4 African language families in space and time

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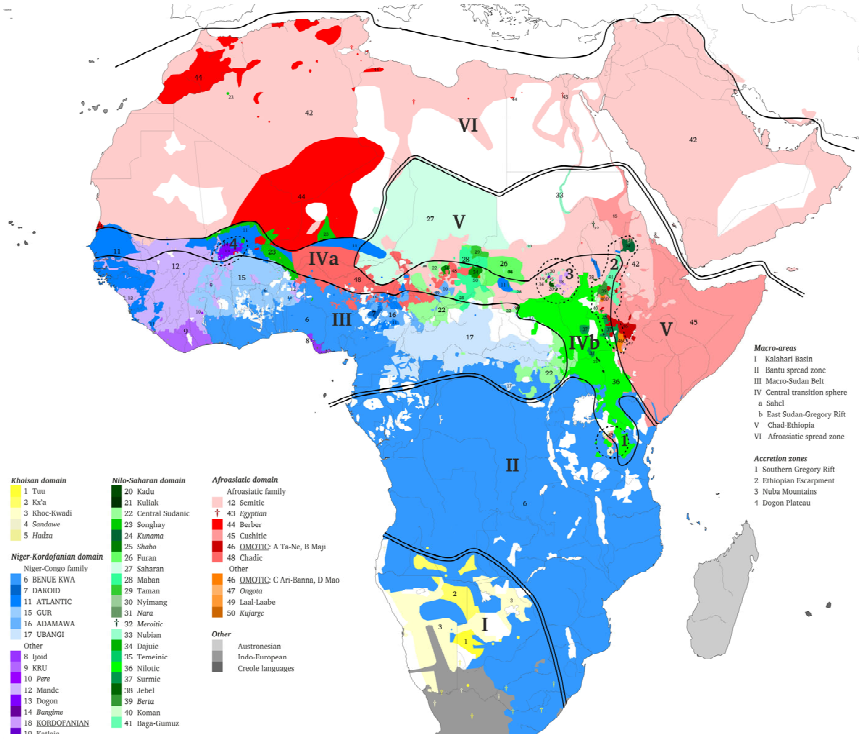
1 Introduction

Macro-area	Core classificatory unit(s)	Peripheral classificatory units
I Kalahari Basin	Tuu (U1)/ Kx'a (U2)/ Khoe-Kwadi (U3)	*NIGER-CONGO*: **Bantu** of BENUE-KWA (U6)
II Bantu spread zone	*NIGER-CONGO*: **Bantu** of BENUE-KWA (U6)	-
III Macro-Sudan belt	Central Sudanic (U22)/ Ijoid (U8)/ *NIGER-CONGO*: UBANGI (U17), DAKOID (U7), BENUE-KWA (U6), ADAMAWA (U16), GUR (U15)/ KRU (U9)/ *Pere* (U10)/ **Mande** (U12)	**Songhay** (U23)/ *AFROASIATIC*: **Chadic** (48)/ *NILOTIC-SURMIC*: **Nilotic** (U36)/ *NIGER-CONGO*: **Bantu** of BENUE-KWA (U6), ATLANTIC (U11)
IVa Sahel	**Songhay** (U23)/ *AFROASIATIC*: **Chadic** (U48), *Arabic* of **Semitic** (U42)/ Dajuic (U34)	**Mande** (U12)/ Dogon (U13)/ *Bangime* (U14)/ Laal-Labe (U49)/ *Kujarge* (U50)
IVb East Sudan-Gregory Rift	*NILOTIC-SURMIC*: **Nilotic** (U36), **Surmic** (U37)	KORDOFANIAN (U18)/ Katlaic (U19)/ Kadu (U20)/ Temeinic (U35)/ Jebel (U38)/ *Berta* (U39)/ Koman (U40)/ Baga (U41)/ Kuliak (U21)/ *Hadza* (U5)/ *Sandawe* (U4)/ *AFROASIATIC*: **Cushitic** (U45)
V Chad-Ethiopia	Saharan (U27)/ Furan (U26)/ Maban (U28)/ *(WADI HOWAR)*: Taman (U29), Nyimang (U30), *Nara* (U31), *Meroitic* (U32), Nubian (U33)/ *Kunama* (U24)/ *AFROASIATIC*: Ethiosemitic of **Semitic** (U42), **Cushitic** (U45), Ta-Ne (U46.A) + Maji (U46.B) of OMOTIC/ Ari-Banna (U46.C) of OMOTIC	? *Shabo* (U25)/ ? Mao (U46.D) of OMOTIC/ ? *Ongota* (U47)/ *NILOTIC-SURMIC*: **Surmic** (U37)
VI Afroasiatic spread zone	*AFROASIATIC*: *Egyptian-Coptic* (U43), Berber (U44), **Semitic** (U42)	**Songhay** (U23)

Notes: GENEALOGICAL POOL; AREAL POOL; *Single-language unit*; *(POSSIBLE) HIGHER-ORDER FAMILY*; **Lineage in more than one area;** / separates independent units

Table 1: Basic classificatory units and macro-areas in Afrabia



Map 1: Basic classificatory units, genealogical relations and macro-areal profile in Africa (Güldemann 2018)

+ bolded (sub)families in Table 1 with multiple presence in different macro-areas:
  - the two major families: Afroasiatic ~ **!!!Semitic**, Niger-Congo ~ **!!!Bantu**
  - three other geographically larger families: Mande, Songhay, Nilotic-Surmic

> What consequences does the multiple areal distribution have for the relevant lineages?

2 Khoe-Kwadi-?Sandawe

2.1 Introduction

+ a "balanced" historical approach that takes inheritanceand convergence simultaneously into account starts out in the Kalahari Basin with three robust families:
  a) Tuu (U1) (Güldemann 2005)
  b) Kx'a (U2) (Heine and Honken 2010)
  c) Khoe-Kwadi (U3) (Voßen 1997, Güldemann 2004, Güldemann and Elderkin 2010)

> historical relationships beyond these three families have equivocal interpretations

+ necessity of identifying and reconstructing the scenario(s) of potential contact-induced change in comparison to proto-stages from the most recent to the earlier events

> **"peeling the onion"**

- approach in the Kalahari Basin leads to the hypothesis that Khoe-Kwadi is a colonizing lineage in connection with the spread of pastoralism and was subject to several major contact episodes with local Kx'a and Tuu (Güldemann 2008, forthc.):
  a) Pre-Khoe + Kx'a > Proto-Khoe
  b) Pre-Khoekhoe + Tuu > Proto-Khoekhoe

2.2 Khoekhoe and Tuu in the Cape

+ Güldemann (2002, 2006): strong Tuu substrate in the Khoekhoe branch within the Cape linguistic area involving inter alia structural change and grammatical borrowing

Person	Common gender	Feminine gender	Masculine gender	Number
1st	*tíí -ta*			Singular
2nd		*saá -s*	*saá -ts*	
3rd	***ǁ'ĨI*** *-ʔì*	***ǁ'ĨI*** *-s*	***ǁ'ĨI*** *-p*	
1st Exclusive	***SIÎ*** *-m̀*	***SIÎ*** *-m̀*	***SIÎ*** *-kxm̀*	Dual
1st Inclusive	*saá -m̀*	*saá -m̀*	*saá -kxm̀*	
2nd	*saá -rò*	*saá -rò*	*saá -kxò*	
3rd	***ǁ'ĨI*** *-rà*	***ǁ'ĨI*** *-rà*	***ǁ'ĨI*** *-kxà*	
1st Exclusive	***SIÎ*** *-tà*	***SIÎ*** *-se*	***SIÎ*** *-ke*	Plural
1st Inclusive	*saá -tà*	*saá -se*	*saá -ke*	
2nd	*saá -tù*	*saá -so*	*saá -ko*	
3rd	***ǁ'ĨI*** *-ǹ*	***ǁ'ĨI*** *-tì*	***ǁ'ĨI*** *-ku*	

Note: **BOLD CAPITALS** = elements proposed to be borrowed from Tuu (all other elements inherited from Proto-Khoe)

Table 2: Independent pronouns of Standard Khoekhoe (Güldemann 2004)

2.3 Khoe and Kx'a in the northern Kalahari Basin

+ Güldemann (2004, 2019): strong Kx'a substrate in the Khoe branch within the northern Kalahari Basin involving inter alia structural change and grammatical borrowing

Person	Common gender	Feminine gender	Masculine gender	Number
1st	*ti, *ta			Singular
2nd		*sa	*tsa	
3rd		*si	*bi	
1st	*kho.m	*m	*m	Dual
2nd	*kho.d.o	*d.o	*d.o	
3rd	*kho.da	*da	*da	
1st	*ta.**E**	*sa.**E**	***!A.E**	Plural
2nd	*ta.o	*sa.o	***!A.**o	
3rd	*ni	***DI**	***!.**u(a)	

Note: **BOLD CAPITALS** = elements proposed to be borrowed from Kx'a (all other elements but *ni presumably inherited from Proto-Khoe-Kwadi)

Table 3: The reconstructed PGN system of Proto-Khoe (Güldemann 2004)

	Proto-Khoe	Southeast Ju (Kx'a)	ǂ'Amkoe (Kx'a)
1	*!a in all M.P	*!a* = plural marker on pronouns	*!ã* in 1P
2	*-e in all 1P	*e* = 1P.E	*'e* in 1P
3	*!a.e = 1M.P	*e-!a* = 1P.E-P	*!ã.'e* = 1P
4	*di = 3F.P	*-dí* = female derivation suffix	–

Table 4: Comparable pronominal items between Proto-Khoe and Ju + ǂ'Amkoe (Kx'a) (Güldemann 2019)

2.4 Khoe-Kwadi and Sandawe in High Africa

+ Güldemann (2008, forth.): Pre-/Proto-Khoe-Kwadi entered southern Africa as the language of the first pastoralists

- several exclusive affinities of Khoe-Kwadi not with its areal neighbors in the Kalahari Basin but with languages in East Africa (Heine and Voßen 1981, Güldemann 2013)

> two hypotheses that are compatible with each other

+ areal relationship within macro-area High Africa (submerged by Bantu spread)

- both Khoe-Kwadi and Sandawe (U4) have, among other things, head-final word order profiles that are as such unique in the Kalahari Basin and East Africa

> this and the phonological features of High Africa may point to a specific, yet more ancient link to the Horn of Africa as the eastern portion of Chad-Ethiopia (V)

+ possible genealogical link to Sandawe in a promising Khoe-Kwadi-Sandawe family

Person			Minimal or -Augmented	+Augmented
1+2	= +Speaker/+Hearer	Inclusive	*mu	?
1	= +Speaker/-Hearer	Exclusive	*ti, *ta	?
2	= -Speaker/+Hearer		*sa	*o or u
3	= -Speaker/-Hearer	Masculine	stem† = (?)-*V[front] ‡	stem† = (?)-*u ‡
		Feminine	stem† = *sV[front] ‡	stem† = (?)-*V[front] ‡

Note: ? no plausible reflex in both Khoe and Kwadi, † generic noun root *kho or deictics like *xa, ‡ also used as gender-number index on nouns

Table 5: The reconstructed pronoun system of Proto-Khoe-Kwadi (Güldemann 2004)

	Pronominal element	Proto-Khoe-Kwadi	Sandawe
1	1st person singular pronoun	*ti (Kwadi *tʃi*)	*tsi*
2	2nd person singular pronoun	*sa	*ha-*
3	3rd person pronoun base	*xa- (Kwadi *ha-*)	*he-*
4	3rd person masculine singular suffix	*-V[front] (Khoe *-bV[front], *-mV[front])	*-w(e), -m*
5	3rd person feminine singular suffix	*-V[front] (Khoe *-sV[front])	*-su*

Table 6: Affinities between pronoun elements in Proto-Khoe-Kwadi and Sandawe

3 Families in the Central transition sphere

3.1 Mande between Sahel and Macro-Sudan Belt

+ equivocal Niger-Congo affiliation (cf. Köhler 1973/4, Dimmendaal 2011)
+ family straddling two macro-areas: Sahel (IVa) and Macro-Sudan Belt (III)
+ old contact in the north(east), notably:
a) around the Dogon Plateau (Hammarström 2010)
b) Songhay (Mukarovsky 1965, 1966; Nicolaï 1977, 1984, 2006; Creissels 1981)
+ extensive evidence of expansion, likely from a homeland in the north (cf. Vydrin 2009)
+ contact with (and marginalization of) other language groups in the south(west), notably:
a) Atlantic (U11) (cf. Childs 2004, 2010a, b, Vydrin 2007; Cobbinah 2010; Juillard 2010)
b) Kru (U9) (cf. Vydrin 2004, 2008)
> substrate-induced features in (mostly Southern, South-Eastern and Eastern) Mande, e.g.:
- phonological adaptation (Vydrin 2004, 2008)
- STAMP morphs (Vydrin 2008, Konoshenko 2014)
> Mande as major component of “Upper-Guinean Coast Sprachbund” (Vydrin 2008) - with structural effects similar to "becoming Kwa" further east

Isolated language family from the green Sahara that was pushed south into the Sahel and later expanded further in the Macro-Sudan Belt?

3.2 Songhay in the Sahel and beyond

+ rejected as Nilo-Saharan (Lacroix 1971, Nicolaï 2003, Zima 2007, Dimmendaal 2011)
+ early contact with Mande, Gur, and possibly even Chadic (Mukarovsky 1965, 1966; Nicolaï 1977, 1984, 2006; Creissels 1981; Zima 1988, 1990, 1995; Souag 2012)
+ family divided between three macro-areas: Afroasiatic spread zone (VI), Sahel (IVa) and peripherally Macro-Sudan Belt (III)
- subclassification and history (Souag 2012, 2015a, b):
a) Eastern Songhay as the internally diverse core in the Sahel, and to a lesser extent the Macro-Sudan Belt (relevant features: S-AUX-O-V-X, labial-velar)
b) Northwest as the earliest split-off comprising:
- Northern Songhay in Afroasiatic spread zone with heavy Berber adstrate
- Western Songhay in Sahel with some restructuring due to vehicularization
> secondary contact of Eastern and Western Songhay ?in connection with Songhay Empire

Isolated language family from the green Sahara that was pushed south into the Sahel and Macro-Sudan Belt and later returned north into the Afroasiatic spread zone?

3.3 Nilotic-Surmic in the East Sudan-Gregory Rift

+ Nilotic-Surmic as East Sudanic (and Nilo-Saharan) as well as Dimmendaal's (2005, 2008) assumed typological change from head-final to head-initial profile are equivocal
+ internal classification: Nilotic into West vs. South vs. East; Surmic into Majang vs. Core comprising West+East; Majang status unclear; internal contacts (Dimmendaal 1982)
+ various processes of areal adaptation:
a) Chad-Ethiopia (V): Eastern Core Surmic in contact with Omotic - syntactic restructuring (cf., e.g., Dimmendaal 1998a, b)
b) Gregory Rift~East Africa (IVb): early perception of split of "Proper" = West Nilotic vs. "Nilo-Hamitic" aka "Para-Nilotic " = East+South Nilotic, latter shown to have been in contact with Kuliak and Cushitic, including substrate interference (cf., e.g., Heine 1976; Heine, Rottland and Voßen 1979; !gender, pace Heine and Voßen 1983)
c) Macro-Sudan Belt (III): both West and East Nilotic in contact with Central Sudanic and Ubangi - occasional occurrence of such features as labial velars (Bari, Alur), logophoricity (Acholi, Lango), minimal-augmented (Nuer), retention of implosives (cf. Dimmendaal 1995; Storch 2003, 2007a, b; Güldemann 2008)
d) Bantu spread zone (II): both South (Kalenjin) and West (Southern Luo) Nilotic in contact with Interlacustrine Bantu - prefixed tense marking with multiple time degrees, classificatory noun prefixes (cf., e.g., Dimmendaal 1995, 2001, 2008, Kuteva 2000)
+ current and possibly original typological profile has parallels in accretion zones 2+3, where also largest internal diversity and possible relative (Temeinic) are found

Language family that originated in the Sudan-South Sudan-Ethiopia border area and expanded in various waves southeast, southwest and particularly south?

4 Afroasiatic

4.1 Major macro-areal splits within Afroasiatic

+ Afroasiatic as the most robust and intact group of Greenberg's (1963) classification
+ 4 major groups whose typological profile correlates with macro-areal alliance
> major historical-comparative question: Which stuctural profile in Afroasiatic is original?

	Macro-area	Word order profile	No.	Classificatory (sub)unit	Inherited morphology
1	IVa Sahel, encroaching on Macro-Sudan	head-initial S-V-O ~ V-S-O	U48	Chadic	**strongly eroded**
2	VI Afroasiatic spread zone, Arabic encroaching on Sahel	head-initial V-S-O	U43	*Egyptian*	eroded
			U44	Berber	largely intact
			U42	Semitic	
3	V Chad-Ethiopia: Horn of Africa	**(head-final) S-O-V**		Ethiosemitic	intact
			U46.A	Ta-Ne	**strongly eroded**
			U46.B	Maji	
			U45	Cushitic core	intact
4	IVb East Sudan-Gregory Rift: 1 Southern Gregory Rift	**(head-final) S-(O)-INFL-(O)-V**		South Cushitic	eroded

Note: Frame = assumed original profile, **Bold = assumed innovation**

Table 7: Macro-areal distribution and (simplified) structural profile of Afroasiatic

4.2 Semitic

+ Arabic with widest distribution, most recent expansion relatively well understood

a) Afroasiatic spread zone (VI): relatively unchanged despite some substrate interference

b) Sahel (IVa): Baggara belt

c) Macro-Sudan Belt (III), East Sudan-Gregory Rift (IVb): pidgin and creole varietsies!

+ Ethiosemitic widely assumed to be an earlier expansion of southern Semitic into Horn of Africa, accompanied by heavy restructuring with a predominant Cushitic substrate

4.3 Chadic in the Sahel

+ distinct character of family motivated by interference from such southern neighbors as Benue-Kwa, Adamawa, and Bongo-Bagirmi (cf., e.g., Jungraithmayr 1987, Zima 1995) and yet earlier contacts with Songhay and Berber (Zima 1988, 1990, 1995)
> Afroasiatic family pushed into Sahel and encroaching later on the Macro-Sudan Belt, similar to Mande and Songhay - alternative to Blench's (1999, 2013) proposal of a close genealogical connection with Cushitic-Omotic via a Wadi Howar migration

4.4 Cushitic and Omotic in the Horn of Africa and beyond

+ several classificatory uncertainties:
  - Beja vs. Cushitic
  - Cushitic~OMOTIC: "West Cushitic" (Greenberg 1963), "Cushomotic" (Bender 1975)
  - coherence of OMOTIC - rather 4 distinct groups: Ta-Ne, Maji, Mao, Ari-Banna
  - OMOTIC as Afroasiatic: Ta-Ne and Maji likelier than Mao and Ari-Banna
+ South Cushitic as reflex of latest southward expansion from the Horn of Africa with restructuring and adaptation in accretion zone 1 (Kießling, Mous and Nurse 2008)
  > geographical gap to core Cushitic explained as Nilotic and Bantu substrate
+ extremely complex contact picture with overall strong signs of areal convergence in Horn of Africa beyond the most recent immigration of Semitic:

a) Cushitic in intensive contact with Semitic (see above), internally (Sasse 1979, 1986), and with OMOTIC (cf. Hayward 2000: 626, Zaugg-Coretti 2009, Treis 2012)

b) OMOTIC with similar contact profile but internally far more diverse - see above

c) Ongota and Shabo: entrenched and still surviving forager lineages beyond potential non-Afroasiatic OMOTIC, also in contact with both Cushitic and OMOTIC

> in view of equivocal classificatory picture, hypothesis of multiple linguistic layers:
Ongota + Shabo + ? < Mao + Ari-Banna < Maji + Ta-Ne < Cushitic < Ethiosemitic

4.5 Discussion

+ my assumptions regarding the distribution of structural groups in Table 7:

a) extensive erosion of inherited morphology is likely to reflect strong contact interference
  > innovative: Horn-of-Africa cluster, Chadic

b) multiple independent restructuring in an area indicates strong persisting local pressure
  > innovative: Horn-of-Africa cluster (at least two events, if not more)

c) little morphological erosion is more likely to go with overall less syntactic restructuring
  > conservative: Afroasiatic-spread-zone cluster

Morphology:	Retention			Loss
Word order:	Head-initial			Head-final
	CONSERVATIVE	---------->		**INNOVATIVE**
Lineages:	Semitic + Berber	Egyptian	Cushitic~Chadic	Ta-Ne + Maji

Figure 1: Afroasiatic lineages on schematic innovation cline

+ two resulting geospatial distribution scenarios for the expansion of Proto-Afroasiatic:

a) close to Nile north of Chad-Ethiopia > most innovation during southward drift

b) close to typologically similar accretion zones 2 + 3 > movement north and then south

> under both hypotheses, typologically different Chad-Ethiopia as a potential barrier but (White) Nile as a likely conducive north-south passage

5 Niger-Congo

5.1 Bantu and the major macro-areal split within Niger-Congo

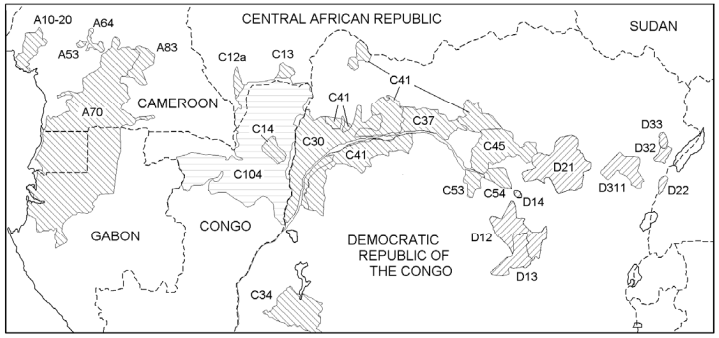
+ Güldemann (2011): primary areal-typological split between Non-Bantu Niger-Congo in Macro-Sudan Belt (III) and Narrow Bantu in Bantu spread zone (II)

a) Bantu characterized by overall absence of Macro-Sudan feature profile

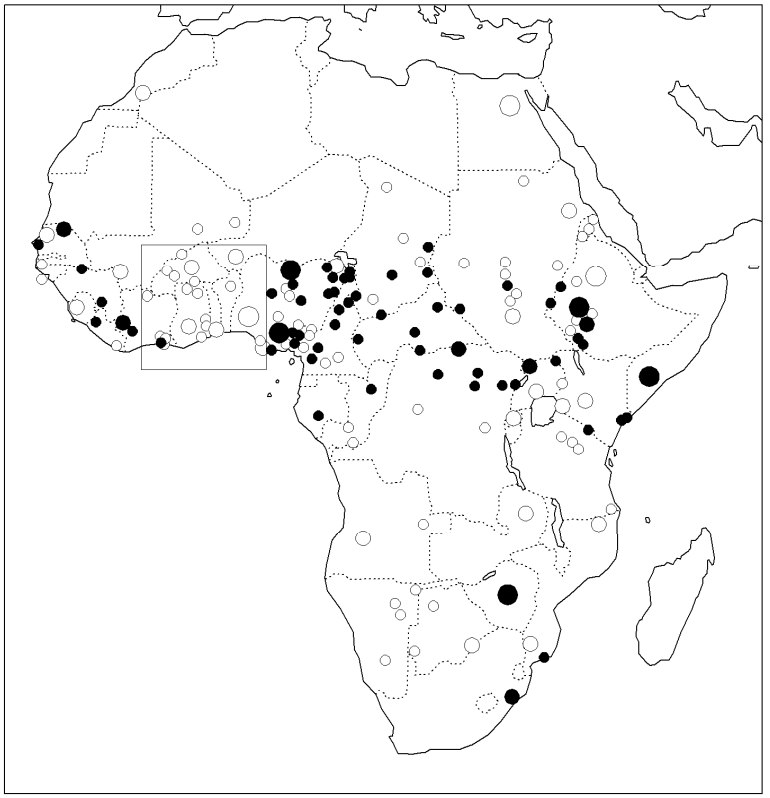
Feature	Macro-Sudan	Bantu
Labial-velars	X	(North)
Implosives	X	(Northwest, East)
Labial flaps	(X)	-
7+ vowel qualities	X	(North)
3+ tone heights	X	(North)
Nasalized vowels	X	(Northwest)
“Lax” question prosody	X	-
“(Sur)pass” comparative	X	X
Logophoricity	X	(North)
Minimal-augmented pronoun system	(X)	(Northwest)
O-V-OTHER	X	(Northwest)
STAMP morph in S:AUX O-V/V-O	X	(Northwest)
Post-V/clause-final NEG	X	(West, Central, East)
Plural word	X	-
Verb serialization	X	-

Table 8: Features of the Macro-Sudan Belt and Narrow Bantu

b) several features appear to have been absent in Proto-Bantu, but were picked up later



Map 2: Labial-velar stops in northern Bantu languages (Clements and Rialland 2008)



Map 3: Voiced implosives in a sample of 150 African languages (Clements and Rialland 2008)

c) Güldemann (2011, 2013), contra Hyman (2011): some features are innovative against Macro-Sudan Belt profile, notably compact predicate structure

d) Bantu spread zone is also tied together by numerous specific isoglosses inherited from proto-language and secondary family-internal convergence (cf. "Bantu nucleus")

+ Grollemund et al. (2015): Bantu underwent an apparently fast and direct migration from the border region of Nigeria/Cameroon through the western area of the modern Central African Rainforest (serveral possible routes, ?through Savannah corridor)

+ Bantu bias: unproportional role as model for Proto-Niger-Congo - in line with Greenberg (1963), low clade in phylogenetic tree with limited role for modelling proto-language

5.2 Geography and Niger-Congo-internal feature distribution

\+ lineages like Ijoid, Siamou, Dogon, Mande etc. are uncertain Niger-Congo members and are better excluded from a first historically oriented family survey

5.2.1 Potentially diagnostic paradigms

\+ alternative reconstructions based more on data from geographically more peripheral groups from ATLANTIC, GUR, ADAMAWA, and (with exceptions) UBANGI

\> apparent preponderance for presumably older Niger-Congo forms in Savannah regions

Source	1S	2S	1P	2P
Güldemann (2017)	*__mV__^{front}	*__mV__^{back}	*__TV__^{close}	*__NV__^{close}
Babaev (2012)	***mi**/ *N=	*wU/*U=	***tI∼*tU**	***nI∼*nU**
Mukarovsky (1976–7)	*(a)**mi**/ *ni	***mu-**/ *-bhi-	***tiu**	***-ni**(a)/ *mui
Westermann (1927)	***mì**/ *na∼ni	-	***tí∼*tú**	-

Table 9: Proposed pronoun paradigms of Proto-Niger-Congo

Source	‘two’	‘three’	‘four’	‘five’
Güldemann	*__Ri__	*__ta(C)__	*__na(C)__	*__nU__
Pozdniakov (2012)	***-di**	***thati**	-	-
Mukarovsky (1976–7)	*-bà.**li**	*-**tháthu**	*-**nán**-/ *-ní(a)-	*-t(s)á.**nu**
Westermann (1927)	*-bà-/*-**gì**/ *-n(i)u(a)	-	*-**na**(n)-/ *-ni	**-nú-**

Table 10: Proposed lower numeral paradigms of Proto-Niger-Congo

Classificatory unit		2S		‘person’					‘five’			‘two’		
Code	Name	*__mV__^{back}		1/2- *__nV__^{front}__tV__^{back} -1/2					*__nU__			*__Ri__		
U16.N	*Fali*	*m*	*u*	-	*n*	*i*	*d*	*u*		-			-	
U16.B	Longuda	m	O	-E/bE	(n)	yI	(r)	Ø	Ø	ny	O-		-	
U16.A	Tula-Waja	m	O	-Ø/b(U)	n	I	(r)	Ø	Ø	n	U-		-	
U15.A	(Oti-Volta)	b	V	-V/ba	n	i	t	(V)	Ø	n	u	Ø	l	e
U6.M	Yoruboid	b’	V	ɔ/ɛ-	n	ĩ	Ø	Ø	rɷ	˜	ã́	Ø	j	ì
U6.I	Ukaan	(h)	O	ɔ̀/à-	n	í	Ø	Ø	tʃɔ̃̀	n	Ṽ	wà	Ø	Ø
U7	(*Samba Daka*)	*w*	*èè*	-	*n*	*èé*	Ø	Ø	*tO*	*(ŋ)*	*o-*	*ba*	*r*	*a*
U6.C	(Ninzic)	?		u/ba-	n	E	t	Ø	tó	ŋ	Ø	pah	Ø	Ø
U6.A	(Ekoid)	?		ǹ/(b)à-	n	è	Ø	Ø	Dɔ̂	n	Ø	ba	(l)	Ø
U6.A	(Bantu)	Ø	u	mu/ba-	n	Ø	t	u	taa	n	o	bV	d	i

Note: (...) = data only from a subentity of the classificatory unit, ? = no data

Table 11: Potential innovations defining a partial Niger-Congo subclassification

5.2.2 Word order

\+ considerable amount of variation between head-initial and head-final word order features

a) Givón (1975, 1979), Hyman (1975), Williamson (1986) etc.: reconstruction of a shift from original head-final to head-initial profile

b) Heine (1975, 1976): argument for of original head-initial profile, substantiated by Heine (1980), Claudi (1993), Heine and Claudi (2001), Güldemann (2007) ∼ diachronic typology (grammaticalization, information structure) > not challenged since then

\+ if originally head-initial, how can head-final features be explained?

a) family-internal pathways toward preverbal objects (see above)

b) language contact between secure Niger-Congo groups and other lineages that are possibly not Niger-Congo but rather indigenous adstrates and which display consistently head-final traits or at least preverbal objects, notably Ijoid and Mande

\+ survey of three word order domains (Appendix Table) - untypical patterns cluster:

a) O-V in transitive clause: Gulf-of-Guinea Coast and in wider Mande sphere

b) noun-genitive order: Gulf-of-Guinea Coast and in wider Mande sphere

c) prenominal modifier: Central Africa with "dependency reversal" (Van de Velde 2012)

\> "head-final" features potentially due to internally and externally induced change in Niger-Congo can account for a considerable amount of Heine's Type-B languages in Africa!

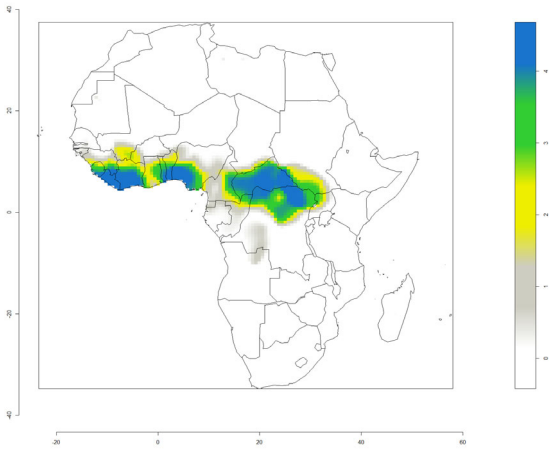
5.2.3 Noun class system

\+ robust retention of inherited noun class system in three major spatial configurations:

a) northern and western Savannah areas of Macro-Sudan Belt: Adamawa, Gur, Atlantic

b) Bantu spread zone (with repeated loss in languages of northern zones A, B, D)

c) 2 forest gaps correlating with low labial velar frequency: Benue-Congo, GTM, Guang



Map 4: Clusters of high labial-velar frquency (Idiatov and Van de Velde 2018)

5.2.4 Verb extensions

+ agreement that early Niger-Congo possessed a paradigm of verbal suffixes
- Givón (1971, 1975): origin of verb extensions in grammaticalized serial verbs
+ verb serialization and its structural results are recurrent in the Macro-Sudan Belt, not only in the Gulf-of-Guinea Coast (cf. Dimmendaal 2001) but also further east, e.g.:
  - Grassfield Bantu of BENUE-KWA, Niger-Congo (cf. Kießling (2011) on Isu)
  - Bongo-Bagirmi of Central Sudanic (cf. Boyeldieu (2005, 2007) on Yulu)
  - Raga of UBANGI, Niger-Congo (cf. Huber (2017) on Indri)
  - Gbayaic of UBANGI, Niger-Congo (cf. Roulon-Doko (1995) on Gbaya-Bodoe)

> two major structural types attested cross-linguistically and in the Macro-Sudan Belt:

a) "core serialization" develops into adpositions/case affixes = nominal dependent marking:
[V NP] [V NP] > [GRAMM NP] [V NP] or [V NP] [GRAMM NP]

b) "root serialization" develops into lexicalized compounds or predicate particles/affixes = **verbal head marking**:
[V V] [NP NP] > [GRAMM V] [NP NP] or [**V GRAMM**] [NP NP]
> can give rise to elaborate Niger-Congo-typical verb extension system in short time (cf. Lord 1975, Ọnụkawa 1999 etc. on Igbo)

> more nuanced perspective on the historical status of verb extensions in Niger-Congo: potential complementary distribution between verb extensions and serialization is not only due to loss of the former and subsequent "compensation" by means of the latter (cf., e.g., Hyman 2004) but also due to recent origin of the former in the latter

5.3 Discussion

+ significant geographical patterns in the distribution of older Niger-Congo features:

a) fullest presence regarding word order, noun classes, and paradigms in West African Savannah: Adamawa, Gur, Atlantic, northern and parts of southern Benue-Kwa
b) recurrent loss in rainforest areas: most of southern Benue-Kwa
c) some significant morphological **innovations** in paradigms: Benue-Kwa (+**Bantu**)
d) lack of some central components, notably noun classes, plural participant pronouns, 'five': Ubangi ?and some Adamawa (with puzzling exception of noun classes in Mbaic!!!)
e) likely contact event regarding alliterative *m/m* pronoun canon (and typological features) in eastern Macro-Sudan Belt: early Niger-Congo and Central Sudanic

> resulting hypothetical scenario of Niger-Congo trajectory within Macro-Sudan Belt:

(I) origin in the eastern Macro-Sudan Belt, ?without noun classes
(II) westward expansion in Savannah zone to a staging area in northern Nigeria/Cameroon
(III) from staging area with definite presence of noun classes, further expansion westward along Savannah belt up to Atlantic coast and south(west)ward into rainforest belt partly picking up head-final word order features and losing noun classes

6 Discussion

+ language contact contingent of areal linguistic setting is a crucial determining factor for the structural makeup of languages and language families
- contact largely responsible for possible "speciation" of new subgroups within a lineage: Khoe and Khoekhoe, Northern Songhay, South Cushitic, etc.
- recurrent north-south differentiation within families often correlate with macro-area: Mande, Songhay, Arabic, Chadic, Cushitic, Benue-Kwa

> evidence for "longitude spread constraint": north-south movement > pressure toward environmental adaptation > more intense language with indigeneous populations > linguistic restructuring (Güldemann 2010, Güldemann and Hammarström forth.)

> general trend in the areal transition between Sahel (IVa) and Macro-Sudan (III): emergence of vehicular and/or restructured varieties in lineages colonizing from the north (compared occasionally with creolization! cf. Gulf-of-Guinea creoles):
  - Manding~Jula (cf. Gingiss 1979, Partmann 1979)
  - Songhay (cf. Nicolaï, e.g., 1987, 1995, 2009)
  - Hausa (cf. Zima 2000, 2001)
  - Fula (cf. Tourneux and Konaï 2014)
  - Arabic (cf. several contributions in Owens 1993, Lafkioui 2013)

+ plea for a more promising approach of a wider historical assessment of language groups that from the start integrates genealogical and (macro)-areal signals in order to understand their dynamics through time AND space

For references see:

Güldemann, Tom. 2018a. Areal linguistics beyond contact, and linguistic areas of Afrabia. In Güldemann, 448-545.

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Güldemann, Tom (ed.). 2018. The languages and linguistics of Africa. The World of Linguistics 11. Berlin: Mouton de Gruyter.