Proto-Bantu verbal form

J. Good[1] (jcgood@buffalo.edu) and T. Güldemann[2,3] (tom.gueldemann@staff.hu-berlin.de)

[1] U. of Buffalo, [2] Humboldt U. Berlin, [3] MPI for the Science of Human History Jena

1 Introduction

+ schematic representation of the segmental structure of the canonical Bantu verb based on
    Güldemann's (2003: 184) adaption of Meeussen's (1967: 108–111) reconstruction:

Prefix aka pre-stem cluster				Stem cluster			
-4	-3	-2	-1	0	1	2	3
(preinitial)	initial	(postinitial)*	(preradical)*	radical	(prefinal)*	final	(postfinal)
TMA[†]	subject	TMA	object	root	TMA	TMA	participant
negation		negation			valence		negation[†]
clause type[†]		clause type[†]					clause type[†]

(…) possibly zero, * possibly more than one,   [†] presumably late innovation

Figure 1: Morphological template of "canonical" Bantu verbs

+ however, far larger diversity in Bantu > What proto-language did Meeussen reconstruct?

(1)   Kinande (D40)

   tu   -né-mu-ndi-syá-tá-sya-ya -ba   -king -ul-ir-an-is-i   -á   =ky-ô
   1PL -TAM.COMPLEX-   -2.OBJ -close-REV-APPL-REC-CAUS-TRANS-FV =7-PRO
   "We will make it possible one more time for them to open it for each other."
                                                            (Nurse & Philippson 2003: 9)

(2)   Ewondo (A70)
   Akad   mə   soób   bĩyé.
   1.HAB   1SG   wash   8.cloth
   "He washes clothes for me."   (Redden 1979: 56)

(3)   Aghem (Grassfields Bantu)
   ò   mɔ́   zì   kɨ́-bɛ́   ꜜnɛ́
   3SG   RPST   eat   7-fufu.A   today
   "He ate fufu today."   (Hyman 2010: 101–102)

+ Nurse (2008: Chapter 6) provides thorough discussion of issues surrounding the
    reconstruction of Bantu verb structures - conceived of here as involving primarily:
    - lexical verb,
    - pronominal cross-reference for subject and object, and
    - predicate operators (auxiliaries, particles, affixes of variable position and host)
> a complete representation will also need to account for tone (see, e.g., Kisseberth &
    Odden (2003: 61–62), Downing (2011), Marlo (2013), Odden & Bickmore (2014)).

+ there is not consensus on the historical interpretation of the diversity referred to above
> three major proposals to derive the synchronic picture from a proto-language:

(4)   A   *[A] [B] [C] [D] [E] [F]   >   Meinhof (1936, 1938) - obsolete
       B   *[A-B-C-D-E-F]   >   Meeussen (1967: §2, §6–7)
       C   1   *[A-B] [C] [D-[E-F]]   >   most recent proposal:
             2   *[A-B] [C] [D-E-F]   profile that is intermediate
             3   *[A-B-C] [D-E-F]   between extreme A and B
             n   …   with various patterns

+ B vs. C as two current hypotheses for early Bantu predicate structure:
B "compact": Schadeberg (2003b):   erosion
              Hyman (2007, 2011):   erosion + dismantling
C "split":   Güldemann (2003, 2007, 2011a), Good and
              Güldemann (2006), Nurse (2007, 2008: 62-72):   fusion beyond the stem

+ Bantu family forms its own spread zone, differing strongly from Macro-Sudan profile
    (Güldemann 2010, 2011a, 2018), including in terms of morphological synthesis
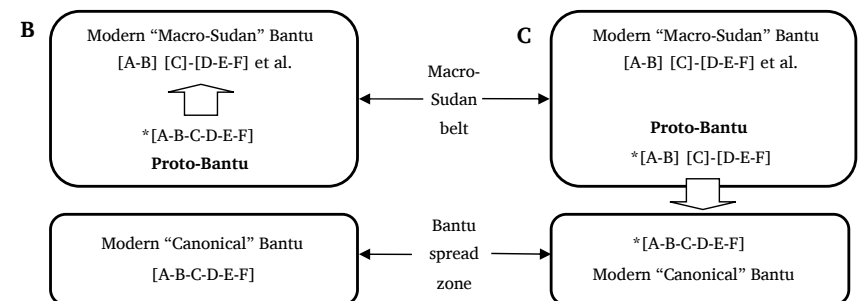

Figure 2: Two areal-historical models for the modern fusion profile of Bantu

+ our view: Meeussen's reconstruction in Figure 1 must be relatively late, probably only
    under node 2 or 3 of Grollemund et al.'s (2015) phylogeny
> hence, we do not assume that the divergence of Northwest Bantu should be ascribed
    primarily to attrition, contra commonly-held positions (see, e.g., Schadeberg 2003b:
    156), let alone to morphological dismantling

2 The pre-stem and participant cross-reference

2.1 Introduction

... Pre- or even Proto-Bantu possessed a split predicate distributed over more than one phonological word. Its basic constituents would have been the preverbal complex of predicate markers for the subject and predication operators, and secondly the verb stem involving (possibly multiple) extension suffixes but with some degree of size restriction. Non-subject pronouns occurred alternatively before or after the verb stem. If preceding it, object pronouns could enter with the verb into a tighter prosodic constituent known in Bantu linguistics as the "macrostem". It should also be considered that subject pronouns or other class-indexing markers that immediately preceded a verb stem (like in some simple verb forms or verbal nouns) also entered the macrostem domain and thus fused here earlier than in more complex predicate types. (Güldemann 2011a: 126)

+ allows for numerous possible verb and predicate patterns and involves also phonological
       words with pronominal (argument) marking bound to a stem or auxiliary:

(5)
a.   1 [SBJ-STEM]
       2 [OBJ-STEM]
       3 [INF-STEM]
b.   1 [SBJ-AUX]   [Ø   STEM]
       2 [SBJ-AUX]   [SBJ- STEM]
       3 [SBJ-AUX]   [OBJ-STEM]
       4 [SBJ-AUX]   [INF- STEM]

(6)   Zulu (S42) - cf. (5)b.2

   u-be   u-nga-thandi   >   **ubu**-nga-thandi
   2S-be:PST 2S-SIM.NEG-love:NEG   PROX.PST.IPFV:**2S**-NEG-love:NEG
   you were not loving (Doke 1927: §424)

(7)   Shona (S10) - cf. (5)b.4

   ndi-ri   ku-tora   >   *ndi-riku-tora*
   1S-COP   15INF-take   1S-PROG-take
   I am taking (Fortune 1955: 271)

+ remainder of §2: argue that subject and object cross-reference as found in Bantu today
       largely emerged late from free pronouns in Niger-Congo > advantages of pronouns:
       - historically relatively stable
       - restricted paradigm (as opposed to the multiplicity of TAMP operators)
       - recent advances in pronoun reconstruction in Early Niger-Congo and Benue-Congo

2.2 Pronouns in early Niger-Congo (after Güldemann 2017)

+ robust Proto-Niger-Congo paradigm for free speech-act-participant pronouns
- not necessarily Proto-Niger-Congo; excludes, for example, most of Ubangi
- involves a later innovation of a denasalized 2SG form to $_*$(B)V^{back}, notably in Benue-Kwa
- outside Bantu hardly ever involved in bound verbal cross-reference!
- recurrently enter so-called STAMP morphs within split predicate structure, which is an
       areal feature of the Macro-Sudan Belt (Güldemann 2011a, 2013) and is reconstructed
       for various lineages (Anderson 2011, 2012, 2015, 2016)

Genealogical pool	Lineage[1]	1SG	2SG	1PL	2PL
Preliminary early Niger-Congo		$_*$mV^{front}	$_*$mV^{back}	$_*$TV^{close}	$_*$NV^{close}
BENUE-KWA		**$_*$mV^{front}**	**$_*$(B)V^{back}**	**$_*$TV^{close}**	**$_*$NV^{close}**
ATLANTIC	Mel: Temnic	$_*$mi	$_*$mO	$_*$sV	$_*$nV
ATLANTIC	*Sua*	meN-	mɔɔ	nrɔ	nɔɔ
GUR	Central: Oti-Volta	*mV	*bV/(f)V	*ʈV	*(n)yV
BENUE-KWA	**Bantoid: Bantu**	**$_*$mi/ *(-)n-**	***(-)u-**	***(-)cu-**	***(-)ɲu-**
BENUE-KWA	*Oko*	*-mẹ*	*-wọ*	*-tọ*	*-nọ*
BENUE-KWA	Lagoon: *Abé*	mə	fə	-lə	-ɲə
ADAMAWA	Mumuyic	$_*$mE/ $_*$N	$_*$mo	$_*$rO	$_*$noO
ADAMAWA	*Kwa~Baa*	ĨyÕ	-mù	-(t)	-n
ADAMAWA	*Fali*	(-)mì	*mu	$_*$-to	*-no
UBANGI	Gbayaic	*mí	*mɛ́	*-lɛ́	*-nɛ́

Note: [1] *Italic* = single language; cognates left-aligned

Table 1: Pronoun paradigms in Early Niger-Congo and some conservative subgroups
       (after Güldemann 2017: 114)

2.3 Pronouns and verbal cross-reference in Bantu

2.3.1 Preliminaries

+ wide agreement on the reconstruction of Proto-Bantu verbal cross-reference

Reconstructions	Subject				Object			
	1SG	2SG	1PL	2PL	1SG	2SG	1PL	2PL
Meeussen (1967)	*n-/ɲ-	*u-	*-tu-	*-mu-	*-n-	*-ku-	*-tu-	*-mu-
Guthrie (1967-71)	*NI-/NY-	*Ọ̀-	*TỌ̀-	*MỌ̀-	-	*-KỌ̀-	*-TỌ̀-	*-MỌ̀-
Schadeberg (2003b: 151)	*N-	*ʊ-	*tʊ-	*mʊ-	*-N-	*-kʊ-	*-tú-	*-mú-
Nurse (2007: 377)*	*nɪ-	*ʊ-	*tʊ-	*mʊ-	-	-	-	-
Babaev (2008: 148)	*ɲi-	*ʊ̀-	*tʊ̀-	*mʊ̀-	-	*-kʊ-	-	-

Note: * manuscript cited by Babaev (2008: 140)

Table 2: Various versions of verbal cross-reference paradigm in Proto-Bantu

+ revealing comparison of pronominal reconstructions across Bantu and Niger-Congo

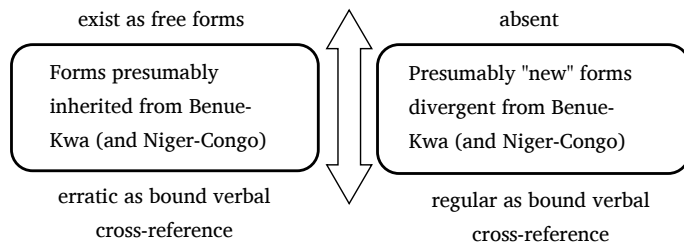| Person, number, gender	Benue-Kwa	Northwestern Bantu (and beyond)	"Proto-Bantu"*		
			Non-verbal	Subject prefix	Object prefix
1SG	₊mV^{FR}	*mi, (*N-)	*-mi-	***ɲi-**	***-ɲi-**
2SG	₊(B)V^{BA}	*ʊ	*-w-	*ʊ-	***-kʊ-**
1PL	₊TV^{CL}	*tʊ~tɪ	*-cu-	*tʊ-	*-tʊ́-
2PL	₊NV^{CL}	*nʊ~nɪ	*-nu-	***mʊ-**	***-mʊ́-**
3SG.H = class 1	-	*(j)ʊ, *a	*-w-, *-j-	*ú-, *a-	***-mʊ-**
3PL.H = class 2	-	*ba	*-ba-	*ba-	*-ba-

Note: * after Schadeberg (2003b: 149, 151), Kamba Muzenga (2003), Babaev (2008)

Table 3: The reconstruction of pronominal marking in Bantu and beyond

a) considerable amount of cognacy involving also Narrow Bantu:
- pronominal roots of Proto-Bantu in non-verbal morpho-syntactic contexts, notably independent and possessive forms (cf. Stappers 1986, Kamba Muzenga (2003)
- pronouns in Northwestern Bantu and Bantoid (cf. Babaev 2008)
- pronouns in Early Niger-Congo and Benue-Kwa (cf. Güldemann 2017)
> excludes their involvement in an old compact predicate of Niger-Congo with participant cross-reference, as they would have been eroded in view of the family's age

b) reconstructed Bantu verbal cross-reference deviates significantly from Niger-Congo canon, namely: 1SG.SBJ/OBJ *Ni, 2SG.OBJ *kU, 2PL.SBJ/OBJ *mU, 3SG.H.OBJ *mU
> reconstructions as such valid but not for Proto-Bantu (in the traditional Guthrie sense) but as innovations in lower clades in the family's phylogeny (cf. also Henrici (1973), Stewart (1976: 4) for similar assumption regarding lexical reconstructions)

+ expectations within this hypothesis: scalar decrease or increase of different types of forms

Early clades in the Bantu phylogeny (notably (parts of) zones A, B, C)

exist as free forms   absent

Forms presumably inherited from Benue-Kwa (and Niger-Congo)   Presumably "new" forms divergent from Benue-Kwa (and Niger-Congo)

erratic as bound verbal cross-reference   regular as bound verbal cross-reference

Late clades in the Bantu phylogeny (zone D onwards)

Figure 3: Expected profile of inherited vs. innovated forms within Bantu

2.3.2 Methodology

+ enormous task to collect comprehensive data about argument cross-reference for the several hundred relevant languages subsumed under Bantu
> methodological shortcut: instead of canonical reconstruction crude analysis of Babaev's (2008: Appendix) data collation from ca. 155 Bantu varieties; representative picture despite opportunistic sampling of languages, erratic coverage of elements, and incomplete information about them

+ language-specific forms identified as free form vs. affix and assigned to 3 classes:
a) inherited Benue-Kwa form,
b) innovated Bantu form, and
c) other

+ recorded according to traditional Bantu zones
> distinction of two zone D groups: D1 with affiliation to Forest Bantu of zone C vs. D2 with affiliation to Savannah Bantu (cf., e.g., Grollemund et al. 2015)

2.3.3 Data survey

2.3.3.1 Fusion profile

Zone	1SG		2SG		1PL		2PL		Total
	Subject	Object	Subject	Object	Subject	Object	Subject	Object	
A	15/6	6/2	12/6	5/2	10/3	3/1	11/7	5/2	67/29
B	8/5	0/2	6/7	0/3	2/12	0/2	0/10	0/3	19/49
C	0/13	2/4	1/14	3/5	1/14	2/3	1/18	4/5	14/76
D1	0/5	0/1	1/3	0/1	0/4	1/2	0/4	0/1	2/21
D2	0/5	0/4	0/6	1/3	0/6	1/2	0/6	1/2	3/34
H	0/15	1/2	0/8	0/3	0/8	0/3	0/10	0/3	1/52
Rest	0/101	0/40	0/107	0/59	0/101	0/26	0/96	0/48	0/578
Total	23/140	9/50	19/143	9/69	13/140	7/36	12/141	10/61	102/780

Table 4: Free vs. prefixed verbal cross-reference across Bantu

+ data confirm the impressionistically reported fusion profile: free forms gradually decline with distance from homeland:
- zone A   free forms predominate
- zones B, C   free forms still recurrent
- zones D, H   free forms very rare
- rest   free forms absent
> in line with our hypothesis (despite some cases of secondary free forms, notably zone D)

+ morphological fusion can be a fast process, possibly a dialectal difference:

(8)   Margany vs. Gunya dialect of Mari (Pama-Nyungan, Australian)

a.   **ŋaya**   binda-:lku

        1S   sit-PROX:PURP

        I'll stop at home

b.   binda-ngi-**ya**

        sit-PURP-**1S**

        I'm going to sit down (Breen 1981: 317, 327)

+ pre-stem object slot in "canonical" Bantu as reflex of word-order alternation in Pre-Bantu
        and other Benue-Kwa (cf. Güldemann 2007, 2011a), possibly a dialectal difference:

(9)   Lokai vs. 'Burulo dialect of Ma'di (Moru-Madi, Central Sudanic)

a.   *àmá*   *èɓī*   *`ɲā*

        1P.E   fish   NPST:eat

b.   *àmà*   *ɲá*   *ìɓī*

        1P.E   eat   fish

        we (excluding you) (are) eat(ing) fish (Blackings and Fabb 2003: 176)

2.3.3.2 Forms of pronominal exponents

1SG *mV^{FR} > *Ni

+ apparently problematic for present hypothesis, because bound forms in *n(y)* are already
        recurrent in Benue-Congo outside Bantu > assumption of early existence of *N-

+ nevertheless overall result: *m*-forms predominate in the northwest, are gradually replaced
        by *n*-forms further south, but still occur there sporadically

+ additional arguments that 1SG *n*-forms are not necessarily all inherited but could also be
        the outcome of later and possibly independent changes within Bantu

a) 1SG cross-reference is among the earliest to fuse with other grammatical hosts and then
        undergo sound change, both cross-linguistically and in Bantu (Güldemann 2011b)
        > also mitigates against a full and symmetrical paradigm of bound pronouns

b) *n* in pronominal forms has a greater cross-linguistic bias than *m*

   ... the distribution of n is a matter of universal preferences, while that of m ... is less strongly
   linked to universals and more strongly linked to historical contingencies than that of n. m is
   therefore the better potential marker of historical connections. (Nichols and P. 1996: 351)

c) pronominal *mV^{FR} > nV^{FR}* is a recurrent change elsewhere, notably with 2SG *mi in four
        branches of Central Sudanic (cf. Güldemann 2017: 118-22)

> geographically, genealogically, and semantically unrelated to Bantu 1SG *mV^{FR}!

2SG.OBJ *ʊ > *kʊ

+ subject form irrelevant for discussion as obviously cognate with old Niger-Congo form

+ velar initial consonant emerges first in zone B as weak posterior segment, voiceless
        plosive only later in zone C > *KU possibly result of gradual fortition

+ *ku*-like forms as subject prefix not necessarily cognate with object prefix - e.g., *ku* in
        zones E and G mostly from a prenitial *ka* fusing with inherited 2SG *u*

1PL *Tʊ

+ *t*-forms predominate over other forms: subjects 128 vs. 25 and objects 31 vs. 12

+ *tu*-like forms predominate over *ti*-like forms: subjects 90 vs. 38 and objects 25 vs. 6

> most likely Proto-Bantu form *Tʊ

2PL *nʊ > *mʊ

+ several problems for identification of cognates:

- potential denasalization/fortition of *nV > *DV and *mV > *bV

- *bV*-forms can also reflect an incorporated (human) plural marker or a 3PL.H polite form;
        both are hard to distinguish from denasalized *mV

> all such forms counted as "other" rather than potential cognates of *nʊ and/or *mʊ

+ overall result: *n*-forms predominate in the northwest !and zone H, are gradually replaced
        by *m*-forms further south and east, but still occur there sporadically

+ Proto-Bantu "post-final" *-(n)i̧ for plural addressee (cf. Meeussen 1967: 111, Schadeberg
        1977) as another likely cognate of the Niger-Congo 2PL pronoun *nV^{CL}

> older as a suffix than the pre-stem prefix, given various bound precedents outside Bantu

(10)   Tikar (Bantoid, Benue-Kwa)

        *wu-ê-**nì***   *ɓwi'*   *wu-è-**nì***

        kill-IRR-P.AD   1P   kill-IRR-P.AD

        tuez(-le)!   tuons(-le)! (Stanley 1991: 58, 60)

(11)   Ekpeye (Igboid, Benue-Kwa)

a.   *à-kà*   *à-kà-**nì̧***

        1P-say   1P-say-P.AD

        we (excl.) said ...   we (incl.) [we+you] said ...

b.   *í̧-kà*   *í̧-kà-**nì̧***

        2S-say   2S-say-P.AD

        you said ...   you people said ... (Clark 1972: 103)

+ overall picture of replacement of Niger-Congo cognates by Bantu innovations:

 - dark shading: old Niger-Congo forms are more or as frequent as innovations

 - light shading: innovations predominate over old Niger-Congo forms

 - no shading: no old Niger-Congo forms

> new Bantu forms predominate in numerical but not in phylogenetic terms

Zone	1SG		2SG		2PL		Total (without 2SG.SBJ)
	Subject	Object	Subject	Object	Subject	Object	
A	12/9	5/2	15/1	5/2	8/0	2/0	32/13
B	6/7	1/1	11/1	0/(3)	6/0	2/0	15/8 + (3)
C	0/9	2/3	12/0	2/4	1/1	2/2	7/19
D1	2/2	0/0	4/0	0/0	2/0	1/0	5/2
E	0/12	0/2	10/6	2/11	0/14	0/6	2/55
H	2/8	1/1	7/1	0/3	4 + (6)/0	(3)/0	7 + (9)/12
K	0/11	0/7	9/3	0/5	1 + (1)/6	0/5	1 + (1)/34
L	0/9	0/2	9/1	0/1	3/5	1/0	4/17
R	1/3	0/4	4/0	0/4	1/2	1/2	3/15
S	0/7	0/5	7/0	3/5	1 + (2)/4	2 + (2)/2	6 + (4)/23
Rest	0/49	0/18	48/6	0/26	0/48	0/15	0/156
Total	23/126	9/46	136/19	12/56 + (3)	27 + (9)/80	11 + (5)/32	96/343

Note: 1SG: *MV^{FR}/*NV^{FR}, 2SG: *U/*KU, 2PL: *NV^{CL}/*MV^{CL}; Rest: zones D2, F, G, J, M, N, P

Table 5: Niger-Congo cognates vs. Bantu-specific forms in verbal cross-reference

2.3.3.3 Reconstruction of subject and object marking in Proto-Bantu

+ free 1SG pronoun *mi (presumably besides an early bound *Ni- in certain contexts):

 - subject: 10 of 17 languages in zone A and 4 of 13 languages in zone B

 - object: 5 of 7 languages in zone A

+ free 2SG pronoun *(B)ʊ (instead of bound object concord *-kʊ-):

 - subject: 9 of 16 languages in zone A, 5 of 13 languages in zone B

 - object: 2 of 6 languages in zone A

+ free 1PL pronoun *Tʊ:

 - subject: 7 of 14 languages in zone A

+ free 2PL pronoun *nʊ (instead of bound concord *(-)mʊ-):

 - subject: 6 of 18 languages in zone A

> assumed free Proto-Bantu forms eventually become prefixes and then largely disappear

> Bantu-specific forms innovated in connection with emergence of the compact predicate:

a) 2SG.OBJ *-kʊ- (like 3SG.H.OBJ *-mʊ-) in the context of pre-radical object slot enhances the Bantu "macro-stem" by means of a stronger onset vis-à-vis the inherited weaker form, "sealing it off" from preceding prefixes (cf. also Polak 1986: 405)

b) 2PL *(-)mʊ- (instead of *nʊ~nɪ) enhances paradigmatic contrast to 1SG *(-)Ni-

3. The verb stem

SEPARATE HANDOUT

References

Anderson, Gregory D. S. 2011. Auxiliary verb constructions in the languages of Africa. [Special issue]. Studies in African Linguistics 40,1/2: 1-408.

Anderson, Gregory D. S. 2012. S/TAM/P (portmanteau subject/TAM/polarity) morphs in Niger-Congo languages. Paper presented at the International Congress "Towards Proto-Niger-Congo: Comparison and Reconstruction", Paris, September 18–21.

Anderson, Gregory D. S. 2015. STAMP morphs in Central Sudanic languages. In Mietzner Angelika and Anne Storch (eds.), Nilo-Saharan – models and descriptions. Nilo-Saharan Linguistic Analyses and Documentation 28. Cologne: Rüdiger Köppe, 151–167.

Anderson, Gregory D. S. 2016. STAMP morphs in the Macro-Sudan Belt. In Payne, Doris L., Sara Pacchiarotti and Mokaya Bosire (eds.), Diversity in African languages. Berlin: Language Science Press, 513–539.

Babaev, Kirill V. 2008. Reconstructing Benue-Congo person marking I: Proto-Bantoid. Journal of West African Languages 25,1/2: 131-183.

Bastin, Yvonne. 1983. La finale ide et l'imbrication en bantou. Tervuren: Musée Royal de l'Afrique Centrale.

Bastin, Yvonne. 1986. Les suffixes causatifs dans les langues bantoues. Africana Linguistica 10. 55–145.

Blackings, Mairi and Nigel Fabb. 2003. A grammar of Ma'di. Mouton Grammar Library 32. Berlin/New York: Mouton de Gruyter.

Bonneau, J. 1956. Grammaire pounoue et lexique pounou-francais. Montpellier: Imprimerie Charité.

Bostoen, Koen & Joseph Koni Muluwa. 2014. Umlaut in the Bantu B80 languages of the Kwilu (DRC). Transactions of the Philological Society 112. 209–230.

Bôt, Dieudonné Martin Luther. 1998. Temps verbaux et aspects du Yasa. Afrikanistische Arbeitspapiere 53. 47–65.

Bôt, Dieudonné Martin Luther. 2011. Les verbes dérivés du yasa. Journal of West African Languages 38. 89–98.

Breen, John G. 1981. Margany and Gunya. In Dixon, Robert M. W. and Barry J. Blake (eds.), Handbook of Australian Languages 2. Amsterdam: John Benjamins, 274-393.

Clark, David J. 1972. A four-term person system and its ramifications. Studies in African Linguistics 3,1: 97-105.

Creissels, Denis, Gerrit J. Dimmendaal, Zygmunt Frajzyngier & Christa König. 2008. Africa as a morphosyntactic area. In Bernd Heine & Derek Nurse (eds.), A linguistic geography of Africa, 86–150. Cambridge: CUP.

Devos, Maud & Johan van der Auwera. 2013. Jespersen cycles in Bantu: Double and triple negation. Journal of African Languages and Linguistics 34. 205–274.

Doke, Clement M. 1992 [1927]. Textbook of Zulu grammar. Cape Town: Maskew Miller Longman.

Downing, Laura J. 2006. Canonical forms in prosodic morphology. Oxford: OUP.

Downing, Laura J. 2011. Bantu tone. In Marc van Oostendorp, Colin J. Ewan, Elizabeth Hume & Keren Rice (eds.), The Blackwell companion to phonology: Volume V: Phonology across languages, 2730–2753. Malden, MA: Wiley-Blackwell.

Dryer, Matthew S. 2009. Verb-object-negative order in central Africa. In Norbert Cyffer, Erwin Ebermann & Georg Ziegelmeyer (eds.), Negation patterns in West African languages and beyond, 307–362. Amsterdam: Benjamins.

Ellington, John. 1977. Aspects of the Tiene language. Madison, WI: University of Wisconsin PhD dissertation.

Ernst, Urs. 1991. Temps et aspect en kakO. In Stephen C. Anderson & Bernard Comrie (eds.), Tense and aspect in eight languages of Cameroon, 17–45. Arlington, TX: SIL and the University of Texas, Arlington.

Ernst, Urs. 1995. Les formes verbales du kakó. Yaoundé: SIL Cameroon. http://www.silcam.org/resources/archives/47459.

Fortune, George. 1955. An analytical grammar of Shona. London/ Cape Town/ New York: Longmans and Green.

Good, Jeff. 2005. Reconstructing morpheme order in Bantu: The case of causativization and applicativization. Diachronica 22. 3–57.

Good, Jeff. 2012. How to become a "Kwa" noun. Morphology 22. 293–335.

Good, Jeff. 2016. The linguistic typology of templates. Cambridge: CUP.

Good, Jeff and Tom Güldemann. 2006. The Bantu verbal prefixes and S-Aux-O-V order in Benue-Congo. Paper presented at the International conference on "Bantu Grammar: Description and Theory", School of Oriental and African Studies, University of London, 20 – 22 April 2006.

Gowlett, Derek F. 1984. Stabilization in Bantu. African Studies 43. 187–203.

Grégoire, Claire. 1979. Les voyelles finales alternantes dans la conjugaison affirmative des langues bantoues centrales. Journal of African Languages and Linguistics 1. 141–172.

Grollemund, Rebecca, Simon Branford, Koen Bostoen, Andrew Meade, Chris Venditti & Mark Pagel. 2015. Bantu expansion shows that habitat alters the route and pace of human dispersals. Proceedings of the National Academy of Sciences 112(43). 13296–13301.

Guarisma, Gladys. 1992. La bafia (rì-kpã?): langue bantoue (A53) du Cameroun. Paris: University of Paris V PhD dissertation.

Guarisma, Gladys. 2003. Kpã? (A53). In Derek Nurse & Gérard Philippson (eds.), The Bantu languages, 307–334. London: Routledge.

Güldemann, Tom. 2003. Grammaticalization. In Nurse, Derek and Gérard Philippson (eds.), The Bantu languages. Routledge Language Family Series 4. London: Routledge, 182-194.

Güldemann, Tom. 2007. Preverbal objects and information structure in Benue-Congo. In Aboh, Enoch O., Katharina Hartmann and Malte Zimmermann (eds.), Focus strategies in African languages: the interaction of focus and grammar in Niger-Congo and Afro-Asiatic. Trends in Linguistics, Studies and Monographs 191. Berlin: Mouton de Gruyter, 83-111.

Güldemann, Tom. 2008. The Macro-Sudan belt: towards identifying a linguistic area in northern sub-Saharan Africa. In Heine, Bernd and Derek Nurse (eds.), A linguistic geography of Africa. Cambridge: Cambridge University Press, 151-185.

Güldemann, Tom. 2010. Sprachraum and geography: linguistic macro-areas in Africa. In Lameli, Alfred, Roland Kehrein and Stefan Rabanus (eds.), Language and space: an international handbook of linguistic variation, volume 2: language mapping. Handbooks of Linguistics and Communication Science 30,2. Berlin: Mouton de Gruyter, 561-585, Maps 2901-2914.

Güldemann, Tom. 2011a. Proto-Bantu and Proto-Niger-Congo: macro-areal typology and linguistic reconstruction. In Hieda, Osamu, Christa König and Hirosi Nakagawa (eds.), Geographical typology and linguistic areas, with special reference to Africa. Tokyo University of Foreign Studies, Studies in Linguistics 2. Amsterdam: John Benjamins, 109-141.

Güldemann, Tom. 2011b. Towards early Bantu by reconstructing a fragment across Benue-Congo: 1st-person singular *mI. Paper presented at the Berlin Bantu Conference (B4ntu), Humboldt University and ZAS Berlin, 7-9 April 2011. https://www.iaaw.hu-berlin.de/de/region/afrika/afrika/linguistik/mitarbeiter/1683070/dokumente/2011-04-berlin-b4ntu-1s-mi-across-bantu-h

Güldemann, Tom. 2013. Morphological fusion in Niger Congo and Bantu: addressing a historical-comparative problem. Paper presented at the Conference "Paradigm change in historical reconstruction: the Transeurasian languages", Universität Mainz, 7-8 March 2013. https://www.iaaw.hu-berlin.de/de/region/afrika/afrika/linguistik/mitarbeiter/1683070/dokumente/2013-03-mainz-niger-congo-verb-morphology-h

Güldemann, Tom. 2017. A shared pronominal canon in the Macro-Sudan belt: typological, areal and genealogical perspectives. In Kramer, Raija and Roland Kießling (eds.), Mechthildian approaches to Afrikanistik: advances in language based research in Africa, Festschrift für Mechthild Reh. Köln: Rüdiger Köppe, 101-146.

Güldemann, Tom. 2018. Historical linguistics and genealogical language classification in Africa. In Güldemann, Tom (ed.), The languages and linguistics of Africa. The World of Linguistics 11. Berlin: Mouton de Gruyter, 58-444.

Heath, Daniel. 1991. Tense and aspect in Makaa. In Stephen C. Anderson & Bernard Comrie (eds.), Tense and aspect in eight languages of Cameroon, 3–15. Arlington, TX: SIL and the University of Texas, Arlington.

Hedinger, Robert. 2008. A grammar of Akoose: A Northwest Bantu language. Dallas: Summer Institute of Linguistics and the University of Texas at Arlington.

Heine, Bernd. 1980. Language typology and linguistic reconstruction: The Niger-Congo case. Journal of African Languages and Linguistics 2. 95–112.

Heine, Bernd & Mechthild Reh. 1984. Grammaticalization and reanalysis in African languages. Hamburg: Helmut Buske.

Henrici, Alick. 1973. Numerical classification of Bantu languages. African Language Studies 14: 82–104.

Hyman, Larry M. 1981. Noni grammatical structure: With special reference to verb morphology. Los Angeles: University of Southern California Department of Linguistics.

Hyman, Larry M. 1993. Conceptual issues in the comparative study of the Bantu verb stem. In Salikoko S. Mufwene & Lioba Moshi (eds.), Topics in African linguistics, 3–34. Amsterdam: Benjamins.

Hyman, Larry M. 2003. Suffix ordering in Bantu: A morphocentric approach. In Geert Booij & Jaap van Marle (eds.), Yearbook of Morphology 2002, 245–281. Dordrecht: Kluwer.

Hyman, Larry M. 2004. How to become a "Kwa" verb. Journal of West African Languages 30. 69–88.

Hyman, Larry M. 2007. Reconstructing the Proto-Bantu verbal unit: Internal evidence. In Nancy C. Kula & Lutz Marten (eds.), Bantu in Bloomsbury: Special issue on Bantu linguistics (SOAS Working Papers in Linguistics, volume 15), 201–211. London: SOAS.

Hyman, Larry M. 2008. Directional asymmetries in the morphology and phonology of words, with special reference to Bantu. Linguistics 46. 309–350.

Hyman, Larry M. 2010. Focus marking in Aghem: Syntax or semantics. In Ines Fiedler & Anne Schwarz (eds.), The expression of information structure: A documentation of its diversity across Africa, 95–115. Amsterdam: Benjamins.

Hyman, Larry M. 2011. The Macro-Sudan Belt and Niger-Congo reconstruction. Language Dynamics and Change 1. 3–49.

Kamba Muzenga, J. G. 2003. Substitutifs et possessifs en bantou. Langues et Cultures Africaines 31. Leuven: Peeters.

Kisseberth, Charles W. & David Odden. 2003. Tone. In Derek Nurse & Gérard Philippson (eds.), The Bantu languages, 59–70. London: Routledge.

Leitch, Myles. 2003. Babole (C101). In Derek Nurse & Gérard Philippson (eds.), The Bantu languages, 392–421. London: Routledge.

Lovegren, Jesse. 2013. Mungbam grammar. Buffalo, NY: University at Buffalo PhD dissertation.

Marlo, Michael R. 2013. Verb tone in Bantu languages: Micro-typological patterns and research methods. Africana Linguistica 19. 137–234.

Marlo, Michael R. & David Odden. 2007. The exponence of TAM in Bakweri. In Nancy C. Kula & Lutz Marten (eds.), Bantu in Bloomsbury: Special issue on Bantu linguistics (SOAS Working Papers in Linguistics, volume 15), 19–31. London: SOAS.

Meeussen, A. E. 1967. Bantu grammatical reconstructions. Africana Linguistica 3. 79–121.

Meinhof, Carl. 1936. Die Entstehung flektierender Sprachen: eine Untersuchung. Berlin: Dietrich Reimer.

Meinhof, Carl. 1938. Die Entstehung der Bantusprachen. Zeitschrift für Ethnologie 70: 144-152.

Nurse, Derek. 2007. Did the Proto-Bantu verb have a synthetic or an analytic structure? In Nancy C. Kula & Lutz Marten (eds.), Bantu in Bloomsbury: Special issue on Bantu linguistics (SOAS Working Papers in Linguistics, volume 15), 239–256. London: SOAS.

Nurse, Derek. 2008. Tense and aspect in Bantu. Oxford: OUP.

Nurse, Derek & Gérard Philippson. 2003. Introduction. In Derek Nurse & Gérard Philippson (eds.), The Bantu languages, 1–12. London: Routledge.

Nurse, Derek & Gérard Philippson. 2006. Common tense-aspect markers in Bantu. Journal of African Languages and Linguistics 27. 155–196.

Nurse, Derek, Sarah Rose & John Hewson. 2016. Tense and aspect in Niger-Congo. Tervuren: Royal Museum for Central Africa. http://www.africamuseum.be/museum/research/publications/rmca/online/tense.pdf.

Odden, David & Lee Bickmore. 2014. Melodic tone in Bantu: Overview. Africana Linguistica 20. 3–13.

Orwig, Carol. 1989. Les extensions verbales en nugunu. In Daniel Barreteau & Robert Hedinger (eds.), Descriptions de langues camerounaises, 283–314. Paris: ORSTOM.

Polak, Louise. 1986. Les infixes ("prefixes objets") du bantou et leur reconstruction. In Africana Linguistica 10. Annalen Menselijke Wetenschappen 121. Tervuren: Koninklijk Museum voor Midden-Afrika, 365-421.

Redden, James E. 1979. A descriptive grammar of Ewondo. Carbondale, IL: Department of Linguistics, Southern Illinois University.

Rottland, Franz. 1970. Die Verbformen des Yanzi. Leiden: Leiden University PhD dissertation.

Schadeberg, Thilo C. 2003a. Derivation. In Derek Nurse & Gérard Philippson (eds.), The Bantu languages, 71–89. London: Routledge.

Schadeberg, Thilo C. 2003b. Historical linguistics. In Derek Nurse & Gérard Philippson (eds.), The Bantu languages, 143–163. London: Routledge.

Stanley, Carol. 1991. Description morpho-syntaxique da la langue tikar (parlée au Cameroun). Société International de Linguistique.

Stappers, Leo. 1967. Het passief suffix -u- in de Bantoe-talen. Africana Linguistica 3. 137–145.

Stappers, Leo (rev./ed. by Hans-Ingolf Weier). 1986. Substitutiv und Possessiv im Bantu. Mainzer Afrika-Studien 8. Berlin: Dietrich Reimer.

Stewart, John M. 1976. Towards Volta-Congo reconstruction (inaugural lecture). Leiden: Universitaire Pers.

Stewart, John M. 2002. The potential of Proto-Potou-Akanic-Bantu as a pilot Proto-Niger-Congo, and the reconstructions updated. Journal of African Languages and Linguistics 23. 197–224.

Teil-Dautrey, Gisèle. 2008. Et si le proto-bantu était aussi une langue…avec ses contraintes et ses déséquilibres. Diachronica 25. 54–110.

Voeltz, F. K. Erhard. 1977. Proto Niger-Congo verb extensions. Los Angeles: UCLA PhD dissertation.

Voeltz, F. K. Erhard. 1980. The etymology of the Bantu perfect. In Luc Bouquiaux (ed.), L'expansion bantoue: Actes du Colloque International du CNRS, Viviers (France) 4–16 avril 1977. Volume II, 487–492. Paris: SELAF.

Williamson, Kay. 1989. Niger-Congo overview. In John Bendor-Samuel (ed.), The Niger-Congo languages: A classification and description of Africa's largest language family, 3–45. Lanham, MD: University Press of America.

Yukawa, Yasutoshi. 1992. A tonological study of Kaka verbs. In Studies in Cameroonian and Zairean languages, 47–66. Tokyo: Institute for the Study of Languages and Cultures of Asia and Africa.