SOUND SYSTEM OF NYIFON: A PRELIMENARY STUDY

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Abstract
This work is a preliminary study of the sound system of the Nyifon language, a register tone language which belongs to the Jukunoid group of East Benue Congo family of languages. Nyifon language is one of the endangered minority languages spoken in Benue State of Nigeria. Based on the parameters of measuring endangered languages, the language is classified as being "definitely endangered" in the sense that children no longer learn it as mother tongue in the home. More unfortunately, the language has not received considerable study attention as research has shown that the only evidence of study in the language are the historical books depicting the origin and the culture of Nyifon. This paper, therefore, examines the speech sounds of the Nyifon language, their number and how they occur in the language. Through partially structured oral interview and the use of one thousand, seven hundred SIL Comparative African Wordlist (SILCAWL), data for this study were elicited from four informants (native speakers) from each of the ten communities that make up Nyifon, making it a total of forty informants. The study finds out that Nyifon is made up of thirty-one consonants and nine oral vowels, which were described in terms of the articulatory gestures used to produce them. For the phonemes we identified, we devised their letter symbols in order to help in developing a writing system for Nyifon. The study also observed that tone is phonemic in Nyifon and the language has four tones: high, low, downstep and high falling contour tone. The vowels and the syllabic nasals are the tone bearing units in the language. Finally, the study is an immense contribution to the development of minority languages and African languages in general.

1. Introduction

Language is a special attribute of man and the way he uses it is what makes him different from other creatures. As a primary medium of human communication, language is an important factor in the life of man. This is because most of his activities revolve around it. Highlighting on the importance of language to man, Omeje and Agbedo (2008) quoting Kuju (1999) say that "language is the surest way through which people can retain and safeguard knowledge, wisdom, and the authentic cultures, inherited from generation after them". This implies that it is difficult for man to function effectively without language. Despite this glaring and undoubted importance of language, many languages of the world, especially in Asia and Africa (which are known to be the most linguistically diverse areas of the world), have not been properly investigated. In Nigeria, there are as many as thirty languages which have not been described, just in central Nigeria alone (Childs, 2003). Nyifon, according to the researcher's investigation is one of those languages that have not been properly investigated.

So, as important as it is, the disappearance of a language is usually a very sad situation as long as linguistics is concerned, for not only are some insights lost about the nature

of the human language but also the major medium through which a people maintain its culture and identity gone as well. That is why Omeje and Agbedo (2008) believing in Kuju's view about the role of language in people's life added that "people without language are likened to human beings without the hearts which pump blood to all parts of the body in order to keep life going". This implies that people's culture and natural ways of doing things are embedded in their language. That is why there has been awareness about language endangerment and language documentation around the globe for decades now, in order to investigate and document languages, mostly undeveloped and minority languages of the world. In trying to address this, many linguists have begun to redirect their efforts towards identifying and studying those endangered languages but it seems that the attention given is not sufficient to deal with the growing number of those languages. Therefore, this study stands to fill in such gap by investigating the Nyifon language, which is one of the minority languages spoken in Benue state of Nigeria.

Moreover, the Nyifon indigens themselves acknowledged that they belong to the minority group. Moze and Ikyado (2011: ix), a historical text written by Nyifon indigens, describing the state of Nyifon people say "…in the states where Nyifon people exist, they are referred to as minorities… The people are very little and unrecognised people of Nigeria". So, Nyifon people are groaning for linguists to turn their searchlight to Nyifon and the researcher, in the light of this clamour was touched to investigate the Nyifon language; starting with identifying and examining the speech sounds of the language, which is the most reasonable starting point in a long journey of language documentation and development. The population of Nyifon people is about forty thousand. One third of them are Christians. Occupationally, Nyifon people are predominantly farmers, hunters, fishermen, traditional medicine men and women, though modern day Nyifons could be found engaged in other occupations like teaching, nursing, civil service jobs etc.

2. Literature Review

According to the words of Kaan and Yoo (2014:74), "lot of sounds are generated by human beings and animals and to some extent, inanimate objects. Sometimes, these sounds come in form of noises and as such, cannot be associated with human sounds that generate meaning. When human beings speak, they form sounds and these sounds generate meaning". These speech sounds produced by human beings have its roots from phonetics, which Akmajian et al (2003:66) say "is concerned with how speech sounds are articulated in the vocal tract, as well as with the physical properties of the sound waves generated by the vocal tract".

Most interestingly, the study of any language usually starts with identifying and classifying the phonemes of such language. In accordance with the above, Omachonu (2001:4) says that "…no meaningful and systematic linguistic study of any language is possible without, first, attempting to study the speech sounds system of the language". Similarly, Oshodi (2013:1) opines that "acquiring a language begins with the knowledge of its sounds system which falls under the branch of linguistics known as phonetics". All these authors are trying to say that the knowledge of the sound system first, becomes very paramount to the learning/studying of any language. That is why

the researcher, on study of the Nyifon languge starts with the sound system of the language which is the thrust of this work.

However, in the study of speech sounds, there are sounds that are distinctive while some sounds are not. Here, we are concerned with only those ones that are distinctive and they are the phonemes of the language under study. A phoneme according to Daniel Jones as quoted in Agbedo (2000:63) is defined "… as a family or group of acoustically or articulatorily related speech sounds that never occur in the same phonic environment". Agbedo (2000:64), on his part says that "a phoneme is a speech sound that is distinctive in a given language". Similarly, Denham and Lobeck (2013:72) define phoneme as "unit of sound that make a difference in the meaning of a word". They went further to say that phonemes are the distinctive sounds in a language. That every spoken language has phonemes, but they differ from language to language. From the definitions of phoneme given by these scholars above, one thing is spectacular and that is 'distinctiveness' which is an integral part of phoneme.

Furthermore, in line with the basic idea behind the distinctiveness brought about by phonemes, we have to consider pairs of words that linguists refer to as “minimal pairs" (MP). Barlow and Gierut (2002:58), define a minimal pair as "a set of words that differ by a single phoneme whereby that difference is enough to signal a change in meaning". In the opinion of Dirven and Verspoor (2004:114), looking out for minimal pairs is a simple way of deciding whether two sounds in a language belong to one phoneme or to two different phonemes. They regard minimal pair as "a pair of words that are identical in all respect except for the sounds in question". They illustrate with the words ‘pat’, ‘bat’ and conclude that the pair confirms that /p/ and /b/ constitute separate phonemes in English, while the impossibility of a contrast between [sp^{h}ai] and [spai], or between [p^{h}ai] and [pai] confirms that [p^{h}] and [p] do not belong to different phonemes in English. The definitions of ‘minimal pair’ given by Barlow & Gierut (2002), and Dirven & Verspoor (2004) are very clear. They give a clearer picture of what is a MP and one can easily deduce from these scholars’ view that minimal pair is the juxtaposition of related words of a language to find out the sounds of the language that occurs in the same environment, thereby giving different meanings to the words.

Furthermore, Mbah and Mbah (2010) have identified two levels of analysis for generating MP. The two levels are the prosodic and the segmental levels (Pike, 1948; Roach, 2009; Mbah and Mbah, 2010). Mbah and Mbah note that the phenomenon of tonal MP is rampant in African languages. This means that there is equally MP for tone contrast in tonal languages and that tone distinguishes meaning in tonal languages. Some scholars such as Pike (1948) and Roach (2009) refer to this as a contrast involving the tonemes. Based on the two tiers identified for generating the MPs, Pike (1948) concludes that contrastive lexical unit of sounds are phonemes, while contrastive sound units especially in tone languages are tonemes”. This study, having considered all the above views on minimal pairs concludes that it is the contrastive sounds in the same position as well as the contrastive tonemes that are considered in determining minimal pairs in Nyifon as a tone language not the letter symbols. For the contrastive sounds constituting MP in Nyfion, we have [ùpí] and [ìpí] meaning 'slave' and 'mouse' respectively; and for contrast involving the tonemes in the language we have [ídʒí] and [ìdʒí] meaning 'food' and 'vein' respectively.

Oyebade (2007) does an extensive study of the Yoruba sound system. According to him, Yoruba is made up of eighteen consonants, seven oral vowels and five nasalized vowels. He illustrates the eighteen phonemic consonants with Yoruba verbs as follows:

1.	b	bá	"meet up with"	t	tọ̀	"urinate"
	d	dá	"to break"	k	ká	"to pluck"
	g	gọ̀	"be foolish"	p[kp]	pa	"kill"
	gb	gbá	"kick"	f	fà	"pull"
	s	sá	"run"	ṣ [ʃ]	ṣọ̀	"watch over"
	h	há	"to be struck"	j[ʤ]	já	"to snap"
	m	mọ̀	"know"	n	nù	"feed (a child)"
	r	rù	"carry"	gb	gbá	"kick"
	l	lù	"beat"	y[j]	yọ́	"melt"

Oyebade represents the seven Yoruba oral vowels in words such as:

2.	i	rí	"see"	e	ré	"take down"
	ẹ[ɛ]	rẹ	"slice/cut"	a	rá	"disappear"
	ọ[ɔ]	rọ́	"push aside"	o	ró	"tie (a wrapper)
	u	rù	"carry (on head)			

He also represents the five Yoruba nasalized vowels in words such as:

3.	i[ĩ]	ìgbín	"snail"	ẹn[ɛ̃]	ìyẹn	"that one"
	an [ã]	ìtàn	"story"	ọn[ɔ̃]	ìbọn	"gun"
	un[ũ]	ọdún	"year/festival"			

Continuing in Yoruba sound system, Oyebade depicts that Yoruba attests three tonemes but five tones. They are: high, mid and low tones; then rising and falling tones. He says that the rising tone is a variant of the high tone while the falling tone is a gliding tone which is a manifestation of the low tone when it occurs after a high tone. This work is similar to the present study in the sense that both are on sound systems of Nigerian languages but differ because the one reviewed is on sound system of Yoruba while the present study is on the sound system of Nyifon.

Amfani (2007) discusses the issues relating to the vowels and consonants of Hausa and how they are used in the words of the language. According him, majority of Hausa consonants are produced through a single articulation. Such consonants are:

b	ɓ	d	ɗ	f	g	h	j	k	ƙ	l
m	n	r	s	ʃ	t	tʼ	w	y	ʼy	z

Other consonants that are produced through double articulation are: [fy gw, kw gy ky, ky ƙy]. For the vowels of Hausa, he says that there is a distinction between short and long vowels in Hausa and this distinction is phonemic, as could be seen in the following Hausa words below:

4.	Long Vowels		Short Vowels	
	fáárì	“first”	fárìì	“drought”
	fíítòò	“whistling”	fítòò	“ferrying”
	káárìì	“addition”	kárìì	“string”

Alobo (2000), a more recent study on Igede states that Igede has twenty consonants and nine vowels. The twenty consonants are: /p b t d k g kp gb ĉ ĝ h m n ñ ŋ ŋm l r j w/ while the nine vowels are: /a e i o u ɪ Ɛ ɔ ʊ/. These nine vowels are further divided into two harmony sets distinguished according to him by the figures: tense and lax. In other words, vowel harmony operates in the language. Presented further are three syllable structure types: V, CV and N. Igede is a level tone language with four level tones: high (ˊ) , high-mid (ˆ), low-mid (unmarked) and low-level tones (ˋ).

We shall now review some works done on related languages to Nyifon, our language of study. Ezenwafor (2015) carries out a more recent research on the phonology of Etulo, a minority language also spoken in Benue State and under Idomoid group of languages. In the work, she specifies the distinctive and non-distinctive sounds of Etulo, syllable structure, tone and phonological processes in the language. In analyzing her data, the articulatory, auditory and acoustic parameters for speech sound analyses were used. The study reveals that Etulo consists of nine oral vowels /i ɪ e ɛ a o u ɔ ʊ/ and twenty-eight consonants: /b ʦ d f g gb gw dz ʤ k kp kw l m n ŋ ŋw ɲ p r s ʃ ʧ t v w j z/. Phonemically, these nine vowels, according to her, occur at the initial, medial and final positions. Also, the vowels are distinguished using a minimum of four features which include: high [i ɪ ʊ u]; low, back [a ɔ]; and Exp. [i ɪ o u]. For the consonants, according to the researcher, they occur at initial and final positions. She used some words in a distribution table to show their places of occurrence. Ezenwafor (2015:119) also says that tone is contrastive in Etulo and the language has two level tones: high and low tones which are basic and tonemic, while the downstep is a grammatical tone. In some lexical items where it occurs, it is found in a position after high tone. The falling tone is the only contour toneme obtainable in Etulo.

The Tiv language which is the predominant language in Benue State is made up of thirty-three consonants and twenty vowels according to Udu (2009) as quoted in Nwabudike et al (2015:3). The consonants are: /p b t d k g kp gb kj gj mb nd f v s z ʃ y h m l n r ŋ j w ʧ ʦ ʤ nz TT kw gw/. And the vowels are: /i e u a o ɔ i: u: e: a: o: ɔ: ia ie ei ua io ue ae ou/. The above listed vowels show that the Tiv has twelve pure vowels (six long vowels and six short vowels) and eight diphthongs. Udu (2009) illustrates these vowels below using some Tiv words:

5. The short Tiv vowels are: /i e u a o ɔ /

/i/ -	iv	‘full’
/e/ -	ember	‘joy’
/u/ -	bugh	‘open’
/a/ -	ave	‘hands’
/o/ -	or	‘person’
/ɔ/ -	ato	‘buttocks’

6. The long Tiv vowels are: /i: u: e: a: o: ɔ: /

/i/ -	Ii	'bury
/u:/ -	tuugh	'night'
/e:/ -	teetee	'slowly'
/a:/ -	vaa	'cry'
/o:/ -	doo	'good'
/ɔ:/ -	hoo	'decay'

7. The eight Tiv diphthongs are: /ia ie ei ua io ue ae ou/

/ia/ -	hia	'burnt'
/ie/ -	ier	'a lie'
/ei/ -	ei	'no'
/ua/ -	wuah	'guinea corn'
/io/ -	ior	'people'
/ue/ -	due	'out'
/ae/ -	aertso	'later'
/ou/ -	mough	'stand'

Tiv syllable structure is CV(C), with coda consonants limited to /l r m n v y ŋ/. Tiv has onset restriction for syllables, that is, most syllables have onset. In other words, no vowel can begin a syllable except at word initial stage.

From the review, it is generally accepted that languages vary in their sound systems. This is to say that the sound inventory of all languages is not the same. Also, from all the works reviewed so far, we can see that although they are works on sound systems of languages, none of them is on the sound system of Nyifon. Therefore, this work on sound system of the Nyifon language, to the best of the researcher's knowledge, has not yet been done by any earlier researcher.

3. Methodology

Data for this study were elicited from the forty fluent native speakers of the Nyifon language through partially structured oral interview. These forty informants (who were born and raised in Nyifon speech community) the researcher selected them from different communities that make up Nyifon resident in Uga settlement areas which are: Idi Apaki, Idi Jeukemo, Idi Asobana, Idi Madugu, Idi Abada, Idi Kuku, Idi Ugyagu, Udibon, Abishi and Katsina-Ala. The researcher selected four informants from each of the above mentioned ten communities which gave us the above sum of forty informants. Two elderly people, a man and a woman not less than 55 years of age; and two young adults, a young man and a young woman between the ages of 30 and 40 years made up the four people from each community. Male and female were used in order to balance up the data. The children speech was not selected because they no longer have the language as their mother tongue.

The researcher carried out the interviews frequently and within a long enough period so as to make adequate study of the facts of the language and also to develop some empathy for the language and its speakers. This made the informants to cooperate well with the researcher, felt free enough to talk extensively on the areas desired by the

researcher using their language; yet restricting them to a point that they do not derail from what the researcher intends to gather. All these contributed immensely to the easy collection of the required reliable linguistic data.

In eliciting the data which were mostly recorded, the researcher used a high quality Abda Sony ABS recorder with memory card to enable the researcher get a quality sound production; and the SIL Comparative African Wordlist (SILCAWL, Sider & Roberts, 2006). With the use of both research instruments, the researcher asked the informants to provide the Nyifon equivalents of the words as contained in the wordlist. Where any word seemed unclear to the informant(s), the researcher through her guide, described the idea or thing in order to get the equivalent(s) in the Nyifon language. In the same vein, where different equivalents are given for an item, the researcher agreed with the informants on what that particular item(s) is called. At such points, the researcher also took down notes.

In analyzing the collected data, the researcher replayed the recorded data severally to ensure that the symbols used actually represented the sounds perceived. After series of carefully listening to the data recorded, the relevant items were transcribed using the phonemic type of transcription with most of the symbols taken from the International Phonetic Alphabet (IPA), revised to 2005. For those ones that do not suffice in IPA, we employed additional symbols with their description as seen in Ikekeonwu, Emenanjo, Eme & Ng'ang'a (2010). After much more, the researcher devised letter symbols for each sound segment, to help the Nyifon language native speakers to read and write their language. Furthermore, for all vowels and syllabic nasals, they bear tones. The minimal pair test was used for identifying the consonants and vowels of Nyifon.

4. Speech Sounds of Nyifon

All languages of the world are made up of consonants and vowels. According to Denham and Lobeck (2013:72), "almost every language has more consonant sounds than vowel sounds…" So do we have it in Nyifon. The language has more consonants than vowels. The authors went further to say that "what makes a sound a consonant sound or a vowel sound depends on how they are produced, with the restriction of airflow". The consonants and the vowels of Nyifon are therefore discussed below.

4.1 Consonants

Having used the minimal pair test, Nyifon has been observed to have thirty-one consonant phonemes: / p b t d k g k^w g^w ts dz ʧ ʤ kp gb m n ɲ ŋ $ŋ^w$ f v s z ʃ ɣ ʍ h r l j w/.

They consist of ten stops, five nasals, four affricates, eight fricatives, two liquids and two approximants. These consonants are described based on the place, manner of articulations and state of glottis. Place of articulation involves the particular part of the oral tract that is involved in the production of a consonant. This is the place where constriction of airstream takes place by either narrowing or completely blocking the passage before its release. With regard to the place of articulation, consonants can be bilabial, labio-dental, inter-dental, alveolar, postalveolar, retroflex, palatal, velar, uvular, pharyngeal or glottal (IPA, 2005). The manner of articulation involves how the consonant sounds are made, especially with respect to airflow. Manner of articulation

can produce, among others, a consonant which is a stop, a nasal, a fricative, an affricate, a lateral, a trill or a glide (IPA 2005). The state of the glottis involves the state of the vocal cords during the production of consonants. That is, whether the vocal cords vibrate or not. If the vocal cords vibrate during the production of a consonant sound, it means such sound is described as being 'voiced'; but if there is no vibration, then such sound produced is described as being 'voiceless'. Below are the above listed Nyifon consonants described using the above specifications (state of the glottis, place and manner of articulation) in a consonant chart.

Place of Articulation → / Manner of Articulation ▼	Bilabial	Labiodental	Alveolar	Palatoalveolar	Palatal	Velar	Labiovelar	Labialized Velar	Glottal
Plosive	p b		t d			k g	kp gb	k^w g^w	
Nasal	m		N		ɲ	ŋ		$ŋ^w$	
Affricate			ts dz	ʧ ʤ					
Fricative		f v	s z	ʃ		ɣ	ʍ		h
Lateral			L						
Trill			r						
Approximant					j		w		

Looking at the chart above, notice that some boxes contain pair of segments. The segment to the left is 'voiceless' while that to the right is 'voiced'. Where there is only one segment found in a box, its position shows its voice quality, that is, whether it is voiceless or voice.

4.1.1 Nyifon Consonants and Places of Occurrence

p /p/ pídò 'answer', ápù 'vulture', ìpí 'mouse', ùpí 'slave'

b /b/ bùmà 'hug', bá 'draw', bébɔ́ 'bring', bɔ̀ come', ùbù 'oil'
t /t/ tá 'throw', tásà 'bowl', ìtì 'grasshopper', ètá 'termite'
d /d/ dùgè 'guide', dé 'see/look', ídídé 'shield', díúdí 'generous',
k /k/ káà 'enter', kúsà 'nail', kɔ́ 'fry', ìká 'saw', àzíké 'dizzy'
g /g/ gá 'roll', gádà 'bridge', vúgé 'pull', ágì 'calabash', àgìgá 'drum'
kw /kw/ kwálíbá 'bottle', àkwésísì 'healthy', àkwàtì 'box', àkwàkì 'ocean'
gw /gw/ gwɛ́ɛ́ 'to say', ìjìnátòágwò 'bangle', zàgwùdià 'persuade'
kp /kp/ kpá 'payment', kpúà 'greet', àkpèlà 'mortar', èkpɔ́ 'debt'
gb /gb/ àgbɛ̀rɛ̀ká 'pawpaw', ḿgbágìé 'thank', záágbúú 'far'

m	/m/	m̀bété 'store', mʊ́ŋá 'early', àmá 'cane', èmɔ̀ 'nature', ìmɔ̀ 'catfish'
n	/n/	nì 'bury', nánà 'which one', áná 'yesterday', ànú 'fist', ìnì 'seed'
ny	/ɲ/	ɲì 'cross', ɲíʃú 'peace' úɲè 'one', étíɲé 'six', téɲɔ́ 'hope', íɲɔ́ 'what'
ṅ	/ŋ/	ŋ̀-gé 'person', mʊ́ŋá 'early', mùŋé fill',
nw	/ŋw/	ŋwéɣà 'paddle', ùté↓ŋwé 'ethnic area', èŋwé 'corpse', àtsùŋwé 'duty'
ts	/ts/	tsú 'teach', ìtsù 'hair', àtsákà 'potato', étsú 'ant', ètsú 'market'
dz	/dz/	dzé 'stay', àdzí 'face', ùvdzì 'penis'
ch	/ʧ/	ʧì 'stir', ʧòà 'bless', áʧà 'rejoice', àʧĩ 'medicine', ʧɔ́kòlí 'spoon'
j	/ʤ/	ʤí 'eat', ʤàkí 'colt', ʤìʤì 'crunch', íʤí 'food', ìʤí 'vein'
f	/f/	fù 'dig', fúfù 'lungs', àfú 'bone', fùnú 'urine', èfú 'stomach', ùfè 'fire'
v	/v/	vùgí 'blow', vɔ́ 'drink' ívùvù 'ghost'
s	/s/	sózú 'melt', sì 'correct/ right', tásá 'bowl', àtìsé 'south', ísè 'bottom'
z	/z/	zɔ̀ 'bite', zú 'sprout', àzíké 'dizzy', ìzú 'hoe', ùzí 'river'
sh	/ʃ/	ʃìlé 'capsize', ʃìlè 'wake up', ʃìkpí 'wall', ʃìʃĩ íhú 'caterpillar'
gh	/ɣ/	ɣáàlè 'deceive', ɣàzú 'thorn', ɔ̀ɣà 'canoe', ŋwéɣà 'paddle'
hw	/ʍ/	ʍé 'learn', ʍésè 'valley', ʍédìà 'width', èʍé 'nose', ìʍè 'rock'
h	/h/	hɔ̀ 'sew', hɔ̀mé 'knead', èhɔ́ 'glory', àhû 'horn', ùhù 'plant
r	/r/	ràkúmí 'camel', áhɔ̀rákìɔ̀ 'rooster', dɛ́rí 'hundred', zánárìjá 'gold'
l	/l/	lìbé 'water', ábélábá 'matchet', àkpèlà 'mortar', délímà 'copper'
y	/j/	jájá 'help', júsé 'begin', ájìtá 'pepper', ìjì 'thing', ìjú 'fish', ùjú 'step'
w	/w/	wèkíó '(be) silent', wébɔ́ 'after', bàwɛ̀ 'follow', ìwó 'mountain'

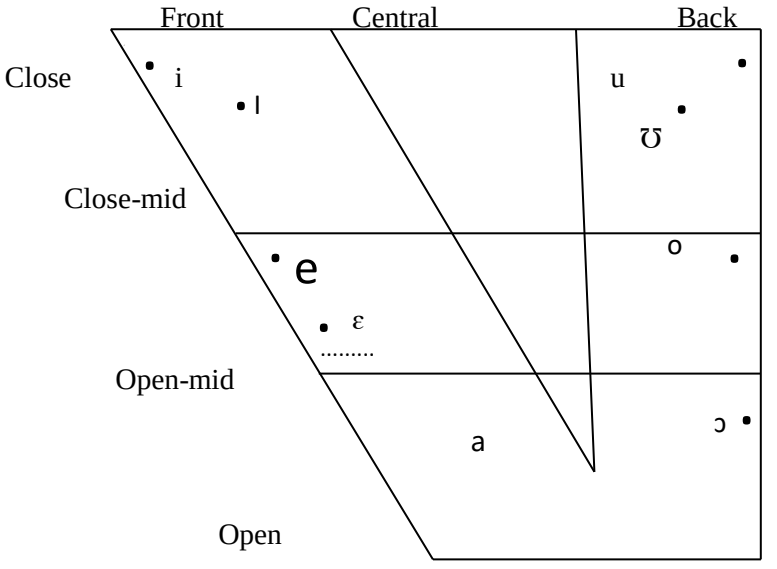
From the Nyifon words above, we observed that consonants in the language occur mostly at word initial and medial positions. Also, for the nasal consonants, only /m/ and /ŋ/ are syllabic, that is, when they occur syllable initially and are followed by another consonant as in words like m̀-bé-té 'store' and ŋ̀-gé 'person' respectively. Other places apart from such environments as stated, they are like every other consonant in the Nyifon language.

4.2 Vowels

Nyifon has nine pure vowels: /a e ɛ i ɪ o ɔ u ʊ/. The phonological parameters used to categorize vowels are tongue height, tongue position and lip shape as (Abercrombie, 1967:56-58; Ladefoged, 2000:13). The tongue height parameter is concerned with raising part of the tongue involved when producing a vowel. Thus, in terms of tongue height, a vowel can be [+ high], [+ low] or [- high, - low]. The tongue position parameter shows the point along the tongue that is involved in the articulation of the vowel. There are three points with regard to this parameter: the front part of the tongue including the tip, the middle of the tongue which normally involves the larger part of the tongue, tongue blade and, the back of the tongue which involves the back part and the root of the tongue. In terms of tongue position, a vowel can be [+back], [+front], [-back], [-front]. The third parameter is the shape of lips when producing a vowel. There are only three lip shapes that can be realized in the articulation of vowels: lip rounding, spreading and neutral. When a vowel is produced with the rounding of lips it is said to be [+round]; when there is spreading of lips, the vowel is said to be [-round].

The above listed Nyifon pure vowels are described and placed in a chart below.

Fig. 4.1 Nyifon Vowel Chart



i	/i/	close front unrounded vowel [+ATR]	ìkí	'head'
ị	/ɪ/	close front unrounded vowel [-ATR]	àzí	'eye'
e	/e/	close mid front unrounded vowel	mé	'swallow'
ẹ	/ɛ/	open mid front unrounded vowel	èfú	'stomach'
a	/a/	open front unrounded vowel	àtá	'shoe'
ọ	/ɔ/	open mid back rounded vowel	èkɔ́	'pot'
o	/o/	close-mid back rounded vowel	dó	'pound'
u	/u/	close back rounded vowel [+ATR]	ùpí	'slave'
ụ	/ʊ/	close back rounded vowel [-ATR]	ʊ̀ɣà	'canoe'

5. Nyifon Tonal System

Nyifon is a register tone language. From the data collected, Nyifon has four tones: high tone [ˊ] , low tone [ˋ] , downstep tone [ˉ] and high falling contour tone [ˆ]. For the contour tone, the high falling contour tone (HF) is predominant in the language and it usually occurs at syllable or word final positions. The tone bearing units in the Nyifon language are the vowels and the syllabic nasals. These different tones obtainable in Nyifon are further illustrated using simple lexemes.

Table 5.1

Tone	Orthographic	Phonemic/Phonetic
High	ˊ (acute accent)	ˊ (acute accent)
Low	ˋ (grave accent)	ˋ (grave accent)
Downstep	ˉ (macron)	↓ˊ (down-pointing arrow plus acute accent)
high falling contour	ˆ	ˆ

Below are Nyifon words bearing the tones:

8.	HH	/áná/	'yesterday'	/jájá/	'help'
	LL	/ìtì/	'cricket'	/nàkà/	'before'
	HL	/fúfù/	'lung'	/áʧà/	'rejoice'
	LH	/ùtí/	'tree/ log'	/ɛ̀tsú/	'market'
	LHF	/ènâ/	'there'	/àhû/	'horn'
	HHF	/áfî/	'bile gall'	/úfê/	'year'
	HS	/bó↓zú/	'burst'	/kú↓ná/	'knee'

Base on the environments of occurrence of Nyifon tones, the high and low tones are not restricted, that is, they occur word initially, medially and finally. The downstep, unlike high and low tones, has a restricted distribution. For example, while a word can begin with a high or a low tone, no word in isolation begins with a step tone. So, the downstep tone in Nyifon is found in lexical items in a position after the high tone. For the high falling tone, it is preceded by either the high tone or the low tone. Also, it cannot be found in the initial position of any Nyifon word, rather it is found at word final position in the language based on the available data. It is quite predominant in Nyifon and also distinctive in the language as could be seen in the minimal set below-

9.	/bâ/	'copulate'
	/bá/	'draw'
	/bà/	'wait'.

6. Conclusion

This study on the sound system of Nyifon has examined the speech sounds of the Nyifon language, which is the first requirement for a detailed description of any language. The study has been able to identify and describe thirty-one consonants and nine pure oral vowels in Nyifon, making it a total of forty phonemes. The sound segments were described based on the articulatory gestures used in producing them. The study also provided the letter symbols for the sounds identified in the language. These sounds were also presented in vowel and consonant charts for easy reference. The language is a register tone language with four tones: the high tone [ˊ], the low tone [ˋ], the downstep tone [ˉ] and the high falling contour tone [ˆ]. We observed that the downstep tone is restricted in Nyifon in the sense that it can only be found after

a high tone. No word in isolation begins with a step tone in the language. The high falling contour tone is usually found at the word final positions.

This work, having explored the Nyifon sound system, and provided the letter symbols for the speech sounds of the language has contributed to the written records of the Nyifon language, which will serve as a base foundation for creation of official writing system for Nyifon. This will propagate Nyifon and increase the functionality of the language. Moreover, this work, having served as a reference material for such a language termed endangered, is hoped to trigger more researches on the grammar of the language, thereby salvaging the Nyifon language from shift, eventual death and extinction.

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