

## **African macro-areas and geography**

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### **1 Methodology**

- a lot of previous work on language contact in Africa, but mostly on
  - (a) “micro-level” contact, hardly ever with continental scope - exceptions: Greenberg (1959, 1983) and Heine (1975, 1976)
  - (b) contact between languages unrelated in Greenberg's (1963) lumping classification

#### **1.1 Feature classes**

- in the order of importance:
  - (1) "cross-linguistic quirks"
    - typologically highly marked (e.g., clicks)
    - cf. Gensler (2003) regarding their potential for historical linguistics
    - > decreases recurrent chance occurrence
  - (2) "continental diagnostics"
    - corroborate hypothesized area
    - typologically far less remarkable, but with a clear areal patterns in Africa, e.g., word order (Heine 1975, 1976), sound features like nasal vowels
  - (3) subareal features
    - significant and confined to the wider area
    - > potentially define local centers of innovation

#### **1.2 Feature criteria**

- (a) sufficient amount of clustered geographical distribution in at least one area
  - (b) empirical evidence of transferability
  - (c) must not correlate with genealogical boundaries
    - crosscut/extend over family boundaries
    - divide languages of the same family
- > identification of areally significant isoglosses is in the first place a function of the genealogical language classification
- > modern genealogical classification in and outside the discipline (cf. Heine and Nurse 2000) based on Greenberg (1963) - just 4 super groups - **MAP, Figure 1**
- against common assumption, as defective in many respects as his classification attempts in other areas of the world (Pacific, Americas, Eurasia)

## CONGO-KORDOFANIAN (= Niger-Kordofanian) (1500/&gt;10)

Niger-Congo  
 (West) Atlantic  
 Mande  
 Voltaic (= Gur)  
 Kwa  
 Benue-Congo  
 Adamawa-Eastern (= Adamawa-Ubangi)

Kordofanian

## NILO-SAHARAN (200/20)

Songhai  
 Saharan  
 Maban  
 Fur<sup>SL</sup>  
 Chari-Nile  
 Eastern Sudanic  
 Central Sudanic  
 Berta<sup>SL</sup>  
 Kunama<sup>SL</sup>

Koman

## AFROASIATIC (300/6)

Semitic  
 Egyptian<sup>SL</sup>  
 Berber  
 Cushitic  
 Chadic

## KHOISAN (30/5)

Southern African Khoisan  
 Northern  
 Central  
 Southern  
 Sandawe<sup>SL</sup>  
 Hata<sup>SL</sup>

Note: SL = single language, (...) approximate number of (languages/family level units)

**Figure 1: Greenberg's (1963) classification of African languages**

+ major problems of classification > **MAP**

- Khoisan (KS) not a proven unit, rather 3-4 independent lineages
  - Nilo-Saharan (NS) not a proven unit,
  - Niger-Kordofanian (NK) only safe in a more narrow sense of Niger-Congo (pace Williamson and Blench 2000), excludes Mande, Atlantic, Dogon, Ijoid, Kordofanian (cf. Stewart 1976, Bennett and Sterk 1977)
- > no super-group NS+NK (Gregersen 1972, Blench 1995)
- large linguistic area is alternative to unproven genealogical "super-group"

**1.3 Feature survey**

- identified features surveyed across all sufficiently known lineages of the continent
- > classification: frequent, occasionally present, absent
- major problem: lack of data on individual languages and whole families

> particularly serious in eastern and east-central Africa (many small lineages and 4 larger fragmentation zones: genealogically diverse, isolates) and the domain of Nilo-Saharan

### **1.4 Identification of areas**

+ linguistic area:

wide sense = distribution of features according to a "compact" geographical entity  
> independent of historical explanation

narrow sense = distribution of features according to a "compact" geographical entity, which is not well explained by genealogical inheritance > "contact area"

Step (I) Identify a geographical linguistic distribution!

Step (II) See whether you can explain it (historically)!

+ two types of areas

(1) genealogically and typologically homogeneous areas > (recent) spread zones

(2) large-scale clustering of isoglosses across unrelated languages/language families

- quirks > continental diagnostics

- avoid feature interdependence (e.g. word order correlations, medial~final verbs in verb final languages, etc.)

## **2 The proposed macro-areas of Africa**

(I) Berber spread zone

(II) Chad-Ethiopia

(III) Macro-Sudan belt

(IV) Bantu spread zone

(V) Kalahari Basin > **MAP**

+ linguistic profile of a contact area unlikely due to a single historical process

> feature spread usually not clearly tied to a single/dominating lineage

> feature may be present from very early on by founder effect seeping up from substrate into colonizing layer > "features sit, populations move in"

> macro-areas determined by historically more stable factors:

- trajectories of spread/diffusion (where/in what direction is contact facilitated or not?)

- availability of potential sources/"hotbeds" of change

+ one larger area unaccounted for: southern Sudan, Uganda, Kenia, northern Tanzania: expansion area of the Nilotic family "framed" by 3 fragmentation zones

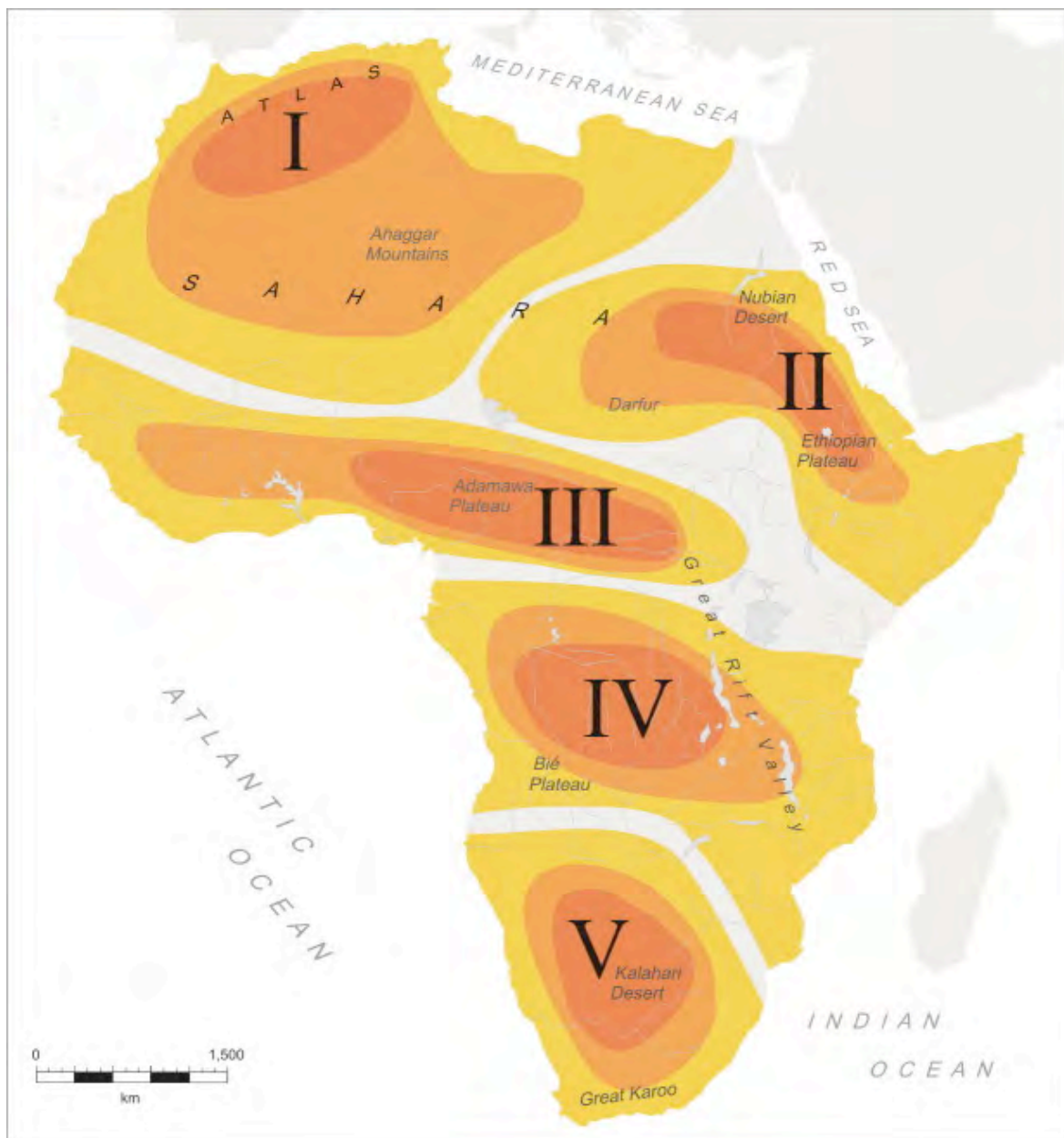
- serious lack of data

- some apparently diagnostic features, but areally largely inconclusive:

- verb-initial languages (Heine 1975, 1976)

- consonant features (Schadeberg 1987)

- marked nominative case system (König 2008)



**Map: Modern linguistic Macro-areas in Africa**

## 2.1 Macro-Sudan belt

Güldemann (2008), = Greenberg's (1959, 1983) "core area"

### 2.1.1 Genealogical composition

Family	Stock	Greenberg's supergroup
<b>CORE</b>		
Mande	-	NK
Kru	Niger-Congo	NK
Gur	Niger-Congo	NK
Kwa	Niger-Congo	NK
Benue-Congo (except Narrow Bantu)	Niger-Congo	NK
Adamawa-Ubangi	Niger-Congo	NK
Bongo-Bagirmi	Central Sudanic	NS
Moru-Mangbetu	Central Sudanic	NS
<b>PERIPHERY</b>		
Atlantic	(Niger-Congo)	NK
Dogon	-	NK
Songhai	-	NS
Chadic	Afroasiatic	
Ijoid	-	NK
Narrow Bantu (Benue-Congo)	Niger-Congo	NK
Nilotic	East Sudanic	NS

**Table 1: Families partaking in the Macro-Sudan belt**

### 2.1.2 Features

+ labial-velar consonants (Maddieson 2005c) > **MAP**

+ ATR vowel harmony (Hall et al. 1974, Dimmendaal 2001, Maddieson 2005g) > **MAP**

+ logophoricity (Güldemann 2003) > **MAP**

(1) Kera (Chadic, Afroasiatic)

a. w□ *mintí tó* *kóoré* vs.

3M.S<sub>x</sub> QUOT 3M.S.LOG<sub>x</sub> go.away

b. w□ *mintí w□ kóoré*

3M.S<sub>x</sub> QUOT 3M.S<sub>y</sub> go.away

Er sagte, daß er weggehe [he said he would go] (Ebert 1979: 260)

+ word order S-(AUX)-O-V-X (Gensler and Güldemann 2003) > **MAP**

(2) Koranko (Mande)

*ù sí wò lá-bùì yí r□□*

1S PROSPECTIVE that.one CAUS-fall water in

I'm going to throw her into the water (Kastenholz 1987: 117)

+ three and more level tones (Clements and Rialland 2008, Maddieson 2005d)

+ vowel nasalization (Hajek 2005)

+ implosives, does not separate off the Bantu spread zone (Maddieson 2005a)

+ sub-areal features, i.a.:

East: word order V-O-NEG (Dryer forthcoming) > **MAP**

labial flap consonants (Olson and Hajek 2003)

West: verb serialization

<i>Family</i>	<i>Stock</i>	<i>Logopho-ricity</i>	<i>Labial-velars</i>	<i>ATR harmony</i>	<i>S-(AUX)-O-V-X</i>	<i>V-O-NEG</i>	<i>Labial flaps</i>
Berber	Afroasiatic						
Saharan							
Maban							
Furan							
Kordofanian							
Nubian	Eastern Sudanic						
Kunama (isolate)							
Nera (isolate)							
Semitic	Afroasiatic						
Cushitic	Afroasiatic						
Omotiic	Afroasiatic						
Kado							
Chadic	Afroasiatic						
<b>Dogon</b>							
<b>Songhai</b>							
<b>Atlantic</b>							
<b>Mande</b>							
<b>Kru</b>	N. Niger-Congo						
<b>Gur</b>	N. Niger-Congo						
<b>Kwa</b>	N. Niger-Congo						
<b>Benue-Congo</b>	N. Niger-Congo						
<b>Adamawa-Ubangi</b>	N. Niger-Congo						
<b>Moru-Mangbetu</b>	Central Sudanic						
<b>Bongo-Bagirmi</b>	Central Sudanic						
<b>Ijoid</b>							
Bantu (Benue-Congo)	N. Niger-Congo						
Nilotic	Eastern Sudanic						
Surmic	Eastern Sudanic						
Kuliak							
Hadza (isolate)							
Sandawe (isolate)							
Khoe-Kwadi							
Ju							
Tuu							

Notes: Family column: grey cell = families of the wider area; bold = families of the core area

Feature columns: dark grey = frequent, medium grey = present, light grey = rare, blank cell = absent or unknown

**Table 2: Distribution of Macro-Sudan features across African lineages**

## 2.2 Chad-Ethiopia

= Greenberg's (1959, 1983) "Horn of Africa" + "Eastern Sahel"

= Heine's (1976) "Chad-Ethiopia"

+ least secure, necessary search for more features

- but difficult to survey due to lack of data on isolates and small families

+ Ethiopia (Ferguson 1976) only as a sub-area

> questionable as area in the first place (Tosco 2000)

> unlikely a "residual zone" in terms of Nichols (1992)

> genealogically homogeneous: Cushitic + Semitic

### 2.2.1 Genealogical composition

Family	Stock	Greenberg's supergroup
<b>CORE</b>		
Saharan		NS
Furan		NS
Maban		NS
Nubian	(East Sudanic)	NS
Taman	(East Sudanic)	NS
Nera	(East Sudanic)	NS
Kunama		NS
Cushitic	Afroasiatic	
Semitic	Afroasiatic	
Omotic	(Afroasiatic)	
Nyima		NS
<b>PERIPHERY</b>		
?		

**Table 3: Families partaking in the Chad-Ethiopia area**

### 2.2.2 Features

+ complex predicates with generic auxiliary (Güldemann 2006) > **MAP**

- a final, semantically generic auxiliary verb ('do', 'be (like)', 'become') as inflectional base converts a content sign ("expressive", short quote, loan, noun, adjective, adverb, verb) into a predicate/verb

- tendency to merger into one phonological word

(1) Afar

a. *tàssa-iy-* become happy  
happiness-AUX-

b. *kowkàw-iy-* chatter  
ON:chatter-AUX-

c. *fak-ka hay-'t-e* vs. *fak-'t-e*  
open-CF AUX-2S/3F.S-PERF open-2S/3F.S-PERF  
you/she opened you/she opened

(Hayward 1996: 541)

(Longacre 1990: 18-9)

- auxiliary verb often used also as quotative verb

+ verb-final syntax, largely with associated features > **MAP**

> continentally diagnostic: only four other isolated cases in Africa (Dogon, Ijoid, Sandawe, Khoe-Kwadi)

- + three or more cases on nouns = peripheral case in the sense of Blake (1994) (Dimmendaal 2005: 72-3, Iggesen 2005)
  - > continentally diagnostic despite correlation with verb-final syntax (Nichols 1986):
- all other verb-final lineages in Africa (see above) without peripheral case
- + other candidate features:
  - polar question marker as verb affix (Dryer 2005)
  - missing /p/, does not separate off the Berber spread zone (Maddieson 2005f)

## 2.3 Kalahari Basin

Güldemann (1998): linguistic area before Bantu expansion

### 2.3.1 Genealogical composition

Family	Stock	Greenberg's supergroup
<b>CORE</b>		
Khoe-Kwadi (includes "Central KS")	-	KS
Ju-ǀHǀa (includes "Northern KS")	-	KS
Tuu ("Southern KS")	-	KS
<b>PERIPHERY</b>		
Narrow Bantu (Benue-Congo)	Niger-Congo	NK

**Table 4: Families partaking in the Kalahari Basin**

### 2.3.2 Features

- + clicks as phonemic speech sounds, backbone of consonant system (Maddieson 2005c)
- + preferred phonotactic pattern of root:  $C_1V_1C_2V_2$  (clicks in  $C_1$ ) (Güldemann 2001)
- + ejective and aspirated stops (Herbert 1987, Güldemann 2001)
- + vowel nasalization (pace Hajek 2005)
- + register tone languages
- + head-final genitive irrespective of clause order (Güldemann 1999)
- + productive noun compounding > noun suffixes, mostly host-final morphology
- + no subject cross-reference on the verb



## 3 Discussion

### 3.1 Long-term stability

- Nichols' (1992) idealized area types (spread vs. residual zone) with a certain amount of expected historical stability > but questionable for African macro-areas
- language spreads (and other factors like, e.g., climatic changes) can seriously affect size and shape of an area (and possibly even change an area's profile)

#### 3.1.1 Chad-Ethiopia

- large wedge due to Arabic expansion
  - > synchronically questionable
- size at margins due to expanding families: Saharan in the west, Cushitic in the east
  - > area originally smaller?

#### 3.1.2 Macro-Sudan

- features repeatedly in some areas/families in the east: Nuba mountains, Omotic, separated by Nilotic+Surmic
  - > area originally larger?

#### 3.1.3 Kalahari Basin

- recent shrinking with Bantu expansion (since 2000 BP)
  - > synchronically questionable
- recent expansion of Khoe-Kwadi a little earlier; leaves just Ju-ǀHǀa and Tuu, which might turn out to be genealogically related
  - > Earlier character as spread zone?
- Bantu expansion separated Kalahari Basin from East Africa > §3.1.4

#### 3.1.4 Eastern + southern Africa

- eastern Africa (+ partly Afroasiatic) and southern Africa share diagnostic features > **MAP**
  - clicks (Maddieson 2005c)
  - uvular plosives (Maddieson 2005e)
  - ejectives (+ Chadic) (Maddieson 2005a)
  - lateral obstruents (+ Chadic) (Maddieson 2005b)
  - head-final genitive and related morphology (Güldemann 1999)
- > former macro-area along and east of the Rift valley down to southern Africa?

### 3.2 Correlation with geography

+ Campbell (2006: 16) denies geography to be a determining factor of linguistic areas:

“... it is the diffusion that is of prime importance, and ... the geographical aspect of putative ‘linguistic areas’ is derivative.”

+ inconsistent results in Africa in line with Campbell (2006)?:

?YES: Kalahari Basin and Berber spread zone = dry areas of southern and northern Africa

? Chad-Ethiopia, Bantu spread zone, Macro-Sudan

### 3.2.1 “Tropical diversity”

- northern and southernmost parts of Africa are overall less diverse in terms of:
  - number of languages
  - number of genealogical lineages
- > conforms with a world-wide pattern of tropical diversity (Nettle 1999)

### 3.2.2 “Macro-topography”

- major topographic “barriers” like the Rift valley influence trajectory of movement of and contact between populations (cf., also Rocky Mountains and Andes in the Americas)

### 3.2.3 “Latitudinal spread”

- Macro-Sudan belt delimited by:
  - the Atlantic Ocean and the Congo Basin in the south
  - the Sahara and Sahel in the north
 and less clearly by:
  - the Atlantic Ocean in the west
  - the escarpment of the Ethiopian Plateau in the east
- geographical east-west axis pattern largely corroborated by other African macro-areas
- agrees with Diamond's (1999) model for global human history, particularly regarding the considerable differences between continental areas
- > historical dynamics in the long term decisively determined by an area's orientation of its geographical axis, due to climatic and ecological conditions
- > spreads are facilitated in an east-west direction, but inhibited in a north-south direction

+ possible measurement of a language's axis of typological proximity by means of WALS

> above profile partly corroborated: Macro-Sudan + "turbulence" at Rift valley > **MAP**

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