

A TRANSDISCIPLINARY REVIEW OF LINGUISTIC, ARCHAEOLOGICAL AND **GENETIC EVIDENCE FOR THE ORIGINS AND EXPANSION OF NIGER-CONGO**

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CHAPTER 30

NIGER-CONGO ARCHAEOLINGUISTICS, INCLUDING BANTU

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NIGER-CONGO: LINGUISTICS



NIGER-CONGO AS DEFINED BY GREENBERG



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- In Greenberg's (1963) 'complete genetic classification of the languages of Africa', Niger-Congo and Kordofanian are the two main subdivisions within Congo-Kordofanian aka Niger-Kordofanian;
- Niger-Congo vast contiguous spread zone vs.
 Kordofanian isolated relic area in Nuba Mountains of Sudan;
- Niger-Congo largely inspired by Westermann's (1927) 'Western Sudanic' as opposed to 'Eastern Sudanic' (Westermann 1911), which would become Greenberg's Nilo-Saharan (Dimmendaal and Storch 2016);
- In later scholarship, Niger-Congo extended to all of Greenberg's Niger/ Congo-Kordofanian.

DECONSTRUCTION OF GREENBERG'S NIGER-CONGO



REFERENTIAL VS. CORE NIGER-CONGO



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- Good (2020) distinguishes between 'referential • Niger-Congo', i.e. Greenberg's 'Congo-Kordofanian', and 'core Niger-Congo', i.e. the uncontroversial genealogical nucleus that stood the test of more dedicated historical-comparative linguistic scrutiny.
- The genealogical unity of the subgroups themselves is not necessarily established;
- Any articulation of the NC tree above the level of ٠ these subgroups seems premature.
- Blench (2006: 109): "Niger-Congo languages ٠ form large territorial blocks with much less of the fragmentation and geographical isolation characteristic of Nilo-Saharan. Typically, this suggests more recent expansions and the gradual spread of more sedentary populations **colonizing areally** rather moving rapidly along line features such as waterways." 6

MANDE

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- Spreads 'all over west sub-Saharan Africa, from the Atlantic coast to the banks of the river Niger in Nigeria' (Schreiber 2020: 174);
- Many scholars today adhere to the pre-Greenbergian view of Westermann and Bryan (1952), that it is 'an isolated family with some lexical relations to other families' (Schreiber 2020: 176; see also Mukarovsky 1987; Dimmendaal 2008b; Dimmendaal and Storch 2016; Güldemann 2018; Good 2020; but see Vydrin 2009, for example, for an alternative view).
- Dimmendaal (2008: 847) considers it a remnant of earlier linguistic diversity in West Africa.
- underwent a recent expansion in the slipstream of the medieval Manding polities (Schreiber 2020: 174), which
 marginalized some Niger-Congo groups, such as Atlantic, and erased some of the older heterogeneity within NigerCongo (Güldemann 2018: 183)
- Amongst linguists, there is no unanimity on position of Mande homeland: Mauritania or the southern part of Western Sahara (Vydrin 2009: 116), northern Benin (Welmers 1971), Bobo-Dioulasso in Burkina Faso (Bimson 1978), Sierra Leone and Liberia (Dalby 1971), and northern Ivory Coast, southern Guinea, and adjacent regions of Sierra Leone and Liberia (Grégoire and de Halleux 1994).

ADAMAWA



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- Used to be part of Greenberg's Adamawa-Eastern, which Samarin (1971) rebaptized Adamawa-Ubangi (see also Boyd 1989), but it is generally recognized today that there is no such subfamily within Niger-Congo.
- Kleinewillinghöfer (2020: 220) considers Adamawa as nothing but a label for some ninety languages scattered 'in the central part of the sub-Saharan savanna belt', more specifically between 'the mountains bordering the basins of the Middle Benue and the Lower Gongola in northeast Nigeria across the north of Cameroon to the east into Chad and the Central African Republic'
- He sees the closer relatedness of certain Adamawa languages with certain languages within Greenberg's Voltaic/Gur as the strongest evidence challenging the validity of Adamawa as a discrete branch within Niger-Congo.

UBANGI

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- Spoken primarily in the Central African Republic [...], but also in the southeast of South Sudan, the north of the Democratic Republic of the Congo [...] and the Republic of Congo, in East Cameroon, and in two pockets in Chad' (Pasch 2020: 231);
- Dimmendaal (2008: 842) deems that it is best treated as a ٠ language family independent from Niger-Congo, except maybe for the Mba languages because of the formal similarities in noun classes which Schadeberg (1989) observed between that Ubangi group and Kordofanian (Dimmendaal and Storch 2016).
- Güldemann (2018: 213–217) considers Dimmendaal's radical dissociation of Ubangi from Niger-Congo altogether as • unsupported. He does question, however, the genealogical validity as a discrete Niger-Congo subfamily by proposing that '[f] or the time being, it thus seems safer to consider Ubangi as a pool comprising at least seven lineages [i.e., (i) Gbayaic, (ii) Ngbandaic, (iii) Ndogoic, (iv) Mundu-Baka, (v) Bandaic, (vi) Mbaic, (vii) Zandic] whose exact genealogical affiliation to each other as well as to other Niger-Congo groups still remains to be determined' (Güldemann 2018: 216). UNIVERSITY

KORDOFANIAN

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- Its inclusion into Niger-Congo is uncertain, because it is geographically isolated and the historical-linguistic evidence is controversial;
- Since Schadeberg (1989), it is widely accepted that Greenberg's Tumtum, also known as Kadu(gli), belongs to Nilo-Saharan;
- Remaining Kordofanian groups, i.e. Koalib (or Heiban), Tegali (or Rashad), Talodi, and Katla, do not constitute a Kordofanian family together, but linguists differ on how they exactly relate to each other.
- Blench (2013c) and Güldemann (2018: 224) even propose an additional disconnected group (Tegem-Amira/Lafofa), which further deepens the linguistic diversity in the Nuba Mountains;
- Niger-Congo affiliation of those different Kordofanian groups is contested.
- Schadeberg (1989: 79), '[a] vailable evidence points to a long presence of Kordofanian in its present location [...], • which it shares with several other language groups. [...] Kordofanian represents the oldest linguistic layer in the Nuba Mountains.' > centre of early fragmentation
- the Nuba mountains may also have been a **refugium**, i.e., a region not affected by climatic changes distressing adjacent areas and therefore attracting speech communities of different pedigree, including different Niger-Congo groups (Schadeberg 1981; Dimmendaal 2008b; Good 2020)

CORE NIGER-CONGO

- Apart from Kordofanian, Core Niger-Congo as proposed by Good (2020) includes most of Greenberg's West Atlantic,
 Voltaic or Gur, Kwa, Benue-Congo, and Adamawa subfamilies;
- Within Core Niger-Congo, we distinguish between **Atlantic** on the one hand and **Volta-Congo** on the other hand





ATLANTIC



- '[A] geographically and typologically motivated grouping', because 'there is no basis to claims that Atlantic languages as a whole constitute a genetic group' (Lüpke 2020: 163);
- Its internal diversity is indeed so high that it might represent 'a number of independent, early descendants of Niger-Congo' (Dimmendaal and Storch 2016);
- Merrill (2021): "If [...] "Atlantic" represents multiple primary branches of NC, co-ordinate with a unified Volta-Congo subgroup containing most remaining NC languages, it is extremely likely that the Proto-Niger-Congo homeland was near the area where the modern Atlantic languages are spoken. I argue that various established groups within Atlantic do most likely represent primary branches of Niger-Congo." 12

VOLTA-CONGC



- Stewart (1976) proposed Volta-Congo as the common ancestor of Greenberg's Gur, Kwa, and Benue-Congo subfamilies, the latter comprising Bantu (Dimmendaal and Storch 2016).
- There is little empirical basis for splitting up Kwa and Benue-Congo, the reason for which Bennett and Sterk (1977) propose to reclassify them under the single heading 'South-Central Niger-Congo' (see also Schadeberg 1986);
- According to Dimmendaal and Storch (2016), Adamawa should definitely also be associated to this closer-knit Volta-Congo unit within Niger-Congo, because of the substantial morphological evidence that Kleinewillinghöfer (2020) provides in favour of a larger Adamawa-Gur complex.
- To retrace the deeper ancestry of the Bantu expansion, one needs to search for the centre of highest linguistic diversity within Volta-Congo, which is possibly the wider area where Gur, Kwa, and Benue-Congo meet \rightarrow the Guinean forest-savanna mosaic area known as the Dahomey Gap, which covers parts of Benin, Togo, and Ghana?

VOLTA-CONGO LEXICON

- Stewart (2002) identifies 109 lexical roots shared between Kwa and Bantu, which he reconstructs to Proto-Volta-Congo, as a pilot for Proto-Niger-Congo;
- Several of these are also interesting from the broader perspective of cultural history: **tap1* 'draw (water)', **pũŋku* 'dig up', **ta* 'bow' (see also Blench 2006:129), **tũmbv* 'roast', **kat1* 'headpad', **kĩlĩ* 'salt', ** kwõmb1* 'scrape', **dap1* 'oath', **dãmb1* 'cloth', **bĩlĩ* 'become cooked', **dal1* 'madness', **lũŋkv* 'plait', **щãmbĩ* 'God', **щĩnĩ* 'chief', and **wuk1* 'honey' (Stewart 1983:26)
- Several lexical Proto-Bantu reconstructions proposed ever since are, in all likelihood, also retentions from Proto-Volta-Congo, e.g. *mà 'make pottery' (Bostoen 2007), *téndé 'oil palm' (Bostoen 2005), and possibly even several roots for (wild) yams (Maniacky 2005; Bostoen 2014).



NIGER-CONGO: GENETICS



AFRICAN POPULATION GENETIC STRUCTURE



- Very distinct genetic clusters with deep divergences
 - (1) **southern African** hunter-gatherer and herding groups (Khoi-San) (red)
 - (2) rainforest hunter-gatherer groups (light blue,
 - (3) West Africa mainly associated with Niger-Congo (green)
 - (4) East Africa mainly associated with Nilo-
 - Saharan but also Afro-Asiatic (dark blue)
 - (5) non-African component mainly among Afro-
 - Asiatic speakers in North Africa (brown).

Evidence of admixture in various clusters

NIGER-CONGO ORIGINS



- Green genetic component shows a clear signal of population expansion with an estimated at ~7.4 kya vs. Bantu speakers at ~5.6 kya (Li et al. 2014).
- Centre of expansion: either West African
 hunter-gatherers who expanded from a homeland
 vs. migration into West Africa;
- Deep separation between the Central African and West African components suggests their ancestors were geographically more distant than today;
- Either Niger-Congo speakers or rainforest huntergatherer ancestors must have lived in different geographic areas in the past

NIGER-CONGO ORIGINS



- The migration of ancestral Niger-Congo speakers from North Africa into West Africa could explain the deep divergences observed today between the West African and Central African genetic components (cf. Blench 2017);
- Not supported because populations living in North Africa today belong predominantly to the non-African genetic cluster (brown), which is very distinct from the West African;
- Niger-Congo speakers were also not the original North African populations and were then replaced by non-Africans as ancient DNA studies show that the non-African ancestry in North Africa was already present ~15 kya.

NIGER-CONGO ORIGINS

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- Niger-Congo speakers could originate in West Africa, but how to explain then deep divergence between West African and Central African components as more gene flow is expected;
 - They may have become isolated during late Pleistocene (130-15 kya) when climate refugia emerged in far West and Central Africa due to fluctuating glacial and interglacial conditions.
- Significant amount of West African ancestry in certain wRHG groups, such as Biaka, Baka, and Bakola, but not in eRHG, such as Mbuti, which usually interpreted as recent admixture with Bantu and Ubangi speakers;
- Ancient DNA study on 8,000 years old remains from Shum Laka established that, in addition to a rainforest hunter-gathererlike genetic component, a basal West African ancestry component was also already present, well before the Bantu Expansion;
 Alternatively, Niger-Congo homeland was neither in the extreme north of Africa nor in the southeastern part of West Africa close to the Central African rainforest hunter-gatherer regions.

NIGER-CONGO SUBSTRUCTURE



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- Using higher order clustering, the West-African component is separated in a first component maximized in Mande and Atlantic speakers and a second one maximized in Bantu speakers;
- Populations in between such as the Yoruba (Benue-Congo) from Nigeria and Bariba (Gur) from Benin belong to both clusters with different amounts of affinity correlating with geography \rightarrow either long-standing shared ancestry and gradients of genetic relatedness over geography, or expansion and admixture of one component into the other component;
- Mande: securely associate with West African/Niger-Congo component, most closely related with Atlantic speakers;
- **Ubangi**: major component (~75%) in population such as Mbum, Yakoma, and Gbaya (CAR) is shared with West African Niger-Congo speakers and minor component (~25%) shared with East Africans (especially Central-Sudanic speakers);



NIGER-CONGO: ARCHAEOLOGY







Hunter-Gatherer Expansion into inland West Africa

Populations from the **northwest**, with Saharan 'Epi-palaeolithic' industries (i.e. Ounanian), moved into the central Sahara **~10ka BP**.





Ouan points from Abu Tartur 1072 (Riemer et al. 2004)



Hunter-Gatherer Expansion into inland West Africa

Populations from the **south** (Nigeria, Ghana, Ivory Coast), with quartz microliths, moved as far northward as Mali and Burkina Faso **~9ka BP**.







<u>Onjougou, Mali</u>

- Ravin du Hibou
- Ravin de la Mouche (11,391-10,875 cal BP)

Central Sahara

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- Adrar Bous (10,542-10,470 cal BP)
- Tagalagal (8817-8350 cal BC)

<u>Nile</u>

- Bir Kiseiba E-79-8 (10,015-8759 cal BC)
- Sarurab 2 (8796-8461 cal BC)



2 cm

Early Ceramics, Ravin de la Mouche in red (Huysecom et al. 2009)

2 cm



Ceramic Technologies

Onjougou, Mali

- Ravin du Hibou
- Ravin de la Mouche (11,391-10,875 cal BP)

Central Sahara

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 - cal BC)
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The South

- Shum Laka (7000 BP)
- Konduga (6300 BP)



Distribution of roulette types across West Africa (Livingstone-Smith 2009)



Other Technologies & Lifeways

Macrolithic Traditions

- Shum Laka, Cameroon (7ka BP)
- Yengema Cave, Sierra Leone (4150±470 BP)
- Afikpo, Nigeria (3030±75 BP) ٠

Aquatic Adaptations

- · Linked with bone 'harpoons'
- Increased reliance on aquatic resources ~7ka BP

Reduced Mobility

- Kintampo Complex, Ghana ~3.5ka BP
- Njinikejem, Cameroon 5-3ka BP ٠
- Dhar Tichitt, Mauritania ~4ka BP





Early Niger-Congo speakers linked to northern 'Epi-palaeolithic' HG

- 1) "Attracted southward to hunt these animals with the bow and arrow"
- 2) Continued southern movement tied with split in subsistence strategies:
 - a. Terrestrial HG spread across savannas (Kordofanian, Gur, Adamawa and Ubangian)
 - b. Aquatic HG spread south along river routes (Atlantic Bak, Kru, Kwa, and Ijo)

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"Southern Hypothesis" (Ehret 2002)

Early Niger-Congo speakers linked to southern microlith producing Hunter-Gatherers

1) Emerged in the "greatly expanded woodland savanna environment"

- a. Associated with West African Microlithic Tradition
- b. Associated with bow & arrow (*ta), fishing, and wild yams (Dioscorea)
- 2) Movement southward (7ka) of Benue-Kwa (= Volta-Congo) branch into the equatorial forest
- 3) Movement westward (6ka) into Cameroon becoming Proto-Bantu







CONCLUSIONS

- The three disciplines concur in situating Niger-Congo origins in West Africa south of the Sahara and the Sahel, and rather towards its western extremity than in the regions adjacent to Central Africa, possibly the area where Atlantic languages are spoken today;
- Atlantic represents a The high internal diversity within core Niger-Congo, which was possibly even higher before the recent expansion of Mande-speaking groups, a process which is also visible in the archaeological record of West Africa;
- Early diversification within core Niger-Congo may also have extended **further east than the present-day Atlantic area**, especially if certain Kordofanian languages from the Nuba Mountains might be offshoots of the earliest Niger-Congo linguistic divergence.
- Archaeological sites in southern West Africa exhibiting LSA material culture, some of which potentially reflect early Niger-Congo, are, for the time being, mainly situated outside of the West African countries where Atlantic languages prevail today, i.e. Ivory Coast, Burkina Faso, Ghana, and Nigeria;
- As the initial occupation of these sites roughly coincides with the early stages of the African Humid Period starting ~14.5 kya, the early divergence within Niger-Congo, which their populations possibly represented, may have been subsequently wiped out by Niger-Congo speakers coming from further west.

CONCLUSIONS

- The closer-knit unit known as **Volta-Congo**, comprising at least Kwa and Benue-Congo (and possibly also Kru, Gur, and Adamawa), and distantly related to Atlantic, may represent such a **spread-over-spread event within Niger-Congo**;
- Language groups such as Mande and Dogon, as well as the many language isolates in West Africa, and possibly even Ubangi in Central Africa, whose erstwhile integration in Niger-Congo is now contested, possibly represent this earliest divergence within Niger-Congo across West Africa and adjacent areas of Central Africa, one that is possibly too deep-time to safely establish with conventional historical linguistic methods;
- Whether the development of core Niger-Congo with its highest present-day diversity in the Atlantic language area is to be associated with the emergence of the earliest pottery producers in West Africa, as possibly attested today at sites such as Ounjougou in Mali and/ or Bosumpra in Ghana ~12– 11 kya, is an issue that deserves further investigation and requires much more empirical data from that period from across West Africa;



CONCLUSIONS

- The same holds for the question of whether the origins of Volta-Congo, i.e. the antecedents of Bantu and its expansion across Central, Eastern, and Southern Africa, are to be linked with the ~7 kya phase of early ceramics observed in sites such as Yengema Cave in Sierra Leone, K6 in Ghana, and Afikpo in Nigeria or rather with the development of higher degrees of subsistence intensification and sedentism as attested in sites such as Kintampo in Ghana as well as Nok in Nigeria ~4– 3 kya;
- All these West African sites from the two different time periods, i.e. ~7 kya and ~4– 3 kya, are situated in areas where Volta-Congo languages are spoken today;
- Note that ~7– 6 kya is also the period when a macrolithic and ceramic component was introduced into a still predominant microlithic assemblage at Shum Laka in the Bantu homeland area of Cameroon, while ~4– 3 kya is roughly contemporaneous with the phase when those newer assemblages completely overshadowed the older ones, i.e. ~5– 4 kya.
- What is observed at separate sites further west, i.e. the incipient spread of pottery and macrolithic tools ~7– 6 kya and their definite breakthrough ~5– 4 kya is contained within the cultural sequence of Shum Laka where it was associated with the local development of Benue-Congo → same processes of initial implantation and long-lasting local divergence happened elsewhere in Volta-Congo-speaking Africa





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