# Did the Proto-Bantu verb have a Synthetic or an Analytic Structure?

**Derek Nurse**
Memorial University of Newfoundland, dnurse@mun.ca

## 1.    Database

Working in terms of a genetic tree diagram, reconstructing features of any intermediate node in the tree, in this case PB, ideally requires examining evidence from below, that is, from Bantu, and above, that is, from non-Bantu Niger-Congo. Since many languages are involved, some choice has to be made. Gordon (2005) has 1514 Niger-Congo languages, 513 Bantu, 1001 non-Bantu. Guthrie divided Bantu into fifteen zones, subdivided into eighty-five groups. I took one language from each group, and added another fifteen, to make a hundred, as a basis for statistical generalizations (so one in five) but also considered another hundred or so in less detail. This gave good geographical and hopefully good typological coverage.

The non-Bantu languages were harder to cover, partly because they are so numerous, partly because many are not described or not well described, partly because I am less familiar with them. I chose in principle at least one language from each family within Niger-Congo as set out in Williamson & Blench (2000), the choice being largely determined by the availability of a reasonable description. There are objections to such a procedure, the most obvious being whether the chosen language is typical of its family. The families and languages are: Kordofanian (Otoro, Moro), Atlantic (Fula, Bijogo, Kisi), Mande (Mende, Bambara), Ijoid (Ijo), Dogon (Donnɔ Sɔ), Kru, Senufo, Supyire, Gur, Adamawa, Ubangi (Gbaya, Zande), Kwa (Ewe), West Benue-Congo (Yoruba, Igbo), Central Nigeria (Jukun), Cross River (Ibibio, Lokaa), Mambila (Mambiloid), Tikar, Ekoid (Ejagham), Grassfields (Aghem, Dschang, Mundani). So of some 1000 non-Bantu Niger-Congo languages I examined some 25, that is, one in 40). (Cf. map overleaf).

I should also say that Hyman (2007) and I are approaching this from different angles. He is mainly exploring the internal Bantu evidence and is mainly relying on phonology, whereas I am mainly considering the non-Bantu Niger-Congo languages and have an eclectic approach. He (and I) are more familiar with the Bantu material, so any reference to Bantu stuff is likely to be correct, while I am a newcomer to the non-Bantu languages and have had to rely on work by others, so I may have made some factual and analytical errors.

## 2.    Shared verb nucleus: root-extension-final vowel

Nearly all Niger-Congo branches and languages share the nucleus *root - extension - final vowel*, which corresponds generally to Meeussen's *radical - suffix – pre-final - final*.[1] We can assume this structure goes back to Proto-Niger-Congo and was part of the Proto-Bantu verb structure. Some examples are given in (1).

---

[1]    The formulation 'root-extension-final vowel' is not quite accurate in that 'root' (CV, CVC) might include a formal expansion (Schadeberg 2003: 71) of the typical shape -VC-, thus giving CVVC or CVCVC.

**Map of the Language Families used in the database**
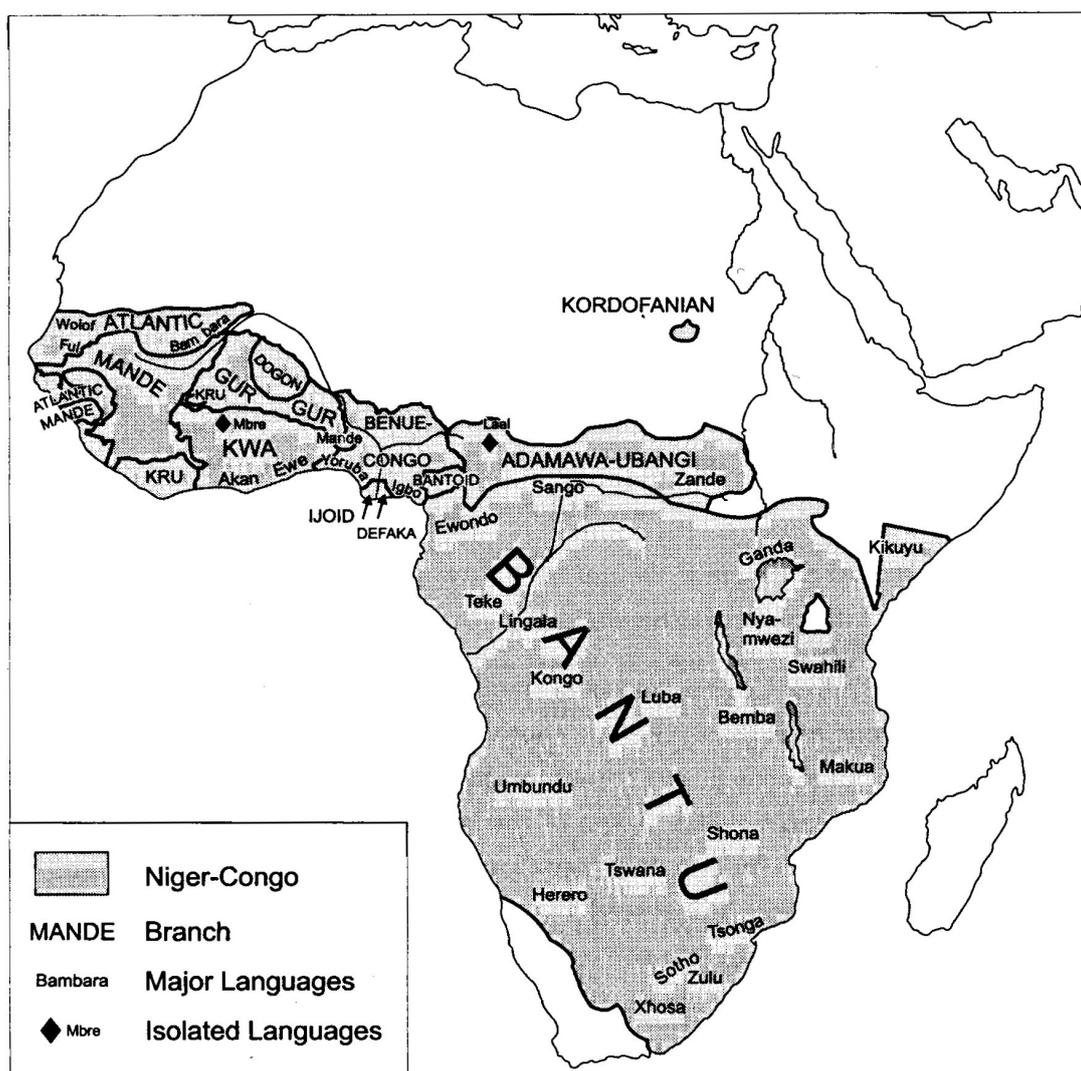


(1)  root – extension – final vowel

    a.  Kordofanian (Moro)[2]: i-<u>rənyə-n-i</u>
        (Kossmann 2004)      1s-kill-PAS-SBJ (1s-root-EXT-FV)
        'I will be killed'

    b.  Atlantic (Fula):        'o-<u>maɓɓ-it-id-an-ii</u>=mo jolɗe fuu
        (Arnott 1970)        3s-close-REV-COM-APP-FV=3s doors all
                            'He opened all doors for him'

---

[2]   I have taken liberties with the form, translation, and glossing of some examples.

c. Rwanda (Bantu, D61):
   a-ra-na-ha-ki-zi-ba-ku-n-<u>som</u>-<u>eesh</u>-<u>eesh</u>-<u>er</u>-<u>er</u>-<u>ez</u>-<u>a</u>
   she-FOC-also-there-it-them-them-you-me-read-CAU-CAU-APP-APP-?-FV
   'She is also making them read it (book) with them (glasses) to you for me
    there'

d. Ubangi (Gbaya Lai, Monyino 1995)):
   | | |
   |---|---|
   | nyɛ́k | 'cut into logs' |
   | nyɛ́k-<u>ɛd</u>- | 'cut into small logs' (-d(í)- intensive) |
   | <u>nyɛ́k</u>-<u>ɛd</u>-<u>í</u> | 'be cutting ...'  (-í IPF) |
   | <u>nyɛ̀k</u>-<u>ɛ̀d</u>-<u>á</u> | 'have cut ...'   (-a PFV) |

e. Ubangi (Zande):
   | | |
   |---|---|
   | súngu | 'wait' |
   | <u>súngu</u>-<u>s</u>-<u>a</u> | 'cause to wait (IPFV)' |
   | <u>súngú</u>-<u>s</u>-<u>í</u> | 'ditto (PFV)' |

Extension typically includes morphemes for categories such as causative, applicative, neuter (-*Vk*-), reciprocal (-*an*-), reversive, and passive.[3] FV was originally used for a binary aspect contrast between perfective and imperfective, both indicated by a single vowel. Although various groups now use this position to indicate other categories, such as subjunctive, it is not clear from the Niger-Congo evidence that it was originally so used.

   This nuclear structure has been lost in languages in a large area of West Africa: NW Bantu, Grassfields Bantu, many Bantoid languages, and languages farther west, such as Yoruba. Two processes seem to be involved. On the one hand, the derivational extensions could no longer be expressed because the prosodic stem became limited to four, three, and then two syllables (Hyman 2004). On the other hand, phonetic attrition of segmental material led to the appearance of floating tones, often associated with the expression of aspectual categories, and to an expanded role for tones in general. If a language loses the segmental expression of derivational and aspectual categories, in principle it faces a choice: it can also lose the categories, or it can express them some other way. In practice, this seems to be hardly a choice as all the languages I have looked at that have lost extensions and/or final vowels, keep the categories and express them some other way. Typically, for example, the applicative extension (to, from, for) is replaced by the use of word order, or prepositions, while the causative is expressed by use of some auxiliary, "to make/cause to verb", as can be seen illustrated in the first Ejagham example in (2). The expanded role of tones can be seen in the next four Ejagham examples, which differ only tonally. Care is necessary here, as it is not clear whether the surface tones in these examples reflect floating tones, or tonal patterns associated with individual aspects and moods (and elsewhere, tenses), or come from prefixes or the stem itself.

---

3   Although Welmers (1973) says only Bantu shows a clear passive within Niger-Congo my survey showed other groups with a passive, though not of the Bantu shape.

(2)        Examples of replacement of EXTs and FVs, in Ejagham (Watters 1981)

Causative:    a-Ø-yîm    ɛtá  a-Ø-gbə̂

                      3s-Ø-make Eta  3s-Ø-fall

                      'He made Eta fall' (-*yim* 'make, do')

ANT a-Ø-fag                           'They have swept'

PFV a-Ø-fâg                           'They swept'

CON á!-Ø-fág                          'If they sweep'

SBJ á-Ø-fág                           'They should sweep'


## 3.    Languages/families with a synthetic verb structure

It is necessary to define terms at the outset. Most morphologists distinguish analytic/isolating from synthetic languages. In analytic languages 'most word-forms are made up of a single morph' (Bauer 1988: 246), clearly not the Bantu or Niger-Congo case. Synthetic languages are divided into polysynthetic, inflectional/fusional, and agglutinating. Polysynthetic is irrelevant, as it refers to languages having very long strings of bound morphemes, as in Algonkian, often equivalent to a whole sentence in a language such as English. Inflectional and agglutinating are often presented as a contrast - a language is one or the other. Both types have in common that the major word classes, such as noun and verb, consist of a stem and inflectional morphemes. In agglutinating languages the strings of morphemes are longer and the morphemes are relatively transparent, having a single shape (no or few allomorphs, often phonologically conditioned) and one meaning, while in inflectional languages the morphemes are often opaque, with multiple allomorphs and fused meanings. In fact, there is a cline, with ideal types at either end and many languages along the cline. Since Bantu languages are nearer the agglutinating end, they are regarded here as agglutinating, even though none is strictly so. Likewise a strict binary contrast between analytic and synthetic is less appropriate than a cline. At one end are languages whose verb structure is fully synthetic, at the other end are fully analytic languages, with many languages showing a range of intermediate possibilities.

Most Bantu and most non-Bantu Niger-Congo languages share the verb nucleus *root - extension - final vowel,* outlined in section 2. Most but not all Bantu languages add a string of grammatical inflectional prefixes (and a few suffixes) to this nucleus and on that basis are here referred to as having a synthetic verb structure. These affixes express categories such as subject agreement, tense, aspect, mood, negation, focus, relativization, and often other categories such as conditional and object marking

A minority of Niger-Congo languages have a fully synthetic verb structure: Kordofanian (31 languages: Sudan), most Narrow Bantu (c 500 languages, a few exceptions), some Atlantic languages (e.g. Bijogo (Atlantic: Guinea Bissau), some Central Nigeria languages (e.g. Jukun, NE Nigeria), some Bantoid languages (e.g. Ibibio, SE Nigeria), Ejagham (Ekoid, SE Nigeria, SW Cameroon). Some examples:

(3)  a. Luchazi (Bantu K13, Fleisch 2000)
        mi-kanda          i-ká-tu-a-ka-ci-va-sónek-il-ile-ho
        9-letter          9REL-NEG-1p-P₂-itive-modal-3p-write-EXT-FV-postFV
        'The letter which we had not just gone to write to them then…

    b.  Ha (Bantu D66) (Harjula 2004):
       tw-aá-ra-gúz-e
       1p-P$_2$-FOC-buy-ASP
       'We have bought'

    c.  Kordofanian (Otoro, Schadeberg forthcoming):
       gwiji   gwu-ma-riny-in-i
       man    3s-perfect-kill-PAS-PFV
       'Man has killed himself/been killed'

    d.  Bijogo (Atlantic) (Segerer 2002)
       Antonio   ɔn-an-gboŋ-an-ɛ
       Antonio   3s.PFV.FOC-2s-be big-REC-PFV (A it is who is…)
       'Antonio is bigger than you'

    e.  Jukun (Storch 1999)
       ku-tə-rí-yag-é
       3s-NEG-PRG-go-SBJ
       'He is not going'

## 4.    Languages/families with an analytic verb structure

Most Niger-Congo languages have a wholly or partly analytic verb structure. They include all the other Niger-Congo families and languages, less those in section 3, so all Atlantic languages except Bijogo and a few others are analytic: a few Cameroonian Bantu languages in Zone A are analytic (A24, A43-44-45-46, A62, A83-84, maybe other A40 and A80 languages, A90, others?).[4] In these analytic languages the pre-nucleus categories set out in 3 (subject, tense, aspect, negation, etc.) are expressed by a string of discrete morphemes or clitics, which do not form part of the same word as the nucleus. There is a range of analyticity: in wholly analytic languages, every morpheme is discrete, whereas partly analytic languages fuse at least some morphemes while keeping others discrete. Examples:

(4)  a.  Nen (Bantu A44)     mɛ́  sǎ   nd   á$^!$     ŋó  ból  indi
       (Mous 2003)         I    NEG  FUT  HITHER  thee  thing  give
                        'I will never give you anything'
    b.  Ditammari (Gur) (Reineke 2000)
       o twɔk-ù     'He arrives, is arriving'
       o n twɔk-ù   'He is arriving'

       bo  n    twɔ́k-ù
       He  FUT  DUR  arrive-IPFV
       'He is arriving'

       o      twɔk-á
       He     arrive-PFV
       'He arrived'

---

[4]   Data for some languages is unclear. Thus Mous (2005), his sources, and Orwig (1991) represent Nugunu, and thus probably other A60 languages, as analytic, whereas Yukawa (1992) has it as synthetic.

o  bo  twɔ́k-a
He  FUT  arrive-PFV
'He will arrive'

c. Doyayo (Adamawa) (Elders 2004)
wál  za  gi'  be'  gɔ'  gi'  zɛ́ɛ́-z-i-g  máát  lu'u'r
Man  other  IPV  CUM  HAB  IPF  dig-IMM-EV-VN  cocoyam  theft
'There was a man who was always digging/stealing cocoyams'


d. Edo (ad. from Agheyisi 1991)
ɔ  ˈghá  ˈfɛkó  ghá  tié  ebé
3s  FUT  quietly  IPF  read  book
'He'll be quietly reading the book'

e. Aghem                  o  ká       lɔ́  bó  ghâm-fɔ
   (Anderson 1979)        3s  NEG/HRT  F₂  hit  mat
                          'He shouldn't hit the mat'

f. Zande                  kó=a-kp-í
   (Boyd 1995)            3s  P₂-die-PFV
                          'He died'


                          i=á-tá-ro
                          3p  FUT-beat-2s
                          'They will beat you'

g. Maandɛ (Bantu A46)  tu-ti-ŋé-su ket-i
   (Wilkendorf 1991)    1p-NEG-PRS-1p  believe-FV
                        'We don't believe'

These examples show a gradation from apparently fully analytic languages such as Nen, Gur, Doyayo, Edo, and Aghem, through Zande, which shows some cliticisation, to Maande, where the first four morphemes are bound as one unit but that unit is separate from the nucleus. I think a key here on the road between analytic and synthetic is cliticisation. Hyman has talked to me of cliticisation in Basaa, Mous of the same in Nen, Ameka of the same in Ewe, and Boyd in Zande. But there is no study of possible generalities involved in cliticisation, and my feeling is that this would be an important step here: a study of shared features in cliticisation across these languages might be a good guide to how synthetic structures developed in the past. It is not clear in all cases what can and what cannot be cliticised. Larry Hyman has suggested to me that, using the criteria for distinguishing clitic from affix in Zwicky & Pullum (1983), it is also not clear whether some of Meeussen's (1967) Proto-Bantu pre-stem morphemes are prefixes or clitics. [5] While it would be possible to apply these criteria to living languages, it might be hard for Proto-Bantu, due to the unavailability of speakers.

---

[5]  I am indebted to Larry Hyman for this and other comments, which have improved my argumentation.

## 5.　　Was the original verb structure in Proto-Niger-Congo analytic or synthetic?

So far I have presented an overview that shows a majority of contemporary Niger-Congo languages with analytic structures. However, since Proto-Niger-Congo was most likely spoken at least 10, 000 years ago, that could allow massive change to have occurred so the structure of the majority today is not necessarily diagnostic by itself.[6] Two other factors are more important: the geographical distribution of the two groups of languages and the likely direction of change.

(i)　　Geographical isolation, the Icelandic model

The relatively few synthetic languages are geographically peripheral and isolated within Niger-Congo from the main block of Niger-Congo in West Africa: most Narrow Bantu, Kordofanian, Bijogo and a few other Atlantic languages. Jukun[7], the Cross River and Bantoid languages, spoken in East Nigeria and Cameroon near the Bantu area, can be ignored because of the possibility that their synthetic structures result from areal spread, maybe contamination from Bantu, or that synthetic structures in those languages are genetic, having developed at a point above Narrow Bantu in the family tree. That leaves Narrow Bantu, mostly isolated to the E and SE, Kordofanian, isolated in the NE, and far western Atlantic. It is axiomatic in linguistic geography that peripheral, isolated languages, especially if several point in the same direction, tend to retain archaic features. Later changes start in the core and spread, not affecting the isolates. This would suggest that earlier Niger-Congo was synthetic and that decomposition of the verb structure started and spread across the great continuous West African mass of Niger-Congo, sometime after Kordofanian, Narrow Bantu, and western Atlantic separated.

(ii)　　Linguistic change, grammaticalization

Knowledge of grammaticalisation and linguistic change suggests that analytic structures overwhelmingly become synthetic, not vice versa. Older knowledge of the birth of new verbal structures in e.g. the Romance languages, and more recent results from grammaticalisation suggest strongly that two verb structures with an auxiliary as one verb and a lexical verb as the other fuse morphologically and replace lexical by grammatical meaning. Subject and object prefixes derive from independent pronouns. Negative markers derive from auxiliaries such as 'stop, cease, miss, refuse', the negative copula, and negative particles. TAM markers derive from auxiliary and modal verbs, such as 'want, go, come (from), be able, say, finish, be plus locative, do, live, sit', and the subjunctive. The processes are widespread and well known.

All this suggests that the Proto-Niger-Congo verb was analytic, a structure maintained by most Niger-Congo today.[8] Narrow Bantu, Kordofanian, Bijogo, and a few others innovated fully synthetic structures, a natural process, either independently or under the influence of neighbours.

---

[6]　　Timing here is according to R. Blench (2006) and C. Ehret (p.c.).

[7]　　The synthetic structures in Jukun, especially, look as though they are recent formations, many of the pre-stem formatives deriving from the verb 'be'.

[8]　　Ten thousand years might allow for additional scenarios. One such would be that an originally analytic Proto-Niger-Congo structure could have become synthetic, which in some branches or languages might have then been replaced by new analytic structures. Another can be seen in Dogon, where inflectional markers for subject and negation have become suffixed to the originally aspectual final vowel.

I am not aware of any solidly attested case of the opposite – decomposition of synthetic into analytic verb structures – either in Africa or elsewhere. It is hard to imagine for example a Luchazi (K13) speaker being able to look at the synthetic form in (3) above, repeated in (5)d, parse it into its constituent morphemes, and agree to decompose it accordingly in daily speech.

(5)  a. K13    <u>i-ká-tu-a-ka-ci-va</u>-sónek-il-ile-ho
                9REL-NEG-1p-$P_2$-itive-modal-3p-write-EXT-FV-postFV
                '….which we had not just gone to write to them then…'

     b. Latin   am-a-b-i-t
                love-thematicvowel-nonpresent-future-3s
                'He will love'

     c. French (il) aimera 'He will love' < amare # habet, not from amabit

     d. Older (Northern) Swahili:     *tu-ø-lim-ile 'We have cultivated', but
        Standard Swahili:                    tu-me-lima < *tu-mele # ku-lima
        'We have finished cultivating'

Similarly, Latin speakers would hardly be able to analyze the future in (5b), much less decompose it. More common is older synthetic structures being reduced phonologically and then replaced by a new cycle of grammaticalised auxiliaries. In that whole area in West Africa where final vowels and final consonants (typically $C_3$) were lost, this led to the loss of suffixed morphological material, final vowels and extensions. The evidence suggests they kept the grammatical categories encoded by the suffixes and devised new ways of encoding them: they used tones, often floating, left over from the loss of segmental material; prepositions to replace some extensions; or newly grammaticalised morphemes derived from auxiliaries or particles.

     Similar phenomena are found widely crosslinguistically. The role of the Latin form above was taken over by a compound deriving from the infinitive plus 'have' *amare* + *hab-e-t* 'to love have I' gives French *(il) aimera* 'he will love' as shown in (5c). French *(il) aimera* is not the phonological reflex of *amabit*, it is rather a form which replaced the older form. Similarly, several centuries ago, (northern) Swahili (example 5d) had only *tu-ø-lim-ile* 'We have farmed'. Then a new auxiliary-based form arose: *tu-mele ku-lima*, literally 'We have finished farming'. Semantic shift, phonetic attrition, and fusing gave tu-me-lima. The written record suggests that *tu-ø-lim-ile* and *tu-me-lima* co-existed for some time (and co-exist today in the Lamu Archipelago).

     All this is replacement, not decomposition.
So there are two contradictory hypotheses: linguistic geography suggests the Proto-Niger-Congo verb was synthetic, whereas what we know of linguistic change suggests it was analytic. On balance I find the hypothesis that the Proto-Niger-Congo verb was analytic more convincing than the converse. To hypothesise that the Proto-Niger-Congo verb was synthetic means that 1000 Niger-Congo languages or their ancestors underwent decomposition, 1000 languages is roughly a sixth of the world's languages, and for so many languages or their ancestors to undergo a process not or sparsely attested elsewhere is implausible. To propose an analytic structure for Proto-Niger-Congo means that some mostly peripheral languages fused their structures, either

independently or under the influence of neighbours. Fusion is natural and well attested and only a small number of languages innovated this way.[9,10]


## 6.    Was the original verb structure in PB analytic or synthetic?

The foregoing leads to the assumption that the original Niger-Congo verb structure was analytic, consisting of a string of morphemes and particles indicating subject, aspect, negation, maybe focus and deixis, independent from each other and from the root, and preceding the verb nucleus, the nucleus itself consisting of a root and two bound suffixes. At some point the discrete elements fused and gave the synthetic structure found today in most Bantu languages.

This historical hypothesis about Bantu is supported by comparative phonological work done in Bantu over the last twenty-five years, as sketched in the example in (6):

(6)    root (-*lim*- 'cultivate'):
| | | |
|---|---|---|
| root + extensions | = derivational stem | (-*lim-il*- 'cultivate for') |
| derivational stem + suffix | = inflectional stem | (-*lim-il-ile* 'have cultivated for') |
| inflectional stem + pre-stem OP | = macro-stem | (-*mu-lim-il-ile* 'have cultivated for him'). |

This work suggests a root (-*lim*- 'cultivate') initially combining with the extensions to give the derivational stem (e.g. -*lim-il*- 'cultivate for'): this derivational stem combining with a suffix to give the inflectional stem (-*lim-il-ile* 'have cultivated for'), finally combining with a pre-stem object pronoun to give the macro-stem *(-mu-lim-il-ile* 'have cultivated for him'). Each of these successive stems is well defined, being the domain of a set of phonological or tonological processes attested widely in Bantu, which suggests the processes and the structures are old. By contrast, all the morphological material that precedes the macro-stem is more loosely defined phonologically, shared processes being fewer and often local, supporting the hypothesis that they are of more recent origin.

While modern phonological analysis and the foregoing comparative survey thus agree that the inflectional stem (root-extension-final vowel) is older and that the fusion of what precedes the stem is newer, they do not tell us at what stage in the emergence of Bantu this fusion occurred, nor anything of the detail of the fusion. Proto-Bantu is currently assigned a date of between 4000 and 5000 years ago, spoken by a community living in what is today Cameroon. Did the fusion occur before,

---

[9]    In fact, the languages affected would have been many fewer than today. If we posit a date of between 2000 BC and 3000 BC for Proto-Bantu, the current Bantu figure of 500 would reduce to one. This presupposes the acceptance of the genetic tree model.

[10]    The proposal that Narrow Bantu, Kordofanian, Bijogo, and the others innovated, and independently, receives some support from considering what and how they innovated. If they had all retained a synthetic Proto-Niger-Congo structure, we would expect to find shared pre-radical structures and morphemes, but once we get past the fact that they share a synthetic structure, the actual details are not particularly similar. I have listed and examined all the pre-radical TAM morphemes in Narrow Bantu, Kordofanian, Bijogo, Ibibio, and Jukun. The detail involved precludes their being included here but apart from pre-stem -ɓ- and maybe -a- there are almost no morphemes that share phonetic and semantic identity, which suggests that most are innovations. Similarly, many new tense markers in A40, A80-90 languages seem to come from auxiliaries, some inflectional subject markers (e.g. me-/mi- 'I') are from independent pronouns, and negators from various sources.

during, or after Proto-Bantu? Or, as Hyman says, what kind of a structure was it at the PB stage: fully fused, partly fused, or not all fused?

It is implausible that the late form of Proto-Bantu that gave birth to contemporary Bantu languages had a verb structure that was completely analytic. Classical comparative method says you base any reconstruction on the evidence of what today's languages contain – so since 95% or more of today's Bantu languages have verbs which are fully synthetic, it is unlikely that they all developed synthetic structures independently, at different times and places, after separating from a fully analytic PB verb. Even allowing for the fact that four or five millennia ago, there were fewer Bantu communities, and the differences were smaller than they are today, it is still implausible and runs counter to the accepted notion that it is simpler and easier to explain shared variation in today's languages as having arisen once historically in a common ancestor rather than severally, often, and later.

Having rejected the proposition that late PB had a fully analytic structure, how to decide if it was partly or fully synthetic? The problem is partly solved by considering the nature and duration of a proto-language. If a proto-language is seen as a dot in time, as a node in a genetic tree, as a uniform variety, then we will have trouble deciding on the nature of the verb structure in PB. But proto-languages are in fact just as any natural languages: they endure over time, they change over time, and they have internal variation. English lasted for a thousand years as a series of parallel dialects in England, until colonial expansion produced even more and far flung varieties. Latin, which is more or less equivalent to Proto-Romance, lasted from 500 BC to AD 500 before eventually spawning forty-seven varieties (Gordon 2005)[11]: Proto-Greek lasted a millennium in Greece before a late stage bore later varieties in Asia Minor, Egypt, and the Middle East. Common Germanic is also said to cover a millennium (2000 to 1000 BC), before the community split and offshoots moved to Scandinavia and the Black Sea. Proto-Indo-European itself is claimed to have lasted two thousand years (5000 to 3000 BC) before disintegrating. So the linguistic and archaeological evidence from English, Latin, Greek, and Germanic indicates that so-called proto-languages might last a thousand years. Proto-Bantu is variously placed at 3000 or 2000 BC. Accepting both figures and placing early BC near 3000 BC and late PB near 2000 BC would reconcile the two dates and the length of the PB period with those for various comparable and better known European periods.

Examining what is known of change in verb systems, categories, and morphology during the pre- and Proto-Germanic, Latin, and Greek periods is also revealing. Later Latin produced a new, analytic future – which replaced the older Latin synthetic form - and a new analytic perfect - which displaced the older perfect but did not push it into oblivion. Proto-Germanic replaced an older three-way aspectual distinction (PFV, IPFV, Perfect) by a two-way tense distinction (Past, non-Past), and synthetic forms gave way to analytic forms. During the later Proto-Indo-European period a future appeared for the first time (PIE had no future), and the older aspectual system started to be supplemented by the appearance of temporal distinctions within the imperfective. The details here are less important than two other features: proto-languages are not uniform over time (or space), and, more specifically, considerable change occurred during "proto-periods" in all aspects of the verbal systems of the languages involved.

These insights can be applied to Proto-Bantu and its verb structure. Proto-Bantu could well have lasted in an evolving shape during much, most, or all of the third millennium BC. The community lived as one of many probably small communities in

---

[11]  The historical statements here are based on information from V. Bubenik and J. Hewson (p.c.).

Cameroon, all speaking related and rather similar Bantoid languages, all jostling against their neighbours, and thus open to contact-induced change.[12] Contact-induced change starts at the edge of adjacent communities and works toward the centre, but small communities, being mostly edge and little centre, are often subject to massive linguistic change sweeping across the area.

I assume then that at the start of the proto-period, say, around 3000 BC, the verb structure of early Proto-Bantu was very like that of its neighbours, that is, it was wholly or largely analytic, consisting of the nucleus (root - extension - final vowel) and a string of discrete pre-radical morphemes – particles, auxiliaries, adverbs, pronouns - expressing tense, aspect, negation, focus, subject and object status, and the other categories. Over the following centuries these morphemes came to adhere, to each other and to the root, until a synthetic structure was achieved. Given our imperfect overview of today's verbal structures in Cameroonian languages, and therefore our ability to extrapolate backward accurately, we cannot firmly state whether this structure arose only or first in Proto-Bantu or in a cluster of related language varieties. Ultimately the community parted from its neighbours and moved south and east towards the big forest.[13]

What can we say about which morphemes occurred before the verb root, and what was the chronology of their fusing? To answer those questions properly would require that we have detailed knowledge of the verb structure of all current Bantoid languages, which we don't. Even if we did, we could not expect to find a broken off linguistic branch or stump into which Proto-Bantu would fit perfectly, because four millennia of change have led to much linguistic mutation.

My approach has therefore been to examine structures, morphemes, and verbal categories in three sets of languages: those Zone A Bantu languages spoken in Cameroon which have analytic verb structures today (A24, A43, A44, A45, A46, A62, A83, A84, A90 (Duala, Basaa, Nen, Nyokon, Maande, Yambasa, Makaa, Koozime, Kako, respectively): a few languages closely related to Bantu (Jukun, Obolo, Mambiloid, Tikar, Ejagham (Ekoid Bantu), Grassfields (Aghem, Dschang)): and for control purposes a couple of other Niger-Congo languages spoken away from Cameroon and Eastern Nigeria (Supyire, Ewe). The first template (7) is that of Meeussen (1967), slightly modified, followed by Supyire (8) and Ewe (9), then languages closely related and near to Bantu (10), and finally selected Zone A languages (11). Meeussen's Proto-Bantu is, as it were, the target, the end point:

---

[12]    I use Bantoid here in the sense of Bantu-like.

[13]    That it was the PB community that migrated, and not one of its neighbours, was presumably fortuitous, having to do with political or other events (being in the right place at the right time), and not linguistic pre-eminence, similar to the rapid and unstoppable spread of a few larger African languages at the expense of many smaller ones during the twentieth and twentieth-first centuries,

(7)      "Proto-Bantu" (inflectional, Meeussen 1967))

1 – 2 – 3 – 4 – 5 – 6 – nucleus[14]

1    "pre-initial" = REL, NEG$_1$ (*(n)ka-*, present in 30% of the matrix languages).[15] If
     these occur, they are L and next syllable is H.
2    "initial" here = subject marker (SM): 1s n-, 2s ʊ-, 3s IND ʊ-, 3s a- SBJ, 3s REL
     jʊ-, 1p tʊ-, 2p mʊ-, 3p ba-. In many languages participants are L, 3$^{rd}$ person and
     classes are H.
3    "post-initial" = NEG$_2$ (REL, SBJ, (ti/ci-, maybe others))
4    "formative" = tense (ɓ mainly general present, in 57% of the matrix languages;
     a-, mainly past reference, 84%; ? laa- future, 17%).
5    "limitative" = ka-[16] various, probably originally itive, 71%; PRG (be + loc, 59%);
     ki- IPFV 45%, ? ra- disjunctive focus
6    "infix" = object marker (OM), details ignored since not central here.

Although this presentation centres on analytic versus synthetic structures, about the
same historical period two other developments characterized the emergence of Bantu.
One is the appearance of tense distinctions beside the aspectual distinctions that
characterize most of Niger-Congo. The second is that, as can be seen in my modified
version of Meeussen, specific morphemes represented specific categories. So in what
follows, I keep an eye on structures (analytic, synthetic), categories (aspect, tense),
and morphemes.
     Languages such as Supyire, a Gur language (examples, some adapted, from
Carlson 1994) and Ewe, a Kwa language (data from Pasch (2002), Schadeberg (1985)
and Ameka p.c.), are fairly far removed from Bantu within Niger-Congo.
Nevertheless, there are lessons to be learned.

(8) Supyire
     a. u  na   yí               versus     u  mpyi  na   lyí
        3s PRG  eat                          3s Past  PRG  eat
        'He is eating'                       'He was eating'

     b. u  ná         sá   lí   lwɔ́
        3s REM.PAST   go   it   take (sá 'go' serves as independent verb and as
        AUX 'itive')
        'He went and took it'

     c. u  a       pyi   na   ma
        3s Perfect Past  PRG  come
        'He used to come'

---

[14]    Nucleus is also variously termed stem, micro-stem, or inflectional stem. Nucleus as in section 2 and (1)
above.
[15]    The percentages and the 'matrix languages' come from Nurse (2008), which uses a database of 100
'matrix languages' for generalisations and statistical statements. A figure such as 30% means that 30% of
the matrix languages have this feature, and since the matrix languages can be taken as typical of all Bantu
languages, it means that about 30% of Bantu languages have the feature.
[16]    It is not clear whether */ka/ should be placed at formative or limitiative. It refers to several categories
(far past, far future, narrative, itive, etc) but since I hypothesise that it started life as an itive, I place it at
limitative.

    d. mii nyɛ a          yaaga ta  mɛ́
       1s   NEG Perfect  thing  get  NEG
       'I didn't get a thing'

    e. subject    NEG$_1$    Auxs    DO  prefix-VERB-suffix IO Adv    NEG$_2$

Everything before the stem is an independent item, up to six (including NEG, and subject and object pronouns) may co-occur. Aspects, tenses, directionals, and negation markers are shown. Carlson says some of them may be cliticised but does not address that further. One NEG marker occurs after the subject and before the verbal categories, typical for Niger-Congo, and the NEG is double marked, the second part being clause final, also common across Niger-Congo. Supyire has just one bound prefix and three bound suffixes (only one, the IPFV, productive). The whole template for Supyire is in the last line in (8e).

(9)  Ewe
    a. SP = NEG$_1$= M$_1$= ITR  DIR$_1$   M$_2$ M$_3$ DIR$_2$ root-suffix    = OP NEG$_2$

    b. wó  m=áa ga    xa             nɔ    nú     fo-ḿ
       3p  NEG=POT ITR FRUSTRATION    MOD  be     talk-at
       'Won't they barely be talking...'

Like Supyire, Ewe allows long strings of quasi-independent items between subject and verb. Ewe is a tenseless language so the pre-stem items are aspects (e.g. ITR), modals (M), directionals (DIR), and negation markers (NEG). As in Supyire, some of these are visibly from auxiliaries. As Supyire, Ewe marks negation twice, in the same position, pre-verb string and clause-finally. Ewe has just one bound suffix (HAB). Supyire and Ewe are among the exceptional minority of Niger-Congo without active extensions.

    Supyire and Ewe both have an analytic verb structure, and a few morphemes encoding aspects familiar to Bantuists. Both languages are described as cliticising at least some of their pre-verbal morphemes, which is an intermediate step toward a synthetic structure. Supyire but not Ewe distinguishes two degrees of past tense reference.

    Moving east, across Nigeria towards and into Cameroon, structures, grammatical categories, and morphemes become more similar to those in Bantu.

(10) Structures in East Benue-Congo and Bantoid languages

a.   Jukun: SM - NEG - AM - root - suffix A, where suffix includes pronominal
    objects
b.   Ibibio: SM - M - T - A - OM root - EXT - FV - NEG
c.   Tikar: SP TA root - EXT - FV OP NEG
d.   Ejagham: SP – PRG/NEG - repetitive - root - suffix
e.   Aghem: HYP SP CFL NEG$_1$ T-FOC SBJ Root-FV HAB NEG$_2$ FOC

Here some languages (Jukun, Ibibio, Ejagham) have developed synthetic structures, while others (Tikar, Mambila, Grassfields) are still analytic. For at least some of the analytic languages, frequent mention is made of cliticisation. Some (Ibibio, Grassfields, and probably Tikar) have clear tense distinctions, while others (Jukun,

Ejagham, and probably Mambila) make the more traditional basic aspectual distinctions. In Grassfields Aghem has only two pasts and futures, whereas Dschang-Bamileke has five of each besides the inherited aspects.[17]

I then examined the morphemes between subject pronoun/marker and verb stem. Jukun, Ibibio, and probably Mambila have undergone a lot of phonetic attrition at the right end of the stem, and probably fairly recently, so the final vowels and aspectual categories canonically carried there have been lost. They have compensated for this by grammaticalising auxiliaries to the left, between subject and verb. As a general statement, the new morphemes deriving from grammaticalisation do not look like the morphemes set out in (7) above, for Proto-Bantu by Meeussen. The same is true for Tikar, although Tikar still uses the final vowel position for encoding aspectual distinctions. Ejagham shares only zero and *kí* with Bantu. That leaves Grassfields, for which the data comes from Aghem. Aghem has a sequence of post-subject morphemes not dissimilar to that in Bantu: (subject) – NEG  tense – other categories – stem. That template is correct but inadequate, because focus in Aghem can also move other constituents into the pre-verbal position, including objects and adverbial clauses. As far as the actual morphemes are concerned, Aghem and Dschang are wildly different; not only does Aghem only have a two way contrast in past and future while Dschang has a five way contrast, but the morphemes involved are almost 100% different: those in Aghem, relatively far from any Narrow Bantu language, are rather unlike those in Bantu, whereas those in Dschang, which is near to Bantu A10, A40, and A60, are more similar to those in Bantu.[18]

In passing, it might be noted that in most of these languages negative morphemes tend to bracket the "verb", that is, they occur immediately after the subject and/or in post-verbal position. The immediate post-verbal position for the NEG marker is also common across Bantu

In general this is an unsatisfactory way of proceeding and not much better than picking up shiny pebbles on the beach. However, it is the best we have at present, until better data is available. On this basis, I would say that typologically, using the three variables of analytic versus synthetic, aspect versus tense/aspect, and the morphemes involved, Grassfields languages are more similar to Narrow Bantu than the other languages involved.

Finally, a brief look at those Narrow Bantu (Zone A) languages which are analytic:

(11)     Zone A Narrow Bantu analytic languages

    a.  Duala (A24, Ittmann 1939): SP X A - root - EXT - FV object
       SP = subject pronoun, X = PRG or NEG. A = PRF, PRS, INC

    b.  Basaa: H - SP TA (NEG) N = root - EXT - ak - H - na NEG object
       (A43)  Hyman (2003) considers N- as cliticised right to root (= indicates cliticisation)

---

[17]    The nature of the past and future contrast in Ibibio (Lower Cross) was not clear to me from the description available. The author (Essien 1991) talks about an "indefinite-proximate dichotomy". The contrast would be clearer if I had had access to his book, rather than the 1991 article.
[18]    A40 languages have multiple tense contrasts, though not as numerous as those in Dschang.

   c.  Nen:    H - SP NEG + TA deixis  object  root - EXT - ak - H
       (A44)  Mous (2003) often cliticises TA to SP and says it is so cliticised. "TA
       cliticises to the left"

   d.  Nomaande (A46):
       SM - NEG - TA - SM adv, object root - ak - FV  (EXT?)
       SM = subject marker (bound)

   e.  Nugunu (A62, Orwig 1991):
       SP NEG TA Adv OM root - aŋ - FV (EXT)
       This is how most writers do A62 but Yukawa (1992) has SM - NEG - TA -
       OM - root -…

   f.  Makaa (A83, Heath 2003): INLF ## macro-stem, that is:
       SM + T  H NEG + CM A Adv OM - root - EXT + Vg - H REL  object
       A = HAB followed by PRG, OM = class 1, Vg = imperative

   g.  Koozime (A84, Beavon 1991):
       SP H T  NEG A X root - EXT  Vg - FV H ga REL object
       X = advs, auxs.          -Vg = IMP, [g] of *ga* mostly deletes

   h.  Kako (A93, Ernst 1991): SP NEG TA root - EXT - FV - post-FV object NEG

These Bantu structures share certain features: beside their common analyticity, most
have a NEG in the immediate post subject position (not A43, A80); multiple tenses
(not A24); the possibility of cliticisation is often mentioned; and in several languages
the possibility exists of other constituents (auxiliary, adverbial, pronoun object)
following the T or TA marker. Morphologically they are quite diverse.

     The general conclusion from this section is unsurprising: the further one moves
from west to east in West Africa, the more similar to Bantu the languages become.
However, the relationship between geographical and typological proximity to Bantu is
not simple nor 1:1. Grassfields, Tikar, and Mambila are geographically close but
remain analytic, while Ibibio and Jukun, further away, are synthetic. Similarly, Ibibio,
farther away, and Grassfields, closer, have developed tenses, while the others are still
aspectual, including Ejagham, which is geographically close. The least reliable
indicator is the morphemes themselves: while a very few are widespread and probably
inherited, many are local innovations and so most don't show much similarity to
Bantu.

     Before we can answer the questions "Where did analytic verb structures become
synthetic?" and "Where does or did early Bantu fit into that change?", we need much
more detailed information on two topics: 1) the verb structure of the Niger-Congo
languages of Cameroon and eastern Nigeria, both Bantu and non-Bantu, and 2) how
cliticisation works, and which parts of the structure are affected, because cliticisation
is a crucial step from an analytic system to a synthetic one. Is cliticisation merely
phonological or does it also reflect a cognitive hierarchy?


## 7.    How to explain the analiticity of the few Cameroonian Bantu languages?

Why is the verb structure of some Zone A Bantu languages (Duala (A24), Basaa, Nen
(A40), Nugunu (A60), Makaa, Koozime (A80), Kako (A90)) analytic, while all the
rest are synthetic?  I see three possible hypotheses.

The weakest is that at an early point in Bantu history, when the verb fusion was still fluid, the main early Bantu community moved south and west, solidifying the fusion en route, while those Zone A languages remained within the "West African analytic zone" and never fully fused. I think this the weakest hypothesis because while fusion can presumably be halted at any point, especially at early points, once it reaches the advanced stage of fusion that presumably characterized late Proto-Bantu, fusion is almost unstoppable, and it is hard to imagine these languages hovering on the brink for four millennia.

The second possibility is that these languages once had a synthetic verb structure but replaced it. Two pressures could have conspired to produce this result. One is the presence of a surrounding ring of analytic languages, with a number of bilinguals, in constant daily contact, presenting an alternative analytic model. The second would be that the prosodic restrictions and phonetic attrition that we have seen operating at the right edge of the verbal word would slowly but inevitably reduce the phonetic and morphological substance of final vowels and extensions. These carried grammatical categories and either those categories would be dropped or re-encoded by the grammaticalisation of auxiliaries to the left of the stem. The evidence suggests that the latter happened.

The last possibility is that these languages did not derive from Proto-Bantu, they are not and never were Narrow Bantu languages. This is not the time or the place to go into what is and what is not a Narrow Bantu language but it needs at least to be said that Bantu is controversial and not really convincingly defined. Among others, the authors of the latest Ethnologue (Gordon 2005) represent A60 and most A40 languages as being outside Narrow Bantu. The verbal features examined here suggest a continuum from clearly Narrow Bantu (most) to clearly not Narrow Bantu, and where one places these Zone A languages depend on what one sees as diagnostic.

## 8.      General conclusion

It is likely that the language which gave rise to today's Bantu languages spoken in eastern Nigeria or western Cameroon, maybe early in the third millennium B.C, had an analytic verb structure at an early point in its development, as probably had the several related languages spoken round it. During the following centuries, cliticisation of the several pre-stem components moved it toward a synthetic structure. On the basis of the admittedly incomplete evidence examined here, I have to admit with some frustration that I cannot be sure whether late common Proto-Bantu was fully synthetic, or whether fully synthetic structures only developed later, after the proto-language had splintered. I am inclined to think it was fully synthetic, just because it is the most economical solution, but cannot be entirely sure.

## References
Agheyisi, Rebecca N. (1991) The tense system of Edo. *AAP* 27: 11-42.
Anderson, Stephen C. (1979) Verb structure of Aghem. In Larry M. Hyman (ed.) *Aghem Grammatical Structure*. Los Angeles, USC, SCOPIL 7:73-136.
Arnott, David W. (1970) *The Nominal and Verbal Systems of Fula.* Oxford: Clarendon Press.
Beavon, Keith H. (1991) Koozime verbal structure. In Stephen Anderson & Bernard Comrie (eds.) *Tense and Aspect in Eight Languages of Cameroon.* Arlington: SIL and University of Texas at Arlington, 47-104.

Blench, Roger. (2006) *Language, Archaeology and the African Past.* Lanham MD: AltaMira Press.

Boyd, Raymond. (1995) Le Zande. In Raymond Boyd (ed.) *Le système verbal dans les languages oubangiennes*. Munich: Lincom Europa.

Carlson, Robert. (1994) *A Grammar of Supyire*. Berlin: Mouton.

Elders, Stefan. (2004) Distributed predicative syntax in Doyayo: constituent order alternations and cliticization. In Akinbiyi Akinlabi & Oluseye Adesola (eds.) *Proceedings of the 4<sup>th</sup> WOCAL*. Cologne: Rüdiger Köppe, 189-98.

Ernst, Ursus. (1991) Temps et aspect en kakO. In Stephen Anderson & Bernard Comrie (eds.) *Tense and Aspect in Eight Languages of Cameroon*. Arlington: SIL and University of Texas at Arlington, 17-46.

Essien, Okon E. (1991) The tense system of Ibibio revisited. *AAP* 27: 99-128.

Fleisch, Axel. (2000) *Lucazi Grammar, a morphosemantic Analysis*. Cologne: Rüdiger Köppe.

Gordon, Raymond. (2005) *Ethnologue*. 15<sup>th</sup> edition. Dallas: SIL International.

Harjula, Lotta. (2004) *Kiha Grammar*. Ph.D. dissertation, University of Helsinki.

Heath, Teresa. (2003) Makaa (A83). In Derek Nurse & Gérard Philippson (eds.) *The Bantu Languages*. London: Routledge, 335-48.

Hyman, Larry M. (2007) Reconstructing the Proto-Bantu verbal unit: Internal evidence. This volume.

Hyman, Larry M. (2004) How to become a Kwa verb. *Journal of West African Languages* 30: 69-88.

Hyman, Larry. M. 2003. Basaá (A43). In Derek Nurse & Gérard Philippson (eds.) *The Bantu Languages*. London: Routledge, 257-82.

Ittmann, Johannes. (1939) *Grammatik des Duala (Kamerun).* Berlin-Hamburg: Dietrich Reimer-Friederichen-De Gruyter.

Kossmann, Maarten. (2004) *Some Moro*. Ms. University of Leiden.

Meeussen, Achille E. (1967) Bantu Grammatical Reconstructions. *Africana Linguistica* 3: 79-121.

Monyino, Yves. (1995) *Le proto-gbaya*. Louvain-Paris: Peeters.

Mous, Maarten. (2005) The innovative character of Object-Verb word order in Nen (Bantu A44, Cameroon). In Koen Bostoen & Jacky Maniacky (eds.) *Studies in African Comparative Linguistics with Special Focus on Bantu and Mande*. Tervuren: MRAC, 411-24.

Mous, Maarten. (2003) Nen (A43). In Derek Nurse & Gérard Philippson (eds.) *The Bantu Languages*. London: Routledge, 283-303.

Nurse, Derek. (2008) *Tense and aspect in Bantu.* Oxford: Oxford University Press.

Nurse, Derek. & Gérard Philippson (eds.) (2003) *The Bantu Languages*. London: Routledge.

Orwig, Carol. (1991) Relative Time Reference in Nugunu. In Stephen Anderson & Bernard Comrie (eds.) *Tense and Aspect in Eight Languages of Cameroon*. Arlington: SIL and University of Texas at Arlington, 147-66.

Pasch, Helma. (2002) *Kurzgrammatik des Ewe*. Cologne: Rüdiger Köppe.

Reineke, Brigitte. (2000) Le système aspectual du ditammari reconsideré. *Gur Papers* 5: 123-30.

Schadeberg, Thilo, C. Forthcoming. *The Otoro Language*. Cologne: Rüdiger Köppe.

Schadeberg, Thilo C. (2003) Derivation. In Derek Nurse & Gérard Philippson (eds.) *The Bantu Languages*. London: Routledge, 71-89.

Schadeberg, Thilo C. (1985) A Small Sketch of Ewe. *AAP,* Special number.

Segerer, Guillaume. (2002) *La langue bijogo de Bubaque (Guiné Bissau)*. Louvain-Paris: Peeters.

Storch, Anne. (1999) Das Hone und seine Stellung im Zentral-Jukunoid. Cologne: Rüdiger Köppe.

Watters, John R. (1981) *A phonology and morphology of Ejagham, with notes on dialect variation.* Los Angeles, UCLA. Ph.D. dissertation.

Welmers, Willy. (1973) *African Language Structures*. Berkeley: University of California Press.

Wilkendorff, Patricia. (1991) Le Système Temporel et Aspectuel de la Langue Nomaande. In Anderson, Stephen C. & Bernard Comrie (eds.) *Tense and Aspect in Eight Languages of Cameroon*. Arlington: SIL and University of Texas at Arlington, 105-46.

Williamson, Kay & Roger Blench. (2000) Niger-Congo. In Bernd Heine & Derek Nurse (eds.) *African Languages*. Cambridge: Cambridge University Press, 11-42.

Yukawa, Yasutoshi. (1992) A tonological study of yambasa verbs. In Ryohei Kagaya (ed.) *Studies in Cameroonian and Zairean Languages*. Tokyo. ILCAA, 1-46.

Zwicky, Arnold M. & Gregory K. Pullum. (1983) Cliticization versus inflection: English n't. *Language* 59.3: 502-13.