Mean of the Differences for EYE Subjects
Differences in Duration	35.6	0.3	7	16.3	4.9	8.5	7.9	43.7	47.7	7.1	44.4	**17.4**

What is observed here is that the EYE subjects who differentiated remarkably between the duration of the stressed *-e-* of ***comedian*** and the unstressed *-e-* of ***comedy*** have the longer duration assigned to the unstressed syllable while the stressed syllable is rendered shorter. Subjects 7, 8 and 10 have a duration difference of 43.7ms 44.7ms and 44.4ms respectively. These duration differences are even higher than the control's which is 35.6ms. But, the higher durations are not assigned to the stressed syllables as has been established to be the case in Standard English.

It is observed here too that the Mean of the differences for the EYE subjects which is 17.4 ms is not very remarkable. The control has a difference of 35ms.

Figure 34



It is observed from the XY Scatter above that Subjects 7, 8 and 10 have higher duration differences than the Control's but they do not conform to Standard English usage. Rather than assign longer duration to the stressed *-e-* of ***comedian***, the unstressed *-e-* of ***comedy*** is rendered longer.

6.5 Unstressing in Syllables that have Syllabic Consonants as Peaks

In Standard English, some syllables are noted to have syllabic consonants as their peaks instead of vowels. These syllables are always unstressed and they often contain no vowels since their syllabic consonants function as the syllable peaks. Two words are picked from the text read by EYE subjects to find out by the use of instruments whether the EYE subjects conform to Standard English usage or not and to find out the durations of the vowels that are either inserted before or are substituted for the syllabic consonants in the unstressed syllables by EYE subjects.

Table 37

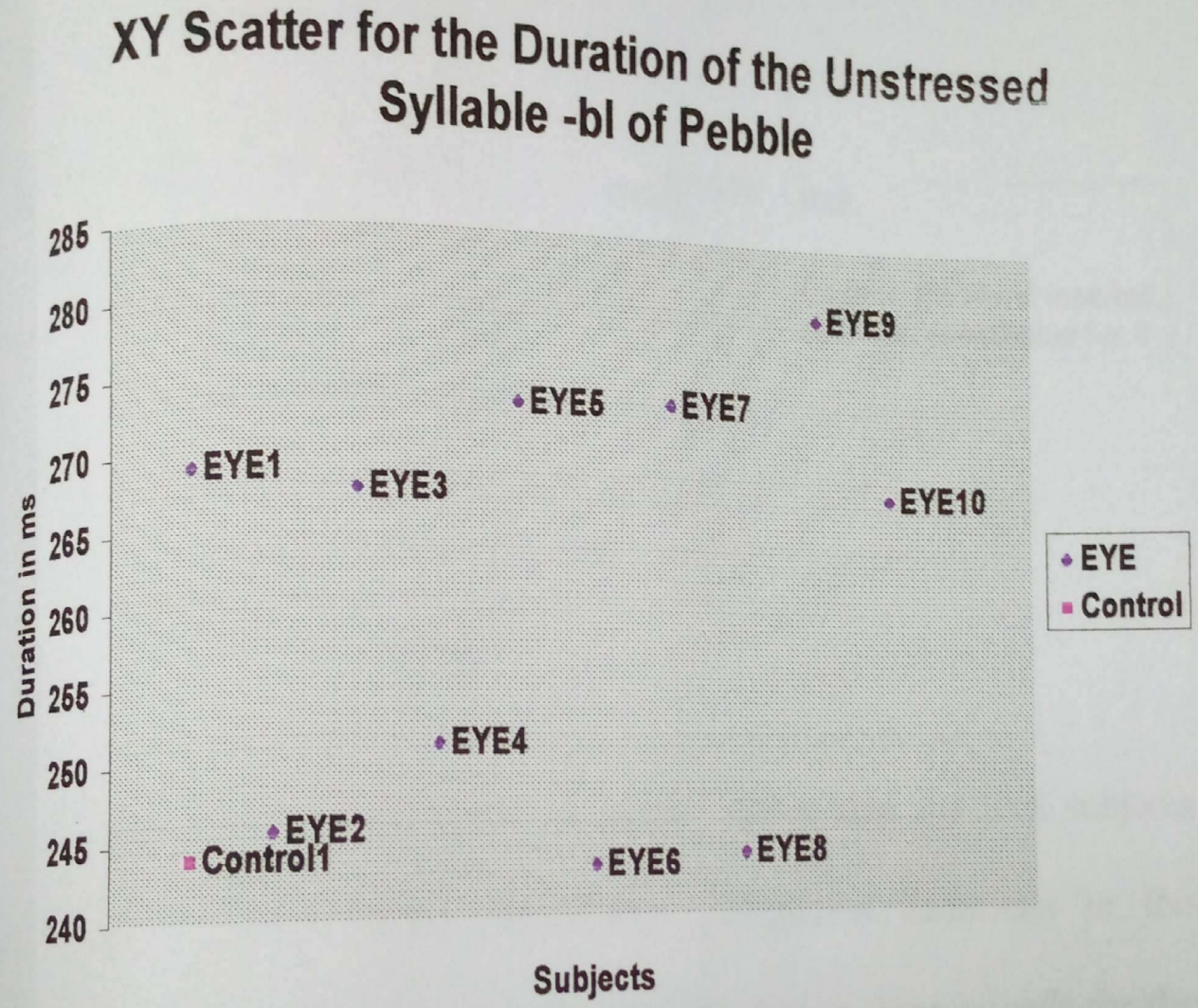
-bl̩ in Pebble /pɛbl̩/ and -kn̩ in bacon / beɪkn̩/

Subjects	duration of the -bl̩ of pebble	duration of the vowel inserted	duration of the vowel substituted	duration of the -kn̩ of bacon	duration of the vowel inserted	duration of the vowel substituted
Control	244	-	-	257	-	-
EYE 1	269.2	145.7		284	187	-
EYE 2	245.8		201.6	289	157	-
EYE 3	267.9	108.9		281	156	-
EYE 4	251.4		071.9	265	146	-
EYE 5	273.7	149.1		272	121	-
EYE 6	243.3	092.9		254	086	-
EYE 7	273.9		228.9	334	185	-
EYE 8	244.1	112.8		275	123	-
EYE 9	280.1	143.4		276	150	-
EYE 10	267.9		150.1	265	142	-

It could be observed from the table above that the EYE subjects either inserted a vowel between the supposed syllabic consonant –l in the unstressed syllable *-bl̩* of ***pebble*** and the preceding /**b**/ sound or substituted a strong vowel for the syllabic consonant -l̩. The control has been observed not to have done either. Six of the EYE subjects were discovered through acoustic investigation to have inserted vowels

between the supposed syllabic consonant /l̩/ and the preceding /b/ sound while four substituted vowels for the syllabic consonant -l̩.

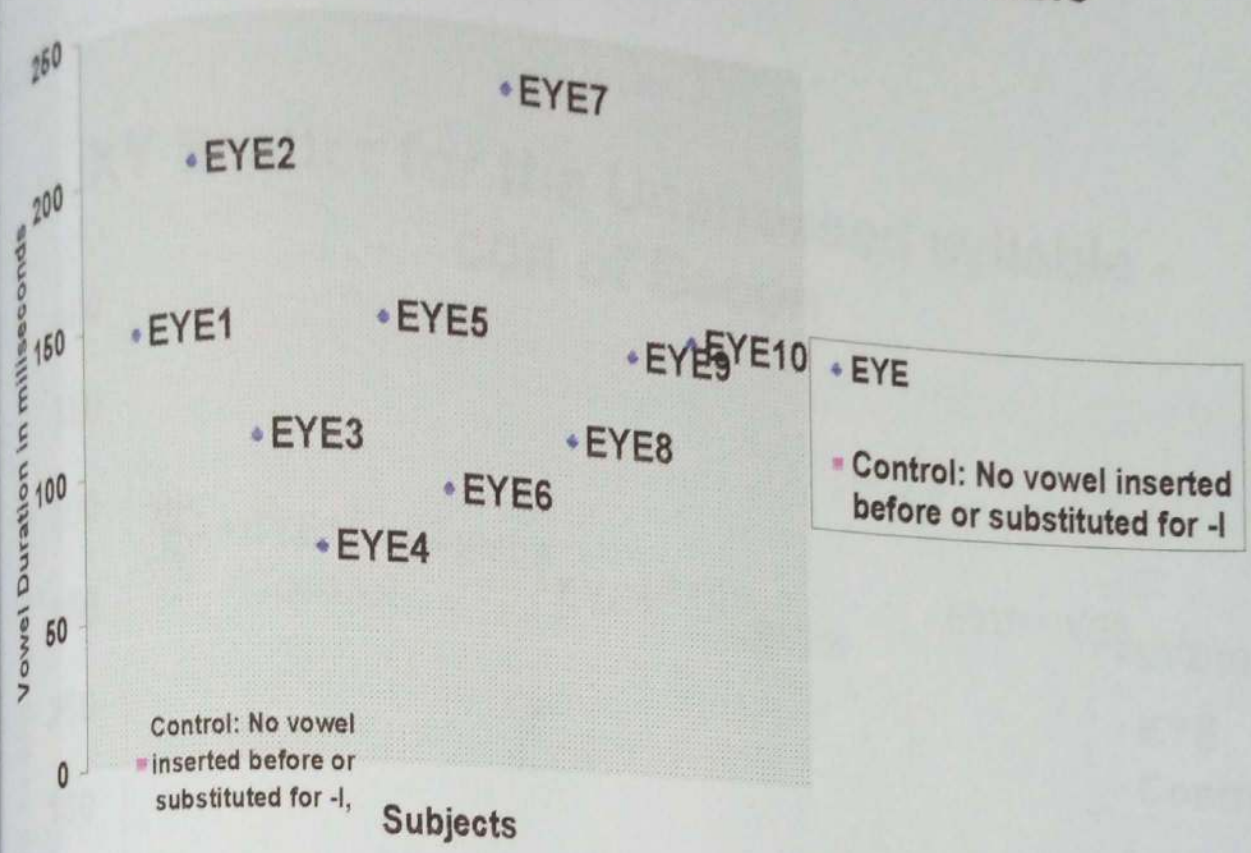
Figure 35



Some of the EYE subjects have been observed from the scatter chart above to make the unstressed syllable *-bl̩* of ***pebble*** which is supposed to be weakened and rendered obscure, quite quantitative.

Figure 36

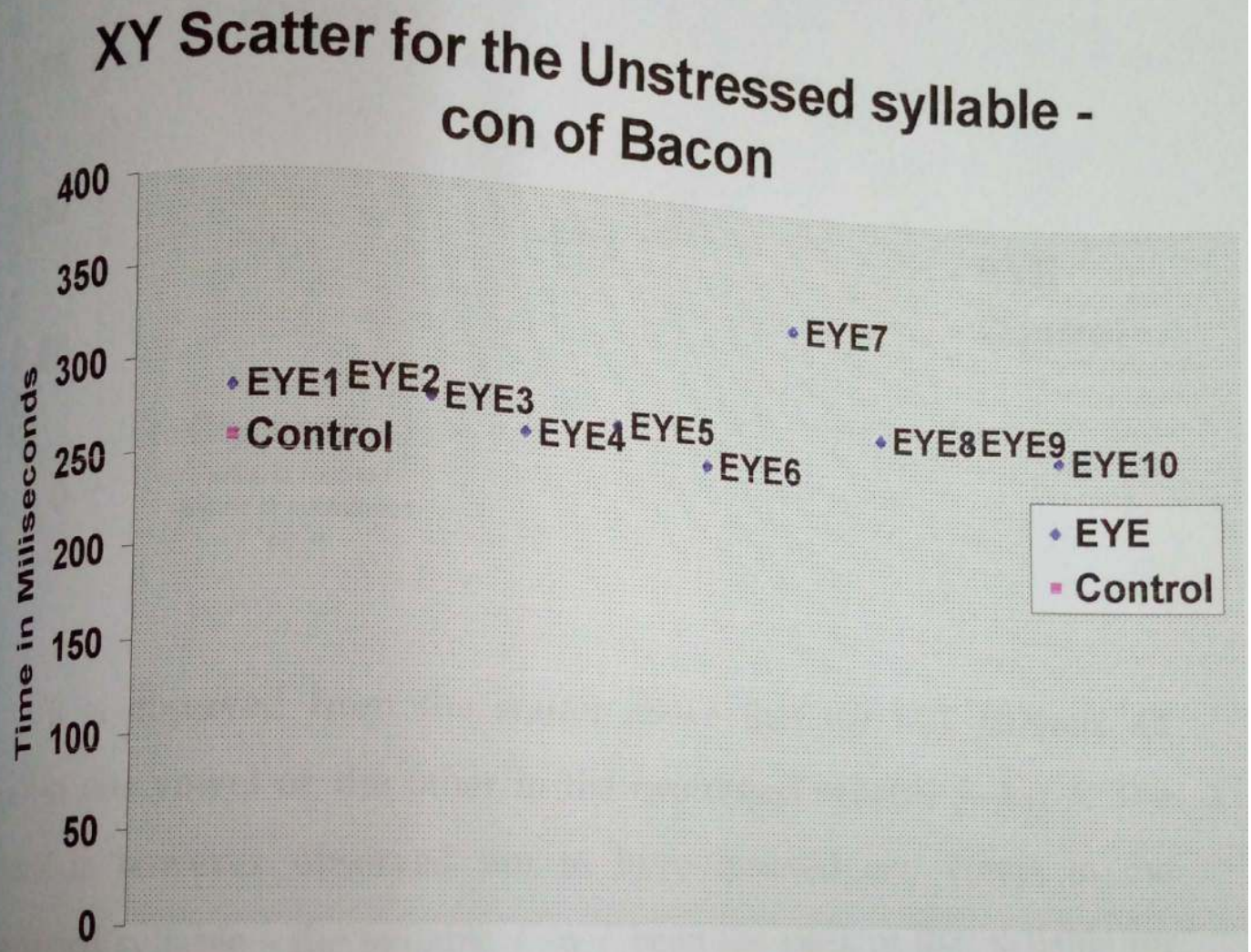
XY Scatter for the Duration of the Vowel Inserted before or Substituted for -l̩ in *Pebble*



It could be observed from the scatter above that the EYE subjects inserted some vowels with remarkable production durations in the unstressed syllable *-ble* / bl̩ /of *pebble* or substituted some vowels for the syllabic consonant /-l̩ / of *pebble*. With the control however, it could be observed that no vowel was inserted in the syllable or substituted for the syllabic consonant at all. The word `*bacon* / beɪkn̩ / is supposed to have /-

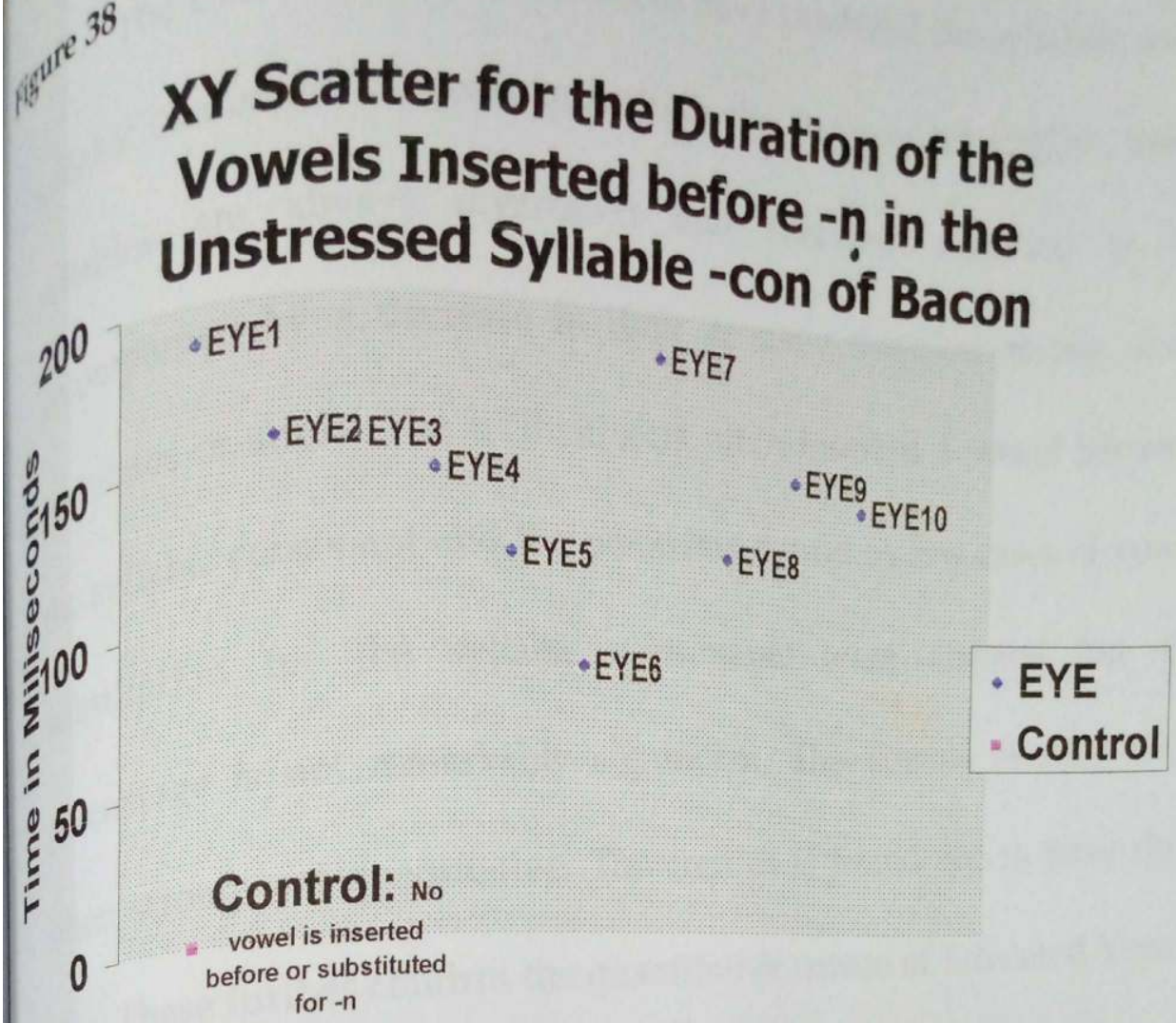
/ən/ rendered unstressed and consequently less quantitative. It is observed from the table above that most of the EYE subjects produced the syllable with longer durations than the Control.

Figure 37



It is observed from the XY Scatter chart above that all the EYE subjects have higher durations in the production of the unstressed syllable /kn/ of bacon / **beɪkn** / than the control.

Figure 38



It is observed from the scatter above that the EYE subjects all inserted one vowel or the other in the unstressed syllable / -kn̩ /. The control is however observed not to have inserted any vowel in the unstressed syllable - the syllabic / -n̩ / been the peak of that syllable for her.

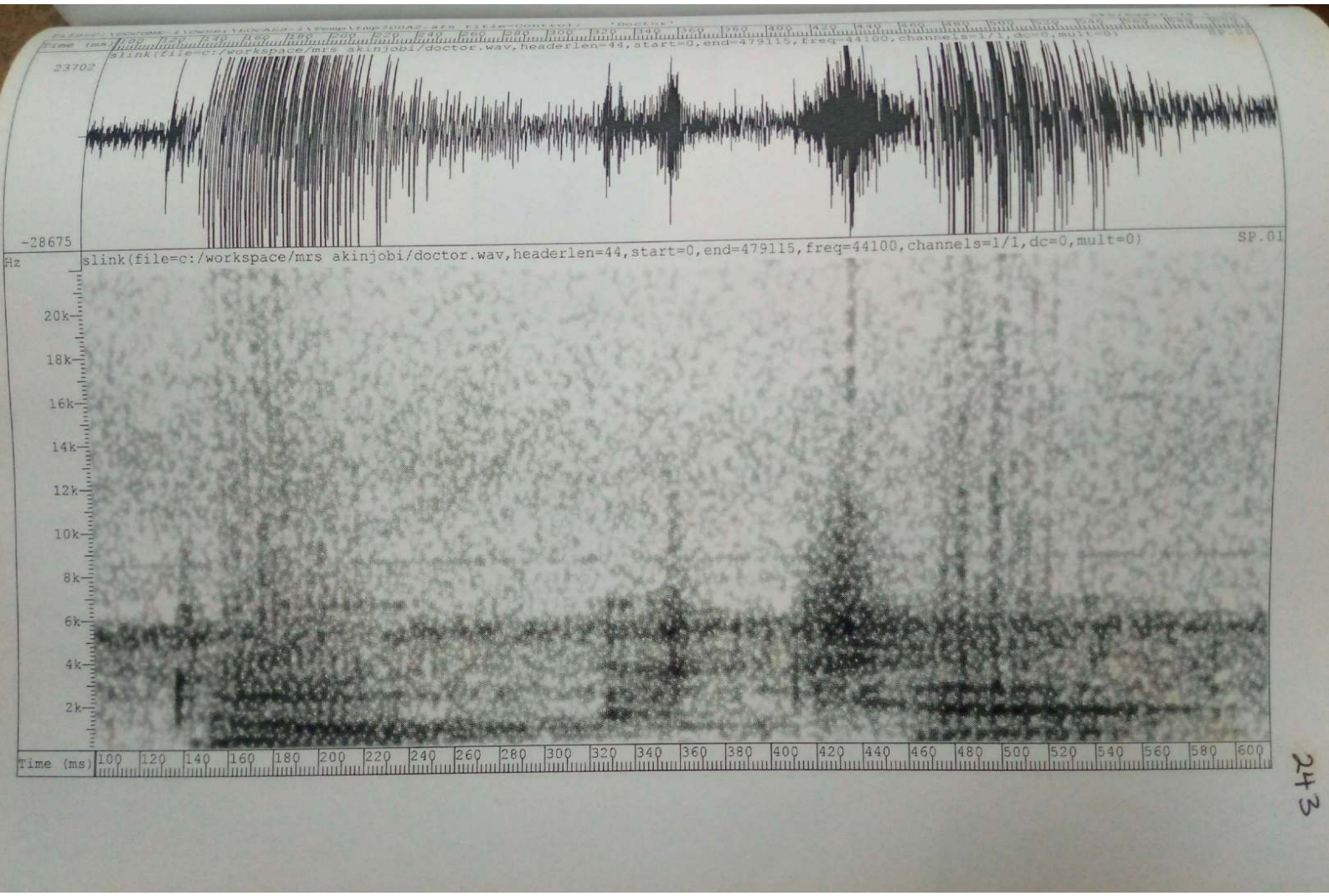
The EYE subjects were found to have rendered the syllables with syllabic consonants as peaks quantitatively. In Standard English, these syllables are always unstressed and therefore expected to be accompanied by a decrease in their acoustic duration among other correlates of stress. The EYE subjects often inserted a vowel between the syllabic consonant and the preceding sound. A few cases of vowel substitution for the syllabic consonants were attested but the percentage is not remarkably significant. The vowels inserted were often strong and quantitative. The control is found not to have done this. These further confirm the quantitative nature of Educated Yoruba English

6.6 Formants

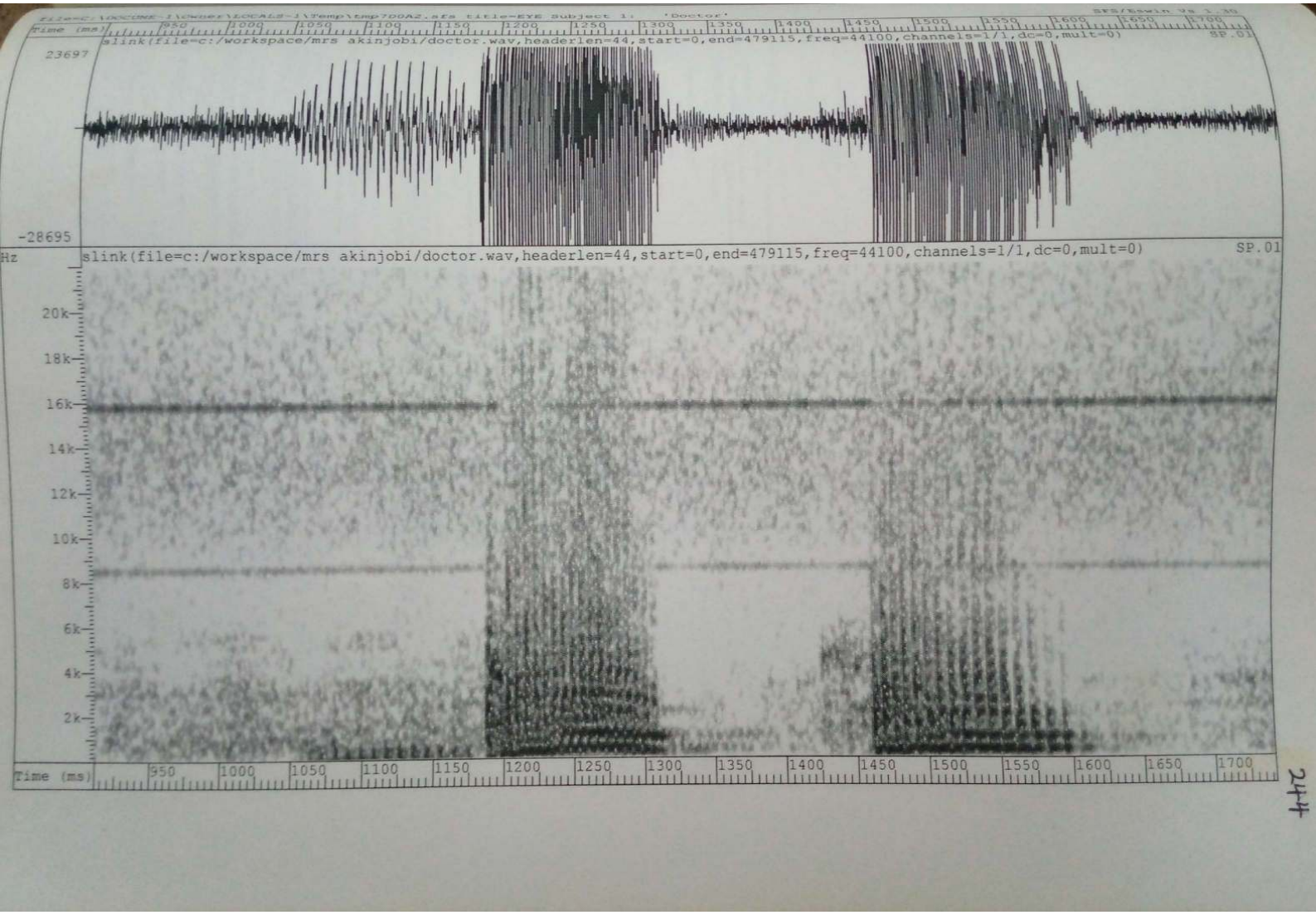
Vowel quality can be classified according to their format frequencies. For this reason therefore, a formant analysis of the vowel sounds produced by EYE subjects and the control has been done to investigate the differences in the quality of the sounds produced by the EYE subjects and the RP subject used as a control for this study.

A vowel can be acoustically identified from wideband spectrograms by the presence of a formant structure. This often shows transition at the vowel margins and vertical striations characteristic of periodic vocal fold vibration (Harrington and Cassidy 1999). However, one problem encountered in the course of this analysis is that the resolution of the spectrogram display makes it a little difficult to achieve the visual discrimination between the formants of the control and that of the EYE subjects. This was however taken care of by supplementing the spectrograms with XY Scatter charts constructed by accessing the numerical data for the formants as read by the computer. The accessed numerical data was used to construct XY Scatter charts so as to display graphically that the sounds produced by the control differ from that of the EYE subjects.

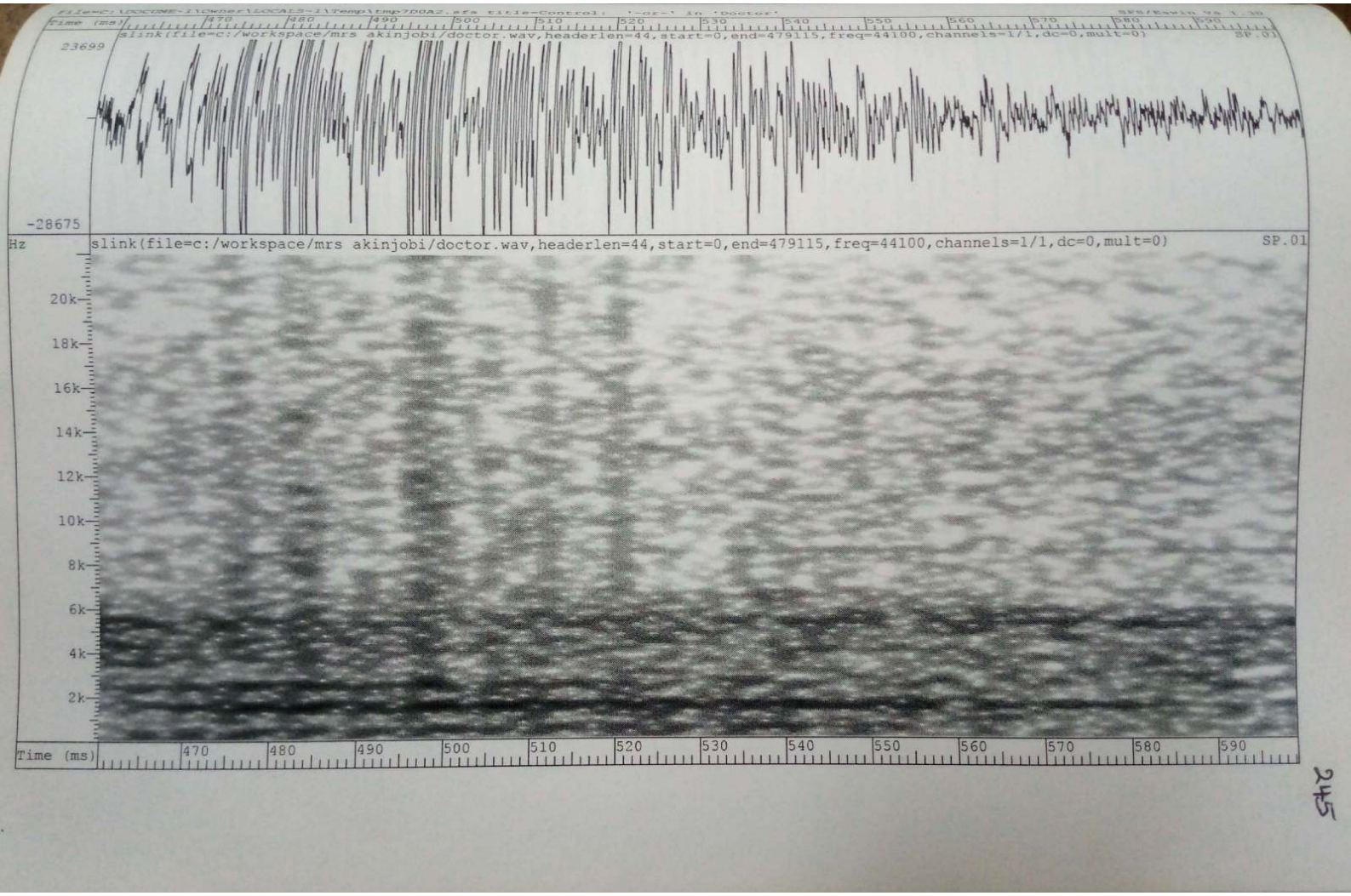
It has been established that the vowels realized in the unstressed syllable ***-tor*** by the EYE subjects differ from the schwa / ə / which is the vowel found in that syllable in Standard English. The following are the waveforms and spectrograms for ***doctor*** and the ***-o-*** in ***doctor*** for the control and Subject EYE 1.



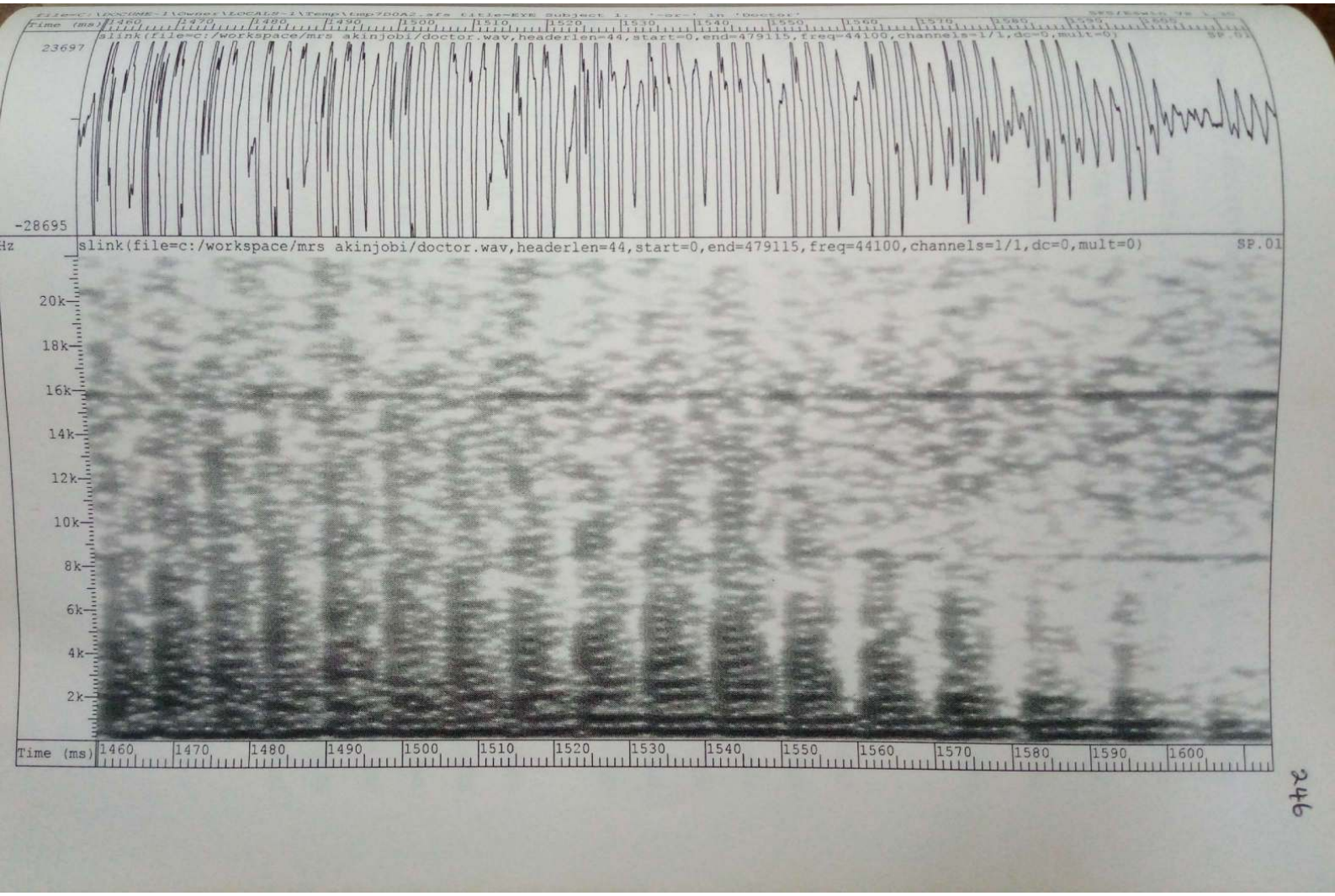
243



244



245

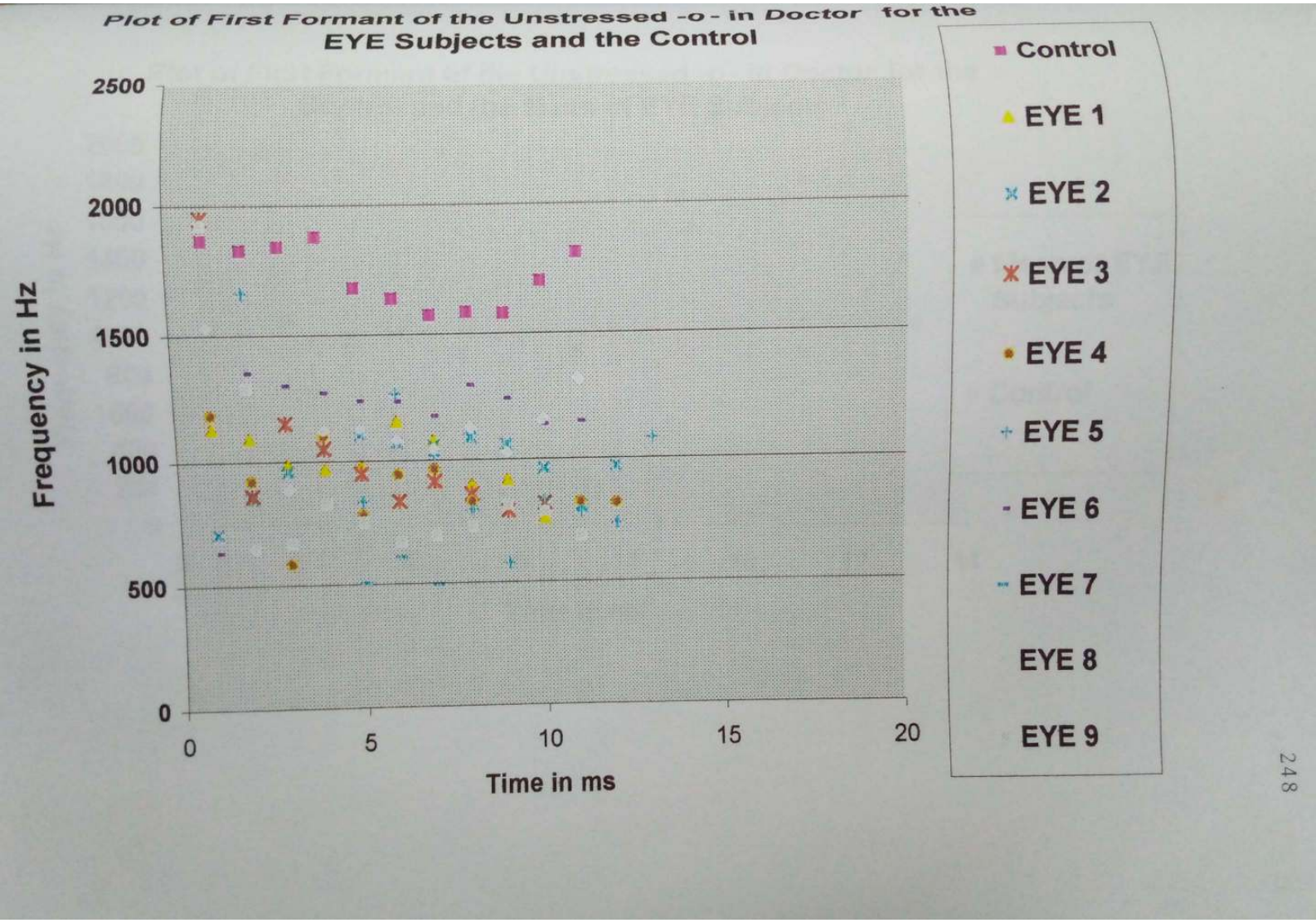


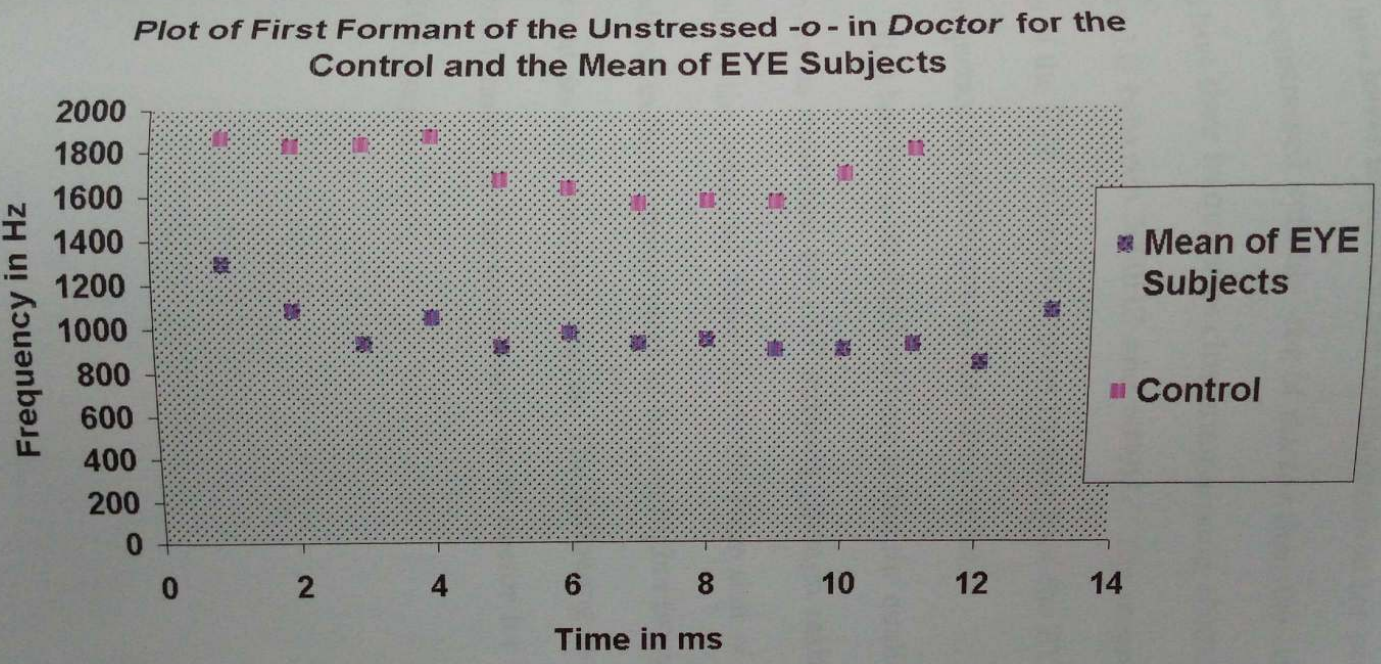
246

The word ***doctor*** was chosen for the formant analysis. As earlier mentioned, the numerical data for the formant of the word ***doctor*** was accessed and extracted for the plotting of the charts used for the analysis. The first and second formants were analyzed so as to be able to establish that the EYE subjects produced vowels of different qualities from the control's.

The plot of the first formant for the vowel ***-o-*** in the unstressed syllable ***-tor*** of ***doctor*** for the EYE subjects and the control reveal that the first formants of the vowel ***-o-*** as rendered by the EYE subjects have a frequency range between 489HZ and 1345HZ. The control however has a frequency range between 1567HZ and 1872HZ. This depicts that the first formants of the vowel ***-o-*** for the EYE subjects are relatively lower in frequency than the control's.

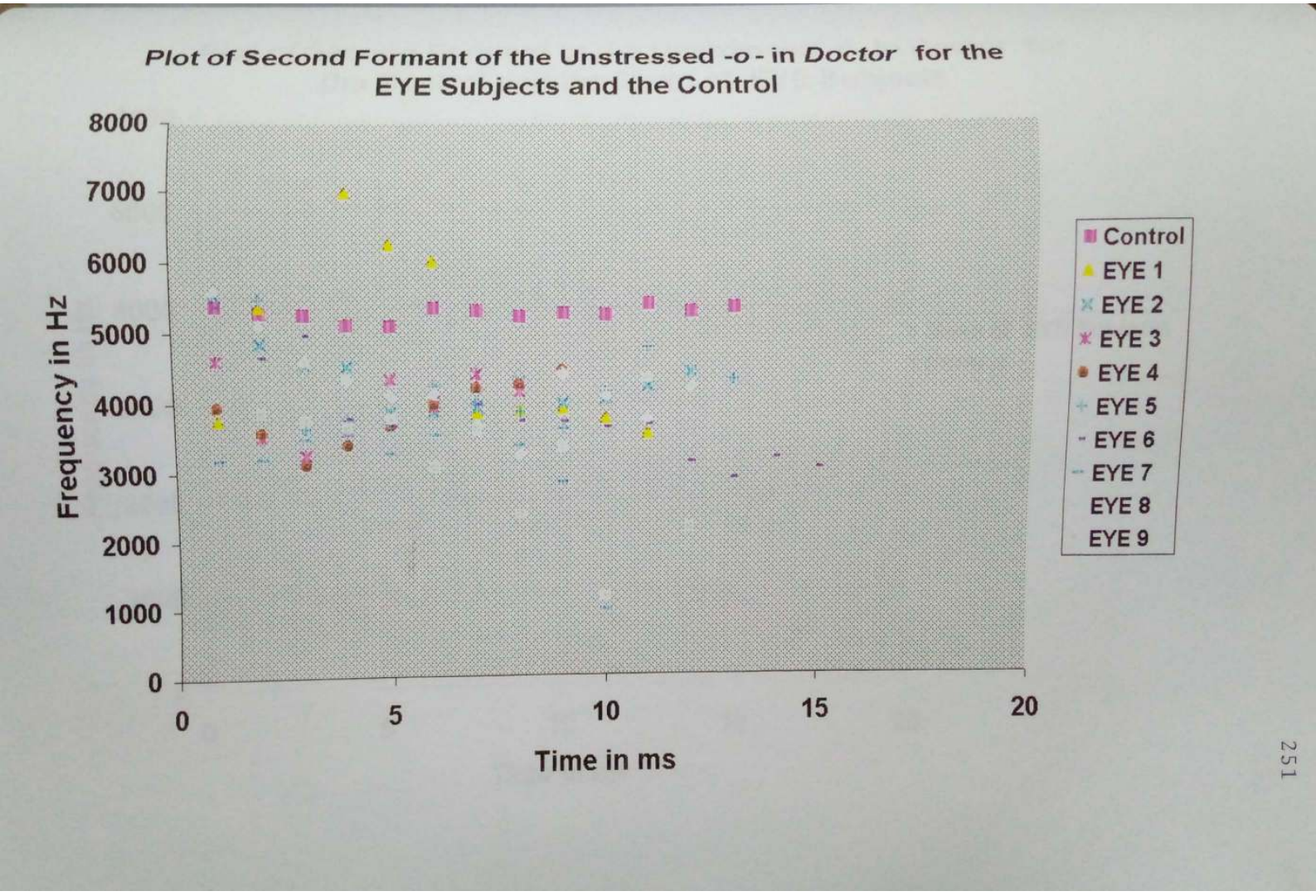
The mean of the first formant data for EYE subjects further confirms that the first formants of ***-o-*** as rendered by the EYE subjects are relatively lower in frequency than that of the control - the mean for the EYE subjects clustering around 1000HZ. The control's first formant frequency is however just a little lower than 2000HZ. The following is the plot of the first formant of the unstressed ***-o-*** in the unstressed syllable ***-tor*** of ***doctor*** for the EYE Subjects and the control:

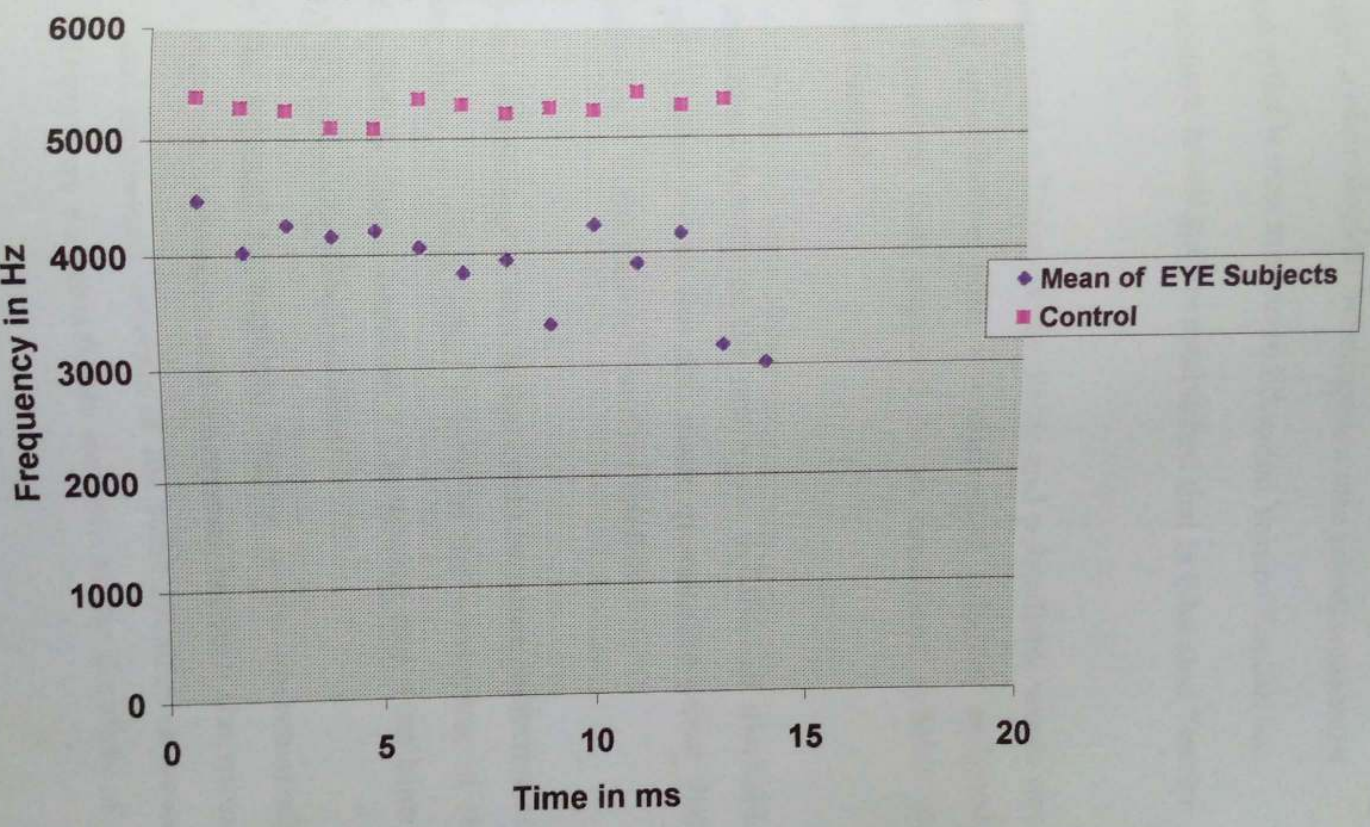




The second formant analysis further confirms that the EYE subjects have lower frequency per milliseconds in the production of the *-o-* of the unstressed syllable ***-tor*** of ***doctor*** than the control. The EYE subjects have their frequencies clustering around 4000HZ while that of the control is between 5000HZ and 6000HZ. The mean for the second formant of the EYE subjects proves further that the EYE subjects have lower frequency in milliseconds than the control.

What has been established here is that the quality of the vowel *-o-* in ***-tor*** as rendered by EYE subjects (though realized as different sounds by the subjects) differ markedly from that of the control who stands out in the formant plots as having higher frequency both in the first and second formant charts. The following is the plot of the second formant of the unstressed ***-o-*** in ***doctor*** for the EYE subjects and the control:





6.7 Findings from the Acoustic Analysis of the Main Data

This study, a phonological investigation into vowel weakening and unstressed syllable obscuration in Educated Yoruba English has, through this acoustic investigation established that in Educated Yoruba English:

- The unstressed syllables of disyllabic and polysyllabic words are rendered quantitative with the unstressed syllables assigned longer durations than expected of an unstressed syllable in Standard English.

- The unstressed vowels of the unstressed syllables of disyllabic and polysyllabic words are also made quantitative rather than weakened as it is the case in Standard English.

With the unstressing of words that could be nouns/adjectives or verbs where shifts of stress often results in the weakening of the unstressed syllables (e.g. **`combine / `kɒmbain/** and **com`bine / kəm`bain /**), the following were observed:

- As opposed to Standard English usage, no remarkable duration difference was discovered between the stressed and unstressed versions of the same syllables or vowels. There was no remarkable increase in the duration of the

stressed **-sent** of **ab`sent** (verb) over that of the unstressed **-sent** of **`absent** (noun) for the EYE subjects. The control however made a remarkable differentiation between the two forms of the word.

- The stressed and unstressed vowels in the words have also been observed not to be remarkably differentiated by duration by the EYE subjects. The control has been found to do this.

- Where there were duration differences between these versions, the higher durations in most instances were not assigned to the appropriate stressed syllable or vowel as in Standard English. This reveals that the EYE subjects have no conscious knowledge about the weakening and obscuration of sounds in unstressed positions in Standard English.

On the application of unstressing to words that have their vowels reduced when suffixes are added and there is a shift in stress (e.g. **phonetics/phonetician**), the following observations were made:

- No remarkable distinctions are made by educated Yoruba English speakers between the syllables when stressed and

when unstressed; the stressed versions of the syllables are not made longer than the unstressed versions.

- Where there is a duration difference between the stressed and the unstressed versions of these syllables, no regularity in pattern is established. Some of the subjects even rendered the unstressed version of the syllable which is supposed to be made obscure more quantitative than the stressed version.

With unstressing in syllables that have syllabic consonants as peaks, the following discoveries were made:

- Relatively, the EYE subjects were found to have rendered the syllables with syllabic consonants as peak more quantitative than the control. In Standard English, these syllables are unstressed and therefore expected to be accompanied by a decrease in their acoustic duration.
- The EYE subjects often inserted a vowel between the syllabic consonant and the preceding sound or sometimes substituted a vowel for the syllabic consonant that is expected to be the peak of that syllable. The vowels inserted are usually quantitative. The control is found not to have done this.

The formant analysis also established the following:

- The vowels produced by EYE subjects in the analyzed *-or-* of ***doctor*** differ markedly from that of the control (the control having a higher frequency for the first and second formants of the vowel *-o-* than the EYE subjects used for the acoustic analysis.

It has therefore been established that the findings of this acoustic investigation corroborates the earlier findings from perceptual auditory investigation that the EYE speakers do not weaken the unstressed syllables so that they are made obscure in contrast with the stressed syllables which are expected in Standard English to be quantitative.

6.8 Spontaneous Speech Analysis

This section of the investigation of vowel weakening and unstressed syllable obscuration in educated Yoruba English is to take care of the variable of naturalness as an important factor in speech delivery and rhythm. Therefore, a life radio programme was recorded. The speaker of the recorded speech is an educated Yoruba speaker of English who did all his schooling from primary to the university in

Nigeria. He also holds a position of authority in a trade union in Nigeria. The control is a BBC reporter and he is taken as a point of reference and consequently as representing the Standard (i.e. RP).

The selected portion of the discourse was transcribed after recording. As with the analysis of the prepared text used in the main part of the investigation, monosyllabic content words were ignored because all monosyllabic content words usually have the only syllable they comprise of stressed and consequently strong. Disyllabic and polysyllabic words were analyzed in the part referred to as *Unstressed Vowel and Syllable Weakening in Word Stress* while grammatical/form words were analyzed under *Sentence Stress*. The analysis of natural speech also confirmed a preponderance of strong vowels and syllables.

6.8.1 Unstressed Vowel and Syllable Weakening in Word Stress

The words *regards, area, people, making, mention, rural, grass root, level, concern, local, enough, performed, because, whether* and *under* were extracted from the transcribed text of the natural speech produced by the EYE subject. It was discovered that the subject produced strong

vowels and consequently strong syllables where weak vowels and syllables were expected.

6.8.1.1 Disyllabic Content Words

Table 38

Content Words	Expected RP Production	EYE Production
regards	r ɪ`ga:dz	ri`gads
area	`eəriə	`eria
people	`pi:pl	`pipul
making	`meɪkɪŋ	`me:kin
mention	`men ʃn	`mən ʃən
rural	`r ʊərəl	`rural
grass root	gr æs `ru:t	gras `rut
level	`levl	`levul
concern	kən `sɜ:n	kən`san
local	`ləʊkl	`lokul
enough	ɪ`nʌf	i`nəf
performed	pə`fɔ:md	pa`fɔmd
because	bɪ`kɔ:s	bikɔs
whether	`weðə	`wɛða
under	`ʌndə	`ɔnda

As observed in the table above, the vowels used by the EYE speaker of natural speech are different from the expected RP vowels. However since vowel distinction is not the focus of this investigation,

the remarkable discovery is that all the vowels used are strong vowels and that the weak vowel /ə/ which is supposed to be frequently found in unstressed positions is not found in the unstressed syllables of the disyllabic words in the selected portion of the speech e.g *`rural* /ˈrʊərəl/, *con`cern* /kən`sɜ:n/, *per`formed* /pə`fɔ:md/, *`whether*/`weðə /and *under* /ˈʌndə/ were produced as /`rural/, /kɔn`san/, /pa`fɔmd/,/`wəða/ and /`ɔnda/ respectively. The *-ral* of *rural* was produced as /- ral/, the *con-* of *concern* as / kɔn -/, the *per-* of *performed* as /pa-/, the *-ther* of *whether* as /-ða/ and the *-der* of *under* as /-da/.

6.8.1.2 Polysyllabic Words

Table 39

Content Words	Expected RP Production	EYE Production
Nigerians	`naiʤiəriənz	`naiʤirians*
generally	`ʤenər(ə)lɪ	`ʤenərali*
comfortable	`kʌmfətəbl	`kɔmftebul*
governance	`gʌvnəns	`gɔvnans*
general	`ʤenərəl	`ʤenəral*
development	dɪ`veləpmənt	di`vəlɔpmənt*
expected	ɪk`spektɪd	ə`spəktəd*
government	`gʌvnmənt	`gɔvmənt*
likelihood	`laɪklɪhʊd	`laiklihud*
ostentatious	ɒ,sten`teɪʃəs	ɔstən`teʃiɔs*
conclusion	kən`klju: ʒn	kɔn`kluʃɔn*
satisfactory	,sætis`fæktərɪ	satis`faktri*
circumstances	`sɜ:kəmstənsɪz	sa`kɔmstansis*
operating	`ɒpəreɪtɪŋ	ɔp`retɪn*
presently	`prezntlɪ	`prəsəntli*
determining	dɪ`tɜ:mɪnɪ	di`tamni*

As with the disyllabic words, syllables that are supposed to be unstressed and consequently contain the reduced vowels such as /ə/ and /ɪ/ are found to contain strong vowels in the speech of the EYE subject. *Generally, comfortable, governance, general, development, expected, government, ostentatious, conclusion, circumstances,* and *presently* are produced as /ˋʤenɛrali/,/ˋkɔmftebul/, /ˋgɔvnans/, /ʤenɛral/, /diˋvəlɔpmɛnt/, /ɛˋspəktɛd/, /ˋgɔvmɛnt/, /ˌɔstƐnˋteʃiɔs/, /kɔnˋkluʃɔn/, saˋkɔmstansis/, and /ˋprəsɛntli/.

In the words above, the vowels expected to be reduced and weakened were produced as strong vowels. In the case of *presently,* a total elision of the vowel in the unstressed syllable *-sent-* is expected but rather than have the vowel elided, the EYE subject inserted the strong vowel /ɛ/ instead.

6.8.1.3 Words with Syllabic Consonants as Peak of Unstressed Syllables

As earlier discussed, there are certain consonants in English that are syllabic and consequently are always peaks of certain unstressed syllables. These set of words were found in the speech of the EYE subject.

Table 40

Words	Expected RP Production	EYE Production
people	-pl̩	-pul
mention	-ʃn̩	-ʃɔn
rural	-rl̩	-ral
level	-vl̩	-vul
local	-bl̩	-bul
comfortable	-bl̩	-bul
general	-rl̩	-ral
conclusion	- ʒn̩	-ʃɔn
presently	-znt-	-sənt-

The discovery here is that strong vowels were inserted in the syllables that were expected to have syllabic consonants as peaks. This is found to have made the unstressed syllables which were supposed to be obscure, quantitative and prominent.

6.8.2 Unstressed Vowel and Syllable Weakening in Sentence Stress (Weak/Grammatical Words)

Table 41

Conjunctions	Expected RP Production	EYE Production	Comments on contexts.
but (medially in a sentence	bət	[bɔt]	should be weak medially
and (initially in a sentence	ænd	[and]	should be strong initially
and word medially	ənd	[and]	should be weak medially
that	ðət	[ðat]	should be weak medially
but (initially in a sentence	bʌt	[bɔt]	should be strong initially

With conjunctions in weak contexts, the EYE subject substituted strong vowels from Yoruba for the weak vowel /ə/ that should be in most of the unstressed syllables. /ɔ/ was substituted for /ə/ where *but* is found medially, /a/ for /ə/ where *and* and *that* are found medially. The EYE subject had no problem with the strengthening of stressed vowels though vowels in the Yoruba mother tongue were substituted for strong English vowels. Where *and* and *but* were found initially and expected to be strengthened, /a/ is substituted for /æ/ in *and* and /ɔ/ is substituted for / ə / in *but*.

Table 42

Pronouns	Expected RP Production	EYE Production	Comments on contexts.
I	ə	ai	should be weak
they	ðə	ðe	should be weak
us	əs	ɔs	should be weak

Pronouns were produced with strong vowels by the EYE subject investigated for natural speech. *I*, which should be / ə /was produced as /ai/, *they* which should be /ðə/as the strong / ðe /and *us* which should be weakened to /əs/ as the strong /ɔs /.

Table 43

Prepositions	Expected RP Production	EYE Production	Comments on contexts.
to	tə	tu	should be /tə/ before consonants
of	əv	ɔf	before voiced consonants
of	f	ɔf	before voiceless consonants
at	ət	at	all weak contexts
from	frəm	frɔm	all weak contexts

With prepositions, where *to* is produced as the weak / tə / before a consonant by the BBC (RP) subject, the strong vowel /u/ is produced in the syllable /tu/ by the EYE subject. *Of* is rendered quantitatively as / ɔf / rather than the weak / f / where it occurred before a voiceless consonant in the speech.

Table 44

Auxiliary Verbs	Expected RP Production	EYE Production	Comments on contexts.
have	əv	av	should be weakened to / əv / when it occurs medially in a sentence
has	s	as	should be /s/ after /t/ in a sentence
had	əd	ad	should be /əd / in weak contexts except after *I, he, she you, we, they*
would	d	wud	should be /d/ after *they*
are	ə	a	should be / ə / in weak contexts

Where the auxiliary verb *have* should be weakened when it occurs medially in a sentence and there is no contrastive stressing, the EYE subject produced the strong sound [av] substituting the strong vowel [a] for the expected weak vowel [ə] in the word. *Has* was also rendered as [as] rather than [s] which should be produced where *has* occurs after /t/ in Standard English. *Had* which was expected to be produced as the weak / əd/ was produced as the strong [ad], *would* which should be /d/ after *they* was produced quantitatively as [wud] and *are* which should be weak / ə / was produced as the strong [a] by the EYE subject.

Table 45

Determiners	Expected RP Production	EYE Production	Comments on contexts.
the	ðə	[ði]	to be weakened to / ðə /before consonants.
the	ðI	[ði]	to be weakened to /ðɪ/ before vowels

The EYE subject produced *the* as the strong [ði] in both the context where it occurred before a consonant and was expected to be weakened as / ðə /and where it occurred before a vowel and was expected to be weakened as / ðɪ /.

6.8.3 Acoustic Analysis of Some Grammatical Words used by the BBC (RP) and the EYE subjects in similar contexts.

Some grammatical words found in the speeches of the EYE and the BBC (RP) subjects in similar contexts were analyzed acoustically. They were measured in milliseconds to determine whether the sounds substituted for the Standard English sounds by the EYE subjects were quantitative or weakened.

6.8.3.1 Conjunctions that are supposed to be weakened in sentences

Table 46

Words	B.B.C (R.P) Speaker	EYE Subject
and	8.5ms	25.9ms
but	15.8ms	28.3ms

Figure 39

and **as rendered by B.B.C Speaker and EYE Subject**

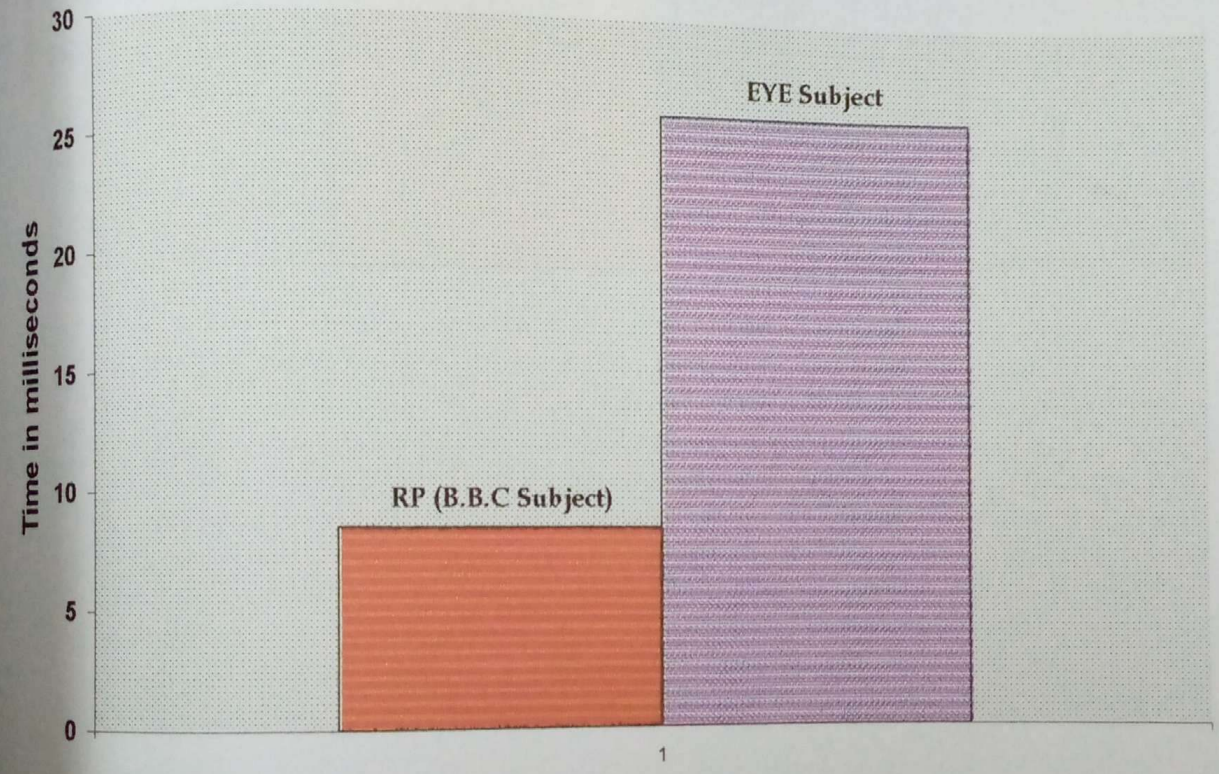
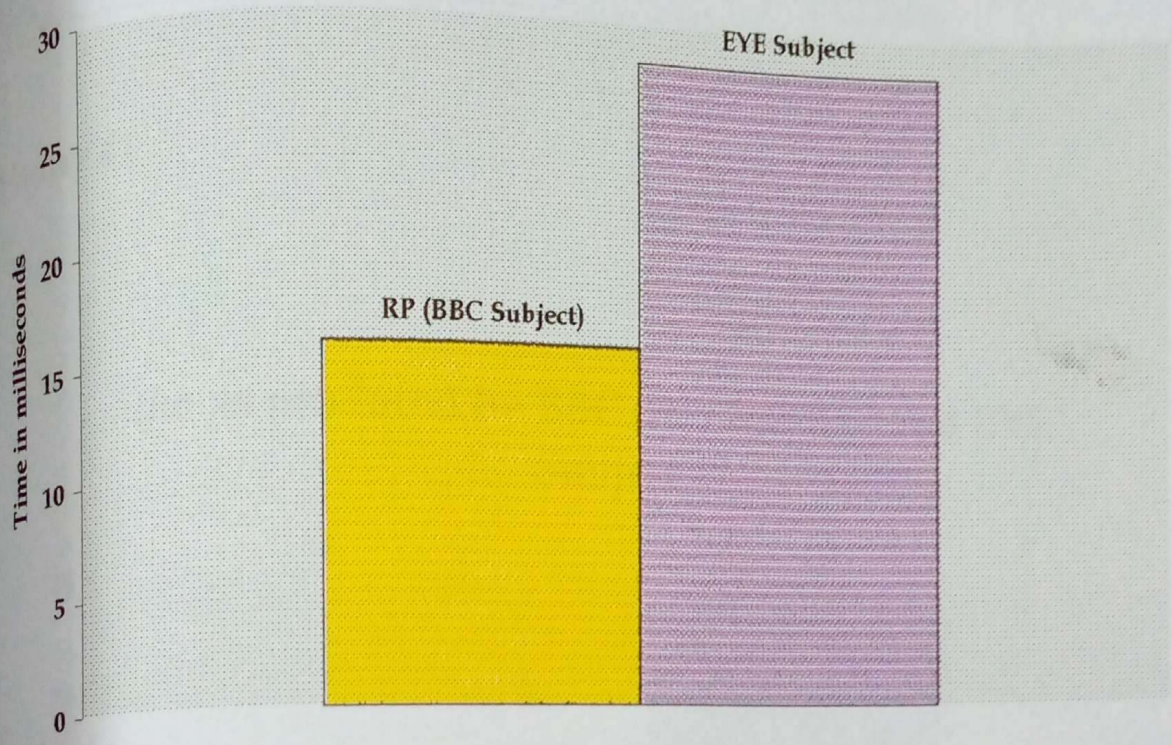


Figure 40

but as produced by BBC (RP) Speaker and EYE Subject



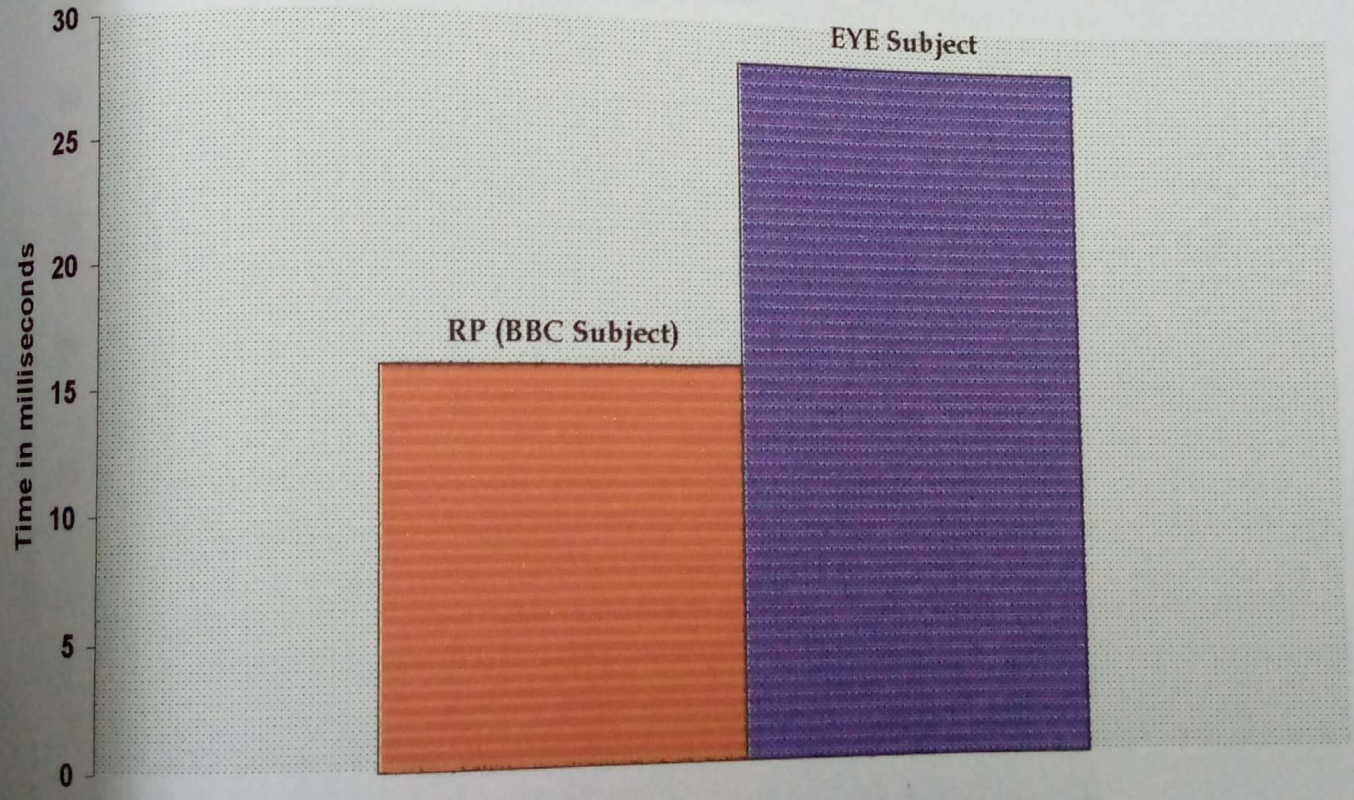
6.8.3.2 Determiner that is supposed to be weakened in sentences

Table 47

Word	B.B.C (R.P) Speaker	EYE Subject
the	2.9ms	12.2ms

Figure 41

the as produced by BBC (RP) Speaker and EYE Subject



6.8.3.3 Prepositions that are supposed to be weakened in sentences

Table 48

Words	B.B.C (R.P) Speaker	EYE Subject
to	9.9ms	15.9ms
of	6.7ms	13.5ms

Figure 42

to as produced by BBC (RP) Speaker and EYE Subject

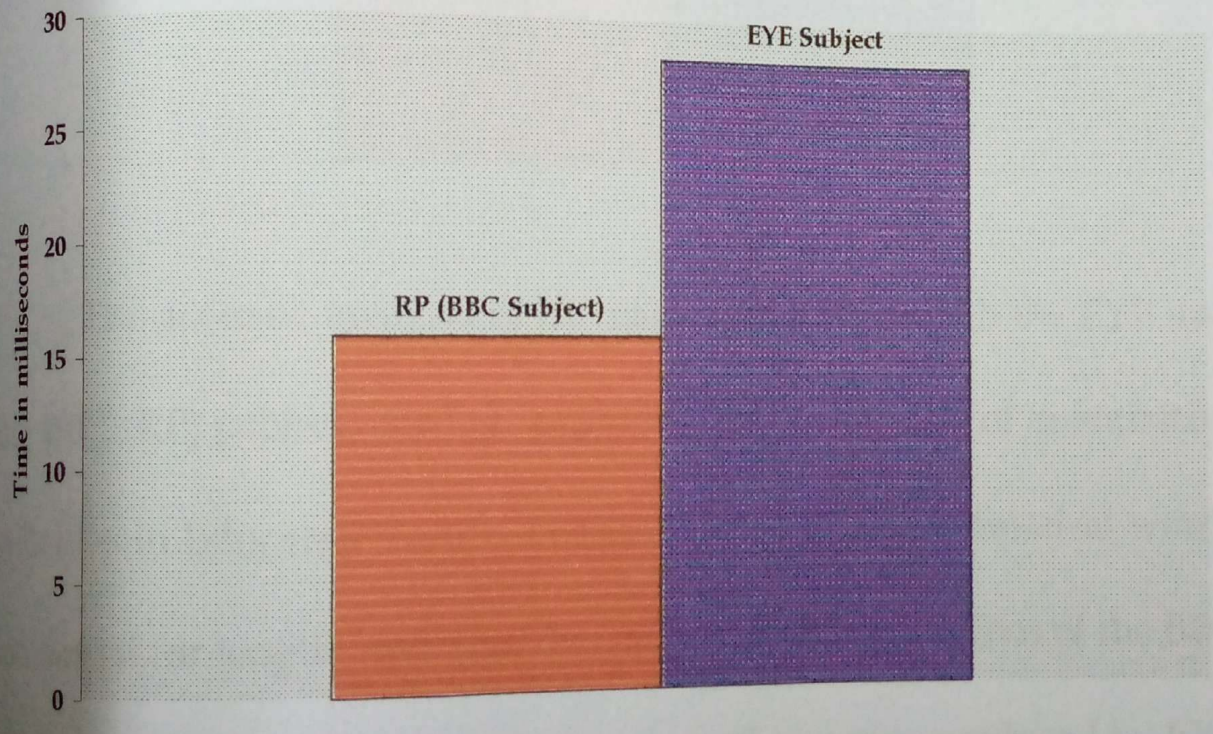
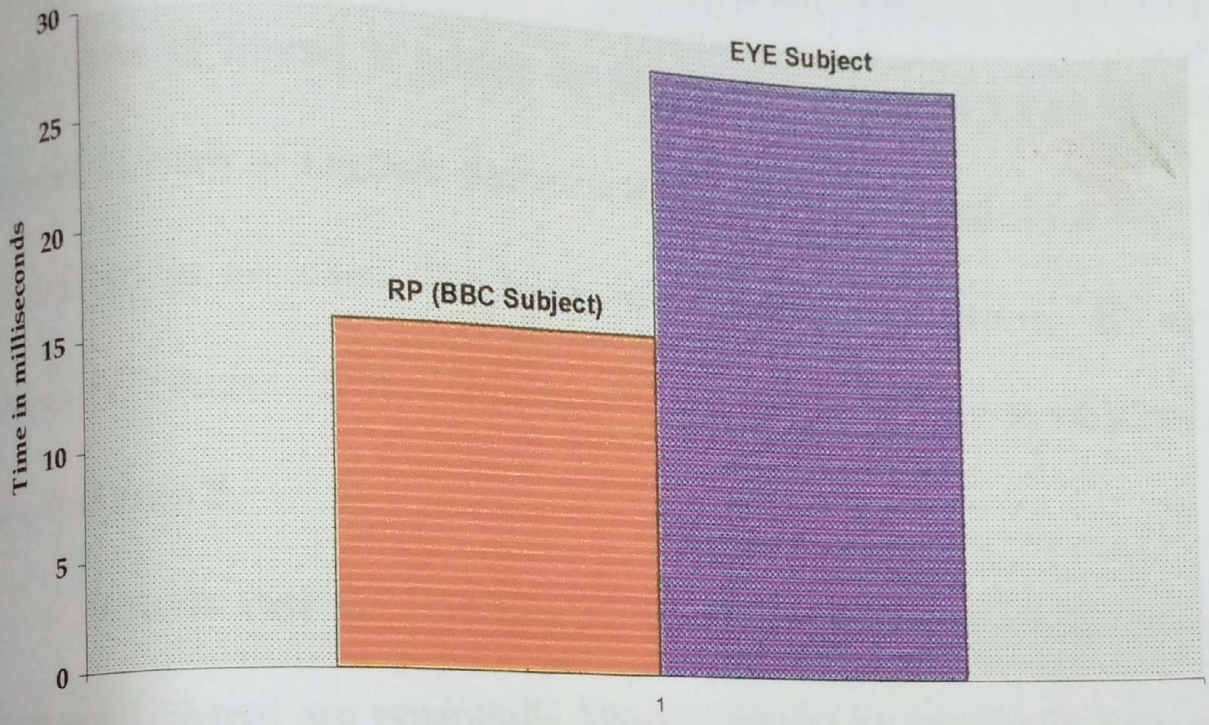


Figure 43

of as produced by BBC (RP) Speaker and EYE Subject



The acoustic analysis of the natural speech of both the EYE and the BBC (RP) subjects further confirms a preponderance of quantitative syllables in Educated Yoruba English. With all the grammatical words measured for length (and, but, the, to and of) in the speeches of the BBC (RP) and EYE subjects in similar contexts, the sounds produced by EYE subjects were discovered to be remarkably longer and consequently more quantitative than those produced by the BBC (RP) subject.

6.8.4 Metrical Analysis

The Metrical Stress approach re-interpretes the basic descriptive data of generative phonology. It proposes the elimination of the numbering of Stress levels by characteristically lowering stress levels each time [1 Stress] is added as proposed in Chomsky and Halle's ***Sound Pattern of English***. Rather it defines stress on a tree structure in which nodes are used. The trees divide binarily into Strong (S) and Weak (W) nodes . **S** here stands for stronger than **W** and **W** stands for weaker than **S**.

Vowels that are [+Stress] are potentially **S**(trong) while vowels that are [-Stress] are potentially **W**(eak). Therefore all vowels that are [+Stress] are often strong and strengthened while vowels that are [-Stress] are often weak and consequently obscure. There should be an alternation between the strong and weak nodes such that branching such as **W W** or **S S** are not found.

Two rules govern the assignment of weak and strong nodes in metrical analysis. The Lexical Category Prominence Rule (LCPR) covers

words and compound words while the Nuclear Stress Rule (NSR) covers word groups such as phrases and sentences.

6.8.4.1 A Metrical Analysis of *Suddenly, another man came from the crowd* as Produced by Ten EYE Subjects

The sentence ***Suddenly, another man came from the crowd*** was extracted from the read text for metrical analysis. The control's performance is here juxtaposed against that of ten EYE subjects:

	Suddenly	**another**	**man**	**came**	**from**	**the**	**crowd**
Control:	S W W W S W	S	S	W	W	S	
EYE 1:	S S W S S S	S	S	S	S	S	
2:	S S S W S S	S	S	S	W	S	
3:	S S S S S S	S	S	S	S	S	
4:	S S S S S S	S	S	S	W	S	
5:	S S S S S S	S	S	S	S	S	
6:	S S S S S S	S	S	S	S	S	
7:	S S W W S S	S	S	S	S	S	
8:	S S S S S S	S	S	S	S	S	
9:	S S S S S S	S	S	S	S	S	
10:	S S S S S S	S	S	S	S	S	

The control here has more W(eak) syllables and vowels than the EYE Subjects. She displays a preponderance of weak syllables while the Eye Subjects display a preponderance of strong syllables and vowels.The control has the Metrical grid below for the sentence *Suddenly, another man came from the crowd*:

`Suddenly a`nother `man `came from the `crowd

18

13 14 15 16 17

1 2 3 4 5 6 7 8 9 10 12

There are twelve syllables in the sentence *Suddenly another man came from the crowd.* The control applied the Lexical Prominence Category Rule (LPCR) on the syllables labeled 13-17 and applied the Nuclear Stress Rule to assign the nuclear stress to the rightmost stressed syllable labeled 18 above. The EYE was discovered not to apply the NSR and consequently assigning equal prominence to all the stressed syllables

6.8.4.2 A Metrical Analysis of some Words Extracted from the EYE Spontaneous Speech

For the EYE subject investigated for natural speech, the following was discovered:

Disyllabic Words

(regards)		(area)		
ri	gads	e	ri	a
S	S	S	S	S

(`people)		(`making)		(`mention)	
`pi	pul	`me:	kin	`mɛn	ʃɔn
S	S	S	S	S	S

(`whether)		(`under)		(con`cern)	
`wɛ	ða	`ɔn	da	kɔn	`san
S	S	S	S	S	S

(general)			(expected)			(government)	
ʤɛ	nɛ	ral	ə	`spɛk	tɛd	`gɔv	mɛnt
S	S	S	S	S	S	S	S

(conclusion)						(presently)				(circumstances)			
kɔn	`klu	ʃɔn				prɛ	sɛnt	li		sa	`kɔm	stan	sis
S	S	S				S	S	S		S	S	S	S

It could be observed from the analysis above that rather than divide binarily into **S** and **W** nodes which are expected to alternate, the tree nodes all divide into S and S nodes. So rather than have syllables with nodes that are weaker than **S** or Stronger than **W** alternating in the words, the nodes are all strong. So we have Strong as **S** in all contexts.

The following is the expected RP presentation:

Disyllabic Words

(regards)

r ɪ `ga:dz

W S

(area)

`eə riə

S W

(`people)

`pi: pl̩

S W

(`making)

`meɪ kɪŋ

S W

(`mention)

`men ʃn̩

S W

(`whether)

`we ðə

S W

(`under)

`ʌn də

S W

(con`cern)

kən `sɜ:n

W S

Polysyllabic words

(general)

ˈdɛ nə r(ə) lɪ

S W W W

(government)

ˈgʌvn̩ mənt

S W W

presently)

ˈpre zn̩t lɪ

S W W

(expected)

ɪk ˈspek tɪd

W S W

(conclusion)

kən ˈklju: ʒn̩

W S W

(circumstances)

ˈsɜ: kəm stən sɪz

S W W W

It can be deduced from the expected RP presentation that the EYE subject used more strong vowels than the expected weak vowels. The reverse is the case in Standard English where there are more weak vowels than strong vowels in the syllables and an alternation of the strong and weak syllables expected.

In Standard English, the Lexical Category Prominence Rule (LCPR) assigns the **S** and **W** notations to the syllables of a word while the Nuclear Stress Rule (NSR) assigns **S** to the rightmost stressed syllable of the group. e.g.

I `think `Nigerians are not `generally `comfortable with `governance in `Nigeria.

In Standard English, the sentence above should have the metrical grid below:

aI `əIŋk `naIʤiəriənz ə nɒt `ʤenər(ə)lI `k mfətəbl wiϴ `g vnəns In `naIʤiəriə

																			30		
	23	24					25	26			27					28			29		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

All the syllables in the sentence are labeled 1-22. 23-29 labels the stressed syllables of the sentence, applying the Lexical Prominence Category Rule (LPCR) while the Nuclear Stress Rule applies at the sentence level to assign the nuclear stress to /`nai-/(labeled as 30) as the last stressed syllable of the sentence. However, the EYE subject did not apply the NSR on the [nai-] of [naiʤirians]. Rather, all the syllables

that the EYE subject stressed in the sentence were given equal prominence.

The metrical analyses of the extract from the read text and spontaneous speech reveal educated Yoruba English as characterized by vowel and syllable strengthening and a relative scarcity of weakened vowels and syllables that characterize Standard English.

6.9 Conclusion

This investigation of vowel weakening and unstressed syllable obscuration in educated Yoruba English is aimed at finding answers to a set of research questions raised so as to establish a description for Yoruba English rhythm which has been observed to be markedly different from Standard English rhythm. The influence of stress on the vowels of Standard English whereby stressed vowels are strong and unstressed vowels are often weak has been established in the literature reviewed.

Vowel weakening and unstressed syllable obscuration has been established as one of the important features that account for the peculiar rhythm of Standard English which makes it different from that of other languages (even from other languages that use stress). The relative absence of these phenomena is one of the crucial factors that account for the loss of the typical rhythm of English language in educated Yoruba English usage and makes the utterances of many Yoruba users sound 'unEnglish'.

Having carried out a phonological investigation into these phenomena and supported the perceptual analysis with acoustic and metrical analyses so as to corroborate the result of the auditory investigation, the following discoveries have been made and the following conclusions reached:

The investigation into vowel weakening and word stress in relation to disyllabic, polysyllabic, and words that could function as Nouns/Adjectives or Verbs revealed remarkable scarce use of weak vowels and syllables in educated Yoruba English. Vowel reduction in words with suffixes also established a preponderance of strong vowels. A shift in stress due to the addition of a suffix was found out not to result in the weakening of the vowel from which the stress has shifted. These vowels which in Standard English are supposed to be unstressed and consequently weakened were still produced in their strong forms.

With words that are expected to have syllabic consonants rather than vowels as peaks of their terminal syllables, it has also been confirmed that strong vowels are often either inserted between the preceding consonants and the 'syllabic' consonants or substituted for

the syllabic consonants. This discovery further confirms a preponderance of strong vowels in educated Yoruba English.

It was discovered from the use of English nonsensical words to test the intuition of EYE subjects on stress assignment and vowel quality that the use of strong vowels in their appropriate positions is not problematic for EYE users but rather the weakening of vowels in unstressed positions. Their intuition on the appropriate syllable to be assigned stress was discovered to be irregular and unpredictable.

With grammatical words such as conjunctions, determiners, pronouns, adjectives and auxiliary verbs that have both the strong and weak forms in Standard English, EYE subjects were discovered not to make remarkable distinctions between the forms of the words that are strong and weak. . The weak schwa / ə / which is a common vowel found in the weak forms of these words is often not found in the function words produced by the EYE subjects in English sentences. Most vowels produced in the grammatical words were strong rather than weak.

With the use of Standard English strong vowels, it was discovered that educated Yoruba English speakers do not have any problem since where expected, Standard English strong vowels were produced as strong. Even where another vowel is substituted for a Standard English strong vowel by the subjects, it was usually another strong vowel. For example, with words such as `politics / poli`tician, e`radicate/e radi`cation and `execute / exe`cution where two syllables are stressed, one bearing the primary stress and one the secondary, the vowels are expected to be retained as strong in both the 'base' and the 'base + suffix' forms. This is because in Standard English, vowels in both primarily and secondarily stressed syllables are rendered strong and not weakened. The EYE subjects appropriately use strong vowels in these words therefore confirming the assumption that EYE speakers of English do not encounter problems in the use of strong vowels but weak vowels.

The findings of the acoustic investigation corroborate the findings from the perceptual auditory investigation that the EYE users do not weaken the unstressed vowels and syllables so that they are

made obscure in contrast with the stressed syllables which are expected in Standard English to be quantitative. The conclusions reached therefore from the analyses and the discoveries made from them are:

- The rhythm of Standard English is different from that of educated Yoruba English and in educated Yoruba English; there is no consideration for stressed and unstressed syllable alternation.

- When vowels occur in unstressed syllables in educated Yoruba English, they do not get reduced to / ə / or / ɪ / but are rather retained in their strong forms.

- The Standard English characteristic feature of using the weak forms of grammatical words in English sentences is not employed in Educated Yoruba English.

- Educated Yoruba users of English do not foreground the stressed syllables by making the unstressed syllables obscure. Most educated Yoruba spoken English syllables are quantitative.

- The stress patterns of Educated Yoruba English are further confirmed to be markedly different from that of Standard English.

It could be deduced from the discoveries above that there is a preponderance of strong syllables and vowels in Educated Yoruba English as opposed to Standard English usage where there is a

preponderance of weak syllables and vowels and that this is one of the important factors that account for the marked difference between Standard English rhythm and that of educated Yoruba users. Therefore, a full-vowel timing description for educated Nigerian English as proposed by Udofot (2000) when applied to Educated Yoruba English will no doubt cyclically result in the earlier syllable-timing description since Yoruba English syllables have been found to contain strong vowels rather than weak vowels most of the time.

This research is a contribution to the present surge of interest in the development of world 'Englishes'. Considering that Yoruba English is a geo-tribal variety of Nigerian English and that several efforts are now being made to describe and codify Nigerian English as a part of 'world Englishes', this work will contribute immensely to the description of Nigerian spoken English. It will answer some salient questions regarding ~~why~~ how the rhythm differs markedly from that of Standard English. It will also be of interest to linguists especially those in the area of second language acquisition, phonetics, phonology, applied linguistics and sociolinguistics.

The work will assist language teachers and learners since it has established some phonetic activities that account for the differences between Standard English and Nigerian English Suprasegmentals. It will also be of use to language planners and government in taking decisions concerning how to establish a standard variety, what variety to encourage and accept especially for teaching and learning purposes.

REFERENCES

Abercrombie, D (1967) *Elements of General Phonetics*, Edinburg: Edinburg University Press

Adeniran, A (1977) A sociolinguistic Factor Analysis of Yoruba-English Bilingualism among Form V pupils in Secondary Grammar Schools in Ibadan Area. Ph.D Thesis University of Ibadan

_____ (1979) 'Nigerian Elite English as a Model of Nigerian English' in Ubahakwe E (Ed.) *Varieties and Functions of English in Nigeria*, Ibadan: African University Press 227-241

Adegbite, F and Akindele, W (1992) *The Sociology and Politics of English in Nigeria*, Ile-Ife: Debiyi- Iwa Publishers

Adams, C (1979) *English Speech Rhythm and the Foreign Learner*, The Hague: Mouton

Adetugbo, A (1977) 'The Development of Yoruba Vocalic System' in Kotey, F.A and Der-Houssikian, H (Eds.) *Language and Linguistic Problems in Africa*, Proceedings of the VII Conference in African Linguistics: Hornbeam Press Inc. Colombia 374-388

_____(1979) 'Appropriateness and Nigerian English' in Ubahakwe E (Ed.) *Varieties and Functions of English in Nigeria*, Ibadan: African University Press pp 137-166

_____ (1987) 'Nigerian English Phonology: Is there any Standard?' *LARES* IX pp 64-84

Ali-Ani, S (1970) *Arabic Phonology: An Acoustic and Physiological Investigation*, The Hague: Mouton

Anderson, S.R (1969) *West Scandinavian Vowels and the Ordering of Phonological Rules*, Bloomington: Indiana University Linguistic Club

Akinjobi, A.A (2000) 'An Introduction to English Phonetics and Phonology' in Babajide A O (Ed.) *Studies in English Language*, Ibadan, ECFP 5-24

Amayo, A (1980) 'Teaching English Pronunciation in Nigeria for International Intelligibility: The Suprasegmentals' in Onuh S O (Ed.) *Communication and Use of English in Nigeria*, Ibadan: AUP

_____(1980) 'Tone in Nigerian English' Papers from the Sixteenth Regional Meeting Chicago Linguistic Society Vol 16 1-9

Balogun, I O (1980) 'Varieties of English in Nigeria: Its Implications for Developmental Reading' *JLAC* Nov. 45-53

Bamgbose, A (1982) 'When is Language Planning not Planning?' a Paper Presented at the Staff Seminar Series, Department of Linguistics and Nigerian languages, University of Ibadan.

_____(1995) 'English in the Nigerian Environment in Bamgbose A et al (Eds.) *New Englishes*, Nigeria: Mosuro 9-26

Banjo, L.A (1969) ' A Contrastive Study of Aspects of the Syntactic and Lexical Rules of English and Yoruba' Unpublished Ph.D. Thesis, University of Ibadan

(1971) 'Towards a Definition of Standard Nigerian Spoken English' Actes du 8 Congress de Societe Linguistique de L'Afrique Occidentale Abidjan 165-175

(1995) 'On Codifying Nigerian English: Research So Far' in Bamgbose et al (Eds.) *New Englishes*, Nigeria: Mosuro 203-231

Bansal, R K (1976) 'The Intelligibility of Indian English', Hyderabad: Central Institute of English and Foreign languages, ERIC Report ED177849

Blevins, A (1995) 'The Syllable in Phonological Theory' in Goldsmith J.A (Ed.) *The Handbook of Phonological Theories*, Massachusetts: Blackwell Publishers 206-244

Bobda, A S (1995) 'The Phonologies of Nigerian English and Cameroon English' in Bamgbose et al (Eds.) *New Englishes*, Nigeria: Mosuro 248-268

Bolinger, D L (1958) ' A Theory of Pitch Accents in English' in *Word* 14 109-149

(1981) Two kinds of Vowels, Two Kinds of Rhythm, Bloomington: Indiana University Press

Brosnahan, L (1958) 'English in Southern Nigeria', English Studies 39 97-110

Chao, Y.R (1941) 'Distinctions within Ancient Chinese' *Harvard Journal of Asiatic Studies* :5 203-233

Chomsky, N (1957) *Aspects of the Theory of Syntax*, Cambridge: Mass NIT Press

Chomsky, N and Halle, M (1968) The Sound Patterns of English, New York:Harper and Row

Clark, M (1990) *The Tonal System of Igbo*, Dordretch: Foris Clement, J.S & Keyser, S.J (1983) *CV Phonology: A Generative Theory of the Syllable*, Cambridge, MA: MIT Press

Colson, G (1982) *Voice Production and Speech*, London: Pitman Books

Crutenden, A (1986) *Intonation*, NY: Cambridge University Press

Crystal, D (1969) *Prosodic Systems and Intonation in English Language* NY: Cambridge

_____ (Ed.) (1997) *Introducing Linguistics* Harmondsworth: Penguin Books

Cutler, A (1984) 'Stress and Accent in Language Production and Understanding' in Gribbon D and Richter H (Eds.) *Intonation, Accent and Rhythm*, Berlin: de, Gruyter

Dauer, R (1983) ' Stress-timing and Syllable-timing Reanalysed' in *Journal of Phonetics* 11, 51-62

Davis, S (1985) 'Topics in Syllable Geometry', Doctoral Dissertation, University of Arizona

Dunstan, E (ed.) (1969) *Twelve Nigerian Languages: A Handbook on their Sound Systems for Teachers of English*, London: Longman

Egbe, D (1992) 'On the English Language in Nigeria' in *Lagos Review of English Studies* Vols. XI-XIII

Egbokhare, F.A (1994) *Introductory Phonetics*, Ibadan, Sam Bookman

Eka, D (1985) 'A Phonological Study of Standard Nigerian English' An Unpublished Ph.D. Dissertation, ABU Zaria.

_____(1996) 'Timing in Educated Nigerian English' *Journal of Humanities* 1-11

Emenanjo, and Williamson, (1992) 'Igbo' in Bright W (Ed.) *International Encyclopedia of Linguistics* Oxford: OUP 196-199

Fromkin, V and Rodman, R (1978) *An Introduction to Language,* London: Rinehart and Winston

Fry, D.B (1955) 'Duration and Intensity as Physical Correlates of Linguistic Stress' in *Journal of the Acoustic Society of America* Vol.1 765-768

_____(1958) 'Experiments in the Perception of Stress' in *Language and Speech* Vol. 1 306-311

Ghazeli, S (1977) Back Consonants and Back Co-Articulation in Arabic' Doctoral Dissertation, University of Texas, Austin

Gibbon, D &Gut, U (2001) Measuring Speech Rhythm. *Proceedings of Eurospeech,* Aalborg.

Giegerich, H J (1984) 'Relating to Metrical Structure' A paper Reproduced by Indiana University Linguistic Club, Bloomington, Indiana 47405

_____ (1992) *English Phonology: An Introduction* Cambridge: CUP

Gimson, A C (1975) *A Practical Course of English Pronunciation: A Perceptual Approach,* London: Edward Arnold

_____(1977) *English Pronouncing Dictionary,* London: Dent

_____(1980) *An Introduction to the Pronunciation of English,* London: English Language Book Society

Grabe, E & Low, E.L. (2001) Durational Variability in the Speech and the Rhythm Class Hypothesis. To appear in Papers in *Laboratory Phonology*

Grimes, B F (ed.) (1996) 'Ethnologue', Summer Institute of Linguistics

Gut, E & Milde (2002) Prosodic Aspects of Standard Nigerian English. To appear in *Proceedings of TAPS,* Bielefeld

Halle, M and Idsardi, W (1995) 'General Properties of Stress and Metrical Structure' in Goldsmith J A (Ed.) *The Handbook of Phonological Theory,* Cambridge: Blackwell 403-443

Harrighton, J & Cassidy, S (1999) Techniques in Speech Acoustic. The Netherlands Kluwer Academic Publishers. Netherland

Haugen, E (1956) ' The Syllable in Linguistic Description' in Halle et al (eds.) *For Roman Jacobson,* The Hague: Mouton 213-221

Hayes, B (1989) 'The Prosodic Hierarchy in Meter' in Kiparsky P and G Youmans (eds.) *Rhythm and Meter,* Orlando: Academic Press 201-260

_____(1992) 'Metrical Phonology' in Bright W (Ed.) *International Encyclopedia of Linguistics* Oxford: OUP 424-426

Hoberman, R (1987) 'Emphasis (Pharygealization) as an Autosegmental Harmony Feature' in Bosch B N and E Schiller (eds.) CLS 23: Parasession on Autosegmental and Metrical Phonology, Chicago:CLS 167-181

Hockett, C (1955) *A Manual of Phonology: IJAL Monograph Series*, Vol. 21 Memoir 11

Hooper, (1976) *An Introduction to Natural Generative Phonology*, NY: Academic Press

Huckvale, M (2001) *Speech Filing System (SFS)* Developed at the UniversityCollege, London http://www.phon.ucl.ac.uk)

Hyman, L M (1975) *Phonology: Theory and Analysis*, New York: Holt, Rinehart and Wiston

_____(1985) *A Theory of Phonological Weight*, Dordrecht: Foris

Inkelas, and Kiparsky, (1992) 'Generative Phonology' in Bright W (Ed.) *International Encyclopedia of Linguistics* Oxford: OUP 51-53

Jespersen, O (1954) *Growth and Structure of the English Language*, Oxford

Jibril, M (1982) 'Phonological Variation in Nigerian English' an Unpublished Ph.D. Thesis, University of Lancaster

_____(1983) 'The Politics of Pitch' A Paper Presented at the Fourth Annual Conference of Linguistic Association of Nigeria, University of Benin.

Jowitt, D (1991) *Nigerian English Usage: An Introduction*, Ibadan: Longman

Kachru, B B (1982) *The Other Tongue: English Across Cultures*, Oxford: Pergamon

_____(1995) 'Foreword' in Bamgbose et al (Eds.) *New Englishes*, Ibadan: Mosuro iii-viii

Kager, R (1995) 'The Metrical theory of Word Stress' in Goldsmith J A (Ed.) *The Handbook of Phonological Theory* Cambridge: Blackwell 367-402

Kahn, D (1976) 'Syllable –Based Generalizations in English Phonology' Doctoral Dissertation, MIT, NewYork: Garland Press

Kenworthy, J (1990) *Teaching English Pronunciation*, London: Longman

Knowles, G O (1974) 'The Rhythm of English Syllables' *Lingua* 34 115-147

Kujore, O (1985) *English Usage: Some Notable Nigerian Variations*, Ibadan: Evans Brothers

_____(1990) 'Nigerian English Usage: Analogies, Aberrations and the Tyranny of Idea' in *Journal of the Nigerian English Studies Association*, Vol. 10 No 1

_____(1992) ' Features of Nigerian English Usage', A Workshop Paper Presented at a Workshop on English Usage with Particular Reference to Nigerian English Usage, Federal College of Education, Abeokuta.

_____(ed.) (1993) *Trends in Nigerian English Usage*, Abeokuta: I C E

Ladefoged, P (1968) *A Phonetic Study of West African Languages*, Cambridge: CUP

Larsen-Freeman, D and Long, M. H (1991) *An Introduction to Second Language Acquisition Research*, London: Longman

Lehiste, I (1992) 'Tone in Phonetics' in Bright W (Ed.) *International Encyclopedia of Linguistics* Oxford: OUP

Lieberman, P (1960) Some Acoustic Correlates of Word Stress in American English' in *Journal of the Acoustic Society of America*, Vol.32 451-454

Liberman, M & Prince, A (1977) 'On Stress and Linguistic Rhythm' in *Linguistic Inquiry* 8 249-336

McCathy, J (1979) 'On Stress and Syllabification' *LI* 10 443-466

McCathy, J & Prince, A. S(1995) 'Prosodic Morphology' in GoldsmithJ.A (Ed.) *The Handbook of Phonological Theories*, Massachusetts: Blackwell Publishers 318-366

Napoli, D J (1996) *Linguistics* New York: OUP

Newman, P (1992) 'Hausa' in Bright W (Ed.) *International Encyclopedia of Linguistics* Oxford: OUP 104-109

Nolan, F (1992) 'Acoustic Phonetics' in Bright W (Ed.) *International Encyclopedia of Linguistics* Oxford: OUP 3-9

O,Connor, J D (1984) *Better English Pronunciation* Cambridge: CUP

Odden, D (1995) 'Tone: African Languages' in Goldsmith J A (Ed.) *Handbook of Phonological Theory* Cambridge: Blackwell 444-476

Odlin, T (1989) *Language Transfer: Cross-Linguistic Influence in Language Learning*, Cambridge: CUP

Odumuh, A E (1993) *Sociolinguistics and Nigerian English*, Ibadan: Sam Bookman

_____(1998) 'The Co-Existence and Nigerian Languages' in *IJLL* NO 3

Ohala, M (1974) 'The Schwa-Deletion Rule in Hindi: Phonetic and Non-Phonetic Determinants of Rule Application' Bloomington, Indiana University Linguistic Club

_____(1977) 'The Physiology of Stress' in Hyman L M (Ed.) *Southern Carlifonia Occasional Papers in Linguistics*, No 4 145-168

Ogu, J N (1992) *A Historical Survey of English and the Nigerian Situation*, Lagos: Kraft Books Ltd.

Onuigbo, S (1996) *Oral English for Schools and Colleges*, Onitsha: Africana-Fep Publishers

Owolabi, K (2003) *Ijinle Itupale Ede Yoruba (1) Fonetiiki ati Fonoloji* Ibadan, Onibonoje Press and Books Industries

Oyeleye, A L (1990) 'Domesticating the English Language in Nigeria: the Example of Achebe Local Colour Variety' in *Journal of Nigerian English Studies Association* Vol. 10 No 1

Pierrehumbert, J B (1992) 'Intonation' in Bright W (Ed.) *International Encyclopedia of Linguistics* Oxford: OUP 227-228

Pike, K.L (1948) *Tone Languages* Ann Arbor, University of Michigan Press

Pulleyblank, D (1992) 'Yoruba' in Bright W (Ed.) *International Encyclopedia of Linguistics* Oxford: OUP

Quirk, R and Greenbaum, S (1987) *A University Grammar of English*, London: ELBS/Longman

Ramus, F et all (1999) Correlates of Linguistic Rhythm in the Speech Signal. *Cognition* 73, 3: 265-292

Roach, P (1991) *English Phonetics and Phonology*, Cambridge: CUP

_____(1992) *Introducing Phonetics*, Harmondsworth: Penguin

Robins, R.H (1971) *General Linguistics: An Introductory Survey*, London: Longman

Rowland, E C (1969) *Teach Yourself Yoruba*, London: Hodder and Stoughton Ltd

Rowland, E C (1998) *Yoruba: A Complete Course for Beginners* London: Hodder and Stoughton

Schane, SA (1973) *Generative Phonology*, New Jersey: Prentice-Hall Inc.

Selkirk, E C (1982) 'Syllables' in Van der Hulst H and N Smith (Eds.) *The Structure of the Phonological Representations* Vol 2 Dordrecht: Foris 337-383

Sievers, E (1881) *Grundzuge der Phonetik*, Leipzig: Breitkopf and Hartel

Sommerstein, A.H (1977) *Modern Phonology*, London: Edward Arnold

Stampe, D (1972) 'How I Spent my Summer Vacation (A Dissertation on Natural Phonology)' Doctoral Dissertation, University of Chicago, New York: Garland

Streriade, (1992) The Syllable and Stress' in Bright W (Ed.) *International Encyclopedia of Linguistics* Oxford: OUP

Udofot, I M (1997) 'The Rhythm of Spoken Nigerian English' Unpublished Doctoral Dissertation, University of Uyo

Udofot, I (2000) 'The Rhythm of Educated Spoken Nigerian English: An Alternative Description' A paper presented at the 22nd West African Languages Congress, WALC, University of Ghana, Legon

Ufomata, T (1990) 'Thoughts on Spoken Nigerian English' in *Journal of Nigerian English Studies Association*, Vol. 10 No 2

Vennemann, T (1972) 'On the Theory of Syllable Phonology' *LB* 18 1-18

Wales, K (1987) A Dictionary of Stylistics, New York: Longman

White, C (1955) 'Backward Languages in Africa' *Man* 55: 96

Williamson, K (1984) *Practical Orthography in Nigeria*, Ibadan: Heinemann

Wise, C M (1957) *Applied Phonetics*, Englewood Cliffs, N J: Prentice-Hall Inc.

APPENDIX I

Please get ready to read. This exercise is aimed at testing some phenomena in spoken English. Please read as naturally as possible.

EXERCISE A

1.	heedless	2.	teacher	3.	doctor	4.	honour
5.	gerund	6.	maroon	7.	success	8.	luckless
9.	Monday	10.	about	11.	business	12.	market
13.	raccoon	14.	genial	15.	ago	16.	private
17.	madam	18.	attend	19.	excess	20.	intimate
21.	carrot	22.	molar	23.	forget	24.	oppose
25.	bereft	26.	perhaps	27.	obsess	28.	good temper
29.	stronger	30.	women	31.	autumn	32.	barracks
33.	thorough	34.	parade	35.	excess	36.	gracious
37.	callous	38.	manage	39.	afraid	40.	support
41.	necklace	42.	appease	43.	forehead	44.	baron`
45.	foreign	46.	express	47.	provide	48	expose
49	cassette	50	student				

EXERCISE B

1	amateur	2	manipulate	3	apparition	4	examination
5	remise	6	placatory	7	re-engage	8	tomorrow
9	reformative	10	ambassador	11	opportunity	12	baronet
13	remedial	14	monarchy	15	explosion	16	interact
17	conductive	18	potato	19	insurance	20	humorous
21	furtherance	22	margarine	23	maneuverable	24	gallantry
25	locomotor	26	eradication	27	educated	28	concurrence
29	ephemeral	30	illustration	31	lullaby	32	luncheon
33	honourable	34	mistress	35	objectless	36	paragon
37	pervious	38	extinction	39	malady	40	litigious
41	lineage	42	melodious	43	mechanic	44	pedantry
45	yesterday	46	bachelor	47	embassy	48	tomatoes
49	chocolate	50	election				

EXERCISE C

	NOUNS/ADJECTIVES	VERBS
1	Absent	Absent
2	combine	combine
3	ally	ally
4	envelope	envelope
5	record	record
6	protest	protest
7	object	object
8	annex	annex
9	recount	recount
10	decoy	decoy
11	rebel	rebel
12	digest	digest
13	produce	produce
14	contest	contest
15	perfect	perfect

16	desolate	desolate
17	conduct	conduct
18	pervert	pervert
19	project	project
20	frequent	frequent

EXERCISE D

1.	Phonetics	phonetician
2.	politics	politician
3.	comedy	comedian
4.	grammar	grammarian
5.	Canada	Canadian
6.	colony	colonial
7.	final	finality
8.	atom	atomic
9.	tutor	tutorial
10.	drama	dramatic
11.	strategy	strategic

12. eradicate	eradication
13. exhor t	exhortation
14. economy	economic
15. execute	execution
16. inferior	inferiority
17. curious	curiosity
18. photograph	photographer
19. geography	geographic
20. german	germanic

EXERCISE E

1	pebble	2	bacon	3	sizzle	4	hospital
5	student	6	passion	7	happen	8	television
9	wrestle	10	muddle	11	peasant	12	little
13	madden	14	principal	15	principle	16	panel
17	petal	18	ribbon	19	bottle	20	total

EXERCISE F

1. `dadal 2 da`dal 3 a`bet 4 pro`soon
5 in`pend 6 `inpend 7 ob`nort 8 ex`tern
9 dada`da 10 peopal

EXERCISE G

'Get up and dress up', Sam said to her. 'Now you can pack your bag and baggage and don't ever show your face here again, understand?'

'Whatever does that mean?' she queried. 'I thought I knew you but I don't, do I? Will you be kind enough to give me two or three minutes?', she asked sarcastically.

EXERCISE H

Susan met Kate on her way to London. She was actually going to Iran enroute London for a brief holiday, specifically, for a week. Kate told Susan she was coming from Nigeria. 'You're from which of the tribes and by what name may I call you? asked Susan.

'I'm from Iboland and my friends call me Kate'

On arrival they met an elderly man who looked at them and said 'which of you is known as Susan?' Susan looked at him and was shocked to discover that John, the fiancé she'd never met, was old enough to be her father. He had promised to meet her at Heathrow Airport. Ignoring her speechlessness he took her luggage and turned to go. 'What do you think you're doing?', Kate said aloud. My parents planned this for their own selfish end', she said to herself. She then looked at her friend and exclaimed ' God help us women'

EXERCISE I

There was a man who suddenly sprang out of the crowd waving to Mary and holding an egg. As he waved, he did an acrobatic display. James saw the scene, ran there and gave the man a slap. The crowd applauded. Surely this is the hour they had waited so long for. Suddenly another man came from the crowd crying and saying 'please stop the fight! I promise I'll give you some money'.

EXERCISE J

What I shall do now is what I should have done years back. I remember I had been trying to own a shop since I was twenty. Then I used to do a lot of things including street hawking. I used to do some odd jobs like helping people who were unable to take care of their houses. Of course, what does it matter as long as one knows the purpose for engaging in such jobs. Despite the poor returns, I would have succeeded in my aim but for one incident. In the course of pursuing my ambition, one day, I ran into an unpleasant situation, I was accused of stealing. 'She'd kept it in the bush!' , shouted my employer's daughter. 'She should be taken to the police'.

'Has she confessed', queried madam's husband. 'She must have done this before'.

I was very sad. They've concluded I stole it' , I thought. 'Madam and her daughter have no moral justification for this', I lamented in my mind. 'You would have caught me if I'd done this before', I

appealed, tear streaking down my cheeks. 'I'm not a thief', I pleaded. Madam looked at me and said I'll free you this time. Adam'll be my witness, and Mary will be my witness too. I must go now'. So she stormed out of the house. I felt deflated. Where is the courage with which to go on working for them. Is this where the zeal to excel lands one? Lack of ambition is bad but being called a thief is worse. Where are you, my God? I do know you're alive. I do act according to your plans.

APPENDIX II SPONTANEOUS SPEECH DATA

BBC (RP) SPEAKER

A gay clergyman has been officially confirmed as the Bishop for New

. Jim Robinson's the first openly declared homosexual U.S bishop. This vote has put strains and factions between the churches in the U.S and the Anglican churches worldwide. One of the opponents of the ordination of the gay Bishop is the Nigerian Bishop Okorocha of Owerri parish, he joins me now life.

Bishop, this is a democratic process, he has a right to become bishop. Will you accept that on the basis of a democratic process, he has a right to become bishop?

APPENDIX III SPONTANEOUS SPEECH DATA

EDUCATED YORUBA ENGLISH (EYE)

I think Nigerians generally are comfortable with governance in Nigeria. In general terms with regards to development, not only area development but development in the a general state. And people have been making mention of rural development at the grass root level because of the concern, because of the high expectation from government at that level. And if we want to look at what has gone to local government maybe between nineteen ninety-five and now the likelihood is that we want to reach ostentatious conclusion that it had not been satisfactory enough. But the issue goes beyond this kind of ...eh... speedy conclusion that we want to look at the circumstances under which the local governments were operating to decide whether they would have done better than, eh, the, what they are doing presently. So I want us to look more at the circumstances in determining whether the local government has performed well or not.