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THE ROLE KĪKAMBA NOUN MORPHOPHONOLOGICAL PROCESSES PLAY IN THE DIALECTAL VARIATIONS OF THE LANGUAGE

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Abstract

This study aimed at showing how Kĩkamba noun morphophonological processes contributed to the dialectal variation in Kĩkamba. The study used two theoretical models; the variationist theory by Labov (1972) and the Natural Generative Phonology by Hooper (1973). Accordingly, a descriptive research design was adopted. The findings of the study revealed that dialectal variation existed within Kĩkamba noun morphophonological processes and that such variations were rule determined. This meant that some Kĩkamba noun morphophonological process rules were not applicable to some dialects of Kĩkamba. For instance; the labialization rule which was applicable to Kĩmasakũ and Kĩkĩlungũ was not applicable to Kĩkĩtui dialect.

Keywords: Morphophonology, Variation, Dialect, Kĩkamba

1. INTRODUCTION

Linguistic variation are differences in the ways that a particular language is used. Linguistic variation may be regional, social or contextual. Variation between languages, dialects, and speakers is known as interspeaker variation (Labov, 1972). Morphophonology, the study of the interplay between morphology (word structure) and phonology (sound system), plays a significant role in language variation. It examines how sound changes affect word formation and how these changes differ across languages or dialects,

contributing to linguistic diversity (Kraimer, 2019). According to Losad (2020), Noun morphophonology, the study of how sound patterns interact with noun morphology, significantly contributes to language variation. It shapes how nouns are formed, inflected, and categorized within a language, leading to diverse patterns across languages and dialects.

This paper focuses on how Kĩkamba noun morphophonological processes contribute to the language's dialectal variation. Mainga

(2023) observes that ‘phonological variation are differences between accents – comes in a variety of forms. Phonological variation in Kĩkamba phonology can be traced back to two main dimensions: A geographic dimension, accounting for a large proportion of the total variability, and a social dimension that regulates variety-internal variation. The geographic distribution includes the composition of the phonemic inventory, the phonotactic patterning of phonemes, their lexical distribution’ (p. 52).

With regards to Kĩkamba dialects, Kĩoko (1994) and Mũtiga (2002) observe that the language has five dialects; the Kĩtui North dialect, the central Kĩtui dialect, Eastern-Southern dialect, and Makuenĩ and Machakos dialects. Maundu said that the Kĩkamba dialects include Kĩmumoni, Kĩngũlya, Kĩkĩlũngũ, North Kĩtui and Kĩmasakũ (Maundu, 1980). Mũtiga (2002) recognizes four major regional dialects which have developed from two regional dialects (Kĩkĩtui and Kĩmasakũ). The Kĩkĩtui dialect is broken into two sub-dialects; Mwingĩ dialect and Kĩtui central dialect. The Kĩmasaku dialect is spoken with some variations in Machakos and Makuenĩ districts (Kĩmasakũ and Kĩkĩlũngũ). The analysis in this study is in close reference to three dialects which are: Kĩmasakũ, Kĩkĩtui and Kĩkĩlũngũ dialects.

A language’s morphophonology is crucial for determining the subtle variations in the dialects of the language and the morphological and phonological processes involved. Literature has shown that the study of the interface between morphology and phonology, particularly in indigenous languages in Africa is necessary for documentation and maintenance. In view of the foregoing, the interplay between morphology and phonology is significant in determining Kĩkamba’s segmental behaviour. Despite all this significance, few studies have been carried out on Kĩkamba morphophonology. However, the few studies that have been done on Kĩkamba based their arguments on verb morphophonology, sound change, tone of the Mwingĩ Dialect of Kĩkamba (MDK), syntax of Kĩkamba noun modification, morphosyntax of Kĩkamba verb and theoretical issues on the Kĩkamba Grammar to mention but a few. The scope of this paper was limited to the role morphophonological processes of the Kĩkamba noun play in the dialectal variations of the language.

2. THEORETICAL FRAMEWORK

The tenets of two theoretical frameworks were used in describing the data in this paper. Variation theory was used in the analysis and description of data for dialectal variations in Kĩkamba language. According to Labov (1960), different people speak differently with regards to their pronunciation and the words they use. Again people from different regions speak differently hence the dialectal classification of languages. The knowledge of speakers with regards to language is different therefore the reason why they speak differently. In view of the foregoing, the current study will employ the tenets of variation theory in order to analyze and describe the data on the dialectal variation of Kĩkamba language which is objective two in this study.

On the other hand, Natural Generative Phonology was used with the analysis of the Kĩkamba noun morphophonological processes. According to Clark and Yallop (1990), the NGP model postulates that the phonological representations of the lexicon and its idiosyncratic phonetic properties of the morpheme be related in a non-arbitrary way. The NGP model thus allows neither abstract segments nor abstract rules. The theory has two main rules namely;

the P-rules and the MP rules. The morphological rules (MP rules) are phonologically arbitrary and therefore language specific and thus exceptional. These rules work together in the analysis of a morphophonemic data. They were helpful in the analysis of the Kĩkamba noun morphophonological processes.

3. RESEARCH METHODOLOGY

The study adopted a descriptive research design and employed qualitative procedures in sampling, data collection and data analysis. Descriptive studies are mainly used to investigate social issues, and they enable researchers to come up with solutions or recommendations on how to deal with the disparities observed (Kothari, 2019). This study was based in South Eastern Region of Kenya specifically in the following sub-counties Kĩtui West Sub-county of Kĩtui County, Mwala Sub-county of Machakos County and Kĩlome Sub-county of Makuenĩ County where the subjects were drawn from. These three Sub-counties were unique because it was where the three dialects of Kĩkamba; Kĩkĩtui, Kĩmasakũ and Kĩkĩlũngũ were observed. . This was informed by Bower (200) who describes a population suitable for a phonological and morphological analysis as ‘the one who have native speakers of the language under study, have all their own teeth, should not have any speech disorders and should not be too young or too old’ (p. 90). These constituted the accessible population defined as ‘that part of the target population which the researcher can practically reach’ (Cresswell, 2020 p. 182).

4. DATA PRESENTATION AND ANALYSIS

Four Kĩkamba noun morphophonological processes were discussed in this paper. These were Nasal palatalization, Nasal assimilation, Labialization and pre-nasalization.

4.1 Nasal Palatalization

The second morphophonological process that emerged was the nasal palatalization. According to Halle (1983), ‘nasal palatalization is a phonetic process where a nasal consonant /n/ acquires a palatal secondary articulation resulting in a sound like /ɲ/ where the tongue touches the hard palate’ (p.34). Data from all Kĩmasakũ, Kĩkĩlũngũ and Kĩkĩtui (S1, S2, and S3) subjects revealed two sets of Kĩkamba nasal palatalization. (cf. Appendix VIII).

The first set was the voiced alveolar nasal /n/ becoming a voiced palatal nasal /ɲ/, and the second set was the voiced bilabial nasal /m/becoming a voiced labio-velar approximant /w/ a process known as denasalization. In the first set, responses from all subjects, S1, S2, and S3 established that the Kĩkamba noun had a voiced palatal nasal /ɲ/, which was a surface realization of voiced alveolar nasal /n/ and did not have any variation across the three dialects of Kĩkamba. In this situation, the underlying voiced alveolar nasal /n/ as in /moni-a^mbo/ ‘lion’, alternated to voiced palatal nasal /ɲ / as in [moⁿja^mbo]. See data [3] below

UF	SF	Gloss
iii. /moni-a ^m bo/ →	[mo ⁿ ja ^m bo]	mũnyambũ (class. 3) ‘lion.’
iv. /ni-am/ →	[ɲamo]	nyamũ (class. 9) ‘snake/animal.’

In all the S1, S2, and S3 subjects, the underlying voiced alveolar nasal /n/ surfaced as a voiced palatal nasal [ɲ] before a high front unrounded vowel /i/. Nasal palatalization was realized the same

way across the three dialects of Kĩkamba, namely, Kĩmasakũ, Kĩkĩtui, and Kĩkĩlũngũ. According to the data [3] above, the underlying /ni-amo/ became [ɲamo] ‘animal or snake’. However, there was a variation in the meaning of the word [ɲamo]. Whereas data from Kĩmasakũ, and Kĩkĩlũngũ subjects, the meaning of [ɲamo] was ‘an animal’, to Kĩkĩtui subjects, [ɲamo] meant ‘snake’. See rule [6] below.

[6]

The rule states that:

‘A non-palatal nasal becomes a palatal nasal before a vowel.’

/n/ → [ɲ] / # _____ /v/

Rule [6] above was formalized in [7] below:

[7]

‘A non-palatal nasal becomes a palatal nasal before a vowel.’

/n/ → [ɲ] / # _____ /v/

Note that rule [7] above applied to all Kĩkamba dialects in relation to [iii] and [iv].

In the second set, the voiced bilabial nasal /m/ became a voiced velar approximant /w/. In this group, in agreement with Katamba (1989), the voiced bilabial nasal /m/ was pronounced with a blocked airflow where the air was redirected through the nose. Its place of articulation was palatal, which meant it was articulated with the middle or back part of the tongue raised to the hard palate (Roach, 2021). See [4] below

[4]

UF	SF	Gloss
v. /mo-angɔ/ → [m ^w angɔ]		‘door’ (cf. appendix xvi)

In [4] above, whereas data from Kĩmasakũ and Kĩkĩlũngũ subjects revealed that the underlying /mo-angɔ/ ‘door’ surfaced as [moangɔ], data from all Kĩkĩtui subjects established that the underlying /mo-angɔ/ ‘door’ surfaced as [m^wangɔ]. This was an indication that to Kĩmasakũ and Kĩkĩlũngũ dialect speakers (coded: S1 and S2), there was no phonological alternation observed, hence no rule was applicable. It remained as [moangɔ]. However, to Kĩkĩtui dialect speakers (S3), the underlying /mo-angɔ/ surfaced as [m^wangɔ]. The rule statement for the above morphophonological alternation for Kĩkĩtui dialect speakers stated that

‘A voiced bilabial nasal /m/ becomes a voiced velar approximant [w] before an open, front and unround vowel /a/.’ Structurally, as shown in rule [8] below.

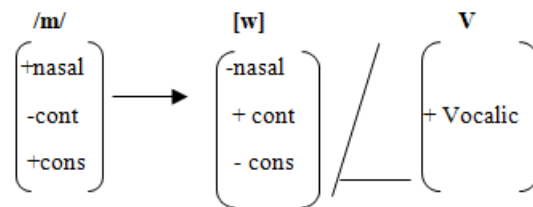
[8]

/m/ → [w] / # _____ /v/

Rule [8] was formalized using the rule statement as in [9] below:

‘A voiced bilabial nasal /m/ becomes a voiced velar approximant [w] before a round back and low vowel.’

[9]



According to the NGP theory, Mp rule [8] had exceptions, from all S1 and S2 subjects. Rule [8] above was only applicable to Kĩkĩtui dialect speakers, but it did not apply to Kĩmasakũ and Kĩkĩlũngũ dialect speakers (cf. data 5 i and ii).

According to the NGP theory, rule [9], which applied to only S3 subjects (Kĩkĩtui dialect speakers) had exceptions, in that it did not apply to S1 and S2 subjects (Kĩmasakũ and Kĩkĩlũngũ dialect speakers).

4.2 Nasal Assimilation

The third morphophonological process that emerged was the nasal assimilation. This is a process that was synchronic in nature. Hayes (1998) notes that, ‘nasals in pre-consonantal position, that is in syllable-coda (both within the word and across-word boundary) assimilate to the place of the following consonant’ (p. 360). The process was demonstrated where alveolar nasal assimilated to the point of articulation of the following consonant. The voiced alveolar nasal /n/ became a voiced bilabial nasal [m] before the bilabial stop /b/. See the data from the subject’s responses from Table 5 (cf. Section 4.2.9). From Table 5, the responses from all subjects established the presence of a morphophonological alternation of nasal assimilation in the Kĩkamba noun. See [6] below

[6]

UF	SF	Gloss
vi. /n-baka/	[^m baka]	‘cat’ (cf. appendix xiv)

Data (cf. table 5.9) from S1, S2 and S3 subjects established that the underlying /n-baka/ surfaced as [^mbaka] across the three dialects of Kĩkamba. When the voiced alveolar nasal prefix /n/ was attached to a root beginning with a bilabial stop /b/ in this case, /n-baka/, the voiced alveolar /n/ alternated to the voiced bilabial nasal /m/ in this case [^mbaka] ‘cat’ across the three dialects of Kĩkamba. Generally, the voiced alveolar nasal sound /n/ assimilated to a voiced bilabial nasal /m/ due to the influence of the bilabial at the beginning of the noun root. The observed Kĩkamba alternation was in agreement with Katamba (1975) and Kraimer (2021), who noted that the voiced alveolar nasal /n/ assimilated to a segment that had the same phonetic features as the one following it. The rule for all three dialects of Kĩkamba about nasal assimilation states that

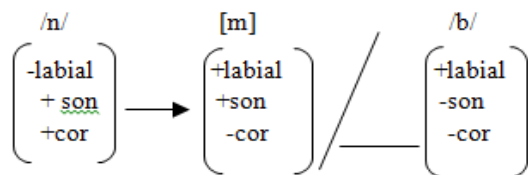
‘The voiced alveolar nasal /n/ becomes a voiced bilabial nasal [m] before a bilabial stop /b/.’ Formalized in [10] below

[10]

/n/ → [m] / # _____ /b/

‘The voiced alveolar nasal /n/ becomes a voiced bilabial nasal [m] before a bilabial stop /b/.’ Rule [10] was formalized in [11] below.

[11]



Note that rule [11] applied to all dialects and had no exceptions. According to the NGP theory, rule [11] was an MP rule that was a naturally generated rule applicable across all the dialects of Kĩĩkamba.

However, about the token, ‘*nth-akame*’ as in /*n- ðakame*/ ‘*Blood*’, rule [11] did not apply to Kĩĩmasakũ and Kĩĩlũngũ dialects due to its structural description not being met. For instance, there were cases where the voiced alveolar nasal /*n*/ did not undergo any alternation when it preceded a noun root beginning with an interdental fricative /*ð*/ (cf. Appendix X). See data [7] below.

[7]

UF	SF	Gloss
i. / <i>n- ðakame</i> /	[<i>n ðakame</i>]	‘blood’
ii. / <i>n- ðia</i> /	[<i>n ðia</i>]	‘antelope.’

The rule for data [7] above, where the voiced alveolar nasal /*n*/ preceded an inter-dental fricative /*ð*/ was only applicable to the Kĩĩmasakũ and Kĩĩlũngũ dialect speakers. The voiced alveolar nasal /*n*/ and interdental fricative /*ð*/ were not homorganically articulated; their phonetic distance was minimal. This observation aligns with Mberia (1993), who was of the view that human languages did not have interdental nasals. In as such, the voiced alveolar nasal /*n*/ sequence did not have room for /*n*/ to further assimilate to the inter-dental fricative /*ð*/ (p. 142)

Data for Kĩĩtũi dialect speakers behaved differently. In this dialect, a voiced alveolar nasal /*n*/ preceding a voiced alveolar fricative /*z*/ as in data [8] below;

[8]

UF	SF	Gloss
/i. / <i>n-zakame</i> /	[<i>nzakame</i>]	‘blood’ (cf. appendix x)
ii. / <i>n-zia</i> /	[<i>nzia</i>]	‘antelope’ (cf. appendix xiii)

In both cases, the structural descriptions of the MP rule were not met, hence there was no nasal assimilation.

4.3 Labialization

The fourth morphophonological alternation that emerged was labialization. According to Krammer (2021), labialization is a secondary morphophonological articulatory alternation. This means that Kĩĩkamba had an addition of an approximant articulation. In this process, a non- labial sound becomes labialized due to the influence of a neighbouring labial sound. The responses from all subjects were attested in the selected data [9] below

[9]

UF	SF	Gloss
i. / <i>mo-angɔ</i> /	[<i>m^wangɔ</i>]	‘door’ (cf. Appendix xvi)
ii. / <i>mo-ekɔ</i> /	[<i>m^wekɔ</i>]	‘serving spoon’ (cf. Appendix xvii)

Basically, in [9] above, the voiced bilabial nasal /*m*/ acquired /*w*/ colouring before a back rounded vowel /*o*/ or a front unrounded vowel /*e*/. The above statement was captured in rule [12] below

[12]

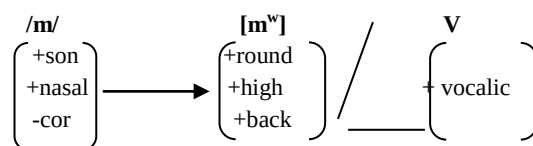
‘A voiced bilabial nasal /*m*/ acquired /*w*/ colouring before a vowel’

/*m*/ → [*m^w*] / _____ /*v*/

Rule [12] applied to all Kĩĩkamba dialect speakers. This was evidenced by data from all Kĩĩmasakũ, Kĩĩlũngũ and Kĩĩtũi S1, S2 and S3 subject responses where the underlying /*mo-angɔ*/ surfaced as [*m^wangɔ*] ‘door’, and the underlying /*mo-ekɔ*/ surfaced as [*m^wekɔ*] ‘serving spoon’. Rule [12] was formalized as in [13] below

[13]

‘A voiced bilabial nasal /*m*/ acquired /*w*/ colouring before a vowel’



However, from the researcher’s intuition as a native Kĩĩkamba speaker and in agreement with Katamba (1989), MP rules have exceptions. For instance, rule [13] had exceptions if data [11] i and ii was anything to go by.

[10]

UF	SF	Gloss
i. / <i>mo-asia</i> /	[<i>moa/a</i>] or [<i>m^wa:/a</i>]	‘name of a male person.’
ii. / <i>mo-εke</i> /	[<i>moεke</i>] or [<i>m^w ε:k ε</i>]	‘name of a male person.’

In data [10] above, from Kĩĩmasakũ, Kĩĩlũngũ point of view, the underlying /*mo-asia*/ surfaced as [*moa/a*], and the underlying /*mo-εke*/ surfaced as [*moεke*] ‘names of a male person’. In this case, the labialization rule, particularly to S1 and S2 subjects, did not apply. This implied that rule [13] was exceptional and was not applicable in all Kĩĩkamba dialects. Consider the case of Kĩĩtũi dialect [S3], the underlying /*mo-asia*/ surfaced as [*m^wa:/a*] and /*mo-εke*/ surfaced as [*m^w ε:k ε*] in agreement with rule [13] above. In this case, labialization took place, an indication that rule [13] was only applicable to Kĩĩtũi dialect speakers.

Whereas labialization took place in Kĩĩtũi (S3) subjects, the alternation came with another process of vowel lengthening. After the labialization process of /*mo-asia*/ and /*mo-εke*/ in the underlying representation, they surfaced as [*m^wa:/a*] and [*m^w ε:k ε*] respectively. Note that the low, back, and rounded vowel /*a*/ in [*m^wa:/a*] was phonetically lengthened after the labialization rule. The same case applied to [*m^w ε:k ε*] where the close-mid, front and unround vowel /*ε*/ was phonetically into [*m^w ε:k ε*] after the labialization rule.

4.4 Pre-nasalization

The fifth morphophonological alternation that emerged was pre-nasalization. The pre-nasalized consonants are phonetic sequences of a nasal and an obstruent that behave like a single consonant (Anastacia, 2008). Responses from all Kĩĩmasakũ, Kĩĩlũngũ and Kĩĩtũi dialects subjects to the structured interview questions while

naming of wild and domestic animals (cf. Appendices xiii and xiv) yielded data [12] below

[12]

UR	SF	Gloss
i. /n-baka/	[^m baka]	‘cat.’
ii. /n-biti/	[^m biti]	‘hyna’
iii. /n-ðia/	[ⁿ ðia] or [ⁿ zia]	‘antelope’ (cf. table 4) ‘Names of wild animals’

In data [12] above, a voiced alveolar nasal /n/ becomes either / n/ or /m/ before a consonant like /b/. See formalized rule [14] below:

‘A voiced alveolar nasal /n/ becomes /n/ or /m/ before a consonant.’

$$[14] \quad /n/ \longrightarrow \left\{ \begin{matrix} m \\ n \end{matrix} \right\} / \# \text{---} \left\{ \begin{matrix} \text{consonantal} \end{matrix} \right\}$$

Rule [14] was formalized in [15] below:

[15]

$$\begin{matrix} /n/ \\ \left(\begin{matrix} +\text{cor} \\ -\text{labial} \end{matrix} \right) \end{matrix} \longrightarrow \left\{ \begin{matrix} \left(\begin{matrix} -\text{cor} \\ +\text{labial} \end{matrix} \right) \\ \left(\begin{matrix} +\text{cor} \\ -\text{labial} \end{matrix} \right) \end{matrix} \right\} / \# \text{---} \left(\begin{matrix} +\text{consonantal} \end{matrix} \right)$$

Rule [15] applied particularly for data [12] i and ii above. It applied to all the three dialects of Kĩkamba and there were no exceptions. This basically meant that to all the respondents from all three sub-counties, the underlying /n-baka/ surfaced as [^mbaka] ‘cat’ and the underlying /n-biti/ surfaced as [^mbiti] ‘hyena.’

However, rule [15] had exceptions, particularly to data [12] iii above. The underlying /n-ðe/ surfaced as [ⁿðe] or [ⁿze] ‘earth’. Whereas to all Kĩmasakũ and Kĩkĩlũngũ dialect speakers, the underlying /n-ðe/ surfaced as [ⁿðe] ‘earth’, to all S3 subjects (Kĩkitũi dialect speakers), the underlying /n-ðe/ surfaced as [ⁿze]. In this case, there was phonetic variation with Kĩmasakũ and Kĩkĩlũngũ subjects on the one hand and Kĩkitũi subjects on the other, particularly to data iii. Therefore, rule [15] was exceptional in that it did not apply across the board in all the Kĩkamba dialects. The rule for the above variation can be stated as

‘A voiced alveolar nasal /n/ pre-nasalizes before an interdental continuant / ð/ or the voiced alveolar fricative /z/ followed by a vowel /e/. See [16] below:

‘A nasal /n/ pre-nasalizes / ð / or /n/ before a vowel /e/’

[16]

$$\begin{matrix} /n/ \\ \left(\begin{matrix} +\text{cor} \\ -\text{labial} \end{matrix} \right) \end{matrix} \longrightarrow \left\{ \begin{matrix} \left(\begin{matrix} -\text{strident} \\ +\text{voice} \end{matrix} \right) \\ \left(\begin{matrix} +\text{strident} \\ +\text{voice} \end{matrix} \right) \end{matrix} \right\} / \# \text{---} \left(\begin{matrix} +\text{vocalic} \end{matrix} \right)$$

Rule [16] exhibited a homorganic sequence of nasal and consonantal segments, which together exhibited the approximate surface duration of sound pronunciation simplification. A sound was simplified to reduce the duration of articulation (Katamba 1989). For instance, /n-baka/ took a longer duration to articulate, hence pre-nasalized to [^mbaka] ‘cat’, to ease of articulation.

5. CONCLUSION

Kĩkamba noun morphophonological processes play a critical role in shaping the language’s dialectal variations. These processes present themselves as the structural stepping stones that differentiate Kĩkamba regional speakers. Variations in how different dialects handle the morphophonological alternations of; nasal palatalization, nasal assimilation, labialization and pre-nasalization, directly account for the distinct phonetic shapes that Kĩkamba noun take across Kĩkamba-speaking regions.

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