The multiple challenges of Niger-Congo “noun classes”

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1 The project “Noun classification systems in Africa between gender and nominal declension/‘deriflection’”

- duration: March 2017 – February 2023
- staff: Tom Güldemann, Ines Fiedler, 2 PhD students: Jan Junglas, Michael Schulze

1.1 Theoretical background and core concepts

\+ gender = classification of noun (controller) reflected by agreement on another word (target) (cf. Corbett 1991 etc.)
- but very often also other features in agreement system, most often conflated with number
> full understanding of gender system requires that all agreement factors other than gender are analyzed exhaustively and “subtracted”: **Gender = Agreement minus Number et al.**

\+ agreement of target(s) with a nominal controller determined by:
- semantic properties mostly of a noun lexeme as an abstract item in the lexicon AND
- formal properties of a concrete noun form in the grammatical agreement context

> 4 concepts (cf. Corbett 1991, 2006; Evans, Brown and Corbett 1998; Güldemann 2000):

a) AGREEMENT CLASS (abbreviated here as AGR) = class of concrete nominal forms based on account of identical behavior across all agreement contexts,
!!! irrespective of number value, conflated reflex of diverse agreement features

b) GENDER (CLASS) = class of nouns in the lexicon - central target of analysis

c) NOMINAL FORM CLASS (abbreviated here as NF): = class of concrete nominal forms based on account of identical properties in their own morpho(phono)logical form,
!!! irrespective of number value, often determines so-called “formal” agreement

d) DERIFLECTION (CLASS): = class of nouns in the lexicon established on account of their morpho(phono)logical variation in terms of number, gender, case, etc.

Relates to:	Concrete noun in a morpho-syntactic context = word form	Abstract noun in the lexicon = lexeme
Syntax	a. AGREEMENT CLASS (abbreviated as AGR and Arabic number)	b. GENDER
Morpho(pho-no)logy	c. NOMINAL FORM CLASS (abbreviated as NF)	d. **DERIFLECTION**

Table 1: The four concepts used for analyzing gender systems

1.2 Major project goals

> two main research foci:

a) (cross-African) typology

b) historical-comparison of Niger-Congo

Typology

	(I) Genders sex-based	(II) Genders not sex-based
(A) AGR strongly number-specific	"Khoisan" other than Non-Khoe, most Afroasiatic (except Cushitic), parts of "Nilo-Saharan" (Eastern Nilotic, Daju)	Bantu and much of the rest of Niger-Congo, most Kordofanian
(B) AGR weakly number-specific	Cushitic, Kadu	Non-Khoe "Khoisan" (= Kx'a and Tuu)

Table 2: Typology of African gender systems based on two features (after Güldemann 2000: 28)

+ unitary assessment of the organizational principles of gender systems in African languages in order to refine the cross-linguistic typology, particularly in relation to number and the associated deriflection system > **"tripartite number" (Ph.D. Jan Junglas)**

+ previous work on: Kx'a + Tuu (Kalahari Basin, BII); Kadu (Nuba Mountains, apparently BI but in fact AI); some Niger-Congo (unexpectedly also B-type characteristics - see below)

Comparative Niger-Congo

+ establishment of a more reliable historical-comparative analysis of the gender and deriflection systems in the core of Niger-Congo but beyond BANTOID by analyzing languages according to above approach and reconstructing earlier proto-stages at different levels > among others **Mel (Ph.D. Michael Schulze)**

- shed more light on the dynamics and ultimate origin of its "noun class" system
- refine the Niger-Congo classification based on this diagnostic morphosyntactic evidence but at the level of more robust lineages (**see Appendix Table A1**)
- assess the status of problematic "members" of Niger-Kordofanian (Dogon, Kordofanian, ...)

+ work already carried out on:

BENUE-KWA: KAINJI-PLATOID, CROSS RIVER, Nupoid, *Ikaan*, Potou-Tano, GHANA-TOGO-MOUNTAIN, *Ega*

ATLANTIC: Fula-Sereer, Cangin, *Limba*

GUR: *Miyobe* etc.

UBANGI: Mbaic

> **Fiedler and Güldemann (eds., forthcoming)**: 6 Niger-Congo and 3 other languages

> **Fiedler, Junglas and Schulze (eds., forthcoming):** 8 Gur languages/groups

2 Niger-Congo gender and the "noun class" concept

2.1 Agreement vs. nominal form classes

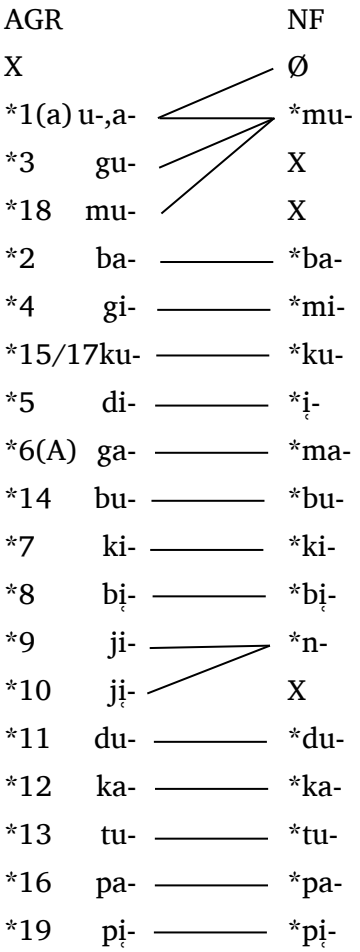
+ philological Niger-Congo "noun class" concept conflates agreement and nominal form class, which hampers description, analysis, reconstruction, and typological appreciation of Niger-Congo noun classification, particularly outside Bantu

+ cf. Swahili

(1)a.	***m****-toto*	***yu****-le*	***m****-moja*	***a****-me-anguka*
	M(W)-child(**1**)	**1**-D.DEM	**1**-one	**1**-PERF-fall
	‘that one child has fallen’			
b.	***wa****-toto*	***wa****-le*	***wa****-wili*	***wa****-me-anguka*
	W(A)-child(**2**)	**2**-D.DEM	**2**-two	**2**-PERF-fall
	‘those two children have fallen’			
(2)a.	*rafiki*	***yu****-le*	***m****-moja*	***a****-me-anguka*
	Ø:friend(**1**)	**1**-D.DEM	**1**-one	**1**-PERF-fall
	‘that one friend has fallen’			
b.	***ma****-rafiki*	***wa****-le*	***wa****-wili*	***wa****-me-anguka*
	MA-friend(**2**)	**2**-D.DEM	**2**-two	**2**-PERF-fall
	‘those two friends have fallen’			
(3)a.	***m****-ti*	***u****-le*	***m****-moja*	***u****-me-anguka*
	M(W)-tree(**3**)	**3**-D.DEM	**3**-one	**3**-PERF-fall
	‘that one tree has fallen’			
b.	***mi****-ti*	***i****-le*	***mi****-wili*	***i****-me-anguka*
	MI-tree(**4**)	**4**-D.DEM	**4**-two	**4**-PERF-fall
	‘those two trees have fallen’			

- "noun class" as a 1-to-1 relation between agreement and nominal form class: W(A) vs. 2
- but: a) one nominal form with more than one agreement counterpart: M(W) vs. 1 and 3
  b) one agreement with more than one nominal form counterpart: 1 vs. M(W) and Ø

+ Proto-Bantu is the prime model for assessing other Niger-Congo gender systems with reference to detailed reconstruction of its “noun class” system (e.g., Meeussen 1967: 96-9)
> independent of the adequacy of the reconstruction, the detailed information allows one to establish a close approximation to the original situation regarding:
a) mapping of agreement classes and nominal form classes
b) gender system based on agreement classes
c) deriflection system based on nominal form classes



Note: X = no independent agreement class counterpart

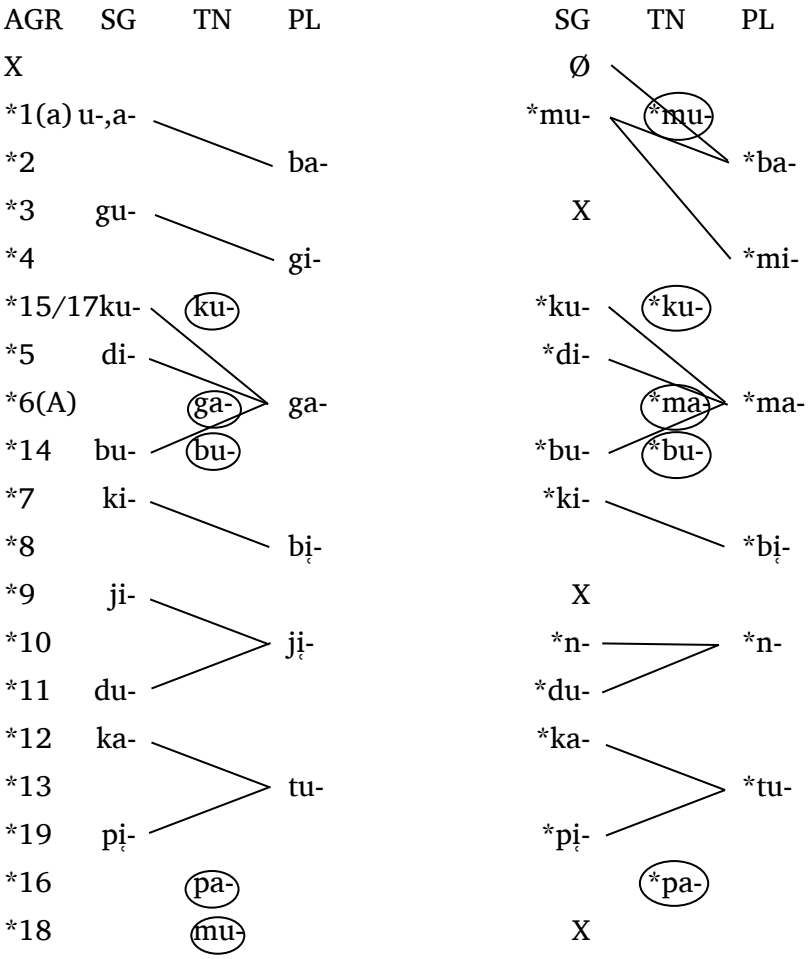
Figure 1: Mapping of agreement classes and nominal form classes in Proto-Bantu

\+ mapping of agreement classes and nominal form classes in Figure 5:

- different number of 18 agreement classes vs. 16 nominal form classes
- strongly but not absolutely alliterative (and more importantly) with a one-to-one relation:

    2 cases where one nominal form class matches more than one agreement class

    1 case where one agreement class matches more than one nominal form class



Note: X = no independent counterpart in the other class type

Figure 2: Gender system (left) vs. deriflection system (right) of Proto-Bantu

+ despite strong one-to-one alliterative mapping in Figure 1 difference between gender and deriflection systems in Figure 2:

- gender system: 18 agreement classes, “convergent”, 10 class-pair genders vs.
- deriflection system: 16 nominal form classes, “crossed”, 11 number alternations

> **Güldemann and Fiedler (2019)**

2.2 Classes and increased divergence

+ recent research, notably by Fedden and Corbett (2017), identifies several cases where noun classification is conveyed by two "concurrent" systems in the specific sense of being functionally parallel but overall (largely) independent against the “No-concurrent-feature conjecture” (Round and Corbett 2017: 57): classifiers + genders (e.g., Nanti, Pnar, Mian), two distinct gender systems (e.g., Paumarí, Michif)

> criteria for identifying two separate systems:

(i) the degree to which the semantics of the two systems are orthogonal to each other, …

(ii) the degree to which their means of realization are different. (Corbett, F. and F. 2017: 215)

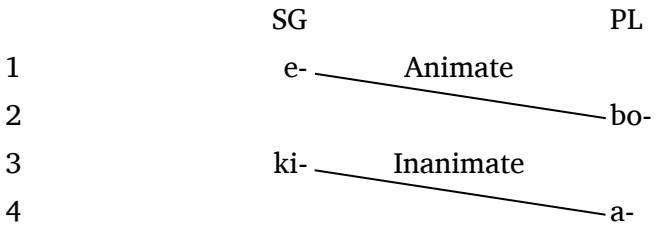
+ (partial) reduction of inherited Niger-Congo noun classification system widespread
> notably, gender system more innovative and locus of reorganization/simplification while deriflection system more conservative and remains complex, pace claim below:

> Though the gender system is minimally functional, the agreement system is still productive, indicating a primacy of concord over nominal marking. (Demuth, Faraclas and Marchese (1986: 462) on Kru and Cross-River)

> while both systems were once similar and complex, synchronically, deriflection systems in Niger-Congo are so far regularly more complex, or at least not simpler, than the associated gender systems in terms of inventory as well as systemic structure

The example of Gonja

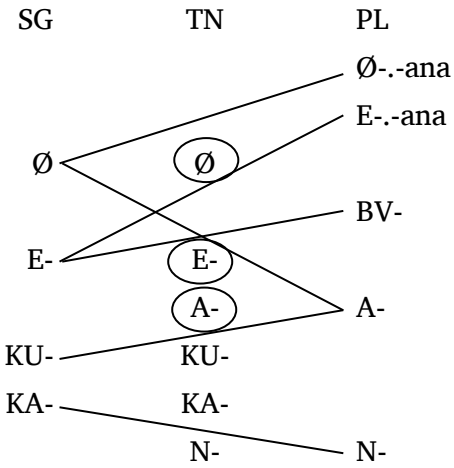
+ "parallel" gender system of two genders for animates and inanimates based on four agreement classes:



Note: exponents represented by subject pronouns

Figure 3: Gender system of Gonja (after Painter 1970)

+ complex system of nine nominal form classes formed by 6 nominal prefixes and the plural suffix *-ana*, Ø-marked nouns
> number mapping of NF classes establishes 6 paired and 3 non-paired deriflections (KU-, KA- are singularia and N- pluralia tantum) forming a complex "crossed" deriflection system



Note: inventory disregards exceptional "inquorate" patterns

Figure 4: Deriflection system of Gonja (after Painter 1970)

> several deriflections have clear semantic cores, also evident by regular assignment of derivations (4) and integrated loans with deriflection Ø-/A- but variable agreement (5)

(4)	KA-/N-:	group membership	*kà-málbà* /	*m̀-málbà*	‘Hausa person’
	E-/BV-:	nomina agentis	*é-dɔ́-pò* /	*bú-dɔ́-pò*	‘farmer’ < *dɔ* ‘to farm’
	KU-:	verbal noun	*kʊ́-dɔ́*		‘farming’ < *dɔ* ‘to farm’

(5)	Ø-/A-:	animate gender	*Ø-tícà* /	*á-tícà*	‘teacher’
	Ø-/A-:	inanimate gender	*Ø-tébùl* /	*à-tébùl*	‘table’

- special type of nominal classification as previously anticipated:

> Nonagreeing classification. In many languages there are distinct declension classes of nouns, or other formal classes of nouns, which can sometimes be associated with semantic categories like those involved in gender and other kinds of classification but which never involve agreement, selection, or other formal response. (Nichols 1992: 134)

Niger-Congo and typology of concurrency

Niger-Congo subgroup	Example language	Country
Central Gur	Koromfe	Burkina Faso
Samuic	Samu	Burkina Faso
Tusian	Win	Burkina Faso
Potou-Tano, Tano	Akan	Ghana
Potou-Tano, Guang	Gonja	Ghana
Ghana-Togo-Mountain, Ka-Togo	Animere	Ghana
Nupoid	Gade	Nigeria
Bantoid, Non-Bantu, Grassfields	Medumba	Cameroon
Bantoid, Bantu, Zone B	Nzadi	DR Congo
Bantoid, Bantu, Zone D	Beke	DR Congo

Table 3: (Candidate) cases of concurrent noun classification in Niger-Congo

\+ concurrent classification systems arise by means of two opposite scenarios:
a) two different systems emerge in different morpho-syntactic contexts: accounts for most cases of concurrent systems identified so far (all cases reported up to now)
b) one originally unitary system diversifies in different morpho-syntactic domains: principal scenario in Niger-Congo, contingent on the design of its inherited classification system with originally strong parallels between syntactic agreement and morphological deriflection
> **Güldemann and Fiedler (submitted)**

2.3 Classes dedicated to gender and number?

+ stereotype of agreement (and nominal form) classes as dedicated to gender and number
- largely assumed on the basis of Indo-European patterns
> responsible for Corbett's (1991) complex conceptual and terminological machinery of "controller gender", "target gender", "agreement class", and "consistent agreement pattern"

Value-sensitivity of classes

+ typologically attested systems with agreement classes that are overall poorly dedicated to gender and/or number > Güldemann (2000) on Kx'a and Tuu ("Non-Khoe Khoisan")

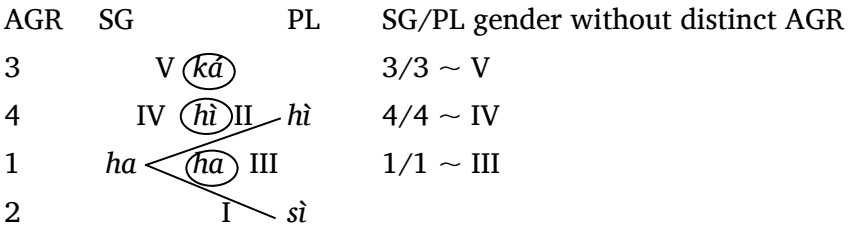


Figure 5: Gender system in Ju|'hoan (after Dickens 2005)

Niger-Congo classes and their reference to number

+ stereotype of agreement (and nominal form) classes as forming pairs over two numbers
- Niger-Congo data do not confirm a simple generalized singular-plural distinction and the dedication of classes to either of the two values

- crucial neglect of transnumeral nouns (mass nouns, personal names, etc.) and their agreement behavior
> all agreement classes have transnumeral use in Lelemi (GTM)

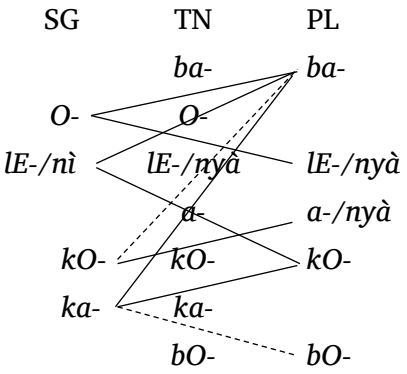


Figure 6: Gender system of Lelemi (after Allan 1973, Güldemann and Fiedler 2019)

- four agreement classes insensitive to number in Limba (ATLANTIC) - cf. Figure 5!!!

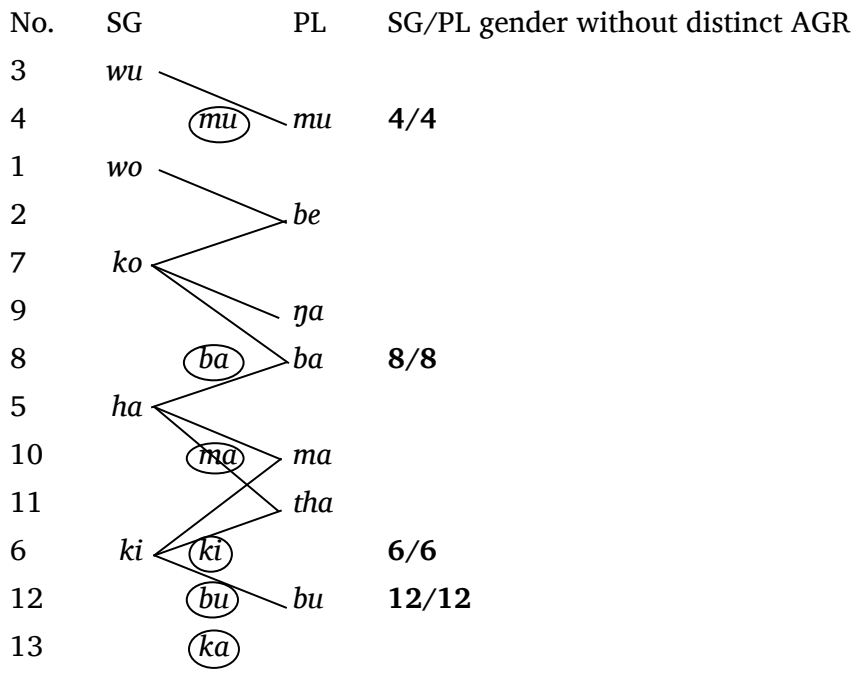


Figure 7: Gender system of Limba (after Berry 1958)

(6)

a.	*ku-gbeke*	*gbekeŋ*		
	KU-arm	arm:P		
	arm	arms	(gender 7/2)	
b.	*baŋka*	*baŋkɛŋ*		
	house	house:P		
	house	houses	(gender 8/8)	
c.	*ŋ-kala*	*ŋ-kalɛŋ*		
	N-rope	N-rope:P		
	rope	ropes	(gender 6/6)	(Berry 1958: 170, 171, 172)

> possibly a large portion of agreement and nominal form classes in Niger-Congo were number-unspecific and developed a number value only later, depending on the semantics of a class (cf. Denny and Creider (1986) on Proto-Bantu!)

2.4 Classes with bound exponence?

+ focus on class exponents in Bantu (and some other Niger-Congo groups) where they are:

- phonologically bound to a host rather than being classifier-like free forms
- lexically tied to a noun lexeme > obligatory overt nominal form class marking

> overall neglect of synchronic analysis of nouns without class affixes like proper names, loan words etc. despite their important and partly diagnostic role in the system

+ widely overlooked view by Greenberg (1977: 102) on free status of class markers:

> Our answer, then, to the question posed in the title of this paper is that the class marker was neither a prefix or a suffix but varied in its order and became fixed as it developed into an article, ...

+ extensive evidence outside Bantu that class markers cannot unambiguously reconstructed as morphemes that are universally bound to a specific lexical host - selected evidence:
> "normal" nouns recurrently used without class affix, e.g., in Gola (ATLANTIC):

(7) *ɓɛɛ* *fela-ɔ*
trouser man-1
the man's trouser (Koroma 1994: 192)

> single class affix has scope over complex expression with more than one noun lexeme - e.g., in Rigwe (KANJI-PLATOID, BENUE-KWA) compounds:

(8) ***ì**-kpɛ̀* + ***kə**-nú* > ***ì**-kpɛ̀-nù*
CL-skin CL-mouth CL-skin-mouth
skin mouth lip (Gerhardt 1988: 72)

- e.g., in Mbane (Mbaic, UBANGI) noun-modifier structures:

(9)a. *gá-**lɛ̀***
tree-3
tree
b. *gá-yáólò-**lè***
tree-light-3
light tree (Pasch 1986: 157)

> class affix restricted to contexts without class marking, e.g., in C'Lela: *k-tɛ̀lɛ̀* 'bone'

(10)a. *tɛ̀l* ***kə**-hnà* *tɛ̀l* ***kə**-nè*
bone <CL-this bone <CL-DEF
this bone the bone
b. *tɛ̀l* ***kâ**-d-cìnə̀* *tɛ̀l* ***kán*** *tɔ̀rɔ́*
bone <CL:GEN-CL-back bone <CL:COMPD neck
spine [lit.: bone of the back] collar-bone
c. *tɛ̀l* ***k**-pús-**k(ə)**-ní*
bone <CL-white-<CL-ADJ
white bone (Hoffmann 1967: 244, 247, 249, 250, 251)

+ class suffixes can be shown in general to be the later result of grammaticalization from a state with prenominal class marking or without adnominal class marking
> **Güldemann et al. (in prep.)**

2.5 Classes as earlier classifiers: the origin of the Niger-Congo system

+ Grinevald and Seifart (2004) observe the similar semantic and inventory profile of Niger-Congo classes to nominal classifiers in languages of Amazonia and (South)east Asia but conclude at the same time:

> All the available evidence points to an old age of Niger-Congo classification systems. The classification system reconstructed for Proto-Bantu is very similar, in all respects, to the systems of many modern Bantu languages. As for Niger-Congo, there is so far no real reconstruction of a proto-language, but the other branches of Niger-Congo do not seem to provide **any evidence supporting the reconstruction of a less grammaticalized noun class system at the level of Niger-Congo languages**. Noun class systems that are somehow "incomplete" in comparison with the Bantu prototype are very common in various branches of Niger-Congo. However, it is clear that these systems are not emerging class systems, but rather the result of the disintegration of former systems of the Bantu type. (ibid.: 256, **our bolding**)

> Noun class systems of Niger-Congo languages do not seem, however, to have preserved **any trace of stages of evolution in which they would have been characterized by a lesser degree of grammaticalization** than the one at which they have been reconstructed in Proto-Bantu. (ibid.: 257)

+ growing evidence from across Niger-Congo that class markers were originally:
a) not dedicated/sensitive to number > §2.3
b) not fixed parts of a phonological word based on a noun lexeme > §2.4
The Proto-Niger-Congo "noun class" system was probably a noun classifier system that had just turned into a gender system by the innovation of alliterative class agreement.
cf. Reid (1997) and Seifart (2005) for cross-linguistic precedents in Australia and Amazonia, and Kießling (2013) for the local relevance of classifiers in the Macro-Sudan Belt
> **Güldemann and Merrill (in prep.)**

Abbreviations

AGR agreement (class), COMPD compound, NF nominal form (class), TN transnumeral
otherwise: Leipzig glossing rules

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Appendix

+ Mande and Ijoid excluded

Language pools	No.	Primary unit and sub-unit	AGR class	NF class	Project phase
U6 BENUE-KWA	1	A BANTOID	YES	YES	-
	2	B CROSS RIVER	YES	YES	I
	3	C KAINJI-PLATOID	YES	YES	I
	4	D Igboid	NO	(YES)	II
	5	E Idomoid	(YES)	(YES)	I
	6	F Nupoid	(YES)	(YES)	II
	7	G Edoid	YES	YES	I
	8	H Akpes	NO	(YES)	II
	9	I Ukaan	YES	YES	I
	10	J Oko	NO	(YES)	II
	11	K Akokoid	NO	(YES)	II
	12	L Ayere-Ahan	NO	(YES)	II
	13	M Yoruboid	NO	(YES)	II
	14	N Gbe	NO	(YES)	II
	15	O GHANA-TOGO-M.	YES	YES	I
	16	P Potou-Tano	(YES)	YES	I
	17	Q Ga-Adangme	NO	(YES)	II
	18	R LAGOON	NO	YES	II
	19	S Ega	YES	YES	I
	20	U7 Dakoid	?	?	
U9 Kru	21	A (Narrow) Kru	YES	YES	II
	22	B Siamou	NO	NO	-
	23	U10 Pɛrɛ	NO	NO	-
U11 ATLANTIC	24	A (NARROW) ATLANTIC	YES	YES	I
	25	B Mel	YES	YES	I
	26	C Gola	YES	YES	I
	27	D Limba	YES	YES	I
	28	E Sua	YES	YES	I
	29	F Nalu	(YES)	(YES)	I
	30	G Rio Nunez	(YES)	YES	I
	31	U13 Dogon	(YES)	(YES)	II
	32	U14 Bangime	NO	NO	-

U15 GUR	33	A (Central) Gur	YES	YES	I
	34	B Kulangoic	(YES)	YES	I
	35	C Samuic	(YES)	(YES)	I
	36	D Tiefo	(YES)	YES	I
	37	E Viemo	YES	YES	I
	38	F Tusian	(YES)	YES	I
	39	G Senufo	YES	YES	I
	40	H Miyobe	YES	YES	I
U16 ADAMAWA	41	A Tula-Waja	YES	YES	I
	44	B Longuda	YES	YES	I
	45	C Bena-Mboi	YES	YES	I
	46	D Bikwin-Jen	NO	NO	-
	47	E Samba-Duru	YES	YES	I
	48	F Mumuyic	NO	NO	-
	49	G Maya~Yendangic	NO	YES	II
	50	H Kebi-Benue	NO	YES	II
	51	I Kimic	NO	NO	-
	52	J Buaic	NO	YES	II
	53	K Day	NO	NO	-
	54	L Baa (Kwa)	NO	NO	-
	55	M Kam	NO	NO	-
	56	N Fali	NO	NO	-
U17 UBANGI	57	A Gbayaic	NO	NO	-
	58	B Zandic	NO	NO	-
	59	C Mbaic	YES	YES	I
	60	D Mundu-Baka	NO	NO	-
	61	E Ngbandic	NO	NO	-
	62	F Bandaic	NO	NO	-
	63	G Ndogoic	NO	NO	-
U18 KORDOF.	64	A Heibanic	YES	YES	II
	65	B Talodic	YES	YES	II
	66	C Lafofa	YES	YES	II
	67	D Rashadic	YES	YES	II
	68	U19 Katlaic	NO	(YES)	II

Note: LANGUAGE POOLS rather than established lineages

Table A1: Niger-Kordofanian subgroups (after Güldemann 2018) and nominal classification