METATHESIS IN NIGERIAN ENGLISH ACCENT (NEA): A COMPARATIVE STUDY OF GENERATIONS X AND Z

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Abstract
Despite literature mentioning metathesis as far back as the 20th century, the phenomenon remains one of the least researched phonological processes. The process has received little to no attention, especially in an ESL setting, and this is the first empirical study of metathesis in Nigeria. Thus, this research investigates metathesis as a simplifying strategy in Nigerian English Accent (NEA). The objectives are to examine whether the phenomenon is a regular process, to detail its typology in Nigeria, and to compare metathetical frequency between generations X and Z. Data for the research were collected using 18 sentences enunciated by 60 teachers in public and private schools (30 from each school). Findings revealed that metathesis is a regular process that occurs in complex syllabic structures and interacts with other phonological processes. Findings also showed that metathesis occurs more frequently among Generation Z than Generation X. CC (consonant-consonant) metathesis and CV (consonant-vowel) metathesis in adjacent and long-distance typologies were also identified. It was also revealed that inflectional markers are often eliminated or undergo other phonological processes in cases of CCC sequence, to achieve "ease of articulation".
Keywords: ESL, Generation X, Generation Z, generative phonology, metathesis, NEA, second language

Introduction

Several studies have demonstrated the difference in phonological makeup, at both the segmental and suprasegmental levels, between the Nigerian language systems and the English phonological system (Jowitt et al., 2015; Unubi, 2019; Olawe, 2021). The coupling of historical contexts (colonialism, trade) and modern contexts (digitalisation, migration) has given rise to the Nigerian English phonological system that is characterised by English accents locally coloured to reflect mother-tongue transfer or interference. Awonusi (2009) was one of the first scholars to refer to these accents altogether as Nigerian English Accent (NEA). One of the features of these locally distinct English accents (or the NEA) is "ease of production" or articulation (Hume, 2001), which Jowitt (1991) similarly labels as "simplifying strategies". These are means through which non-native speakers simplify articulation through phonological processes as a result of the difference in phonotactics between their native language and the second language (Buja, 2020; Yeh, 2020). They include processes such as epenthesis, elision, and metathesis, which have been gaining attention in second-language research (Bouchhioua, 2019; Pereira, 2021). An example is the insertion of an epenthetic vowel in a coda with four consonant clusters like <sixths> or the triphthong splitting of words as <power, prayer>), that is, /ˈpaʊə/ and /preə/ or /prɛə/ to /ˈpaʊ.wə/ and /pre.jə/ or /prɛ.jə/. Nevertheless, metathesis, as a phonological process, remains scarcely researched in first- and, especially, second-language contexts.

Canfield (2016) states that metathesis was previously considered as erroneous pronunciation, but is now recognised in studies as a widespread phenomenon in certain language contexts. Hume and Seyfarth (2019) submit that learners use the process of metathesis to simplify complex syllabic structures in both their first (L1) and second (L2) languages. They describe the phenomenon as a linguistic pattern in which two sounds appear in one context in one order, and in another context in the opposite order. (Hume & Seyfarth, 2019). Buckley (2011) ascribes the term "permutations" to metathesis, emphasising that it

is the ordering of segments despite or irrespective of interceding units (p. 1381). Simply put, metathesis happens when segments or syllables switch or transpose their positions.

A few studies have emphasised that metathesis is a commonly occurring phenomenon in both first and second languages, despite the dearth of research attention given to this phonological process (Gutiérrez, 2020; Kiegel-Keicher, 2020). The research on metathesis has spanned only a few years compared to other phonological processes such as epenthesis, lenition, assimilation, compensatory lengthening, and fortition. An exploration of extant literature revealed that metathesis has hardly been examined in the context of a second language, especially in a complex second-language setting like Nigeria. As such, the phonological process and its patterning are hardly recognised, often misunderstood, and wrongly labelled as "erroneous" in both first and second-language situations. This is corroborated by one of the foremost researchers of the process, Elizabeth Hume, who states in Hume (2001),

> "With respect to data, it seems that despite the fact that numerous cases of metathesis are reported in the literature, basic knowledge has been lacking concerning the full range of metatheses that are possible in language, under what conditions metathesis applies, why metathesis happens, and how metathesis interacts with other processes affecting sound structure. This information is critical to providing an accurate picture of the nature of metathesis. It is also of crucial importance for the advancement of phonological theory since without a clear understanding of the fundamental phonological processes possible in human language, developing an explanatory theory of sound systems is impossible" (p. 8).

Her submission is the grounding rationale of the present study. It is imperative to consider the possibility of metathesis being a regular process and occurring differently in second-language settings, just as other phonological processes occur differently in second-language situations. It is important to understand the full range of metathesis and under what conditions it applies, but this time, in a second language context, which would be intricately different from a first language context. Therefore, this research intends to investigate if metathesis is a regular process in NEA, to examine the type(s) and form(s) of metathesis, if any, that occur, and evaluate the degree, if any, that metathesis is observable in the utterances of Generations X and Z. The study, therefore, seeks to answer the following questions:

1. Is metathesis a regular process in NEA?
2. What, if any, type(s) and form(s) of metathesis occur in NEA?
3. To what degree, if any, is metathesis observable in the utterances of Generations X and Z?

Literature Review

In a study by Buckley (2011), the process of metathesis is traced to the Greek word *metatithenai*, meaning *to transpose*, and is used to refer to the sporadic reordering of segments. Crystal (2008) describes the phenomenon as a term used in linguistics to refer to a change in a sentence, word, sound, or syllable order. It has also been described broadly as any change in the linear ordering of segments in a word (Trask, 1999). Canfield (2016) has considered the underlying and surface representation of metathesis, opining that it is the phonological phenomenon where the linear ordering of the output segments differs from that of the equivalent input segments. This conceptualisation relates to linguistic representations at the "deep" and "surface" levels.

Chomsky and Halle (1968) describe the process of metathesis as "linguistically universal" (p. 361), stating that the universality of the phenomenon does not necessarily imply that every language must present occurrences. But by far one of the most profound descriptions is by Ultan (I978: p. 395), who explains the patterning, although unconscious, behind the process, remarking that metathesis improves syllabic structure and preserves the harmony of sound systems by substituting uncommon and phonetically complex structures and eliminating unnecessary articulatory usage. Within the context of Optimality Theory, Buckley (2011: p. 1382) provides a more technical explanation of

metathesis: "LINEARITY is ranked below faithfulness constraints", and so ordering takes a more non-linear form. The low-ranked linearity inhibits ellipsis or epenthesis at the deep level, which metathesis aims to address as surface constraints. This assertion substantiates Hume's (2001) argument that a further examination of the phonological process is necessary to refine phonological theory.

The study of metathesis has taken both synchronic and diachronic approaches. The former has been used to reveal how the process has prompted language change over time, while the latter has observed metathesis in given language situations. Blevins and Garret (1998, 2004) expansively explored historical metathesis, pointing out that the words <wasp> /wɒsp/ and <hasp> /hæsp/ were formerly pronounced as /wɒps/ and /hæps/. However, their new forms have been accepted and codified in the dictionary. Buckley (2011) explains the frontier approach to the phonological process, opining that theories of linguistic competence must consider this as it seems to be a component of a speaker's productive grammatical knowledge. He brings to the fore two things by this statement: first, the significance of the active or deliberate investigation of metathesis and second, and very importantly, the investigation of metathesis not as performance errors, but as a reflection of a speaker's linguistic competence.

On the other hand, recent research observes metathesis to understand its pattern, motivation, typology, and interactions (Hume, 2001; Gruber, 2020; Gutiérrez, 2020; Kiegel-Keicher, 2020). The popular assertion is that metathesis may be motivated by natural constraints on sound structure in a language system. Buckley (2011) captures this angle of investigation, positing that according to the conventional understanding, metathesis is said to produce sequences that are preferable to the input ordering in some manner, generally in terms of "ease of articulation" or adhering to phonotactic constraints of the language. In the empirical literature, the entry or pathways of metathesis into speakers' speeches have also been of interest to researchers (Blevins & Garrett, 2004; Fakazwa & Miglio, 2008; Buckley, 2011; Wedel et al., 2019; Edwards, 2020). Buckley (2011) broadly discusses this from aural or *perceptual* perspectives and *compensatory* perspectives, while Blevins and Garrett (2004) suggest four pathways based on evidence: perceptual metathesis, compensatory metathesis, co-articulatory metathesis, and auditory metathesis. Fukazawa and Miglio (2008), one of the few second language studies on metathesis, attribute the cause of the process to *ambiguity*, whereby the acoustic signals or cues sent sometimes cause the phonological process to occur. They further cite how spelling-induced pronunciations or eye loan (Awonusi, 2009) contribute to metathesis in L2 production, with findings pertinent to the current study.

It is noteworthy, however, that metathesis has been examined as it interacts with other phonological processes. For instance, it is considered the origin of some instances of infixation (Buckley, 2011).

Types of Metathesis

- *Local Metathesis*

The process of metathesis may be contiguous and therefore referred to as local or adjacent (Buckley, 2011; Takahashi, 2019; Kiegel-Keicher, 2020). Buckley (2011) defines this feature of *contiguity* as when the characteristics of two neighbouring segments are switched without requiring any modifications. Metathesis, based on this instance, may have the transposition of two consonants, a consonant and a vowel, or two vowels (Kiegel-Keicher, 2020). Before the widespread interest and research on metathesis, local metathesis was referred to as *interversion*. Local metathesis may take the forms of CC <ask> /ask/ as /aks, CV, or VV metathesis. Buckley (2011) confirms that VV metathesis has limited evidence, but CV and CC metathesis are widely reported.

- *Long-distance Metathesis*

Long-distance metathesis is otherwise referred to as nonadjacent metathesis, noncontiguous metathesis, or *hyperthesis*. Long-distance metathesis does not occur with segments placed side by side but amongst segments with intervening segments or across syllabic boundaries (Ultan, 1978; Takahashi, 2019; Kiegel-Keicher, 2020). An example is <*emnity> /ˈɛm.nɪ.tɪ/ (or an epenthesised vowel <enimity>) for enmity

/ˈɛn.mɪ.tɪ/. However, whether permutation occurs syllabically (i.e., whole syllabic transposition) in English remains an under-researched area of metathesis.

Metathesis Motivations

Edwards (2020) makes a distinction between phonologically conditioned metathesis, morphemically conditioned metathesis, and morphologically conditioned metathesis. He describes the first as a direct or "automatic" result of the phonological environment, as is found in Faroese, Cushitic, and Lithuanian; he describes the second as occurrences of metathesis, which arises from morphemic fusion or merging as found in Alsea. The pathways of metathesis can be broadly categorised into: compensatory metathesis (where quality is reordered); perceptual metathesis; co-articulatory metathesis (which arises from the intersection of adjacent consonant gestures (Blevins & Garrett, 2004: p. 136–138)); auditory metathesis (where a segment is perceived as exchanged by the listener based on the acoustic cues sent); Hume (2002) includes *indeterminacy* in her typology, which she describes as metathesis attested to the listener's native language.

Ultan (1978), on the other hand, proposes phonetic, phonotactic, articulatory, and prosodic features motivating metathesis, suggesting that at least four parameters should be considered when classifying instances of metathesis: voluntariness, systematicity, permanence, and motivation. Ultan writes that long-distance metathesis is less systematic than local metathesis. According to Finley (2017), superficially random or arbitrary patterns of transposition can also arise based on the fact that metathesis involves abstract manipulation of symbols. This view supports Hume's (2016) findings that several languages characterise no clear metathetical motivation.

Theoretical Framework

The framework adopted in this study is generative phonology, proposed by Noam Chomsky and Morris Halle as *Sound Pattern of English* (1968). The theory still holds contemporary value in present-day research because of its formalistic approach to presenting the concept of metathesis (Dewi, 2016). Kang (2013) lauds it for its relevance to the process of metathesis. Generative phonology recognises two levels of representation or operation, namely the phonological level and the phonetic level. The theory emphasises articulatory features rather than auditory features. The labels used to describe sounds are presented below:

Major class features:
- consonantal (+stop, +fric,+aff)
- syllabic (+nas, +lat, +voc)
- sonorant (+nas, +glide, +voc)

Manner of articul.:
- continuant
- delayed release
- tense

Source features:
- strident
- voice

Cavity features:
- nasal
- lateral
- coronal
- anterior
- high
- low
- round
- back

Metathesis is therefore:

SD: $\begin{pmatrix} +\text{voi} \\ \\ -\text{cons} \\ 1 \end{pmatrix}$ [-cons], [+voi -cons], 2 3

SC: 123– 213 *except when* 2 = 3 = [a]

Based on Chomsky and Halle (1968: p. 361), where SD represents the *structural description* and SC the *structural change*.

Materials and Methods

The judgmental sampling technique (purposive technique) was employed in this research as it permits the researcher to deliberately select the sample required for participation. The participants for this study were adults who belonged to either one of the demographic cohorts of Generations X and Z. All the participants had obtained a higher degree from a university, college of education or polytechnic at the time of the research. The sample was drawn from the Akoka-Bariga axis of Lagos Mainland Local Government Area and consisted of 60 participants, 30 each from both generations. The participants were drawn from two public and two private schools. 15 participants were selected from each demographic

cohort, that is, 15 public school teachers and 15 private school teachers for each demographic. Of each set of 15 teachers, five were English teachers, five were Humanities (non-English) teachers, and five were non-Humanities teachers.

The research instrument consisted of 18 sentences with words often metathesised in ENL settings and words perceived to be metathetical based on anecdotal evidence in Nigeria. A standard recorder was employed to facilitate this study. Both instruments underwent validity and reliability testing. Data analysis was done using ELAN (version 6.1) and presented using generative phonology. Findings are presented quantitatively using frequencies, percentages, and tables.

Results and Discussion

Table 1: Generation X's Demography

	Variable	**Frequency (N)**	**Percentage (%)**
Sex	Male	12	40
	Female	18	60
	Others	-	-
	Total	30	100
Educational qualification	HND/OND	-	-
	BSc.	25	83.33
	MSc	5	16.67
	PhD	-	-
	Others	-	-
	Total	30	100
Type of school	Public	15	50
	Private	15	50
	Total	30	100
Respondents' discipline	English	10	33.33
	Non-English (Humanities)	10	33.33
	Non-humanities	10	33.33
	Total	30	100

Field Survey

Table 1 presents the demographic information on the first generation, Generation X, and reveals that 12 males (40%) and 18 females (60%) participated in the research. The table also shows that 5 participants (17%) have a master's degree, while 25 (83%) have a bachelor's degree.

Table 2: Generation Z's Demography

	Variable	Frequency (N)	Percentage (%)
Sex	Male	10	33.33
	Female	20	66.67
	Others	-	-
	Total	30	100
Educational qualification	HND/OND	-	-
	BSc.	28	93.33
	MSc	2	6.67
	PhD	-	-
	Others	-	-
	Total	30	100
Type of school	Public	15	50
	Private	15	50
	Total	30	100
Respondents' discipline	English	10	33.33
	Non-English (Humanities)	10	33.33
	Non-humanities)	10	33.33
	Total	30	100

Field Survey

Table 2 presents the demographic information on the second generation, Generation Z, and reveals that 10 males (33%) and 20 females (67%) participated in the research. The table also shows that 2 participants (7 %) have a master's degree, while 28 (roughly 93%) have a bachelor's degree.

Metathetical Frequency

Based on the field survey, the sequence were grouped into two sets on a gradient of *most* to *least*: marginally metathesised and widely metathesised, as seen in Table 3. This gradient is based on the frequency of metathesis of each word, where a word metathesised by less than 10 participants falls under **marginally metathesised**, between 10 to 20 participants is **averagely metathesised**, and above 20 is **widely metathesised**.

Table 3: Metathetical Frequency

Marginally metathesised	Averagely metathesised	Widely metathesised
kiosk; kiosks	foliage	flask; flasks
whisking	mosque; mosques	wasp; wasps
enmity	remuneration	mask; masks
exfoliate	task; tasking	ask; asked
	husk	frisks
		desk; desktop
		clasps
		crispy
		cavalry

Table 3 above reveals instances of metathesis of /sk/ that fall under averagely metathesised and widely metathesised. This raises questions about why the same consonant cluster is metathesised at different frequencies. The immediate assumption would be the preceding or succeeding segment(s) of the cluster or the familiarity and/or regular use of the word (although this requires further research).

Based on the findings, the ratio with regard to the metathesis percentage of each generation is 1:16, where Generation X metathesised more in only set 1, while Generation Z metathesised more in the other 16 sets. Set 16 is omitted from this ratio because every respondent of both generations metathesised <cavalry>. Regarding the first research question, metathesis is a regular phonological process in NEA just as in ENL settings. This is corroborated by extant literature (Hume, 2001; Buckley, 2007; Canfield, 2016; Edwards, 2020; Kiegel-Keicher, 2020), although it contradicts the studies of Montreuil (1981: p. 67), de Almeida et al. (2018), and Sidabutar (2020) who label the phonological process as irregular and erroneous. The types of metathesis tested in this study are long-distance (or nonadjacent, noncontiguous, or hyperthesis) metathesis and local (or adjacent metathesis or contiguous) metathesis. Eighteen words were tested altogether, 13 within the typology of LM and 5 within LDM, as seen in Table 4. This study reveals that both types of metathesis, which were tested, are attested in NEA. Out of the 18 words, based on their form, 16 are CC metathesis, while 2 are CV metathesis. Both forms exist in NEA as they present themselves in ENL. No words were tested for VV metathesis due to its scarcity.

Table 4:Type of metathesis in NEA

LM	FORM	LDM	FORM
kiosk, kiosks	CC	enmity	CC
husk	CC	remuneration	CC
whisking	CC	cavalry	CC
task, tasking	CC	exfoliate	CV
wasp, wasps	CC	foliage	CV
mask, masks	CC		
ask, asked	CC		
frisks	CC		
desk, desktop	CC		
clasps	CC		
crispy	CC		
mosque, mosques	CC		
flask, flasks	CC		

These findings are echoed in Cunningham (2013: p. 3) who opines that, except when prevented in some way, phonological rules appear consistently applicable to L1 as they are to L2, just as phonotactic constraints also appear consistently across both. For the third research question, the phonological process appears to be more pervasive in the pronunciation of Generation Z than Generation X, with a ratio of 1:16 based on the metathetical frequency. This is a surprising finding given the exposure through digitalisation, internet penetration, and migration that gives Generation Z NEA speakers access to ENL settings. It suggests that exposure to ENL does not necessarily indicate an absence of metathesis and affirms the position of researchers such as Hume (2001, 2002, 2016), who argue that metathesis is not erroneous but a regular process. This, however, requires further research on the motivation and pathways to metathesis in this context.

Metathesis Interaction with Other Phonological Processes

Findings from the study also revealed the effect of metathesis on syllable structure. Metathesis was accompanied by a gemination effect in the form of syllabic lengthening; that is, an additional syllable is created (Thirakunkovit, 2021). The study also reveals the intersection between metathesis and inflectional markers. There was a non-articulation of inflexions found in consonant clusters. This is due to the rarity or absence of consonant clusters in the L1 or NEA speakers.

A word or phrase can lose phonological information through a process called *elision*. Elision may be consonantal, vocalic, or syllabic deletion. On the other hand, insertion, also known as epenthesis (or *anaptyxis*), is the insertion of a

segment into a word in a location where it has not been (Bouchhioua, 2019; Pereira, 2021; Ariyaee & Jurgec, 2021). The findings reveal that for compensatory purposes, elision occurs alongside metathesis. In other words, respondents delete consonant sequences which appear complex, to simplify them, or for "ease of articulation". For instance, in words such as <frisks>, <mosques>, and <flasks>, the voiceless alveolar fricative /s/ in the Coda 1 position (in the coda element C0-4 phonotatic rule) transposes or metathesises after the voiceless velar plosive /k/. Therefore, the Coda 3, which is also the voiceless alveolar fricative /s/, is either deleted or lengthened. Vowel epenthesis, as another phonological process, occurred alongside metathesis in this study in the word <enmity>, which first became <enimity> and metathesised to /ˈɛm.nɪ.tɪ/.

Conclusion

This research set out to investigate the phonological process of metathesis in NEA. It investigated the process in English in a second language setting. The objectives of this research were centred on determining if the phonological process is regular and observable in NEA, the types of metathesis present (giving attention to which are marginal and which are widespread), and how prevalent the phenomenon is between Generations X and Z. Findings revealed that metathesis is a regular process which occurs in complex syllabic structures and interacts with (or triggers) other phonological processes. Findings further revealed that metathesis occurs more among Generation Z than Generation X. CC (consonant-consonant) metathesis and CV (consonant-vowel) metathesis in adjacent and long-distance typologies was also identified.

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