

An Analysis of phonological processes in Kisundi Kimongo

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Résumé

Cette étude porte sur l'analyse des phénomènes phonologiques de la variété du Kisundi parlée à Kimongo en République du Congo. Les données de cette étude ont été collectées dans le Département du Niari. Cette étude est basée sur l'approche générative. Il résulte de ce travail que le Kisundi de Kimongo réalise deux types de procédés phonologiques liés, d'une part, aux consonnes et d'autre part, aux voyelles. Pour les consonnes, il s'agit des phénomènes d'assimilation à savoir la labialisation, la vélarisation, la labio-dentalisation, l'avéolarisation, la glottalisation et le voisement. Les procédés phonologiques liés aux voyelles sont la labialisation et la palatalisation.

Mots clés : procédés phonologiques, théorie générative, phonologie, Kisundi Kimongo, assimilation

Abstract

This study deals with the analysis of phonological processes based on a Kisundi dialect spoken in Kimongo in the Republic of Congo. Data are collected at the Department of Niari. This work is carried out under the generative theory framework. It results from this scrutiny that Kisundi Kimongo attests two types of phonological processes related to its phonemic system. Consonant change is due to assimilation processes notably labialization, velarization, labiodentalization, alveolarization, glottalization and devoicing. Vowels, on the contrary, can be altered thanks to labial and palatal assimilation.

Keywords: phonological processes, generative theory, phonology, Kisundi Kimongo, assimilation

Introduction

The main aim of this paper is to discuss the different phonological operations which take place in the three dialects under analysis. Put otherwise, we are concerned with the different ways in which sounds are affected given the features of other sounds around them. Accordingly, it is observed by Katamba (1989: 79-80) and Donald (1990: 21-22) that phonological units have two behaviours, either they change and receive categorically or partially features from others or they do not. The first operation is referred to as assimilation, while the second is regarded as dissimilation.

Assimilation is referred by Pavlik (2010:2) as a '*contextual variability of speech sounds, which is said to be caused by the influence of one sound upon another*'. Similarly, Jarmila & Jirka (2010:5) write '*assimilation is a process by which a sound becomes more alike a nearby sound*'. Pavlik and Jarmila

consideration of assimilation means that assimilation is the modification of sounds in order to resemble to some other sounds in its neighborhood. This paper addresses the following questions notably (i) What are the phonological processes related to Kisundi Kimongo consonants? What are the phonological processes related to Kisundi Kimongo vowels? Indeed, this section is organized into two main parts namely the consonantal phonological processes and the vocalic phonological processes

I- Kisundi Kimongo linguistic overview

I.1 Linguistic history and classification

By proto Suundi, I mean the people before Suundi. That is to say, the ancestor of Suundi or the Suundi people who were not yet Suundi: the primitive Suundi. All along the history, those people are referred to as Koongo broadly speaking (André Jacquot 1975, Bouka and Ndamba 1992, Bruno Pinço and Dominique Ngoï-Ngalla1990). Thus, bantuists such as Laman (1912) and Schwartz (1992) agree to say that Bakoongo, that is Koongo people, are Bantu issued from Bantu migration. Correspondingly, Mata Gabin and Phil Darwin (2016) argue:

‘il y a trois ou quatre mille ans environs, les bantu migrent depuis les hauts plateaux des actuels Nigeria et Cameroun appelés Grassfield pour aller vers le Sud et l’Est. Au premier millénaire, deux zones sont connues : la région des grands lacs et les plateaux oubanguiens d’où proviennent la plupart des populations du Congo actuel’.

Indeed, the term ‘Suundi’ is actually used to represent a large family, a large clan and a large group. That is, not only our concern is with one group or one clan of Suundi people as there are many such as: Suundi-Ngwaadi, Suundi-Londela-Kayes, Suundi-Kindamba or Mayama, Suundi-Nkeleke, Suundi-Boko, Suundi-Kimongo, Suundi-Kifuma and Suundi-Boko-Songho, but with the Suundi in the large sense of the term. That is to say, the origin of Suundi people is about their origin in a very large sense. In fact, let us consider the following Kikoongo declaration:

‘yeto/beto ku Koongo dya ntontila ta tuuka/fuma ’

This declaration is made by Koongo people namely Suundi, Doondo, Kaamba, Koongo, Hangala, and Beembe. They all propound originating from Koongo dya Ntontila. The classification of Suundi dialects here alludes to specify the family group to which they belong to. Put otherwise, this section presents the classificatory label under which Suundi language varieties are classified. Indeed, Kisuundi is part of the number of Bantu languages. Kisuundi-Kimongo is a Suundi H13 dialect. Therefore, it is a southern Bantoid sub-group dialect from the Koongo group language. This variety is referred to by Jacquot (1971:6) as H13b.

Obviously, Suundi people are from Nsundi province. Hence, Mabiala (1999:11) asserts that:

‘Les Soundi comme les Doondo, les Kougni [...], proviennent de la province Nsoundi du royaume Koongo sur la rive gauche du fleuve, un peu en aval de Luozi. Venus en plusieurs vagues notamment deux: les premières vagues occupèrent l’Ouest de la région de Kimongo et le plateau Doondo. La deuxième vague s’est dirigée vers le nord-est où ils occupent la région de Minjoul jusqu’à la loufoulakary’.

Indeed, Suundi are located in DRC (at Luozi), in Angola (at Cabinda) and in Congo at Bouenza (Boko-Songho), Pool (Kindaamba, Mayama, Boko, and Kinkala), and Niari (Kimongo and Londela-Kayes). In this work, we lay emphasis on the Suundi people located in Kindamba (Pool department), Kimongo (Niari department) and Londela-Kayes (Niari department).

1.2 Linguistic features

Phonologically, Kisuundi-Kimongo has twenty-seven consonant phonemes.

Manners of articulation	Places of articulation				
	Bilabials	Labio-dentals	Alveolars	Palatals	Velars
<i>Stops</i>	p b		t d		k
<i>Pren. Stops</i>	mb		nd		ng
<i>Nasals</i>	m		n	ɲ	ŋ
<i>Fricatives</i>		f v	s z		h
<i>Pren. fricatives</i>		mf mv	nz		
<i>Affricates</i>		pf bv	ts dz		
<i>Pren. affricates</i>		mbv	ndz		
<i>Lateral</i>			l		
<i>Approximants</i>	w			j	

Table 1: the consonantal system of Kisuundi-Kimongo

The figure (1) reveals that Kisuundi-Kimongo attests a consonantal system of twenty-nine (29) phonemes wherein five bilabials (p, b, mb, m and w), seven labio-dentals (f, v, mf, mv, pf, bv and mbv, eleven alveolars (t, d, nd, n, s, z, nz, ts, dz, ndz and l), two palatals (ɲ and j) and four velars (k, ng, ŋ and h). It also reveals that, except for /mf/, all prenasalised are voiced. The next figure shows Kisuundi Kimongo vowels.

Tongue raising degree	Tongue part and lip rounding		
	Front unrounded	Back unrounded	Back rounded
High	i		u
Mid	e		o
Low		a	

Table 2: the vocalic system of Kisuundi-Kimongo

It comes out from (2) that the language attests two categories of vowels namely the front vowels for instance /i/ and /e/ and back vowels for example /a/, /u/, and /o/. Furthermore, it appears that the front vowels are of two kinds: high /i/ and mid /e/, notably. While the back vowels are threefold high /u/, mid /o/ and low /a/. Finally, it can be said that the language attests two high vowels /i/ and /u/, two mid vowels /e/ and /o/ and one low vowel /a/.

II. Phonological processes

This section considers the different natural processes which takes place in Kisuundi-Kimongo regarding consonants and vowels.

II.1 Consonantal Phonological processes

The language attests the following consonantal operations constrained either by consonants or by vowels.

II.1.1 Processes in which consonants constrain consonants

This part discusses the different place assimilation operations attested in Kimongo in which a consonant is influenced by another consonant in its neighborhood. Consequently, the example below is given as an example:

(1)

a)	/N-basi/	→	[mbasi]	tomorrow
	/N-bua/	→	[mbwa]	dogs
b)	/N-guba/	→	[ŋguba]	Peanuts
	/N-gela/	→	[ŋgela]	money
c)	/N-vula/	→	[ɲvula]	rain
	/N-vumbi/	→	[ɲvumbi]	corpse
	/N-bvwama/	→	[ɲbvwama]	rich person

Three things can be observed from (1a). First of all, in (1a), /N-/ becomes /m/ when occurring before a voiced bilabial stop /b/. This place assimilation operation referred to as nasal assimilation is also referred to as **bilabialization**.

With a rule [1]:

$$\left[\begin{array}{c} \text{Nasal} \\ -\text{bilab} \end{array} \right] \longrightarrow \left[\begin{array}{c} \text{Nasal} \\ +\text{bilab} \end{array} \right] \left/ \begin{array}{c} - \\ +\text{bilab} \end{array} \right. \text{Stops}$$

Next, (1b) reveals that a Nasal (N) becomes a velar nasal [ŋ] when it occurs before a velar stop /g/. With a rule [2]:

$$\left[\begin{array}{c} \text{Nasal} \\ -\text{velar} \end{array} \right] \longrightarrow \left[\begin{array}{c} \text{Nasal} \\ +\text{velar} \end{array} \right] \left/ \begin{array}{c} - \\ +\text{velar} \end{array} \right. \text{Stops}$$

As a matter of fact, Abercrombie (1967:63), Pavlik (2019: 15), and Laver (1994:325-326) refer to such a variation as **velarization**.

Finally, (1c) shows that the Nasal (N) alters into the labiodentalized nasal form [ɱ] in front of labiodentals. With a rule [3]:

$$\left[\begin{array}{c} \text{Nasal} \\ -\text{lbd} \end{array} \right] \longrightarrow \left[\begin{array}{c} \text{Nasal} \\ +\text{lbd} \end{array} \right] \left/ \begin{array}{c} - \\ +\text{labialised} \end{array} \right. \text{Stops}$$

This process is referred to as **labiodentalization**.

II.1.2 Processes in which vowels constrain consonants

This subsection analyses the different phonological operations in which the assimilator, the environment causing the change, is a vowel. The example (4) below can be taken as an illustration:

(4)	CS	Proto-Bantu	Kisuundi-Kimongo	Meaning
a)	1613	pud	(ku)-fula	blow
	1552	pin	(ku)-finá	press
b)	1255	kóidi	(mu)-fwíidi	widower
c)	151	bitá	mvítá	problems
	225	búdà	mvúlà	rain
	219	búà	vwà	nine

It emerges from (4) that the non-labiodental phonemes /p/ and /k/ change into [f] in Kisuundi-Kimongo in front high vowels, while /b/ alters into /mv/ and /v/ in the same environments. This transparent phonemic articulatory assimilation known as Labiodentalization also regarded as labiodental assimilation can be presented as follows.

With a rule [5]

$$\left[\begin{array}{c} \text{Stop} \\ \text{Labialised} \end{array} \right] \longrightarrow \left[\begin{array}{c} \text{Fricative} \\ \text{Labialised} \end{array} \right] \left/ \begin{array}{c} \text{High} \\ \text{Low} \end{array} \right.$$

Indeed, the example (4a, 4b and 4c) shows that the Proto-Bantu phonemes /p/, /k/ and /b/ vary both in place of articulation and in manner of articulation. Obviously, related to the place of articulation, the bilabials /p/ and /b/ become the labiodentals /f/, /mv/ and /v/. As the manner of articulation is concerned, seen as stops, /p/, /k/ and /b/ change into the fricatives /f/, /mv/ and /v/, respectively.

Let us consider the examples (6) below:

	CS	Proto-Bantu	Kindamba	meaning
a)	2054	yiki	mwísi	smoke(n), steam
	2159	yúki	jósi	honey
b)	328	cep	(ku)-seha	laugh
	1511	pici	(ki)-hisi	bone
c)	958	juudi	(ma)-zusi	yesterday
	919	jad	(lu)-zala	finger nail

Three changes are observable from the example 6. As the points of fact, in (6a and b), the Proto-Bantu phoneme /k/ is realized as [s] in Kimongo in the environment of /i/.

With a rule [7]

$$\left[\begin{array}{c} \text{Velar} \\ \text{Stop} \end{array} \right] \longrightarrow \left[\begin{array}{c} \text{Alveolar} \\ \text{Fricative} \end{array} \right] / \begin{array}{c} \text{High} \\ \text{Low} \end{array}$$

The rule [7] is referred to as **alveolarization**.

However, (4b) shows that /p/ in Proto-Bantu changes into [h] when it occurs in front of a vowel. With a rule [8]

$$\left[\begin{array}{c} \text{Bilabial} \\ \text{Stop} \end{array} \right] \longrightarrow \left[\begin{array}{c} \text{Glottal} \\ \text{Fricative} \end{array} \right] / \text{Vowel}$$

The rule [8] can be regarded as **glottalization**, a place assimilation process wherein a non glottal sound becomes a glottal in front of a vowel.

Finally, (4c) indicates that the phoneme /j/ alters into [z] before a vowel.

With a rule [9]

$$\left[\begin{array}{c} \text{Palatal} \\ \text{Fricative} \end{array} \right] \longrightarrow \left[\begin{array}{c} \text{Alveolar} \\ \text{Fricative} \end{array} \right] / \text{Vowel}$$

The process on (9c) is referred to as alveolarization

Another supra-dialectal phonological operation attested in this dialect is exemplified with the illustration below:

(10)				
CS	Proto-Bantu	Kimongo	Meaning	
336	Cigi	siki	horn	
1697	Teg	(ku)-teka	sell	
754	Gab	(ku)-kaba	share, divide	

It emerges from the data above that Kimongo turn into voiceless the Proto-Bantu voiced velar phoneme /g/ in front of a vowel. With a rule [11]

$$/ +V / \longrightarrow [_ V] / _ -V$$

As the point of fact, the rule is referred to as **devoicing**.

II.1.3 Vocalic phonological processes

The language attests the following processes based on vowels:

Labial assimilation

Let us consider the following examples:

(12)				
	/nduenga/	→	[nd ^w enga]	intelligence
	/kuluata/	→	[kul ^w ata]	wear
	/kuluika/	→	[kul ^w ika]	dress

It comes out from (12) that the back rounded vowel /u/ becomes [w] when it is followed by another vowel except /o/.

With a rule [13]:

/u/	→	[w]	/_/e, a, i/
	→		Elsewhere

Palatal assimilation

The language illustrates palatal assimilation also regarded as palatalization as follows:

(14)				
	/kubieka/	→	[kub ⁱ eka]	baptize
	/miaka/	→	[m ⁱ ata]	itch (n)
	/kukiona/	→	[kuɟ ⁱ ona]	smooth

In the above data, /i/, the voiced front high vowel changes into [i] in Kimongo when it occurs in front of another vowel. With a rule [15]:

/i/	→	[i]/-V
	→	Elsewhere

3.5.2.2 Vocalic phonological processes

The language attests the following processes based on vowels:

Labial assimilation

Let us consider the following examples:

(16)				
	/nduenga/	→	[nd ^w enga]	Intelligence
	/kuluata/	→	[kul ^w ata]	Wear
	/kuluika/	→	[kul ^w ika]	Dress

It comes out from (16) that the back rounded vowel /u/ becomes [w] when it is followed by another vowel except /o/.

With a rule [17]:

/u/	→	[w]	/_/e, a, i/
	→		elsewhere

Palatal assimilation

The language illustrates palatal assimilation also regarded as palatalization as follows:

(18)				
	/kubieka/	→	[kub ⁱ eka]	Baptize
	/miaka/	→	[m ⁱ ata]	itch (n)
	/kukiona/	→	[kuɟ ⁱ ona]	Smooth

In the above data, /i/, the voiced front high vowel changes into [i̥] in Kimongo when it occurs in front of another vowel. With a rule [19]:

/i/	→	[i̥]/-V
	→	Elsewhere

Conclusion

This contribution offers a phonological scrutiny of Kisundi dialect drawing data from Kimongo variety. It examines the different phonological processes which concern consonants and vowels of that variety. It transpires from our discussion and data interpretation that there are two kinds of phonological processes which constraint Kisundi Kimongo phonemic system. In this respect, the natural process which can account for consonant phoneme changes are labialization, velarization, labiodentalization, glottalization, devoicing and alveolarization. Next, vocalic sounds can be affected under labialization and palatalization. As things stand, we can assume all those processes can be summarized in terms of assimilation process. In fact, one can observe from data presented in this paper that either consonants or vowels can change into another phoneme based on assimilation of the place of articulation and the assimilation of voicing.

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