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Verbal pluralization strategies in Plateau

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Abstract:

Pluractional verbs are found in many Plateau (and adjacent Chadic) languages. The present study looks into the distribution of a stock of common markers of pluractionality. These are *s, *n, *k, and *d, all reminiscent of Proto-Bantu verb extensions. While these extensions each function differently in Bantu languages, in the Plateau area they serve a common function: that of expressing verbal pluractional stems.

The surface manifestations of pluractionality present a picture of utter complexity in most of the languages studied. The study endeavors to reconstruct the strategies different languages have followed to create a synchronic chaos from a relatively clear picture in the proto-stage. Phonological changes and morphophonemic constraints are the major cause of surface differences.

It is argued that the similarities observed between the pluractional forms of the languages treated here are due to internal developments rather than to language contact.

Keywords: Benue-Congo, Plateau-languages, comparative verbal morphology, pluractional stems

1 Introduction

1.1 Definition, Terminology, and Function

Williamson & Blench (2000: 13) say that “Newman (1990) has drawn attention to ‘pluractional’ verbs in Chadic, that is verbs which require plurality in their subject or object, or which refer to multiple actions. Such verbs are also widespread in Niger-Congo, either as part of the verbal extension system or as different lexical items.” Basically, this is what has been described under different labels in different sources by different authors.

Luc Bouquiaux (1970) has given the most detailed analysis of pluractional verbs in any Plateau language, and his definition already covers most aspects of pluractionality: “Ce type de dérivation peut affecter la majorité des verbaux [...] auxquels il donne [...] une valeur fréquentative (l’action s’accomplit continuellement), habituelle, répétitive (l’action se répète un certain nombre de fois) ou plulative (l’action est faite par plusieurs sujets ou s’exerce par l’intermédiaire d’une seule personne sur plusieurs objets.)” (Bouquiaux 1970: 206).

The only aspect that should or could be added is: derived forms of this type can also mark an action in progress, or an action that extends over a longer period of time.¹ That means: In Plateau languages a chain of semantically interrelated functions can be expressed by formally similar markers, with pure morphological marking of pluractionality on one end and pure aspectual marking of continuity or habituality on the other.

Formally, pluractional markers in Plateau languages are similar to the well-known set of verbal extensions in Niger-Congo.² Nevertheless, their function is quite different. To which extent language contact with neighbouring Chadic languages is responsible for this fact is – at least to me – less clear than it was when Ekkehard Wolff and I proposed this hypothesis in 1977 (Wolff & Gerhardt 1977: 1531f). Since then several studies have been published in which the existence of pluractional verb forms was described for other subgroups of Benue-Congo (Jukunoid, Cross River) suggesting that this feature may have developed independently in Benue-/Niger-Congo.

To my knowledge the first description of the phenomena under discussion is contained in Lukas & Willms 1961 where the formation of “habitual stems” is described in some detail for Zarek.³ Semantic considerations – Lukas & Willms include a verb ‘die’ for which a habitual stem was given – led me to reject this term suggesting the term “plural-stem” instead (Gerhardt 1971: 96); this I used in a number of publications (Gerhardt 1972/3, 1984, 1989). Hoffmann (1976: § 54) used the term “distributive”. Newman finally created

1 In fact, all extended forms in Aten are labelled “progressive” in Blench 2004.

2 This has been noted already in Mukarovsky (1963: 80–83).

3 “Every verb stem possesses two stems, the one specifies the action as habitual, the other not.” In the paper, however, by far not for all verbs a habitual form is given.

the term “pluractional” which found wide acceptance, and is also used in Wilson 2004.

In a number of published and unpublished papers Roger Blench (Blench 2000, 2001a, 2001b) has attributed the multiplicity of formatives and the generally chaotic impression one gets from studying and comparing pluractional verbs in Plateau to massive language contact.⁴ This is undoubtedly the mainstream interpretation. However, it seems to me that major features of this system are part of the linguistic inventory of the language from which the present-day languages have sprung. I think that by looking at these phenomena from a comparative vantage point, and by trying to explain them in terms of language-internal processes, one can gain insights that otherwise may be overlooked.

What can be regarded as accepted knowledge about pluractional verbs in Plateau might be subsumed under the following points:

- Pluractionality is mostly marked by derivational morphemes.
- Widely occurring markers of pluractionality are *s*, *k*, *ŋ* and *l/r*.
- Markers can be combined or can substitute each other (not always with functional correlates).
- There are few indications that vowels occur as formatives.
- On the surface *s* occurs as suffix as well as infix.
- In some languages *k* does not mark pluractionality but singular action, especially in cases where the unextended (proto-) form of a particular verb ends in **-s*.

2 Pluractional verbs

2.1 Distribution and individual markers

Pluractional verbs are found in most subgroups of Plateau languages.⁵

4 As an example I would like to quote the conclusion of Blench’s paper “Plural verb morphology in Fobur Izere” (2001a): “[...] A further source of skewing is intense bilingualism with neighbouring languages. In the case of Berom, where documentation is good, cognate forms show that borrowing, probably in both directions usually includes the plural form rather than just the root. As a result this creates interference in regularisation processes, increasing the level of surface complexity.”

5 For languages not underlined only very limited or no data are available, languages for which relatively good documentation is available that seem to have no verbal extensions are set in italics).

North Plateau = N	(Ikulu)
West Plateau = W	
North-Western = NW	(<u>Gyong</u> , <u>Chori</u> , Koro, <u>Dūya</u> , <u>Hyam</u>)
South-Western = SW	(<u>Che</u> , <u>Nindem</u> , <u>Kaningkom</u> / <u>Ningkyob</u> , <u>Ninzam</u> , <u>Mada</u>)
Beromic = B	(<u>Biröm</u> , <u>Aten</u> , <u>Cara</u>)
Central Plateau = C	(<u>Zarek</u> , <u>Kagoro</u> , <u>Katab</u> , Atakar, <u>Jju</u>)
Southeast Plateau = S	(<u>Fyem</u>)

The number of forms per language, however, varies enormously. Partly this is due to lack of information about the languages in question. On the other hand there are languages, for which relatively rich data are available, but where no pluractional verbs or only isolated forms have been recorded.

2.1.1 *S as pluractional marker in Plateau subgroups

Clearly, the most widespread marker of pluractionality is *S.

Table 1. -s(-) as plural marker in Plateau different subgroups

Language	Gloss	Base	Plural form	Derivational Process
IKULU (N)	—	—	—	
KORO (NW) GYONG (NW) DŪYA (NW)	shoot kill drink	<i>me</i> <i>fet</i> <i>xwá</i>	<i>mes</i> <i>feza</i> (?) <i>xwéǰá</i>	suffixation of <i>s</i> <i>z</i> (= voiced <i>s</i>) replaces <i>t</i> suffixation of <i>-ifá</i> + vowel assimilation
CHE (SW) ⁶ NINDEM (SW)	tear cut trees	<i>ɲara</i> <i>tɛn</i>	<i>ɲarasa</i> <i>tɛs</i>	suffix <i>s</i> + copy vowel <i>s</i> replaces <i>n</i>
ZAREK (C)	come build blow (instr.)	<i>bɛ</i> <i>nɔ̀ɔ̀k</i> <i>tép</i>	<i>bɛs</i> <i>nɔ̀ɔ̀s</i> <i>tésép</i>	suffixation of <i>s</i> <i>s</i> replaces <i>k</i> <i>-s</i> -infix + copy vowel

6 Data from Hoffmann (1976).

BIROM ⁷ (B)	catch build, weave	<i>vo</i> <i>lók</i>	<i>vos</i> <i>lógós</i>	suffixation of <i>s</i> suff. of V + <i>s</i> ; intervoc. C voiced
ATEN (B)	die put	<i>ku</i> <i>cwáàk</i>	<i>kus</i> <i>cwásèk</i>	suffixation of <i>s</i> <i>s</i> -infixation + vowel change
FYEM (S)	say	<i>lák</i>	<i>lákis</i>	suffixation of <i>is</i>

On the surface *s* can appear as an additive or replacive element or as an infix. The scenario for a sequence of events that result in these types in the individual languages will be sketched in the chapter on historical changes.

2.1.2 *N as pluractional marker in Plateau subgroups

Another marker consists of a nasal, which may be realized as *n* or *ŋ* in the individual languages.

Table 2. Nasal as plural marker in Plateau subgroups

Language	Gloss	Base	Plural form	Derivational Process
ZAREK (C)	shoot	<i>ta</i>	<i>taŋ</i>	suffixation of velar N
KAGORO (C)	shoot	<i>ma</i>	<i>maŋ</i>	suffixation
	throw	<i>ta</i>	<i>taŋ</i>	suffixation
JJU (C)	shoot	<i>ta</i>	<i>taŋ</i>	suffixation
DŪYA (NW)	bite	<i>śáár</i>	<i>śáŋ</i>	velar N replaces <i>r</i>
GYONG (NW)	go	<i>ze</i>	<i>zena</i>	suffixation of <i>n</i> + V
CHORI (NW)	answer	<i>himi</i>	<i>himna</i>	<i>na</i> replaces <i>i</i>
	throw	<i>tar</i>	<i>taŋ</i>	velar N replaces <i>r</i>

2.1.3 *K as pluractional marker in Plateau subgroups

*-*k*, unlike the markers which have been described in 2.1.1f., in quite a number of languages is not used to mark pluractionality, but to de-pluralize particular verb forms. This happens especially in cases where the final consonant of the root is *s*; see the following examples from Zarek.

⁷ The Birom data are taken Bouquiaux (1970) and from field material that was handed over to me by the late Johannes Lukas, respectively. Blench (2001b) contains data of a slightly different dialect of Birom.

Table 3. *-k* as de-pluralizing marker in Zarek in unextended stems with root-final *s*

Gloss	Extended form / SG	Base / PL	Proto form ⁸
mend, amend	<i>básák</i>	<i>bás</i>	
untie	<i>bísík</i>	<i>bís</i>	*BIS
pierce, stab	<i>tásák</i>	<i>tás</i>	

In Aten similar processes can be observed, cf.

Table 4. *-k* as de-pluralizing marker in Aten

Gloss	Extended f. / SG	Base / PL
repair	<i>yoŋke</i>	<i>yoŋ</i>
weed by hand	<i>hɔlɔŋkê</i>	<i>hɔlɔŋ</i>
twist, plait	<i>bànté⁹</i>	<i>ban</i>
dig	<i>sùmpe⁹</i>	<i>sùm</i>

Other verbs replace final *Vk* with *Vs* in the pluractional form. As is evidenced by the proto form, *V + k* in the non-pluractional/singular form must be interpreted as an extension. Pluractionality is effected by the *V + s* morpheme.

Table 5. Replacement of *Vk* by *Vs* in Zarek, Birom, and Aten

Language	Gloss	Extended f./SG	Extended f./PL	Proto form
ZAREK	throw	<i>bárák</i>	<i>báras</i>	*BAT
	get up	<i>dórók</i>	<i>dóròs</i>	*DOT
	pour in	<i>kórók</i>	<i>kóròs</i>	*KWAT
BIROM	descend	<i>gìtik</i>	<i>gìtis</i>	–
	satisfy	<i>sìrik</i>	<i>sìris</i>	–
ATEN	mix (meat)	<i>sèŋkè</i>	<i>sèŋès</i>	–

**-k*, however, also occurs as part of a sequence of formatives which together mark pluractional forms. The function of the *k*-element in

⁸ Some of the proto forms reconstructed for one or several Plateau subgroups clearly have a distribution that goes beyond the Plateau area (see Gerhardt 1983: 224–239).

⁹ *-té* and *-pé* are allomorphs of *-ké*; for morphophonological details see Appendix II.

these derivations is unclear; the pluractional meaning of these forms must be attributed to the *s*-element, e.g. Zarek:

Table 6. Pluractional -*k* in combination with other extensions in Zarek

Gloss	Base	Plural	Proto form
(sur)pass	<i>nár</i>	<i>násàk</i>	*NAT
bury	<i>nér</i>	<i>nésék</i>	*LYAT
jump	<i>tar</i>	<i>tásák</i>	—

**k* is subject to morphophonemic change in several languages where the nasality of C_2 is spread to the consonant of the extension; see 3.1.2 and (13) for more examples.

2.1.4 *l / r* (**D*) as pluractional marker in Plateau subgroups

The last marker with a fairly widespread distribution is *-l/-r*. Generally it is found in combination with other extensions. It is not possible to define its exact function since it appears in pluractional as well as non-pluractional forms, e.g. in Jju and Ikulu.

Table 7. *l / r* as pluractional marker in Plateau subgroups

Lang.	Gloss	SG	PL	Proto form	Derivational process
IKULU	sell/buy	<i>líbrí</i>	<i>lép</i>	*DYAP	dropping of <i>-ri</i> in pluractional form together with Ablaut
	tear open	<i>péégere</i>	<i>pée(k)</i>	—	<i>-re</i> is dropped in pluractional form, devoicing of final C
KAGORO	jump, fly open	<i>fəp nyíp</i>	<i>fələp nyirəp</i>	*PUP —	<i>l</i> -infix <i>l</i> -infix
JJU	get well	<i>créŋ</i>	<i>cceŋ</i>	—	dropping of <i>l</i> -infix + fortis articulation of C_1
BIROM	send	<i>tomo</i>	<i>tomsal</i>	*TOM	double suffixation: <i>s + l</i>
ATEN	pound	<i>tò</i>	<i>tòlò</i>	—	suffixation of <i>l + V</i>

2.2 Combinations of extensions

There are clear examples in Birom to show that extensions can be combined, such as *S and *D in (8). However, these extensions do not act independently of each other, they rather seem to represent frozen derivations.

Table 8. Combinations of extensions in Birom

Gloss	Base	Plural	Proto form
send	<i>tomo</i>	<i>tomsal</i>	*TOM
grind	<i>hwoŋo</i>	<i>hwoŋsal</i>	*KWAŋ

In many Central languages pluractional forms must be considered as consisting of a stem plus several extensional markers. Some examples have already been given in the preceding paragraphs. I add some examples from Zarek, because the forms in this language are more transparent than in other languages, e.g.:

Table 9. Combinations of extensions in Zarek

Gloss	Base	Plural	Proto form	Derivational process
bury	<i>nér</i>	<i>nésék</i>	*LYAT	-s- + -k deletion of root-final C
buy, receive	<i>fan</i>	<i>fafan</i> ¹⁰	*SIAN	-s- + -ŋ deletion of root-final C

Looking at the final consonants of the two bases it is clear that more than one extension is involved (in addition to the deletion of the root-final consonant). Hypotheses about how these forms have developed are given below in 3.1.2, and 3.4.

3 Trends and Strategies

What has been said up to now might suggest a rather homogeneous picture of verbal plural formation in Plateau languages. This is far from being true. The individual languages have made very different use of the inventory of formatives and have followed different strategies in their respective systems. A parallel from Indo-European languages comes to my mind: that of the so-called strong verbs in

¹⁰ The medial *f* is a regular morphophonemic variant of -s(-) in case an alveopalatal consonant appears in word-initial position; cf. Lukas & Willms (1961: 26).

Germanic languages. There is absolutely no doubt that the highly idiosyncratic category of strong verbs that exists in all modern Germanic languages has been present in Proto-Germanic. Languages from all branches of Germanic have strong verbs. The principles that govern the system of ablaut were simple and transparent in the proto language. The different ablaut classes were phonologically conditioned. In spite of the overall similarity of the systems, and of the fact that quite a number of verbs follow the same pattern across the languages of the family, there are specific developments in the individual languages that co-operate to create a synchronic chaos. I would like to give just one example from Dutch, English, and German (quoted in their orthographic form), they belong to ablaut class III that has a nasal or liquid as C_2 and a specific vowel pattern. It is characterized by *i* in the present stem, *a* in the past stem and *u* in the perfect stem. A typical verb of that type is ‘swim’. Another verb originally in that class is ‘come’, however today it is a class of its own in the three languages. The factor that apparently triggered the special development of this particular verb was rounding of word-initial *k*, i.e. k^w . The sequence k^wi in the present tense is attested in the oldest documented Germanic language, Gothic, as *qwiman*. This sequence was treated in different ways in the three languages: in some modern forms the labialised consonant has led to the existence of rounded vowels, in other forms the rounding was lost; finally, in others it was retained.¹¹

Table 10. Germanic strong verbs

Dutch (D):	<i>zwemmen – zwam – gezwommen</i>
English (E):	<i>swim – swam – swum</i>
German (G):	<i>schwimmen – schwamm – geschwommen</i>
D:	<i>komen – kwam – gekomen</i>
E:	<i>come – came – come</i>
G:	<i>kommen – kam – gekommen</i>

Two other phenomena from the German(ic) strong verbs show clear parallels to developments in Plateau languages: There was a quite productive derivational process by which weak transitive verbs were derived from strong intransitive verbs. Some German examples are:

¹¹ The w is retained in other strong verbs such as *quellen* ‘spring from’ and *schwellen* ‘swell’, that, however – like English *swell* – belong to different ablaut classes.

Table 11. Derivation of weak transitive verbs from strong intransitive verbs

<i>fallen</i>	<i>fiel</i> [fi:l]	<i>gefallen</i>	fall (itr. from the table)
<i>fällen</i>	<i>fällte</i>	<i>gefällt</i>	fell (tr. a tree)
<i>backen</i>	<i>buk</i> [bu:k]	<i>gebacken</i>	bake (itr. bread in the oven)
<i>backen</i>	<i>backte</i>	<i>gebackt</i>	bake (tr. baker bakes bread)
<i>sinken</i>	<i>sank</i>	<i>gesunken</i>	sink (itr.)
<i>senken</i>	<i>senkte</i>	<i>gesenkt</i>	sink (tr.) ¹²

Due to the semantic similarity of the two verbs, the difference between them is no longer maintained by many speakers of German. The more commonly used weak transitive forms replace the strong intransitive forms. These survive in a number of cases in past participles and idiomatic expressions. Few people would say *Der Kuchen buk im Ofen* ‘the cake baked in the oven’ which sounds extremely old-fashioned. That means that parallel forms exist in the language that formerly had well defined different functions. However, these have been given up in the course of time or are used interchangeably by many people.

Finally it could be pointed out that verbs belonging to the same ablaut classes in older stages of German display minor differences in modern Standard German:

<i>heißen</i> [hajsən]	<i>hieß</i> [hi:s]	<i>geheißen</i> [gəhajsən]	be called
<i>schreiben</i> [ʃrajbən]	<i>schrieb</i> [ʃri:p]	<i>geschrieben</i> [gəʃri:bən]	write
<i>reißen</i> [rajsən]	<i>riss</i> [ris]	<i>gerissen</i> [gərisən]	tear/be torn ¹³

These differences in form can hardly be attributed to language contact simply because they are not found in other Germanic languages. In a similar way in Plateau, certain trends observable in most if not all languages and – at least in my view – already present at times of the proto language have created a synchronic chaos. I shall present some of these trends common to the Plateau group in the next chapter. Rather than writing a history of the languages it seems, at our present

¹² Examples with high frequency of occurrence are *liegen – legen* ‘lie down – lay’; *sitzen – setzen* ‘sit – set’. A number of verbs is homophonous in the infinitive but the finite forms differ: *löschen/erlöschen* ‘extinguish (tr./itr.)’; *erschrecken* ‘terrify – be terrified (tr./itr.)’; *hängen* ‘hang (tr./itr.)’; *senden* ‘send – broadcast’.

¹³ Other examples of this kind are *leiden* ‘suffer’, *beißen* ‘bite’, *scheißen* ‘(vulgar) defecate’.

state of knowledge, it is only possible to write the history of single verb stems, and to disentangle the processes that have worked upon the forms of the proto language to produce the forms of the present-day idioms.

3.1 Morphophonemics

A number of morphophonemic changes affect the formation of pluractional verbs and gear the languages towards pluractional heterogeneity. To give some examples:

3.1.1 Dissimilation

In Birom the sequence CVsVs does not occur in extended verb forms. Instead pluractional forms which are expected to have this structure turn up in the shape CVrVs (Bouquiaux 1971: 211) attesting to a dissimilation of $s > r$ thus giving the false/erroneous impression that an infix *-r-* marks pluractionality.¹⁴

Table 12. Dissimilation of the sequence *s-V-s* to *r-V-s* in Birom

Gloss	Base / SG	Underlying f.	Extended f. / PL	Proto form
carry	<i>tos</i>	* <i>tosos</i>	<i>toros</i>	—
cut	<i>kas</i>	* <i>kasas</i>	<i>karas</i>	—
divide	<i>gas</i>	* <i>gasas</i>	<i>garas</i>	*GAP
sow	<i>tus</i>	* <i>tusus</i>	<i>turus</i>	*TUS
vomit	<i>hɔs</i>	* <i>hɔsɔs</i>	<i>hɔrɔs</i>	*KWAT

3.1.2 Assimilation + Dissimilation

In Zarek final *k* in extended forms changes to *ŋ* in case the root-final consonant is a nasal. One such form is also observed in Birom, see (5). In a second step, the first nasal in the sequence of two nasals is dissimilated to *-r-*,¹⁵ s. Gerhardt (1984: 15). This makes N look like a pluractional marker, although it is an allomorph of final *-k*, e.g.:

¹⁴ Changes like this one account for the very high frequency of medial *-r-* in Birom, which with 24,6 %, according to Bouquiaux (1970: 91), is the most frequent sound in intervocalic position.

¹⁵ There are a few isolated forms in Zarek that have not undergone this dissimilation. The verbal noun of *mɛn* is *ku-mɛnɛŋ*, thus preserving the more archaic form.

Table 13. Nasal harmony + dissimilation in Zarek

Gloss	Base	Underlying f.	Plural
rest	<i>fán</i>	* <i>fanak</i>	<i>fáráŋ</i>
rub	<i>kón</i>	* <i>kónək</i>	<i>kóróŋ</i>
lie down	<i>mən</i>	* <i>mənək</i>	<i>mərəŋ</i>

For the first-mentioned verb the following steps have to be set up to account for the extended form:

- a. Suffixation of *k* *fán-ək*
- b. Nasal assimilation of suffixed *k* *fán-əŋ*
- c. Dissimilation of nasal in medial position *fár-əŋ*

3.2 Generalization

The simplest and most effective strategy – according to the data presented by Nettle (1998: 36) – is followed by Fyem, the only Southern Plateau language for which pluractional forms are known. In this language all verbs take the extensional element *-s*.¹⁶ According to Wilson (2004), Che has followed a similar path insofar as all verbs select one of two allomorphs. Their distribution is conditioned by the phonological environment: vowel final vs. consonant final stems. Interestingly the two allomorphs have the shape *-s* and *-k*, respectively.¹⁷

3.3 Phonotactics

Another source of complexities are language-specific phonotactic rules. The consequence of their application is that under the surface form of a consonant other sounds might be ‘hidden’. Looking at those forms in Zarek that explicitly are marked as pluractional we find the following constraints.

¹⁶ “Each verb in Fyem has a derived, second stem which has a habitual meaning. The habitual stem is derived by adding *-s*. Where the verb ends in a consonant, a vowel is inserted. The vowel is either *i* or *u*, with the choice determined by vowel harmony.” (Nettle 1998: 36)

¹⁷ It has to be noted that the only three verbs of Che with a pluractional form contained in Hoffmann 1976 are vowel-final, so that the second allomorph is not required in his data.

- a) Only *r* and *s*¹⁸ and (exceptionally) *m* are found in medial position.
- b) If *r* occurs medially, only *s*, *k* and *ŋ* appear in final position. If *s* occurs finally, for all recorded forms there exist singular forms of the shape CVCVk that means: Vs has replaced another extension Vk.¹⁹
- c) The shape CV₁sV₁p occurs exclusively in pluractional forms.
- d) There is no pluractional form with a *p* in position C₂.

Other constraints not limited to pluractional forms are:

- e) If *s* occurs medially no alveolars are admitted in final position.
- f) If *n* or *m* occur medially only *ŋ* can occur in the position of C₃.
- g) If labial sounds (*p/m*) appear as C₃, only *s* or *r* can appear as C₂.

One might ask: What has happened to medial velars and labials (see a) and g))? They occur in CVC-verbs and should be retained medially if something is suffixed. Why is the sequence C₂ [+velar] + C₃ [+velar] not allowed (see b))?

In the other languages of the Central group the inventory of sounds in intervocalic position is severely restricted; only *r* and *y* are observed in Kagoro.

In Birom, too, there are phonotactic constraints that are exhaustively described in Bouquiaux (1970: 88–100, 208ff): *r* does not occur in final position, although nearly 25% of all intervocalic consonants are *r*. An explanation to account for this peculiarity given by Bouquiaux is that glides (*w* and *y*) occurring in root-final position become *r* in extended verb forms, e.g. *haw* PL: *hɔrɔs* ‘farm’; *sey* PL: *sɛrɛs* ‘buy, receive’; or *kwey* PL: *kwɛrɛs* ‘run’.²⁰

The sequence of consonants in intervocalic position is severely restricted; *t* + *s* and *s* + *s* are reduced to *s*, e.g.

¹⁸ If C1 is alveo-palatal *s* in medial or final position is changed to *ʃ*.

¹⁹ There is a group of nine singular forms of the shape CVsVk, where -Vk is dropped in the pluractional form, see examples under (3). Comparative evidence, however, shows that the -s is part of the verb root.

²⁰ Details of the vowel alternation are given in Bouquiaux (1970: 211).

Table 14. Reduction of CC to simple C in Birom

Gloss	Base	Plural	Underlying form	Proto form
learn	/mata/[mara]	masa	*matsa	*MAT
bury	/lète/[lère]	lèse	lètse	*LYAT
threaten	/sità/[sira]	sisa	sítsa	—
turn	sùsu	sùsa	*sussa	—

Finally, metathesis occurs and gives the impression that infixes instead of suffixes occur.

Table 15. Metathesis: CVs > sVl in Aten

Gloss	Base	Extended form	Underlying	Proto form
lie down	laàl	laasêl	laales	*DAD
open	φaâl	φáásèl	φaales	—
buy	sàÿ	sasèl	sayes	*SIAN
finish	taày	taasèÿ	taayes	—

3.4 Sound changes

Attention has to be paid to historical changes and their implications. The most spectacular one has affected Proto-Plateau PP *S which in final position has changed to the palatal semi-vowel in the Katab cluster and in Jju. This change sets apart these languages from the rest of Central Plateau.

Table 16. The change of final PP *-S in the Katab dialect-cluster and Jju

‘sell’	ZAREK	rep, rées	KAGORO	lyap, lyay	*DYAP
‘put’	ZAREK	sák, sáás	JJU	sak, saay	*SAK
‘kill’	CHORI	fer, fés	JJU	hɣat, hɣaay ²¹	*PYAT
	ZAREK	fer, ²² fés	KAGORO	çat, çay	
‘four’	CHE	-nas	KAGORO	-nay	*NAS
	BIROM	-nas			
	ZAREK	naas			
‘new’	BIROM	-pas	ATAKAR	-fay	*PAS
	ZAREK	-fas			

²¹ I use the digraph *hɣ* to symbolize a voiceless labial-palatal approximant ç^w or x^{wy} would probably be a more adequate transcription.

²² Word-final *r* in Zarek corresponds regularly to PP *T.

As has been shown in 2.1.1 and 2.2, *S can appear as a suffix as well as an infix.²³ In the latter case two things can happen. Either *-S- changes to -y-, e.g. in Kagoro where we find the following forms,

Table 17. *-S- as infix in Kagoro

KAGORO	<i>çap, çiyap</i>	blow	*PYAP
	<i>tyap, tiyap</i>	cut	*TYAP
	<i>nat, niyat</i>	go	*NAT
	<i>bat, biyat</i>	catch	—
	<i>tat, tiyat</i>	thatch	—

or the root-initial consonant gets fortis articulation,²⁴ as in Jju.

Table 18. *-S- in Jju

JJU	<i>rop, dzzop</i>	tie up	*DWAP
	<i>ryap, dzzap</i>	sell	*DYAP ²⁵
	<i>tup, tssup</i>	plant	*TUP
	<i>top, tssóp</i>	sting	*TOP (stab)

3.5 Lenition

Lenition of medial consonants is observed in nearly all languages of Central Plateau and Birom. In Plateau languages progressive or increasing lenition is a historical process that in the long run leads to the differentiation between additive and replacive *S. The process starts with the lenition and/or spirantization of the root final consonant that gets into intervocalic position by the suffixation of -Vs. This becomes apparent in Bouquiaux' and Lukas' transcription of pluractional forms in Birom, where Lukas writes (in a narrower transcription) *lɔgɔs* or *lɔyɔs* while Bouquiaux, in a phonemic transcription, gives *lɔkɔs*, for there is no contrast of voice in medial and final obstru-

²³ Detailed arguments will be brought forward in 3.5 for the genesis of the forms in Kagoro, Jju and Zarek.

²⁴ The loss of *I, either syllabic or not, is made up for by the emergence of fortis consonants. This is known also from other sub-systems of idioms in the Katab dialect-cluster, e.g. in cases where a nominal prefix *i-/*í- of the proto language merges with the initial consonant of the stem resulting in a fortis consonant. This development presupposes the change from *S to *I/Y. Some examples are given in Gerhardt (1980: 210).

²⁵ For a different development of this PP root in other languages see under (16).

ents. The process of lenition can be carried on further and lead to the loss of the consonant in intervocalic position. In Birom there is one verb which shows alternant forms indicative of this process: pluractional forms of *tset* ‘cut’ are *tseres* and *tsees* which alternate freely. The same process, however without documentation of the intermediate steps, occurs in Zarek and the Katab dialect-cluster. Finally, in languages such as Katab and Kagoro the length of the vowel has been reduced with the consequence that -s appears as a substitute for the root-final consonant.

$$*CVC + Vs \rightarrow CVC + Vs \rightarrow CVVs \rightarrow CVs$$

↓
[+ voice (+ cont)]

This process is one of the major causes of pluractional complexity because it can lead to homophonous forms. Imagine a set of verbs such as *tap*, *tat*, *tak*, *tam*, *tan*, *taŋ*, *tas*. In Zarek all of them could come up as *tas* in their pluractional form. To solve the problem of ambiguity (s. Gerhardt 1984: 16) languages have employed different strategies. For Zarek – because of sufficient data – it is possible to demonstrate some of these strategies in (19):

Table 19. Disambiguation strategies in Zarek

Difference in	SG, PL		SG, PL	
a) vowel length:	<i>rɛp</i> , <i>rɛɛs</i>	vs.	<i>rɛɛr</i> , <i>rɛs</i>	sell/lick
b) tone:	<i>nòòk</i> , <i>nóóś</i>	vs.	<i>nó</i> , <i>nóóś</i>	build/enter
c) verb extensions:	<i>tarak</i> , <i>táràs</i>	vs.	<i>tar</i> , <i>tásák</i>	spread to dry/ jump

However, criteria according to which these strategies are chosen are not clear. In fact, which strategy is chosen for a particular verb differs from language to language (s. Appendix I).

3.6. Phonological loss

The eventual loss of medial consonants has been mentioned before, but vowels may be dropped as well. In case the medial consonant of a word is *r/l* in Kagoro the vowel of the first syllable has changed to an underspecified high/mid vowel in the first syllable. In Jju this vowel has been dropped completely. As a consequence one gets forms such as (see (5) for similar forms):

Table 20. Vowel loss

‘jump, fly’	ZAREK <i>furuk</i>		JJU <i>hwruk</i>
‘pay’	BIROM <i>talá</i>	KAGORO <i>táránj</i>	JJU <i>tránj</i>

3.7 Optimal forms

In Plateau languages only few pluractional forms are found that consist of three syllables. Exceptions are Che and Aten where CVCVCV-structures can be observed. This constraint holds true not only for the extended verbs but for the rest of the vocabulary as well.²⁶ This fact suggests a concept that could help to solve some of the problems raised by plural verb formation in Plateau: apparently, in these languages there is something like a maximal or optimal length for stems. Words that are longer than CVC/sVC/s²⁷ are truncated to fit this shape. The process of building optimal forms seems to consist in piling up phonological features of several extensional elements on the final consonant of a verb stem. The conservation of phonological properties achieved in this way helps to avoid ambiguous forms. The manifold phonotactical constraints that can be observed support this hypothesis.

Examples will be taken from Zarek because data in this language are more transparent than in the rest of the group. Let us consider two verbs with labial final consonant. The verb ‘divide’ *kábák*, *kásàp*²⁸ goes back to PP *KAP (in Zarek the original form is preserved in the verbal noun *ku-kap*) and finally to PBC *-GAB-. On the surface we have an infix *s* in the plural. But it seems more revealing to set up as input a sequence of two extensions *kap-as-ak* to derive the pluractional form. This would lead to a form of three syllables, therefore some kind of apocope has to be performed to arrive at the optimal form. In a first step this leads to deletion of the stem-final *p*, and at the same time to a transfer of the labial articulation to the final consonant. The same process could be set up in deriving the plurac-

²⁶ This refers to the complete data of Zarek in Lukas & Willms, the first 100 pages of Bouquiaux’ Dictionary of Birom (2002) and my data on Kagoro, Jju and Atakar. All exceptions to this rule are ideophones.

²⁷ Words of the structure CVCsVC (*tomsal*) are found only in Birom; words consisting of CVCCV (*bante/tulsa*) occur in Birom and Aten. Otherwise CVCVC is the structure of maximal length.

²⁸ The verbs *fábák* ‘fold’, *fébék* ‘blow’, *fúbúk* ‘sip’, *kóbók* ‘borrow’, *kúbúk* ‘open’, *nabak* ‘stretch/lift up’ and *túbúk* ‘pierce’ form their pluractional in an identical way.

tional form of *fásàm* ‘close’ from a simple verb *fám* by setting up an underlying form *fam-as-ak*,²⁹ with the additional step of transferring the nasal articulation of the root-final consonant to the second extension. Verbs with a final alveolar sound behave in a similar way with the difference that the articulatory features of the alveolar are not transferred to the extension. Starting with a PP verb such as ‘bury’ *ner*, *nésék* – reflex of a PP-root *LYAT – or ‘buy, receive’ *fan*, *fafan* – reflex of a PP-root *SIAN – something like the following processes must be set up:³⁰

Suffixation	V-assimilation/ C-modification	Feature transfer Nasal assimilation	Surface form
<i>lyát-as-ak</i>	> <i>lét-és-ék</i>	> <i>né(t)-és-ék</i> ³¹	> <i>nésék</i>
<i>sian-as-ak</i>	> <i>fan-as-ak</i>	> <i>fa(n)-af-an</i>	> <i>fafan</i>
cf. <i>káb-ák</i>	> <i>kap-as-ak</i>	> <i>ka(p)-as-ap</i>	> <i>kásâp</i>
<i>fam-as-ak</i>	> <i>fam-as-ak</i>	> <i>fa(m)-as-am</i>	> <i>fásàm</i>

4 Extensions irretraceable to widespread formatives

Up to now only those pluractional verbs have been treated that make use of elements found in most if not all subgroups of Plateau. However, in all languages there are formation types that are represented in one language only³² that therefore must be regarded as innovations of the language in question. In most cases the actual number of verbs that appear in these subtypes is quite insignificant. The number of the different subtypes, however, is not at all insignificant. In addition, most of these verbs are not etymologically related to verbs in the other languages. This seems to argue against language contact as being responsible for these phenomena. In some cases, an explanation already mentioned by Bouquiaux is reasonable: stem final consonants which have been lost in the simple forms are preserved in the extended forms. I shall quote examples from the individual languages without further comment.

29 *tómòŋ* ‘push’ and *rímúŋ* derive their pluractional in the same way, except that the singular of these verbs is extended: **rim-ik*, **tom-ok*.

30 Verbs with velar finals (*k*, *ŋ*) in my corpus do not take double extensions.

31 In Zaric, Proto-Plateau PP *L has become *N.

32 or a group of very closely related speech-forms.

Table 21. Idiosyncratic developments in individual languages

BIROM	<i>tùlù</i>	<i>tugus</i>	cause to come out
	<i>mɔɔ</i>	<i>mɔ̀b̀ɔ̀s</i>	kill, break
	<i>rá</i>	<i>rágas</i>	do, touch
	<i>ta</i>	<i>tabas</i>	reach, hew, mix
	<i>gyílì</i>	<i>gyílsit</i>	jump
	<i>hànta</i>	<i>hàmo</i>	tear (old material)
	<i>lùmlà</i>	<i>lulum</i>	rumble, roar, sound distant thunder
	<i>nyít</i>	<i>nyìgit</i>	press sth.
ZAREK	<i>ɲaar</i>	<i>ɲa</i>	uproot
	<i>fírìk</i>	<i>fí</i>	squeeze, milk, wring
	<i>whûr</i>	<i>whí</i>	remove from, pull out
	<i>cáràk</i>	<i>cá</i>	hit, pound, stamp

I would like to conclude with a hypothetical form to demonstrate how the operation of processes described so far can result in quite different pluractional forms in Plateau languages:

Let us postulate a verb root PP *TAS with the supposed meaning “form a pluractional verb in Plateau languages”.³³

The appropriate form in Birom would be:

BIROM **tas*, *tas-as* > *tas*, *taras* (s-Dissimilation);

Zarek would mark the non-pluractional form with the result

ZAREK **tas-ak*, *tas* > *tasak*, *tas* (marker *K for singular action);

Kagoro would de-pluralize the -s final stem and otherwise display the regularly corresponding form:

KAGORO **tasak*, *tas* > *tiyak*, *tay* (sound shift *s to y);

In Jju -s-infixation would result in a fortis consonant:

³³ I gratefully acknowledge Russ Schuh’s idea of inventing an artificial form as a pedagogical device which he used in a paper prepared for a Hausa language course which without further references was circulated in mimeographed form in the Hamburg Institute some decades ago. There he used an invented verb with the meaning “to form the different grades of a Hausa verb” to demonstrate how the derivational system of Hausa works.

JJU **tasak, tas* > *ttsak, tay* (loss of internal *s* of the non-plural stem and formation of a fortis consonant);

Chori would follow another avenue:

CHORI **tas, tas-sa* > *tas, taza* (reduction of two alveolar sounds, voicing of intervocalic consonants);

Fyem finally would use the generalized form as indicated in 3.2..

FYEM **tas, tas-is* > *tas, tasis* (application of a generalized pattern).

Examples of real verbs and their pluractional form are shown in Appendix I.

5 Language contact vs. internal processes

In his papers on Izere and Berom verbal plurals Blench cites a series of forms which he claims go back to language contact. “Berom and Izere fall into very different subgroups of Plateau and such similarities do not arise from analogous morphological processes.”³⁴ In this paragraph I shall discuss some of the data quoted from these articles in the light of the comparative data presented in the present paper.

Table 22. Comparative data from Birom and Zarek according to Blench

BIROM		ZAREK (= IZERE)	
a. <i>vó, vós</i>	catch, fetch, harvest	<i>bó, bós</i>	fetch
b. <i>ku, kufu</i>	die, faint	<i>kú, kús</i>	die
c. <i>tɛ, tɛsɛ</i>	put	<i>té, tés</i>	dress up, fit; wear, give birth
d. <i>wùl, wùlus</i>	reach, arrive	<i>wúruk, wurus</i>	come out, go out
e. <i>gaŋ, gaŋas</i>		<i>gaŋ, gáás</i>	push
f. <i>kaŋ, kaŋas</i>	separate (two people)	<i>kam, káás</i>	separate out (fighters, animals), differen- tiate, disperse

³⁴ Blench (2001b: 19)

<i>g. lək, ləgəs</i>		<i>nək, nós</i>	build
<i>h. wók, wógos</i>	hear, feel	<i>fók, fòds</i>	hear; experience sth.
<i>i. lere, lese</i>	bury	<i>ner, nesek</i>	bury, hide (object)
<i>j. nára, nása</i>	stretch out, extend	<i>nár, násàk</i>	surpass; become; spend (time); put
<i>k. bárák,</i>	throw	<i>bárák,</i>	throw aimlessly
<i>básák</i>	(e.g. stones)	<i>bárás</i>	

The verbs quoted in Blench's paper have been regrouped according to the formation of the pluractional form:

a – c

As shown under (1) these CV-verbs simply add *s* or in some cases *s* + *V* to the stem to form their plural stem. Birom is the only language in the set that, in one exceptional case, adds *f* instead of *s*. In Zarek *f* may be used as a pluractional element under well-specified conditions: C1 has to be an alveo-palatal. But this environment is not found in the Birom case. The *f* is unique, the pluractional form of this verb therefore cannot be the result of language contact to Zarek/Izere.

d – h

These verbs have the structure CVC in Birom. They make use of the suffix *s* together with a copy of the stem vowel. This type of formation is by far the most frequent and regular type not only in Birom but in all languages in the corpus. In Zarek/Izere only *wuruk*, *wurus* employs a different type: the non-pluractional form is marked by a *Vk* suffix which is replaced in the pluractional form by *Vs*. This is one of the types frequently used with verbs that end in an alveolar sound.³⁵ In all other cases Zarek stem-final consonants have been dropped in intervocalic position, a process described in 3.5.

i – j

Under 3.3 it has been demonstrated that the sequence *rs* does not occur in Birom, *r* seems to have been lost after total assimilation and the shortening of the sequence *ss* to *s*.³⁶ In Zarek double suffixation with subsequent adjustment has occurred (2.2.).

³⁵ If the stem ends in *n* the regular nasal assimilation described in 3.1.2 takes place.

³⁶ However *ls*, *ns*, *bs*, *gs* are possible in Birom and, in fact, occur frequently.

k

In this case the suffix *-k* has to be set up for Birom (*bárák*) and subsequently *-s-* has been infix. The sequence *rs* (see preceding paragraph) has been shortened. The verb in Zarek follows the formation type that was observed under *d*.

In spite of the surface similarity of the verb forms, in all cases cited by Blench language-internal processes, in some cases with phonologically defined groups of verbs, can be made responsible for the specific pluractional forms. This seems to be an explanation preferable to language contact.

6 Conclusion

The preceding paragraphs were intended to provide evidence that the Plateau languages of Central Nigeria have in common a stock of verbal derivational elements which must be considered part of the proto language³⁷ from which the present day speech forms have sprung. However, effects of language-internal developments – all wide-spread and natural in other language families of the world – have produced an extremely complex situation in which the relations between modern surface forms of different languages are not transparent anymore. The use of traditional comparative procedures such as detailed comparison and internal reconstruction can help to shed at least some light on the fascinating if complicated features of this still highly neglected language group.

Appendix I – Comparative pluractional morphology

In the following Appendix the formation of pluractional forms in different Plateau-languages will be compared for individual verbs to exemplify some of the hypotheses presented in this paper.³⁸

³⁷ Whether there has been something like Proto-Plateau is a question that seems to have been answered by some authors in the negative. The answer to this question, however, is not crucial to the argument. If the sub-branches of what is classified as Plateau should prove to be coordinated subgroups of a higher unit, the deverbal elements would belong to the inventory of this higher unit.

³⁸ In the following tables alternative forms are separated by ‘/’: (*bàràŋ/bààŋ*); singular and pluractional forms are separated by a comma ‘,’: (*ban, beaŋ*). Only one form is given, when no special pluractional form could be elicited or when the

Table 23. ‘add’ in Central Plateau

Gloss	PP (C)	Zarek	Jju	Kagoro	Katab	Atakar
add	*BAN	<i>báràŋ/ báàŋ, báràs</i>	<i>brájŋ</i>	<i>[beaŋ] = /biyaŋ/</i>	<i>ban, beaŋ</i>	<i>beaŋ</i>

The unextended Katab form justifies the setting up of PP *BAN as basic form for Central Plateau. The proposal for the language-specific developments is as follows:

In Zarek the singular is extended by the singulative suffix *-k*. Through nasal assimilation *k* becomes *ŋ*; *n* which has been shifted to intervocalic position is denasalized. In the plural **k* is replaced by **s* (for a form with non-nasal final consonant see (4) and 3.1.2).

In Katab the PP-form is retained in the simplex form. For the plural – which in Kagoro and Atakar is the only form that is attested – multiple affixation has to be postulated. Final *ŋ* points to **k* as suffix in combination with nasal stem-final consonant (s. under Zarek), the internal vocalism goes back to a regular sound shift involving the infix *s*, s. (17).

A development along the following lines can be postulated:

**ban-s-k* → *basan-ak* → *basaŋ* → *bayaŋ* → *biyaŋ/beaŋ*.

In Jju, after the processes described for Zarek have taken place, a further development has led to a loss of the vowel between C1 and C2:

baraŋ → *bəraŋ* → *braŋ*.

Table 24. ‘ask’ in Northwest and Central Plateau

Gloss	PP	Zarek	Jju	Kagoro	Katab	Atakar	Gyong
ask	PP (NW + C): *DIP	<i>ríp, rísìm</i>	<i>dzzim</i>	<i>lyip, lyirəm</i>	<i>lyip, lyirəm</i>	<i>lip</i>	<i>liptsa</i>

The most straightforward form is found in Gyong, where the variant of **S*, typical of that language, is suffixed. However, no simplex form could be elicited. The Central Group as a whole shows the irregularity that the final consonant is nasal although a labial plosive was set up as a proto-sound. The Zarek and Jju forms correspond in a regular way. Kagoro and Katab display the infix *r* in the pluractional.

informants were sure that such a form did not exist. It was not possible to clarify whether the individual forms have singular or pluractional function.

Table 25. ‘to blow’ in Central Plateau

Gloss	PP (C)	Zarek	Jju	Kagoro	Katab	Atakar
blow (instr.)	*TYAP	<i>tép, tésép</i>	<i>tyáp, tyák</i>	<i>tyap, tiyap</i>	<i>tyap</i>	<i>tyap</i>

In Zarek affixation of *s* as well as *k* has to be set up (see 3.7). The resulting form exceeds the optimal length and has been shortened to CVCVC. The articulatory features of the root-final consonant and the second extension, i.e. plosive and labial, have been heaped upon the final consonant. The Kagoro form corresponds regularly to what is found in Zarek. V1 has been assimilated to the palatal glide. Jju replaces final *p* by *k* which here has a clear pluractional function.

Table 26. ‘borrow’ in Beromic an Central Plateau

Gloss	PP	Birom	Zarek	Kagoro	Katab	Atakar
borrow	PP *KOP	<i>hwóp, hwóbɔs</i>	<i>kɔbɔk, kɔsɔp</i>	<i>kwap</i>	<i>kwáp</i>	<i>xwáp</i>

In Birom we find a straightforward suffixation of Vs with lenition of C2 in intervocalic position. The form in Atakar points to an infix *s*, which is needed to account for *x*, the fortis articulation of *k*.

Table 27. ‘break’ in Central, Northwest and Southwest Plateau

Gloss	PP	Zarek	Kagoro	Katab	Atakar	Chori	Gyong
break	C: BUT NW: BUN	<i>búr, búsúŋ</i>	<i>bvut, bvuy</i>	<i>but</i>	<i>but</i>	<i>bun, bunya</i>	<i>bún</i>
		Nindem	Ning- kyop	Ninzam	Mada (N)	Mada (W)	Che
	SW: MUN	<i>mun, mus</i>	<i>mun</i>	<i>mur</i>	<i>man</i>	<i>mir</i>	<i>mú, múrúsú</i>

The three reconstructions are clearly related. The pluractional in Zarek points to PP (C) *BUN, which is justified by no other language in the Central group. In PP (SW) final *r* is a regular reflex of *n* in Ninzam and Mada West. The Kagoro form (with fortis C1) and final *y* is exceptional because two *s*-affixes in one form seem to be involved, one causing the final *y*, the other the fortis consonant. The loss of the final consonant in the simplex form of Che is not explainable.

Table 28. ‘build’ in Beromic and Central Plateau

Gloss	PP	Birom	Zarek	Jju	Kagoro	Katab
build	*LOK	<i>lók, lógós</i>	<i>nók, nós</i>	<i>nók</i>	<i>nók</i>	<i>nók</i>
	NW	Chori	Gyong	Hyam	Koro	
		<i>nok, nogza</i>	<i>nók</i>	<i>nok</i>	<i>ndogo</i>	
	SW	Nindem	Ningkyop	Ninzam	Mada (N)	Mada (W)
		<i>lók</i>	<i>rók</i>	<i>rú</i>	<i>ló</i>	<i>ló</i>

All extended forms follow the same pattern, i.e. -s is suffixed with the usual consequences. The root *LOK is quite widespread in Plateau. *L and *N have merged in the Central Branch. (s. ‘bury’ in (9), (14) und (22)).

Table 29. ‘buy’ in Beromic and Central Plateau

Gloss	PP	Birom	Zarek	Jju	Kagoro	Katab	Atakar
buy	*SIAN	<i>sey, se(r)es</i>	<i>fán, fáj/ fájāŋ</i>	<i>san, ssan</i>	<i>san, say</i>	<i>san</i>	<i>sáán</i>
		Aten					
		<i>sày, sasèl</i>					

There are only three verb stems in Birom that end in *y*. All form their pluractional in different ways (see example for ‘come’). The Aten form is the result of metathesis of the stem final sound and the suffixed *s*, because *y* does not occur in any verb form in word-medial position. The change from final *y* to *l* is probably due to analogy, because -*vl* is a sequence in final position. Final *f* in Zarek is due to an assimilation that affects final *s* if C1 is an alveo-palatal sound. (In Zarek the local name of Jos is *zwaf*.) The Zarek alternative forms go back to **sianas* and *sian-as-ak*, respectively. In Jju the -*s*- has given way to a fortis consonant. The Kagoro form corresponds regularly to the first extended form in Zarek.

Table 30. ‘come’ in Biromic, Central and South-West Plateau

Gloss	B	Birom				
come	*BA	<i>vey, vèsè</i>				

	C	Zarek	Jju	Kagoro	Katab	Atakar
		<i>bé, bés</i>	<i>ba, bay</i>	<i>bay</i>	<i>beaŋ</i>	<i>bi</i>
	NW	Gyong	Hyam	Koro	Dūya	
		<i>ba</i>	<i>ba/bɔ</i>	<i>bá</i>	<i>bá</i>	

With the exception of Katab all languages make use of the extensional element *s(-)*. The vocalism in Katab points to an infix *s* plus a nasal extensional element. Final *i* in Atakar is the regular correspondence of PP *A in open syllables.³⁹ There is no other verb in Birom that forms its pluractional in a parallel way, i.e. by replacing *y* by *sV*. The languages of the North-Eastern branch display no pluractionals for this verb.

Table 31. ‘eat’ in Central Plateau

Gloss	PP-2A	Zarek	Kagoro	Jju	Katab	Atakar
eat	*GA	<i>ya, yas</i>	<i>ya</i>	<i>ya, dzza</i>	<i>ya</i>	<i>yi</i>

The pluractional marking in Jju is remarkable because the fortis consonant points to *S as extension. However, if *S is suffixed to an open syllable it should become final *y* instead of a fortis consonant.

Table 32. ‘fall’ in Beromic, Central and North-West Plateau

Gloss	PP	Zarek	Kagoro	Jju	Katab	Atakar
fall	(C + B) *KUA	<i>kpa, kpas</i>	<i>kwa</i>	<i>kpa</i>	<i>kwa, kway</i>	<i>kwi</i>
		Birom	Aten			
		<i>ga, gabas</i>	<i>hò, hòyèsè</i>			
		Gyong	Koro			
	(NW) *GWA	<i>gbá</i>	<i>gbá, gbésà</i>			

The verb ‘fall’ displays suffixation of *s*. A special case, however, are the Beromic languages, where *-b-* or *-y-*, respectively, are added to the stem. These sounds are not justified etymologically.

³⁹ For this correspondence see Gerhardt (1983: 61f) where 15 cases are quoted.

Appendix II – Aten verbal extensions

In this Appendix I present the verbal extensions of Aten in the same fashion and using the same paragraph numbers as in the main part of the article.

1. Introduction

Roger Blench, whose data (Blench 2003, 2004) form the base of the present appendix, notes that in Aten, the extended verbs have a continuous meaning. This puts Aten at the one end of the chain of semantic functions, mentioned in the introductory paragraph of this paper. He writes: “In Iten, not all the verbs have the perfect and continuous form. This form is achieved in four different ways in some verbs as follows: [...]”

1. Extension of the vowel [...]
2. Addition to the root [...]
3. The change of the last consonants [...]
4. Shortening the word [...]” (Blench 2003: 4f)

This seems to be a gross understatement in face of the complexities provided by the extensional system of Aten. The four processes mentioned by Blench are represented, but they manifest themselves in quite different and sometimes in idiosyncratic ways.

My intention is to show how Aten conforms to the Central Nigerian patterns as well as where it has developed independently. I shall use the term “extended” for the continuous that corresponds to “pluractional” in most of the other languages, although the continuous in some cases is not extended, rather the non-continuous form is marked by some extensional element. The two sources of Blench contain some forms that are at variance. These variations concern:

Vowel quality, e.g.:

ϕweel, *ϕep* ‘blow (mouth, wind)’; alternatively: *ϕeel*, *ϕep*;

Vowel length, e.g.:

taày, *taasèy* ‘jump’; alternatively: *tay*, *tasey*;

Vowel elision, e.g.:

kyive, *kyivese* ‘stumble, knock against sth.’, alternatively:

kyive, *kyibse* ‘stumble or hit one’s leg’

Vowel variation, e.g.:

kyinak, *kyinasak* ‘stand’; alternatively: *kyìnák*, *kyìnìsák*

2.1.1 S as pluractional marker

In its simplest form this marker occurs as a suffix added to vowel-final stems, and in form of -Vs with consonant-final stems. Without exception V_2 is a copy of V_1 . (In a few cases vowel lengthening occurs.) This is by far the most frequent formation type (59 out of 187 cases).

(II-1) -(V)s as marker for the habitual

<i>ku</i>	<i>kus</i>	die
<i>sɔ</i>	<i>sɔs</i>	drink
<i>kɔp</i>	<i>kɔvɔs</i>	borrow
<i>sit</i>	<i>siris</i>	pour
<i>φok</i>	<i>φoyɔs</i>	hear, feel
<i>bok</i>	<i>bowɔs</i>	have

Voiceless final obstruents are replaced (as is normal in Plateau) by the respective voiced fricatives in medial position; *k* is replaced by *ɣ* or *w*. There are no verbs with stem-final long vowel in the simplex form in this group.

Similar to Birom, some verbs form their extended form by adding *sV*. This type is found in 15 forms. If verbs have the structure CVV in the non-extended form, this is the regular way to form continuous stems. In 10 verbs the final vowel of the extended form is *-e*, a copy vowel in the rest. Four verbs in this set have *e* as stem vowel so that the copy vowel cannot be distinguished from a special formative. Three out of four verbs ending in VV reduce vowel length.

(II-2) -sV as marker for the continuous

<i>cwaa</i>	<i>cwase</i>	throw a spear
<i>kyi</i>	<i>kyisi</i>	return
<i>rɛɛ̀</i>	<i>rɛɛsɛ̀</i>	burn
<i>see</i>	<i>sese</i>	transplant esp. tree etc.
<i>woo</i>	<i>wose</i>	burn
<i>gava</i>	<i>gavasa</i>	have an accident
<i>φɔwɔ</i>	<i>φɔwɔso</i> ⁴⁰	taste
<i>rɛ̀nɛ̀</i>	<i>rɛ̀nesɛ̀</i>	sink
<i>sɛ̀mɛ̀</i>	<i>sɛ̀mesɛ̀</i>	wake up

Although there are 7 *l*-final verbs that add *Vs* to the simple stem for forming the continuous, there are 8 such verbs in which there seems to occur metathesis of the stem-final consonant with *s*.

40 The change of quality in the final vowel is exceptional.

(II-3) metathesis: *IVs* → *sVI*

<i>bèl</i>	<i>bésèl</i>	be cooked
<i>laàl</i>	<i>laasèl</i>	sleep, lie down
<i>φáâl</i>	<i>φáásèl</i>	open
<i>taàl</i>	<i>taasèl</i>	finish
<i>waal</i>	<i>waasèl</i>	dry

If verbs have a long vowel in their simplex form, the long vowel is also found in the extended form.⁴¹

The only two CV(V)C-verbs with *y* as final consonant in the simple stem show up in the *S-group. They have in common medial *s* resulting from metathesis, but they differ in that the expected final *y* in *sasèl* has been changed to *l* which is by far more frequent in this position than *y*.

(II-4) *y*-final verbs

<i>sày</i>	<i>sasèl</i>	buy
<i>tày</i>	<i>taasèy</i>	jump

The last larger group of verbs to be treated under the heading of *s* as extension consists of 8 verb stems that – without exception – end in a velar consonant in the habitual containing an infix *s* as continuous marker. It is remarkable, though not explainable, that half of the verbs in this group do not display the usual copy-vowel in the extension.

(II-5) *s*-infix in verbs with velar-final verbs

<i>cwáàk</i>	<i>cwásèk</i>	put
<i>kóóŋ</i>	<i>kóóséŋ</i>	stop doing sth., cease, desist
<i>tèk</i>	<i>tèsék</i>	leave, go away
<i>yaarŋ</i>	<i>yasèŋ</i>	see, look
<i>kyìnák</i>	<i>kyìnísák</i>	stand
<i>tuvak</i>	<i>tuvasàk</i>	join a broken rope together
<i>murak</i>	<i>musak</i>	make fire
<i>tóok</i>	<i>tóósèk</i>	carry

Other verbs, which replace an extensional element in the non-continuous form with some form of *-s* are treated under 2.1.3 and 2.1.4 of this Appendix.

⁴¹ Exceptions are some CVV verbs where the long vowel is shortened in the extended form, s. (II-2).

The remaining cases in which the element *-s* is found come up in numerically very small groups only. I give the complete list. In most cases there are no etymologically related forms in other languages. Some minor sets, however, can be identified, e.g. CVC-Verbs that end in *s* in the continuous form. It seems remarkable that verbs displaying a root-final *s* form a subgroup of their own in other languages, such as Zarek and Birom. In Zarek this stem-final *s* is taken as a pluractional marker, consequently these verbs are “de-pluralized”, using the extension *-k*. This seems to be the case in Aten as well.

(II-6) CVC-verbs with final *s* in the continuous

non-CONT	CONT	
<i>harase</i>	<i>has</i>	scrape out (as sand from)
<i>serese</i>	<i>sēs</i>	uproot a cereal plant in order to
<i>tàaté</i>	<i>tàs</i>	remember, think (particularly obsessively about sth.)

However, there are some verbs that display final *s* in the non-continuous form. Two of them form a continuous stem; here the consonant of the extension is *-t*. A third verb – ‘fly’ *yèrét* – has a different non-continuous stem while *-t* shows up in the continuous *yèsét*. This *t* is a completely language-internal development since it is found in no other Plateau language to form a pluractional verb.

(II-7) Extended CVsVt-verbs

<i>mòs</i>	<i>mòsót</i>	be fat
<i>sòós</i>	<i>sòsét</i>	sit

The last seven verbs each form a class of their own.

(II-8) Isolated formations

<i>cwaàl</i>	<i>cwamas</i>	close sth. with a cover
<i>hò</i>	<i>hòyèsé</i>	fall
<i>hovose</i>	<i>hosop</i>	divide
<i>kɔrɔse</i>	<i>kɔsɔ</i>	scratch
<i>tèpé</i>	<i>tevēs</i>	cry out (cocks, horses)
<i>waatê</i>	<i>waras</i>	warm sth. on the fire
<i>yelle</i>	<i>yeres</i>	call so.

2.1.2 *N

A nasal *as* extension marker was found in only one (out of 189) verbs: *təl* – *ton* ‘pound’, where *-l* is replaced by the consonant of the extension.

2.1.3 *K as pluractional marker

*-*k* as marker of the extended form occurs in *təl – tɔ̀rèk* ‘show, point out’. Like in other languages, it is mainly used for marking non-continuous verbal forms (see examples from other languages under 2.1.3). The existence of an underlying *-k* in the non-continuous form could be postulated for about a dozen of stems, i.e. *-k* functions here as a “singular” affix. All the verbs concerned either end in *l* or in a nasal consonant in the continuous form. Similar to the languages of the other subgroups, *k* is subject to assimilatory processes: The consonant of the suffix is assimilated to the place of articulation of the stem-final consonant.

(II-9) *-*k* in assimilated form as non-continuous marker

non-CONT	underl. form	CONT	
<i>lɛlɛmpe</i>	* <i>lɛlɛm-ke</i>	<i>lɛlɛm</i>	lick
<i>sùmpe</i>	* <i>sùm-ke</i>	<i>sùm</i>	dig
<i>bànté</i>	* <i>bàn-ké</i>	<i>bàn</i>	twist, to plait
<i>ʃɔ̀nté</i>	* <i>ʃɔ̀n-ké</i>	<i>ʃɔ̀n</i>	weed with a hoe
<i>yɔ̀ŋke</i>	* <i>yɔ̀ŋke</i>	<i>yɔ̀ŋ</i>	repair
<i>làlté</i>	* <i>làl-ké</i>	<i>làlo</i>	scramble over meat, especially hunters
<i>lɛlté</i>	* <i>lɛl-ké</i>	<i>lɛlto</i>	farm the first part of a ridge, carried out by men

The setting up of three allomorphs of a single underlying suffix *k* is more economical than postulating three independent extensions, *-pe*, *-te*, and *-ke*. There are verbs that can be included in this group because in some forms an apparently orthographic *n* occurs instead of *ŋ*.

(II-10) *-k* as suffix after orthographic *-n*

<i>sùnké</i> (<i>sùŋ-ké?</i>), <i>sùún</i>	shake a tree
<i>zànké</i> (<i>zàŋ-ké?</i>), <i>zàán</i>	do the first hoeing for millet/yam farms

Three verbs replace *-*k* in the non-continuous form with *-s*.

(II-11) Replacement of **k* with *-s* in the non-continuous form

<i>byiŋki</i>	<i>bijis</i>	collect items together
<i>sèŋkè</i>	<i>sèŋès</i>	mix meat or beans with beniseed
<i>bantê</i> (* <i>ban-ke</i>)	<i>banâs</i>	mix fresh beer with three days' old beer

2.1.4 *D [l / r] as pluractional marker

This extensional element for the continuous has only been found in the verb *tò, tòlò* ‘pound’. This verb has an alternative form (*tòl – ton*; s. 2.1.2 of this Appendix).

Five verbs replace *-l/rV* in the non-continuous form with *-sV* in the habitual stem.

(II-12) Replacement of *-l/rV* with *-sV* in the non-continuous form

<i>φèlé</i>	<i>φèsé</i>	boil
<i>wùru</i>	<i>wùsé</i>	go out, exit
<i>wara</i>	<i>waase</i>	climb

2.2 Combinations of extensions

There are no clear examples for multiple suffixation of extensional elements in Aten. In this respect Aten differs from most of the other Plateau languages displaying extended verb stems such as Birom, Kagoro, Jju etc.

3 Trends and Strategies

While vowels seem to play no important part in the derivational system of most Plateau languages, the Beromic languages present many verb stems where vowels are of crucial importance in forming an extended verb form. Some different types must be distinguished: Verb stems in which vowel length is the only marker of continuous stems:

(II-13) Vowel length

<i>ba</i>	<i>baa</i>	seal sth. (hole)
<i>tal</i>	<i>taàl</i>	pay
<i>tul</i>	<i>tùul</i>	uproot (yam)
<i>yek⁴²</i>	<i>yáàk</i>	give birth

The majority of verb stems display copy vowels in position V_2 . Without exception, all 58 verbs that form their continuous stem by suffixing *-Vs* have the same vowel in both syllables. On the other hand: all 11 verb stems that form their continuous stem by a process of metathesis resulting in infixes *s* have *e* or *ε* in the second syllable irrespective of the stem vowel which is *e* in some cases.

⁴² I regard the vowel of the simplex as the product of assimilation to the place of articulation of *y*.

(II-14) Affixation of a non-copy vowel together with *-s(-)/-se(-)*, *-sɛ*

<i>cwaa</i>	<i>cwase</i>	throw a spear
<i>howo</i>	<i>howoseè</i>	dry up
<i>kyivɛ</i>	<i>kyivɛsɛ</i>	stumble, to knock against things
<i>woo</i>	<i>wose</i>	burn
<i>laàl</i>	<i>laasèl</i>	sleep, to lie down
<i>φáál</i>	<i>φáásèl</i>	open
<i>φuùl</i>	<i>φuusèl</i>	cook beer or kunnu
<i>toðl</i>	<i>tosèl</i>	remove a pot from the fire

Another group of verbs of the structure CVCV deletes the final vowel in the continuous form, i.e. the continuous is derived by a kind of “subtractive” morpheme. This is in strong contrast to all other forms in all other languages and reverses the markedness of semantically marked forms.

(II-15) Vowel deletion in the continuous form

<i>bala</i>	<i>bal</i>	remove scales
<i>lɔlɔ</i>	<i>lɔl</i>	build
<i>φɛlɛ</i>	<i>φɛl</i>	search for sth.
<i>tùkí</i>	<i>tùk</i>	spit
<i>yènɛ</i>	<i>yèn</i>	prise up large clods of earth with hoe
<i>yèsɛ</i>	<i>yès</i>	sweep

This is the most intriguing group of all verbs since here the continuous form, otherwise derived, is definitely unmarked.

To sum up: Aten displays a derivational system that is as complex as that of any Plateau language. In addition to what has been described so far, there are many forms that are derived in a way that is rarely, or nowhere else, found in other Plateau languages.⁴³ These formation types are restricted to Aten and must be considered as language internal developments. This situation is typical for all languages for which relatively rich documentation is available. These special formations cannot be attributed to language contact: if something is found only in one language there is no source in other languages from which to borrow this particular formation. Aten in this respect does not differ from neighbouring languages where also idiosyncratic verbal derivations can be found. In any case, much fur-

⁴³ E.g. the continuous form that is distinguished from the non-continuous form by change of tone: *sùúk*, *súúk* ‘shake (as a rattle)’; or insertion of consonants: *baal*, *bava* ‘slap’, *hyè*, *hyèyè* ‘slaughter’.

ther research in this fascinating area is needed urgently, especially because the younger generation is no longer fully familiar with the subtleties of verbal derivation.

Abbreviations

Ms.	Manuscript
PP	Proto Plateau: Reconstruction for Central, Western Plateau + Beromic
PP (C)	Reconstruction for Central Plateau
PP (NW)	Reconstruction for Northwestern Plateau

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