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## The Functions of Olutura Sounds

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> Abstract: The aim of this study was to identify the sounds that occur in Olutura so as to develop a phonetic inventory and to show how these sounds function in this dialect. A purposive sampling technique was used to identify native Olutura speakers and to categorize the data into the required categories for analysis. The study identifies each vowel and consonant sound that occurs in Olutura and discusses their role in its phonology. Examples of words in which these sounds occur are given in order to show their functions in the overall phonology and phonotactics of Olutura. From the data analysis, Olutura has a 5 V system and a total of 52 sounds. The discussion reveals that Olutura prenasalizes sounds which do not primarily occur in its phonetic inventory, an occurrence that results in sounds with secondary articulation.
> Keywords: Onset, orthography, secondary articulation, phonotactics, pre-prefix, prenasalization, primary articulation.

## INTRODUCTION

This research paper is about the sounds that occur in Olutura which is one of the varieties of the Luyia continuum of dialects. The other dialects are Lulogoli, Luwanga, Lunyole, Lukabras, Lukhayo, Lusamia, Lutsotso, Olunyala (B), Olunyala (K), Lubukusu, Lutachoni, Lumarachi, Lwitakho, Lutiriki, Lwisukha, Lukisa, Lumarama and Lusonga.

Luyia is a language spoken in Western Kenya, E. Africa. Speakers of Olutura are called Abatura. In this paper, we have chosen to use the pre-prefix 'olu' to refer to Olutura in agreement with the speakers of the dialect and the general Luyia phonology of using a vowel pre-prefix 'o', 'e' or 'a' before prefixes marking nouns. However, before the discussion of the sounds of Olutura, a partial orthography of the dialect is attempted because it is used as a reference in the discussion of the sound segments. The general purpose of the study was to identify the sounds of Olutura in a systematic manner in order to enable its objective generalization to other Luyia dialects and Bantu languages in general.

Orthography defines the set of symbols used in writing a language and the rules on how to use these symbols. Natural languages adapt the writing system from the spoken language. An orthography in which the correspondences between the spelling and pronunciation are highly complex or inconsistent is a deep orthography. On the other hand, an orthography in which there is consistent correspondence between the spelling and pronunciation is called shallow or simply said to have regular spelling. Orthographies can be divided into three types; logographic, syllabic and alphabetic. When developing orthographies, many writing systems combine features of more than one of these three types. According to Lüpke [1], languages with orthography display some orthographic departures
from a one-letter-one-sound and one-sound-one-letter model. An example can be seen in the orthography of some Bantu languages in which the symbol $/ \beta /$ represents the graphemes ' $v$ ', ' $b$ ' of $/ f /[2,3]$ In the current study, we adopted types 2 and 3 for Olutura and this means that the orthography for this dialect does not exactly have a one-on-one correspondence between the grapheme and the phoneme as seen in 4.1. Apart from $/ \beta /$, the other phonemes in which there is no correspondence in Olutura are $/ \mathrm{c} /$, $/ \mathrm{l} /$, /x/, /n/, /y/ and $/ \mathrm{j} /$.

In phonological analyses, the important question is always about the constitution of a well formed word in that language [4]. The sounds in the inventory of that language are characterized and an inventory established. The present study has established a phonetic inventory of Olutura on the basis of the views by Goldsmith [4]. A phonetic inventory is about the consonant and vowel sounds that are found in the language. According to Ladefoged [5], vowel segments are made without any constriction in the oral cavity. Vowels are described using the height of the tongue, the position of the tongue and the configuration of the lips. According to the category of height, the tongue can be high, mid or low while in terms of the position it can be at the front, middle or back.

Proto Bantu (PB) languages have a seven vowel system [6]. However, majority of these languages
have merged degree 1 and 2 to have a five vowel system ( 5 V ). Those with the 5 V have the vowels shown in table 4.1 using Olutura data. A few Bantu languages have developed the 9 vowel system while others have even developed a 'rectangular' vowel system with back unrounded vowels and nasalized vowels [7].

Consonants are the margin forming elements of syllables, constituents which differ depending on the phonetic inventory of each language and its phonotactics. In phonology, the three parameters of place of articulation, manner of articulation and phonation are used to describe consonant sounds. Generally, some Bantu languages and Luyia dialects do not have voiced consonants in their phonetic inventories, for example, Olunyala(K) and Lubukusu (Etakwa,2015, Nandelenga, 2013. This is one of the causes of the dialects in the Luyia language. As seen in the discussion, Olutura only has one voiced consonant.

## METHODOLOGY

The research was carried out in Mungore location, Bumula Sub-county, Bungoma County in Western Kenya. A purposive sampling technique was used to pick the respondents from the research location.

Interview schedules and a sound recorder were used as data collection tools. The study used a total of five respondents to get the primary data. A total of 120 basic words were purposively sampled from the primary data and used in the analysis. Stratified sampling was applied to categorize the data into nouns, verbs, adjectives and demonstratives for analysis.

## RESULTS AND DISCUSSION <br> Olutura Orthography

Olutura has a total of 28 prime sound segments which consist of 5 prime vowels, 21 consonants and 2 glides. These are; i, e, a, o, u, tf(c), f, h, k, x, l, l, m, n, ${ }^{\mathrm{n}} \mathrm{g}$, ${ }^{\mathrm{n}} \mathrm{J}, \mathrm{y}, \mathrm{n}, \mathrm{p}, \mathrm{r}, \mathrm{s}, \int, \mathrm{t}, \mathrm{ts}, \beta, \mathrm{w}, \mathrm{j},{ }^{\mathrm{n}} \mathrm{z} /$. In addition to these, Olutura has 19 sounds (see table 3.5) which are as a result of secondary articulation. The five prime Olutura vowels also have their long counterparts as discussed in section 3.2. This makes Olutura to have 43 consonant sound segments in phonetic realization and 10 vowels, giving it a total of 52 sounds. All these sounds are shown in table 4.5 and the appendix.

## The Vowel Segments of Olutura

Olutura, like many Bantu languages has a 5 V system consisting of the vowels shown in table 1 below.

Table-1: Olutura primary vowels

|  |  |  |  | Front |
| :--- | :---: | :---: | :---: | ---: |
| Close | Central | Back |  |  |
| Mid | e | $[\mathrm{i}]$ |  | $\mathrm{u} \quad[\mathrm{u}]$ |
| Open |  |  | $\mathrm{o} \quad[\mathrm{o}]$ |  |

Table 2 shows the long counterparts of the five phonemic vowels shown in table 4.1 that occur in

Olutura and how they function in the dialect. Examples of words with long vowels are shown in Table 2.

Table-2: Olutura short and long vowels

|  | Front | Central | Back |  |
| :--- | :---: | :---: | :---: | :---: |
| Close | i i : |  | $\mathrm{u} \quad \mathrm{u}:$ |  |
| Mid | e e: |  | $\mathrm{o} \quad \mathrm{o}:$ |  |
| Open |  | $\mathrm{a} \quad \mathrm{a}:$ |  |  |

The results show that Olutura falls into the category of Bantu languages with a 5 V system. The vowel grouping of Bantu languages falls into two; those with five vowels, (a, $\varepsilon, \mathrm{i}, \supset, \mathrm{u})$ and those which have seven vowels, (a, $\varepsilon, \rho, \mathrm{e}, \mathrm{o}, \mathrm{i}, \mathrm{u})$ in their phonemic inventories [8]. In particular, quite a number of Luyia dialects have been reported to have a 5 V system. For instance; Olunyala (B), Lubukusu [2, 9]. Languages that have five vowels tend to have a three vowel height system [10].

Quite a number of Bantu and Luyia languages are tonal $[11,6]$. Olutura exhibits verbal tone as attested by Marlo [11] but it is possible that not all vowels use tone to distinguish meaning in Olutura. Only the front vowels /e/ and /i:/ were seen to take a meaning distinguishing tone in the current study. This occurrence and possibility are shown in table 3 and the words in

Table-3: Olutura meaning distinguishing vowels

|  | Front | Central | Back |
| :--- | ---: | :--- | ---: |
| Close | í ì |  | ú ù |
| Mid | é è è |  | ó ò |
| Open |  | áà |  |


| 1. | /i/ | [índa] |
| :---: | :---: | :---: |
|  |  | [ìnda] |
| le/ |  | [éya] |
|  |  | [èya] |

Vowel length distinguishes meaning in Olutura and phonetically brings about the long vowels in 2. Four out of the five prime Olutura vowels /i/, /e/, /a/, /o/

| 2. | Phoneme |
| :--- | :--- |
| (i) | /a/ |
| (ii) | /a:/ |
| (iii) | $\mathrm{l} / /$ |
| (iv) | $\mathrm{l}: /$ |
| (v) | /o/ |
| (vi) | $\mathrm{lo}: /$ |
| (vii) | $\mathrm{lu} /$ |
| (viii) | $\mathrm{lu}: /$ |
| (ix) | $\mathrm{l} / \mathrm{u} /$ |
| (x) | $\mathrm{lu}: /$ |

Languages that have five vowels tend to have a three vowel height system [10, 9]. As shown in 3.1 and 3.2, Olutura also has a three vowel height system like most Bantu languages. Olutura has two high vowels / i, $\mathrm{u} /$, two mid vowels /e, o/ and one low vowel /a/. In Olutura, the vowel /i/ occurs at word initial position in common nouns, adjectives and demonstratives.

| 3. | (i) | itochi |
| :--- | :--- | :--- |
| (ii) | iraba |  |
| (iii) | itaa |  |
| (iv) | iteepu |  |

/i/ is used to contrast meaning, for example in the words [iria] and [jiria]. The first word with a null onset means that one but when the semi vowel / j / is added to make the syllable CV , the meaning changes to it is eating ( a -human entity is eating). The vowel /i/ does not occur word medially and word finally in
stomach
louse
1 am burning
it is his (something)
and $/ \mathrm{u} /$ had words which distinguish meaning using vowel length as shown in 2.

| example | Gloss |
| :--- | :--- |
| sala | vomit |
| saala | pray |
| lira | cry |
| liira | eat for |
| wola | rot away |
| woola | say |
| khula | grow up |
| khuula | uproot |
| /wula/ | subdue |
| wuula | reveal/ husk grains |

The vowel i / is used as a prefix in common nouns, particularly names of animals, for example in [ $\mathrm{i}^{\mathrm{m}} \mathrm{bwa}$ ] (dog). /i/ also forms the prefix that is used in borrowed words that have been adapted to conform to the phonotactics of Olutura. One of the reasons for borrowing words from other languages is the need that arises when the borrowing language lacks an equivalent word [12, 13]. The words in 3 have been borrowed from English and Kiswahili:

| [itotfi] | a torch |
| :--- | :--- |
| [iraßa] | a rubber |
| [ita:] | a lamp |
| [ite:pu] | a tape |

Olutura in the zero onset syllable structure. It only occurs in these word positions if it follows a consonant. The optimal position for $/ \mathrm{i} /$ is word initial. The long counterpart of /i/, that is /i:/ was attested in Olutura words like those in 4.

| 4. | (i) | miima | $[\mathrm{mi}: m a]$ |
| :--- | :--- | :--- | :--- |
| (ii) | miina | $[\mathrm{mi}: n a]$ |  |
|  | (iii) | esiina | $[$ esi:na $]$ |
|  | (iv) | yiima | $[j i: m a]$ |
|  | (v) | yiiya | $[j i: j a]$ |

It was noted that the short /i/ and long /i:/ are used contrastively, that is, they show a difference in meaning; for example in the words [ ji:ja] and [jija] mean walk aimlessly and something is getting cooked respectively.
/e/ is a front vowel which is produced with the tongue hump in medial position. It is made with spread lips it is the prefix which is used in the phonological process of prothesis to change basis verbs into the first person singular. This is results in Olutura constuctions

> manners
> press
> court hearing
> hunt
> walk aimlessly
as engula (I am buying) and emba:ra
(I am thinking).

It was observed that the $e$ prefix is fast disappearing from Olutura verbs indicating the $1^{\text {st }}$ person singular. This is due to the fact that it is a redundant feature since its absence does not alter the meaning of the verb in question; for instance, speakers of Olutura will simply say ngula instead of engula.
/a/ - This is a central low vowel that is made with neutral lips as in the word 'alia' (he is eating). This is the vowel that is used as a pre-prefix in the third person singular pronoun and also forms the zero onset V syllable structure. In Olutura, it is also the vowel to which some prepositional morphemes are added to indicate place. For instance in 'ano' (here), 'ao' (there).

The vowel /a/ is the prefix morpheme that forms the $3^{\text {rd }}$ person singular category. Unlike the ' e ' prefix, ' $a$ ' is not redundant because it is needed in Olutura phonotactics to bring out meaning.
/o/ - this is a mid-vowel that is made with rounded lips word omwitsa (friend). $/ 0 /$ is produced by retracting the tongue to the back from its neutral position and it is therefore a back vowel. This vowel occurs at word initial position mostly in common nouns like omwana (a child).
5. (i)
(i)
(ii)
oyo
[ojo]
that one
(ii) ola
(iii)
(iv) oluma

It was observed that Olutura speakers always leave out the prefix ' $o$ ' in quick speech but they are aware that it is part of the phonological make-up of such words; for example one will say mwana instead of omwana. Just like the prefix ' e ', ' o ' is a redundant feature in common nouns and that is why speakers of Olutura leave it out in most cases. While the distribution of the vowel/o/ is relatively free in Olutura words, its prevalence in particular word groups, word positions and even formation of the nucleus with only some consonants was noted. The data analyzed shows that $/ \mathrm{o} /$ only occurs before the nasal consonant $/ \mathrm{m} /$, the lateral $/ \mathrm{l} / \mathrm{l} / \mathrm{k} /$ and the prenasalized sound in nouns. The vowel /o/ forms the null onset syllable which forms the prefix in demonstratives and that also indicates the $2^{\text {nd }}$ person in Olutura verbs as shown in 5 (i)-(ii) and (iii)(iv) respectively.

In this case it cannot be omitted because it carries meaning. In terms of vowel harmony, /o/ can occur before the CV syllable that has any of the rest of the vowels in the phonology of Olutura. This means there are no restrictions on the vowel features that can occur with /o/ in the following CV syllable, the nucleus may be [round], [back], [low] or [high].
/i:/ - This is produced in the same way as $/ \mathrm{i} /$. However, it only differs with /i/ in that the tongue is much higher during production than /i/ and occurs in words such as in the second syllable of the word emiima (manners).
/e:/ is similar to /e/ in all parameters but the only difference is that it is made with the lips more spread than le/. It is found in such words as leera (bring) and teema (try).
/a:/ is a central vowel just like its shorter counterpart /a/. In Olutura, it occurs in words like kaangulula which means untie.
/o:/- This is the long counterpart of the short Olutura vowel $/ \mathrm{o} /$ and is found in words like bodookhana (go round).
/u:/ is similar to /u/ in all other parameters apart from the height of the tongue which is higher than $/ \mathrm{u} /$ during production. An example of this vowel is in the word wuula (husk grains) and vuula (reveal).

The five vowels give Olutura a three vowel height system. The distribution of the vowels of Olutura according to the three word positions is shown in table 3.4. The distribution of vowels in different languages depends on the category of lexical items. In Olutura the distribution of the low vowel /a/ and the mid vowels /e/ and $/ \mathrm{o} /$ is fairly predictable while for the high vowels /i/ and $/ u /$ is not. The distribution of $/ 0 /$ and $/ a /$ is free since they can occur in all word positions unlike /e/ which is restricted to word initial and medial positions.

Table 3.4: Olutura vowel distribution

|  | initial | mid | final |
| :--- | :--- | :--- | :--- |
| $i$ | $\sqrt{ }$ |  |  |
| $u$ |  | $\sqrt{ }$ |  |
| $e$ | $\sqrt{ }$ | $\sqrt{ }$ |  |
| $o$ | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ |
| $a$ | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ |

## The Consonant Sound of Olutura Olutura plosives

Olutura has four voiceless plosives $/ \mathrm{p} /$, /t/, /c/ and $/ \mathrm{k} /$. The four have their labialized counterparts / $\mathrm{pw} /$,
$/ \mathrm{tw} /$, /cw/ and /kw/. Plosives are produced when there is, first a complete closure of the articulators and then a sudden burst of the air that was build up behind the closure. [15]. Olutura only has non-emphatic stops as
discussed in the next paragraph. This is as per the IPA chart by Al-Ani [14] which categorizes consonants into two; those that are emphatic and those that are not.

In Olutura, the voiceless bilabial plosive $/ \mathrm{p} /$ is found in words like paara (think). This is one of the consonant sounds that are used very predominantly in Olutura. This confirms the observation by Hyman [6] that not all sound segments in the phonemic inventory of a language are used equally; some are used more than others. The speech sounds that are more common than others in a language are unmarked while those that are rare are marked. The voiced bilabial plosive /b/ does not occur in the phonemic inventory of this dialect, the Abatura use it in written medium. The speakers of Olutura have a problem in pronouncing it whenever they encounter it from other languages and in borrowed words. In such cases, speakers of Olutura always interchange it with the bilabial fricative $/ \beta /$ or the labiodental fricative $/ \mathrm{v} /$ in written medium and with the voiceless /p/ in speech.

The voiceless alveolar plosive/t/ is also very common in Olutura speech sounds. It occurs in words like tiira catch the voiceless velar plosive /k/ was attested in words like kalukha (come back). The sound $/ \mathrm{k} /$ has a lot of frequency in Olutura speech sounds, particularly verbs. Just like with the sounds $/ \mathrm{p} /$ and $/ \mathrm{t} /$ which do not have the voiced counterparts, $/ \mathrm{k} /$ does not also have the voiced /g/ which only occurs together with $/ \mathrm{n} /$ in the onset of words like $/ \mathrm{i}^{\mathrm{n}} \mathbf{g u} \beta \mathrm{o} /$ (dress). The velar plosive $/ \mathrm{k} /$ does not therefore form a sequence with the nasal $/ \mathrm{n} /$ in Olutura onsets.

Olutura also has the voiceless palatal plosive /c/ which is also symbolized as / $\mathrm{f} /$. This is found in Olutura words like yachikha [jacixa] (hang up). This sound segment is not very common in this dialect as it is in other Luyia dielects like Olunyala ( K ) and Olunyala (B) [3]. Speakers of Olutura usually confuse the palatal plosive/c/, which is voiceless, and the voiced palatal plosive /J/ when they encounter it in second languages like English The voiced counterpart of /c/ does not occur in the inventory of Olutura, hence the confusion and complementary use of the two by Olutura speakers, particularly in spoken English.

## Olutura Fricatives

In Generative CV Phonology, fricatives are nonsyllabic consonants because they can only form the onset or coda in a syllable. In Olutura and Bantu languages in general, they can only form onsets because Bantu languages do not have a coda. Olutura has four
fricatives, namely; one voiceless labio-dental fricative, /f/, for example in the word funula ( uncover), the postalveolar fricative $/ \delta /$ as in the word eshisa (mercy), one velar fricative $/ \mathrm{x} /$ as in khina (dance) and one voiced bilabial fricative $/ \beta /$ with a very high occurrence in this dialect. It is found in words like vusiru [ $\beta$ usiru](foolishness) and inguvo [ingußo] (dress). Kuria [2] and Etakwa [3] both observe that there are discrepancies in the phonetic symbols and orthographies of many Kenyan languages. The two researchers use an example of the phonetic symbol [ $\beta$ ] which is used to refer to the sounds /v/or /b/ in Gikuyu and Luyia orthography and yet they are phonetically different. In the case of Olutura, $/ \mathrm{v}$ / is the sound that is phonetically realized in words like [ $\beta$ angi] which means many; this means that such words should bare the orthographic symbol $/ \mathrm{v} /$ and not /b/. Indeed, many Luyia, and in particular Olutura speakers tend to interchange $/ \mathrm{b} /$ and $/ \mathrm{v} /$ in their writing, probably because they know the phonetic symbol is $/ \beta /$ while they produce $/ \mathrm{v} /$ in their speech. The sound $/ \mathrm{b} / \mathrm{is}$, only forms a cluster with nasals in Olutura phonology. In the Lulogooli dialect of Luyia, the word viabati has the onset of the first syllable as $/ \mathrm{v} /$ while the second syllable has the sound $/ \mathrm{b} /$. An orthographic representation of both vowels as $/ \beta /$ would, therefore, course a mispronunciation of the word. In the current study we argue for the use of $/ \mathrm{v} /$ in orthographic representation instead of $/ \mathrm{b} /$. The Olutura word for many should be vangi and not bangi and phonetically transcribed as $\left[\beta a^{n} \mathrm{gi}\right]$. This is because $/ \mathrm{b} /$ and $/ \mathrm{v} /$ are different in terms of manner of articulation. Regarding the discrepancy in the orthographic representation of $/ \mathrm{b} /$ $/ \beta /$ and $/ \mathrm{v} /$, Odden [16] also notes that Bantu did not contrast $/ \mathrm{b} /$ and $/ \beta /$. The sounds $/ \mathrm{J} /, / \mathrm{d} /, / \mathrm{g} /$ and $/ \mathrm{z} /$ do not occur singly in Olutura phonology in which $/ \mathrm{v} /$ is the only voiced consonant. There are also other sounds in Olutura with certain features that form part of the phonemic inventory of this dialect as indicated in table 4.5. The phonemes $/ \mathrm{c} /$ and $/^{\mathrm{n}} \mathrm{J} /$ only occur in Olutura phonology as a result of borrowed words.

## Olutura Affricates

An affricate sound is a combination of a plosive and a fricative. Olutura has two affricates, the voiceless alveolar /ts/ as in the onset of the second syllable of the word itsa (come) and the palatal affricate $/ \mathrm{c} /$ also transcribed as $/ \mathrm{f} /$. The latter of has already been discussed as a palatal plosive. In Olutura, /ts/ is articulated with the tip or blade of the tongue slightly behind the alveolar ridge. It is, therefore, referred to as a retracted articulation. The affricate /ts/ can occur in any word position as seen from 8.

| 8. Olutura $/$ ts/ <br> occurence  | gloss |  |
| :--- | :--- | :--- |
| (i) | [tsja] | go |
| (ii) | [tsino] | these ones |
| (iii) | [vitsere] | rags |
| (iv) | [amatsi] | water |
| (v) | [tsiosi] | all of them |

## Olutura Nasals and Prenasalised Sounds

Olutura has four nasal sounds, namely; the bilabial nasal $/ \mathrm{m} /$, the alveolar nasal $/ \mathrm{n} /$, the velar nasal $/ \mathrm{y} /$ and the palatal nasal $/ \mathrm{n} /$. Nasal sounds are produced when the velum is lowered so that most of the air passes through the nose. According to Ladefoged [5], the air concurrently released through the nose and oral cavities. Olutura has five prenasalized sounds( table 3.5), the voiced bilabial prenasalized stop /mb/as in mbuka ( I wonder), the voiced alveolar prenasalized stop $/{ }^{n} \mathrm{~d} /$ as in mundu a person), the alveolar prenasal $/ \mathrm{n}^{\mathrm{z}} /$ as in enzala (hunger), the velar prenasal $/ \mathrm{m} \mathrm{g} /$ as in ngula (I buy) and the voiced palatal prenasal $/ /^{\mathrm{T}} \mathrm{J}$. The voiced palatal prenasal $/^{n} J /$ as in enjuku (groundnuts) occurs in borrowed words and appears in bold in the chart of the phonemic inventory of Olutura. The velar nasal $/ \mathrm{y} /$ also has the complex onset ygw that occurs as a result of labialization as in the swear word $\eta g w e e$. It is interesting that Olutura prenasalizes the voiced plosives /b/, /d/ and /g/ which do not singly occur in the phonemic inventory of the language and does not prenasalize the voiceless plosives which are quite predominant in this dialect.

## Olutura Liquids

Olutura has three liquid sounds; two lateral, /l/ and $/ / /$ and the trill $/ \mathrm{r} /$. According to Roach [15], liquids are a type of approximants which differ from glides in that they can be maintained as steady sounds. These are sounds that are produced when the tongue approaches a point of articulation in the mouth but does not come close enough to cause turbulence by constricting the air flow. The tongue sends the air in the mouth into different directions before it goes out through the mouth. In Olutura, the sound $/ 1 /$ is a lateral liquid which is produced when the air escapes along the sides of the tongue and is articulated with the tip of the tongue near
the alveolar ridge. It occurs in Olutura words like luma (bite) and moola (crawl). The sound $/ / /$ is a retroflex lateral approximant which is articulated with the tip of the tongue retracted from the alveolar ridge and touching the hard palate. This sound is found in words like mulembe (peace) and leera (bring). The lateral /l/ has its complement sound $/ \mathrm{lj} /$ which is as a result of secondary articulation. It occurs in words like [lja] (eat) and $\left[\mathrm{lja} \mathrm{a}^{\mathrm{n}} \mathrm{j}\right]$ (mine). The production of $/ / /$ differs from that of $/ 1 /$ because in $/ L /$, the air on the side of the tongue escapes only once as opposed to $/ 1 /$ in which the escaping air takes a while. The data analyzed shows that in Olutura, /// only occurs in the CVV syllable structure and it is marked due to its sparse occurrence in this dialect. The alveolar trill, /r/ occurs in Olutura words such as rusia (remove) randula (tear) and ruma (send). It is produced in the same way as the lateral liquid/l/ but the only difference is that the flow of air is over the tongue near the roof of the mouth before escaping through the lips.

## Olutura Glides

Olutura has two glides; /w/ and /j/. Glides, shown in table 3.5 as approximants, are sounds that are produced when the tongue approaches a point of articulation in the oral cavity but not close enough to cause an obstruction. The body of air glides over the tongue getting out through the mouth. The sound $/ \mathrm{w} /$ is a labiovelar glide whose production involves the body of the tongue being rolled towards the velum. In Olutura the sound $/ \mathrm{w} /$ is a pure consonant by itself although it forms a cluster with other pure vowels to form an onset of a syllable as seen in table 3.5. The sound $/ \mathrm{j} /$ is a palatal glide which is produced by raising the main body of the tongue towards the hard palate. This is also a pure consonant in Olutura just like /w/ and behaves in a similar way in syllable formation.

Table-3.5: Summary of Olutura Consonants

|  | Bilabial | Labio-dental | Alveolar | Palatal | Velar |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Plosive | p pw |  | t tw | ch [ f$] / \mathrm{Lc}$ ] | k kw |
| Affricate |  |  | Ts tsw |  |  |
| Fricative |  | $\begin{aligned} & \hline \mathrm{f} \quad \mathrm{v}[\beta] \mathrm{fw} \\ & \mathrm{vw} \end{aligned}$ | S sw | sh [J] | x xw |
| Nasal | m mw |  | n nw | n nw | 1 |
| Trill |  |  | r rw |  |  |
| Lateral |  |  | 1 lw | 1 lj |  |
| Approximant | W |  |  | j sj |  |
| Prenasals | mb mbw |  | $\begin{aligned} & \text { nd, ndw } \\ & { }^{n} \mathrm{z} \end{aligned}$ | ${ }^{\mathbf{n}} \mathbf{J}$ | $\begin{gathered} \mathrm{n}_{\mathrm{g}} \mathrm{n}_{\mathrm{g}} \mathrm{gw} \\ \text { ygw } \end{gathered}$ |

We have used the symbol $\mathfrak{y}$ to represent the orthography ng' as in the word ing'ombe [ino ${ }^{\text {m }}$ be] and ${ }^{\mathrm{n}} \mathrm{g}$ to represent ng as in the word ngula ["gula]. The sound $/ \mathrm{m} /$ is one of the prenasal sounds in Olutura.

## CONCLUSION

Olutura orthography is both syllabic and alphabetic in that symbols can represent syllables or
phonemes. Olutura can be said to, almost, have a shallow orthography because the pronunciation of most Olutura words corresponds with the spelling, making it generally regular. Sounds that do not correspond with the spelling because of having special symbols are few as seen in the appendix. Olutura has a total of 53 sounds composed of 43 consonants, including the English semi-vowels, and 10 vowels. Generally Olutura does

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not have many voiced consonants although it was observed that voicing emerges during the phonological process of prenasalization which results in voiceless sounds becoming voiced prenasals. This is one of the reasons for the expanded consonant sounds in the phonetic inventory of Olutura beside labialization and velarization.

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## Appendix

Olutura Orthography (excludes sounds with secondary articulation)

| Grapheme | Phonemic symbol | Olutura word | Gross |
| :---: | :---: | :---: | :---: |
| a | /a/ | ano | here |
| e | /e/ | eno | this way |
| i | /i/ | inda | louse |
| o | /o/ | oyo | that one |
| u | /u/ | /lusala/ | a stick |
| ch | /f/ $/$ or/c/ | /omukachi/ | sugarcane |
| f | /f/ | /fua/ | give a gift |
| h | /h/ | lihande | a knife |
| k | /k/ | /kula/ | buy |
| kh | /x/ | khesia | greet |
| 1 | /1/ | lola | see |
| 1 | /V | mulembe | peace |
| m | $/ \mathrm{m} /$ | moola | crawl |
| n | /n/ | niina | climb |
| ng | /ng/ | ngona | I am sleeping |
| nj, | $/^{\mathrm{n}} \mathrm{J} /$ | tsinjuku | groundnuts |
| ng' | /n/ | ing'ombe | a cow |
| ny | /n/ | inyinga | a day |
| p | /p/ | paara | think |
| r | /r/ | rusia | remove |
| S | /s/ | sindu | something |
| sh | / $/$ / | eshibehe | tail of a fish |
| t | /t/ | toola | pick |
| ts | /ts/ | itsa | come |
| v | / $/$ | inguvo | a dress |
| w | /w/ | tawe | no |
| y | /j/ | yira | take |
| nz | /nz/ | inzala | hunger |

