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Tone Nature of Nigerian English: An Acoustic Analysis

Ngor, Cornelius Iko-Awaji

Department of English and Communication Arts, Ignatius Ajuru University of Education Rumuolumeni, Port Harcourt.

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Abstract

Many research on tone in Nigerian English dwelt around Hausa, Igbo and Yoruba languages. This work acoustically analyzed tone in Nigerian English (NE) focusing on some other Nigerian indigenous languages. The intention is to investigate spoken English of other speakers of Nigerian Indigenous languages and to add to the existing data on tone in Nigerian English. The study is based on the corpus gathered from twenty (20) respondents made up of final year undergraduates, Masters of Arts and Doctor of Philosophy students taken from two Universities in Nigeria. The respondents major in English language, and they fall into variety lll of Banjo's (1971) classification. This study adopts Metrical Phonology as its theoretical framework, and it employs perceptual and acoustic methods of data analysis. The findings reveal that majority of the respondents realized the weak syllables in *again* /əˈgein/, *magnet* /ˈmægnɪt/, *tested* /ˈtestɪd/ with high tone, as against the pronunciation of the "Control" who speaks the Standard British English (SBE). Acoustically, the spectral slides show that the articulatory quality of sounds realized by the respondents are heavy and thick which indicates the prosodic quality of the first acquired language of the respondents. It was discovered that the respondents used longer time to realize some syllables compare to that of the Control. This study concludes that elements of Nigerian indigenous languages found in Nigerian spoken English is evidence that the variety of Nigerian spoken English has the nature of tone language. This corroborates Gut, (2002); Udofot, (2007) and Fajobi (2012).

Keywords: Tone, Pronunciation, Nigerian Spoken English, Nigerian Indigenous Languages, Syllable.

Introduction

English Language is a lingua franca in Nigeria that serves a large number of educated speakers of different indigenous Nigeria languages (cf Jowitt, 1991; Gut, 2004; Schneider, 2007). According to Banjo (1996), the language was brought into Nigeria by the British traders and missionaries who visited the West African region around 17th century. Josiah and Akpan (2016) state that Nigeria is multi-ethnic country and this made Nigerians to be either bilinguals or multilinguals. Base on the multilingual nature of Nigeria, English and different other indigenous languages co-exist in Nigeria. The indigenous languages in Nigeria are: Hausa, Yoruba, Igbo, Kalabari, Ibani, Obolo, Efik, Wakireke, Anaang, Efik, Bekwara, Nupe, and many others. With many languages spoken in Nigeria, Fajobi (2012) describes Nigeria as "a society with many tongues". There is no doubt that ethnic identity

has a role to play in Nigerians daily usage of English language. It is in view of this that Maryam (2015) confirms that:

> there is a contact between English and many indigenous languages; as a result, it brings about differences in the usage of English amongst the indigenous native speakers of Nigerian languages. In addition, the accent of these indigenous languages is either directly or indirectly transferred to their spoken English.

The relationship that exists between English and Nigerian languages has made the English language usage in the new environment to take a new form that suits the Nigerian cultural context and environment. Bamgbose (1971) confirms that the version of English language spoken in Nigeria has unique features that are identifiable to the new environment, and that English has undergone modifications in the Nigerian environment. It is on this note that Eka (2000, p. 15) says, "we can claim justifiably that English which has been with us in Nigeria since the 16th century has acquired the local colour and the milieu of the Nigerian environment". In essence, elements of the educated speakers of Nigerian indigenous languages are transferred into their English usage (Gut, 2007). These are what form the major focus of this study.

It is no longer a new idea that languages in contact develop new features therefore, English language on the Nigerian soil for centuries has become localized, modified and has adopted some Nigerian features. Such features include sounds, intonation patterns, sentence structures, lexical items, morphological forms, syntactic structures and so on. These features show that the version of English spoken in Nigeria has a Nigerian flavour and it is Nigerian in nature which differentiates it from the British English. Different terminology like nativization, domestication, acculturation, Nigerianization, and many others have been used to refer to the version of English language usage by Nigerians (see Adegbija, 2004; Jowitt, 2012, Josiah, 2017; Josiah and Ekpeyong, 2020). The localized, indigenized, or acculturated version of English spoken and written in Nigeria provides the linguistic tools through which the Nigerian variety of spoken English can be adequately described. One of such remarkable features is tone.

Udofot (2007) confirms that Fufulde is the only stress-timed language spoken in Nigeria, while other Nigerian indigenous languages are tone-time. By implication, it means that all other languages in Nigeria are tone oriented, but over the years many linguists focus on studying tone in Hausa, Igbo and Yoruba languages and how it affects Nigerian English, leaving very many other indigenous Nigerian languages unattended to. This work majorly intends to analyze tone in Nigerian English focusing on some other Nigerian indigenous languages, and to add to the existing literature on tone in Nigerian English.

Research Objectives

This study is set to:

(i) find out if traits of other Nigerian indigenous languages apart from Hausa, Igbo and Yoruba languages interfere in Nigerian spoken English;

(ii) identify the tone bearing syllables;
(iii) contribute in a modest way to the existing literature on tone in Nigerian English.

The Literature

a. Basic Explication of Tone

According to Anagbogu, et al (2010) asserts that tone is a feature realized only on the syllable in tone languages. In some tone languages, tone operates on the vowel of the syllable or on any other syllabic elements. For example, in the Igbo language, tone is realized on vowels, as in: ákwà, 'cloth'. In the word m̀mírí: 'water', tone is realized on the syllabic nasal at the initial position. Anagbogu observes that all tones are realized on the vowels and on the syllabic consonants and not on the consonantal sounds in a tone language (2010).

Tone differentiates two or more identical lexical items. Although two words may be morphologically identical, the tonal element can completely change the meanings of those otherwise identical words, for instance, 'àkwá', an Igbo word which means 'egg' has a low-high tone. On the other hand, different meanings can be realized from the same word if the tone marking features are placed differently, as in:

ákwá : HH - 'cry'
ákwà : HL - 'cloth'
àkwà : LL - 'bed/bridge'

But if the lexical item is produced without the tone mark, like 'akwa', it only represents a sequence of letters without any semantic significance.

Furthermore, Anagbogu, et al (2010) asserts that tone in Igbo has grammatical function, that is to say, it differentiates a statement from a question in Igbo language. For example:

ò biàrà : question
ó biàrà : statement

The study categorized tone system into two, namely: register tonal system and contour tonal system. Tone in register tone languages are essentially level. This means that the pitch of a syllable in register tonal languages does not glide, rather, the pitch moves in one direction, either high or low during their production. An example of a register tone language is Igbo. It has high tone (H), low tone (L) and a down-step tone (DS). Contour tone syllable glides in pitch during production. Most Asian languages are contour tone languages, Cantonese, Burmese, Mandarin Thai, and so on (Anagbogu, et al 2010). Contour tone gliding tonemes are: rising, falling, falling-rising, rising-falling, falling-rising-falling, and so on (Pike, 1972).

Aderibigbe (2012, p.1) defines tone "as a distinctive feature of the lexemes". If a language has elements of tone that is lexically significant and contrastive but has relative pitch on each syllable, such language(s) is tonal because pitch phonemes and segmental phonemes enter into the composition of some morphemes (Welmers, 1973). Aderibigbe (2012) states that grammatical tone is the distinctive pitch level which marks contrast in grammatical feature such as tense, aspect and case. He cites examples using Yoruba language. In Yoruba

future tense, many Yoruba speakers use 'má' for conditional sentence. For instance, mà lè elo: 'I may go'; má rònu loríɛ: 'I will think about it'. "Ma" with verb 'lè e' always means possibility but 'ma' is used for future and conditional statements. In addition, Aderibigbe (2012, p. 9) concludes that, "tone has special role in intonation languages that use suprasegmental, phonetic features to convey post-lexical or sentence-level, pragmatic meanings in a linguistically structured way".

b. Tone in Nigerian English

Gut (2002) reveals that Nigerian English is a variety of English that differs significantly from other varieties of English, especially in the area of prosody. The study analyses the prosody of Nigerian English in comparison to the prosody of British English and three West African tone languages, *Anyi, Ega* and Ibibio.

Gut (2002) establishes that the prosody of standard Nigerian English has been suggested to be syllable-timed rather than stressed-timed, but that only limited acoustic evidence is available on it. The study further reiterates that Nigerian English intonation differs systematically from British English intonation, and it has been proposed that it reflects the prosodic structure of the speaker's native language in a way that stressed syllables are associated with a high tone and unstressed syllables with a low tone. According to Gut (2002), proposals have been made to treat Nigerian English as a tone language with tone on every syllable.

The study aims at investigating the acoustic evidence for classification of Nigerian English speech rhythm, and also, to compare Nigerian English syllable structure with that of British English, for the purposes of analyzing the tonal structure of Nigerian English. The results of the study show distinct difference between the varieties of English spoken in Britain and in Nigeria. In terms of tone, contour tones on syllables are very rare in Nigerian English and only occur in very restricted environments, mainly on pre-pausal syllables. The result also states that the tendency to produce stressed syllables with a high tone and unstressed ones with a low tone as earlier proposed was not found to be true. Gut (2002) asserts that Nigerian English prosody is close to three tone languages used for the study. Gut (2002) is a starting point for the investigation of tone in Nigerian English.

Udofot (2007) analyzes tonal structure of Standard Nigerian English. The study analyzes the tonal structure of the brand of English spoken by educated Nigerians. The study assume that many Nigerians tend to have level tone on every syllable and stress more syllables than necessary, and so, Nigerian English tends to have the melody of Nigerian languages which is syllable-timed instead of stress-timed rhythm. It also shows that standard Nigerian English feature more stressed syllables than expected in a native variety, although not all the stressed syllables correlate with high tones, rather some stressed syllables are produced with low tones. Udofot (2007) again observes that the Nigerian speaker of English hardly use stress but tone and word boundary lowering, which gives the impression that stress is placed on the wrong word. Udofot (2007) further establishes that the Nigerian English speaker hardly uses stress the way it is understood by speakers of Germanic languages.

Udofot (2007) notes that many studies about the prosody of Nigerian English identify the presence of more stressed words/syllables in Nigerian English than the way it is in the native version of English.

Udofot (2007) remarks that it would be wrong to say that the Nigerian speaker places the pitch accent/stress on the wrong word; rather, he/she uses tone on each word or syllable causing the native English speaker to interpret the pattern as if the stress and the pitch accent come on the wrong word. This simply means that Nigerians use tone on every syllable either strong or weak, which creates the impression that all syllables are stressed at all times.

Fajobi's (2012) study is relevant as it treats tone in Nigerian English. The author reports that the prosodic features of Nigerian English and that of the British English are not the same in so many ways (cf Fajobi, 2008; Gut and Milde 2002; Gussenhoven and Udofot, 2010). She asserts that the intonation of Nigerian English lacks accentuation. This is because syllables of NE have aligned itself with tone in the speakers' renditions, and tone is being used as a surrogate for stress. Gut and Milde (2002) confirm that tone in Nigerian indigenous languages always interferes in the educated Nigerian spoken English. This single act causes NE to be described as "close to tone languages" (see Gut 2010) cited in Fajobi, (2012, p 148); Eyam, (2017).

Fajobi (2012) explains that the speakers tend to speak NE with tone, although the pattern differs in some cases. She notes that stressed syllables tend to be consistently associated with high tone while unstressed syllables are associated with either low tone or mid tone in isolation word. Fajobi (2012), especially on the fact that Nigerian English is filled up with tone so much that tone is used as a substitute for stress. The present study would attempt to examine the finding of Fajobi (2012) which states that stressed syllables in Nigerian spoken English are associated with high tone while unstressed syllables are associated with low tone.

Theoretical Framework

This work adopts metrical phonology as its theoretical framework. This theory studies linguistic prominence of sound within a syllable. In metrical theory, prominence of a unit is defined based on its relation with other units in the same sentence. The theory was introduced by Liberman in 1975 in his doctoral research work, but it became popular in Liberman and Prince's (1977) publication. The Metrical theory is a reaction against the linear analysis of stress within the Sound Pattern of English (SPE) which sees stress as a property of individual segments (Agbedo, 2015). Recently, the theory has gone beyond studying word stress into autosegmental phonology.

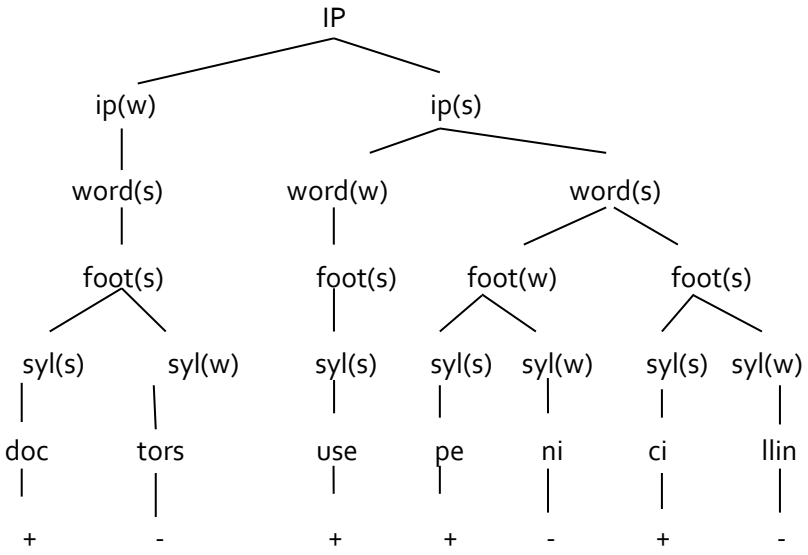
According to Liberman (1975, p.1), metrical phonology is "a theory of stress or linguistic prominence". Liberman cites an example using the sentence "Doctors use penicillin." Furthermore, he states that if the sentence is said unexpectedly, the 'Ci' is the most stressed in the sentence, though the syllable 'doc' is more stressed than the syllable 'tor'. Liberman and Prince (1977) hold the view that in metrical phonology stress is separate from pitch

accent and phonetic syllable. Hayes (1995) says metrical theory deals with phonological hierarchies. By this, he means the organization of segments into syllables, syllables into text and many more syllables into higher level of structure. Also, Liberman and Prince (1977) note that the term "Metrical" is as a result of the "Pattern grid" style which is the traditional picture of verse "scansion" produced by the stress patterns of an utterance. Metrical theory focuses on a relational prominence of sound within a syllable. Prominence relation in metrical theory is captured through metrical trees and grids. This is an indication of the constituents involved. It shows that there are Strong (S) and Weak (W) sounds within a syllable. This captures the relation and cumulative properties of stress. Udoh (2011, p.47) confirms that the theory assumes that stress is fundamentally a study of the relative prominence of syllables and higher level units such as the foot, and the most important characteristic determining stress pattern is alternating prominence and sensitivity to syllable weight. The theory maintains that stress is different from pitch accent, and that stress has phonetic effect on syllables realized beyond intonation, duration, and amplitude. Metrical theory is classified into two groups: the metrical tree (or the aboreal) and the metrical grid.

The Metrical tree

This group considers linguistic prominence of a particular word over another in a phrase. Metrical tree deals with the relation that exists between nodes in a branching tree, it sees the nodes to be either Strong (S) or Weak (W). Josiah and Akpan (2016) confirm that words in metrical trees are described as nodes and that one node may be Strong (S) while another may be Weak (W). Either the Weak or Strong node can be switched over to another node within a sentence. Eyam (2017) notes that the labels 'Strong' or 'Weak' have no inherent phonetic realization and only have meaning relative to the rest of the labels in the tree. The Strong node is Stronger than the Weak node. In a phrase, the most prominent syllable is the one that has no Weak nodes above it. So, a general term for the syllable with the greatest metrical strength in a domain is known as Designated Terminal Element (DTE). This implies that the syllable with the main stress in the phrase is the DTE.

Figure 1: Metrical Tree



Josiah and Susan (2016) note that a metrical tree can be used in two ways: the broad and the narrow focus. The broad focus might be used in a question like, "Who teaches in the university?". In this case, the word "who" is the Strong node while the narrow focus might be used in response to a question such as, "That lecturer teaches what course?" The Strong node here is on "course". The Metrical trees allow the changing of stress pattern in a phrase by switching the Strong(S) and the Weak (W) nodes.

Research Design

This study adopts the survey research method which enables the researcher to gather opinion and information from the respondents on tone in Nigerian English (henceforth NE). This made it possible for the researcher to listen to the respondents as they read the corpus on the questionnaire as well as made spontaneous speech into the MP3 recording device provided by the researcher. The questionnaire was divided into two sections: A - section has ten (10) single words, B - section has three utterances and the correspondents were also asked to make spontaneous speech on the topic fuel subsidy removal. Survey design involves the study of a sample taken from a population in order to know their major characteristics which can be generalized to the whole population and so it is suitable for this research. Stratified Random Sampling technique (SRS) was used to select 20 Nigerian English speakers from two Federal Universities in Nigeria.

These two Federal Universities capture the majority of the ethnic groups or states in Nigeria. The yardstick for stratified selection of the correspondents for this was education in English language. The researcher selected eight (8) Bachelor of Arts (BA) students of English, eight (8) Master of Arts (MA) students of English and four (4) Doctor of Philosophy (PhD) students, all the selected students are in their final year. These set of students fall in Banjo (1971) variety III classification of Nigerian speakers of English. The analysis was carried out using three approaches: perceptual, statistical and acoustic method of analyses.

Their performance was recorded, analyzed and compared to that of the Control who speaks the standard British English (SBE).

Data Presentation and Analysis

Perceptual Analysis

The researcher transferred the audio recorded utterances from the MP3 device into an HP mini laptop where he listened to all the utterances and assigned stress mark to the syllables according to prominence. Table 1 below shows single word items used for this study.

Table 1: Respondent's Performance on Single words Tested

S/N	Word	Transcription
1.	Linguist	/ˈlɪŋgwɪst/
2.	Divine	/diˈvain/
3.	Again	/əˈgein/
4.	Magnet	/ˈmægnit/
5.	Product	/ˈprɒdʌkt/
6.	Suppose	/səˈpəʊz/
7.	Tested	/ˈtestɪd/
8.	February	/ˈfebrʊərɪ/
9.	Respect	/riˈspekt/
10.	Secretary	/ˈsekrətərɪ/

Source: Author

From the study, it was discovered that many weak syllables pronounced by the respondents were accorded stress status while in the pronunciation of the Control it was not so. For instance, syllable /ə/, /nit/, /di/, /sə/ in the word "again", "magnet", "divine", "suppose" are proves of the unstressed syllables that were stressed by the respondents. It was also observed that the pronunciations of the respondents were heavy and slow, that is, they used longer time in their pronunciation as against that of the control.

Statistical Analysis

The performances of the Control and that of the EG are presented to find out the deviations, if there are any. Deviations that are below 5% (that is P=5) have negative values (W-) while from 5% and above have positive values and are represented as (W+). This means that the values obtained from the informants are either positive or negative. The positive is presented as W+ while the sign for the negative is W-. For the purposes of statistical analyses, the respondents were re-organized into three groups: Experimental Group 1 is made of final year undergraduate students, EG 2 comprise Master of Arts students while EG 3 has final year Doctor of Philosophy students. For the statistical analysis, five (5) single disyllabic words were randomly selected for thorough investigation.

Table 2: Summary of Deviation from the Pronunciation of the Experimental Group 1

Respondents	Observed No. of stressed syllable	Expected No. of stressed syllable	Observed Difference	Difference in Rank	Signed Rank W+	W-
Control	10	10	-	-	-	
R 1	12	10	2	5	5	-
R 2	12	10	2	5	5	-
R 3	11	10	1	2	-	2
R 4	13	10	3	8.5	8.5	-
R 5	12	10	2	5	5	-
R 6	13	10	3	8.5	8.5	-
R 7	12	10	2	5	5	-
R 8	14	10	4	10.5	10.5	-
R 9	12	10	2	5	5	
R 10	14	10	4	10.5	10.5	-
Total Average	**125**	**100**	**25**	**= 65**	**= 63**	**= 2**
Mean Average					**96.9%**	**3.0%**

Source: Author

Table 3: Wilcoxon's Matched Pairs Signed Ranks Test

Observed Number of syllable Expected Number of syllable		Mean of Rank	Sum of Ranks	(P=value)
Positive Ranks	3	3.0	2	P<0.05
Negative Ranks	1	96.9	63	-
Ties	3	-	35	-
Total	**10**	**-**	**100**	**-**

Source: Author

Table 2 presents modal results on deviation of the stressed syllables of the Experimental Group (from now on EG) 1 used for this study. Items on the Table shows additional number of stressed realized on weak syllables in the pronunciations of the respondents. Five (5) members of the EG have the highest frequency of deviation occurrence, while the respondents R8 and R10 have the highest deviation from the expected number of stressed syllables, and the lowest falls on R3 with 2%. Table 3 shows result on Wilcoxon's match Pairs Signed Rank Test for the significant deviation on the pronunciation of the Experimental Group 1. With a P=value obtained, P=0.05 level of significance, there is a significant of (P<0.5) difference between the result of the observed number of stressed syllables and the expected number of stressed syllables.

Table 4: Summary of Deviation from the Pronunciation of the Experimental Group 2

Respondents	Observed No. of stressed syllable	Expected No. of stressed syllable	Observed Difference	Difference in Rank	Signed Rank W+	W-
Control	10	10	-	-	-	
R 1	12	10	2	5	5	-
R 2	11	10	2	5	5	
R 3	10	10	0	-	-	-
R 4	12	10	2	5	5	-
R 5	11	10	1	1.5	-	1.5
R 6	12	10	2	5	5	-
R 7	11	10	1	1.5	-	1.5
R 8	13	10	3	8.5	8.5	-
R 9	12	10	2	5	5	-
R 10	13	10	3	8.5	8.5	-
Total Average	**118**	**100**	**18**	**= 45**	**= 42**	**= 3**
Mean Average					**93.3%**	**6.6%**

Source: Author

Table 5: Wilcoxon's Matched Pairs Signed Ranks Test

Observed Number of syllable Expected Number of syllable		Mean of Rank	Sum of Ranks	(P=value)
Positive Ranks	2	6.6	3	P<0.05
Negative Ranks	1	93.3	42	-
Ties	3	-	55	-
Total	**10**	**-**	**100**	**-**

Source: Author

Data on Table 4 reveals that R1, R2, R4, R6 and R9 have the modal deviation in Experimental Group 2, while the performance of R3 matches that of the Control. Two (2) respondents had the highest deviation, and lowest rank of deviation is on R5 and R7 respectively. Nine (9) respondents out of ten (10) stressed more syllable than the Control, it shows that there are more stressed syllable in Nigerian English compare to Standard British English. Additional (18) strong syllables were added to (100) syllables of the Control. EG 2 are made up of Master of Arts students used for this study.

Table 6: Summary of Deviation from the Pronunciation of the Experimental Group 3

Respondents	Observed No. of stressed syllable	Expected No. of stressed syllable	Observed Difference	Difference in Rank	Signed Rank W+	W-
Control	10	10	-	-	-	
R 1	13	10	3	6.5	6.5	-
R 2	13	10	3	6.5	6.5	-
R 3	12	10	2	3	-	3
R 4	13	10	3	6.5	6.5	-
R 5	12	10	2	3	-	3
R 6	13	10	3	6.5	6.5	-
R 7	15	10	5	11	11	-
R 8	14	10	4	9.5	9.5	-
R 9	12	10	2	3	-	3
R 10	14	10	4	9.5	9.5	-
Total Average	**131**	**100**	**31**	**= 65**	**= 56**	**= 9**
Mean Average					**86.1%**	**13.8%**

Source: Author

Table 7: Wilcoxon's Matched Pairs Signed Ranks Test

Observed Number of syllable Expected Number of syllable		Mean of Rank	Sum of Ranks	(P=value)
Positive Ranks	3	13.8	9	P<0.05
Negative Ranks	3	86.1	56	-
Ties	2	-	35	-
Total	**10**	**-**	**100**	**-**

Source: Author

Table 6 presents data obtained from the performance of the Control who serves as the native baseline for the studying and measuring of the EG 3. The first column on the table belongs to the Control, and it bears two important rows, different in rank and signed rank rows which are blank.

The cumulative result on Table 7 shows the mean average deviation of 86.1% of positive ranks at P=0.05 while that of the negative rank is 13.8%. The result shows that 5% deviation is the modal deviation taken from R1, R2, R4 and R6. The highest deviation falls on R7 which is 11% while the lowest are R3, R5 and R 9 which bear 3%. The P-value of 0.05 indicates P=0.05 of significance. It shows the difference between the observed number of stressed syllables by the EG and the expected number of stressed syllables by the Control. From the data, the respondents representing the EG 3 have 86.1% deviation. It is an indication that weak syllables were stressed in the pronunciation of the respondents.

Acoustic Analysis

Table 8: Syllable Duration in Seconds

Respondents	no	It's	true	It's	short
R 1	127.4	111.2	198.3	134.4	123.1
R 2	165.2	154.3	168.7	188.9	145.3
R 3	143.3	121.2	187.2	197.3	177.2
Total Average	**130.7**	**116.0**	**166.2**	**156.1**	**133.6**
Control	**130.4**	**101.3**	**129.9**	**102.8**	**150.2**

Source: Author

Table 9: Syllable Duration in Seconds

Respondents	on	my	way	to	work
R 1	134.1	189.3	127.5	131.2	143.3
R 2	142.2	176.4	198.2	112.1	114.2
R 3	176.1	156.9	111.1	133.7	191.9
Total Average	**135.7**	**156.7**	**131.0**	**113.1**	**134.8**
Control	**131.0**	**148.5**	**128.5**	**101.0**	**120.1**

Source: Author

Table 10: Syllable Duration in Seconds

Respondents	go	to	man	ches	ter
R 1	117.4	101.2	174.9	163.2	171.1
R 2	144.2	154.6	151.2	147.0	144.5
R 3	164.5	143.8	122.2	137.6	127.7
Total Average	**127.8**	**119.8**	**134.4**	**134.3**	**132.9**
Control	**127.4**	**106.7**	**129.3**	**130.4**	**120.0**

Key:

R1- R3: Respondent

Table 8 shows the duration with which a syllable was realized by the representative of each of the Experimental Groups used for this study. The syllable "true" was realized with 166.2 millisecond by the EG while the Control realized the syllable "short" with the highest millisecond of 150.2. Both the EG and the Control realized the syllable "it's" with 116.0 and 101.3 lowest milliseconds respectively. On Table 9, the EG produced the syllable "my" with 156.7 milliseconds while, the Control had on the same syllable 148.5 milliseconds. In the same manner, on Table 10 the highest milliseconds was produced on the syllable "man" with 134.4, the lowest is on "to" with 119.8 while the Control had 130.4 and 106.7 as the highest and lowest syllable duration respectively.

Figure 2: Spectral Analysis of the items "alone", "better" and "yesterday" (EG 1 version)

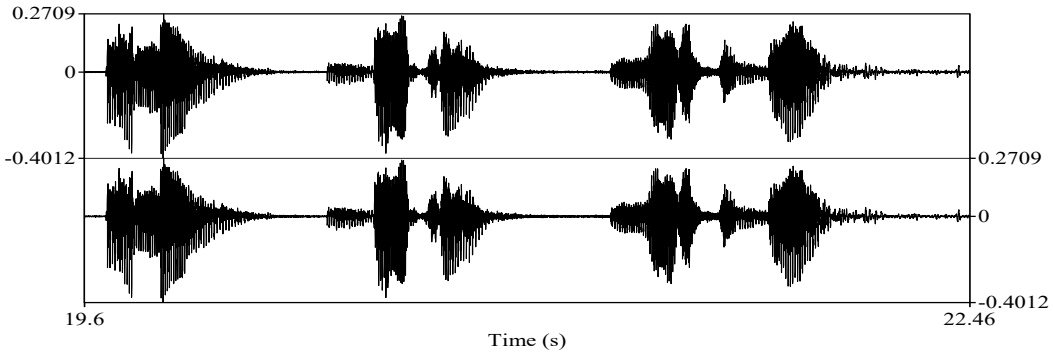


Figure 3: Spectral Analysis of the items "alone", "better" and "yesterday" (EG 2 version)

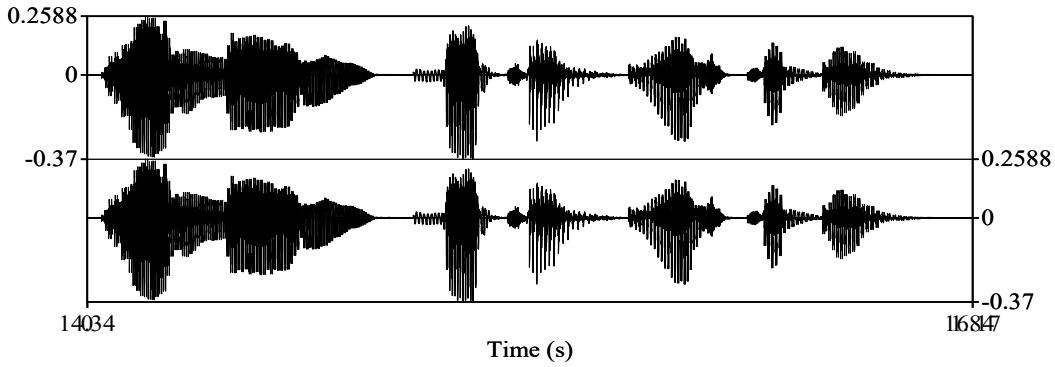


Figure 4: Spectral Analysis of the items "alone", "better" and "yesterday" (EG 3 version)

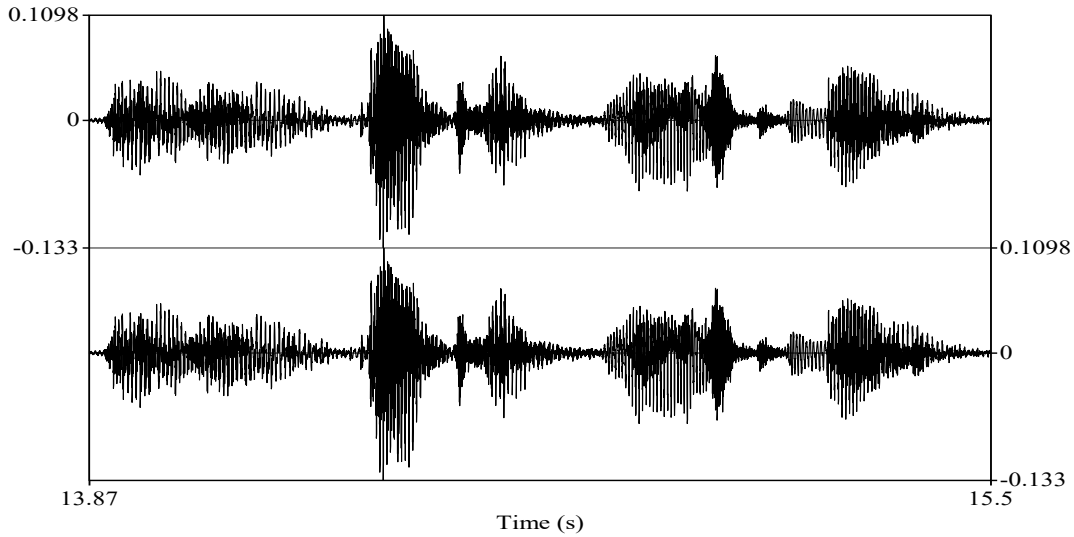


Figure 5: Spectral Analysis of the items "alone", "better" and "yesterday" (Control version)

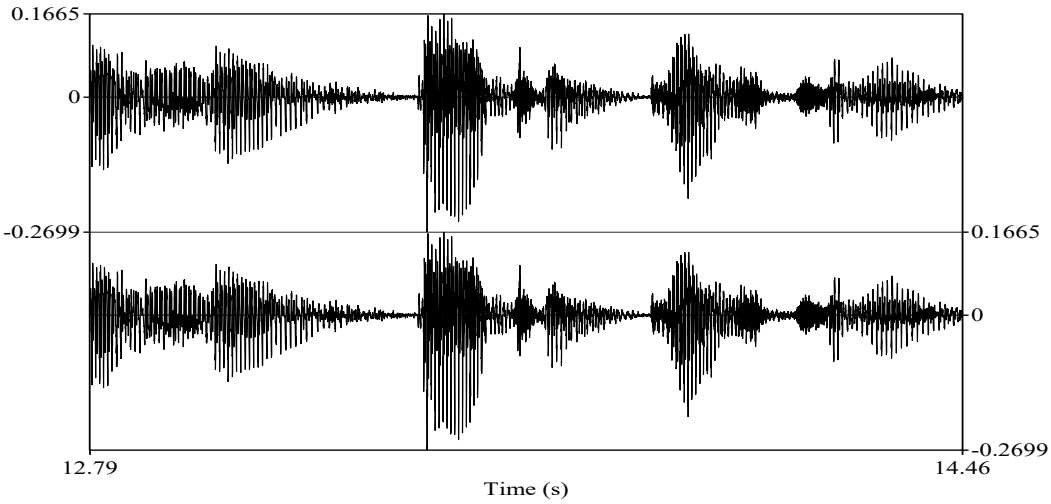


Table 11: Durational Differences between the Experimental Groups (EG) and the Control (in milliseconds)

Word	No it's true it's short					On my way to work					Go to manchester				
Syllables	no	It's	true	It's	short	on	my	way	to	work	go	to	man	ches	ter
EG Perf. Average	130.7	116.0	166.2	156.1	133.6	135.7	121.7	129.3	113.1	134.8	127.8	119.8	134.4	134.3	132.9
Cntl. Perf.	130.4	101.3	129.9	102.8	150.2	131.0	130.5	138.5	101.0	120.1	127.4	106.7	129.3	130.4	120.0
Diff. in Dur.	**0.3**	**14.7**	**36.3**	**53.3**	**16.6**	**4.7**	**8.8**	**9.2**	**12.1**	**14.7**	**0.4**	**13.1**	**5.1**	**3.9**	**12.9**

Key: EG = Experimental Group
Cntl = Control's Performance in Milliseconds
Diff. in Dur. = Difference in Duration of Milliseconds

The spectral pictures on figure 2, 3 and 4 reveal the kind of articulatory force or quality with which the EG pronounced the syllables of the items. The pictures show that the articulatory quality of the EG is heavier than that of the Control in figure 5 hence, the weight is revealed by the relative thickness of the spectral slices in the pictures while that of the Control appears lighter than the EG.

Table 11 presents the summary of the durational differences between the Experimental Group and the Control in milliseconds. The first row on the table features the average mean performance of the EG in milliseconds while the second row displays the performance of the Control in millisecond also. The third row shows the recorded difference in both the realization of the EG and the Control. For instance, the EG realized the syllable "it's" with 156.1 milliseconds against the realization of the Control with "102.8" milliseconds. Also the Control realized the syllables "my" and "way" with higher milliseconds of 130.5 and 138.5 while the EG pronounced the same syllables with a lower milliseconds of 121.7 and 129.3 respectively. It was revealed that the closing diphthongs /aɪ/ and /eɪ/ in RP vowels become shorter in the pronunciation of the EG, possibly as a result of the influence of their mother

tongue which is tonal. Generally, diphthongs in Nigerian spoken English are monothongized (see Adetugbo, 2004; Udofot, 2004; Josiah and Babatunde, 2011). Unstressed syllables such as "to" and "ter" in the performance of the Control were pronounced with higher milliseconds of 113.1, 119.8 and 132.9 respectively. The mid-central RP vowel /ə/ is replaced in Nigerian spoken English with /a/, this accounted for the realization of the unstressed syllables with a higher milliseconds (Josiah and Ngor, 2022).

Conclusion

This paper examined the spoken English of other speakers of Nigerian indigenous languages to ascertain if the version of English language spoken by Nigerians aside from Hausa, Igbo and Yoruba speakers have elements of Nigerian Indigenous languages which makes the variety tonal. This study adopted Liberman's Metrical Phonology as its theoretical thrust to investigate the problem. From the responses of the respondents, it was discovered that Nigerian Indigenous languages interfere in Nigerian Spoken English as unstressed syllables were accorded stressed status (Josiah and Ngor, 2022). Items on Table 1 attest to it perceptually, and the statistic analysis proves that results from the Experimental Group 1, 2 and 3 have higher percentage of observed number of stressed syllables. Base on the finding, it was observed that the respondents used more milliseconds to realized unstressed syllables on the studied items. Virtually, all the syllables were produced with high tone. This interference is as a result of the first acquired language (mother tongue) of the respondents.

It was also discovered from the spectral slices that the prosodic quality of the version of Nigerian spoken English is heavier and thicker compare to that of the Control who speaks the SBE, as on the spectral pictures on figure 2, 3, 4 and 5 respectively. The findings in this study corroborate earlier studies (Udofot, 2004, 2007; Jowitt, 2000, 2019; Adetugbo, 2004; Akinjobi, 2004; Eyam, 2017), that elements Nigerian Indigenous languages interfere in Nigerian spoken English as such that unstressed syllables were stressed in Nigerian version of English making Nigerian English tonal in nature. There are over three hundred (300) indigenous languages spoken in Nigeria, and this study did not exhaust all the languages, so the researcher suggests that research of this kind should be carried out in other languages in Nigeria using another approach.

References

Aderibigbe, A.G. (2012). *Functions of Tone: An Overview of Languages in Nigeria*. https://www.academia.edu/2215662/function-of-tone (Retrieved on 2th November 2018).

Adegbija, E. (2004). The Domestication of English in Nigeria, pp20-24. In: S. Awonusi. And E. Babalola (Editors) *The Domestication of English in Nigeria: A Festschrift in Honour of Abiodun Adetugbo.*University of Lagos press, Nigeria, 453p.

Adetugbo, A. (2004). "Problems of Standardization and Nigerian English Phonology". In Dadzie, A.B.K.& Awonusi, S. et al (eds). *Nigerian English: Influences and Characteristics.* Lagos: Concept Publications. Pp. 179-199

Agbedo, C. (2015). *General Linguistics: A Historical and Contemporary Perspectives.* KUMCEE-Ntaehe Press Inc., Nsukka, 377p.

Anagbogu, P., Mbah, B. and Eme, C. (2010). *Introduction to Linguistic.* Amaka Dreams Ltd, Anambra, 251p.

Bamgbose, A (1971). The English Language in Nigeria: In J. Spencer (ed). *The English Language in West Africa*. London, Longman. 35-48.

Banjo, A. (1971). *Towards a Definition of Standard Nigerian Spoken English*. Annales d'universite d' Abidjan, 248p.

Banjo, A. (1996). *Making Virtue of Necessity: An Overview of the English Language in Nigeria*. University Press, Ibadan, 214p

Boersma, P. & Weenink, D. (1992-2010). *Praat: A System for Doing Phonetics by Computer*. http://www.praat.org. (Retrieved 5th July, 2018).

Eka, D. (2000). *Issues in Nigerian English Usage*. Scholars press (Nig) Ltd, Uyo, 103p.

Eyam, E. (2017). Tone in Nigerian English. MA Dissertation. University of Uyo, Nigeria, 116p.

Fajobi, E.O. (2008). *The Impact of Yoruba Prosody on the Intonation of Nigerian English*. PhD Thesis. University of Sussex, United Kingdom, 210p. www.researchgate.net/publication/233642572 (Retrieved on 22nd October 2018).

Fajobi, E.O. (2012). Grammaticalization of Tone in a Non-Tone L2 Spoken by Users from Lexically Distinctive Tonal Background: The Nigerian English Situation. *Journal of the Department of English.* Obafemi Awolowo University, Ile-Ife, Nigeria, 7: 148 161.

Gussenhoven, C. and Udofot, I (2010). Word Melodies vs. Pitch Accents: A Perceptual Evaluation of Terracing Contours in British and Nigerian English. *Journal of Language Acquisition.* . 20: 30 35.

Gut, U. and Milde, J. (2002). *The Prosody of Nigerian English*. Available at http://www.iscaspeech.org/archive. (Retrieved 22nd November, 2018).

Gut, U. (2002). *Nigerian English: A Typical West African Language?* Proceedings of TAPs, University of Biefield, No. 8., 105p

Gut, U. (2004). Nigerian English: Phonology, pp813 – 829. In: Burridge, K., Kortmann, B., Mesthrie, R. (Editors)*A Handbook of Variety of English*. University of Berlin, Germany. 302p.

Hayes, B. (1995). *Metrical Stress Theory*. University of Chicago Press, Chicago, 229p.

Josiah, U. E. and Akpan, M. S (2016). Rhythm in Nigeria Spoken English: An Experiment with Akwa Ibom English Bilinguals. *California Linguistic Notes***.** vol.40 (1)16 39. Website: https://englishfullerton.edu/publications/cln/clncurrentissue/CLN

Josiah, U. E. & Ekpeyong, O. (2020). An Analysis of the Nucleus Element in the Syllable Structure of Nigerian-English Bilinguals. In: *AKSU Journal of English*. Vol. 3. Pp. 28-52.

Josiah, U. E. and Ngor, C. I. (2022) Acoustic Analysis of Word Stress Patterns in the Newscasts of Radio Stations in Port Harcourt. *Sokoto Journal of Language, Literature and Linguistics Vol. 2, November 2022.161-179pp*

Josiah, U. E. and Babatunde, S. T. (2011). Standard Nigerian English Phonemes: The Crisis of Modeling and Harmonization In: *World Englishes*, 30.2: 200 218.

Jowitt, D. (1991). *Nigerian English Usage*. Lagos, Longman, Nigeria.

Jowitt, D. (2012). *Nigerian English Usage: An Introduction*. Longman Nigeria Plc, Lagos, 277p.

Liberman, M. (1975). *The Intonation System Of English.* PhD Dissertation MIT. USA, 418p.

Liberman, M. & Prince, A. (1977). On Stress and Linguistic Rhythm. *Linguistic Inquiry*. 8, 249 336.

Maryam, I. A. (2015). An Acoustic Study of Nigerian English Vowels Produced by Hausa Speakers. Unpublished M.A., Thesis University of Malaya.

Pike, K. (1972). *Tone Languages*. University of Michigan Press, Ann Arbor, 168p.

Schneider E. (2007). *Post-Colonial English: Varieties Around the World*. Cambridge University Press, Cambridge, 256p.

Udoh, I. (2011). Linguistic rhythm and elasticity. *pp* 44-63. In: Udofot, I. & Juliet U. (Editors) *English Usage in Nigeria Since 1842: patterns and changes – Afestschrift for Prof. DavidEka*. University of Uyo, Nigeria.

Udofot, I. (2007). A Tonal Analysis of Standard Nigerian English. *Journal of the Nigeria English Studies Association,* 12(1), 58 68.