

The Olunyala (K) Syllable Onset

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Abstract- Olunyala(K) is one of the more than 17 dialects of the Luyia language spoken in Western Kenya, East Africa (Angogo,1980; Guthrie, 1967; Osogo,1966). The purpose of the study was to identify the sound segments that form the onset of Olunyala(K) syllable. The Study used CV Phonology and Generative Phonology to find out the segments that combine to form syllables in Olunyala. Purposive sampling was used to get the data required for the study. Data collection procedures involved sampling only nouns and verbs because these are the word categories that the researcher needed to find out the sound segments that form the Olunyala(K) onset. A descriptive research design was utilized. This design enabled the researcher to categorize the data into nouns and verbs for analysis. The analysis of the data showed that Olunyala(K) has 31 consonant sounds and that not all the sound segments in this dialect carry equal status in the formation of the onset. Basing on the results, it is recommended that a phonemic inventory of Olunyala and other understudied and undocumented luyia dialects be established.

Index Terms- Geminate, Sound segments, Syllable, Tier and Onset

I. INTRODUCTION

Phonology is the branch of linguistics that deals with function, behavior and organization of speech sounds in a language (Lass 184; Massamba 1996). The syllable is the unit in terms of which phonological systems are organized and is the heart of phonological representations (Katamba, 1989). The syllable is the highest level of phonological analysis. A syllable consists of one or more units of sound in a language that must consist of a sonorous element. The sonorous element may or may not contain less sonorous elements, which may be consonants or semi-vowels flanking it on either side (Gussman, 2002). This study was about the phonological syllable which is a structural unit formed by combining consonant (C) and vowel (V) elements, combinations of which differ from one language to another. The description of the phonological syllable is what enables one to go beyond the phonetic sequencing that sometimes leaves some sound segments unrealized.

According to phonological theory, the syllable has two constituents; the ONSET which comes at the beginning and the RHYME, which follows the onset. Kenstowicz (1994) identifies smaller constituents of the syllable, these are: the onset, the nucleus and the coda. In this phonological organization, the nucleus is the compulsory element because every syllable must have it. Operating on the basis that the syllable is the highest level of phonological analysis, this study examined the

composition of the Olunyala (K) syllable onset. In this case, the phonological syllable is a structural unit which shows how the sound segments combine to form syllables. The study used Generative CV Phonology to analyze the data. It was useful in enabling an objective description of the structure of the syllable onset in Olunyala (K). The description enabled the researcher to uncover the individual sound segments; and as such, the sounds that combine in the Olunyala (K) syllable onset formation.

Since the syllable is the highest level of phonological analysis, it is important that the syllable structure of a language is known if any meaningful linguistic generalizations have to be made in that language. The syllable regulates the way in which lower level units; that is, consonants and vowels, in the phonological hierarchy. There is no literature on Olunyala (K) and generalizations on its phonology and other aspects of the language are usually made on the basis of other Luyia dialects. The Olunyala (K) syllable is one of the areas where there is a gap in the area of phonology and therefore need for systematic investigation. The objective of this study was to find out the sound segments that combine to form the syllable onset in Olunyala (K). This was guided by the assumption by the researcher that there are some sound segments that do not combine with others to form syllable onsets in Olunyala (K).

II. RESEARCH ELABORATIONS

The syllable is the most studied notion in linguistics owing to the fact that its role in phonological history has been controversial (Prince and Smolensky, 1993). Generative Phonology (GP) came to recognize it as an essential concept for understanding phonological structure. Syllabification as a process of identifying syllables is complicated and can leave certain elements of the syllable structure phonetically unexpressed. Therefore, there is need to go beyond the phonetic sequencing of segments and delve into the phonological sequences of specific syllable configurations (Gussman, 2002).

The study of the syllable using CV theory has been done in many languages. For instance, Dell and Elmedlaoui (1989) as quoted by Prince and Smolensky (1993:11), discovered that in Imdlawn Tashlhiyt, a dialect of Barber in North Africa, any segment, whether vowel or consonant, obstruent or sonorant, can form the nucleus of a syllable. Although different languages may have different possibilities in syllable structure, every language agrees in recognizing the central element of a nucleus with margins (Kreidler 2001:1). While there are some languages in which a semi vowel can form a nucleus when it syllabifies, in Olunyala (K) the semi vowel can only form an onset just like any other consonant.

The study on Verb Tonology in Olunyala (B) by Onyango (2006) shows how the CV syllable structure is preserved in tone allocation. The issue of the preservation of the CV syllable structure was used to investigate the preferred syllable structure in the Olunyala (K) onset. Savala, (2005) observes that Lwitakho, which is one of the Luyia dialects, has lost the pre-prefixes which are the vowels that precede the prefixes, e.g. o-mu-lafu (a brown one) where 'o' is the pre-prefix, 'mu' the prefix and 'lafu' the adjective root. The Olunyala (K) data showed that it is one of the Luyia dialects that still retains the pre-prefixes which form the V onset syllable. This study used the same methodology on syllabification process of vowel insertion as Savala (2005) to investigate onset with the V syllable structure in Olunyala (K).

According to Onyango (1997), the vowel prefix before the noun manifests itself as the V syllable structure in Olunyala(B). The present study found this observation helpful in the investigation of the prevalent word position of the V syllable structure in the Olunyala (K) onset.

Mbugua (1996) observes that in Gikuyu, the optimal onset is a single consonant sound and all consonant sounds may occur in this position. The objective of this study was to find out the sound segments that occur in the Olunyala (K) onset.

III. METHODOLOGY

The study used a descriptive research design with the aim of analyzing the syllable structures of Olunyala(K) so as to get the composition of the onset. The design enabled the researcher to classify the data into the required categories of syllable types for analysis (Creswell, 1994). In this case, data from Olunyala (K) was used to find out the composition of the Olunyala (K) syllable onset from the sequence CVVCC set, which, according to Basic Syllable Structure as seen in Optimality Theory, any grammar should contend with. The research design was useful in validating the theory that sound segments do not combine haphazardly. The design also allowed a description of the sequential constraints regarding the phonemes that form Olunyala (K) onsets by interpreting each syllable category and sound. Purposive sampling was used to categorize the syllables so as to show the sound segments that form the onsets in Olunyala (K). In this regard, a total of 200 words, that is; 100 nouns and 100 verbs, were used in the study. According to Milroy (1987:21) fewer samples in linguistic studies are adequate for analysis. Interview schedule was used as data collection instrument. In this case, the Olunyala(K) syllables were analyzed in terms of the sound segments that they admit in the onset and nucleus. Data was analysed using the CV tier model. Whereby tree diagrams were presented to show the consonant sounds that form the syllable onset in Olunyala (K).

IV. RESULTS AND DISCUSSION

The data analysis showed that the onset of Olunyala(K) consists of the following:

a) The onset with one consonant phoneme

The results showed that Olunyala (K) has one consonant element in the CV syllable structure as shown in Figure 1 immediately below:

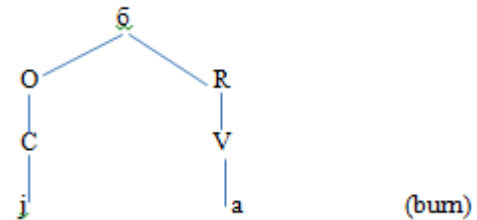


Figure 1: The Olunyala (K) onset with one phoneme

The results showed that not all Olunyala (K) consonant sounds occur in the onset in this structure. Only the sounds shown in Table 1 form the onset in this structure.

Table 1: Onset with one consonant segment

Phonetic symbol	Olunyala (K)word	Gloss
β	/aβana/	children
f	/fuʃfa/	spit
k	/kula/	buy
l	/luma/	bite
l̥	/lima/	dig
m	/mina/	press
n	/nuuna/	suckle
p	/pisula/	snatch
r	/mira/	swallow
s	/suna/	jump
t	/tima/	run
w	/wulira/	listen
j	/jeta/	help

b) The Onset with the Fricative and Affricate

In Olunyala(K), only two affricate sounds and a fricative occur in the onset in the CV syllable structure. These are the affricates /tʃ/ and /ndʒ/ and the fricative /nʃ/. The affricates /tʃ/ and /ndʒ/ are found in words like /tʃula/ (go out) and /nandʒala/ respectively while the fricative /nʃ/ is found in words like /enʃia/ (I am going). The data analyzed showed that the onset with the affricate and fricative is not as common in Olunyala (K) nouns as it is in verbs.

c) Zero Onset

Olunyala (K) has an empty onset which is what manifests itself as the V syllable structure in this dialect. This means that the V syllable structure is composed of one vowel segment only. This is what is referred to in linguistic literature as the zero onset syllable (∅). The zero onset does not have a branching tree as shown in the first syllable in Figure 2.

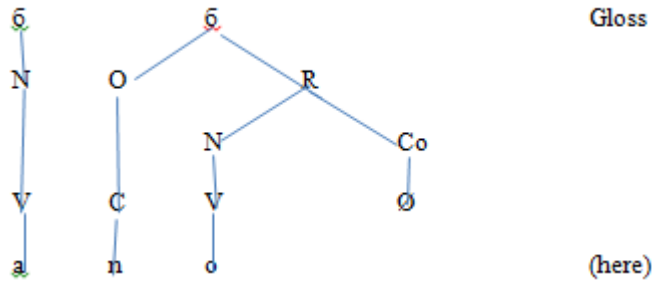


Figure 2: Olunyala (K) Zero Onset Structure

From the data analysis, it was found that the zero onset is very rare at the beginning of basic Olunyala (K) verbs and only occurs in word initial position before pre-nasalized sounds like

a-ndika (write) and **a-mba** (come). Out of the fifty verbs sampled in this category, only two verbs (4% of the sample), one disyllabic and the other trisyllabic, were seen to have zero onset at word initial position in basic verbs. The zero onset structure was not attested in polysyllabic verbs. It was also observed that the zero onset structure occurs as the second syllable in proper nouns as in /naututu/ (name of a person). It was observed that the zero onset is the optimal structure when it comes to common nouns. It occurs in the formation of all common nouns and at the beginning of all names of places. From the data analysis of one hundred nouns, only three, that is, 3% were found to start with an onset. However, names of places that are not originally of Olunyala (K) and those whose pronunciation has borrowed from English do not start with the zero onset structure. The zero onset is what manifests itself as the pre-fix before Olunyala (K) nouns.

d) The Onset with the Labializer

Currently scholars on Bantu languages, and in particular the Luyia cluster of languages are advancing the view of the existence of the CSV or CGC syllable structure in some dialects (Savala, 2005 and Nandelenga, 2013).

In this research, we treat /w/ when it does not occur alone as an affricate and not as a separate component of the syllable in Olunyala (K). The CSV or CGV structure does not occur in Olunyala (K) when one considers the following points:

- (a) The definition pertaining to an affricate
- (b) The constitution of a consonant cluster in English
- (c) A speaker of Olunyala (K) and generally Bantu speakers will insert a vowel when articulating an English consonant cluster

While advancing the argument about the non-existence of the CCV (CSV/CGV) syllable structure in Olunyala(K), this research notes that some languages, for example, Abkhazia, a Caucasian language in Russia, treats /w/ and /j/ as labializers (Brakel, 1983). This is what this study is adopting and treating /w/ when it does not occur alone as a variant of the C which forms the onset of the Olunyala (K) syllable. In Abkhazia, /w/ and /j/ are treated as features of the prime phonemes whenever they occur with them and are therefore distinguished as /h^w/ or /xh^w/.

A feature is an attribute that helps to define a phoneme; it may or may not show an independent phoneme (Travel, 1981). The following examples drawn from Twi and Olunyala (K) respectively, show that labiolization of /w/ is contrastive. In Twi, a Ghanaian language, the superscripting of /w/ to the sound /k/ in the word [aka], (somebody) has eaten, to have the word [ak^wa], a round -about way gives it a different meaning (Laver, 1994:322). In Olunyala (K), [esa], a caterpillar, and [es^wa], termites are contrastive because of the sound /w/. In this case we wish to adopt the definition by Travel (1981) to show a different phoneme which cannot be separated without changing the meaning and therefore enters as an onset of a syllable singly in Olunyala (K). This is similar to the English affricates; for example /tʃ/ as in the word [church].

The following Olunyala (K) words show that /w/ is an independent sound on its own:

Gloss	Olunyala (K) Word
	wulira
listen	wocha
you are warming	wicha
you are coming	owina
a hole	

However, when /w/ is attached to another sound segment as argued above, it, together with the new segment, acquires a different identity as an affricate and /w/ becomes labiolized. Phonetically, this affricate is then realized as secondary articulation with the lips brought forward and protruding (Roach, 1983).

Labiolization gives Olunyala(K) the seventeen labiolized phonemes below: This in essence gives the C onset element in the CV syllable structure

Gloss	Sound	word	
potato	pw	epwoni	a
bull	tw	etwasi	a
child	mw	omwana	a
chin	nw	esinanwa	
leopard	ngw	engwe	
grind	sw	swaka	
struggle	lw	lwana	
dress up	fw	fwala	
outside	rw	erwany	
crocodile	kw	ekwena	a

	yw	eyaywa	an
axe	ndw	endwasi	
allergy	khw	khwa	
pay dowry	chw	esichwi	an
ear	nyw	nywa	
drink	ngw	ngwe	a
swear word	nchw	ochwinchi	
type of bird			

The examples above show that the labiolizer gives the C element of the onset in the CV syllable structure and in Olunyala (K), the onset can have a consonant element that is internally complex by virtue of having more than one consonant as advanced in this study. An example of this structure is shown in figure 3.

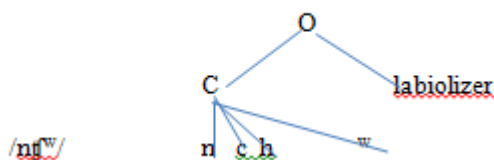


Figure 3: Three tier affricate with a labiolizer

In this study, the consonant with a labiolizer is treated as different phoneme because it is not realized as an allophone of the seventeen phonemes listed in appendix IV. In this case /w/ in Olunyala(K) is not realized in the same way as the English [t] and [tʰ], which are unaspirated and aspirated respectively. Just like in English, Olunyala (K) also has aspirated and unaspirated phonemes for the same consonants with labiolizers, for example; /p/ as in [opiʃa] (type of bird and /p/ as in [epiʃa] a photo. Another example of allophonic occurrence in Olunyala(K) is shown using the phoneme /r/ and /l/. It was however observed that /r/ and /l/ do not always interchange in Olunyala(K) but when they do occur, they can be used interchangeably without affecting the meaning as in the words ‘eriani’ and ‘eliani’ (vegetables). Apart from Abkhaazian, Chinese, Korean and also Spanish exhibit phones that form different phonemes. For example in Korean, /tol/ means a stone while /toʰl/ means a grain of rice and the therefore [to] and [tʰo] are treated as different phonemes in Korean and not allophones (<http://.wikipedia.org/wiki/phoneme>) 18/6/2015. It is from this argument that this study has adopted the type of branching trees shown in the following sections from Abkhaazia (Brakel 1983:77).

The onset with one consonant and a labiolizer can be represented as shown in figure 4.

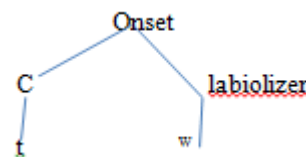


Figure 4: Onset with one consonant and a labiolizer

Unlike Abkhaazian, in Olunyala (K) only one labiolizer occurs; that is, /w/ is predominant while /j/ occurs minimally. Table 2 shows the single sound segments that give rise to the seventeen labiolized sound segments discussed in section (d).

Table 2: Olunyala (K)labiolized segments

K	f	l	m	n	p	r	s	t	j	ndʒ	nd	tʃ	nʃ	x
k ^w	f ^w	l ^w	m ^w	n ^w	p ^w	r ^w	s ^w	t ^w	j ^w	ndʒ ^w	nd ^w	tʃ ^w	nʃ ^w	x ^w

From the study, it was observed that all the seventeen sounds, apart from /rw/ occur in the Olunyala(K) syllable in all word positions.

e) The Onset with a Pre-nasalized Sound

The data analyzed showed that Olunyala (K) has an an onset with a prenasalized sound. In Olunyala (K), a pre-nasalized sounds /nd/, /ng/, and /mb/ can also take on a labiolizer to form different sounds as explained in section 6.4. The pre-nasalized sound and a labiolizer forms the kind of branching tree shown in figure 5.

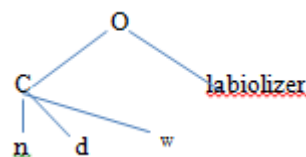


Figure 5: The onset with a pre-nasalized sound and a labiolizer

The tree if figure 4 Shows that the two consonant elements /n/ and /d/ together with the labiolizer fuse into one to form one sound segment that forms the C element in the onset of the Olunyala(K) syllable.

f) The Onset with a Geminate

The data used in the study showed that Olunyala (K) has geminates. A geminate refers to the occurrence of the same consonant in the same syllable without the intervention of a vowel. This essentially means that in Olunyala(K) there is allophonic possibility of length in the C element . This is unlike English where length is only realized in the V element. Allophonic length was found in words like mmwalo (in the river), mmoni (in the eyes/face), essanda (guard) and ollunda (type of shrub). Degemination in Olunyala(K) is a case of the two phonological processes of deletion and assimilation taking place. For example in the word ‘mmwalo’, the shortening of the two

consonants which typically should be in different syllables happens as shown in the following four steps:

1. mu + Omwalo
2. mu + Ømwalo
3. my + Ømwalo
4. mmwalo

These four steps show that the vowels /u/ and /o/ initially intervened between the two consonants /m/ and /m/ because they were in different syllables. In the word 'mmwalo', the consonant /m/ comes from the locative prefix [mu] which means 'inside'. The vowel /u/ is then deleted and the first consonant /m/, which is the onset in the initial syllable is assimilated to the onset in the second syllable, making it appear like a lengthened /m:/.

In languages that have geminates, they do not occur in the onset; for example in Tamil (Gussenhoven and Jacobs 2005:156). The case is, however, different for Olunyala (K) in which geminates occur in the onset of the first syllable of the word. In languages like Tamil, syllabification is such that the geminate is divided over the coda of one and the onset of the next syllable as shown in figure 6.

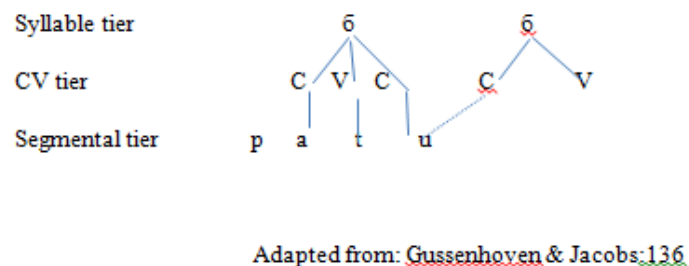


Figure 6: Geminate syllabification(Tamil)

The kind of syllabification shown in figure 6 cannot occur in Olunyala (B) because it has open syllables and therefore no codas. Instead, geminates in Olunyala (B), like in Lithuanian, can be syllabified as shown in the skeletal tier and branching tree shown in Figure 7(a) and (b) respectively.

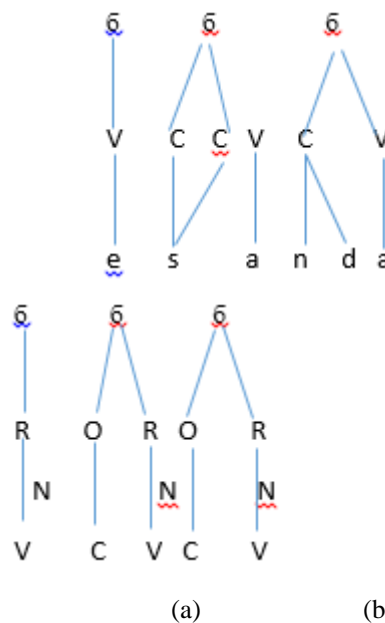


Figure 7: Geminate syllabification Olunyala(K)

The mapping of individual vowel consonant elements on the skeletal tier showed that degemination occurs in Olunyala (K). Degemination is based on a rule that affects segment length. The degemination therefore, reduces consonant clusters (long vowels) to single consonants and thus, a single long consonant segment is shortened (Carr 1993: 130,210). Degemination is not a matter of deleting one of the two identical consonant segments, but rather, shortening a single long consonant. This shortening of a long segment is represented as deletion of a timing slot on the CV tier. The shortening of the long consonant effectively conforms to the phonotactics of Olunyala (K) by having a single C and thus the CV structure. The degemination rule which shortens a long consonant and therefore giving it a single slot on the skeletal tier is as in Figure 8.

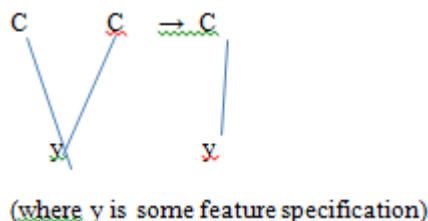


Figure 8: Shortening of a geminate

The occurrence of inserting a vowel after the consonant element would easily take place as discussed in section 6.4 on the onset with a labializer, but in this case, it does not happen, hence the occurrence of a geminate consonant. In Olunyala(K), degemination makes the word *essanda* to have three syllables as opposed to the common occurrence in which a vowel would be inserted after the initial /s/ to make the syllables conform to the phonotactics of this dialect. The insertion of the vowel in the onset of the second syllable would make the noun *essanda* to have four syllables instead of three. From the data collected, only

the consonant sounds /m/ and /s/ occur as geminates in the Olunyala(K) onset.

V. CONCLUSION AND RECOMMENDATIONS

From the results of the study, it was concluded that there are sound segments that do not occur in the Olunyala (K) onset at word initial position and that are used minimally in this dialect for example /r/. Consequently, further research on Olunyala (K) needs to be carried out to establish phonemic inventory and also study other phonological processes of this dialect.

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