METATHESIS AS A PHONOLOGICAL PROCESS IN EDUCATED HAUSA SPEAKERS' ENGLISH

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Abstract

This study explores metathesis, a phonological process involving sound rearrangement, in the English language of educated Hausa speakers. Language use shapes the acoustic delivery of phonological patterns. A common example of this aberration under use is 'metathesis', which is the reversal of the expected linear ordering of sounds. The phonological irregularities evident in the spoken English of educated Hausa speakers motivated the systematic investigation of this phenomenon. This phenomenon is investigated within the framework of Selinker's (1972) inter-language theory and Jibril's (1986) classification of Nigerian English speakers. The aim of this paper is to examine instances of metathesis in the English language of these participants. The data were collected through audio-recordings of 20 English words given to the participants to read to determine instances of metathesis in their production of the stimuli. The results demonstrate that most of the participants metathesized the 'sk' cluster in the administered words. Transfer of training, vowel shortening, syllable structure constraints, and articulation ease are key factors in the occurrence of metathesis. Results show frequent metathesis by the participants irrespective of gender and educational level, often impacting intelligibility as the phenomenon is said to be phonemic.

Introduction

An area that has attracted and continued to attract the interest of linguists is the field of language acquisition and language learning. Scholars such as Schmitt (2010), Corder (1981), Krashen and Terrel (1983), and De Bot et al., (2005) have written extensively on language acquisition and language learning. Many issues have been raised, and hypotheses and counter arguments have been proposed on how individuals learn both their first and second languages.

As a linguistic phenomenon, speech comprises structured utterances constructed from fundamental sound units. Therefore, it can be argued that language cannot be understood when sounds are not properly organized in an acceptable order. The aspect of language study that concerns itself with sound analysis is referred to as phonology. Phonology describes the systems and patterns of speech sounds in a language. It is, in effect, based on a theory that every speaker of a language unconsciously knows about the sound patterns of that language (Yule, 2010).

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Hausa is one of the major languages with more first-language speakers than any other language in Sub-Saharan Africa (Caron, 2013). It belongs to the Chadic branch of the Afro-Asiatic languages, with about 50 million people speaking the language in Nigeria, Niger, Cameroon, Togo, and Ghana (Caron, 2013). The majority of its speakers live in northern Nigeria and the southern areas of the neighboring Republic of Niger. In Nigeria, Hausa is one of the major languages spoken alongside Yoruba and Igbo; it is a language spoken in the northern states of Nigeria. This informed the reason why the study chose one target participants, i.e., graduates. This choice is closely related to Jibril's (1986) categorization of English speakers as speakers of Basic Hausa English (BHE), Sophisticated Hausa English (SHE), and in between, Southern-Influenced Hausa English (SIHE). According to Jibril's (1986) classification on educational level and proximity to RP, the following are his classifications: educational level 1: speakers with secondary education and professional training. Educational level 2: speakers who holds first degree. Educational level 3: speakers who have higher degree. Educational level 4: University Professors. Furthermore, his **'Basic'** vs. **'Sophisticated'** categorization undermines the impact of formal education on English language proficiency. Studies, such as Okoro (2020), have confirmed that exposure to formal education significantly influences grammatical accuracy and pronunciation in Nigerian English speakers, aligning with Jibril's classification. Some scholars argue that Jibril's classification overlooks the linguistic contributions of Nigeria's minority languages by primarily focusing on three major ethnic groups; Hausa, Igbo, and Yoruba (Agbo & Plag, 2020). This has led to calls for broader research encompassing linguistic diversity in Nigeria.

In summary, while Jibril's 1986 classification has significantly contributed to the understanding of regional and educational variations in Nigerian English, ongoing research highlights the need for more comprehensive and dynamic models that encompass the full spectrum of linguistic diversity and the evolving nature of English in Nigeria.

Metathesis

The process of metathesis, whereby the sequential order of segments in a word is re-arranged, is a phonological development that occurred at various moments in the history of English. It is now well known that language use shapes the acoustic delivery of phonological patterns. A common example of this aberration under use is 'metathesis', which is the reversal of the expected linear ordering of sounds. This involves a change in the relative positioning of segments. This change, such as assimilation and dissimilation, can affect an adjacent segment or segment at a distance (O'Grady, Archibald & Katamba, 2011).

Metathesis is a morphophonemic process by which elements of language, i.e., sounds, syllables in a word, words, or other units in a sentence, are interchanged or transposed. This phenomenon is evident in the words of many languages and is used as a regular part of some people's grammar. Aliero (2018) investigated metathesis operational in C'lela through a descriptive analysis and demonstrated that the language exhibits, within morphological context, adjacent and non-adjacent metathesis, both of which are motivated by phonological conditions. The findings of the investigation are as follows: adjacent metathesis results to satisfy syllable structure requirements; where syllable-final adjacent CV metathesis occurs only on a noun stem that begins with a (C)VC syllable type and ends in a nasal/liquid-vowel sequence.

In the English language, there are three sources of metathesis; they are historical development, the child's speech, and the speech of the adult. For historical development, many words in English are formed by metathesis that are derived from Old or Middle English. In Modern English, the word 'bird' is taken from Old English 'bridd' or 'bryd'; 'burn' from 'bren'; 'Manx' is taken from Middle English 'Manisk'; 'horse' is taken from 'hros'; 'wasp' is derived from 'wapse'; 'copse' from 'cosp' (copse) in Modern English by a process of development from Middle to Modern English (Verma (1989 p71); McArthur (1998); Yule (2006 p188)). For Lass (1984 p188), the two

words "wapse" and "copse," which result from metathesis, are now standard, although the first one is found as "wopse" in some dialects.

For the child's speech, Metathesis is used as a change of sound, which commonly occurs in the child's language (Welna, 2008 p2). Many metathetic forms are considered speech errors by many linguists. Children are not like adults in their ability to pronounce all the consonant sequences, as in: 'spaghetti' is produced by English-speaking children when a child has learned to read as 'pesghetti' /pəskɛti/. Because children cannot pronounce the first syllable "spa," they pronounce it as /pəs/.

In the case of adults' speech, Metathetic sequences of sounds that are "wrong" also develop in adults' language. On the phonological level, it indicates a change in the place of two sounds that looks as if it was a performance error, i.e., in tongue slips by adults, as in: 'aks' for 'ask' is still used in some American dialects, as in: 'I asked him already'. The speaker finds it easy to pronounce the consonants when he/she tries reordering the consonants in a word. Therefore, euphony (sounding better) and ease of pronunciation provide the meaning for metathesis in one of its linguistic uses. Some scholars, such as Spencer (1996), have used metathesis in all languages as a type of speech error, and it is a feature that commonly distinguishes child phonology. Mcarthur (1998) considered metathesis to be restricted to performance errors. Therefore, it is closely associated with slips of the tongue and spoonerism. Hume (2001) considered metathesis as an irregular and sporadic process because it is found in performance errors, child language, or sound change.

Kadim (2018) described metathesis in English and Arabic using a procedure that involves swapping sources, rules and different points of view in English and Arabic. The results of the comparative study show that the transposition of sounds in a word is evidence that the resulting sequence is easier to produce. For example, aks is easier than 'ask'. Metathesis can be classified into one or two ways according to the metathesized sounds, i.e., consonants or vowels. In English and Arabic, metathesis is less productive than the other morphological phenomena. This is because it is a reordering of sounds in the same word to produce a metathetic form that has the same semantic and syntactic features (i.e., meaning and part of speech) as the original form. This study reveals that sometimes, the metathetic form has more popularity than the original form of the word. Therefore, it will be used instead of the original one. This research focuses on the occurrence of metathesis in the English language of educated Hausa speakers with a view to identifying instances of its occurrence in the English language of the participants.

Newman (2022) conducted an in-depth analysis of historical phonological processes in Hausa, including metathesis. He notes that while metathesis is often sporadic in languages, it has been relatively common in the historical development of Hausa. Haruna and Muhammad (2023) examined how English and French loanwords are assimilated into Hausa, highlighting phonological processes such as metathesis. The authors discuss how certain phonemes adapt to Hausa phonological patterns, leading to sound reordering sometimes. Pawlak (2023) reviewed Newman's work, emphasizing the significance of metathesis in the historical development of Hausa. She highlights that metathesis though typically sporadic, has played a notable role in the evolution of Hausa phonology.

Hassan (2024) argued that in Hausa, metathesis frequently occurs in casual speech and is particularly noticeable in loanwords. For instance, the standard Hausa word "bincike" (meaning "research") may appear as "binkice" in certain dialects, highlighting the transposition of the sounds /c/ and /k/. This alteration does not change the word's meaning but reflects regional pronunciation variations. Another example is the word "yaaloo" (garden egg). In the Haɗejia and Guddiri dialects, this word undergoes metathesis, resulting in "laayoo". These transformations highlight the dynamic nature of Hausa phonology in different regions.

Carr (2013) asserted that it is widely believed that there are both universal and language-specific constraints on the form that syllables may take, that is, constraints on the syllabification of sequences of segments. Among the universal constraints, we can mention two. First, it is claimed that sequences of segments are syllabified in accordance with a '**sonority scale**' which takes the following form:

- Low vowels
- High vowels
- Approximants
- Nasals
- Voiced fricatives
- Voiceless fricatives
- Voiced stops
- Voiceless stops (Carr, 2013:58)

The idea is that as one proceeds from the bottom to the top of the scale, the class of segments becomes more sonorous or more vowel-like. Sonority is an acoustic effect: the more sonorous a sound, the more it resonates. Vowels have greater resonance than consonants, and voiced consonants have greater resonance than voiceless consonants.

When speaking English, speakers naturally apply the phonological rules of their first language. If their native language does not permit final /sk/ clusters, they may unconsciously switch the order of sounds to make pronunciation easier. Some languages restrict certain consonant clusters, influencing how ESL learners pronounce English words (Odlin, 1989). For instance, Bantu languages tend to avoid final /sk/ clusters, which leads to metathesis. The tendency to reorder sounds is linked to the phonological rules of a speaker's first language, a well-documented phenomenon in second-language acquisition (Eckman, 1977). Ease of Pronunciation; switching sounds can make it easier to say words, especially when clusters are difficult to pronounce in quick speech. Learning by Ear (Oral Acquisition Bias). If learners acquire English more through listening rather than formal study, they might perceive certain sound orders differently and unintentionally swap them.

Methodology

The study population was situated within the continuum of Jibril's (1986) classification of speakers of Nigerian English, with educational level as the sole criterion. The study population were educated Hausa speakers of English based in Sokoto State, comprising both males and females. A purposive sampling technique was used to select the sample population as there are certain requirements that need to be met before being selected, like educational qualification and gender of the participants, which are parts of the specific criteria that match the research purpose.

The participants fit Jibril's (1986) classification i.e., university graduates. The common variables between Jibril's (1986) work and this study are education and gender. Ten (10) participants were drawn from this level, five (5) males and five (5) females were selected. The source of data for this study was primary, as data were obtained through audio recordings of the word-list reading task. The word-list has been described by Labov (1966) as important in studies that have phonology as their target because a similar set of variables is presented to the participants, thus ensuring equivalence. This is in addition to restricting the focus of the participants on the phonological variables, thereby making them formal. Twenty (20) words were purposively selected from the lexicon of English and were read by each participant separately. Each word was pronounced twice, and the one with the clearest sound was chosen for analysis and recorded in the process using an OLYMPUS MP3 player. The recorded data were played several times for transcription and analysis. Hence, the word-list is as follows:

Mosque, disc, ask, risk, desk, mask, flask, asterisk, whisk, task, dusk, husk, brisk, cavalry, foliage, meager, film, flimsy, enmity, and anemone.

Metathesis by the Participants

This section presents the data on the occurrence of metathesis in the English language of the participants. The table is divided into an alphabetical sequence (A/S), stimuli, correct realization (CR), percentage (%) and total score. Some of the stimuli were realized correctly these include cavalry, meager, film, flimsy, enmity and anemone. Only words with metathetic realizations are presented in the analysis section and the data is thus presented:

Table 1(i): Metathesis by Participants

A/S	STIMULI	CR	%	MR	%	TOTAL SCORE	%
a	/mɒsk/	3	30%	7	70%	10	100%
b	/dɪsk/	3	30%	7	70%	10	100%
c	/a:sk/	2	20%	8	80%	10	100%
d	/rɪsk/	4	40%	6	60%	10	100%
e	/desk/	2	20%	8	80%	10	100%
f	/mɑ:sk/	4	40%	6	60%	10	100%
g	/flɑ:sk/	2	20%	8	80%	10	100%

The table above presents the meta-analysis results by the participants. In 1(i)a and b, 30% correctly identified the words and 70% wrongly realized the words /mɒks/ and /dɪks/. In 1(i)c, e, and g, 20% correctly realized the words and 80% wrongly realized the words as /a:ks/, /deks/ and /flɑ:ks/. In 1(i)d and f, 40% correctly identified the words and 60% incorrectly identified the words as /rɪks/ and /mɑ:ks/.

Table 1(ii): **Metathesis by Participants**

A/S	STIMULI	CR	%	MR	%	TOTAL SCORE	%
h	/æstərɪsk/	4	40%	6	60%	10	100%
i	/wɪsk/	5	50%	5	50%	10	100%
j	/tɑ:sk/	4	40%	6	60%	10	100%
k	/dʌsk/	5	50%	5	50%	10	100%
l	/hʌsk/	5	50%	5	50%	10	100%
m	/brɪsk/	6	60%	4	40%	10	100%

In 1(ii)h and j, 40% correctly realized the words while 60% aberrated and wrongly realized the words as /æstərɪks/ and /tɑ:ks/. In 1(ii) i, k, and l, 50% correctly realized the words and 50% wrongly realized the words as /wɪks/, /dʌks/ and /hʌks/. In 1(ii)m, 60% correctly identified the word and 40% wrongly realized the word as /brɪks/.

Discussion

This section discusses the results obtained from the participants; the table below presents a summary of the metathesis occurrence by the participants:

Table 2: Occurrence of the Metathesis in the Participants' English

S/N	CR	%	MR	%	T	%
1	10	50%	10	50%	20	100%
2	9	45%	11	55%	20	100%
3	12	60%	8	40%	20	100%
4	8	40%	12	60%	20	100%
5	10	50%	10	50%	20	100%
6	9	45%	11	55%	20	100%
7	9	45%	11	55%	20	100%

8	9	45%	11	55%	20	100%
9	20	100%	-	-	20	100%
10	11	55%	9	45%	20	100%

The table and figure above show a summary of the occurrence of the metathesis in the English language of the participants. In 2:1, 50% of the participant's realization were correctly realized and 50% metathetic realization was recorded. In 2:2, 45% correct realization and 55% metathetic realization were obtained from the participant. In 2:3, 60% correct realization and 40% metathetic realization were recorded. In 2:4, 40% of the stimuli were correctly realized and 60% metathetic realization was recorded. In 2:5, 50% correct realization and 50% metathetic realization were obtained. In 2:6, 7 and 8 45% of the participants realization were correctly realized and 55% were in metathetic forms. In 2:9, 100% correct realization was recorded and no metathesis was recorded. In 2:10, 55% correct realization was recorded and 45% metathetic realization. The above results are presented in the figure below:
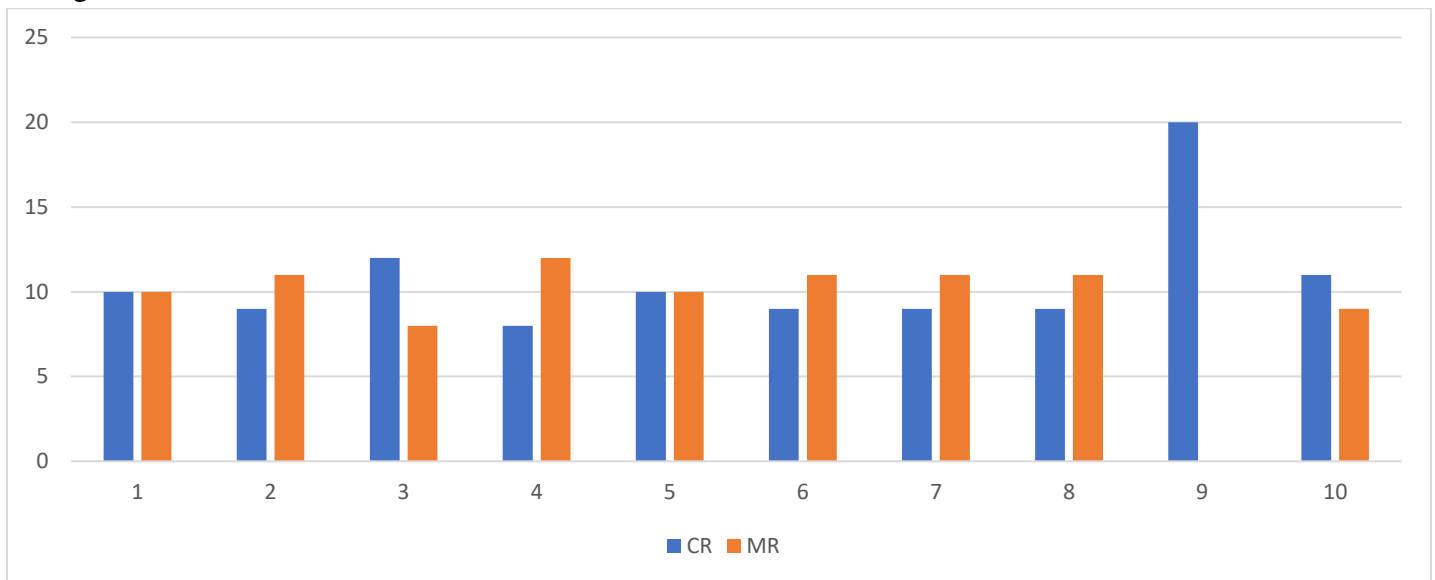

Figure 1. Frequency of CR and MR by the Participants

From the data presented above, we can see that metathesis instances were found in the English language of these participants. Sometimes, the metathetic form has more popularity than the standard form, as Kadim (2018) argued, so it is used instead of the standard form. The transposition of sounds in a word is evidence that metathetic sequences are easier to produce. The findings of this study agree with her position. For instance, most of the participants pronounced 'desk' as 'deks', 'ask' as 'aks' likewise 'flask' as 'fla:ks'.

Regarding the level of education, the participants being graduates metathesized some words administered to them irrespective of their course of study. With reference to Jibril's (1986) classification, it shows that as speakers progress to an advanced level in education, they are moving closer to received pronunciation (RP), but it seems not the case always. Only one participant made correct realization of the word-list with no occurrence of metathesis.

Considering gender as a variable, it was revealed that both male and female participants recorded metathetic realizations at different lengths. This shows that metathesis rendering is peculiar to both genders and is not gender specific. The transfer of training, as opined by Selinker (1972), is one of the contributing factors that lead to the occurrence of metathesis in the English of these participants. NigE, according to Jibril (1986), can be viewed in terms of two basic categories: Northern (mainly Hausa based) and Southern (mainly Yoruba/Igbo based).

Although the two speakers share many consonantal, vocalic, and rhythmic features that are different from those of RP as he further observes, the gap between these two varieties is narrowing.

Metathesis can directly impact intelligibility, particularly in multilingual and international communication contexts. Mispronunciations arising from sound reordering can create barriers to effective communication, making it essential to address this issue. The occurrence of this phonological aberration makes the English of an educated Hausa speaker to be unintelligible to either native or non-native speaker of English who is sensitive to language. because metathesis is said to be phonemic, there are words when metathesized changes the meaning of the word, consider the following examples; *flask* when pronounced as *flaks* changes in meaning from a (noun) a narrow-necked vessel of metal or glass used for various purposes to a ground-based anti-aircraft guns (noun). *Mask* when pronounced as *maks* change in meaning from a cover or partial cover for the face (noun) to plural form of mark (noun) or third person singular simple present indicative of mark (verb). Likewise, *ask* when pronounced as *aks* changes from the verb to request or enquire a tool for felling trees or chopping wood.

Conclusion

Hausa preferred open or simple closed syllables (ending in a single consonant). Likewise, Hausa generally favors the CV (consonant-vowel) syllable structure over complex clusters. In words like *flask*, /flɑ:sk/ the sk sequence is challenging, so speakers naturally adjust it to fit their native phonotactics. Based on the sonority scale, voiceless plosives are less sonorous than voiceless fricatives. /k/ is a voiceless, velar, plosive, while /s/ is voiceless, alveolar, and fricative. When Hausa speakers of English shortened the vowel before the cluster, the vowel changes from long vowel /ɑ:/ to a short one /æ/ and reorder the consonants for articulation ease.

In conclusion, this study contributes to the growing body of research on Nigerian English, a recognized variety of English with its own regional and sociolinguistic characteristics. The metathesis analysis enriches the understanding of phonological variations within this variety. If vowel shortening affects syllable weight, it might make certain syllables lighter or more prone to reorganization, leading to metathesis. If vowel shortening changes the stress patterns, it can make previously weak syllables stronger, sometimes triggering metathesis.

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