

Voicing in Ngamambo: A Descriptive perspective

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Abstract

This paper describes voicing in Ngamambo, a semi Grassfields Bantu language in the North West Region of Cameroon. The language is classified under the Momo sub-language family (Eberhard, David M., Gray F. Simons and Charles D. Fenning, 2020). Ngamambo is unwritten, and research on the language is scanty. The only available literature on the language is by Asongwed & Hyman (1976), Achiri-Taboh (2014) and Lem Atanga (2020) However, there has been some recent attempt by the Mbu Language Committee (MLC) to study the language. Interest in the study of Ngamambo stems from the imperative of undertaking a comprehensive description of the language. Preliminary research has revealed the existence of voicing in the language. Voicing is a process whereby the pronunciation of a word is influenced by one of the sounds. Data was obtained from Ngamambo native speakers (informants) over six months. The originality of this study resides in the fact that very little research has been carried out on the language. The authors of this paper discuss one aspect of the language and hope that subsequent studies will determine if voicing is also present in other Grassfields languages, especially the Momo sub-language family. The phonological process of voicing in Ngamambo has been observed when a voiceless sound becomes voiced depending on the environment. It is hoped that understanding this phenomenon would lead to a better understanding of voicing related to language learning.

Keywords: Voicing, Ngamambo, Standardisation

1 General Introduction

The study of voicing is essential in that it helps in the better understanding of connected speech processes. One of the primary goals of linguists is to describe intriguing phenomena in human

languages. This paper describes voicing in Ngamambo as the process that takes place when two consonants with different phonological specifications for voicing occur in a word structure and influence the quality (sonority) of the vowels that precede them.

This is a descriptive study. The authors of this paper are members of the Mbu Language Committee (MLC) which was established in early 2021 to study Ngamambo. The MLC comprises 15 members (6 females and 9 males) ranging in age from 35 to 75 years. They are fluent native speakers of the language and provide the data which the two linguists use to analyse the language.

The Committee meets twice a month. Focused group discussions take place regularly to verify and cross-check the data collected.

The MLC has so far presented a proposed Ngamambo alphabet and a writing system for vetting to the Ngamambo-speaking community through two-week attended Mbu worldwide community zoom meetings.

This paper is divided into two sections: section 1 is a general introduction to the phenomenon of voicing, and section 2 discusses the locus of voicing in Ngamambo.

Research has shown that voicing usually occurs during fast speech (Nollan & Holst, 1993). In Ngamambo, the change in the voice quality of sounds occurs in both fast and slow speech. The target of the investigation is voiced and voiceless intervocalic stops at the word-final and phrase level. The research data is based on a recording of 13 native speakers of Ngamambo. The data is analysed in three blocks focusing on (1) word-final stops, (2) voicing at the word boundary and (3) voiceless process across the word boundary.

1.1 The concept of voicing

In phonology, voicing (or sonorisation) is a sound change where a voiceless consonant becomes voiced due to the influence of its phonological environment (Consonant voicing and devoicing, 2022). Voicing occurs when the larynx's adductor muscles close the larynx, enabling the inner edges of the vocal cords to be in light contact. Pressure from the pulmonic



airstream builds up, and subglottal pressure rises. As an effect, the vocal cords are blown slightly apart, and the compressed air below the glottis then flows through the narrow gaps in the larynx at a very high speed due to high subglottal pressure.

Voicing in sonorant consonants involves the escape of air freely through the oral and the nasal cavities, whereas voicing in obstruent involves the passage of air from the oral cavity partially or fully blocked, leading to a rapid build-up of supraglottal air pressure (Grijzenhout 2000, Dmitrieva 2014).

Stop consonants are produced by a complete closure in the vocal tract. The complete oral closure in oral stop is combined with a velic closure that prevents the air from escaping through the nasal cavity. As such, there is a rise in intra-oral pressure so that, when the closure is released, the compressed air escapes to the atmosphere with a stop burst, and pressure falls rapidly. According to Warren (1996), voiceless oral plosives have a volume of air of approximately 50ml. Also, voiced stops are always shorter than voiceless stops, and if voiced stops were as long as voiceless ones, then voicing would die out, since the subglottal and oral pressure would equalise. In summary, for voicing to take place, the vocal folds have to be in contact, and there has to be a sufficient pressure drop across the glottis.

1.2 Voicing in Ngamambo

Segments are not articulated in isolation in speech; rather, segments influence each other and are sensitive to context. Voicing is a phonological process that explains the varying qualities in sound production. It is the modification of the phonological features of a segment due to the influence of an adjacent segment. Different commands are given to the glottis to produce segments with different phonological specifications for voicing in running speech. In Ngamambo, we observe that a voiceless consonant becomes voiced at the word boundary. This process seems to be part of the native speaker's intuition of the grammar of the language. For instance, in the "infinitive" form of

the verb, the final segment is voiceless, and when, for example it is conjugated to mark tense, the segment becomes voiced at the word boundary. The examples below illustrate this phenomenon.

Table 1: Verbs ending in /k/ and with /ɔ/ preceding the /k/

Verb (root)	Gloss (infinitive form)	Conjugated verb form	Gloss (progressive tense)
gòk	"to fall"	gùgá	"falling"
fók	"to clean"	fùgá	"cleaning"
tók	"to spit out."	tùgá	"spitting out"
zók	"to hear"	zùgá	"hearing"

Voicing occurs in Ngamambo when there is a boundary between the segments. When a voiceless consonant at the word boundary is followed by another segment, the voiceless sound becomes voiced. For instance, in the word gòk # gùgá, the final plosive of the root form /k/ changes to /g/. As observed from the data above, this voicing phenomenon is expressed in this context when the verb form is conjugated to mark the progressive tense. Also, the vowel of the root verb changes from a mid-low back-rounded vowel /ɔ/ to a high-back round vowel /u/.

Table 2. Nouns ending in /k/ and with /ɔ/ preceding the /k/

Nouns	Gloss	Noun +Mod	Gloss
útsók	"mouth"	útsúg mət	"his/her mouth"
ndzók	"kind of peanut"	ndzúg zé	"that kind of peanut"
bók	"dog"	búg zé	"the dog"
dzók	"honey"	dzúg zé	"the honey"
átók	"head"	átúg zé	"his/her head"

Table 2 above shows that nouns ending in /k/ and preceded by /ɔ/ follow the same rule as verbs inflected for progressive tense. The



common denominator in both cases is that the consonant change takes place across a word boundary and affects the preceding vowel.

Table 3: Verbs ending in /k/ and with /ə/ preceding the /k/.

dzák	“to eat”	“dzigá”	“eating”
sák	“to slice”	sígá	“slicing”

In the case of verbs ending in /k/ and preceded by /ə/, when conjugated in the present progressive tense, the /k/ changes to /g/ and the middle low vowel /ə/ changes to a back /ɨ/.

Table 4: Nouns ending in /k/ and preceded by /ə/.

Noun	Gloss	Noun +Mod	Gloss
ibák	“camwood”	ibík wé	“the camwood”
lidzák	“food”	lidzík té	“the food”

Where the noun ends in /k/ preceded by /ə/ across a word boundary, the /k/ changes to /g/ and the /ə/ changes to /ɨ/.

Table 5: Words (nouns and verbs) ending in /y/. Consider the following:

sèy	“to be selfish”	ú wé sigè	“he is selfish”
séy	“ground”	síg zé kà	“the ground is hard”
dèy	“to cry”	ú wé digè	“he is crying”
fúbéy	“knife”	fúbíg fè	“the knife”
átfwéy	“sun”	átfwíg zé	“the sun”
kyèy	“song”	kyíg wé	“the song”

Table 5 shows that voicing in Ngamambo is not limited to /k/ in word-final position changing to /g/ across word boundaries and causing a change in the vowel quality from /ə/ to /u/.

The examples show that /y/ in word-final position changes to /g/ and the preceding vowel /ɛ/, a front, mid low vowel changes to /i/, a front high vowel as in the case of /k/ where the

preceding back mid low /ɔ/ vowel changes to the back high /u/. The data so far shows that the only vowel that precedes /y/ is /ɛ/ which, as shown, changes to /i/ while /y/ at the same time changes to /g/.

Table 6: Verbs ending in /t/

Verb (root)	Gloss (infinitive form)	Conjugated verb form	Gloss (progressive tense)
wàt	“to cut”	má wé wàrà	“I am cutting”
gàt	“to leave”	má wé gàrà	“I am leaving”
kàt	“to hang (dress)”	má wé kàrà	“hanging”
kót	“to tie”	má wé kórà	“tying”
phút	“to eat”	má wé phúrà	“eating”
nyit	“heavy”	má wé nyirè	“surviving”
tfwét	“to survive”	tfwéré	“surviving”

From the data in Table 6 it is noted that in Ngamambo, when verbs ending with /t/ are conjugated to mark the progressive tense, the voiceless alveolar oral stop /t/ changes to a fricative /r/. However, there is no concomitant change in the vowel quality as in the case of words ending /k/. In the case of /t/, the vowel in the root form of the verbs does not change.

Table 7: Nouns ending in /t/

ɲát	“deer”	ɲát zé	“the deer”
kàt	“penis”	kàt wé	“the penis”
ɲót	“body”	ɲót wé	“the body”
kát	“wheel”	kát wé	“the wheel”
átát	“mad man”	átát zé	“the mad man”
tìt	“louse”	tìt zé	“the house”

The above examples in Table 7 show that nouns ending in /t/ do not change across word boundary, and there is also no vowel change. It was shown in table 5 that verbs ending in /t/ change when they are conjugated in the present



progressive tense, but the vowel remains the same.

Table 8: Words ending in /p/

Verb (root)	Gloss (infinitive form)	Conjugate d verb form	Gloss (present progressive tense)
bóp	“to be rotten.”	ú wé bóbé	“he is rotting.”
tóp	“to stir”	ú wé tóbé	“he is stirring.”
sóp	“to cut”	ú wé sóbé	“he is cutting.”
zòp	“mourn”	ú wé zóbé	“he is mourning.”
káp	“to pluck”	ú wé kábé	“he is plucking.”

The data in Table 8 shows words ending with the voiceless bilabial plosive /p/. This voiceless plosive /p/ changes to its voiced counterpart /b/ when the word is conjugated to mark tense. It behaves the same way as verbs ending in /t/.

Table 9 above further confirms the existence of voicing in Ngamambo in that the final voiceless consonant /p/ in word final position changes to its voiced counterpart /b/ across a word boundary irrespective of the preceding vowel.

1.3 The locus of the trigger of voicing

This paper has adduced evidence to show that words ending in /t/, /p/ and /k/ undergo some form of voicing. However, there seem to be two types of voicing: one involving /t/ and /p/ where, when they are in final position, they maintain their voiceless character. However, across word boundaries, they become voiced but without a change in the vowel (quality or sonority of the vowel). It is proposed that this form of voicing in Ngamamba be called partial voicing since it only involves the consonant change.

The other form of voicing involves /k/ and /y/ in word-final position and their change to /g/ across word boundaries. In this type of voicing, the /ɛ/ in front of /y/ changes to /i/, the /ɔ/ in front of /k/ changes to /u/ and the /ə/ in front of /k/ changes to /ɪ/ across a word boundary.

It is proposed that this second type of voicing be called full voicing because it entails both a consonant and vowel change.

Table 9: Nouns ending in /p/

Root (noun)	Gloss	Noun + demonstrative	Gloss
ɪgəp	“a type of calabash”	ɪgəb zé	“that type of calabash”
ətsəp	“a curse”	ətsəb zé	“that curse”
ɪgúp	“chicken/fowl”	ɪgúb zé	“that chicken”
káp	“money”	íkáb wé	“that money”
əzəp	“name of a hill”	əzəb zé	“the Ezop hill”
əkóp	“raffin palm fr	əkób zé	“the type of kolanut”
mbəp	“huckleberry”	mbəp zé	“the huckleberry”



1.4 Locus of the Trigger

The question arises as to whether the consonants /k/ and /y/ trigger the vowel change across word boundaries or the vowel triggers the consonant change across word boundaries. The locus of the trigger of voicing in Ngamambo would seem in some cases to be dependent on the class of the word; whether it is a verb or a noun as has been shown in various examples.

Furthermore, it would seem from the data that in some cases the vowel triggers the consonant change rather than the other way round where one might also posit that the consonant triggers the vowel change. For example,

Table 10

kàt	“to hang (dress)”
kát	“penis”
káp	“money”

The argument in this case is that the word-final consonant generally remains constant until the vowel that precedes it changes. Usually the vowel that precedes the word-final consonant is not high. However, when it changes to become high, the word-final consonant (generally a voiceless consonant) changes to its voiced counterpart to “harmonize” the sonority of the new high vowel that has taken the place of the lower vowel.

Word category

From the data in this paper, it is clear that voicing occurs with verbs when inflected to mark tense (progressive tense). It also occurs with nouns. Further research will be undertaken to better understand the locus of the trigger of voicing in Ngamambo.

Devoicing

While this paper is on voicing in Ngamambo, it is important to point out that there are instances of devoicing in the language. It has been shown that some generally voiceless consonants in word-final position become voiced across word boundaries and the vowel quality of the vowels that were in front of them also change. Devoicing occurs where sounds lose their voicing quality when they are either preceded or followed

by specific consonantal or vowel segments (Fujimoto, 2015). This seems to be the case in Ngamambo. Consider the example below:

Table 11: Verbs with /ə/

fětí	“to gather”	fěté	“gathering”
sětí	“to tear”	sětè	“tearing”
ji'ti	“to grumble”	ji'tè	“grumbling”
nyí'tí	“to poison”	nyí'té	“poisoning”
bèrì	“to own”	bèrè	“owning”

From the data in Table 11, the quality of the vowel (the sonority of the vowel) changes from a front high unrounded vowel /i/ to a front mid-high unrounded vowel /é/ which shows that the high vowel /i/ has lost some of its high quality to become a mid vowel /é/.

1.5 Conclusion

This paper has attempted to describe the phonological phenomenon of voicing in Ngamambo. It has analysed the manifestation and trigger of the locus of voicing in the language. The study establishes that word-final voiceless consonants become voiced at a word boundary. Furthermore, the effect of the voicing is manifested in the quality of the vowels that precede the consonants.

This research is work in progress and it is hoped that further research will shed more light on the phenomenon of voicing in Ngamambo.



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