

Bura phonology and some suggestions concerning the orthography

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ABBREVIATIONS

1. Introduction: the phonology of Central Chadic

The phonology of Central Chadic languages remains little understood, and there are few comprehensive accounts of any language, apart from Higi (Mohrlang 1972), Mofu-Gudur (Barreteau 1988) and Uldeme (Colombel 1986). The relationship between the vowels and palatal and labial prosodies is controversial, as are the double articulations. As a consequence, writing systems remain problematic and subject to constant revision.

Within Nigeria, a lack of recent studies has made the situation still less transparent. The Bura-Margi group, characterised by Hoffman (1987, 1988) is still largely dependent on old and inaccurate wordlists (Kraft 1981) or literacy materials that were never underpinned by any rigorous linguistic analysis. A feature of this group that has attracted some attention are the double articulations of some languages, notably Bura. The present paper describes the phonology of Bura, a Central Chadic language spoken in NE Nigeria and includes some recommendations for changes to the existing orthography.

Bura is a language that has benefited only very marginally from modern linguistic description. Hoffman (1988) in a broader review of the classification of the Bura-Margi group of languages has a comprehensive bibliography of locally published materials. A Church of the Brethren Mission has been established in Garkida and the surrounding area since the 1930s, and produced a preliminary hektographed wordlist in 1941, with a new edition in 1953. Davies (1954) in the mimeo'd 'Biu Book' sketched the sound-system. A proposed orthography for Bura is given in Agheyisi (1987) which marks an advance on previous work, but is highly unreliable. Hoffman himself analysed the bible translations produced by this mission for his unpublished thesis and clearly studied the language in the field. A view of the consonant system of Bura is attached to Hoffman (1987) but it is a limited harvest for such intensive work. Schuh (n.d.) produced a manuscript wordlist of Bura, which is the first document to be fully tone-marked. However, it was produced for an out-of-context informant and has never been published. The Church of the Brethren also seem to have produced a set of unpublished grammar notes together with pedagogical exercises. These were retyped by Moses Balami and computerised by Andy Warren in 2004, and then made available in a very limited edition. Blench (2003) undertook a study of a sign-language used by deaf speakers in Kwajeffa, but this needs further in-depth work to be publishable.

New material on Bura has come out of the Bura Bible Translation Project. This has been in progress since the 1940s with a complete New Testament published in 1950. A revision of the New Testament was published in 19xx and work continues, albeit slowly, on the Old Testament. A thorough review of orthographic issues was undertaken at a meeting in December 2003, between Bura Bible Translation Committee members, the two translators and the project Translation Consultant (Andy Warren) to discuss and approve orthography changes (Warren 2004). The present study derives from a lexicography workshop held in Jos on the 24-25th April 2009, with a view to resolving further issues with the phonology of Bura, as well as clarifying various issues to do with dictionary preparation. It would be problematic to claim that all the issues concerning Bura phonology have been resolved, especially in the area of tone and this paper provisionally eschews tone-marking. The orthography conventions used are as follows;

2. Bura phonology

2.1 General

The description of the phonology is divided into consonants, vowels and tones.

2.2 Consonants

2.2.1 Overview

Bura has a very wide range consonants, which have never been fully characterised. Their most striking feature is the large number of double articulations, not characteristic even of other Chadic language in the region. Bura orthography is best described as ‘in transition’ and some of its aspects are described in §xx. The table provides a summary view of Bura consonants phonemes omitting secondary articulations.

	Bilabial	Labial alveolar	Labio- alveopalatal	Labial- palatal	Alveolar	Alveo- palatal	Palatal	Velar	Glottal
Plosive	p b	pt bd	pc		t d	c j		k g	ʔ
Glottalised	ɓ	bd̥			d̥				
Ejective								k̥	
Prenasalised	mp mb		mc mj		nt nd	nc nj		ŋk	
Nasal	m	mn		ɱɲ	n		ɲ	ŋg	
Affricate		pts			ts dz			ɲ	
Prenasalised					nts ndz				
Fricative	f v	ps bz	pʃ		s z	ʃ ʒ		x ɣ	h
Prenasalised	nf nv		ɲʃ ɲʒ	nx ny	ns nz			ɲx ɲɣ	
Lateral Fricative		pɭ bɭ			ɬ ɮ			xɬ	
								ɣɮ	
Prenasalised Lateral		mpɭ			nɬ nɮ			ɲɣɮ	
Fricative		mbɭ							
Approximant							y	w	
Lateral					l				
Roll					r				

2.2.2 Palatalisation

Although Bura has a wide range of palatalised consonants they are not very common in the lexicon as a whole. Those followed by a central vowel are clearly contrastive, but when followed by front vowels, they may be simply phonetic effects, as also with back vowels and labialisation. Table 1 shows examples of all the palatalised consonants so far recorded;

Table 1. Bura palatalised consonants

Bura	Gloss
antyeqwintyegwi	cockroach
awya	<i>quelea</i> bird
bubakhyabu	tree sp.
burburyang	rhinoceros
lya	steel
-mya	v.e.
wyaku	sand
yankyar	fig-tree

It is no accident that palatalisation occurs only before the central vowel /a/. It is likely that the palatalisation heard before front vowels /e/ and /i/ is non-phonemic. Examples of palatalisation before back vowels seem not to occur. C + y sequences can occur through reduplication at morpheme boundaries, such as in *yipyipu* ‘small drops of rain’ which are not true palatal consonants.

2.2.3 Labialisation

As with palatalisation, labialisation is present but rare in Bura. The existing dictionary records many words twice, with Cwu and Cu sequences as equivalents. However, labialisation plus back vowel is non-phonemic. However, labialisation is contrastive with a following central vowel as shown in Table 2;

Table 2. Bura labialised consonants

C	Bura	Gloss
b	ambwalim	fruit of the fan palm
g	angwanangwana	Edible tuber
k	ankwa	Handcuffs
l	bilwa	To break articles into a receptacle
v	balinvwa	Tree sp.

A single example of labiopalatalisation has so far been recorded.

fywa to xx.

2.2.4 Prenasalisation

Prenasalisation is extremely common in Bura, as most consonants can be preceded by a homorganic nasal. Table 3 shows all the prenasalised consonants so far recorded with examples in use. Some combinations are common, others extremely rare.

Table 3. Bura prenasalised consonants

N	C	Bura	Gloss
m	mp		
	mb		
	mɓ		
	mc		
	mj		
	mn		
	mpɲ		
	mpɭ		
	mbɭɔ		
n	nt		
	nd		
	nc		
	nj		
	nts		
	ndz		
	nɸ		
	nʒ		
	nf		
	nv		
	nyɭɔ		
	nɭ		
	nɭɔ		
ŋ	ŋk		
	ŋg		
	ŋx		
	ŋɣ		

2.2.5 Lateralisation and rhoticisation

Many consonants in Bura can be followed by –l and –r, although this is not very common in the language as a whole. This apparently derives from a reduction Cvr/l and often an epenthetic vowel can be heard in some speakers.

Examples of lateralised consonants;

amplampla Fish sp.

2.2.6 Double articulations

Double articulations are a particular feature of Bura. Table 4 shows all the prenasalised consonants so far recorded with examples in use. Some combinations are common, others extremely rare.

Table 4. Bura double articulations

N	C	Bura	Gloss
p	pt	pti	hare
	pd	pdaku	good
	pc	pci	sun, day
	pc	hawa takpci	Locust sp.
	pts	ptsa	to sprout
	ps	psi	to free, acquit
		psimta	drop
	pʃ	pshi	to sprinkle
	pɬ	pl̥a	insect sp.
		pli	to break
b	mpɬ		
	bd	bda	chew
	bd̥	bd̥ákû	beautiful
	bz	bza	to spoil
		bzər	child
	bɟ	bɟa	to do blacksmithing
	mbɟ		?
ɓ	ɓd	ɓd̥aku	good
k	kɬ	akɬyakɬya	small green cricket
ɣ	ɣɬ		
	ɳɣɟ		

2.2.7 Double consonants

Doubled consonants are rare in Bura but doubling seems possible for most consonants. Table 5 shows all the long consonants so far recorded with examples.

Table 5. Bura double consonants

C	Bura	Gloss
bb	abbər	that (complementiser)
dd	tədda	father
ff	dəffu	heart
kk	ɓd̥akkarkara	holy
ll	olla	big
mm	amma	but
rr	tedarra	thin ¹

2.2.8 Ejective k

The ejective k (k̥) has not previously been identified in Bura, but it occurs in a number of common words;

¹ Cited in Agheyisi, *Orthographies of Nigerian Languages*, 8.

kəkəlak	jammed
kukula	cultivate
kəda	reed
kəká	grandparent
kəka	stammer
kəkalu	pushy
kəla	load
kər	head
kərəngtəng	slow-witted
kərkəthla	anthill
kəta	take

2.2.9 Glottal stop

The glottal stop occurs mainly between two identical vowels, and mainly in peripheral vocabulary, such as exclamations. However, there are several words where it seems to be part of mainstream Bura phonology.

u'u	fire
a'a	yes
i'i	yes
i'ya	thorn

2.3 Vowels

2.3.1 Vowel system

The number of vowels in Central Chadic languages is a matter of some discussion. Broadly speaking, most transcriptions recognise six vowels, but more abstract analyses reduce these to three, two or even one. The quality of a vowel reflects the palatal or labial prosody applied to the word. This analysis recognises six vowels;

	Front	Central	Back
Close	i		u
Close-Mid	e	ə	o
Open		a	

2.3.2 Long vowels

Bura probably has no underlying long vowel contrasts, although these are typical of Chadic and are found in Hausa, for example. However, there are many cases of doubled vowels, often bearing different tones, which are likely to have arisen from old compounds. As a consequence, these have to be carefully marked. Some examples;

pàcàátà	rock-hyrax
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2.3.3 Diphthongs

2.4 Tones

Like most Nigerian languages, Bura is a tone language. Its tone system is yet to be fully worked out. Davies (1954-56) pointed to a three-way tone contrast as follows;

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ká swear
ka and, with
kà let, may ...

Almost certainly, however, Bura has two tones and downstep. Downstep is a tone which sounds like high tone but which has the effect of lowering the tones of the rest of the sentence. Such systems are very common in Chadic languages. Downstep often sounds like a mid-tone and this may well be its historical origin. Downstep is typically marked with ' in phonology, but this is not very helpful in practical orthography.

Bura has phonetic rising tone caused by sequences of two vowels with different tones. For example;

However, it seems to have rare phonemic rising tone. For example;

The tones are shown as follows;

High	'
Low	`
Falling	^
Rising	~

Where words differ only in tone, they are listed in the order high, low.

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