

PRELIMINARY INVESTIGATIONS ON ASPECTS OF NEKE IGBO PHONOLOGY

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Abstract

This study examines aspects of Neke phonology, a Northern Igbo variety spoken in Enugu State, Nigeria. Employing Autosegmental Phonology (AP) as a theoretical framework, the study analyses specific phonological processes in this Igbo variety. AP was selected due to its effectiveness in analysing segments and suprasegments alike. This qualitative research gathered primary data by recording the natural speech of native speakers in Umugwu village via structured oral interviews and the Ibadan 400 list. Findings confirmed Neke utilises pitch to distinguish lexical meaning as observed in minimal pairs. In Neke, elision consistently removes the first vowel in a contiguous sequence at word boundaries, while assimilation exhibits progressive patterns where the second segment copies the first, even if the vowel is unrounded. Consonant deletion targets the second segment in reduplicated complex sounds. This work serves as a preliminary descriptive attempt at some aspects of Neke phonology, significantly aiding in the documentation and development of this specific Igbo variety.

Keywords: Neke Igbo, autosegmental phonology, tone, deletion, assimilation.

Introduction

The scientific investigation of human language involves three broad and interconnected levels of study: the speech sound level, the structure level, and the meaning level. At the core of the speech sound level is phonology, the branch of linguistics dedicated to studying the organisation of speech sounds within human languages. Phonology accounts for how sounds relate to one another in normal speech, concerning itself with the organisation of these sounds into systems of contrasts and oppositions, focusing particularly on the abstract relations between sounds that fulfil a functional role in a specific language. Language itself is recognised as the basic and most efficient tool for communication, used uniquely by humans to facilitate the exchange of information between individuals and groups. This centrality of language places a responsibility on language scientists, or linguists, to research and develop languages and their varieties to improve communication across speech communities (Evans & Levinson, 2009). Crucially, no complete communication is possible without speech and sound, as sound perception is fundamental before orthographic representation is conventionally established. An extensive linguistic study on various components, with sounds being fundamental, is necessary for the establishment of any language. Phonological analysis is broadly categorised into segmental studies, dealing with discrete sounds like consonants and vowels, and suprasegmental studies, which cover prosodic features such as pitch, tone, intonation, stress, rhythm, and duration. Many languages possess varieties, or dialects, which may feature characteristics absent in the standard language, necessitating their exploration. The Igbo language is prominent among those rich in variety. Based on classifications such as Ikekeonwu's (1986), Igbo dialects include Northern, Niger Igbo, Inland West Igbo, and Riveraine Igbo. Within this context, the Neke dialect is identified as one such variety, spoken in Neke town, located in Isi Uzo Local Government Area of Enugu State, South-Eastern Nigeria, possessing a distinct Igbo dialect influenced by both Enugu and Nsukka language dialects.

Despite the recent growth and increasing scholarly attention given to the Igbo language, many dialects have been studied while others, such as the Neke dialect of Igbo, have been neglected. This disparity has resulted in a notable lack of published materials concerning the Neke dialect, which served as a primary motivation for the current inquiry. Although some limited work may have been conducted on Neke in other domains, a critical deficiency remains specifically in the aspect of its phonology. The core problem addressed by this study, therefore, is the need for an elaborate analysis of the phonological system of Neke. Specifically, this research aims to undertake the autosegmental analysis of the phonological processes found in the Neke dialect of Igbo. Furthermore, the study seeks to specifically account for and analyse the area of tone within this dialect, utilising the autosegmental phonology framework. Addressing this gap is vital to ensuring the development and documentation of all varieties of the Igbo language.

The critical issues arising from the lack of descriptive work on Neke phonology necessitate the application of sophisticated theoretical tools capable of handling the complexities inherent in tonal languages, specifically focusing on phonological processes like assimilation and deletion, alongside tone. Assimilation is understood generally as a phonological process involving feature change in segments, often driven by co-articulation when one sound influences an adjacent sound. Several scholars concur that assimilation involves a segment becoming more similar to a neighbouring one by transferring features or by taking on features from the adjacent segment. More formally, assimilation occurs when two contiguous sounds, initially possessing different modes of production, become identical in some or all of their production features (Oyebade 1998; Anyanwu 2008). Omachonu (2011) further details this, defining assimilation as a process wherein a sound is rendered similar to a neighbouring segment in its place or manner of articulation through contextual conditioning. Conversely, vowel deletion, or elision, is a process where sound segments are lost during normal speech, typically characteristic of rapid or casual speech (Roach, 1997; Davenport & Hannahs, 2005). Oyebade (1998) defines deletion as the loss of a segment under language-specifically imposed conditions, with vowel loss specifically termed elision. These segmental processes interact intrinsically with tone, defined as pitch variations that function to affect the meaning of a word. Tone performs both lexical, signalling dictionary differences, and grammatical functions, marking contrasts in features such as tense, aspect, and case (Pike, 1948). Igbo is a tonal language that utilises register tones (level pitch) and contour tones (gliding pitch). The best framework suited to analyse these interacting features is Autosegmental Phonology (AP), introduced by Goldsmith (1976). AP arose specifically because previous theories, particularly Generative Phonology or the Sound Pattern of English (SPE), were incapable of adequately accounting for suprasegmental features like tone due to their strict adherence to a linearity condition. AP addresses this by proposing a multi-tiered approach, where phonology consists of several tiers—such as the tonal tier and the segmental tier—that are linearly arranged, yet linked via association lines, allowing segments and suprasegmentals to be analysed separately even while occurring simultaneously (Goldsmith, 1976).

Literature Review

Empirical investigations into other African languages underscore the utility and robustness of the Autosegmental Phonology framework for analysing the exact phenomena targeted in the Neke study (Uguru, 2000; Rosaline, 2016; Oyewale, 2016; Ukaegbu *et al.*, 2017; Ukpe, 2018). For instance, Uguru (2000) applied the autosegmental approach to analyse Ika Igbo tones in isolated words and sentence construction, concluding that AP effectively handles the tonal patterns and syllable structure (CV) of that dialect. Rosaline's (2016) work on Tiv phonology also confirmed

the capability of autosegmental phonology to effectively analyse not only tones—which perform both grammatical and lexical functions in Tiv—but also vowel harmony and nasalisation. This demonstrates the framework’s ability to handle the suprasegmental complexities central to the Neke dialect. Furthermore, the framework has been successfully deployed to analyse the phonological processes specifically targeted by this research. Oyewale (2016), studying IPE phonology, utilised AP to analyse vowel deletion (elision), observing that elision in IPE is structurally motivated and often involves the loss of the first vowel in a sequence. Oyewale’s work also applied AP to cases of total-progressive assimilation. Ukaegbu *et al.* (2017) used autosegmental phonology in analysing tone types in the Berom language. The Berom language has two register tones and two contour tones. Similarly, Ukpe (2018) employed the autosegmental approach in analysing phonological processes such as assimilation and vowel deletion in Efik, while also identifying the language’s segmental units and syllable structure. These studies collectively reinforce the argument that AP is an appropriate and effective tool for treating the simultaneous occurrence of segmental changes and suprasegmental features in African languages. The summary of empirical findings thus confirms the viability of applying AP to the analysis of deletion and assimilation processes within the Neke dialect of Igbo, bridging the theoretical concepts (Assimilation, Deletion, Tone, AP) with proven analytical practice in related languages.

Despite the proven utility of Autosegmental Phonology across various Nigerian languages and dialects, particularly in analysing tone and phonological processes such as assimilation and deletion, a significant academic gap persists regarding the Neke dialect of Igbo. Existing literature reviews reveal that while numerous works have applied AP to analyse the general phonology or tone of different languages and dialects (e.g., Ika, Tiv, Ipe, Berom, Efik), no study has yet focused specifically on the autosegmental analysis of the phonological processes in the Neke dialect of Igbo. This absence of documentation means that the precise ways in which assimilation and deletion manifest in Neke, and how its tone system interacts with these processes, remain unaddressed within the literature. The present research is significant because it constitutes the first attempt to deal with the phonological processes in the Neke dialect from a descriptive perspective. On the theoretical front, this is the first major attempt to discuss phonological processes and tone representation in the Neke dialect of Igbo. By carrying out this detailed analysis, the study aims to address deficiencies in the description of Neke’s phonological system and contribute valuable data to the literature on the Neke dialect of Igbo and language study generally. This necessity directly connects to the foundational objectives of the work, which are to analyse the assimilation and deletion processes in the Neke dialect using autosegmental phonology and, consequently, to identify the syllabic structure and tone system employed in Neke phonology.

Theoretical Framework

The analysis of the theoretical framework reveals that the study of phonological phenomena, particularly those involving speech sounds and their organisation, can draw upon several established linguistic models, including Classical Phonology, Lexical Phonology, Generative Phonology, Metrical Phonology, Autosegmental Phonology, and Optimality Theory. Following the foundational work derived from *The Sound Pattern of English* (SPE, Chomsky and Halle 1968), various subsequent frameworks emerged to provide a more complex understanding of phonology. Although it is recognised that most phonological theories are possible to be applied in Neke phonology, for the specific focus of this paper, analysing assimilation and deletion

processes in the Neke dialect of Igbo, the Autosegmental Theory is adopted as the primary theoretical model.

The Autosegmental Theory (AT) was first proposed by John Goldsmith in 1976. The theory arose largely in reaction to the inability of SPE (Generative Phonology) to adequately account for suprasegmental features such as tone, stress, and intonation, and to address the problems associated with describing ‘contour tones.’ The major tenets of AT hold that phonology consists of several tiers, where each tier is a linear arrangement of segments, linked by association lines that illustrate their co-articulation. This approach proposes an autonomous representation of tone and segments, allowing segmentals and suprasegmentals to be accounted for separately, even if they occur simultaneously. A core principle governing these representations is the Well-Formedness Condition (WFC), which stipulates that all vowels must be associated with at least one tone, all tones must be associated with at least one vowel, and association lines must not cross. AT has since undergone modifications, expanding its focus beyond tone to applications such as vowel harmony and other phonological processes (like assimilation and deletion), addressing complexities in phonemes, and even word formation processes like reduplication, leading to revisions of the WFC conventions.

In evaluating its utility, the Autosegmental Theory is highly regarded for its strengths, particularly its contribution to the study of tone, level, and contour tones, making it a cornerstone in the analysis of tonal languages. Its multi-tiered approach allows for greater autonomy of features like tone, nasality, and vowel harmony, solving problems where specific features extend over more than one segment. Its application allows phonologists to conveniently account for suprasegmental features in their analysis. Conversely, AT faces several weaknesses, including its requirement for detailed diagrams, making it time-consuming and space-intensive for analysis. Furthermore, criticisms have noted that the WFC failed to specify a definite ordering of tiers and did not account for the fact that segments other than vowels may bear tones in some languages.

The selection of Autosegmental Phonology for this research is critically linked to its ability to overcome the major deficiencies of its precursors, particularly the generative framework (SPE). Since the Neke dialect of Igbo utilises tone, making it a tone language where pitch variations distinguish meaning, the prior theory’s linearity condition and inability to account for suprasegmental features like tone were major inadequacies. By contrast, AT enables the necessary analysis of prosodic features alongside underlying segments. Thus, AT is utilised to analyse the assimilation and deletion processes and the tone used in Neke Phonology, providing a powerful tool for a detailed phonological description of the dialect.

Methodology

This study adopted a qualitative research approach for both data collection and subsequent analysis. The research relied on both primary and secondary data sources. The core instrument for primary data elicitation was a structured oral interview developed by the researcher to address the research questions and objectives outlined in Chapter One. The critical tool used during this elicitation process was the Ibadan 400-word list, which served as the foundation for gathering the linguistic data needed for analysis. The administration of the instrument involved direct engagement with the informants to elicit target words from the Ibadan 400-word list. Crucially, to capture authentic instances of phonological processes like deletion (elision), which typically occur in fast speech or rapid speech, supplementary stories were tape-recorded in a

quiet environment. The selected theoretical framework, Autosegmental Phonology, was employed to analyse assimilation and deletion processes, providing a multi-tiered representation that accounts for suprasegmental features, like tone, which are phonemically significant in the Neke dialect.

Data Presentation and Analysis

The core objective of this study was to analyse these phonological processes, along with identifying the syllabic structure and the tone pattern employed in Neke. As Mbah and Mbah (2010) and Oyebade (1998) contended, the advent of AP allows phonologists to “conveniently account for the suprasegmental features in their phonological analysis”. Neke, as a tonal language, relies on pitch variation to distinguish lexical meaning, evidenced by minimal pairs such as:

a.	/éká/	‘hand’	/èkáā/	‘how far?’
b.	/ék ^w á/	‘cry’	/èk ^w á/	‘egg’
c.	/ĩfĩ/	‘head’	/ĩfɪ/	‘smell’
d.	/òkpà/	‘cowpea’	/ókpa/	‘leg’
e.	/ádzi/	‘fish’	/àdзі/	‘back’
f.	/ég ^w ú/	‘dance’	/èg ^w ú/	‘fear’
g.	/òhá/	‘vegetable’	/òhà/	‘age grade’
h.	/ńfĩ/	‘poison’	/ńfɪ/	‘faeces’
i.	/éhá/	‘asking from divinity’	/éhà/	‘name’
j.	/òk ^w à/	‘bird’	/ók ^w á/	‘position’
k.	/ńg ^w ó/	‘lies’	/ńg ^w ò/	‘type of palm wine’
l.	/ńkàtá/	‘discussion’	/ńkàtà/	‘basket’

The study found that tone “can be used to differentiate two words that have the same spelling.” Furthermore, tone carries grammatical function; for instance, Ladefoged (1975:253) noted generally in Igbo that “the idea of possession... may be expressed by a high tone”. The capacity of AP to represent tone and segments separately, linked by association lines, is crucial for capturing these complexities, confirming Trommer’s (2008) observation that one of the striking contributions of AP is its ability to account for phonological alternations where features share more autonomy.

Phonological Processes in Neke

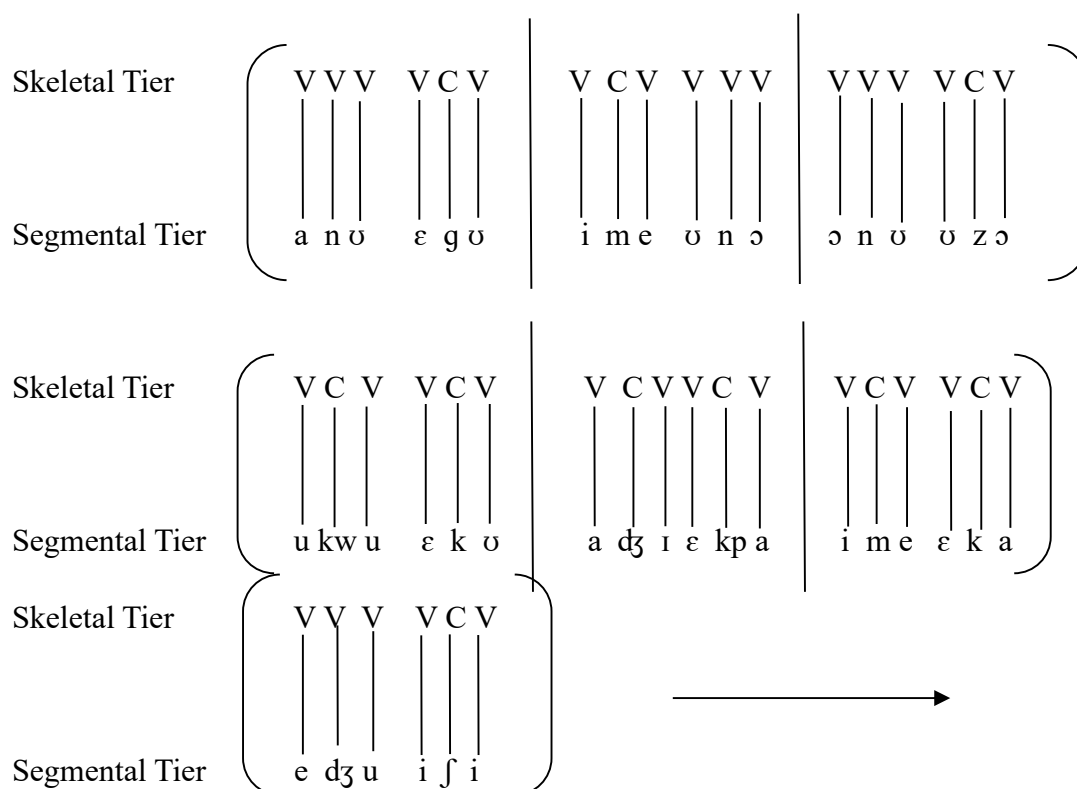
Elision

In Neke, vowel deletion (elision) occurs frequently at word boundaries. Examples:

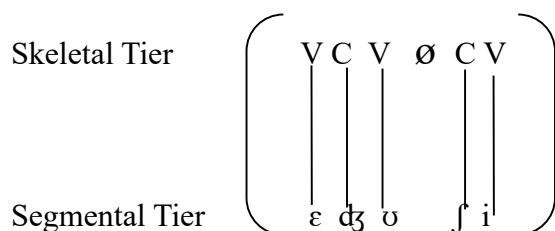
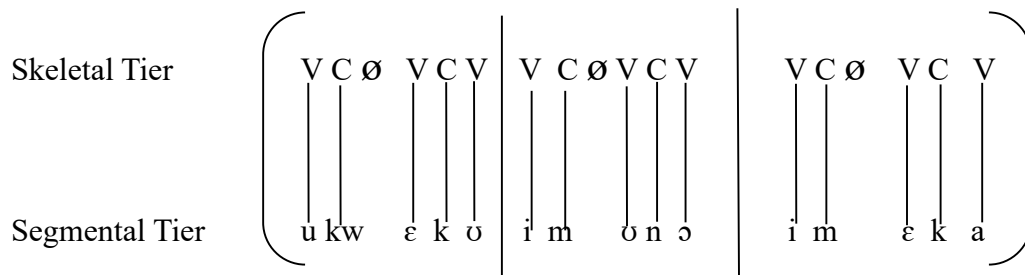
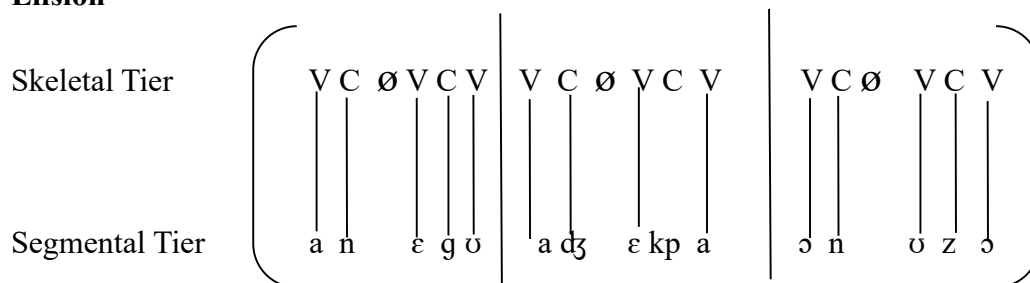
a)	/ánó/	+	/égū/	→	[ánégū]
	Animal		farm		bushmeat

- b) /àdʒí/ + /èkpà/ → [àdʒékpà]
 Back bag back of bag
- c) /ímé/ + /ónò/ → [ímónò]
 Inside house Room
- d) /ónó/ + /úzò/ → [ónúzò]
 Mouth road doorway
- e) /úkwù/ + /ékò/ → [úk^wékò]
 waist cloth wrapper
- f) /ímé/ + /éká/ → [ímékā]
 Inside hand palm
- g) /édʒó/ + /íjĩ/ → [édʒójĩ]
 Hair head hair

Below is an autosegmental representation of Elision in Neke



Elision



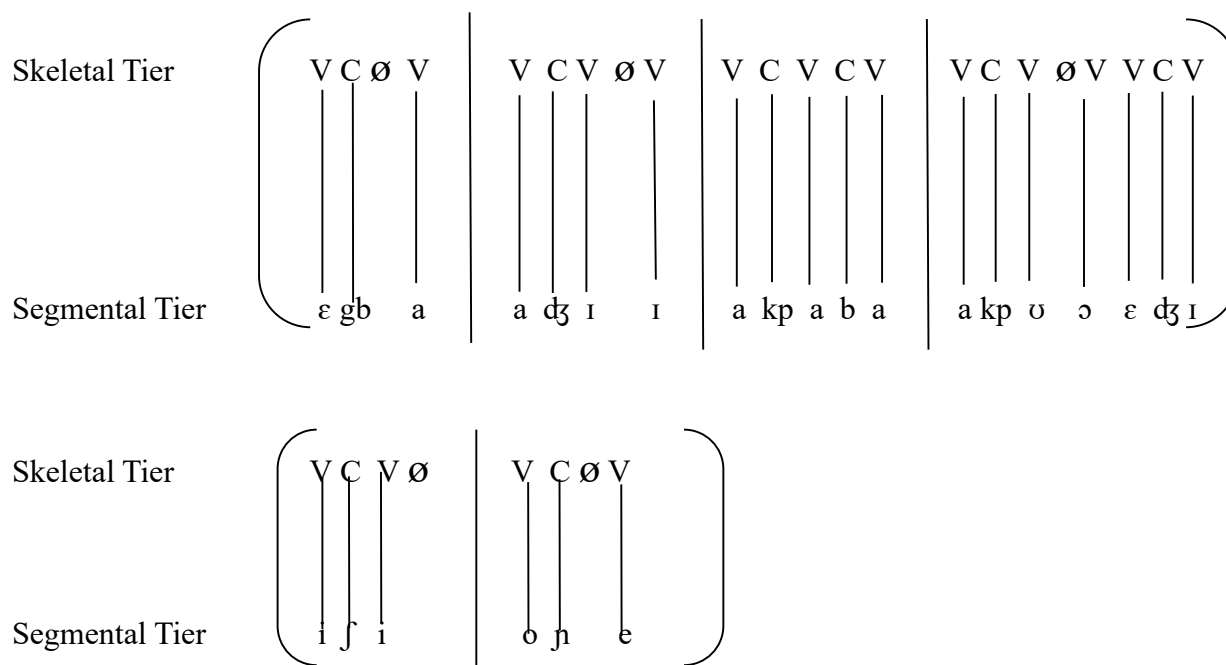
The specific finding is that "the first vowel in sequence is deleted when we talk about elision in Neke". This mechanism aligns perfectly with findings in other regional languages. Oyebade (1998) recognised that when contiguous vowels occur across a morpheme boundary, a language might "choose to drop the first or the second of the contiguous vowels". Similarly, Oyewale (2016), studying Ipe phonology, found that the first vowel in sequences gets deleted when we talk about vowel deletion elision) in Ipe. Neke thus shares a common elision strategy with IPE, dropping the initial vowel segment.

A less discussed result is consonant deletion, observed when consonants are reduplicated within a word, such as

- | | | |
|---------------------|---------------|----------|
| 1. /ègbúgbá/ | [ègbá] | ‘bad’ |
| 2. /ádʒìdʒí àkpàbà/ | [ádʒĩ àkpàbà] | ‘millet’ |
| 3. /ákpókúpó édʒĩ/ | [ákpúó édʒĩ] | ‘skin’ |
| 4. /íʃíʃí/ | [íʃí] | ‘smell’ |
| 5. /òníné/ | [òné] | ‘give’ |

Specifically, the second segments; referring to the second occurrence of the consonant segments, are the ones deleted. Below is an autosegmental representation of Deletion in Neke

Deletion



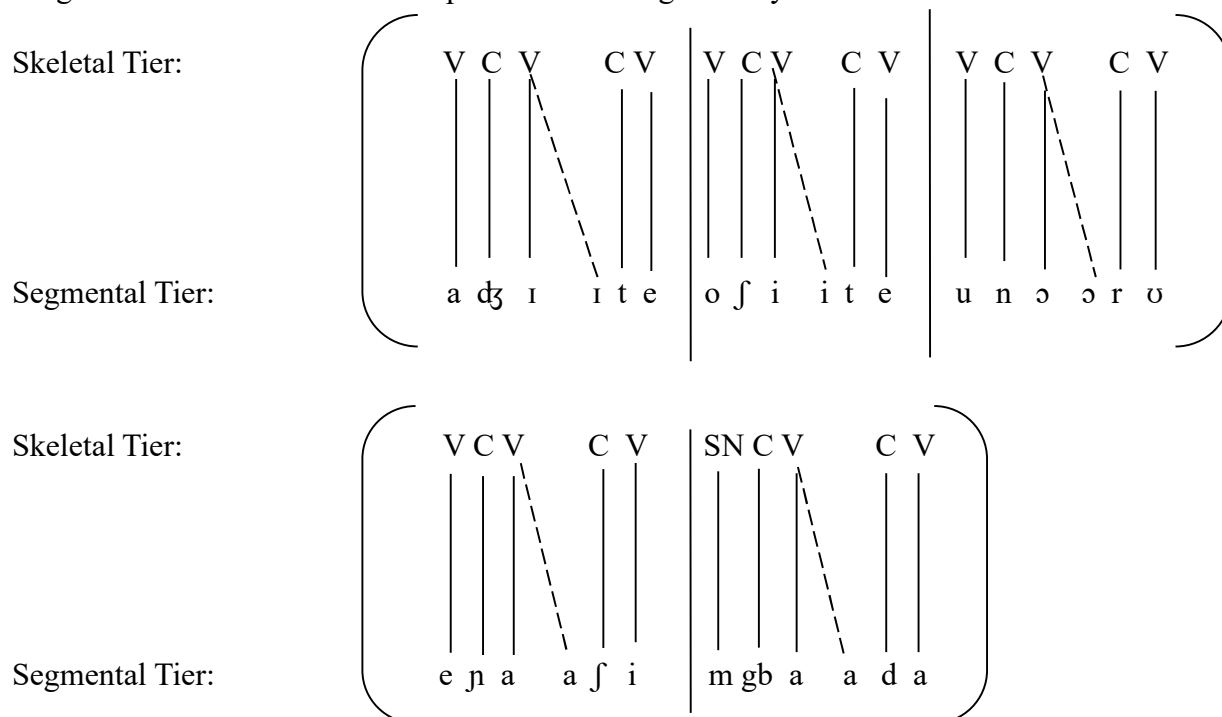
Assimilation

The study identifies both progressive and regressive vowel assimilation in Neke. Progressive assimilation is a phenomenon where the second segment copies the features of the first segment.

Examples:

- | | | | | |
|----|---------------|---|---------|-------------|
| a. | /àdʒí/ | + | /ítè/ | [àdʒíítè] |
| | Back | | pot | back of pot |
| b. | /òǽí/ | + | /ítè/ | [òǽíítè] |
| | One who cooks | | pot | good cook |
| c. | /ónò/ | + | /óró/ | [ónòòrō] |
| | House | | work | office |
| d. | /éǽá/ | + | /íǽí/ | [éǽáǽí] |
| | Eyes | | head | night |
| e. | /m̀gbá/ | + | /ádà/ | [m̀gbáádà] |
| | Wrestle | | to fall | descend |

Progressive assimilation can be represented autosegmentally as follows:



Omachonu (2011) defines this directionality as the influence that spreads from the first to the second segments as progressive assimilation. While Oyewale (2016) found that for progressive assimilation in IPE, the second segment, which copies the features, must be a rounded vowel, however, Neke exhibits a slightly less constrained pattern, where the second segment can be a rounded or unrounded vowel.

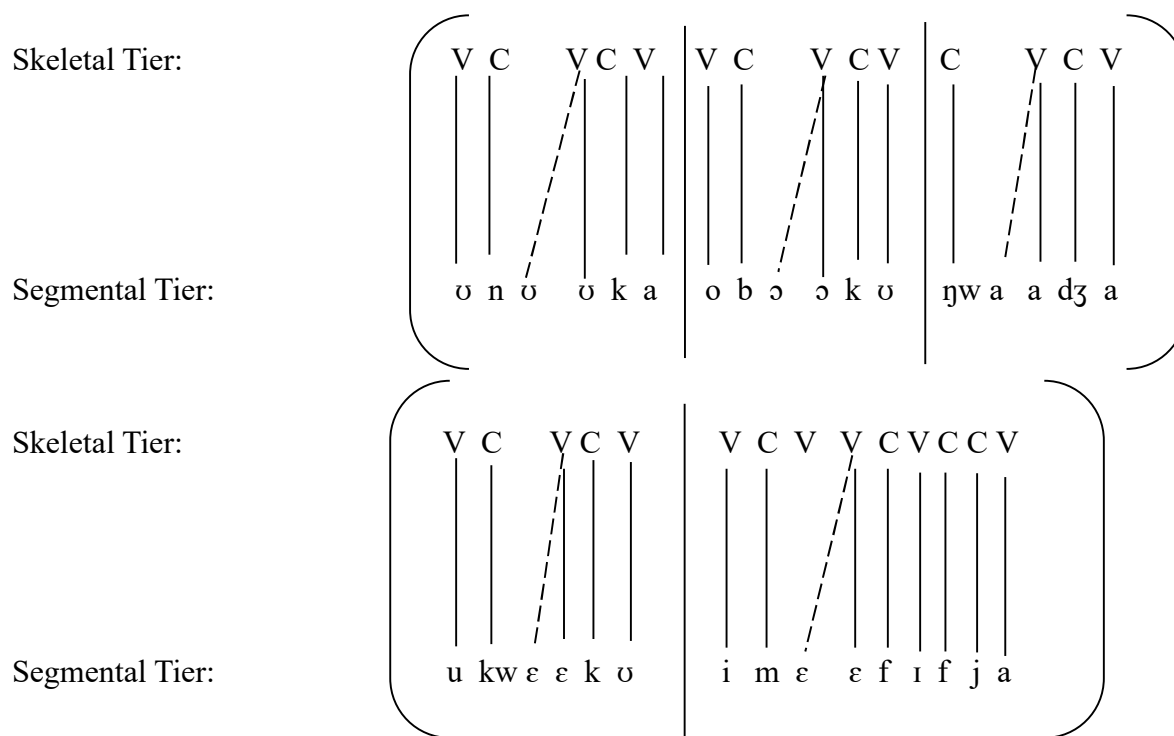
Regressive Assimilation

Regressive assimilation in Neke involves the first segment changing to become like the second segment. This conforms to the universal definition where the direction of influence or spreading is from the second to the first segment instead. Examples:

- $/\acute{o}n\grave{o}/ + /\acute{o}k\grave{a}/ \longrightarrow [\acute{o}n\acute{o}k\grave{a}]$
house church church
- $/\grave{u}m\acute{e}/ + /\acute{o}k\acute{u}/ \longrightarrow [\acute{u}m\acute{o}k\acute{o}]$
Breath hot asthma
- $/\acute{o}b\grave{u}/ + /\acute{o}k\acute{u}/ \longrightarrow [\acute{o}b\acute{o}k\acute{o}]$
Heart hot hot temper
- $/\acute{u}kw\grave{u}/ + /\acute{e}k\grave{o}/ \longrightarrow [\acute{u}kw\acute{e}\acute{e}k\grave{o}]$
waist cloth wrapper
- $/\eta w\acute{a}/ + /\grave{a}d\acute{z}\grave{a}/ \longrightarrow [\eta w\acute{a}\acute{a}d\acute{z}\acute{a}]$

Child sacrifice small
 f. /ímé/ + /éřífjá/ → [ímééřífjá]
 Inside grass bush

Progressive assimilation can be autosegmentally represented as follows:



Syllabic structure of the Neke variety of Igbo

The analysis of Neke's structure revealed two principal syllabic types: CV and VCV. Examples of words with CV syllabic structure:

- a. [gú] 'you'
- b. [dʒí] 'yam'

Examples of words with VCV syllabic structure:

- a. [ɛdʒɪ] 'body'
- b. [ɛgɔ] 'farm'
- c. [ɛka] 'howfar'
- d. [fɔɔ] 'leave'
- e. [jje] 'cook'

Examples of trisyllabic words:

- a. [iřʃeku] 'charcoal'

- b. [adaba] ‘shoe’
- c. [oheji] ‘soup’
- d. [aɲɪfɪ] ‘axe’

Unlike some languages, Neke does not have monosyllabic vowels which can stand on their own and have a correct meaning. This finding indicates a preference for onset-nucleus structures even in minimal word forms. This contrasts somewhat with descriptions of languages like Ika Igbo, which was found primarily to have a CV syllable structure. The preference for CV further reinforces the necessity of considering the word-level phonology, a theme central to Lexical Phonology, which stresses that morphological and phonological rules often interact in the word-building process. The findings in this paper significantly expands the available literature on Igbo dialectology.

Conclusion

This research successfully utilised Autosegmental Phonology (AP) to conduct a preliminary examination of some significant aspects of the Neke variety of Igbo. The findings conclusively demonstrate that AP is a highly effective tool for analysing phonological processes in Neke Igbo, supporting the framework’s move away from the linearity constraints of generative phonology. The study showed that Neke’s vowel deletion consistently operates by eliminating the first vowel in a contiguous sequence at the word boundary, while consonant deletion targets the second segments. Assimilation in Neke exhibited complex directionality, with progressive assimilation uniquely observed irrespective of the lip rounding feature of the target segment, unlike what has been reported in Ipe. Furthermore, the study confirmed that in Neke, pitch contrasts are essential for distinguishing lexical meaning. This descriptive study serves as a critical attempt to lay some foundation in the study of Neke variety of Igbo. This effort makes a significant contribution to the documentation of this Igbo variety.

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