Descriptive Analysis Of Complementary Distribution In Kihavu

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Abstract

The present work entitled “Descriptive analysis of complementary distribution in Kihavu” investigates the linguistic circumstances under which this linguistic phenomenon, known as complementary distribution, occurs. The study is confined to the phonemes /l, h/ and their allophones // l, d, h, p//. The study also strives to establish phonological rules which govern the phenomenon. The result shows that the phonemes / l, h/ vary according to their environments for the sake of ease pronunciation. The two elements in distribution are exclusive. To carry out this investigation, observation, interaction and books reading were used.

1. INTRODUCTION

In any natural language, sounds tend to be influenced by their environments (Pike 1947)\(^1\). A phoneme is made up of certain features that are basic to it. When a phoneme occurs in certain phonetic environments, one or more of its features may undergo some alteration caused by those environments. In phonetics, rules may be established by linguists to predict the environment in which the sound changes take place. They are called phonological rules. (John Goldsmith 1995)\(^2\) defines phonological rules as mappings between two different levels of sound representation— in this case, the abstract or underlying level and the surface level. (Bruce Hayes 2009)\(^3\) describes them as generalisations about the different ways a sound can be pronounced in different environments. That is to say, phonological rules describe how, a language speaker goes from the abstract representation stored in his brain, to the actual sound he utters when speaking. In general, phonological rules start with the underlying representation of a sound (the phoneme that is stored in the speaker’s mind) and yield the final surface form or what the speaker actually utters.


Kashinzwe Mwira Marcellin: Descriptive Analysis of Complementary Distribution in Kihavu

(Bruce Hayes 2009) lists the following characteristics that all phonological rules have in common:

i.) **Language specificity**: A phonological rule that is present in one language may not be present in other languages or even in all dialects of a given language.

ii.) **Productivity**: Phonological rules apply even to new words.

iii.) **Untaught/unconscious**: Speakers apply these rules without being aware of it and they acquire the rules early in life without any explicit teaching.

iv.) **Intuitive**: The rules give speakers insights about what words are “well-formed”. If a speaker hears a word that does not conform to the language’s phonological rules, the word will sound foreign or ill-formed.

The present article will be confined to complementary distribution applied to phonology. The distribution of the allophones of two phonemes /l, h/ will attract the researcher’s attention.

In data collection, observation, interactions with people as well as books reading were used. This aspect has already been described scientifically in English, Russian, etc. However, none of the kind has been done in Kihavu yet. It is this lack of such a scientific description that raised the curiosity but also the fact of being a native speaker of Kihavu, which is still unexplored. The research strives to answer the question hereafter: Does complementary distribution in Kihavu comply with any rule?

2. DESCRIPTIVE ANALYSIS OF COMPLEMENTARY DISTRIBUTION IN KIHAVU

Complementary distribution may comply with some rules governed by the environment in which the element subject to distribution is found. The Kihavu concerned with is the one spoken in Idjwi territory.

2.1 Complementary Distribution In Kihavu

It is the relationship between two different elements of the same kind, where one element is found in one set of environments and the other element is found in a non-intersecting set of environments. It often indicates that two superficially different elements are the same linguistic unit at a deeper level. Complementary distribution is commonly applied to phonology, where similar phones in complementary distribution are usually allophones of the same phoneme. In English, for example, /p/ and /p°/ are allophones of the phoneme /p/ since they occur in complementary distribution.

/p°/ always occurs when it is the syllable onset and followed by a stressed vowel (as in the word *pin*). /p/ occurs in all other situations (as in the word *spin*).

It can also be applied in the analysis of word forms (morphology). Two different word forms (allomorphs) can actually be different “faces” of one and the same word (morpheme). For example, the English indefinite articles “a” and “an”. The form “a” is used in the environment before a word beginning with a consonant sound. The other is used in the environment before a word beginning with a vowel sound. The forms “a” and
“an” work together like a team in order to take care of every instance where the English indefinite article is needed. Complementary distribution is thus the mutually exclusive relationship between two phonetically similar segments. It exists when one segment occurs in an environment where the other segment never occurs.

### 2.2 Phonemes Description

As it has been pointed out earlier the phonemes /l, h/ will be concerned with the description together with their allophones since they are the ones which are being dealt with in the present article.

According to (Ruhekenya 2008)\(^5\), in his course in African Linguistics, /l/ is a lateral, alveolar sound; /h/ is a fricative, glottal, voiceless sound. However, when these sounds come in contact with others, they may obviously lose some of their features, if not all, to become more like nearly sounds. That is, /l/ may become /d/ and /h/ may become /p/.

/\d/ is a plosive, dental, voiced sound; /p/ is a plosive, bilabial, voiceless sound.

#### 2.2.1 Phonetic change (1)

Consider the following pair of words:

- **Kuloga** = to bewitch  
  - **Ondoge** = you bewitch me
- **Kulega** = to accuse  
  - **Ndogeru** = accuse for me
- **Kulema** = to create  
  - **Kunyemera** = to make me
- **Kuluha** = to tire  
  - **Kunduhula** = to relax me
- **Kuluma** = to bite, to sting  
  - **Onduma** = you bite me, you sting me
- **Kulinga** = to wait for  
  - **Kundinga** = to wait for me
- **Kulola** = to see, to look at, to watch  
  - **Ndola** = see me, look at me, watch me
- **Kulemba** = to breed, to look after  
  - **Kundembera** = to breed for me
- **Kulwa** = to fight  
  - **Ndwa** = I (always) fight
- **Kuloba** = to fish with a stick  
  - **Ndobera** = fish for me
- **Lulevu** = (one) beard  
  - **Ndoveru** = a lot of beard
- **Lulimi** = a tongue, a language  
  - **Endimi** = tongues, languages
- **Kulya** = to eat  
  - **Ondye** = you eat me
- **Kulula** = to embetter  
  - **Endulo** = bitterness, bile
- **Kulondola** = to choose, to select  
  - **Kunondolera** = to choose / select for me

After a morphological analysis, it has been found that //l// and //d// in the word stems (verbal and nominal stems) above, are different manifestations of the phoneme /l/. The allophone //l// can never occur in the environment of the allophone //d//, neither can //d// occur in the environment of //l//. They are mutually exclusive, so //l// and //d// are in complementary distribution.

**e.g:** **Kulya**  
- **Ondye**  
  - “ku-li-a = to eat”  
  - “o-n-li-e = you eat me”

In “ondye” = “you eat me”, the phoneme /l/ of the verbal stem °-li- has lost its two basic features but it has also gained two more new basic features due to the new environment.
/l/, which is naturally lateral, and voiceless, changes into plosive, dental and voiceless because of /n/, which is nasal, dental and voiceless. There is a case of progressive partial assimilation.

Rule 1: /n/ ND + /l/ LA → /n/ ND /+ /d/ DP
The rule is read as /n/ nasal, dental followed by /l/ lateral, alveolar becomes /n/ nasal, dental followed by /d/ dental, plosive.

2.2.2 Phonetic change (2)
Consider the following pairs of words:

- Kuhinduka = to turn / change into  Mphinduka = turn / change into me
- Kuhisa = to burn  Mphisa = burn me
- Kuhema = to ask  Ompeme = ask me
- Kuhinga = to cultivate  Mpinga = I (always) cultivate
- Kuhemba = to reward  Ompembe = you reward me
- Kuhonga = to pay a fine  Empongo = a fine
- Kuhankanika = to hang  Mpanikira = hang for me
- Kuha = to give  Ompe = you give me
- Kuhima = to win  Osampima = you will not win me
- Kuhamba = to bury  Ompambire = you bury for me
- Kuhakana = to swear  Empakano = a swearword
- Kuhwa = to short of energy  Mpwere = I am short of energy
- Kuhena = to fall down  Mpenya = make me fall down
- Kuhenza = to lose  Mpenza = lose me

A morphological analysis proves that /h/ and /p/ in the word stem (verbal and nominal stems) are different manifestations of the phoneme /h/. The allophone /h/ can never occur in the environment of the allophone /p/. Neither can the allophone /p/ occur in the environment of the allophone /h/. They are mutually exclusive, so /h/ and /p/ are in complementary distribution.

E.g.: Kuha  °ku-h-a = to give
     Ompe  °O-n-h-e = you give me

In “ompe” = “you give me”, the phoneme /h/ of the verbal stem °-h- has lost its two basic features but it has also gained two other basic features due to the newly acquired environment. /h/, which is naturally fricative, glottal and voiceless, changes into plosive, bilabial and voiceless because of /m/, which is nasal, bilabial and voiceless. Furthermore, it is worth reminding that /m/, itself, is an allophone of the phoneme /n/ as it is clearly indicated in the upper analysis. As a matter of fact, the phoneme /n/ has influenced the phoneme /h/ and vice versa. There is a case of reciprocal assimilation.

Rule 2: /n/ ND + /h/ FG → /m/ NB + /p/ BP
The rule is read as /n/ nasal, dental followed by /h/ fricative, glottal which becomes /m/ nasal, bilabial followed by /p/ bilabial, plosive.
3. Conclusion
The present work has tried to look into complementary distribution in Kihavu by describing some of the rules, which are already known by any native speaker of Kihavu although he may not be able to explain these rules. After the description, it is obvious that the phenomenon called “complementary distribution” is not entirely random but rather rule-governed. The description has led to rules establishment which may predict the phoneme variation. Furthermore, it has been revealed that complementary distribution, as attested in Kihavu, is a case of phonetic change but not a case of phonemic change.

Kihavu native speakers resort to complementary distribution for the sake of ease of articulation or pronunciation. Indeed, because of assimilation, a sound may become either partially or wholly similar to the preceding or the following one in certain combinations. As (Hocket 1958) puts it forward, “It makes one part of an utterance more like some nearby part in phonetic shape. When two parts are adjacent, this may occur gradually as part of some change”
The phonemes dealt with are / l, h /. When they are adjacent to the nasal / n /, they lose some of their features to gain others which are shared by the nasal / n /. Thus / l, h / yielding // d, p // respectively in this environment. In an intervocalic environment or at the initial position, the phonemes / l, h /yielding / l, h / respectively.

\[
\begin{array}{c}
/ l/ & \leftrightarrow & // l// \\
& \leftrightarrow & / h/ \\
// d// & \leftrightarrow & // P//
\end{array}
\]

The present research is not exhaustive. It leaves the door open for any prospective researcher willing to deepen the issue. However, the description has brought novices as well as linguistics students closer to some logics in the functionality of Kihavu, which shares certain universalities with other natural languages.

4. Symbols And Abbreviations
//: Phonemic Representation
// //: More Phonemic Representation
°: Structural Form
ND: Nasal Dental
LA: Lateral Alveolar
DP: Dental Plosive
FG: Fricative Glottal
NB: Nasal Bilabial
BP: Bilabial Plosive
V-V: Vowel Middle Position Vowel
-V: Initial Position Vowel
ISP: Institut Supérieur Pédagogique
5. REFERENCES


