

How to Become a “Kwa” Verb

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The present paper is concerned with the historical development a verb (phrase) typology that is well documented in several branches of Niger-Congo. It finds its most explicit statement in Westermann & Bryan’s (1952:91, 93) characterization in (1) of the properties they expect of a language in the (Old) Kwa subgroup:¹

- (1) a. “Most Roots (Verb or Noun) are monosyllabic, consisting in CV.”
 b. “There are no morphological Verb Classes.”
 c. “There are no verbal derivatives.”
 d. “There is no Passive Voice.”
 e. “The Verb Root is invariable.”

As a typical case, Westermann (1930:182-3) characterizes the (Western) Kwa language, Ewe, as in (2).

- (2) a. “The great majority [of verbs] is monosyllabic.”
 b. “The disyllabic verbs are either (1) Reduplications of monosyllabic verbs.... (2) Compoundsof two monosyllabic verbs”, e.g.
- | | | | | | |
|------|--------|--------------|---|-----|-----------------------------|
| (i) | kaka | ‘to scatter’ | < | ka | ‘to scatter’ |
| | bébe | ‘to uncover’ | < | bé | ‘to uncover’ |
| | dzudzɔ | ‘to cease’ | < | dzɔ | ‘to wait’ |
| (ii) | fanyã | ‘to knead’ | < | fa | ‘to knead’ + nyã ‘to knead’ |

The near-invariant, most monosyllabic nature of verb stems can be readily exemplified from other other Old Kwa languages, e.g. Yoruba, Nupe, e.g. “All pure verbs in Nupe were probably monosyllabic originally, the other kinds being formed by adding to the verb, a noun, or adverb, or preposition” (Banfield 1915:42).

This stands in stark contrast to the structure of the verb stem in Bantu languages, e.g. Yao P.21 (Ngunza 2000), illustrated with the inflectional final vowel -a in (3).

- | | | | | | |
|-----|----|-----------------------------|------------------------------------|--------|-----------------|
| (3) | a. | taam-a | ‘sit’ | | |
| | b. | taam-ik-a | ‘seat’ (put in seated position) | -ik- | (impositive) |
| | c. | taam-uk-ul-a | ‘unseat’ | -ul- | (reversive tr.) |
| | d. | taam-uk-ul-igw-a | ‘be unseated’ | -igw- | (passive) |
| | e. | taam-uk-ul-igw-aasy-a | ‘cause to be unseated’ | -aasy- | (causative) |
| | f. | taam-uk-ul-igw-aasy-an-a | ‘cause each other to be unseated’ | -an- | (reciprocal) |
| | g. | taam-uk-ul-igw-aasy-an-il-a | ‘cause e.o. to be unseated for/at’ | -il- | (applicative) |

As seen, verb stems can be quite long and involve multiple suffixes. Similarly, as seen in (4), Atlantic languages may also have well-developed verbal derivatives occurring in sequence:

¹The internal subgrouping of Niger-Congo languages has undergone considerable modification since Greenberg (1963). See especially Williamson (1989), as well as Williamson (1985), which has inspired my title and this research in general. In addition to the Leipzig meeting, this paper was also presented as a UC Berkeley Linguistics Colloquium and, in part, during the Workshop on Benue-Congo at Berkeley, March 26-27, 2001.

- (4) a. 'o-ma66-ii yolnde 'he shut the door'
 b. 'o-ma66-it-ii yolnde 'he opened the door' -t- (reversive)
 c. 'o-ma66-it-id-ii joldè fuu 'he opened all the doors' -d- (comprehensive)
 d. 'o-ma66-it-id-an-ii =mo joldè fuu 'he opened all the doors for him' -an- (dative)

As in Yao, the forms in (4) from Fula (Arnott 1970:367) involve multiple suffixation, the last of which is the general past active suffix -ii. In both Bantu and Atlantic, verb suffixes may have one or more of the three functions in (5) (cf. Peterson 1999, Trithart 1983):

- (5) a. grammatical function : marking/licensing of argument structure
 b. semantic function : marking/licensing of thematic roles, verb semantics, tense/aspect
 c. pragmatic function : marking/licensing of topicality/discourse prominence

Comparing Ewe with either Yao or Fula, the natural question to ask is: Why are these related languages so different? To answer this question, we assume, following Givón 1975 and Voeltz 1977, first, that the above Bantu/Atlantic verb-stem structure represents the Proto-Niger-Congo situation, and second, that Niger-Congo languages such as Ewe, Nupe, Yoruba, etc. which conform to the Westermann & Bryan characterization of Kwa in (1) have modified the proto system—most likely in an areal fashion. Evidence in support of this view comes from the fact that similar extensions, sometimes cognate with Proto-Bantu, are found, either productively or in relic forms, in many sub-branches of Niger-Congo (Voeltz 1977). Examples are presented in (6).

- (6) a. Causative -ese in Degema [Edoid; Benue-Congo] (Kari 1995:158)

tʉ	'be burnt'	tʉ-ese	'cause to be burnt'
tul	'reach'	tul-ese	'cause to reach'
kir	'return'	kir-ese	'cause to return'

- b. Benefactive -rV-/-II in Igbo [Igboid; Benue-Congo] (Emenanjo 1978, Onukawa 1999)

zú	'buy'	zú-rʉ	'buy for'
bè	'cut'	bè-re	'cut for'
zà	'sweep'	zà-ra	'sweep for'

- c. Benefactive -d- in Zande [Ubangi] (Boyd 1995:19)

kpj	'mourir'	kpj-d-	'mourir pour qq' (donc 'souffrir, se sacrifier')
na	'rain'	na-d-	'pleuvoir pour qq' (donc 'mouiller (comme la pluie)')
gbe	'tirer'	gbe-d-	'tirer pour soi, pour garder'

- d. Reversive -rV in Banda-Linda [Ubangi] (Cloirec-Heiss 1986:129)

vī	'mettre au chaud pour faire mûrir, couvrir'	vīrī	'déployer (ailes), ouvrir'
ʒe	'bouillonner, déborder, éructer'	ʒèrè	'se dégonfler, rendre le dernier soupir, enfoncer, descendre'

- e. Multifunctional valence marker -ε in Krahn [Kru] (Bing & Duitsman 1993:99)

mu	'go'	mu-ε	'make go' (causative)
dbà	'kill'	dbà-ε	'kill for' (applicative)
		dbà-ε	'kill with' (instrumental)

As seen in the last set of examples in (6e), previously distinct extensions can merge and, in this case, have a generalized licensing function of arguments.

Given such cognate forms, it is hard not to agree with Voeltz that such a system of verb extensions should be reconstructed at the Proto-Niger-Congo stage. Assuming that such a reconstruction is

motivated, the following questions naturally arise: How does the proposed Proto-Niger-Congo structure become a “Kwa” verb? Through what stages does it pass? Why? To answer these questions, a double research strategy is proposed. First, we can look at comparative Niger-Congo, especially those languages which are at different stages of modifying the original situation. Second, we can examine the fine details in Bantu (ultimately Atlantic etc.) languages that maintain the reconstructed verb structure, but with subtle variations. That is, we can focus on the visibly evolved Kwa-type systems themselves or on the “seeds for change” that exist even in languages which appear to be quite conservative.

In neither case is the present paper a comprehensive survey. Rather, I draw on materials with which I have greatest familiarity—and which I believe are representative of the phenomena that need to be considered in studying the drift from a Bantu-like to a Kwa-like verb stem. As summarized in (7), this drift potentially involves a realignment in all parts of the grammar:

- (7) a. syntax : synthetic > analytic (head-marking > dependent- or no marking)
 b. morphology : agglutinative > isolating (suffixation > marking by syntactic elements)
 c. phonology : free > restricted (unbounded > bounded)

To restate, I am assuming that the starting point in Proto-Niger-Congo is one where grammatical relations are marked on, and hence licensed by, the verb, multiple NP arguments/adjuncts can therefore co-occur with one verb (i.e. one-to-many relation), and verb stems may be phonologically as long as the morphology allows or demands. A relatively complex example of the starting point, is presented from Haya EJ.22 (Duranti & Byarushengo 1977:63) in (8).

- (8) a. Kató a-ka- siig-is-a ómwáána ámajúta ébitambála ‘Kato smeared the oil on the
 Kato he-PAST3-smear-CAUS-FV child oil handkerchiefs child with handkerchiefs’
 b. Kató a-ka- bi-ga-mú- siig-is-a ‘Kato smeared it on him
 Kato he-PAST3-them-it-him-smear-CAUS-FV with them’

As seen, the two-object verb siig- ‘smear’ is marked by a causative suffix -is-, used here to license an instrument. As a result, three object nouns can immediately follow the one (morphologically complex) verb in (8a)—or be prefixed to the verb as pronouns in (8b). In (9) we see in closely related Kiga EJ.14 (Taylor 1959) that the causative suffix -is- can be added to a verb of any length:

- (9) Causative -is- can be added to a verb of any length, e.g. in Kiga EJ.14 (Taylor 1959)
- | | | | | | |
|----|-------------|---------------------------|---|---------|---------------------------------|
| a. | kí-is-a | ‘make (weather) clear up’ | < | hí- | ‘be burnt, be cooked’ |
| | rí-is-a | ‘feed’ | < | rí- | ‘eat’ |
| b. | byám-is-a | ‘put to bed’ | < | byám- | ‘lie down, go to bed’ |
| | tiin-is-a | ‘frighten’ | < | tiin- | ‘be afraid’ |
| c. | galam-is-a | ‘lay flat’ | < | garam- | ‘lie on back, be flat and wide’ |
| | hikaan-is-a | ‘put near’ | < | hikaan- | ‘be in agreement’ |

For our purposes, Haya and Kiga represent the starting point. The opposite end point is one where grammatical relations are not marked on the verb (which instead becomes invariant), each argument or adjunct is separately licensed, e.g. by a (serial) verb or a preposition, and the size and shape of verb stems may be prosodically constrained (ultimately monosyllabic). A representative example of the serial verb option is cited in (10) from Yoruba [Yoruboid; Benue-Congo]:

- (10) Examples of ending point from Yoruba [Yoruboid; Benue-Congo] (Stahlke 1970:63, 85)

- a. mo mú iwé wá fún ẹ ‘I brought you a book’
 I take book come give you

- b. mo fi àdá gé igi 'I cut wood with a machete'
I take machete cut wood

As seen, rather than a single complex verb stem potentially licensing multiple arguments and adjuncts, in Yoruba, there is a one to one relation between each licenser (serial verb) and its licensee.

In order to expose the “opposite” characteristics of Bantu and “Kwa” in (8) vs. (10), I provide a featural comparison in (11).

(11) Comparison of Bantu and “Kwa”	Bantu	“Kwa”
a. Morphology: head-marking (verb suffixes)	+	-
b. Syntax: multiple objects	+	-
c. Phonology: prosodic unrestrictedness	+	-

Given that the + values are original, I now address the question of how the three changes take place, specifically, which + > - change occurs first (second, third). The synchronic analogue to this question is: How many different featural “types” are there in Niger-Congo?

I start with the Proto-Bantu causative extension in (12).

- (12) a. Morphology (+) : verb marking: *-ic- (> -is-) is added to the verb base²
 b. Syntax (+) : valence increase on intransitive and transitive verbs: both causee and object of lower verb can be expressed as NP arguments
 c. Phonology (+) : free (i.e. -is- can be added to any size base—cf. (9) above)

Further illustration of these properties is seen in the double object causative construction in Haya:

- (13) a. omwáána a-k-éég-a éísabu 'the child learned arithmetic'
 omwaalimú a-k-éég-es-a ómwáána éísabu 'the teacher taught the child arithmetic'
 b. omwáána a-ka-ly-á ébitooke 'the child ate bananas'
 omukázi a-ka-lí-is-a ómwáána ébitooke 'the woman fed the child bananas'

Compare this now with the cognate causative extension found in much of Grassfields Bantu:

- (14) a. Morphology (+) : verb marking: -sə/-si is added to verb base
 b. Syntax (-) : valence increase only on intransitive verbs: only the causee can be expressed as NP argument (i.e. no double object construction)
 c. Phonology (-) : verb base must be monosyllabic (i.e. verb stem is maximally bisyllabic)

Examples from Kom (Western Grassfields) are given in (15).

- (15) Examples from Kom (Western Grassfields)

a. ží 'eat'	b. ží-só 'feed' (make eat)	c. *CVCV-sə
béf 'be bad'	béf-só 'spoil' (make bad)	
fāyn 'be afraid'	fāyn-sə 'frighten'	

Although Kom still has a causative extension, we see in (16) that the language is restricted to a single object syntax: Only the causee can be expressed as the unmarked NP object. As seen, Kom requires the use

²Co-occurring with the second causative suffix *-j- (Bastin 1986), covertly present in Haya (Trithart 1977).

of the pronoun *nè* ‘with’ to express the patient.³ It is thus clear that Kom has introduced a “rearrangement of object properties” (Comrie 1985:317) when compared to the proto situation.⁴

(16) Causative syntax in Kom

- | | | |
|----|--------------------------------|-----------------------------|
| a. | ma n-ží à-yú? | ‘I am eating yams’ |
| | I PRES-eat yam | |
| b. | ma n-ží-só ə-wayn | ‘I am feeding a child’ |
| | I PRES-eat-CAUS child | |
| c. | ma n-ží-só ə-wayn nè a-yú? | ‘I am feeding a child yams’ |
| | I PRES-eat-CAUS child with yam | |
| d. | *ma n-ží-só ə-wayn a-yú? | (no double objects in Kom) |

In addressing such changes it is important to recognize that the parameters in (11) need to be examined in a suffix by suffix fashion. That is, there is no guarantee that all historical extensions will change in parallel. Rather, they evolve at their own pace and eventually drop out one by one.

To see this, consider the marking of instrumentals in Bantu. Most Eastern Bantu languages adopt one of the strategies in (17).

(17) Two options for verb-marking of instrumentals in Eastern Bantu

- | | | | |
|----|---|------------------|-------------------------------------|
| a. | causative extension, e.g. Haya -bák-is- ‘catch with’ (also = ‘make catch’) | | |
| | Kató a-ka-bák-is-a | ékikápu ómupíila | ‘Kato caught the ball with a basket |
| | Kato he-PAST-catch-CAUS-FV | basket ball | |
| b. | applicative extension, e.g. Cewa N.31b -mang-ir- ‘tie with’ (also = ‘tie for/at’) | | |
| | Mchómbó a-na-máng-ír-á | chingwe nkhûni | ‘Mchombo tied firewood with a rope’ |
| | Mchombo he-PAST-tie-APP-FV | rope firewood | |

As illustrated from Haya and Cewa, respectively, instrumental objects are licensed either by the causative or the applicative extension.⁵

In West African Niger-Congo, many languages also adopt the verb-marking strategy for licensing instruments. While the mark sometimes resembles the suffix used for other functions of the applicative (e.g. benefactive, locative), others exhibit an instrumental (comitative, associative) extension which is distinct from the applicative. In Fula, for example, Arnott (1970:348-351) recognizes a separate “Modal” extension exemplified in (18).

(18) Fula “modal” extension -r-

- | | | | |
|----|----------------------------------|--------------------------------|---------------------------|
| a. | haa mi-loot-or-oo saabunde | ‘let me wash myself with soap’ | cf. haa mi-lootoo ‘let me |
| b. | ’o-ma66-ir-ii yolnde (’e) semmbe | ‘he shut the door with force’ | wash myself’ |
| c. | wart-ir-a | ‘bring back’ (come back with) | cf. warta ‘come back’ |

³Kom in fact allows no double object anywhere in its syntax, even with the verb ‘give’.

⁴One might consider the distinction between symmetrical vs. asymmetrical Bantu languages (Bresnan & Moshi 1993) in this context. Although both allow multiple unmarked NP objects, a logical assumption would be to assume that restrictions on object properties such as found in asymmetrical languages such as Swahili and Cewa might represent a stage on the way to the loss of double object structures in general.

⁵Many Eastern Bantu languages also utilize a preposition ‘with’, either replacing or alternating with the verb marking strategy. Nande DJ.42 uses locative class 18 *omo-* for this purpose.

This extension is distinct both from causative -n- and dative -an-, although it is identical to locative -r-. We should therefore not assume that either the forms or the distribution of functions of the different extensions in Proto-Bantu are exactly identical to those which should be reconstructed for Proto-Niger-Congo. There could have been more extensions in Proto-Niger-Congo, and there definitely are different “alignments” of functions in the different branches and individual languages. One possibility, then, is that there was a comitative extension in Proto-Niger-Congo which has been lost in most Bantu.⁶ On the other hand, given its relation to a preposition ‘with’, it is also conceivable that some languages extended or reintroduced verb marking for this purpose.

Whichever the case, it remains that verb-marking is a widespread strategy for instruments in Western Niger-Congo. In Gokana [Cross-River; Benue-Congo], comitative -ma is the most fully productive extension, illustrated in (19).⁷

(19) Gokana comitative -ma is the most productive extension in the language

a. CV	:	sà	‘choose’	sàà-mà	‘choose with’
		dò	‘fall’	dòò-mà	‘fall with’
b. CVC	:	bùl	‘cook’	bù-mà	‘cook with’
		zòb	‘dance’	zò-mà	‘dance with’
c. CVV	:	kuu	‘crawl’	kùù-mà	‘crawl with’
		gbaa	‘weed’	gbàà-mà	‘weed with’
d. CVCV	:	zarí	‘buy’	za-má	‘buy with’
		toví	‘throw’	to-má	‘throw with’
e. CVVCV	:	lèèrà	‘praise’	lèè-mà	‘praise with’
		beerá	‘judge’	bee-má	‘judge with’

Concerning the corresponding syntax, note that the serialization of the transitive verb kpó ‘cut’ + -ma after the verb tú ‘take’ in (20a):

(20) Gokana verb-ma is serialized after ‘take’, illustrated with the transitive verb kpó ‘cut’

a.	aè	tú	gè	kpóò-má	nòm	‘he cut the meat with a knife’
	he	take	knife	cut-with	meat	
b.	*aè	tú	gè	kpó	nòm	
	he	take	knife	cut	meat	
c.	*aè	kpóò-má	gè	nòm		
	he	cut-with	knife	meat		
d.	*aè	kpóò-má	nòm	gè		
	he	cut-with	meat	knife		

(20b) shows that both -ma is obligatory, unlike Yoruba in (10b), while (20c) shows that tú ‘take’ also is required. That is, Gokana appears not to allow two objects without ‘take’ (but cf. below).

⁶As we shall see, some zone A (Northwest) Bantu languages use the extension -an- to mark instruments, where this same suffix is generally used to mark reciprocals (‘they met each other’) or associatives (‘they met together’). A relation between the extension -an- and the Proto-Bantu preposition *na ‘with’ has often been assumed. Could the history have been: *na ‘with’ > -an- ‘instrumental/comitative’ > -an- reciprocal? One should consider complex forms of the reciprocal, e.g. Haya -ang-an-, in this regard, since -ang- probably meant ‘together’

⁷Although Gokana has relics of other extensions, the only other verb suffix that has broad occurrence is the -a which generally detransitivizes a verb, often producing what might be viewed as a middle voice: pig ‘mix’ (tr.), pig-a ‘mix’ (intr.).

Other uses of the comitative suffix -ma are illustrated in (21).

(21) Other uses of comitative -ma (Holmback 1979)

- a. aè tú m zò-mà (zop) 'he danced with me' (zòp 'dance')
 he take me dance-with dance
- b. aè tú ló bàà-mà nɔm 'he ate meat with salt' (bà 'eat')
 he take salt eat-with meat
- c. aè tú zò kùù-mà nùtɔ 'he opened the door with fear' (kùùrà 'open')
 he take fear open-with door
- d. aè tú zò tú ííra kùù-mà nùtɔ 'he opened the door with a key with fear'
 he take fear take key open-with door

The sentences in (22), on the other hand, show that a verb + -ma may appear without a preceding tú, and tú may appear without -ma on the following verb, if the construction is non-comitative:

- (22) a. aè sí tòm dee-má kpègè 'he worked hard to earn money' (dé 'eat, earn')
 he go work earn-with money
- b. aè tú gè nè nwín 'he gave a knife to the child'
 he take knife give child

In addition, the sentences in (23) show that 'take' is not required in the verb-ma construction if the verb is intransitive:

(23) Intransitive verb + -ma

- a. aè dɔ-mà kùn 'he brought a basket' (dú 'come')⁸
 he come-with basket
- b. aè toò-mà nwín 'he cried with the child' (tó 'cry')
 he cry-with child
- c. aè pɛè-ma gbaragbara 'he jumped quickly' (pɛɛ 'jump')
 he jump-with speed

We therefore can summarize the properties of Gokana -ma as in (24).

- (24) a. Morphology (+) : verb marking: -ma is added to verb base
 b. Syntax (-) : no double object construction, i.e. valence increase only on intransitive verbs
 c. Phonology (-) : verb base must have one of the five shapes in (19)

As seen, Gokana comitative -ma appears to be like Kom causative -sə in (14). There is verb marking, but no double object. Instead of a preposition (e.g. Kom nè 'with'), Gokana uses tú 'take' in a serial verb construction to mark the additional argument. The Gokana verb base is also prosodically restricted (Hyman 1985).

There is, however, one additional property which is crucial to point out. As seen in (25), it is possible to avoid tú 'take' if the instrument is not overtly realized in the clause:

⁸dú 'come' is the only verb in Gokana which has an exceptional form with -ma: In (23a) we expect *duù-mà instead of dɔ-mà (cf. dɔ 'fall', dɔɔ-mà 'fall with').

- (25) a. gè eaè (tú) kpɔɔ-má nɔm á 'the knife that he cut meat with'
 knife that-he cut-with meat DET
- b. éé ñàè (tú) kpɔɔ-má nɔm ε 'what did he cut the meat with?'
 what that-he cut-with meat FOC
- c. aè (tú) kpɔɔ-má nɔm 'he cut meat with (it)'
 he cut-with meat

In (25a), the instrument ('knife') is relativized, while it is the focus of a WH question in (25b). In both cases *tú* is optional, as it is in (25c), since a third person inanimate pronoun is zero-marked. The conclusions we draw concerning Gokana, therefore, are as indicated in (26).

- (26) a. Gokana disallows overt expression of double objects
 b. Gokana may doubly mark an NP with *tú* and *-ma*, as in (20a), (21)
 c. The next step will be to require *tú* in (25) and lose *-ma*, as in Yoruba, Nupe etc.

The lesson from Gokana is that the syntax and phonology can become restructured without the loss of morphological verb-marking. The same conclusion is seen from a careful study of Mòkpè (Bakweri) A.22 conducted by Henson (2000, 2001). As seen in (27a), this language spoken at the western edge of the Bantu area has a system of verb extensions, here the comitative *-an-* suffix (cf. Proto-Bantu reciprocal *-an-*):⁹

- (27) a. à-mà-žén-én-é máà èwángà 'he cleared the land with a hoe'
 he-PAST-clear-with hoe land
- b. à-mà-žén-én-é èwángà nà máà [idem]
 he-PAST-clear-with land with hoe

However, Henson (2000:6-7; 2001) documents that the same verb may also doubly mark instruments with both the *-an-* extension and the preposition *nà* 'with' in (27b). The situation described by Henson is a complex one where different verbs allow different combinations of verb-marking, order of object NPs and presence vs. absence of *na*. Since some verbs do not accept instrumental *-an-*, she hypothesizes that the endpoint will be one where only *nà* is used to mark instruments. The "messy" situation in present-day Mòkpè can thus be extrapolated to have been a stage in other Western Niger-Congo languages through which they passed in switching from verb- to other marking of instruments/comitatives.

The Mòkpè situation shows how even Narrow Bantu languages can be helpful in hypothesizing the stages through which more evolved systems may have passed to become present-day Ewe, Yoruba etc. While everything we have seen thus far (Kom, Gokana, Mòkpè) indicates that Morphology (+) usually lasts the longest, it is in fact possible to keep the syntax without the morphology. This is seen from the sentences from Koyo C.24 in (28).

- (28) Koyo C.24 "Ø applicative"
- a. wá l-áà-lámb-á túngù 'he is cooking vegetables'
 he PRES-he-cook vegetables
- b. wá l-áà-lámb-á mwána túngù 'he is cooking the child vegetables'
 he PRES-he-cook child vegetables
- c. wá l-áà-yémb-á mwána 'he is singing to the child'
 he PRES-he-sing child

⁹In the examples in (27), /-an-/ harmonizes to -én- in the context of the preceding /ε/ of -žén- 'clear'.

Koyo has lost the applicative extension, but, as seen in (28b), has maintained double object constructions. The result is a \emptyset -marked applicative, which is quite un-Bantu. That the verb is still acting as if there were an applicative affix is seen in (28c). Here, ‘child’ clearly is not the object of -yémb- ‘sing’, but rather the applicative object of -yémb- \emptyset -. The overt applicative suffix -el- of the expected form *yémb-el- ‘sing to’ has been lost, but clearly not as a result of the shift to preposition (or serial verb) marking.

Before addressing why this might have happened, we see in (29a) that Koyo has maintained the causative extension -is-:

- (29) a. wá l-áà-yémb-ís-á mwánà ‘he is making the child sing’
 he PRES-he-sing-CAUS-FV child
 b. wá l-áà-lámb-ís-á mwánà tǔngù
 he PRES-he-cook-CAUS-FV child vegetables
 c. ‘he is making the child cook vegetables’
 d. ‘he is having vegetables cooked for the child’

However, note that when the transitive verb -lámb- ‘cook’ is causativized with two objects, there are two meanings: the expected one in (29c) vs. the unexpected one in (29d). This latter reading—again, very un-Bantu—is possible because the applicative is \emptyset -marked. Thus, mwánà can be either the causee (object of causative -is-) or the benefactive (objective of applicative - \emptyset -).

While one cannot “predict” in advance that Koyo would have developed the way it has, I would like to suggest one possible contributing factor: the Koyo stem is subject to specific prosodic constraints, e.g. on the maximum number of syllables. Whereas Eastern Bantu languages such as Yao, Haya, Kiga etc. show no upper limit, Northwest Bantu (and West African Niger-Congo) languages show the maximum size constraints in (30).

- (30) Maximum number of stem syllables in Northwest Bantu languages (a-c) and beyond
- | | | |
|----|----------------------------------|--|
| a. | four (~five) - syllable maximum | Yaka H.31 (Hyman 1998) |
| b. | four-syllable maximum | Punu B.31 |
| c. | three (~four) - syllable maximum | Koyo C.24 |
| d. | three-syllable maximum | Basaa A.43, Kukuya B.77a, Tiene B.81 |
| e. | two (~three) -syllable maximum | Most Grassfields Bantu, e.g. Mankon (Leroy 1982) |
| f. | one (~two) - syllable maximum | Ewe [Kwa] |

The number in parentheses indicates marginal extra lengths typically restricted to one inflectional suffix (e.g. perfective -idi/-ele in Yaka, durative [-Vg-] in Koyo).

The relevant properties of the “prosodic stem” in Koyo are as follows. First, the Koyo stem is limited to five CV structures and a maximum of three syllables—four, if the last contains the durative aspect suffix /-Vk-/ ([-Vg-]), vs. the unlimited size in Eastern Bantu languages), illustrated with the final vowel -a in (31).

- (31) Possible stem shapes in Koyo

CV	:	dz-a	‘be, exist’	my-a	‘swallow’
CVV	:	dzá-a	‘eat’	sá-a	‘cultivate’
CVCV	:	kór-a	‘attach’	bom-a	‘kill’
CVCVCV	:	sélum-a	‘slip’	ñobir-a	‘tickle’
CVCVCVgV	:	sélum-ag-a	‘slip + DUR’	ñobir-ag-a	‘tickle + DUR’

Second, as seen in (32), there is a marked decrease in consonant oppositions possible on onset positions of each of the four syllables (vs. free distribution in Proto-Bantu):

(32)	C ₁ :	p	b	w	m	mb	t	l	s	n	nd	ts	dz	y	ɲ	ndz	k	h	ŋg
	C ₂ :		b		m	mb	r	l	s	n	nd			y	ɲ	ndz			g
	C ₃ :				m		r	l	s	n									g
	C ₄ :																		g

Note that a stem-internal stop must in fact be voiced in Koyo. One consequence of this constraint is that /p/ contrasts with /b/ only in C1 position. Another consequence of this constraint is that /t/ and /k/ are realized [t, k] in C1 position but as [r, g] in C2, C3 and C4 positions:

(33)	C ₁ :	/tón-a/	[tóna]	‘refuse’	/kúl-a/	[kúla]	‘abandon’
	C ₂ :	/bát-a/	[bára]	‘keep’	/mék-a/	[méga]	‘dare’
	C ₃ :	/tsikit-a/	[tsigira]	‘tremble’	/pítak-a/	[píragaga]	‘smear’
	C ₄ :	/tsikir-Vk-a/	[tsigiraga]	(+ DUR)	/pítak-Vk-a/	[píragaga]	(+ DUR)

In addition, the underlying vowel-distributions are also limited by position: /i, e, ε, u, o, ɔ, a/ contrast in V1 position, while only /i, u, a/ contrast in V2, V3 and V4 positions.¹⁰

Finally, the size limitation on Koyo stems also has morphological effects. Specifically, verb extensions can be added only if there is room! Thus, consider the forms in (34).

(34)	a.	kór-a	‘to tie’	bar-a	‘to bite’
		kór-is-a	‘to cause to tie’	bar-is-a	‘to cause to bite’
		kór-in-a	‘to tie each other’	bar-in-a	‘to bite each other’
	b.	*kór-is-in-a	‘to cause each other to tie’	*bar-is-in-a	‘to cause each other to bite’
		*kór-in-is-a	‘to cause to tie each other’	*bar-in-is-a	‘to cause to bite each other’
	c.	dzá-a	‘to eat’ /dzé-a/	tá-a	‘to see’
		dzé-s-a	‘to cause to eat, feed’	tá-s-a	‘to cause to see, show’
		dzé-n-a	‘to eat each other’	tá-n-a	‘to see each other’
		dzé-s-in-a	‘to feed each other’	tá-s-an-a	‘to show each other’
	d.	yigin-a	‘to get accustomed to’	súndzin-a	‘to decrease, shorten’
		yig-is-a	‘to cause to be accustomed’	súndz-is-a	‘to cause to decrease’

In (34a) we see that the causative and reciprocal suffixes are -is- and -in-, respectively.¹¹ The ungrammaticality of the forms in (34b) might suggest that they are not combinable in either order. However, as seen in (34c), they can co-occur if the resulting form does not surpass three syllables. The forms in (34d) underscore the same point: A causative form is possible only by truncating the [in] sequence which occurs in the base form.¹²

¹⁰In fact, many, if not most cases of internal [Cu] are analyzable as /Cwi/. Thus, when kór-w-a ‘cough’ is causativized, one obtains kór-us-a instead of the expected *kór-w-is-a.

¹¹The expected form of the reciprocal is, of course, -an-. However, in Koyo verbs, [a] is allowed in V2 and V3 positions only if it is a copy of the FV occurring with the durative /-Vk-/. The one exception I have found is tsetsw-an-a ‘excite each other’ (from tsetsw-a ‘excite’). In this case the historical [a] of -an- is maintained presumably because the sequence [Cwi] is not allowed in Koyo. Interestingly, it is not first modified to Cwi and then fixed up to [Cu], as input /Cwi/ is; cf. note 10.

¹²The unextended roots *yig- and *súndz- do not exist.

A similar, but even more evolved situation occurs in Basaá A.43. As seen in (35), Basaa verb stems are strictly limited to a maximum of three syllables having any of the following seven shapes (Bitjaja-Kody 1990, Hyman 2000).

(35) a.	CV	lá	'lick'	nɔ	'rain'
	CVC	hól	'sharpen'	ɓaŋ	'make'
b.	CV.CV	ɓá.lê	'lend'	he.ya	'remove'
	CV.CVC	hɔ.ŋɔl	'remember'	no.mos	'prolong'
c.	CVC.CV	ɓám.da	'tighten, jam'	hɔh.lɛ	'detach'
	CVC.CVC	mág.lag	'(by) opening'	naŋ.lag	'(by) going to bed'
d.	CVC.CV.CV	háŋ.lɛ.nɛ	'fry for/at'	ɓum.la.ha	'make (s.o.) trip'

As in Koyo, the prosodic limitations on the Basaa verb stem are considerable. First, as shown in (36), the inventory of consonants decreases in each of the four onset positions within the stem.¹³

(36)	C ₁ = 22				C ₂ = 12			C ₃ = 6			C ₄ = 3	
	p	t	c	k	k ^w							
			j	g ^w		b	d	g	b	d	g	g
		s		h		s~h		s~h				h
	ɓ	l	y	w		l	y	l				
	m	n	ɲ	ŋ	ŋ ^w	m	n	ŋ	n			n
	m ^b	n ^d	ɲ ^j	ŋ ^g		m ^b	n ^d	ŋ ^g				

For example, /s/ and /h/ contrast in C1 position, but neutralize elsewhere: [s] occurs pre-pausally, [h] non-pre-pausally. Not only are there fewer oppositions in each successive position, but again, the same consonants have different realization in stem-initial vs. stem-internal positions. Thus, /p, t, k/ are realized [p, t, k] in C1 position, but are voiced (and variably continuant) as C2, C3 and C4, i.e. [b~ɓ, d~r, g~ɣ].¹⁴ Vowels in non-V₁ position are also greatly restricted: V1 and V₂ must be identical in CVCVC stems, but V2 and V3 must be identical in CVCCVCV stems, as seen in (37).

(37)		CVC-V1 (reversive)			CVC-V1-Vn-ɛ (reversive+applicative)		
	/i/ :	tiŋil	'detacher'	tiŋlɛnɛ	'détacher for/at'		
	/e/ :	sebel	'appeler'	seblɛnɛ	'appeler for/at'		
	/ɛ/ :	lɛgɛl	'transmettre'	lɛglɛnɛ	'transmettre for/at'		
	/u/ :	núhúl	'veiller'	núhlɛnɛ	'veiller for/at'		
	/o/ :	lóhól	'écorcher'	lóhlɛnɛ	'écorcher for/at'		
	/ɔ/ :	ɓɔgɔl	'déloger'	ɓɔglɛnɛ	'déloger for/at'		
	/a/ :	ɓágâl	'séparer'	ɓáglɛnɛ	'séparer for/at'		

Note how the syncope process in (38) guarantees that a Basaá verb stem will not exceed three syllables.

(38)	V	Ø	/	V	C	___	C	V	(ɓág-al-ɛnɛ ɓáglɛnɛ, etc.)
------	---	---	---	---	---	-----	---	---	----------------------------

The above Basaá facts bear directly on the question of how the inherited Bantu verb structure gradually changes (on its way to "Kwa"). First Basaá shows that syllable loss is not just from final erosion (but may derive from internal syncope). The next expected step would be to prohibit the resulting consonant clusters (perhaps all syllable codas). This in turn would lead to loss of suffix information. Already, as in Koyo, suffixation is not possible if it will produce more than three

¹³The affricates c, j can be analyzed as /tʃ, tʃ/, and g^w, ŋ^w can be analyzed as /ɖʃ, mʃ/, all of these limited to C1 position.

¹⁴They are typically realized as voiceless stops in pre-pausal position, however.

syllables. What this means is that many verbs will not take extensions (or sequences of extensions) and other, specifically syntactic, means will have to be found to express causative, applicative, instrumental relations. In other words, the phonology limits the morphology and thereby contributes to the rise of analytic syntax.

As indicated, Basaá does still have a number of extensions, further illustrated in (39).

(39) Illustration via /teŋ/ ‘attacher’ (Lemb & Degastines 1973)

a.	basic	applicative	causative	ind. caus.	reciprocal	passive
root	teŋ	tiŋ-il	tiŋ-is	tiŋ-h-a	teŋ-n-a	tiŋ-a
reversive	tiŋ-il	tiŋ-l-ɛn-ɛ	---	tiŋ-l-ah-a	tiŋ-l-an-a	tiŋ-l-a
reflexive	teŋ-eb	teŋ-ɓ-ɛn-ɛ	---	teŋ-ɓ-ah-a	teŋ-ɓ-an-a	teŋ-ɓ-a
stative	tiŋ-í	tiŋ-n-é	---	---	---	---
habitual	teŋ-a	---	---	---	---	---

b.	input	causative	applicative	reciprocal
causative	to ^m b-os	---	to ^m b-h-ɛn-ɛ	to ^m b-h-an-a
applicative	be ^m b-el	---	---	be ^m b-l-an-a
reciprocal	n/a	---	---	---

The table in (39a) consists of those combinations explicitly recognized in Lemb & Degastines’ (1973) introduction, while the suffix combinations in (39b) are the additional ones gleaned from a study of 3,682 verb forms in their dictionary. To give an idea of the productivity of these suffixes and suffix combinations, in (40) I reproduce the table in (39a) indicating the number of each type found:

(40)	basic	applicative	causative	ind. caus.	reciprocal	passive
root	1131	777	234	114	187	264
reversive	27	21	---	2	5	14
reflexive	112	42	---	6	5	2
stative	68	16	---	---	---	---
habitual	53	---	---	---	---	---

Although Lemb & Degastines did not indicate every possible suffixed verb in their dictionary, they did provide enough information to allow a number of generalizations. First, the applicative is the most productive suffix. Second, some suffixes, e.g. causative -Vs-, can only occur on bare (monosyllabic) roots, while others (e.g. the applicative, indirect causative, reciprocal, and passive) can occur on already extended verbs. Third, and most interesting, suffixation is subject to the following consonant sequencing constraints on the Basaá verb stem:

(41) Suffixation is also subject to the following consonant sequencing constraints within the verb stem

Root C’s > {b, l} > s (~h) > n > g

Such sequential constraints (cf. the “prosodic trough” in Yaka (Hyman 1998)), play into the general drift towards fixed, templatic verb stem morphology, which then is further restricted until the original Bantu-like structure becomes unrecognizable and moribund.

The most spectacular interaction between suffixation and prosodics comes from Tiene B.81 (Ellington 1971, Hyman & Inkelas 1997). In this language, the stem constraints include those in (42).

- (42) a. Five stem shapes: CV, CVV, CVCV, CVVCV, CVCVCV
 b. In the case of CVCVCV:
 i. C₂ must be coronal
 ii. C₃ must be non-coronal
 iii. C₂ and C₃ must agree in nasality

In Tiene, applicative formation takes place as in (43).

(43) Applicative formation (< PB *-id-)				Expected Form	
a.	bót-a	'give birth'	bóot-ε	'give birth for'	*bót-el-ε
	yal-a	'spread'	yaal-a	'spread for'	*yal-al-a
	kas-a	'fight for'	kaas-a	'fight on behalf of'	*kas-as-a
	kón-a	'plant'	kóon-ε	'plant for'	*kón-en-ε
	kony-a	'nibble'	koony-ε	'nibble for'	*kony-en-ε
b.	yɔb-ɔ	'bathe'	yɔlɔb-ɔ	'bathe for'	*yɔb-ɔl-ɔ
	bák-a	'reach'	bálak-a	'reach for'	*bák-al-a
c.	dum-a	'run fast'	dunem-ε	'run fast for'	*dum-en-ε
	súm-ɔ	'buy'	sónem-ε	'buy for'	*sóm-en-ε
	lɔŋ-ɔ	'load'	lɔnŋ-ɔ	'load for'	*lɔŋ-ɔn-ɔ

In (43a) we see that verb roots which end in a coronal consonant lengthen their vowel to form an applicative.¹⁵ This is what Bastin (1983) terms “imbrication”, i.e. the applicative suffix fuses inside the verb base to which it is suffixed. Expected forms such as *bót-el-ε do not occur because the C₃ must be non-coronal as per (42b). On the other hand, the verb roots in (43b) end in a non-coronal consonant. As seen, in this case the /l/ of the applicative extension is infixes as the C₂ consonant, and the root-final non-coronal consonant surfaces as C₃. The same is seen in (43c). In this case, however, since the C₂ and C₃ must agree in nasality, the infixes /l/ of the applicative nasalizes to [n] to agree with C₃ /m/ or /ŋ/.

The causative forms in (44) show similar behavior.

(44) Causative formation (< PB *-is-)				Expected Form	
a.	mat-a	'go away'	maas-a	'cause to go away'	*mat-as-a
	pal-a	'arrive'	paas-a	'cause to arrive'	*pal-as-a
	píín-a	'be black'	píís-ε	'blacken'	*píín-es-ε
	bany-a	'be judged'	baas-a	'caused to be judged'	*bany-as-a
b.	lab-a	'walk'	lasab-a	'cause to walk'	*lab-as-a
	lók-a	'vomit'	lósek-ε	'cause to vomit'	*lók-es-ε
c.	yóm-a	'become dry'	yóseb-ε	'make dry'	*yóm-es-ε
	tóm-a	'send'	tóseb-ε	'cause to send'	*tóm-es-ε
	sɔm-ɔ	'borrow'	sɔsɔb-ɔ	'lend'	*sɔm-ɔs-ɔ

There is again imbrication when the root-final consonant is coronal in (44a). In this case, the vowel not only lengthens as in the applicatives in (43a), but the /s/ of the causative suffix replaces the root-final coronal. In (44b), where the root ends is an oral non-coronal consonant, the /s/ is infixes. The same is observed in (44c), where the verb roots end in /m/. This time, however, C₂-C₃ nasal agreement cannot condition nasalization of the extension consonant (since /s/ is inherently non-nasalizable), but rather de-nasalization of the root-final /m/ to [b].

¹⁵ Although we shall ignore this here, derived verb forms also change their underlying final vowel from /-a/ to /-ε/, both of which harmonize to a preceding /ε/, /ɔ/ or /a/.

As seen in (45), it is possible to analyze Tiene either with metathesis, as Ellington (1971) does, or with infixation.

(45) Analyses of (44b) as either metathesis or infixation

a.	root	concatenation	metathesis	b.	C	V	C	V	C - V
	lók-	lók-es-ε	lósek-ε		l	o	k		
									s

Similar cases of coronal infixing is found in the Teke languages spoken in Congo-Brazzaville, and also in various languages in the Jos Plateau area, e.g. Jarawan Bantu (Gerhardt 1971:99), Izere (Blench 2000). To conclude this brief treatment of the Tiene extension system, consider the different forms of the stative suffix in (46).

(46) Stative formation

a.	yaat-a	'split'	yat-ak-a	'be split'	(< PB *-ek-)
	ból-a	'break'	ból-ek-ε	'be broken'	
	faas-a	'drive through'	fas-ak-a	'be driven through'	
b.	són-ə	'write'	són-əŋ-ə	'be written'	
	vwuny-a	'mix'	vwuny-əŋ-ε	'be mixed'	
c.	kab-a	'divide'	kalab-a	'be divided'	(?< PB *-ad-)
	nyak-a	'tear'	nyalak-a	'be torn'	
d.	kam-a	'twist'	kanam-a	'be turned over'	

As seen in (46a), the coronal-final verb roots take a -Vk- stative suffix, which in (46b) nasalizes to [ŋ] after a root-final /n/ or /ny/. In (46c), however, we see that when the root ends in a non-coronal, an /l/ infix is used instead, which nasalizes in (46d). This second allomorph is thus not distinguishable from the applicative extension.

Koyo, Basaa, and Tiene thus represent languages where verb stems are limited to three syllables (Koyo having a fourth possible syllable if the durative aspect suffix is used). Other languages have gone one step further to impose a bisyllabic maximum on stems. This appears to be the case in the Eastern Grassfields Bantu language, Mankon, which, as shown by Leroy (1982), has an extension system, but does not allow any extensions to co-occur:

(47) Maximum of a monosyllabic root + one derivational suffix in Mankon (Leroy 1982)

a.	síʔ-ə	'descendre'	síʔ-sə	'descendre' (tr.)	(causative)
	lwì-ə	'devenir amer'	lwì-sə	'rendre amer'	
b.	ʒí-ə	'connaître'	ʒí-nə	'se connaître'	(reciprocal,
	bɛʔ-ə	'casser'	bɛʔ-nə	'se casser'	reflexive)
c.	ʃɛg-ə	'devenir glissant'	ʃɛg-kə	'glisser plusieurs fois'	(pluractional,
	kɔʔ-ə	'monter'	kɔʔ-kə	'enfler en plusieurs endroits'	iterative)
d.	kwí-ə	'pousser'	kwí-tə	'pousser un peu'	(diminutive)
	wè-ə	'rire'	wè-tə	'rire un peu'	

The last stage will be strict monosyllabicity, as we (almost) have in Ewe, Yoruba, Nupe etc.

To summarize the above findings, three kinds of changes occur in the gradual evolution of a Bantu-like to Kwa-like verb:

i) Morphological: There is a gradual dismantling of the inherited verb extension system and loss of suffixes in general, especially valence-related ones.¹⁶ An agglutinative structure thus gradual becomes isolating.

ii). Syntactic: There is a gradual grammaticalization of lexical morphemes into serial verbs and adpositions (Lord 1993) which assume the previous roles of the verb extensions. The inherited one-to-many relation between a morphologically complex verb and its NP dependents thus becomes a one-to-one relation between simplex heads and dependents.

iii) Phonological: There is a gradual “prosodification” of the verb stem; imposition of maximal size limitations, distributional constraints, and differential realizations of phonemes by position

While these three changes are clearly visible in West African Niger-Congo, we have seen that their seeds can be detected even in certain Bantu languages, particularly those spoken in Guthrie’s zones ABC. What I would like to suggest at this point is that even Eastern Bantu languages contain the seeds for the increased “prosodification” that will accompany the morphological and syntactic changes on the road to Kwa. First, note that the Bantu verb stem is the domain for several phonological prosodies: vowel height harmony (e.g. CeC-iC- CeC-eC-), nasal consonant harmony (e.g. l n / NV __), tone assignment rules (e.g. place a H tone on the second mora of the stem). Although there are exceptions, all three prosodies typically do not count or affect prefixes. In other words, almost all Bantu languages show stem-bound phonological prosodies.

Almost all Bantu languages also show morphological restrictions at the stem level. As I have argued elsewhere (Hyman 2001), the suffix morphology of the Bantu verb stem is highly templatic (cf. Meeussen 1967). Specifically, concerning the productive extensions, we can establish the “default” extension ordering in (48).¹⁷

(48) Pan-Bantu “default” template: -is- > -il- > -an- > -y- > -w-
 CAUS APP REC CAUS PASS

The same appears to be true of Fula, about which Arnott (1970:366) writes: “...any -t- extension will precede a -d- extension, either or both of these will precede -n-, and any or all of the three will precede -r-, while -an-, -law- and -oy- follow in that order.... As far as extensions I-X are concerned (the purely verbal extensions consisting basically of a single consonant), this order can be summarized by the formula T-D-N-R.” In other words, the Fula suffix ordering in (49a) reported by Arnott appears to have a phonological basis: it represents an increasing sonority scale:

(49) a. Fula t > d > n > r
 b. Pan-Bantu s > l > n > y > w
 c. Proto-Bantu c > d > n > j > u

The same cannot be said of the “Pan-Bantu” suffix order in (49b), since [l] is more sonorous than [n], which follows it (and since we would have no reason to suppose that [y] is less sonorous than [w]). However, if we revert to the Proto-Bantu reconstructions in (49c), a different picture emerges: The palatal stop (or affricate) *c is clearly less sonorous than *d, which is less sonorous than *n, which is less sonorous than the two vocalic extensions. In addition, the more constricted degree 1 vowel *j is also less sonorous than the less constricted degree 2 vowel *u. Amazingly, even the Bantu inflectional final

¹⁶Thus, cf. Gerhardt’s (1988) general remark that in Western Niger-Congo, “...those [verbal extensions] with syntactic functions have been lost, while aspect-like VEs are still present” (p.5).

¹⁷This template abstracts away from variations in how different languages realize these suffixes, e.g. Cewa causative -its-, Nande applicative -ir- etc. In addition, the -y- causative and -w- passive are underlyingly /-j-/ and /-u-/ in many Bantu languages.

vowels ultimately fall into place: These are typically *-i, *-e or *-a, the last being the most sonorous and the default found in most verb tenses. Although I think it's good to maintain a good scepticism (and carefully examine the arguments for the default template in Hyman 2001, which was arrived at quite independently), the possibility of suffix ordering by sonority scale is very intriguing.¹⁸

As I have documented, the changes that have occurred in the “Kwa” verb involve a complex of morphological, syntactic and phonological properties that do not all occur at once. Most of what was shown is that at least relics of the original morphology survive beyond the syntactic and phonological restructurings that I have illustrated. Although what is presented above is already complex enough, I am aware that there are several other issues that potentially need to be brought into the picture: First, there are doubtless cases where extensions have arisen via renewals (Williamson & Blench 2001). A good case in point is Igbo, which supplies long sequences of verb extensions such as the one in (50).

- (50) bi-kọ-rị-ta-tụ-wa-ra ‘begin to live together in one another advantage for someone’
live-CONGREGATIV-BEN-DIR-‘just slightly’-INCEPT-APP (Ọnụkawa 1999:124)

Second, whichever of the views one adopts in (51),

- (51) a. Proto-Niger Congo *SOV > SVO (Givón 1975, 1979, Hyman 1975, Williamson 1986)
b. Proto-Niger-Congo *SVO > SOV (Heine 1976, 1980)
c. Proto-Niger-Congo *SAOV > SVO (Gensler 1985)

there is the possible relation of valency extensions to word order changes that have also occurred throughout Niger-Congo. Finally, it must be acknowledged that it is not just the (verb) stem that undergoes modification. Niger-Congo languages also frequently have prefixes on verbs. Are these original, and, if so, was it possible to have multiple prefixation in Proto-Niger-Congo? Proto-Bantu? If so, how does the dissolution of the pre-stem complex relate to the stem-affecting mechanisms surveyed in this study? These and related questions will continue to keep Niger-Congo comparativists and typologists busy for some time.

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¹⁸If the template is wrong, or if it post-dates Proto-Bantu, then some rethinking will be necessary.

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