The Syllable of Structure of Yala

Theresa O. Agi
Department of Linguistics and Communication Studies, University of Calabar

This paper examines the syllable structure of Ogoja-Yala. The phonotactic regulations and syllable structure processes of Ogoja Yala are discussed. Our approach to the discussion is a CV-tier model of the syllable structure. The source of data for this paper was oral interviews of Yala native speakers. The work of Bunkowske (1976) also provided data for the study. In this paper, we discovered that a word class in Yala can be identified by its specific syllable structure. Thus, the basic syllable structures for personal nouns in Yala are V-CV and CV-CV. The syllable structures for personal pronouns are V-CV, VV and V; non-personal pronoun is V-CV-CV; verb/verbal structures are CV and CVV. In Yala, a syllable is heavy if it contains a long vowel. To break up clusters of consonants, the vowel /i/ is inserted between two consonants. At the word boundary, the vowel of the preceding word is deleted whenever the following word begins with a lateral consonant, thus preventing two vowels from coming together, but rather lateralizing consonant of the preceding word.

Introduction

The syllable has not been an easy subject to define by linguists. Attempts have been made by both phoneticians and phonologists to define the syllable. Kenstowicz (1994:250) rightly says:

One reason the syllable has proved so elusive is that it lacks any uniform or direct phonetic correlates: It is not a sound, but an abstract unit of prosodic organization through which a language expresses much of its phonology. Furthermore, the exact shape of the syllable varies from one language to another. Finally, the organization of the sounds unto syllables can take place at a certain level of abstraction; more superficial features often obscure the underlying organization.

However, this paper analyses the syllable as a phonological unit. It therefore considers how Yala segments combine to function as sequences within given syllable structures. Crystal (1994:250) defines the syllable as “… an abstract unit of prosodic organization through which a language expresses much of its phonology”. The syllable is, therefore, an important aspect of the phonology of many languages since much of the phonology of a language is built around the syllable. These include the sounds that may occur in a particular language, the positions these sounds may occur within the syllable, the processes these sounds may undergo, and so on.

Abercrombie (1967) says that when the pulmonic air-stream is in action, the respiratory muscles alternately contract and relax at a rate of roughly five times per second, so that the air is expelled in a succession of small puffs. Each contraction together with the resulting puff of air, constitutes the basis of a syllable. This syllable producing movement of the respiratory muscles has been called a chest-pulse.
Different phoneticians have put forward different theories of the syllable, some of which include the “chest pulse” theory by R.H. Stetson, an American Psychologist (Abercrombie 1967:36) and the prominence theory of the syllable which is connected with the sonority hierarchy of the nucleus. The chest-pulse theory explains the syllable in terms of the pulmonic air-stream mechanism.

This study is based on Ogoja Yala. The dialect used in this paper is ọkpomā or central Yala (Bunkowske, 1976:4). The dialects of Yala are presented in a chart as follows:

![Diagram of Yala dialects](image_url)

**1.2 Theoretical Framework**

The approach to the discussion of the syllable structure in this paper is the CV-tier model of the syllable structure. Clark and Yallop (1990:407) state “the original contribution of CV phonology is the postulation of a CV-tier, a tier of C and V “slots” which are filled by segments. The CV-tier is also known as the skeletal tier. Vowels and consonants belong to the segmental tier. Medicating between these tiers is the skeletal tier (or CV-tier). Katamba (1993:160) remarks “… just as tones may be linked in different ways to tone bearing units, segments may be linked in a variety of ways to the skeletal tier”. Normally, in the lexicon, every vowel segment starts off being associated with a V-slot and every consonant with a C-slot on the skeletal tier (CV-tier). We illustrate this with the Yala word ẹpà “two”.

![Diagram of Yala phonology](image_url)

Yala has long vowels. For example the word kpɛ: “short” can be represented as follows:

![Diagram of Yala phonology](image_url)
1.3 Syllable Structure
The syllable structure consists of three phonetic parts: the onset, the peak or nucleus, and the coda. For phonological purposes, however, Hyman (1975, 188) divides the syllable into two parts namely, the onset and the coda combined. This analysis of the syllable as represented below:

![Fig. 2](image_url)

Fig. 2

divides a CVC into C-VC rather than CV-C or C-V-C. In so doing, the important distinction between open and closed syllable is captured. A syllable which is arrested by a consonant is said to be a closed syllable, and one which has no arresting consonant is said to be an open syllable. A CV syllable thus has a core with a zero coda, while a CVC syllable has a core with a V and a C peak and a C coda. The initial consonant onset is irrelevant in determining the phonological properties of a syllable. The nucleus and the coda together form the rhyme and they enter into a number of processes in a number of languages. Topically, the nucleus of a syllable is a vowel but occasionally a consonant may also constitute syllable peak as in “little” where the final [l] is syllabic.

![Fig. 3](image_url)

Fig. 3
Kenstowicz (1994) states that in some languages, liquids (English), fricatives (Bella Coola) and nasals (African languages) and even stops (Berber) may also constitute syllabic peaks. The syllabic nucleus is the mandatory element of a syllable while the onset and the coda are optional elements enclosed in parentheses as shown below:

The structure above shows that the syllabic nucleus may be a syllabic liquid (L), a vowel (V) or a syllabic nasal (N). Different languages organize their syllable structures in different ways. Some languages may have consonant clusters at the coda; others may permit long vowels and diphthongs as the nucleus. Some languages, however, do not permit clusters either at the onset or at the coda and long vowels may not be permitted as the nuclei. English, for example, permits consonant cluster both at the onset and at the coda as in the syllable “streets”.

1.4 The Yala Syllable Structure

The syllable structure in Yala forms a framework in which the sound system functions (Bunkowske 1976:49).

Yala has an open syllable structure. The nucleus in Yala may have a single vowel or a long vowel. Some syllable in Yala occur without an onset, in which case, we have only a syllable nucleus, which can be a vowel or a syllabic nasal prefix as in ǹcê. Another structure may have an onset and nucleus without a coda (CV). It is not possible to have a structure with an onset, a nucleus and a coda (CVC). The onset is a consonant; the rhyme consists of the nucleus with a zero coda. The structure of the Yala syllable can be represented in the diagram below:

Fig. 5
According to the schema above, a syllable in Yala may have one of the following structures:

a. N as in the first syllable of ḱ-cé “today”

b. V as in the syllable of t-hi “yam” or è “they”

c. VV as in èè “yes”

d. CV as in kó “divide”

e. CVV as in jòò “dog”, jéé “buffallow”

Yala has an open syllable structure.

1.5 The Function of the Syllable

1.5.1 Phonotactic egulation

One of the most basic functions of the syllable is to regulate the ways in which the lower level units (consonants and vowel) of the phonological hierarchy can combine (Katamba 1989:164). Just as at the level of grammar not all sequences of words produce a well-formed grammatical sentences, so it is in phonology: not all combinations of sounds produce possible words. The rules which reflect speaker’s knowledge of what combinations of sounds are allowed in their language are variously referred to as Phonotactic Rules or Morpheme Structure Conditions.

1.5.2 Phonetactic of Yala Syllable Structure

Phonotactics deals with the constraints governing the sequential arrangement of phonological units in language (Urua 2000:148). This explains why certain segments may not occur in certain syllable positions.

1.5.3 Onset Constraints

Generally, there are no phonemic consonant clusters as onset in Yala although some manifestation of restricted consonant clusters at the phonetic level occur as in [dlɛmɛ] “give kola” which is phonemically /dé lɛmɛ/. The half-close front unrounded vowel /e/ in the phonemic form has been deleted to derive the phonetic form [dlɛmɛ]. Phonetically, then, one can say that there is some form of consonant clustering in Yala. The structure here is initial consonant, voiced alveolar plosive [d] followed by a lateral [l] which may occur in Yala, phonetically, are [dl, pl, bl, tl] as in [dlɛmɛ] “give kola” [plɛlà] “hear something”, [blɛlà] “look for trouble”, [tlɛbà] “to hide”.

1.5.4 Word Class Structure

A word class in Yala can be identified by its specific syllable structure. For example, “all nouns in the language begin with either a vowel or any of the approximants – [y, w, r] – or lateral – [l]. A majority of nouns begin with a vowel and only a few with an approximant (Oko 1992:21)”. Nouns would therefore have the basic structures V-CV and CVCV as in the following examples:
1.5.4.1 Yala Nouns/Nominal Structures

(1)

i. ó-hè “one” V-CV
ii. èkpà “two” V-CV
iii. è-tú “three” V-CV
iv. ì-hí “yam” V-CV
v. à-rú “gown” V-CV
vi. òtú “night” V-CV
vii. jé-nò “sun” CV-CV
viii. wò-lá “sleep” CV-CV
ix. wò-lè “home” CV-CV
x. jé-wù “mountain” CV-CV
xi. wò-kpá “shoe” CV-CV
xii. rí-wò “rainfall” CV-CV
xiii. rí-hí “market” CV-CV
xiv. lè-wù “war” CV-CV
xv. lè-hí “charity” CV-CV

1.5.4.2 Yala Pronoun Structure

Personal Pronouns:

(2)

i. àmì “I” V-CV
ii. à-wò “you” (sg) V-CV
iii. à-nú “he/she” V-CV
iv. à-lò “we” V-CV
v. à-lá “you” (pl) V-CV
vi. àà “them” VV
vii. è “they” V

Indefinite Pronoun Structures

(a) Personal

(3) (i) ð-cè-há “someone” V-CV-CV
(ii) ð-há-lòhá “anyone” V-CV-CV-CV

(b) Non- personal

(4) (i) ð-já-há “something” V-CV-CV
(ii) ð-já-há- ð-já-há “anything” V-CV-CV-V-CV-CV
1.5.4.3 Yala Verb/Verbal Structure

1.5.4.4 Verbs, on the other hand, begin with a consonant. The structures for this class of words are: CV and CVV. Examples are as follows:

(5)

i. dè “give” CV  
ii. rá “buy” CV  
iii. kà “count” CV  
iv. tá “shoot” CV  
v. ṃó “kill” CV  
vi. gà-lá “search” CV-CV  
vii. cé-rì “try” CV-CV  
viii. ré-ì “run” CV-CV  
ix. jé “walk” CVV  
x. kwó-rá “to price” CV-CV  
xi. kwáñù “to bite” CV-CV  
 xii. jì “bury” CV  
xiii. ná “wash” CVV  
xiv. cá “return” CVV

1.6 Syllable Weight Organization

In many languages, a syllable whose core consists solely of a short vowel (V) cannot be stressed and stress must pass to a neighbouring syllable. Such a syllable is said to be light. A syllable whose core consists of a long vowel (CV:), a VV or VC sequence, or combinations of these, can be stressed and is said to be heavy (Newman 1972, Allen 1973 restated in Hyman 1975:2006). Syllable may be classified into weight parameters depending on the structure of such syllables. Urua (2000:155) noted that a light syllable usually has a CVC, CVV, CVCV. However, such classifications are usually language dependent. In some languages, CVC syllables may be treated as light in terms of weight, while in others, they are treated as heavy syllables. In Yala, a syllable is heavy if it contains a long vowel as in [Ò-kwi:hi] “back”, [Ôji:jè] “nail”.

1.7 Syllable Structure Processes

Schane (1973:52) says that:

Syllable structure processes affect the relative distribution of consonants and vowels within the word. Consonants or vowels may be deleted or inserted. Two segments may coalesce into a single segment. A segment may change major class features, such as a vowel becoming a glide. Two segments may interchange. Any of these processes could cause an alteration in the original syllable structure.

The effect of such processes is to break up clusters of consonants or sequences of vowels. For example, a cluster of two consonants could be simplified in one of three ways: one of the consonants could be deleted, a vowel could be inserted between the two consonants, or the two consonants could coalesce into a singular segment.
1.7.1 Vowel Deletion and Vowel insertion in Yala

The syllable structure of Yala is affected by some phonological processes like vowel deletion and insertion.

The syllable structure processes in Yala are vowel deletion/elision and vowel insertion. Vowel deletion is a phonological process involving the deletion or total loss of sound segments or syllables. The process is one of those that causes some alternation in structure of the syllable. When segment deletion takes place in a language, there is the tendency for the syllable structure to be re-organized or restructured from its basic component structure. Urua (2000:79) points out that basically a necessary condition for vowel deletion to occur is the presence of at least a vowel on either side of the morpheme or word boundary. When vowels occur together at word boundaries, one of the vowels gets deleted. Such deletion is determined by the height of the vowel where high vowels survive low ones (Udoh 1998: 121). Such deletion results in syllable restructuring as in (6a) below. In Yala, the height of the vowel is not the case. It always follows that the vowel before the word boundary is deleted as in the following verbal phrases:

(6a).

i. /já + úkrɔ/ \rightarrow [jú:krɔ] “do work”
ii. /gbà + ðpá/ \rightarrow [gbè:pá] “iron cloth”
iii. /dè + ɔcí/ \rightarrow [dɔ:cí] “give medicine”
iv. /dè + ̣-tíhí/ \rightarrow [dí-hí] “to give yam”
v. /dè + ápù/ \rightarrow [dá:pù] “to give towel”
vii. /dè + ̣-òkpò/ \rightarrow [dò:kpò] “give money”
viii. /tù + ̣-cò/ \rightarrow [tì:cò] “climb up”
ix. /rè + ̣já/ \rightarrow [rè:já] “make friends”

In example (i) – (ix) above, the vowel before the boundary is lost. In Yala, the vowel of the word preceding the word boundary is deleted whenever the following word begins with a vowel, thus preventing two vowels from coming together in connected speech as all the examples above. Thus, the structure CV + V-CV \rightarrow CV-CV.

We formalized autosegmentally the examples of (6a) in (6b) as follows:

(6b)
Agi: The Syllable of Structure of Yala

ii) \[ C \ V + V \ C \ V \quad C \quad V \quad V \ C \ V \quad C \ V \quad V \ C \ V \]
\[ \begin{array}{ccc}
gb \ a & \circ \ p \ a \\
L & H & L \\
\end{array} \quad \begin{array}{ccc}
gb \ a & \circ \ p \ a \\
L & H & H \\
\end{array} \quad \begin{array}{ccc}
gb \ a & \circ \ p \ a & \rightarrow [gb\circ:pa] \\
H & L & H \\
\end{array} \]

iii) \[ C \ V + V \ C \ V \quad C \quad V \quad V \ C \ V \quad C \ V \quad V \ C \ V \]
\[ \begin{array}{ccc}
d \ e \ o \ c \ i & d \ e \ o \ c \ i \\
L & H & H \\
\end{array} \quad \begin{array}{ccc}
d \ e \ o \ c \ i & d \ e \ o \ c \ i & \rightarrow [do:ci] \\
H & H \\
\end{array} \]

iv) \[ C \ V + V \ C \ V \quad C \quad V \quad V \ C \ V \quad C \ V \quad V \ C \ V \]
\[ \begin{array}{ccc}
d \ e \ i \ h \ i & d \ e \ i \ h \ i \\
L & M & H \\
\end{array} \quad \begin{array}{ccc}
d \ e \ i \ h \ i & d \ e \ i \ h \ i & \rightarrow [dihi] \\
M & H \\
\end{array} \]

v) \[ C \ V + V \ C \ V \quad C \quad V \quad V \ C \ V \quad C \ V \quad V \ C \ V \]
\[ \begin{array}{ccc}
d \ e \ d \ p \ u & d \ e \ a \ p \ u & \rightarrow d \ e \ a \ p \ u & \rightarrow [da:pu] \\
L & H & L \\
\end{array} \quad \begin{array}{ccc}
d \ e \ d \ p \ u & d \ e \ a \ p \ u \\
L & H & L \\
\end{array} \quad \begin{array}{ccc}
d \ e \ a \ p \ u & \rightarrow [da:pu] \\
H & L \\
\end{array} \]
It is observed that the three syllable verb phrases are reduced to two syllable words due to the deletion of a vowel segment. At the word boundary, the final vowel of the first word is deleted, but its tone remains and is imposed on the first vowel of the following word. By so doing, the second vowel is lengthened as in examples (6a...
above). An exception is example (6a iv, above). This is a testimony to the fact that the tone is independent from the vowel.

In another vein, the vowel of the preceding word is deleted whenever the following word begins with a lateral consonant, thus preventing two vowels from coming together but rather lateralizing the consonant of the preceding word. Lateralization adds the feature of literality (Ladefoged 1971:56) to the basic consonants in Yala. The lateralized consonants are distinct at the alveolar point of articulation at approximately the same point as that of the approximants /l and r/ in initial positions. The point of articulation is the same but the manner of articulation is either lateral [l] or trilled [r].

1.7.1.2 Lateralized articulation
Examples of lateralized articulation are:

(7)

i) /dè + lέmè/ → [dlέmè] “to give”  
   CV + CV-CV  CïV-CV

ii) /pó + lέlá/ → [plέlá] “hear something”  
   CV + CV-CV  CïV-CV

iii) /bà + lέlá/ → [blέlá] “to look for trouble”  
    CV + CV-CV  CïV-CV

iv) /tà + léló/ → [tléló] “throw stone”  
    CV + CV-CV  CïV-CV

v) /bá + lélá/ → [blélá] “get married”  
    CV + CV-CV  CïV-CV

In the examples (i) – (v) above, the vowel of the preceding word is deleted when the following word begins with a lateral consonant.

1.7.1.3 Trilled articulation
Examples of trilled articulation are as follows:

(8)

i) /tá + rέbà/ → [trébà] “to hide”  
   CV + CV-CV  CrV-CV

ii) /dè + ríbì/ → [dríbì] “give contribution”  
    CV + CV-CV  CrV-CV

iii) /cë + rέbà/ → [crébà] “accept marriage”  
   CV + CV-CV  CrV-CV
1.7.2 Vowel Insertion (Epenthesis)
Yala does not permit consonant cluster. Therefore, it is difficult for native speakers of Yala to properly articulate the English loanwords street, slippers, milk. Thus, the vowel /i/ will be inserted in between the consonants to break up the clusters. Yala native speakers will thus pronounce the words street as [sitiriti]; slippers as [silippasi]; milk as [miliki]. English loanwords in Yala are normally modified by native speakers to fit in with the predominantly CV syllable structure of the language.

1.8 Summary and Conclusion
This paper investigated the Yala syllable structure. It discussed the phonotactic regulations, weight, and vowel deletion and insertion. The paper has shown that the Yala syllable structure is quite systematic V(V)CV(V). We discovered that Yala does not permit consonant clusters at the phonemic level but at the phonetic level there is some form of consonant clustering. A word class can be identified by its specific syllable structure. We also discovered that all verbs in Yala begin with consonants while the nouns begin with either a vowel or any of the approximants [y, w, r] or lateral [l].
Yala has an open syllable structure. A syllable in Yala is heavy if it contains a long vowel. The basic consonant structure of the syllable is altered when vowel deletion occurs in connected speech. Finally, since Yala does not permit consonant clusters, native speakers would insert the vowel /i/ in between the consonants of English loanwords such as ‘street’, ‘slipper’ ‘milk’, to break up the clusters.

Abbreviation and Symbols
σ        Syllable node
→        Arrow “rewrite as” or “becomes”
//        Double bar stand for phonemic transcription
[]        Square brackets standing for phonetic transcription
CV        Consonant – vowel
V         Vowel
C         Consonant
CV-tier   Consonant-vowel tier
R         Rhyme
O         Onset
Sg        Singular
Pl        Plural
+         Cross stands for word boundary
Cr        Trilled consonant or release
Cl        Lateralized consonant
N         Syllable nasal
L         Syllable liquid
I         An unbroken association line indicates pre-linking
          A crossed-through association line indicates de-linking
V         A circle around an item indicates that the item has been deleted
References


