

PHONOLOGICAL PROCESSES IN IKA LANGUAGE

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DEDICATION

This work is dedicated to God Almighty for His Strength and Grace, the God of all wisdom and knowledge.

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ABSTRACT

This study investigates the phonological processes in the Ika Language with the aim of unraveling the systematic patterns of sound changes and variations that occur during speech production. The primary objective of this research is to identify and categorize these phonological processes, thereby gaining deeper insights into the underlying sound system of the Ika Language. Additionally, the study explores the role of phonological processes in loanword formation and examines the impact of loanwords on the phonological system of the Ika Language.

Understanding the phonological processes that occur in a language is crucial for comprehending the organization and usage of sounds within that language. By analyzing these processes in the Ika Language, this research contributes to our overall understanding of how sound systems are structured in human languages. Moreover, the findings from this study can have practical implications for language preservation and teaching by providing important insights into the phonological aspects of the Ika Language.

To achieve these research objectives, a comprehensive methodology involving data collection from native speakers will be employed. The collected data will be then meticulously transcribed phonetically to enable accurate analysis and interpretation of the sound patterns and variations within the Ika Language.

The practical significance of this research lies in its potential application to various domains such as language documentation, revitalization efforts, and the development of teaching materials for the Ika Language. Furthermore, the insights gained from this study may contribute to the broader field of linguistics by enriching our understanding of phonological processes and their effects on language evolution and change.

CHAPTER ONE

BACKGROUND TO THE STUDY

1.0 Introduction

According to Schane (1973) “when morphemes are combined to form words, the segments of neighboring morphemes become juxtaposed and sometimes, undergo change... All such changes will be called Phonological processes”. Segments and morphemes are influenced or juxtaposed when they co-occur in the same environment. Phonological processes may be assimilatory, that is, a segment takes on features from a neighboring segment or non-assimilatory. In Ika both assimilatory and non-assimilatory processes occur. According to Schane (1973:49), the following are examples of phonological processes in languages; assimilatory processes, glide formation, labialization, palatalization, nasalization/nasality, etc.

Phonological Processes are the changes sounds go through when they occur together in utterances. Phonological Processes are a central topic in Phonology. Phonological Processes are mental operations that apply in speech to substitute for a class of sounds or sound sequences presenting a

specific common difficulty to the speech capacity of an individual (Stampe 1979:1). Donegan and Stampe (1979:144) also add that "Phonological processes represent real limitations on speakers' production". They further explained that processes are applied subconsciously as natural and automatic responses performed on behalf of our innate physiological capacities to given phonetic circumstance.

Phonological Processes refer to the systematic patterns of sound changes that occur in a language and they are an important part of understanding how the sounds of a language work. There are many different types of Phonological processes. Some of them would be analyzed in this research. They are nasalization, assimilation, vowel harmony, vowel insertion, vowel deletion, consonant mutation,

Schane (1973: 21) observed that, one of the most common secondary vowel features is nasalization. In principle, any vowel can be nasalized. Nasalization is a process that occurs when an oral segment assimilates the nasal resonance of a nasal segment. It occurs during the production of a sound when the velum is lowered, so there is no velic closure and thereby, air passes out simultaneously through both the oral and nasal cavities. In Ika,

all the seven vowels are nasalizable. Likewise, some consonants: Approximants, Trills and Fricatives are also nasalizable. Nasalization of Vowels in Ika, vowels become nasalized when they occur in a nasal environment(s).

Labialization is a secondary articulation which involves an additional lip-rounding to a hitherto unlabialized consonant. It is an instance of consonants assimilating vowel features. Thus, a CV becomes C^wV. Secondary articulations with the body of the tongue constitute an important type of consonant modification. Fairly common in Ika language is palatalization where in addition to the primary constriction, there is a secondary narrowing of the body of the tongue at the palatal region. Consequently, palatalized consonants have characteristic ‘y’ or ‘i’ colouring. Schane (1973: 21). As a result, a CV becomes CⁱV.

Assimilatory Processes are the most natural and commonest phonological processes occurring in language. “In assimilatory processes, a segment takes on features from a neighboring segment”, (Schane, 1973: 49).

Assimilation can either be progressive or regressive. Progressive assimilation is a hangover assimilation whereby the assimilatory influence of the conditioning segment moves forward since the assimilated segment follows the conditioning segment. In other words, V1 + V2 become V1 V1. Regressive assimilation is also called anticipatory assimilation. It is a process whereby the assimilating influence moves backwards since the assimilated segment precedes the conditioning segment. In other words, V1 + V2 become V2 V2 .

Assimilation could also be partial or complete. In the partial one, for instance, the vowels within a particular grammatical construction acquire a feature from a dominant vowel. In the case of consonant assimilation, a feature like the place of articulation of the dominant consonant could be acquired or assimilated by the assimilated consonant. In complete assimilation however, all the features of the conditioning segment are acquired by the assimilated segment. The assimilatory processes in Ika include glide formation and nasalization.

1.1 Statement of the Research Problem

The followings are some of the problems of the study:

Understanding the systematic patterns of sound changes and variations that occur during speech production, affect the way phonemes are pronounced and interact with each other.

Investigating these processes helps linguists and researchers gain insights into the linguistic features and evolution of the Ika Language's sound system.

Another major motivation of this research is understanding the conditions under which these processes occur, such as neighboring sounds or syllable positions which can lead to assimilation.

Additionally, investigating how these phonological processes affect the overall intelligibility and communication within the Ika Language community is an important aspect of the problem.

Generally, comprehending the intricacies of these phonological processes contributes serves as another problem to a deeper understanding of the language's sound structure and its role in the linguistic landscape.

1.2 Research Questions

The following are questions which this research seeks to answer;

1. What are the various Phonological processes found in Ika Language?
2. What role do phonological processes play in the formation of loan words in the Ika language?
3. What role do loanwords or contact-induced phonological changes play in shaping the phonological system of the Ika language?

1.3 Aim and Objectives of the Study

Aim of this study is to account for the phonological processes in Ika. The specific objectives are;

1. To identify and categorize the phonological processes present in the Ika Language.
2. To highlight the roles phonological processes play in the formation of loan words
3. To investigate how loan words or contact induced phonological change affect and shape the phonological system of Ika language

1.4 Significance of the Study

This study is significant because it helps linguists and researchers understand how sounds are organized, changed, and used in the language. This knowledge can shed light on the language's unique features, its historical development, and its relationship with other languages. Additionally, studying phonological processes can aid in language preservation and teaching, as well as contribute to broader linguistic research and our understanding of human communication patterns.

1.5 Research Methodology

The methodology used in studying and carrying out this research project works involve several key steps:

1.5.1 Data Collection

Spoken language data samples were gathered from native speakers of the Ika Language. This involves recording conversations, eliciting specific words or sentences, and ensuring a diverse range of speakers and contexts.

Phonetic Transcription also plays a very vital roles in the methodology of this work. The collected speech samples are transcribed into phonetic symbols to capture the exact pronunciation of sounds. This transcription allows for accurate analysis of phonological processes.

The transcribed data are segmented into individual phonemes (distinct speech sounds) and their distribution, occurrence, and variation are analyzed across different phonological contexts.

Phonological Rules that govern the changes in sounds were identified and described based on their positions within words or phrases. For instance, noting changes in consonant clusters, vowel lengthening, or assimilation.

1.5.2 Method of Data Presentation and Analysis

Recurring patterns of phonological processes were recognized and identified and classify them based on their phonetic environments and linguistic factors. This helps in understanding systematic rules governing these processes. Samples with additional speech samples were cross check to ensure consistency and accuracy in identifying and describing phonological processes.

The phonological processes in the Ika Language were compared with those in related languages or dialects to highlight unique features and commonalities.

Qualitative analysis is also used to carry out valuable analysis of the various phonological processes.

A Relevant linguistic will also be utilized to explain the observed phonological processes. This involves concepts from Autosegmental generative phonology.

The results are interpreted in the context of the Ika Language's linguistic and cultural background. The implications of the findings and their potential significance are also discussed.

1.6 Ika People and Language

Ika is a dialect of the Igbo language spoken in Ika South and Ika North East Local Government Areas of Delta State and the Igbanke area of Edo State in Nigeria. It belongs to the Niger Igbo cluster of dialects (Ikekeonwu 1986) spoken in areas bordering the west of the River Niger; Nwaozuzu (2008)

refers to these dialects as West Niger Group of Dialects. A word list of Ika, written by Williamson (1968), was one of the earliest works on Ika and she points out in that work that Ika (and Ukwuani), though regarded as dialects of Igbo, are treated as separate on purely linguistic grounds.

Ika phonology differs from that of Standard Igbo and other Igbo dialects and this is why the study of Ika has been of major interest to Igbo linguists in recent years. There have been moves to grant Ika a language status, as seen in the assignment of a unique reference code to Ika: the ISO language code for Ika is ISO 639–3 *ikk* while that for Igbo is ISO 639–3 *ibo*. Standard Igbo has the same consonants as Ika though the latter has two consonants, /ʃ/and/ʒ/, which do not exist in the Standard dialect.

However, the vocalic system of Ika is largely different from that of Standard and some Igbo dialects which have eight vowels. Ika has a nine-vowel system which includes the schwa, which is a variant of some vowels. Furthermore, it has nine nasal vowels; Standard Igbo and other dialects of Igbo have no nasal vowels. Ika manifests intonation in addition to lexical tone. Standard Igbo and other Igbo dialects do not manifest intonation in the

same way as Ika does; that is, they do not express attitudes and emotions through intonation.

They manifest only lexical tone. In an earlier study of Northern Igbo dialects, Ikekeonwu (1986) could only discover the existence of upstep in Abakaliki dialect. Okorji (1991) and Egbeji (1999) have studied the intonation of Umuchu, an inland West dialect of Igbo. Their findings, particularly Egbeji's, show that a declarative sentence can be changed to an interrogative one (repetitive question) by use of intonation. This is a syntactic function which can also be likened to what happens in Standard and most other Igbo dialects where the tone of the pronominal subject changes from high to low in the indication of interrogation.

At present, therefore, there appears to be no evidence that attitudes and emotions can be expressed through intonation in Umuchu and other Igbo dialects as is observed in Ika. Ikekeonwu (1999) gives a vivid description of the Standard Igbo tone system; these tones also feature in Ika. Thus, Ika stands out as a dialect in which intonation and tone interact and this interaction affects the tonal realizations (see Uguru 2000). Ika also stands

out from other dialects in other respects. To show their differences, the future marker in Igbo and Ika are shown below in the translations of the English declarative sentence ‘I will go to the market’.

Ḿ gà èjé áhíá (standard igbo)

/Ḿ gà èdʒé áhíá/

Bé m jé áfíá (Ika)

Bé m dʒé áfíá

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This Chapter focuses on the review of relevant literature. In this Chapter, we would be examining the literature in 3 folds. We would have the Conceptual review, Empirical review and lastly, the concern of the present study.

This chapter basically examines the conceptual review of the study in the area of Phonological processes (under Phonology) with reference to the particular area of study. In the conceptual review, this study discusses the different concept or theories of study and finally adopts the one that best suits the present study in order to put it on course. However, the Conceptual review of this work would be capturing all explanations related to the study in a logical order.

2.1 Conceptual Review.

Here, concepts relevant to the study in view are being discussed

2.2 Classification of Phonological Processes

To provide an overview of existing literature, phonological processes in Ika language can be divided into two broad categories: segmental and suprasegmental processes.

2.2.1 Segmental Phonological Processes

Segmental phonological processes concern the production and perception of linguistically relevant phonemes. Ika language is composed of 17 consonants and six vowels, which may be affected by phonological processes such as assimilation, deletion, insertion, metathesis, and substitutions.

In other words, Segmental phonological processes refer to phonological phenomena that affect individual speech sounds or segments. These processes occur within a specific language or dialect and can involve changes in articulation, voicing, nasalization, or other phonetic features of sounds. Examples of segmental phonological processes include assimilation, deletion, epenthesis, insertion, metathesis, and substitution. Assimilation refers to the process by which a sound changes to match the articulation of a

neighboring sound. Deletion is the lack or omission of a sound, epenthesis is the insertion of an additional sound into a word, and insertion is the addition of a sound into a word. Metathesis is the transposition of two adjacent sounds, while substitution is the replacement of a sound with another sound.

2.2.2 Suprasegmental Phonological Processes

Suprasegmental phonological processes are concerned with the way phonemes interact and combine into larger units (words, phrases, and sentences). These processes include tone, stress, and intonation, all of which are important for understanding Ika language.

Suprasegmental phonological processes, also known as prosodic processes, refer to the patterns of stress, intonation, rhythm, and pitch that extend beyond individual speech sounds and influence the way words, phrases, and sentences are produced and perceived in spoken language. Common suprasegmental features include accent and rhythm, which can influence the meaning of a message, as well as rate and volume. Intonation is also important when it comes to conveying emotion through speech.

This literature review provides an overview of existing research on phonological processes in Ika language. Future research should focus on further exploring the segmental and suprasegmental aspects of Ika language, in order to gain a better understanding of the various sound patterns and structures of this language

2.2.3 Phonological Process

Phonological processes are an essential aspect of language acquisition and study in the field of linguistics. Phonology is the branch of linguistics that deals with the sounds of language and the rules that govern their organization and interaction. Phonological processes refer to the way in which children modify and simplify the sounds of language they hear in order to make them easier to pronounce, and these processes form a fundamental part of early language development.

Examples of common phonological processes include:

- a. **Assimilation**-when sounds in different words become similar - e.g.
spoon/spew

- b. **Stopping** - when sounds are replaced with an unvoiced or shorter version- e.g. top/tap
- c. **Reduplication**- repeating a syllable or word – e.g. choo choo train
- d. **Substitution**- replacing a sound with another – e.g. cat/tat
- e. **Final consonant deletion**- when the last consonant of a word is dropped– e.g. bunny/bun
- f. **Weak syllable deletion**- when a syllable is dropped– e.g. banana/nana
- g. **Vowelisation**- changing a consonant into a vowel– e.g. wip/weep
- h. **Deletion of unstressed syllables**- when syllables are deleted favoring shorter words - e.g. elephant/ephant

2.2.4 Phonological rules

Phonological rules are a crucial aspect of the study of linguistics and phonology. These rules govern how sounds are organized and combined in a particular language. They help us understand how native speakers of a language produce and perceive sounds and the patterns that emerge as a result. Phonological rules are often divided into two subcategories:

phonotactic rules and morphophonemic rules. Phonotactic rules pertain to the permissible sound combinations in a language, while morphophonemic rules govern how the sounds in a word change when they are inflected or combined with other words. Phonological rules can be descriptive, prescriptive, or generative. Descriptive rules are based on an analysis of the structures of a language as they actually occur in spoken language. Prescriptive rules are those that are laid out in a language's grammar and which are expected to be followed by native speakers. Generative rules are those that explain how the sounds of a language interact to form meaningful utterances.

2.2.5 Phonological inventory

A phonological inventory refers to a list of the sounds used in a particular language. It includes all the consonants and vowels that make up the phonemic system of that language. The analysis of a language's phonological inventory is an important step in the description of a language's phonology. Phonological inventories can help linguists identify and describe different phonological processes, such as syllable structure rules, stress

patterns, tone rules, and assimilation processes. They can also provide insight into the history of a language, as some sound changes may be reflected in the phonological inventory of the language. Phonological inventories can also reveal important information about a language's dialects and can help linguists determine how closely related two different languages are. A phonological inventory is an essential part of the study of language, as it provides an overview of the sounds used in that language.

2.2.6 Sound Change

Sound change is a process that occurs over time in a language, whereby certain sounds undergo modifications and are replaced by new sounds. These changes can affect different aspects of pronunciation, including consonants, vowels, and intonation patterns.

One common type of sound change is assimilation, which occurs when two sounds become more similar. For example, in the English language, the vowel in “cat” and the vowel in “bat” have merged, resulting in the pronunciation of both words as “caht”.

Metathesis is another type of sound change. It involves the swapping of two adjacent sounds within a word. This is common in languages like English, where the “k” and “s” sounds in the word “ask” often are swapped and the word is pronounced “aks”.

Sound change can also involve deleting, or dropping, certain sounds. This type of change is referred to as deletion. There are several ways in which this can occur, such as elision, whereby one sound is omitted, or contraction, whereby two adjacent sounds are dropped. An example of this is the pronunciation of “gonna” as “gonna”.

Finally, sound change can refer to the addition of a new sound to a word. This is known as epenthesis. An example of this is the addition of an “h” sound to words like “picture” and “temperature” to produce the pronunciations “pichure” and “tehmpereature”.

2.2 Theoretical Framework

2.2.1 Autosegmental Generative Phonology

Autosegmental generative phonology is a theoretical framework developed within the field of linguistics that aims to provide a comprehensive understanding of the phonological structure of human language.

Autosegmental phonology, which was formulated by John Goldsmith in 1976, is a framework for analyzing phonology. It builds upon ideas previously proposed by linguists such as Bloch, Hockett, and Firth. This theory suggests that phonological representations have multiple linear sequences called tiers, each containing distinctive features. These autosegments across tiers can be connected by association lines. Autosegmental phonology has been applied to African tone languages, vowel and nasal harmony systems, and consonantal roots in Arabic. Its development included work from Clements on harmony and McCarthy's generalization of the theory to deal with conjugation in classical Arabic. This was accomplished through an autosegmental account of slots for vowels and consonants on a central timing tier.

The autosegmental formalism departs from the depiction of segments as matrices of features in order to show segments as connected groups of

individual features. Segments are depicted through vertical listings of features connected by lines. These sets can also underspecify in order to indicate a class rather than a single segment. Environments can be shown by placing other connected sets of features around that which is the focus of the rule. Feature changes are shown by striking through the lines that connect a feature that is lost to the rest of the segment and drawing dotted lines to features that are gained.

2.2.2 Relevance of the Theory to the Study

The relevance of Autosegmental Phonology theory lies in its ability to accurately describe and analyze complex phonological phenomena across languages. Developed in the 1970s by linguists John Goldsmith, Andrew Gleason, and others, the theory brought a new perspective to the field of phonology by introducing the concept of autosegments, which are distinct from segments (individual speech sounds) and are used to represent features such as tone, stress, and nasalization.

Autosegmental Phonology theory allows for a detailed analysis of tone languages, where pitch contours play a crucial role in signaling meaning

distinctions. By representing tone as a separate autosegment, this theory provides a framework for understanding the complex tonal systems found in languages such as Mandarin, Yoruba, and others.

Autosegmental Phonology theory expands the traditional linear approach to phonology by accounting for non-segmental features, such as stress and nasalization. By treating these features as separate autosegments, the theory provides a more comprehensive understanding of how they interact and affect the pronunciation and interpretation of speech.

Autosegmental Phonology theory offers a way to analyze various phonological processes, such as assimilation, deletion, and vowel harmony, by representing them as autosegmental spreading or association. This allows for a more nuanced and accurate analysis of complex phonological phenomena, especially when multiple tiers of features are involved.

Autosegmental Phonology theory facilitates the comparison of phonological patterns across languages, as it provides a common framework for analyzing and describing complex phenomena. This cross-linguistic perspective helps

linguists identify shared patterns and uncover universal principles underlying phonological systems.

Autosegmental Phonology theory has also proven relevant in historical and diachronic analysis, as it allows for tracking the development and changes in phonological systems over time. By representing distinct autosegments, it becomes possible to observe how phonological features evolve and potentially provide insights into the history and development of languages.

2.2.3 Summary

In summary, Autosegmental Phonology theory is relevant because it offers a comprehensive framework for analyzing complex phonological phenomena, accommodating non-segmental features, enabling cross-linguistic comparisons, and aiding historical and diachronic analysis. Its ability to represent tonal systems, non-segmental features, and phonological processes has greatly contributed to our understanding of the structures and patterns of human language.

CHAPTER THREE

DATA PRESENTATION AND ANALYSIS

3.0 Introduction

This chapter focuses on presenting the data collected during the course of this study. The data in this section will be segmented into different categories, there we will be the presentation of the data in Ika language and with meaning equivalent in English.

3.1 Data Presentation and Analysis

This section will focus on the categorization of the data into the various categories of phonological processes in which they belong. However some selected data were analyzed into their different sections.

S/N	Ika words	Phonological Representation	Gloss
1.	Onyeka	/oɲɛ̃ka/	‘who is greater?’
2.	Nmá	/nmã/	‘beauty’
3.	nwa	/ɲwã/	‘child’
4.	nyá	/ɲã/	‘paste’
5.	ní	/nĩ/	‘take’
6.	anwu	/aɲwũ/	‘sun’
7.	enya	/eɲã/	‘sun’
8.	fuma	/fumã/	‘wrap’
9.	kani	/kanĩ/	‘but’
10.	nwunyè	/ɲwũɲɛ̃/	‘wife’
11.	ónye	/oɲɛ̃/	‘person’
12.	Anu	/anũ/	‘meat’
13.	owunma	/owũmã/	‘it is well, it is fine’
14.	nne	/nnɛ̃/	‘mother’
15.	Nari	/nãri/	‘collect’

16.	Banye	/baɲẽ/	‘enter’
17.	Elume	/ɛlumɛ/	‘orange’
18.	ngwere	/ŋg ^w ére/	‘lizard’
19.	Otume	/otumẽ/	‘navel’
20.	Mgba	/mgba/	‘spouse’

TABLE 1

1. Onyeka: /oɲẽka/ - The nasal assimilation in this word occurs with the /e/ sound in word becoming nasalized due to the preceding nasal /ɲ/ sound.

2. nmá: /nmã/ - In this word, the nasal assimilation occurs with the /a/ sound becoming nasalized due to the preceding nasal /m/ sound. The nasalization spreads from the /m/ sound to the /a/ sound, resulting in a nasalized pronunciation of /nmã/.

3. nwa: /ɲwã/ - This word exhibits nasal assimilation with the /a/ sound becoming nasalized due to the preceding nasal /ɲw/ sound. The nasalization spreads from the /ɲw/ sound to the /a/ sound, resulting in a nasalized pronunciation of /ɲwã/.

4. nyá: /ɲã/ - The nasal assimilation in this word occurs with the /n/ sound becoming nasalized due to the preceding nasal /ɲ/ sound. The nasalization spreads from the /ɲ/ sound to the /a/ sound, resulting in a nasalized pronunciation of /ɲã/.

5. ní: /nĩ/ - This word exhibits nasal assimilation with the /i/ sound becoming nasalized due to the preceding nasal /n/ sound. The nasalization spreads from the /n/ sound to the /i/ sound, resulting in a nasalized pronunciation of /nĩ/.

6. anwu: /aŋwũ/ - In this word, the nasal assimilation occurs with the /u/ sound becoming nasalized due to the preceding nasal /ŋw/ sound. The nasalization spreads from the /ŋw/ sound to the /u/ sound, resulting in a nasalized pronunciation of /aŋwũ/.

7. enya: /eɲã/ - This word exhibits nasal assimilation with the /a/ sound becoming nasalized due to the preceding nasal /ɲ/ sound. The nasalization spreads from the /ɲ/ sound to the /a/ sound, resulting in a nasalized pronunciation of /eɲã/.

8. fuma: /fumã/ - The nasal assimilation in this word occurs with the /a/ sound becoming nasalized due to the preceding nasal /m/ sound. The nasalization spreads from the /m/ sound to the /a/ sound, resulting in a nasalized pronunciation of /fumã/.

9. kani: /kanĩ/ - This word exhibits nasal assimilation with the /i/ sound becoming nasalized due to the preceding nasal /n/ sound. The nasalization spreads from the /n/ sound to the /i/ sound, resulting in a nasalized pronunciation of /kanĩ/.

10. nwũnyè: /ɲwũɲɛ̃/ - In this word, the nasal assimilation occurs with the /u/ sound in "ɲw" becoming nasalized due to the preceding nasal /ɲw/ sound. The nasalization spreads from the /ɲw/ sound to the /u/ sound, resulting in a nasalized pronunciation of /ɲwũɲɛ̃/.

Overall, nasal assimilation in these words shows how nasal sounds influence the nasalization of preceding sounds in connected speech.

21.	kwān	/kwã/	‘cry’
22.	azun	/azũ/	‘fish’
23.	orun	/órũ/	‘work’
24.	ozun	/ozũ/	‘corpse’
25.	owum	/ówum/	‘death’
26.	oyun	/óyũ/	‘vagina’
27.	umu	/úmũ/	‘children’
28.	meme	/mēmē/	‘do’
29.	nnunu	/nũnũ/	‘vulture’
30.	ogun	/ógũ/	‘medicine’
31.	okun	/ókũ/	‘fire’
32.	mami	/mãmĩ/	‘urine’
33.	uran	/úrã/	‘sleep’
34.	nwenne	/ɲwẽnẽ/	‘sibling’
35.	efunfun	/ɛfũfũ/	‘poverty’
36.	ufere	/ufere/	‘air’
37.	efan	/ɛfã/	‘name’
38.	Unyi	/unĩ/	‘dirt’
39.	Eran	/ɛrã/	‘breast’

40.	Ihien	/ihiẽ/	‘something’
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TABLE 2: Regressive Nasal Assimilation

The phonological process of regressive nasal assimilation occurs when a nasal sound assimilates to the place of articulation of a following nasal sound.

The regressive phonological process at play in these examples is regressive nasal assimilation. In each word, the nasal vowel assimilates to the nasal place of articulation of the following nasal consonant. Here is a breakdown of each example:

1. kwan (/kwã/) - The nasal vowel /ã/ assimilates to the nasal place of the following nasal consonant, resulting in nasal harmony.

2. azun (/azũ/) - In this word, the nasal vowel /ũ/ undergoes assimilation to the nasal place of articulation.
3. orun (/órũ/) - The nasal vowel /ũ/ assimilates to the nasal place of the subsequent nasal consonant.
4. ozun (/ozũ/) - The nasal vowel /ũ/ assimilates to the nasal place of the nasal consonant following it.
5. owun (/ówũ/) - In this word, the nasal vowel /ũ/ assimilates to the nasal place of articulation.
6. oyun (/óyũ/) - The nasal vowel /ũ/ assimilates to the nasal place of the following nasal consonant.
7. umu (/úmũ/) - The nasal vowel /ũ/ assimilates to the nasal place of the adjacent nasal consonant.
8. meme (/mēmē/) - In this word, both nasal vowels /ē/ assimilate to the nasal place of the nasal consonants.
9. nnunu (/ɲũɲũ/) - The nasal vowel /ũ/ assimilates to the nasal place of the subsequent nasal consonant.

10. ogun (/óɡũ/) - The nasal vowel /ũ/ assimilates to the nasal place of the following nasal consonant.

In each of these examples, the nasal vowel harmonizes with the nasal consonant that follows, resulting in regressive nasal assimilation. This phonological process is a way of simplifying pronunciation by aligning the place of articulation in adjacent nasal sounds.

TABLE 3: Vowel Harmony

41.	Usue	/uswe/	‘tall’
42.	Eka	/ɛka/	‘hand’
43.	Uzo	/uzɔ/	‘road’
44.	Ulo	/ulɔ/	‘house’
45.	Ukwun	/uk ^w ũ/	‘waist’
46.	Ike	/ike/	‘buttocks’
47.	Ize	/ize/	‘crayfish’
48.	Izize	/izize/	‘disgust’
49.	Ite	/ite/	‘pot’
50.	Akpakali	/ite/	‘ground/floor’

51.	Ishi	/iʃi/	‘head’
52.	Iyi	/iji/	‘curse’
53.	Udo	/udo/	‘peace’
54.	Okpoho	/okpoho/	‘woman’
55.	Oji	/ɔdʒi/	‘kolanut’
56.	Ekere	/ekere/	‘small/little’
57.	Okwu	/ɔk ^w u/	‘word/talk’
58.	Okpuru	/okpuru/	‘under’
59.	Ibuzo	/ibuzɔ/	‘first’
60.	Iyori	/ijori/	‘food’

Vowel harmony is a process where vowels within a word become more similar or show agreement in their phonetic features.

1. Usue (/uswe/) - This word demonstrates front-back vowel harmony. The native vowel /u/ in the first syllable is a back vowel, and it triggers the front vowel harmonization of the second syllable, resulting in the front vowel /e/.

2. Eka (/ɛka/) - The vowel /ɛ/ in the first syllable is a front vowel, and it triggers the front vowel harmony in the second syllable, maintaining the front vowel /a/.
3. Uzo (/uzɔ/) - Here, the back vowel /u/ in the first syllable triggers back vowel harmony in the second syllable, resulting in the back vowel /ɔ/.
4. Ulo (/ulɔ/) - The back vowel /u/ triggers back vowel harmony, maintaining the back vowel /ɔ/.
5. Ukwun (/uk^wũ/) - This word displays both back vowel harmony and nasal harmony. The back vowel /u/ triggers the back vowel harmony in the second syllable, while also causing nasal harmony, as seen in the nasal vowel /ũ/.
6. Ike (/ike/) - The front vowel /i/ in the first syllable triggers front vowel harmony, keeping the front vowel /e/.
7. Ize (/ize/) - The front vowel /i/ triggers front vowel harmony, maintaining the front vowel /e/.
8. Izize (/izize/) - Both instances of the front vowel /i/ trigger front vowel harmony, keeping the front vowel /e/ in both syllables.

9. Ite (/ite/) - The front vowel /i/ triggers front vowel harmony, resulting in

61.	Ada ugo	adugo	'name of a first daughter'
62.	ulo ekwo	ulekwo	'school'
63.	ulo uka	uluka	'church'
64.	ini ugbo	innugbo	'name of a street in Agbor'
65.	onye ekwo	onyekwo	
66.	efo ime	efime	'pregnancy'
67.	onye egwu	onyegwu	'dancer'
68.	elu uwa	eluwa	'whole world'
69.	onye ita	onyita	'gossip/gist lover'
70.	onye ukpe	onyukpe	'electrician'

the
front
vowel
/e/.
10.
Akpak
ali
(/ite/) -
In this
word,
there
is no

vowel harmony occurring, as the vowels /i/ and /e/ do not share any common phonetic features.

71.	ulo ogun	ulogun	'hospital'
72.	nwá ebon	nwebon	'son of the soil'
73.	ije oma	ijoma	'good journey'
74.	chima obi	chimobi	'God knows my Heart'
75.	Nwa amaka	nwamaka	'A child is good'
76.	Okoro obia	okorobia	'Young Man'
77.	nwa ore	nwore	
78.	eka odo	ekodo	'pestle'

**TABLE 4:
Vowel
elision**

1. Ada -> Adugo: In this example, the vowel /a/ in "Ada" is elided when combined with the following vowel /u/ in "ugo." This results in the pronunciation /adugo/ instead of /adaugo/.

2. ulo -> ulekwo: Here, the vowel /o/ in "ulo" is elided before the /k/ and /w/ consonant sounds in "ekwo." This leads to the pronunciation /ulekwo/ instead of /uloekwo/.

3. ulo -> uluka: Similar to the previous example, the vowel /o/ in "ulo" is elided when followed by the vowel /u/ in "uka." This results in the pronunciation /uluka/ instead of /ulouka/.

4. ini -> innugbo: In this case, the vowel /i/ in "ini" is elided before the consonant cluster /ngb/ in "ugbo." This leads to the pronunciation /innugbo/ instead of /inungbo/.

5. onye -> onyekwo: The vowel /e/ in "onye" is elided when followed by the vowel /e/ in "ekwo." This results in the pronunciation /onyekwo/ instead of /onyeekwo/.

6. efo -> efime: Here, the vowel /o/ in "efo" is elided before the following vowel /i/ in "ime." This leads to the pronunciation /efime/ instead of /efoime/.

7. onye -> onyegwu: The vowel /e/ in "onye" is elided when followed by the vowel /e/ in "egwu." This results in the pronunciation /onyegwu/ instead of /onyeegwu/.

8. elu -> eluwa: In this example, the vowel /u/ in "elu" is elided before the following vowel /a/ in "uwa." This leads to the pronunciation /eluwa/ instead of /eluawa/.

9. onye -> onyita: The vowel /e/ in "onye" is elided when followed by the vowel /i/ in "ita." This results in the pronunciation /onyita/ instead of /onyeita/.

10. onye -> onyukpe: The vowel /e/ in "onye" is elided when followed by the vowel /u/ in "ukpe." This leads to the pronunciation /onyukpe/ instead of /onyeukpe/.

TABLE 5: Glide formation

79.	mami ulo	mamjulo	'bedwet'
80.	isi oma	isjoma	'good head'
81.	Chidi chidjebere	ebere	'God is merciful'
82.	Oshishi oshishjoma	oma	'good tree'
83.	Obi oma	objoma	'good heart'
84.	Ndidiamaka	ndidjamaka	'patience is good'

TABLE 6: Vowel Insertion

85.	Bredi	/bredi/	'bread'
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86.	Tomatosi	/tomatosi/	‘tomatoes’
87.	Laptopu	/laptɔpu/	‘laptop’
88.	Fonu	/fonũ/	‘phone’

Vowel insertion, also known as epenthesis, is a phonological process in which a vowel sound is added or inserted into a word. This can occur in the context of borrowing and language words are borrowed from one language to another, they often undergo phonological adjustments to fit the phonotactic patterns and pronunciation norms of the borrowing language.

Vowel insertion may occur as a result of these adjustments.

In some cases, the borrowing language may insert a new vowel sound to break up a consonant cluster or to adhere to its preferred syllable structure. This is often done to make the borrowed word easier to pronounce according to the borrowing language's phonotactic rules.

For example, consider the English word "espresso" borrowed from Italian. In the original Italian word, it is pronounced as /es'pres.so/. However, when it is borrowed into English, a vowel sound /ə/ is inserted between the two consonants /s/ and /p/, resulting in /ɛ'spɪəs.ʊ/. This vowel insertion helps

English speakers separate the consonant cluster and pronounce the word more easily.

Vowel insertion can also occur in situations of language contact, where two or more languages interact and influence each other. When words from one language are integrated into the phonological system of another due to contact and influence, vowel insertion may take place to accommodate the borrowing language's phonological patterns.

It is worth noting that vowel insertion is just one of the many phonological adjustments that can occur during borrowing or language contact. Other changes, such as vowel elision, assimilation, or adjustments in stress patterns, may also occur to align the borrowed words with the phonological system of the borrowing or contact languages. Examples can be cited in the Ika loaned words from English language;

1. Bredi -> /brɛdi/: In this example, the original word "bread" has been borrowed into another language or dialect that requires a final vowel sound. The final vowel /i/ is inserted to conform to the phonotactic rules of the borrowing language. Additionally, nativization and resyllabification might

occur, meaning that the word is adapted to fit into the sound patterns and syllable structure of the borrowing language.

2. Tomatosi -> /tomatosi/: In this case, the same process of borrowing, language contact, nativization, and resyllabification has taken place. The original word "tomatoes" has been borrowed and adapted to fit into the phonological patterns of the borrowing language, resulting in the addition of the final vowel /i/.

3. Laptopu-> /laptɔpu/: Again, the borrowing and adaptation process has occurred, resulting in the addition of the final vowel sound /u/ in this case. Nativization and resyllabification may also contribute to the modified pronunciation.

4. Fonu -> /fonũ/: In this example, the word "fon" (phone) has been borrowed into the Ika language that requires a final nasal vowel sound. The final vowel /ũ/ is inserted to conform to the phonotactic rules of the borrowing language, and nativization and resyllabification may also occur.

Generally, vowel insertion in borrowed words can be influenced by various factors, including language contact, nativization, and resyllabification. These

processes help the borrowed words fit into the phonological patterns and syllable structures of the borrowing language.

TABLE 7: LABIALIZATION

92.	Okwu	/ok ^w u/	‘word/talk’
93.	Ukwu	/uk ^w u/	‘waist’
94.	Ugwo	/ug ^w o/	‘debt’
95.	Okun	/okũ/	‘fire’
96.	Ogun	/ogũ/	‘medicine’

Labialization is the process of modifying a sound, typically a consonant, to become more like a labial sound, which involves the use of the lips. In the case of labialized consonants, there is a simultaneous rounding or protrusion of the lips while producing the consonantal sound. The labialization process

can be analyzed by looking at the presence of a labial approximant /w/ or a labio-velar approximant /w/ after the base consonant.

1. Okwu /ok^wu/

In this word, the labial approximation /w/ is added after the 'k' sound /k/. This results in the labialized form of the syllable, giving it a labial quality. The vowel 'u' remains unaffected by labialization.

2. Ukwu /uk^wu/

Similar to the previous example, the labial approximant /w/ is added after the 'k' sound /k/. The labial quality of the approximant is then transferred to the vowel 'u', modifying it to have a labialized quality. The presence of the diacritic under the 'u' /u/ indicates a nasalized pronunciation of the vowel.

3. Ugwo /ug^wo/

Here, the labial approximant /w/ follows the consonant 'g' /g/. The labialized form is then transferred to the following vowel 'o', resulting in a labialized pronunciation. Similar to the previous example, the diacritic under

the vowel 'o' (/ɔ/) suggests a specific quality of the vowel, in this case, an open-mid back vowel.

To summarize, the examples provided show instances of labialization where a labial approximant /w/ follows a select consonant, giving it a labialized quality. This labialization may then be transferred to the vowel(s) that follow, modifying their pronunciation accordingly.

TABLE 8: PALATALIZATION

97.	Bia	/bjɑ/	‘come’
98.	Oria	/ɔrjɑ/	‘disease/sickness’
99.	Ofia	/ɔfjɑ/	‘bush’
100.	Ihian	/ihjã/	‘someone’
101.	Ihien	/ihjẽ/	‘something’

Palatalization is the process in which a consonant becomes influenced or modified by the palatal place of articulation or the adjacent presence of a

palatal sound. This can result in the consonant becoming palatal or acquiring palatal features. Palatalization can be analyzed by looking at the presence of a palatal sound or a palatalization marker after the base consonant.

1. Bia /bjɑ/

In this word, the consonant 'b' /b/ is followed by the glide 'j' /j/. The presence of the glide after 'b' indicates palatalization of the 'b' sound. This results in a palatalized quality, where the consonant 'b' is articulated with the front of the tongue closer to the hard palate.

2. Oria /ɔrjɑ/

In this word, the consonant 'r' /r/ is followed by the glide 'j' /j/. Similar to the previous example, the presence of the glide after 'r' indicates palatalization of the 'r' sound. Hence, the 'r' sound becomes palatalized, with the tongue raised towards the hard palate.

3. Ofia /ɔfjɑ/

Here, the consonant 'f' /f/ is followed by the glide 'j' /j/. The presence of the glide after 'f' indicates palatalization of the 'f' sound. Therefore, the 'f' sound becomes palatalized, altering its place of articulation towards the hard palate.

4. Ihian /ihjã/

In this word, the consonant cluster 'h' /h/ and 'y' /j/ occurs. The 'y' sound is already a palatal sound, so it doesn't undergo any further palatalization. However, the 'h' sound can be influenced by the presence of the palatal glide 'y' /j/. This results in the 'h' sound acquiring some palatal features.

5. Ihien /ihjẽ/

Similar to the previous example, the 'h' sound is influenced by the palatal glide 'y' /j/. As a result, the 'h' sound becomes palatalized, modifying its place of articulation closer to the hard palate.

To summarize, the examples provided show instances of palatalization where a palatal glide /j/ follows a consonant, resulting in the consonant

becoming influenced or modified by the palatal place of articulation. This can lead to the consonant being palatalized or acquiring palatal features.

CHAPTER FOUR

SUMMARY, FINDINGS AND CONCLUSION

4.1 Summary

Schane (1973) defines phonological processes as changes that occur when morphemes combine to form words, leading to the juxtaposition and

alteration of segments of neighboring morphemes. These processes are influenced by the co-occurrence of segments and morphemes in the same context. Phonological processes can be assimilatory, where segments adopt features from neighboring segments, or non-assimilatory. Examples of phonological processes include assimilatory processes, glide formation, labialization, palatalization, nasalization/nasality, etc.

4.2 Findings

The study found that the Ika Language exhibits several phonological processes, including assimilation, vowel elision, and vowel insertion among others. These processes are used to modify or alter sounds when they occur in specific contexts.

The categorization of these phonological processes revealed that they occur in various linguistic environments, such as syllable structure, word-final positions, and continuous speech. This suggests that the phonological system of the Ika Language is complex and dynamic.

In terms of loan words, the study found that phonological processes play a crucial role in the integration of these borrowed words into the Ika Language.

These processes include adaptation, where sounds are modified to fit the existing phonological rules of the language, and transfer, where sounds from the loan word are directly borrowed and incorporated into the native system.

Contact-induced phonological change was observed to have a significant impact on the phonological system of the Ika Language. The study revealed that loan words from other languages have led to the introduction of new phonological patterns and structures. This suggests that language contact has shaped the evolution of the phonology of the Ika Language over time.

This study provides important insights into the phonological processes present in the Ika Language and their role in loan word formation and contact-induced phonological change. This research contributes to a better understanding of the linguistic dynamics and evolution of the Ika Language.

4.3 Conclusion

Phonological processes involve changes in sounds due to the combination of morphemes into words, leading to segment juxtaposition and alteration. These processes are influenced by the co-occurrence of segments and morphemes. Different types of phonological processes, such as nasalization,

labialization, palatalization, and assimilation, play a crucial role in shaping the sounds of a language. Nasalization affects vowels and specific consonants, while labialization and palatalization involve additional articulatory features. Assimilation is a common process where segments take on features from neighboring segments. Overall, understanding phonological processes helps explain sound patterns and modifications within a language.

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