Bura verbal extensions

[DRAFT CIRCULATED FOR COMMENT]

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ABBREVIATIONS

1. Introduction: verbal extensions in Africa

Systems of verbal extension are widely reported in the world, and are scattered throughout Africa, where they compete with strategies such as serial verbs and auxiliaries plus verbal collocations. Within Africa they can be subdivided into two major sub-classes, systems which permit stacked or strings of verbal extensions and those where a variety of individual extensions may be affixed to the verb root, but which do not permit stacking. Needless to say, transitional systems exist but they are quite rare. Kru languages, for example, have functional verbal extensions throughout the family, but nowhere permit stacking. Table 1 shows a highly tentative distribution of African languages allowing stacked verbal extensions; information on Nilo-Saharan and Khoisan may well be inaccurate.

Table 1. Distribution of African languages allowing stacked verbal extensions

Phylum	Branch	Sub-branch	Sample languages
Niger-Congo	Atlantic	North	Fulfulde
	Heiban-Talodi	West	Moro
	Adamawa	Tula-Waja	KiTule
	West Benue-Congo	Edoid	Degema
	West Kainji	Kambari-Kamuku	Cicipu, Rege
	Bantu		
Afroasiatic	Cushitic	Central	Oromo
	Semitic	Ethio-Semitic	Amharic
	Chadic	Central	Bura, Muyang
Nilo-Saharan	Kadu		Krongo
	East Sudanic	Nilotic	?

Apart from functional systems, there are clear traces of fossilised or unproductive extensions elsewhere in Niger-Congo, such as in the Plateau languages of Nigeria. These almost certainly form the link that joins the West Kainji languages to Bantu.

Presumably, such systems should be reconstructed for proto-Afroasiatic, and all Chadic languages must once have had such systems. However, they seem to have been stripped away fairly effectively in other branches of Chadic, leaving only parts of Central Chadic. Central Chadic has verbal extensions which can be affixed to verbs in ordered series. Systems of verbal derivation are described in Hoffmann (1963) for Margi, Lukas (1970) for Gisiga, Löhr (2002) for Malgwa, Frajzyngier (2008) for Gidar. Although there are clear formal similarities between languages and the extensions are often very similar in meaning across languages, the actual morphemes are rarely cognate. This may be because their origin lies in grammaticalisation; lexemes from another part of the lexicon have been transformed for use as a verbal affix. As the adapted lexemes vary, so does the extension. However, another source of variability may well be borrowing; when two languages of different genetic affiliation are in contact, they can borrow either words, strategies or simply concepts. The result may well be 'mixed' systems.

A key issue in verbal extension studies is the extent to which they are productive, in other words, to what extent can speakers attach morphemes to verb roots in a structured way to form innovative verb forms? In present-day Semitic, such extensions are largely fossilised. They appear to have been formerly productive but are now largely confined to stereotyped forms. This issue has yet to raise much discussion in Chadic, but the evidence suggests that extensions remain largely productive. Discussions with educated speakers can often confirm this impression; they can readily produce examples of new ways of combining extensions or attach them to recent loanwords.

2. Background to Bura

The operation of these systems of verbal extension remains sketchily described, even for the languages mentioned and it is not always easy to disentangle different categories of extension, all of which may be affixed to a single verb stem. The present paper describes the system of Bura, a Central Chadic language spoken in NE Nigeria.

Bura is a language that has benefited only very marginally from modern linguistic description. Hoffmann (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 (1954-56) in the mimeo'd 'Biu Book' separately sketched the sound-system. A proposed orthography for Bura is given in Agheyisi (1987) which marks an advance on previous work, but is still 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 (1982) produced a manuscript wordlist of Bura, which is the first document to be fully tone-marked. However, it was the result of work with 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.

Bura phonology is described in Hoffmann (1987) and Warren (2004). Orthographic conventions for the lateral fricatives and the velar nasal are used in this paper;

$$\begin{array}{ll} ł & tl \\ ɮ & dl \\ ŋ & ng \end{array}$$

3. Consonant templates, literal systems and semantic nexuses

Afroasiatic languages in general and the Semitic languages in particular are known for their system of consonant templates; whereby a (usually) triconsonantal frame can be assigned different vowels or affixes to create a semantic nexus of related meanings. This is often referred to as a literal system, and versions of it can be found in Cushitic, Semitic and Berber. Chadic languages are not usually analysed in this way, but in Central Chadic verb roots with one, two or three consonants can be extended semantically in a variety of ways across a wide spectrum of parts of speech. This fluidity between parts of speech and semantic extensibility does broadly reflect the older Afroasiatic system. Table 2 gives some examples of how the Bura verb root *hir* 'to love' can be extended to different parts of speech;

Table 2. Extended meanings of *hir* 'to love' in Bura

Bura	Gloss	Description
hir	to love, to like	Verb root
hir kir	to love self; hence to be selfish	Verb phrase
hirdzi	to be loved	Verb + mediopassive
hirdzi	mutual love, fellowship	Noun
hirhira	beloved	Adjective

Adverbs and ideophones are also commonly generated by simple verbal roots, usually CV(C)(V).

More perplexing are cases where the simple root is now absent and only extended forms occur. Table 3 shows the extended forms of a hypothetical verb base *lə* 'to go', shown in red to mark that it is no longer in use synchronically. Thus;

Table 3. Sample extensions of hypothetical *lə* 'to go' in Bura

Bura	Gloss
lə	to go
ləɓəla	to go out
lədza	to go to (of persons)
ləha	to go to an inhabited place, go home
ləghi	to go down
ləkəma	to go forward, advance, go before
ləkəra	to go under
ləkwa	to go into, to enter
ləma	to go somewhere
lənda	to go yonder
ləvi	to arrive home, at a place

This convention is adopted throughout this paper.

4. Morphology of verbal extensions in Bura

4.1 Overview

The morphemes attached to Bura verbs can be divided into three main classes, prepositional suffixes, suffixes expressing plurality of action (including partial action), and grammatical functors related to the tense/aspect system. The majority of Bura verbs mark the completive aspect by replacing the final vowel of the stem with –i, although other less predictable forms also occur. These morphemes can be combined in a variety of ways, often producing complex strings with dense semantics.

4.2 Adpositional suffixes

Bura has seven adpositional suffixes, marking relations between the subject and object of the verb. Some of these have extended meanings, with an adverbial sense. Table 4 presents a summary overview of the prepositional suffixes in Bura with their underlying and extended senses;

Table 4. Adpositional suffixes on Bura verbs

Extension	Underlying meaning	Extended meaning
-ɓəla	out, outside, around	thoroughly, completely
-dza	to the side of s.t.	
-ha	together, collectively	around, carefully, intensively
-hi	from above to below	
-mta	away from	
-nkər	onto, on top of	
-nkir	under, below, beneath	
-vi	locative	
-wa	into, inside	substitutive, where s.t. replaces s.t. else

The following sections cover each extension with examples of the meaning of extended forms.

-ɓəla

-ɓəla has a direct prepositional sense of 'out', 'outside', and an extended sense corresponding to 'thoroughly' or 'completely'. A similar extension of sense is found in English, for example in phrasal verbs such as 'clean out'. Table 5 shows the prepositional sense of *-ɓəla;*

Table 5. Examples of the -ɓəla verbal extension in Bura

Verb root	Gloss	Extended root	Gloss
bar	to cling to, embrace	barɓəla	to twine about
buka	to push	bukaɓəla	to push outside
pahi	to gin cotton	pahiɓəla	to card cotton
shina	to turn around	shinaɓəla	to turn everything out
si	to come	siɓəla	to come out
tira	to depart	tir(a)ɓəla	to run out

Table 6 shows verbs where the extended sense of 'thoroughly' occurs;

Table 6. Examples of the -ɓəla verbal extension 'thoroughly'

Verb root	Gloss	Extended root	Gloss
batla	to dance or keep step to music	batlaɓəla	To sharpen metal by beating
buca	to milk	buciɓəla	To do a thorough job of milking
bwa	to cook	bwaɓəla	To cook thoroughly
ca	to wipe out (debt)	caɓəla	To completely wipe out
paka	to search for	pakaɓəla	To search out something
baka	to look for, to hunt	bakəɓəla	to search, investigate
bu	To beat or strike an object	buɓəla	To thoroughly beat out something
tlara, tlari	To clean s.t. from a spoon with the hand	tlarɓəla	To comb, scrape off dirt
tlika	To plant	tlikaɓəla	To plant a patch
wul	To look at	wulaɓəla	To look over well
yiha	To sift true from false	yihaɓəla	to sift very thoroughly

The semantic chains by which meaning develops may not always be obvious. *batla* 'to keep step' has the sense of beating rhythmically while *batlabəla* is continuing to beat a piece of metal such as hoe-blade, until it becomes sharp.

-dza

-dza has a fairly straightforward prepositional sense of 'to the side of', 'beside' and rarely appears in an extended sense. Table 7 shows examples of the use of –*dza*;

Table 7. Examples of the -dza verbal extension 'to the side of'

Verb root	Gloss	Extended root	Gloss
bam	to tie a child on the back	bamdza	to be tied on s.o. else's back
bar	to cling to	bardza	to stick to the side of an object
bwala	to move a heavy object	bwaldza	to place an object beside another
dliba	to fasten, affix	dlibdza	to affix something to an object
dziba	to fill to repletion with food	dzibdza	to plaster a mat house
kə	to dip water	kədza	to splash water on the body
li	to go	lidza	to go close to
mbu	to place a thing upside down	mbudza	to place a flat surface against s.t. upright

The image of *bam* 'to tie a child on the back' is quite striking, as it is common for women to transfer infants from one to another rapidly.

-ha

The verbal extension –*ha* appears to be highly polysemous, with a number of meanings. These are listed together here, but the possibility should be considered that there are two or more homophonous extensions which have undergone convergence.

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The first clear semantic nexus is a type of comitative implying 'together', 'collectively'. Table 8 shows examples of the use of the comitative –ha.

Table 8. Examples of the verbal extension -ha, 'together, collectively'

Verb root	Gloss	Extended root	Gloss
buba	to scratch (the body)	bubaha	to scratch a number of places collectively
bu		buha	To gather things together at one spot
bwa	to cook	bwaha	to cook things together
fa	to take (more than one thing)	faha	to take in a bunch
gwaba	to crush beyond repair	gwabha	to crush up
gwara	to mix	gwarha	to mix together
ntlə	To cut off from the main stalk or root	ntləha	to cut off everything

The second meaning of –ha is 'around' suggesting circular motion. This can be applied both to physical actions and perception verbs, thus 'to look around. Table 9 presents some examples of this use of –ha.

Table 9. Examples of the verbal extension -ha, 'around'

Verb root	Gloss	Extended root	Gloss
diri	to clean out with the fingers food left in gourd	dirha	to wipe around the mouth of gourd
mbwa	To tie up in a bundle	mbwaha	To bind together; to tie up
titima	To grope	titimha	To grope all round
wul	To look at	wulha	To look around, inspect, look for, examine

-ha can also have the meaning of 'carefully, intensively' (Table 10). In the case of *bdli* 'to forge' this can result in the sense of repairing a tool.

Table 10. Examples of the verbal extension -ha, 'intensively'

Verb root	Gloss	Extended root	Gloss
bam	to tie a child on the back	bamha	to tighten or readjust s.t. tied
bda	to chew	bdaha	to chew well
bdli	to forge, do blacksmithing	bdliha	to re-forge a tool, or repair it
ɓəla	to take care of, tend	ɓəlaha	to tend carefully
bili	to turn back the edges for a hem	bilha	to bend or draw back, to retract
tuzha	To hunt through a stack of things s.t. lost	tuzhaha	To stir up

-hi

A rarer prepositional extension is –hi, which has the meaning 'down, lower than'. Table 11 shows some characteristic examples of the use of –hi;

Table 11. Examples of the verbal extension *-hi*, **'from above to below'**

Verb root	Gloss	Extended root	Gloss
fila	to jump, fly	filhi	to dismount, alight
ha	To hang over or on	hahi	To hang up (as on a peg)
		hahinkər	To hang on top of something
ndziha	To throw	ndzihi	To throw down
ntiha	To mark, line up	ntihi	To mark, arrange, set in place
si	To come	sihi	To come down
tir	To fall, drop, let fall, lower	tirhi	To decrease; to lower

-mta

The extension *–mta* is a separative meaning broadly 'away from', 'apart from'. Table 12 shows examples of forms with this extension;

Table 12. Examples of the verbal extension *–mta* **'away from, out'**

Verb root	Gloss	Extended root	Gloss
cari, ceri	To knock something down off its place	carəmta	To be knocked away from you
ci	to dip in with fingers	cimta	To take up the sauce, dipping it from the cooking pot into dish or gourd
daŋgula	To swab out, sweep out with a stick	daŋguləmta	To wipe off
dila	To sell	diləmta	To sell out, to sell away
diri	To clean out with the fingers any semi-liquid food left in gourd	dirəmta	To wipe away food left in the gourd
du	To move home	duwəmta	To hide something from a sense of shame
gha	To slander	ghamta	To tell a secret
guzhira	To dim, cloud (as of the vision)	guzhiramtədzi	to be clouded
hara	To do, make, happen, become, become mature	haramta	To undo, open
kikirta	To rub, anoint	kikirumta	To rub off; to erase

The *–mta* extension used with *hara* 'to do' has developed a reversive sense, which is otherwise not attested in Bura as an independent extension. *kikirta* 'to rub, anoint' appears to already have an incorporated extension, but no shorter form occurs today. The additional insertion of *–wə-* in *duwəmta* is unusual and may be the extension *–wa* (Table 15) or point to the prior existence of another extension whose consonant was lost. The *–w-* would then have been inserted to precent a VV sequence.

-nkər

The extension *-nkər* 'on top of', 'above' usually has a transparent prepositional sense, but it can also be extended to mean purposive, or 'top down' in modern jargon. Table 13 shows some examples of the use of *-nkər*;

Table 13. Examples of the verbal extension *-nkər* **'on top of', 'above'**

Verb root	Gloss	Extended root	Gloss
bəli	To break (wood etc.)	bəlinkər	To break object on other objects
bu	To beat or strike an object	bunkər	To shake dust onto dust
cari, ceri	to knock something down off its place	carənkər	to cut off a small piece and place it over s.t.
cenji, canji	to change, to make changes, alter, exchange	cenjinkər	to change on top of
da	to pour on something	dankər	to pour (a small amount of liquid)
daba	to assemble or collect together	dabənkər	to assemble for a particular purpose
ha	to extend, give, proffer	hankər	to put on top
mbu	to place a flat object on a flat surface	mbunkər	to place on top of
kadla	To put on a cross-piece, put down a barrier	kadlinkər	To cross one piece over another
?		mukankər	To bend back the hand or foot
ndasa	To swallow without chewing	ndasankər	To choke
ndla	To fall from a standing position	ndlankər	To fall on top of something
suti	To sneak away from	sutunkər	To sick a dog on s.o. to get it away from a child, put a charm on s.o. to prevent a harmful action

cenji is from Hausa and ultimately from English (? or French) and represents a good illustration of the productiveness of Bura verb morphology.

-vi

Bura has a rare locative suffix which appears not to combine with any other extensions, derived directly from the noun *vi* 'place'. Table 14 shows all the examples of *–vi* so far identified. It is noteworthy also that in two of the three examples the base verb is missing. Reconstructions based on a variety of extended forms are shown in red.

Table 14. Examples of the locative suffix *-vi*

Verb root	Gloss	Extended root	Gloss
gha	To slander, gossip	ghavi	To tell the secrets of your life under duress or pain
lə	To go	ləvi	To arrive home, at a place
ntsa	To squeeze, press	ntsivi	To crowd out

-wa

The prepositional sense of *–wa* is roughly 'into, inside', but its extended meaning, may give it a sense of 'to fix, repair, repay'. Table 15 shows some examples of *–wa* in use;

Table 15. Examples of the verbal extension *-wa*, **'into, inside'**

Verb root	Gloss	Extended root	Gloss
batla	to dance or keep step to music, beat rhythmically	batlawa	to repair damage to a sharpened knife or pitted stone
bdla, bdli	to do blacksmithing	bdliwa	to forge a tool for someone to pay for his iron which has been used in making tools for others
bəl	to break (such things as wood, etc.)	bəlwa	to break articles into a receptacle
bu	to beat or strike an object	buwa	to beat or shake something into a container
buca, buci	to sow or scatter seed	buciwa	to scatter seed in a certain spot
buka	to fix or push	bukuwa	to push a person or thing into danger
cafi	to cut a small piece of a whole	cafiwa	to cut a little into a container
cari	to knock something down	carwa	to knock into a container

4.3 Number and totality marking affixes

Apart from the prepositional suffixes, Bura also has a number of related affixes which indicate number or degree. These shown in Table 16;

Table 16. Affixes on Bura verbs marking number or degree of totality

Extension	Meaning	Position
-gi-, -gu-, -ga	Completed action on multiple objects	Infix, final suffix
-ha	Intensive or repeated action on a mass of objects	Usually final suffix, can be in penultimate position
-mya	Completion of action on all objects (from standpoint of the subject).	Always final suffix
-nkər	Repetitive	Always final suffix
-Vr(i)	Action by a specific person	Always final suffix, often combined with initial syllable reduplication
-(r)ar	Partial or tentative action by subject	Always final suffix
-tsa	Partial action from standpoint of subject	Always final suffix

These can sometimes be related to the prepositional suffixes. Bura has a repetitive extension *–nkər* meaning to repeat, redo an action (Table 22) which is homophonous with the prepositional extension *–nkər* 'on top of' (Table 13).

-gi-, -gu-, -ga

Bura has a unique infix *–gi-*, which marks completed action on multiple objects. It has two allomorphs, *-gu-* and *–ga-*, the latter of which is allowed as a suffix. *–gi-* and *–gu-* must always be followed by at least one other extension. Table 17 shows a variety of examples where *–gi-* is inserted between the root verb and the final extension. Where the form exists, I have also given the extended verb without the *–gi-* infix.

Table 17. Examples of the plural object infix *–gi-*

Verb root	Gloss	Extended root	Gloss
fila	to jump, fly, ride, mount	fugila	to jump many times
		fufugila	to jump multiply and continuously
hila	to steal	higilimya	to steal all (many things)
kəla	to grow	kəlanta	to bring up a child
		kəgilanta	to bring up many children
kuri	to finish, to end	kurimta	to finish off
		kugirimta	to finish off many things
mpili	to loose, untie, ransom, redeem	mpilimta	to untie
		mpigilimta	to untie many things

The change to a back vowel in the extended form of *fila* 'to jump' is unexplained, since this does not apply to the apparently similar *hila* 'to steal'. *fugila* also demonstrates another phenomenon, the potential to mark both plural action and continuous action separately on the same verb root. In this case, continuous action is marked by reduplication of the initial syllable of the base verb, which however, has a shifted vowel due to the insertion of the plural infix *–gi-*.

The *–gi-* infix has a rarer allomorph *–gu-* which appears to have an identical meaning (Table 18). It is unclear what drives the use of the back vowel, as it appears in verbs with the same stem vowel in the base form.

Table 18. Examples of the plural object infix *–gu-*

Verb root	Gloss	Extended root	Gloss
ɗə̃m	to prepare	ɗə̃mhà	To prepare, make ready, take good care of your possessions and children, gather into one place
		ɗə̃gumhà	to gather many things into one place
dlu	To receive at the hand of another	dlutsa	To receive a part, snatch, grab
		dlugutsa	To receive more than one but not all
mtə	to die	mtəmtədzi	To be killed off, wiped out
		mtəgumtədzi	to be completely destroyed (many objects)
nci	To implant, to transplant, dip into water, establish	nciwa	To dip into, transplant
		nciguwa	to transplant many things
ntul	To bore holes	ntugul	To bore many holes

The plural object affix *–ga(-)*, unlike its two allomorphs is permitted in final position. Table 19 shows some examples of *–ga*(-) both infixed and in final position.

Table 19. Examples of the plural object affix *–ga(-)*

Verb root	Gloss	Extended root	Gloss
dabta	To assemble animate things	dagabta	to assemble many animate things together
bdi	To chew, eat (when chewing is necessary)	bdiga	to chew many things
bdla, bdli	To do blacksmithing	bdliga	to forge many objects
hara	To do, make, happen, become, become mature	hagara	to do s.t. to many objects
fori	To forget	fogari	to forget many things
ha	To put on (clothing)	hagamta	to put on many clothes
caŋ	To show, to explain	caŋanta	to have many things explained to you
hala	To wear out; to become old or worn	hagalimta	to cause many objects to become worn out

The tables do not suggest any phonological conditioning that would explain why the individual allomorphs are chosen for particular verb roots.

-ha

Teasing out the precise meaning of *-ha* is not easy; it seems to form a nexus of related senses. As Table 20 shows, it can have the sense of doing something more intensively, redoing something, doing something as a substitute for something else and similar meanings.

Table 20. Examples of the verbal extension *-ha*, **'to redo, return, do in substitution'**

Verb root	Gloss	Extended root	Gloss
baŋ	To tie a child on the back	bamha	To tighten or readjust the tying
bar	To cling to, adhere to, embrace	barha	To cling tightly to an object
batla	To dance or keep step to music, beat rhythmically	batlaha	To sharpen by beating, to beat together
		batlaha	To pound, or stomp with the feet, mud mixed for building
bda	To chew, eat	bdaha	To chew well
bdli	To do blacksmithing	bdliha	To re-forge or repair a tool
bili	To turn back the edges for a hem	bilha	To bend or draw back, to retract
bwala	To lever a heavy object	bwalha	To lift without turning over
bwatla	To plant in hard ground without rain	bwatlaha	To plant a patch of hard ground
lə	To go	ləha	To go to an inhabited place, go home
mpa	To fight	mparhala	To fight in defence of another

-mya

Bura has two allomorphs of a suffix which indicate complete action on a group of objects, *-mya* and *-nya*. Table 21 shows examples of the application of the *–mya* suffix.

Table 21. Examples of the verbal extension *-mya*, **'completely' [referring to a group of objects]**

Verb root	Gloss	Extended root	Gloss
batla	To dance or keep step to music,	batlamya	To tramp down by many footsteps; to wear

	beat rhythmically		down by much pounding
bdi	To chew, eat (when chewing is necessary)	bdimya	To chew up or swallow
bdli	to destroy domestic animals	bdlimya	to completely destroy a flock
bdli	To do blacksmithing	bdlimya	To forge all of a supply of iron
bə(l)	To break (wood etc.)	bəlimya	To break up all of a group of articles
la	To dig	lamya	To dig all
masa	To buy	masamya	To buy up (more than one thing)

-nkər repetitive extension

-nkər is a repetitive extension, implying 'to redo, do again' (Table 22) and always occurs in word-final position. It is homophonous with the prepositional suffix *-nkər* (Table 13) although the semantics are quite different.

Table 22. Examples of the verbal extension *-nkər*, **'to repeat, redo'**

Verb root	Gloss	Extended root	Gloss
bwa	to cook	bwankər	to re-cook s.t.
ceja, ceji (P)	To make smooth (as floor, wall, etc.), clean off, remove, wipe away	cejinkər	To re-smooth a surface, to make s.t. invisible by covering it with a sealant
batla	To dance or keep step to music, beat rhythmically	batlinkər	To do the job of sharpening or pounding over again, beat on top of something
bdla, bdli	To do blacksmithing	bdlinkər	To re-forge and add to a tool
bu	To beat or strike an object	bubankər	To re-scratch

-ri

The verbal extension *–ri* is almost a counterpart to the infixed *–gV-* marking action on plural objects (Table 17). Unlike *–gV-*, it is always verb-final and is often associated with the reduplication of the verb root, either the initial syllable or the whole root. Adding *–ri* in final position to a verb root indicates to the hearer that the action is being undertaken by a single individual; paradoxically, the use of reduplication to mark plurality suggests a durative, something that is done over a long period of time. Table 23 shows examples of the application of *–ri* to verb stems.

Table 23. The verbal extension –*ri* marking action by a specific person

Verb root	Gloss	Extended root	Gloss
dzadza	To ponder, reflect	dzadzari	To ponder, reflect by an individual
ha	To put on (as clothing)	hahari	to put on clothes many times as a individual
hila	To waste away (as a sick person)	hilanlari	to be cursed, to be made disabled as an individual
hwatla	To work, make pliable, soften, to squeeze into	hwatlhwatlari	to make s.t. particular very soft
kəla	To grow	kəlkəlari	to be grown up
ləɓa	To dampen, be moist	ləɓləɓari	to be wet, moist, damp (of specific object)
lipila	To make blue	lipilalipilari	to be dyed blue
mbala	To turn, curve	mbalmbalari	to be very curved
tira	To depart	tirari	To remove, move away
wunar	To spread out (in the sun)	wunari	To spread (it) out

–(r)ar

A comparatively rare suffix in Bura is *–(r)ar*, which could be glossed as 'to partially extend' (Table 24). The number of examples are relatively small, but it always appears in word-final position.

Table 24. The verbal extension –*(r)ar* 'to partially extend'

Verb root	Gloss	Extended root	Gloss
mbwa	to silence, hide, conceal	mbwarar	To hide something away from sight
ndir	To weave a rope through tufts of grass	ndirar	To stretch out
nkeba	To press with the fingers	nkebirar	To slightly press with the fingers
shárá dzì	To withdraw, budge, take back a contract	sharar	To alter the terms of an agreement
shər	To unravel	shərar	To unravel (as cloth)

Forms such as *mparhala* 'to fight in defence of another' appear to have the *–(r)ar* extension in prepenultimate position.

-tsa

-tsa is an extension meaning either to partially do something or to act on part of a whole (Table 25). It always comes in final position in an extended verb, although it seems that it rarely combines with other verbs. Several verbs with apparent *–tsa* extensions but with no corresponding base verb are listed in the table.

Table 25. The -*tsa* suffix marking partial action

Extension	Meaning	Example	Gloss
bar	To cling to, adhere to, embrace	bartsa	To wrap part of the objects and leave others
bda, bdi	To chew, eat (when chewing is necessary)	bditsa	To chew part of a thing
buca	To milk	bucitsa	To extract part of the milk
buka	To push	bukutsa	To push a heavy object a little way
bzi	To spoil s.t.	bzitsa	To spoil part of s.t.
ɗima	To pick up, gather one by one, set in order	ɗimtsa	To gather from
mbul	To separate those who are fighting	mbultsa	To rescue, to seize
msa	To smoke out a swarm of bees	msitsa	To smoke out part of a swarm
?	but cf. *msa* 'mud, dirt'	msitsa	To mix a little mud for building
?		nutsa	To take from (liquids or meal), give a portion
?		tsitsa	To hatch

Either the initial syllable or the whole verb root can be reduplicated to form extended verbs marking durative or continuous action (Table 26). Reduplication is very common in ideophones and often a reduplicated syllable describes the action of many objects. For reasons that are unclear, reduplication is often associated with the marker specifying an individual, -*ri*.

Table 26. Initial reduplication marking durative

Extension	Meaning	Example	Gloss
buba	To itch, scratch (the body)	bubarar	To quietly attract attention of s.o. by scratching the hand
dza	To think, remember, reflect	dzadza	To ponder, reflect
fǐ	to be long lasting, be a long time	fifi	To have existed a long time
fila	to jump, fly, ride, mount	fugila	to jump many times
		fufugila	to jump multiply and continuously
fyâ	To blow	fifya	to keep on blowing
ha	To put on (as clothing)	hahari	to put on clothes many times as a individual
hwatla	To work, soften, to squeeze into	hwatlhwatlari	to make s.t. particular very soft
kəla	To grow	kəlkəlari	to be grown up
ləɓa	To dampen, be moist	ləɓləɓari	to be wet, moist, damp (of specific object)
lipila	To make blue	lipilalipilari	to be dyed blue
mbala	To turn, curve	mbalmbalari	to be very curved
shər	To unravel	shərshəra	to keep on unravelling s.t.
təra	To depart	tərardzi	To go away
tlata	To arise, stand up	tlitlata	To remain standing
ufu	to heat	ufurari	to heat (it)

4.4 Suffixes marking grammatical function

Bura also uses verb suffixes or infixes to mark grammatical function (Table 27). Some of the semantics clearly overlap with the prepositional functions described in §4.2.

Table 27. Suffixes marking grammatical function on Bura verbs

Extension	Meaning
-dzi	Passive and middle voice
-nta	Causative, transitivising suffix
-ta	Completive aspect

-dzi

The *–dzi* suffix is the single most common extension used to form the passive and middle voice (Table 28). It is always placed word finally in any composite form. Some of the semantics of the extended forms are quite complex and conceptually remote from the base meaning of the verb.

Table 28. The *–dzi* medio-passive suffix

Root	Gloss	With extension	Gloss
harta	to close, enfold	hartədzi	to be closed, folded up
hilanta	To spoil	hilantədzi	to be cursed, to be made disabled
hir	To love, like, desire	hirdzi	to love oneself, be selfish
hulibi	To scorch growing things (sun)	hulibidzi	to be scorched by the sun
huxya	To break off heads of guinea corn	huxyaɓəladzi	to be thoroughly broken off (cereal heads)
		huxyadzi	to be fighting all in a heap
lilyu	To grow tall and slender, as to stretch up to reach the light	lilyumtədzi	to be spindly
mbala	To turn, curve	mbalardzi	To step aside
mbwa	to silence, hide, conceal	mbwamtədzi	To be hidden away from sight
		mbwatədzi	To be silent for some reason

–nta

-nta is a valency-changing suffix, converting a verb root from transitive to intransitive (Table 29). Sometimes the gloss can be a passive or mediopassive, but in other verbs it resembles a causative;

Table 29. The *–nta* valency-changing suffix

Root	Gloss	With extension	Gloss
ɓəla	to take care of, tend, control the movements of an object, herd, graze	ɓəlanta	To herd back in line, to head off, make someone turn back, return a purchase
caŋ	To show, to explain	caganta	To be shown, have s.t. explained
fila	To jump, fly, ride, mount	filanta	To cause something to fly
ghura	To tire	ghuranta	To make tired or weary
mbwa	To boil, foam, bubble	mbwanta	To cause s.t. to boil

Usually *–nta* is word-final, but there is some evidence that it can be incorporated into a root and can then take an additional suffix. For example, *hilanta* 'to spoil' probably reflects an original verb *hila* which no longer exists. *hilanta* is now an effective verbal base and thus the *–dzi* passiviser can be added;

> *hilantədzi*   to be cursed, to be made disabled

-ta

-ta follows a transitive verb to indicate completed action from the perspective of the present or future. It sometimes has a causative sense, for example with *gira* 'to meet'. *-ta* can in turn be followed by other

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extensions, and in particular the passiviser –*dzi* (Table 28). Its integration into the verbal extension system and the degree to which the semantics of the extended forms can vary argues that this cannot be analysed simply as a TA marker. Table 30 shows some examples of –*ta* and includes forms with the –*dzi* extension;

Table 30. The –*ta* completed action affix

Root	Gloss	With extension	Gloss
baŋ, bam	to tie a child on the back	bamta	to have tied a child on the back
bara	to seek, want, like, aspire, buy, possess, desire, be in love	barata	to have sought etc.
bar	to cling to, adhere to, embrace	barta	to have embraced
fil	to mount	filta	to have mounted
fwal(a)	to speak s.o. with respect	fwalta	to have spoken to s.o.
gar	to enclose	garta	to have enclosed s.t.
		gartədzi	to have been enclosed
gira	to meet on equal footing	girata	to cause to meet
hyipa	to steady	hyipta	to lean
masa	to be buying	masta	to have bought
psi	to acquit, release, let go, free	psita	to have dropped s.t.

Recent loanwords can be adopted into the verbal system and given appropriate derivational morphology. Thus Hausa *bárkà* 'blessing, help, assistance' is assigned the -*ta* perfective;

> *barkata* To make a feast in honour of s.o. who has just come through some great trouble or a woman who has recently given birth, to congratulate

5. Composition of verbal forms

Bura verbal extensions can be combined in a variety of ways, although many have strong constraints on their position in extended forms. As an example of the possible diversity around a single verbal base, Table 31 shows the array of surface forms in Bura derived from the verb base *bar*, 'to adhere to';

Table 31. Derivatives of *bar*, 'to adhere to'

Bura	Gloss
bar	to cling to, adhere to, embrace
barɓəla	to twine about
barɓəladzi	to be twined about
bardza	to adhere to the side or body of an object
bardzi	to embrace oneself
barha	to cling tightly to an object
barhadzi	to cling tightly to oneself
barmta	to cling to s.t.
barmtədzi	to be stuck on s.t.
barta	to stick to s.t.
bartədzi	to be stuck to s.t.
bartsa	to wrap part of something
bartsadzi	to be partially wrapped
barwa	to wrap s.t. inside something else

This section tries to define the rules concerning possible combinations of affixes. Table 32 shows the constraints on ordering of adpositional suffixes;

Table 32. Constraints on the ordering of adpositional suffixes

Extension	Final	Other
-ɓəla	Final	Penultimate
-dza	Final only	
-ha	Final only	
-hi	Final	Penultimate
-mta	Final	Penultimate
-nkər	Final only	
-vi	Final only	
-wa	Final	? penultimate

Whether *–wa-* can be penultimate depends on the interpretation of forms such as *duwəmta* (Table 12).

Table 33 shows the constraints on the ordering of number marking suffixes. *-Vr(i)* is unique in that it is often combined with a prefix, which occurs nowhere else in the verbal system. *-gi-, -gu-, -ga* appear to be allomorphs and to have no obvious semantic differences, and it is hard to account for their occurrence with particular verb roots, and in partiualr the distinctive rules which apply to *–ga*.

Table 33. Constraints on the ordering of number marking suffixes

Extension	Final	Other
-gi-, -gu-, -ga	Final	Infix
-ha	Final	Penultimate
-mya	Final only	
-nkər	Final only	
-Vr(i)	Final only	Often combined with initial syllable reduplication
-(r)ar	Final only	unless infixed –r- in some verbs is this extension
-tsa	Final only	

Table 34 shows the constraints on the ordering of suffixes marking grammatical function.

Table 34. Constraints on the ordering of suffixes marking grammatical function

Extension	Final	Other
-dzi	Final only	
-nta	Final	Penultimate
-ta	Final	Penultimate

6. Conclusions

Bura has a very large number of verbal suffixes which can serve a variety of functions; prepositional, number or totality marking and grammatical. Many of these are homophones, and it is hard to avoid the suspicion that they were historically connected. No doubt it would be possible to develop complex arguments to link them synchronically. Although many other related Chadic languages also have verbal extensions of this type, they are less numerous than Bura and moreover, do not appear to be cognate. This suggests that the concept of a complex semantics using verbal extensions is spread through metatypy, the diffusion of a strategy from language to language, rather than direct borrowing. At another level, the general system resembles the voicing strategies typical of Cushitic and Omotic languages, pointing to an inheritance from the older Afroasiatic system at some level.

Despite the extensive documentation, the analysis given here is by no means complete. The exact breakdown of some verbal forms into their elements is by no means obvious in many cases and it should be possible to test forms with informants to ascertain how they are composed. Bura has complex semantics, where the use of an extended form of a verb may be quite remote from the original meaning. Added to this, many verbs appear to have lost their original base form which can now only be reconstructed from extended forms. Many synchronic forms look as they have incorporated an extension which is thus no longer functional and must be treated as part of the root.

Finally, of course, Bura is an exceptionally well-documented language compared with its closest relatives. We know from studies of other Central Chadic languages that systems of equal complexity exist elsewhere, although they are far from being described. Developing a cross-language analytic framework is clearly a significant task for the future.

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