HOW TO BECOME A 'KWA' VERB

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Within the Niger-Congo family, some languages have very complex, agglutinative verb structure whose head-marking supports multiple objects and unmarked adjuncts. Others have very simplex (often monosyllabic) verb structure, little or no morphology, and an analytical syntax whereby objects and adjuncts are marked by adpositions and/or serial verbs. Assuming the former to be original, in this paper I distinguish three separate changes in the latter that seem, roughly, to correlate: (i) Syntactically, there is a gradual change from multiple to single object marking. (ii) Morphologically, there is the gradual loss of verb suffixes which mark argument structure, e.g. causatives, applicatives, passives, reciprocals. (iii) Phonologically, gradual size (and other) prosodic limitations are introduced on the verb. It is this last phenomenon which has received the least amount of attention, but which, I argue, is an important factor in determining the morphological and syntactic developments as well. While I will show that the syntactic changes occurred first, there is an intimate interdependency between the three affected parts of the grammar which has not been sufficiently appreciated.

Au sein de la famille Niger-Congo certaines langues ont une structure verbale très complexe et agglutinante, dont les marqueurs de tête supportent des objets multiples et des adjoints non-marqués. D'autres ont un système verbal très simple, souvent monosyllabique, n'ayant aucune morphologie, ou peu, et une syntaxe analytique où les objets et les adjoints sont marqués par des adpositions et/ou des verbes en série. Présumant que les systèmes complexes sont originaux, je distingue ici trois catégories de changements dans les systèmes simples qui semblent, grosso modo, être en corrélation: (i) Syntaxiquement il s'effectue un changement graduel d'un état où les marques d'objet sont multiples vers un état où elles sont simples. (ii) Morphologiquement il y a une perte graduelle des suffixes verbaux qui marquent la structure des arguments, p.ex. causatifs, applicatifs, passifs, réciproques. (iii) Phonologiquement certaines limitations prosodiques graduelles d'envergure (et autres) viennent toucher le verbe. C'est ce dernier phénomène qui a jusqu'ici reçu le moins d'attention, mais que je propose être un facteur important qui influence aussi les développements morphologiques et syntaxiques. Tout en montrant que les changements syntaxiques ont été les premiers, je souligne qu'il existe entre ces trois parties de la grammaire une interdépendance dont on n'a jamais encore suffisamment tenu compte.

The present paper is concerned with the historical development of a verb (phrase) typology that is well documented in several branches of Niger-Congo. It finds its most explicit statement in Westermann and 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 (1930:182–183) 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…
           [or] (2) Compounds of two monosyllabic verbs", e.g.,

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[1] The 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.

(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 Old Kwa languages such as Yoruba and 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 and Macintyre 1915:42).

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

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

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.

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

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 and 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 **-εsε** in Degema [Edoid; Benue-Congo] (Kari 1995:158)
          tʊ be burnt → **tʊ-εsε** cause to be burnt
          tul reach   → **tul-ese** cause to reach
          kir return   → **kir-ese** cause to return

       b. Benefactive -**rV**-/-**lI** in Igbo [Igboid; Benue-Congo]
         (Emenanjo 1978, Ọnụkawa 1999)
          zú buy   → **zú-rʊ** buy for
          bè cut   → **bè-re** cut for
          zà sweep → **zà-ra** sweep for

       c. Benefactive -**d**- in Zande [Ubangi] (Boyd 1995:19)
          kpị̀ mourir   → **kpị̀-d-** mourir pour quelqu'un (donc 'souffrir, se sacrifier')
          na   pleuvoir → **na-d-**   pleuvoir pour quelqu'un
                                       (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)
          vɪ̄ mettre au chaud pour faire   → **vɪ̀rɪ̀** déployer (ailes), ouvrir
              mûrir, couver
          ʒe bouillonner, déborder, éructer → **ʒèrə̀** se dégonfler, rendre le dernier
                                              soupir, enfoncer, descendre

       e. Multifunctional valence marker -**ε** in Krahn [Kru]
         (Bing and Duitsman 1993:99)
          mu go → **mu-ε** make go (causative)
          dɓà kill → **dɓà-ε** kill for   (applicative)
                    dɓà-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 languages (and ultimately Atlantic, etc.) 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 in (8) from Haya EJ.22 (Duranti and Byarushengo 1977:63).

(8)   a. **kató a-ka-siig-is-a**   **ómwáána ámajúta ébitambâla**
          Kato he-PAST3-smear-CAUS-FV child   oil   handkerchiefs
          Kato smeared the oil on the child with handkerchiefs.

       b. **kató a-ka-bi-ga-mú-siig-is-a**
          Kato   he-PAST3-them-it-him-smear-CAUS-FV
          Kato smeared it on him 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)   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] (Stahlke 1970:63, 85).

(10) a. **mo _mú_ ìwé _wá_   _fún_ ẹ**
        I   take book come give you
        I brought you a book.

    b. **mo _fi_   àdá   _gé_ igi**
        I   take machete cut wood
        I cut wood with a machete.

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 base.[2]
    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 shown in (13) 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, as shown in (14).

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

(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)   a. **ží**   eat   b. **ží-sə́**   feed (make eat)   c. *CVCV-**sə**
          bɛ́f   be bad   **bɛ́f-sə́** spoil (make bad)
          fàyn be afraid   **fàyn-sɛ̀** 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 of the pronoun **nɛ̀** 'with' to express the
patient.[3] It is thus clear that Kom has introduced a "rearrangement of object proper-
ties" (Comrie 1985:317) when compared to the proto situation.[4]

(16)   Causative syntax in Kom
        a. **ma n-ží   à-yú?**
           I   PRES-eat yam
           I am eating yams.

        b. **ma n-ží-sə́   ə-wayn**
           I   PRES-eat-CAUS child
           I am feeding a child.

        c. **ma n-ží-sə́   ə-wayn nɛ̀   a-yú?**
           I   PRES-eat-CAUS child   with yam
           I am feeding a child yams.

        d. *ma n-ží-sə́ ə-wayǹ 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 verb marking of instrumentals in Bantu. Most Eastern
Bantu languages adopt one of the strategies in (17).

(17)   a. Causative extension, e.g. Haya **-bák-is-** 'catch with' (also 'make catch'):
           kató a-ka-bák-is-a   ékikápu ómupííla
           Kato he-PAST-catch-CAUS-FV basket   ball
           Kato caught the ball with a basket.

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[3] Kom in fact allows no double object anywhere in its syntax, even with the verb 'give'.

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

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   he-PAST-tie-APP-FV rope   firewood
Mchombo tied firewood with a rope.

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 **-r-**, exemplified in (18).

(18)   a. **haa mi-loot-or-oo saabunde**
          Let me wash myself with soap.   Cf. **haa mi-lootoo**, Let me wash myself.

       b. **'o-maɓɓ-ir-ii ɣolnde ('e) semmbe**
          He shut the door with force.

       c. **wart-ir-a**
          bring back (come back with)   Cf. **warta**, come back.

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)   a. CV   : **sà**   choose   →   **sàà-mà**   choose with
                   dɔ̀   fall   →   **dɔ̀ɔ̀-mà**   fall with
       b. CVC   : **bùl** cook   →   **bù-mà**   cook with
                   zòb dance   →   **zò-mà**   dance with

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[5] Many 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.

[6] As 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'.

[7] Although 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.).

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 the serialization of the transitive verb **kpɔ́** 'cut' + **-ma** after the verb **tú** 'take' in (20a).

(20) a. **aè tú gɛ̀ kpɔɔ-má nɔm**
          he take knife cut-with meat
          He cut the meat with a knife.

b. *** aè tú gɛ̀ kpɔ́ nɔm**
          he take knife cut meat

c. *** aè kpɔɔ-má gɛ̀ nɔm**
          he cut-with knife meat

d. *** aè kpɔɔ-má nɔm gɛ̀**
          he cut-with meat knife

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

Other uses of the comitative suffix **-ma** are illustrated in (21), from Holmback (1979).

(21) a. **aè tú m zò-mà**   (**zòp** 'dance')
          he take me dance-with
          He danced with me.

b. **aè tú ló bàà-mà nɔm**   (**bà** 'eat')
          he take salt eat-with meat
          He ate meat with salt.

c. **aè tú zɔ̀ kùù-mà   nùtɔ** (**kùùrà** 'open')
          he take fear open-with door
          He opened the door with fear.

d. **aè tú zɔ̀ tú ííra kùù-mà   nùtɔ**
          he take fear take key open-with door
          He opened the door with a key with fear.

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 tóm dee-má   kpègè**   (**dé** 'eat, earn')
          he go work earn-with money
          He worked hard to earn money.

b. **aè tú gè nè nwín**
he take knife give child
He gave a knife to the child.

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

(23) a. **aè dɔ-mà kùn** (**dú** 'come')[8]
he come-with basket
He brought a basket.

b. **aè toò-mà nwín** (**tó** 'cry')
he cry-with child
He cried with the child.

c. **aè pɛè-ma gbaragbara** (**pɛɛ** 'jump')
he jump-with speed
He jumped quickly.

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 **nə̀** '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.

(25) a. **gè eaè (tú) kpɔɔ-má nɔm á**
knife that.he cut-with meat DET
the knife that he cut meat with

b. **éé ñáè (tú) kpɔɔ-má nɔm ɛ**
what that.he cut-with meat FOC
What did he cut the meat with?

c. **aè (tú) kpɔɔ-má nɔm**
he cut-with meat
He cut meat with (it).

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).

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[8] The verb **dú** 'come' is the only one in Gokana which has an exceptional form with -**ma**: In (23a) we expect *__duù-mà__ instead of **dɔ-mà** (cf. **dɔ̀** 'fall', **dɔɔ̀-mà** 'fall with').

(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-žɛ́n-*ɛ́n*-ɛ́**   **máà   èwángà**
           he-PAST-clear-with hoe   land
           He cleared the land with a hoe.

        b. **à-mà-žɛ́n-*ɛ́n*-ɛ́**   **èwángà   nà   máà**
           he-PAST-clear-with land   with   hoe
           He cleared the land with a 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, Mòpkè) indicates that Morphology (+) usually lasts the longest, it is in fact possible to keep the syntax without the morphology. This is seen in the sentences from Koyo C.24 in (28), which illustrate the 'Ø applicative'.

(28)   a. **wá l-áà-lámb-á   túngù**
           he PRES-he-cook vegetables
           He is cooking vegetables.

        b. **wá l-áà-lámb-á   mwánà túngù**
           he PRES-he-cook child   vegetables
           He is cooking the child vegetables.

        c. **wá l-áà-yémb-á   mwánà**
           he PRES-he-sing child
           He is singing to the child.

Koyo has lost the applicative extension, but, as seen in (28b), has maintained double object constructions. The result is a Ø-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,

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[9] In the examples in (27), /**-an-**/ harmonizes to **-ɛn-** in the context of the preceding /ɛ/ of **-žɛ́n-** 'clear'.

'child' clearly is not the object of **-yémb-** 'sing', but rather the applicative object of **-yémb-Ø-**. 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   PRES-he-sing-CAUS-FV child
          He is making the child sing.

       b. **wá l-áà-lámb-ís-á   mwánà túngù**
          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 in (29b), 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 Ø-marked. Thus, **mwánà** can be either the causee (object of causative **-is-**) or the benefactive (objective of applicative -Ø-).

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 no. 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 /-V**k**-/ ($\rightarrow$ [-V**g**-]), 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	**ñɔbir-a**	tickle

CVCVCVgV : **sélum-ag-a**   slip + DUR   **ñɔbir-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 C_1 position. Another consequence of this constraint is that /**t**/ and /**k**/ are realized [**t, k**] in C_1 position, but as [**r, g**] in C_2, C_3 and C_4 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**/   [**píraga**]   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, ɛ, u, o, ɔ, a**/ contrast in V_1 position, while only /**i, u, a**/ contrast in V_2, V_3 and V_4 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**   tie   **bar-a**   bite
         kór-is-a   cause to tie   **bar-is-a**   cause to bite
         kór-in-a   tie each other   **bar-in-a**   bite each other

      b. ***kór-is-in-a**   cause each other to tie ***bar-is-in-a**   cause each other to bite
         ***kór-in-is-a**   cause to tie each other ***bar-in-is-a**   cause to tie each other

      c. **dzá-a**   eat /**dzé-a**/   **tá-a**   to see
         dzé-s-a   cause to eat, feed   **tá-s-a**   cause to see, show
         dzé-n-a   eat each other   **tá-n-a**   see each other
         dzé-s-in-a   feed each other   **tá-s-an-a**   show each other

      d. **yigin-a**   get accustomed to   **súndzin-a**   decrease, shorten
         yig-is-a   cause to be accustomed **súndz-is-a**   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

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[10] In fact, many, if not most cases of internal [C**u**] are analyzable as /C**wi**/. Thus, when **kɔrw-a** 'cough' is causativized, one obtains **kɔrus-a** instead of the expected ***kɔrw-is-a**.

[11] The expected form of the reciprocal is, of course, **-an-**. However, in Koyo verbs, [**a**] is allowed in V_2 and V_3 positions only if it is a copy of the FV occurring with the durative /**-Vk-**/. The one exception I have found is **tsɛtsw-an-a** 'excite each other' (from **tsɛtsw-a** 'excite'). In this case the historical [**a**] of **-an-** is maintained, presumably because the sequence [C**wi**] is not allowed in Koyo. Interestingly, it is not first modified to C**wi** and then fixed up to [C**u**], as input /C**wi**/ is; cf. note 10.

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]

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 (Bitjaa-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   **hɔ́.ŋɔ̂l**   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 (one) 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	kʷ							
		j		gʷ	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	ŋʷ		m	n	ŋ	n	n
	ᵐb	ⁿd	ⁿj	ᵑg		ᵐb	ⁿd	ᵑg			

For example, /**s**/ and /**h**/ contrast in C_1 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 C_1 position, but are voiced (and variably continuant) as C_2, C_3 and C_4, i.e. [**b~ß, d~r, g~ɣ**].[14] Vowels in non-V_1 position are also greatly restricted: V_1 and V_2 must be identical in CVCVC stems, but V_2 and V_3 must be identical in CVCCVCV stems, as seen in (37).

(37)   CVC-V_1 (reversive)   CVC-V_1-V**n-ɛ** (reversive+applicative)
      /i/ : **tiŋil**   détacher   **tiŋlɛnɛ**   détacher pour/à
      /e/ : **sebel**   appeler   **seblɛnɛ**   appeler pour/à
      /ɛ/ : **lɛgɛl**   transmettre   **lɛglɛnɛ**   transmettre pour/à
      /u/ : **núhûl**   veiller   **núhlɛnɛ**   veiller pour/à
      /o/ : **lóhôl**   écorcher   **lóhlɛnɛ**   écorcher pour/à
      /ɔ/ : **bɔgɔl**   déloger   **bɔglɛnɛ**   déloger pour/à
      /a/ : **bágâl**   séparer   **báglɛnɛ**   séparer pour/à

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

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

[13] The affricates **c, j** can be analyzed as /**tʸ**, **lʸ**/, and **gʷ**, **ŋʷ** can be analyzed as /**ɓʸ**, **mʸ**/, all of these limited to C_1 position.

[14] They are typically realised as voiceless stops in pre-pausal position, however.

(38)   V → Ø / V C ___ C V   (**bág-al-ɛnɛ** → **báglɛnɛ**, 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 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 and de Gastines 1973)

	basic	applicative	causative	ind. caus.	reciprocal	passive
a. 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-ɛ́**	—	—	—	—
habitual	**teŋ-a**	—	—	—	—	—

	input	causative	applicative	reciprocal
b. causative	**toᵐb-os**	—	**toᵐb-h-ɛn-ɛ**	**toᵐb-h-an-a**
applicative	**beᵐb-el**	—	—	**beᵐb-l-an-a**
reciprocal	N/A	—	—	—

The table in (39a) consists of those combinations explicitly recognized in Lemb and de Gastines' (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	1,131	777	234	114	187	264
reversive	27	21	—	2	5	14
reflexive	112	42	—	6	5	2
stative	68	16	—	—	—	—
habitual	53	—	—	—	—	—

Although Lemb and de Gastines 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, such as 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)   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 and Inkelas 1997). In this language, the stem con-
straints include those in (42).

(42)   a. Five stem shapes: CV, CVV, CVCV, CVVCV, CVCVCV

       b. In the case of CVCVCV:
         i. C_2 must be coronal.
        ii. C_3 must be non-coronal.
       iii. C_2 and C_3 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-ɛ**   give birth for   ***bót-el-ɛ**
       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-ɛ**   plant for   ***kón-en-ɛ**
       kony-a nibble   **koony-ɛ** nibble for   ***kony-en-ɛ**

    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-ɛ**   run fast for   ***dum-en-ɛ**
       súɔm-ɔ buy   **sónem-ɛ**   buy for   ***sóm-en-ɛ**
       lɔŋ-ɔ   load   **lɔnɔŋ-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 applica-
tive suffix fuses inside the verb base to which it is suffixed. Expected forms such as
***bót-el-ɛ** do not occur because the C_3 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 infixed as the C_2 consonant, and the root-final non-
coronal consonant surfaces as C_3. The same is seen in (43c). In this case, however,
since the C_2 and C_3 must agree in nasality, the infixed /**l**/ of the applicative nasalizes
to [**n**] to agree with C_3 /**m**/ or /**ŋ**/.
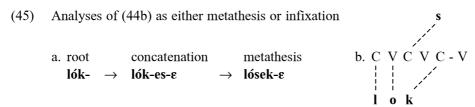
The causative forms in (44) show similar behavior.

(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-ɛ**   blacken   ***píín-es-ɛ**
       bany-a be judged   **baas-a**   caused to be judged ***bany-as-a**

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

   b. **lab-a** walk   **lasab-a** cause to walk   ***lab-as-a**
       lók-a vomit   **lósek-ɛ** cause to vomit   ***lók-es-ɛ**

   c. **yóm-a** become dry **yóseb-ɛ** make dry   ***yóm-es-ɛ**
       tóm-a send   **tóseb-ɛ** cause to send   ***tóm-es-ɛ**
       suɔm-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 infixed. The same is observed in (44c), where the verb roots end in /m/. This time, however, C_2–C_3 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].

     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   **s**

    a. root   concatenation   metathesis   b. C V C V C - V
      lók-   →   **lók-es-ɛ**   →   **lósek-ɛ**
                                                      l o k

Similar cases of coronal infixing are 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-ɛ** be broken
       faas-a   drive through **fas-ak-a**   be driven through

    b. **sɔ́n-ɔ**   write   **sɔn-ɔŋ-ɔ**   be written
       vwuny-a mix   **vwuny-eŋ-ɛ** 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: it has a maximum of a monosyllabic root + one derivational suffix.

(47)   (Leroy 1982)

a.	**síʔ-ə**	descendre	**síʔ-sə**	descendre (tr.)	(causative)
	lwì-ə	devenir amer	**lwì-sə**	rendre amer	
b.	**ží-ə**	connaître	**ží-nə**	se connaître	(reciprocal, reflexive)
	béʔ-ə	casser	**béʔ-nə**	se casser	
c.	**šèg-ə**	devenir glissant	**šèg-kə**	glisser plusieurs fois	(pluractional, iterative)
	kɔ́ʔ-ə	monter	**kɔ́ʔ-kə**	enfler en plusieurs endroits	
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 gradually 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-**i**C- → CeC-**e**C-), 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

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[16] Thus, 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).

verb stem is highly templatic (cf. Meeussen 1967). Specifically, concerning the productive extensions, we can establish the Pan-Bantu 'default' extension ordering in (48).[17]

(48)   **-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** > **ị** > **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 ***ị** is also less sonorous than the less constricted degree 2 vowel ***u**. Amazingly, even the Bantu inflectional final 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 is wise to maintain a good skepticism (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 and Blench 2000). A good case in point is Igbo, which supplies long sequences of verb extensions such as the one in (50) (Ọnụkawa 1999:124).

(50)   **bi-kọ-rị́-ta-tụ-wa-ra**
       live-CONGREGATIV-BEN-DIR-just.slightly-INCEPT-APP
       begin to live together in one another advantage for someone

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[17] This 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 /-**ị**-/ and /-**u**-/ in many Bantu languages.

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

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 1997)

—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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