

*Full Length Research Paper*

# Phonology of Yem: Phonological processes

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Accepted 12 November, 2012

**This study attempted to analyze phonological processes in Yem, the language under Western Proto-Omotic. It was a descriptive analysis which focused on the specific points of the phonological processes including some descriptions of the segmental phonemes. Hence, the central theme of the study was to provide a descriptive explanation of properties of the phonemes in the target language. The data used in the study were gathered both in library work and informant selection for elicitation. Using elicitation, phonemic inventory was done both for consonant and vowel sounds of the language. The linguistic items used to identify the phonological processes were obtained through elicitation. Here, there have been some phonological processes undergone either in a word or across words: assimilation, labialization, spirantization, voicing or devoicing, palatalization, epenthesis, deletion and dissimilation. Generally, the study identified some very peculiar phonological features in the language, which could be unique to it.**

**Key words:** Phonological processes, phonology of Yem, assimilation, labialization, spirantization, palatalization, epenthesis, deletion and dissimilation.

## INTRODUCTION

Ethiopia is a country with more than 80 languages. The languages are categorized under Semitic, Cushitic, Omotic and Nilo-Saharan language families. Semitic, Cushitic and Omotic are subgroups of the super language family known as Afro-Asiatic. Nilo-Saharan is another super-family found in most parts of Western Ethiopia (Bender and Fleming, 1976). Since the focus of the study is the language that belongs to Omotic subgroup, it is important to proceed to the linguistic information of the target language.

Omotic as a whole represents about twenty eight "minority" languages, most of which have not been documented

(<http://www.ethiopian treasures.co.uk/pages/language.htm>). This language family has a very vast variety within itself in Ethiopia. Most languages in this family are spoken in the surroundings of the Omo River system from which the name is derived. Two regional sub-families of the Omotic family are the Eastern and the Western Proto-Omotic. The Eastern Proto-Omotic includes Welayta, Gamo, Gofa, Malo, Zala, Dawuro, Konta, Zayse, Dorze, Koyra, Gidicho, Kachamo, Basketo, etc. The Western Proto-

Omotic includes Ari, Dime, Banna-Hamer, Benchnon, Maji, Sheko, Mao and Yem, as well as the Omoto clusters. The Omotic languages are found only in Ethiopia (Bender and Fleming, 1976).

Yem is one of the Omotic languages which are found under Western subgroup. It is spoken in the SNNPRS (Southern Nations, Nationalities, and People's Region), particularly around Fofa area and Saja (small villages found in SNNPRS). The area is located between Addis Ababa and Jimma town. This language is bounded by Oromia in North and Northwest, by the Gurage Zone in Northeast, and by Hadiya Zone in South. On the other hand, the language has speakers who live outside SNNPRS, like Jimma town, Sokoru, Dedo and Sak'a (Hirut, 1993; Derib, 2004; Teshome, 2007). The language has three varieties or dialects categorized by social structures. The first variety is that of Royal families, the second is of ordinary, and the third is of informal type. From these three variants, the present study focuses on the ordinary language used by many people in the Fofa area. The language has different names which are derogatory; hence, they are avoided in this study.

So far, a considerable amount of studies have been conducted in different structures and aspects of the Yem language. These works focus dominantly on morphology and syntax. Almost none of them seem to have addressed the issue of phonology as their main concern. I have tried to review many of the works hereunder in accordance with time sequence. From the various studies conducted on Yem by Bender and Fleming (1976), Fissaha (1984), Girma (1986), Hirut (1993), Derib (2004) and Teshome (2007) are the main ones.

Bender and Fleming (1976) tried to compare languages of Cushitic and Omotic families under the title "Cushitic and Omotic". They categorized the [Yem] (this replaces derogatory word) language under the western Proto-Omotic subgroups, and included it in their comparison, but they did not treat the language independently by identifying the linguistic structures.

Another work in similar area is that of Fissaha (1984) "Noun morphology of Yamsa" which was presented to the Linguistics Department as a partial fulfillment for the BA degree. Under this title, Fissaha discussed some inflections in nouns in terms of gender, determiners, numbers, case, and so forth. He has touched up on some derivations of nouns, and a few notions on morphophonemic changes which involve noun inflection and derivation.

Girma's (1986) BA thesis, "Yemsa Verb Morphology" is another study on the Yem language. This study is concerned with presenting some of the neglected aspects as verb inflections and deriving verb systems of the language. Girma dealt with some predominantly prevailing morphophonemic changes and conditions. He also tried to identify three forms of vocabulary items which have the same or similar meanings and concepts in the society. These are 'royal', 'respect' and 'informal'.

At MA level, we find Hirut's (1993) thesis, conducted on the word formation processes in Yem. Hirut has made a conceptual analysis by using affixation, compounding, and reduplication. She treated morphological, syntactic as well as phonological properties of the word formation processes. Her thesis was named as "Word formation processes in Yem".

Derib (2004) has also conducted a study on the Yem language. His work is a syntactic analysis of noun phrase in the language by considering principles and parameters theory. He, even, showed the analysis of noun phrase structure in line with the DP hypothesis. The title of Derib's MA thesis is "The structure of Noun phrase in Yem".

In addition to the above works, there is also an MA thesis on the language by Teshome (2007). Teshome, under "The Syntax of Simple Verbal and Nominal Clauses of Yem", identified simple verbal and nominal clauses of Yem through Minimalist Approach of Chomsky. He focused on the derivation of simple verbal and nominal affirmative clause structures.

The studies reviewed above are related to the study at

hand in that they are all conducted on Yem, particularly syntax and morphology. Yet, there are considerable gaps to be filled on the area of phonology. The present study in part is, thus, an attempt to fill the gaps by focusing on phonological processes.

An important aspect of the general characteristics of language is the notion which is concerned with the fact that all languages continually get their own rules and principles to govern the patterns and distributions of sounds. All human languages handle richly and readily with the speech sounds by having several ways of comprising the systematic and functional properties to express them.

The scientific study of language which deals with such rules and principles in the production of speech sound is Phonology. Phonology seeks to discover those systematic properties in the domain of sound structure, and finds the regularities and principles behind it, both for individual languages and for language in general (Wiese, 2006). Here, it is the science that recognizes the patterns and functions of segments or individual speech sounds to make communication in particular language meaningful (Catford, 1988).

Sound patterns are "the set of sounds which occur in a language, permissible arrangement of the sounds in words or the processes for adding, deleting or changing sounds" (Sloat, 1978). Even if all languages share universal properties like, having vowels and consonants, some syllables that begin with consonants and end with vowels, and unrounded front vowels and rounded back vowels, it is highly unlikely that any two languages have exactly the same sound pattern. Sound patterns can be described in three behaviors, one of which is dissimilarities of sound inventories, the second way is the different sound orders, and the last is related with the rules or processes affecting the sounds (Wardhaugh, 1977; Sloat, 1978; Hammond, 2006). All these concepts are treated under the discipline of phonology.

Phonemes (both consonants and vowels) are the invariant categories identified in phonology. Consonants in minimal pairs are different phonemes if they occur in the same environment, and make meaning change among the pairs (Mulugeta, 2008). Hence, they are the smallest units of speech sound which exist in contrast, and cause meaning difference among words. "A unit of sound is a phoneme if it functions to distinguish lexical items from each other in terms of meaning, and if it cannot be broken up any further in a way that other lexical units emerge" (Wardhaugh, 1977). Phonemes are abstract forms: they occur in the forms of phones which are the physical representations. And these phones, based on the environments of the phonemes, may exist in different realizations which are known as allophones (Lass, 1984; Wiese, 2006).

Speech sounds in language are patterned in a successive sequence and form a higher unit to convey meaning. Individual sounds within words or across words

interact and affect one another. In fact, not all sounds undergo such process with the neighborhood sounds, except those which are dominant over the others in point or manner of articulations. Thus, phonemes and their realizations can be described by means of different rules in which way they are modified under specific circumstances, such as the influence from right or left neighbors (Sloat, 1978; Wiese, 2006).

There are several phonological processes which bring about segmental changes in natural languages, typically in a morpheme or through morpheme chains, among which assimilation, labialization, Spirantization, voicing or devoicing, palatalization, epenthesis, deletion, dissimilation, and metathesis are the common ones in most languages of the world (Sloat, 1978; Lass, 1984; O'Grady et al., 1997).

Assimilation is a phonological or an articulatory process occurring on neighboring sounds, which results from a sound becoming more like another nearby sound in terms of one or more phonetic properties. In the influence a sound arrives on the preceding nearby segment (phoneme), that is, on the left-hand of the sound, the resulting assimilation is regressive or anticipatory while the influence arrives on the following or right-hand segment in progressive (Lass, 1984). Palatalization is the process of superimposing a palatal articulation on non-palatal consonants which are followed by a front vowel or glide, and labialization superimposes labial feature on non-labial consonants while voicing and devoicing are changing voiceless sound to voiced or the vice versa due to the influence of neighboring sound. Spirantization is the process of changing non-fricative to fricative.

Some languages do not allow three consonant clusters in a successive sequence. Thus, they use the process of epenthesis to keep their phonotactic constraints. Epenthesis is the technique of inserting syllabic or non-syllabic segment within an existing chain of segments. The segment to be inserted can be vowel or consonant even if the vowel /i/ is the most common to be inserted as epenthetic vowel in many languages. The epenthesis process functionally facilitates pronunciation by breaking up the impermissible sequences of consonants. If a segment (especially, vowel segment) is inserted between two consonants, it is said to be anaptyxis, but if it is inserted at the beginning of morpheme, it is prosthesis (Lass, 1984).

A segment, which occurs either in a morpheme or across the boundaries of morphemes, can be removed from certain phonetic contexts when they are fixed together. This is done because some languages do not allow diphthongization (succession of two different vowels). This removal or reduction of segment is said to be deletion.

There is another phonological process which is opposite to assimilation, dissimilation. Two segments become less alike in articulation which might be resulted from successive sequence. This can be to make the

segments easier to articulate and distinguish. Thus, dissimilation is sometimes used as an alternative to deletion.

Common in many languages is the process of metathesis. Speakers may reverse the actual order of adjacent segments that are derived from non-actual forms for various reasons. This reordering of sequential segments or phones to make articulation easier can be termed as metathesis. This process is common in the speech of children and the adults who cannot properly articulate some words. The process of sound change can vary in degree of naturalness in the language; that is, their occurrences depend on the frequencies of the successive sequence of sound.

Yem is the language of Omotic family which is found near the centre of Ethiopia, and bounded by languages of Cushitic family (usually, Hadiya and Afan Oromo). There are no enough or hardly any research works done on its phonology. The study, then, tries to investigate the phonology of Yem, and in doing so, attempts are made to answer the following questions:

- 1) What are the consonant and vowel phonemes of the language?
- 2) What are the common phonological processes found in the language?

The main objective of this study is to look into phonological processes in Yem, and to explain the phonemes in the contexts under this general objective, the study specifically tries to:

- i) Identify the consonant and vowel phonemes of Yem;
- ii) Examine phonological processes in the language.

The study is delimited to the analysis of phonology in Yem. The primary concern of the study is to highlight the phonological processes. It focuses only on segmental phonemes, and phonological processes. Here, it does not deal with detail phonotactics, phonological distributions and syllable structures. Though the language is tonal, the study does not include tone analysis of the language and other suprasegmental features except assigning the tones of the syllables.

## METHODOLOGY

This study is conducted through library research and fieldwork. Library research is used, according to Goldstein (1965), as a pre-field work preparation. Goldstein stresses this idea by saying "Systematic fieldwork usually begins at desk, in the library and the archives" (ibid). It involves assessing studies conducted previously on phonology, and Yem phonology in particular. The data for this study are obtained dominantly through fieldwork by using elicitation, wordlist paradigm and storytelling. The words are collected from the native speakers of the target language.

Eight native speakers of the language are selected. The informants were preferred for the very reason that they are monolingual speakers. Convenient sampling technique is employed in selecting key informants among the residents of the area depending on their language accuracy. The data gathered are cross-checked with secondary sources written on the language. For the purpose of obtaining the desired data, two instruments are employed. These are interview and survey of written literatures.

## RESULT AND DISCUSSION

There are various phonological universals among world languages of which the existences of consonant and vowel phonemes are the two features. Yem is one of those which have different consonant and vowel phonemes. This section identifies and describes the segments, and analyzes some phonological processes in Yem.

### Segmental phonemes in Yem

Every language has its own segments which are categorized under consonant and vowel phonemes. Likewise, Yem has both consonants and vowels as indicated in Table 1.

#### Consonant phonemes

Previous studies on the Yem language, except Fissaha (1984), describes that the language has twenty three consonant phonemes. On the contrary, the author found that the consonants are twenty six which include /f/, /w/, and /j/ in addition to the indicated number. These additional phonemes can be shown by using either minimal or suspicious pairs as follows:

Minimal pairs	Gloss
1) /f/- /fas/ /k/-/kad/	'annoy' 'cut'
2) /w/-/ʔe:wa/ /s/- /ʔe:sa/	'inset' 'honey'
3) /ʔ/- /keʔa/ /j/- /keja/	'knee' 'house'

In number 1 above, the near minimal/suspicious pairs show the contrast between /f/ and /k/ phonemes. The phonemes occupy the same position, and bring about meaning difference among the two words. In the same pairs, /s/ and /d/ are suspicious pairs because they are pairs are easy to identify the phonemes /s/ and /w/, which bring meaning change between /ʔe:sa/ and /ʔe:wa/. The last minimal pairs are also clear enough to identify the

phonemes /ʔ/ and /j/. Thus, it can be said that Yem has labiodental alveolar fricative /f/, approximants /w/ and /j/, in addition to the twenty three consonants mentioned by previous researchers.

The situation lies on some ejective sounds like /t'/, /c'/, and /k'/. These sounds have no or hardly any minimal/suspicious pairs which may make them loan words because they are found in borrowed words. These words are borrowed either from Amharic or Afan Oromo as shown below:

Borrowed words	Gloss
4) /t'/- /k'urt'ummii/ - /sat'inii/ /k'/- /bok'k'ollo/ - /k'urt'ummii/ /c'/- /c'amma/	'fish' (Afan Oromo) 'box' (Amharic) 'corn' (Afan Oromo or Amharic) 'fish' (Afan Oromo) 'shoe' (Amharic)

As shown above, the words /k'urt'ummii/ 'fish', /sat'inii/ 'box', /bok'k'ollo/ 'corn' and others are borrowed from the neighboring languages, Amharic and Afan Oromo. Therefore, the idea of whether ejective sounds are the phonemes of Yem or not is inconclusive.

#### Vowel phonemes

Like any other language, vowels make the nucleus of a syllable in Yem. Hence, they are compulsory for the construction of any morpheme or word. The following chart shows the vowel phonemes of the language (Figure 1).

Yem, like many Omotic languages for instance (Azeb, 2001), has five vowel phonemes with their long counterparts. Vowel length is indicated by using colon after the phonemic/phonetic symbol. Here, vowel length makes meaning difference among words. Example:

/e/	/keja/	'house'
/e:/	/ke:ja/	'move'
/i/	/fizo <sup>1</sup> /	'goat'
/i:/	/fi:zo <sup>1</sup> /	'sleeping'

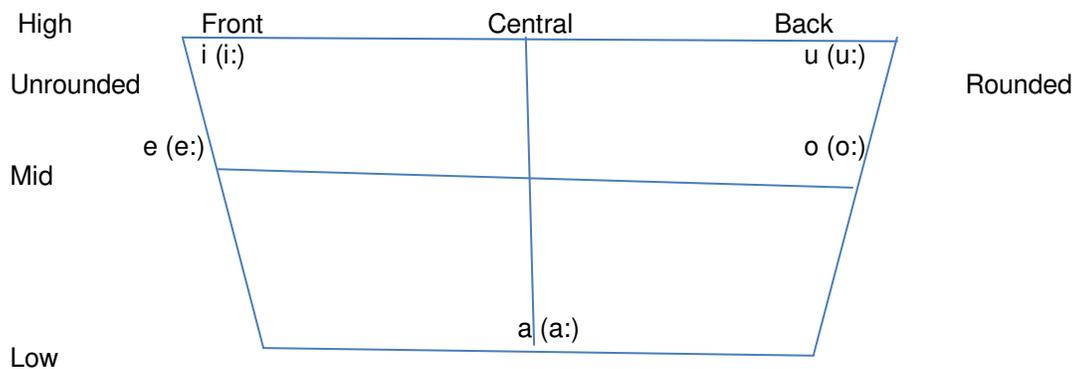
As shown in the above two minimal pairs, short and long vowels occur in the same position in the words /keja/ 'house' and /ke:ja/ 'move', and /fizo<sup>1</sup>/ 'goat' and /fi:zo<sup>1</sup>/ 'sleeping' (the superscript <sup>1</sup> indicates high tone). The couple of vowels bring about meaning difference between the words they occur in. Thus, one can say vowel length is phonemic in Yem.

#### Phonological processes

Phonological processes occur in Yem in and/or across

**Table 1.** The consonant phonemes of Yem.

Types of consonant		Labial	Labiodental	Alveolar	Palatal	Velar	Labio-velar	Glottal
Stops	Voiced	b		d		g		
	Voiceless	p		t		k		ʔ
Ejectives	Voiced							
	Voiceless	p'		t'	c'	k'		
Nasals	Voiced	m		n	ɲ	ŋ		
	Voiceless							
Affricates	Voiced				j			
	Voiceless				č			
Fricatives	Voiced			z				
	Voiceless		f	s	š			h
Approximants/ glide	Voiced				j		w	
	Voiceless							
Liquids	Voiced			r				
	Voiceless							
Laterals	Voiced			l				
	Voiceless							



**Figure 1.** The vowel phonemes chart.

both a word and morpheme boundaries. These common processes are assimilation, seen as labialization/rounding, spirantization/fricativization, devoicing, voicing and palatalization, epenthesis, deletion and dissimilation.

**Assimilation**

As discussed in theoretical framework, assimilation is the prominent and most common phonological process, which is observed in many languages. It is the situation where some phonemes are more alike their neighbor-

hood than the others in distant environment. The phoneme may be changed completely (complete assimilation) or partially (partial assimilation) to seem its neighbor. The following are such processes in the Yem language.

Complete assimilation can occur due to labial sounds appearing after non-labial sounds and changing the preceding sounds to labials. The following data indicate such instance:

5) /mettan-ba<sup>1</sup>/ ‘sick-ness’ —————> [mettamba<sup>1</sup>]  
 ‘sickness’

- 6) /zuttanba<sup>1</sup>se/ 'all' —————> [z<sup>w</sup>uttamba<sup>1</sup>se]  
'all'  
7) /fizo<sup>1</sup>-nba<sup>1</sup>/ 'goat-her' —————> [fiz<sup>w</sup>o<sup>1</sup>mba<sup>1</sup>] 'her  
goat'  
8) /han-fizo<sup>1</sup>/ 'this-goat' —————> [hamfiz<sup>w</sup>o<sup>1</sup>] 'this goat'

**Rule 1:** Non-Labial —————> Labial/—Labial or Labio-dental

/n/ —————> [m]/ — /b/ or [m]/ — /f/

Rule 1 above indicates the change of phoneme /n/ to [m] and [m] due to its occurrence with the labial /b/ and labio-dental /f/. Thus, it can be generalized that non-labial consonant phonemes can be labialized partially or completely due to their existence with rounded vowels and/or labial and labio-dental consonants. The process of partial assimilation rarely occurs in the Yem language. Here, alveolar /n/ is changed to velar nasal consonant [ŋ] if it appears before velar voiced stop /g/.

- 9) /ma<sup>2</sup>ngu<sup>3</sup>/ 'bad' —————> [ma<sup>2</sup>ŋg<sup>w</sup>u<sup>3</sup>] 'bad'  
10) /ʔangu<sup>3</sup>te<sup>1</sup>t/ 'men' —————> [ʔaŋg<sup>w</sup>u<sup>3</sup>tet<sup>1</sup>] 'men'

**Rule 2:** Alveolar nasal —————> velar/—velar

/n/ —————> [ŋ]/ — /g/

In this rule, the nasal consonant occurs very seldom before voiceless velar stop, so that it seems impermissible phonotactic constraint for the phoneme /n/ to precede the consonant /k/.

### Labialization/rounding

In labialization/rounding, the phonemes in a morpheme or across morphemes are affected by rounded vowel segments found in their nearby, especially preceding them. The labialization can be shown as follows:

- 11) /šup'o<sup>1</sup>/ 'thin' —————> [š<sup>w</sup>up<sup>w</sup>o<sup>1</sup>] 'thin'  
12) /fo<sup>2</sup>ro<sup>1</sup>/ 'white' —————> [fo<sup>2</sup>r<sup>w</sup>o<sup>1</sup>] 'white'  
13) /ʔatu<sup>3</sup>/ 'body' —————> [ʔat<sup>w</sup>u<sup>3</sup>] 'body'  
14) /suta<sup>1</sup>/ 'nape of neck' —————> [s<sup>w</sup>uta<sup>1</sup>] 'nape of neck'  
15) /soma<sup>1</sup>/ 'hair' —————> [s<sup>w</sup>oma<sup>1</sup>] 'hair'

**Rule 3:** Non-Labial —————> labialized/—rounded vowel

/š/, /r/, /t/ and /s/ —————> [š<sup>w</sup>], [r<sup>w</sup>], [t<sup>w</sup>] and [s<sup>w</sup>] / — /u/ or/o/

As shown above, the non-labial consonants like /š/, /r/, /t/ and /s/ are partially changed to labial consonants due to the vowel phonemes following them. These vowels are

/u/ and /o/ which round lips when articulated. The diacritic [<sup>w</sup>] indicates that the segment on which the symbol is labialized.

### Spirantization/fricativization

Spirantization/fricativization is the process where non-fricative sounds are changed to fricative due to the influence of the fricative sounds they precede in their environment. This process probably is unique feature of Yem.

- 16) /jep-sa<sup>1</sup>/ 'two-card.' —————> [jeøsa<sup>1</sup>] 'second'  
17) /ʔačeč-sa<sup>1</sup>/ 'four-card.' —————> [ʔačessa<sup>1</sup>] 'fourth'  
18) /kej-š/ 'kill-cause' —————> [kess-] 'cause to kill'  
19) /gač-š-/ 'apen-cause' —————> [gass-] 'cause to open'  
20) /bidzi/ 'single' —————> [bizzi] 'one (single)'

**Rule 4:** Non-Fricative —————> fricative/—fricative

/p/, /č/, /l/ and /d/ —————> [ø], [s], [š] and [z] /— /l/, /š/ and /z/

The above transcription indicates that when non-fricative consonant appears before a fricative one, it is completely changed to fricative. Hence, /p/, /č/, /l/, and /d/ are changed to [ø], [s], [š] and [z] respectively. However, there are stops/plosives which are changed to fricative when they occur between two vowels, especially, /a/ and /o/ in different sequences as follows:

- 21) /ka<sup>1</sup>ra<sup>2</sup>ba<sup>2</sup>/ 'blackness' —————> [ka<sup>1</sup>ra<sup>2</sup>βa<sup>2</sup>] 'blackness'  
22) /ʔa<sup>2</sup>pota<sup>1</sup>/ 'grandfather' —————> [ʔa<sup>2</sup>øota<sup>1</sup>] 'grandfather'  
23) /ʔabata/ 'my father' —————> [ʔaβata] 'my father'

**Rule 5:** Stop —————> fricative/ vowel—vowel  
/b/ and /p/ —————> [β] and [ø] / /a/ — /a/ or /o/

Rule 5 shows change of phoneme /b/ to [β] due to its occurrence between two similar low central unrounded short vowel, /a/. In similar instance, the phoneme /p/ is changed to [ø] due to its existence between low central unrounded short vowels, /a/ and mid back unrounded short vowel, /o/.

### Devoicing

Voiced consonants in Yem are devoiced if they occur in the environment of voiceless sounds which can be at word boundaries. The followings illustrate such process:

- 24) /kez-sa<sup>1</sup>/ 'three-card' —————> [k'essa<sup>1</sup>] 'third'  
25) /wag-te<sup>2</sup>/ 'buy-perf' —————> [wakte<sup>2</sup>] 'bought'

- 26) /difna<sup>2</sup>/ 'finger nail' —————> [difna<sup>2</sup>] 'finger nail'  
 27) /telfa/ 'calf of leg' —————> [telfa] 'calf of leg'  
 28) /kez-fizo<sup>1</sup>/ 'three-goat' —————> [k<sup>i</sup>esfiz<sup>w</sup>o<sup>1</sup>] 'three goat'

**Rule 6:** Voiced/Voiceless —————> —  
 Voiceless/Voiceless—  
 /z/, /g/ and /l/ —————> [s], [k] and [l] / — /s/, /t/ and /f/  
 /n/ —————> [ŋ] / /f/ —

We can observe from the above data that the phonemes /z/, /g/, /n/ and /l/ are converted to fricatives either following or preceding the voiceless phonemes. The diacritic [i] shows palatalized segment which will be discussed later under palatalization. Besides, the liquid /r/ phoneme is devoiced when it appears at the end of the words like the following:

- 29) /ʔinno<sup>1</sup>r/ —————> [ʔinn<sup>w</sup>o<sup>1</sup>r̥] 'our'  
 30) /nitto<sup>1</sup>r/ —————> [nitt<sup>w</sup>o<sup>1</sup>r̥] 'your'  
 31) /basso<sup>1</sup>r/ —————> [bass<sup>w</sup>o<sup>1</sup>r̥] 'their'

### Voicing

Some voiced consonants can cause voiceless consonants to be voiced in Yem. The following can exemplify this concept.

- 32) /kad-t/ 'annoy- be' —————> [kadd] 'be annoyed'  
 33) /kid-t/ 'break-be' —————> [kidd] 'be broken'

**Rule 7:** Voiceless —————> Voiced/ Voiced—  
 /t/ —————> [d] / /d/—

As indicated above, the phoneme /t/, when it comes after /d/, is realized as [d] and makes germination at word final.

This process is less frequent than any other processes in the Yem language.

### Palatalization

In Yem, palatalization comes into being when velar stops /k/ and /g/ precede the front vowel phonemes /i/ and /e/. This is exemplified below:

- 34) /keja/ 'house' —————> [k<sup>i</sup>eja] 'house'  
 35) /geešo/ 'back' —————> [g<sup>i</sup>ees<sup>w</sup>o] 'back'  
 36) /kezza<sup>1</sup>/ 'third' —————> [k<sup>i</sup>essa<sup>1</sup>] 'third'  
 37) /kidt/ 'be broken' —————> [kidd] 'be broken'

**Rule 8:** Non-Palatal —————> palatalized/front high or mid vowel— /k/ and /g/ —————> [k<sup>i</sup>] and [j] / /e/ and /i/ —

The above process is partial palatalization. It is marked by the glide [i] as superscript above the palatalized

consonant phoneme.

### Epenthesis

Epenthesis refers to the insertion of a segment (syllabic/non-syllabic) between consonants to break up the impermissible sequence of consonants or the insertion of segment between two components of a compound to join them together in a language. In Yem, the epenthetic vowel /i/ is inserted to break three consonant clusters to keep the phonotactic constraint.

- 38) /nanrn/ 'eight' —————> [nanrin] 'eight'  
 39) /nto/ 'mother' —————> [ʔint<sup>w</sup>o] 'mother'  
 40) /tdma<sup>1</sup>/ 'lake' —————> [tidma<sup>1</sup>] 'lake'

**Rule 9:** CCC —————> CCiC or ʔiCC

/nrn/ and /nt/ —————> [nrin] and [ʔint]

Rule 9 above reveals that the vowel /i/ is inserted between three consonants to avoid the impermissible sequence at the end of a word. Besides keeping consonant sequence, the vowel /i/ is inserted with the glottal stop /ʔ/ to keep the phonotactic constraint which describes that word initial in Yem is always consonant cluster. However, epenthesis also occurs across morpheme boundaries during compounding.

In compounding, two or more independent elements are composed to form new item. Here, the components may need a connector like the following.

- 41) /jem/ + /ebo/ —————> [jemnebo] 'February'  
 42) /foro/ + /aka<sup>1</sup>/ —————> [for<sup>w</sup>onaka<sup>1</sup>] 'Ocean'  
 43) /wag/ + /ebo/ —————> [wagnebo] 'March'  
 44) /tuš/ + /aba/ —————> [t<sup>w</sup>ušnaba] 'Step father'

As shown above in the phonetic transcription, the consonant /n/ is epenthesized to join the two components together. Hence, /i/ serves as an epenthetic vowel to break up the impermissible sequence of clusters at different places (initial, medial and final) in a word while /n/ functions to connect the components of compounds.

### Deletion

Deletion is a process of removing or reducing a segment (vowel and/or consonant) when an affix is attached to a root or when a compound is formed by joining two components. This process happens in the words of Yem.

- 45) /fizo<sup>1</sup>-innos/ 'goat- our' —————> [fiz<sup>w</sup>o<sup>1</sup>nn<sup>w</sup>os] 'our goat'  
 46) /ʔalid-a/ 'left handed-ness' —————> [ʔalda] 'left handedness'  
 47) /ba<sup>1</sup>r-sakito/ 'he-pl' —————> [ba<sup>1</sup>sak<sup>i</sup>t<sup>w</sup>o] 'they'

In the above three illustrations, the vowel /i/ and the consonant /r/ are deleted as observed from the phonetic transcription. In the first illustration, it is done to avoid diphthongization while in the second and third, there is no tangible evidence for deletion except prediction. The phonemes might be deleted due to their low articulation unlike /d/ and /s/ phonemes. Deletion is also common in compounding the words of the Yem language.

- 48) /ganda/ + /a<sup>1</sup>su<sup>3</sup>/ → [ganda<sup>1</sup>s<sup>w</sup>u<sup>3</sup>] 'a failure'  
 49) /maška/ + /a<sup>1</sup>su<sup>3</sup>/ → [maška<sup>1</sup>s<sup>w</sup>u<sup>3</sup>] woman'  
 50) /wisi/ + /kušu/ → [wisk<sup>w</sup>us<sup>w</sup>u] 'foreigner'  
 51) /kiti/ + /a<sup>1</sup>su<sup>3</sup>/ → [k'ita<sup>1</sup>s<sup>w</sup>u<sup>3</sup>] 'the dead man'  
 52) /ʔarki/ + /etna<sup>1</sup>/ → [ʔark'enna<sup>1</sup>] 'my elder sister'  
 53) /ʔeesa/ + /boto/ → [ʔeesnib<sup>w</sup>ot<sup>w</sup>o] 'bee hive'  
 54) /meja/ + /boto/ → [meenib<sup>w</sup>ot<sup>w</sup>o] 'graincontainer'

As can be seen above, there are deletions of vowels /a/ (48 and 49), and /i/ (50, 51 and 52) to avoid sequence of vowels. However, there is deletion of segment and/or syllable and replacement in 53 and 54. The deleted segments and/or syllables are /a/ and /ja/ while the replaced syllables are /ni/ and /eni/ respectively. These syllables can be taken as epenthetic elements.

## Dissimilation

As explained in the previous discussions, most phonological processes including dissimilation in Yem occur across morphemes or in word boundaries. The following examples indicate inflections of nouns for gender cases.

- 55) /mija-skiʔo/ 'cow-pl' → [miji-s-a-kiʔ<sup>w</sup>o] 'ox-pl-masc-pl' → [mijisakiʔ<sup>w</sup>o] 'oxen'  
 56) /kana-skiʔo/ 'dog-pl' → [kani-s-a-kiʔ<sup>w</sup>o] 'dog-pl-masc-pl' → [kanisakiʔ<sup>w</sup>o] 'male dogs'  
 57) /faza-skiʔo/ 'horse-pl' → [fazi-s-a-kiʔ<sup>w</sup>o] 'horse-pl-masc-pl' → [fazisakiʔ<sup>w</sup>o] 'male horses'

The above process illustrates dissimilation. For instance, when we change /mija-skiʔo/ 'cow-pl' to masculine plural, we would expect the form /mija-s-a-kiʔo/ instead of /miji-s-a-kiʔo/, but according to the dissimilation rule, the /-a/ of /mija/ is changed into /-i/ in order to dissimilate with the masculine marker /-a-/ which is infix in the plural marker itself. Here, we can prove that /-a-/ is the masculine indicator by taking the following:

- 58) /muko-skiʔo/ 'pig-pl' → [muki-s-a-kiʔ<sup>w</sup>o] 'pig-pl-masc-pl' → [muk'isakiʔ<sup>w</sup>o] 'male pigs'  
 59) /fantu-skiʔo/ 'sheep-pl' → [fanti-s-a-kiʔ<sup>w</sup>o] 'sheep-pl-masc-pl' → [fantisakiʔ<sup>w</sup>o] 'male sheep (pl)'

Here, we can take a singular noun /muko/ 'pig', and then change it to the plural /muko-skiʔo/ 'pigs'. Assuming that we are talking about male pigs, we can definitely change the form into /muki-s-a-kiʔo/ instead of /muko-s-a-kiʔo/. Hence, we can conclude that there is a process of dissimilation in the above descriptions.

## Conclusion

The main objective of this study was to investigate and indicate the phonological processes of Yem, one of the languages of the Omotic family. In this language, there are different phonological processes: assimilation, labialization, spirantization, devoicing, voicing, palatalization, epenthesis, deletion and dissimilation. Yem, with respect to the phonological processes, is the language which undergoes such processes either in the words or across word boundaries. There are two directions of the above assimilation processes in the language, on the regressive or anticipatory (left-hand), and if the influence arrives on the following or right-hand segment, it is progressive.

There are also some points to be suggested with regard to this language. It is mentioned in the introduction that some studies were conducted in the form of comparative, and on morphology and syntax of the language. Hence, it did not get the chance to be assessed alone in detail concerning phonological aspects. Therefore, attention should be given in the analysis of this language considering modern theoretical aspects of phonology.

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