

2. Historical linguistics and genealogical language classification in Africa¹

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2.1. African language classification and Greenberg (1963a)

2.1.1. Introduction

For quite some time, the genealogical classification of African languages has been in a peculiar situation, one which is linked intricably to Greenberg's (1963a) study. His work is without doubt the single most important contribution in the classification history of African languages up to now, and it is unlikely to be equaled in impact by any future study. This justifies framing major parts of this survey with respect to his work.

The peculiar situation referred to above concerns the somewhat strained relationship between most historical linguistic research pursued by Africanists in the

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post-Greenbergian era and the perception of this work by the general discipline, which considers Greenberg's classification to be "badly in need of major reinvestigation and reworking" (Campbell and Poser 2008: 128). It is no coincidence that the fundamental split in opinion became particularly apparent from two papers that emerged in the same context, namely the conference "Language and prehistory in the Americas: a conference on the Greenberg classification" held in 1990 at the University of Colorado, Boulder. On the one side was Thomason (1994) – an attempt by a non-Africanist to make sense of the apparent contradiction between the almost universal acceptance of Greenberg's (1963a) African classification and the lack of equal success of his later, methodologically similar works on the Pacific (1971) and the Americas (1987). On the other side was Newman (1995) – an Africanist's vigorous defense of Greenberg (1963a) and its methodological underpinnings.

This conflict resurfaces in the indirect exchange between Dixon's (1997) "outsider" assessment of the genealogical classification on the continent and the response to it on the occasion of the 32nd Annual Conference on African Linguistics held in 2001 at the University of California Berkeley. Dixon (1997: 32–34) wrote:

One finds statements like, '[Greenberg's] major conclusions have by now become the prevailing orthodoxy for most scholars' ... However, one searches in vain for proof of this 'genetic relationship'. Africanists tend to respond to queries about this matter from outsiders by saying that only Africanists can judge such matters. Maybe. But after reviewing the available literature an outsider is forced to conclude that the idea of genetic relationship and the term 'language family' are used in quite different ways by Africanists and by scholars working on languages from other parts of the world. ... The hypothesis of a 'Niger-Congo family' was first put forward almost fifty years ago. During the intervening period no attempt has been made to prove this hypothesis by the criteria used for I[ndo-]E[uropean], Uralic, Algonquian, etc. in fact, ... it appears that Sub-Saharan Africa is characterized by an overlapping series of diffusion areas ...

Anticausative, APPL Applicative, ASSC Associative, AUX Auxiliary, BEN Benefactive, C Consonant, CAUS Causative, COP Copula, CONC Concord, CPET Centripetal, DAT Dative, DEF Definite, DEM Demonstrative, DI distal, DIR Directional, E Exclusive, EXT Extension, F Feminine, FUT Future, GEN Genitive, HAB Habitual, I Inclusive, IMP Imperative, INCH Inchoative, INSTR Instrumental, IPFV Imperfective, ITER Iterative, ITR Intransitive, LOC Locative, M Masculine, MID Middle, N Nasal, NEG Negative, NEUT Neuter, NOM Nominative, NOMZ Nominalizer, NUM Numeral, O object (in word order schema), OBJ Object, OBL Oblique, P Plural, PASS Passive, PERF Perfect, PFV Perfective, PLUR Pluractional, POSS Possessive, POSSR Possessor, PR Proximal, PST Past, RCPR Reciprocal, REFL Reflexive, REL Relative, REPT Repetitive, RSLT Resultative, S Singular or (in word order schema) Subject, SBJ Subject, SEPR Separative, STAT Stative, TR Transitive or Transnumeral (in gender or declension system), V Vowel or (in word order schema) Verb, X Other (in word order schema).

The Niger-Congo situation is a classic example of taking the IE-type family tree as the only model of linguistic relationship, and employing it willy-nilly, without proper care and criteria.

The organizers of the African linguistics meeting in Berkeley reacted to Dixon by posing the following questions in their conference announcement:

Has proof of genetic linguistic relationships in Africa been as elusive as Dixon claims? If so, is it our [the Africanists'] fault or "theirs"? (i. e. the languages'?)

Suffice it to say here that Dixon's "reviewing [of] the available literature" was rather superficial, missing in particular the pre-Greenbergian research on Niger-Congo languages that made specialists confident about at least parts of Greenberg's scheme. At the same time, it is argued here in line with Dixon that most parts of Greenberg's classification are indeed not based on evidence according to mainstream criteria of the general discipline, and that this is hardly the "languages' fault". It is the prevailing contradiction between the general and the philological approach to language classification that justifies the seemingly disproportionate size of this contribution compared to other chapters of this book.

Greenberg's (1963a) classification is not only entrenched deeply among Africanists, however. This is reflected by the reluctance of non-specialist linguists to take into account relevant and publicly available findings that question important parts of Greenberg's scheme. For example, the fact that many specialist linguists have never followed his Khoisan hypothesis has been obvious since early on (cf., e. g., Westphal 1962a, 1962b, 1971; Sands 1998b; Güldemann and Voßen 2000). Nevertheless, such major linguistic survey works as Haspelmath et al. (2005) and Lewis, Simons, and Fennig (henceforth *Ethnologue*), at least until its 17th edition of 2013, have continued to perpetuate Greenberg's non-specialist assessment of this² and other African language groups, while simultaneously discarding similar lumping classifications for language families in the Pacific and the Americas.

2.1.2. The pre-Greenbergian background

In order to understand Greenberg's work itself as well as its later impact, it is useful to briefly consider some historical background of the genealogical classification of African languages (see Cole [1971] and Köhler [1975] for relevant overviews). The crucial points can be illustrated by a typical pre-Greenbergian classification, as given in Figure 1.

² Admittedly, this perception is still transmitted by some specialist publications as well, notably Voßen (2013) within the Routledge *Language Family Series* [emphasis mine].

Sudanic
 Bantu
 Hamitic (including also Fula, Maasai, Khoekhoe according to Meinhof [1912])
 Semitic
 Bushman

Figure 1: General pre-Greenbergian classification of African languages

One point comes out clearly in Figure 1, namely that the research history of African languages had been shaped by then by highly lumping classificatory schemes, often even just a tripartite one. According to Wolff (1981), this was largely determined by the three major geographical thrusts of the early European interaction with and colonization of Africa and the associated linguistic research. These were a) the academic Orientalist tradition interested in North(east) Africa, which was also responsible for the early unfortunate academic separation in African linguistics between scholarship dealing with “oriental” vs. sub-Saharan languages; b) the economic interests, including the slave trade, on the Atlantic coast and its hinterland populated in western Africa by the so-called “Sudanic” languages; and c) the early colonial expansion at the Cape of Good Hope confronted with “Khoisan-” and Bantu-speaking groups.

Another crucial point, intimately associated with the above scheme, is the strong evolutionary overtone of genealogical classifications in that the modern highly diverse linguistic profile in Africa was modeled in terms of an emergence from a very limited set of ancient, idealized population types defined primarily by nonlinguistic criteria, the most salient component of which was the “Hamitic theory” (Lepsius 1880; Meinhof 1912, 1938). This largely nonlinguistic approach still transpires in the late pre-Greenbergian classification by Westermann when he writes (1940: 375):

Diese Einteilung schließt sich den Rassenbenennungen an und weist somit darauf hin, daß ein ursprünglicher Zusammenhang zwischen Rasse und Sprache bestanden hat und daß heute noch Züge dieser Gemeinsamkeit vorhanden sind. Es braucht aber kaum betont zu werden, daß dies nur in beschränktem Maße der Fall ist: Wanderungen, Schichtungen und andere Vorgänge haben in eigenständigem Wachstum, in Sprachmischung und in Übernahme ganz neuer Sprachen vielfache Änderungen hervorgebracht. [This classification follows the racial designations and hence indicates that race and language were originally linked and that traces of this connection are still in existence today. Of course, it hardly needs to be stressed that this is only the case to a limited extent: migration, stratification and other processes have yielded multiple changes through autonomous growth, language mixing and the adoption of completely new languages.]

Table 1: The development of Greenberg's African language classifications

Greenberg (1950d: 394)	Greenberg (1954: 409)	Greenberg (1963a)
1. Niger-Congo	1. Niger-Congo	1. Niger-Kordofanian
12. Kordofanian	10. Kordofanian	
2. Songhay	2. Songhay	2. Nilo-Saharan
3. Central Sudanic	3. Macrosudanic	
5. Eastern Sudanic		
14. Berta		
15. Kunama		
4. Central Saharan	4. Central Saharan	
8. Maban	7. Maban	
9. Mimi (of Nachtigal)		
10. Fur	8. Fur	
11. Temainian	9. Temainian	
13. Koman	11. Koman	
16. Nyangiya	12. Nyangiya	
6. Afroasiatic (Hamito-Semitic)	5. Afroasiatic	3. Afroasiatic
7. Click	6. Click	4. Khoisan

2.1.3. The evolution of Greenberg's classification

In addition to the background of Greenberg's work, it is necessary to review the gradual emergence of his major contribution itself. That is, his view on language classification in Africa evolved over more than a decade and in the beginning differed quite drastically from the last proposal that linguists commonly associate with him – a fact that is little-known or at least not appreciated sufficiently by many scholars today. Table 1 presents an overview of three continental classification hypotheses advanced by Greenberg in a period of less than 15 years, the most striking aspect of which is the different degree of syntheticity.

Contrary to the perception that Greenberg's approach had to overcome universal resistance from his predecessors, it is significant that his first classification of 1950 was received very positively by such a central figure of African linguistics as Westermann (1952: 256):

Greenberg is the first linguist who has attempted to give a classification of the whole range of African languages. He has not contented himself with a general survey, as all his predecessors, including myself, have done, but has gone into considerable detail; in each single case he gives his proofs in word-lists, in tabulated formative elements, and also on sketch maps; he does not quote all his sources, which would have been practically impossible; nor is it essential, since they are known to the expert. He confirms many findings of those who have worked before him, he corrects a number of errors; although many of these had been refuted by others, it had seldom been done with such clarity and definiteness as here. It is quite possible that some of his statements and classifications may prove to be not sufficiently clarified, or that he has overlooked a language which cannot be shown to be related to any other in Africa; he will be criticized, and some of his classifications may be rejected; but all this does not detract from the value of his study, for which all of us have to thank him.

Some of Westermann's points are worth being made explicit. For one thing, he refers to the special merits of Greenberg's approach concerning in particular the concrete nature of the empirical evidence provided, the first exhaustive and compact continental coverage, and the novel theoretical clarity in presenting and arguing for the proposed classification and its conceptual background. At the same time, most of Greenberg's "corrections of errors" can be shown to be based on work preceding his own, although he does not completely refer to it; while this was not problematic for his contemporaries, who would have been familiar with the same literature, later Africanist scholars would not necessarily see its influence (see below).

Berry's (1956: 395) review of Greenberg's (1955b) pre-final classifications, reprinted in one compact volume, refers to another important point that would resurface in the reception of the final classification of 1963, namely considerable deficiencies in data handling:

It is always distressing to find mistakes in matters of fact in what purports to be a work of scholarship. It is especially distressing to find them in this work which claims so much itself and for which so much is claimed, sometimes in language highly critical of its predecessors. To whatever cause the mistakes are attributed (rather clearly it is the magnitude of the task, not, in the instances cited, any inadequacy in the documentation available), in the long run they can only weaken confidence in the articles as a whole and cause judgment to be suspended on their findings. In the meantime, admirers of Professor Greenberg's other work, like the reviewer, will no doubt look forward to any further contributions he may make to these studies. It would be preferable that these be on a less ambitious scale which would permit him to observe precautions normal to everyday scholarship.

As shown in Table 1, while Greenberg's first comprehensive African classification of 1950 still displayed 16 indigenous language families on the continent, this was to change eventually to a scheme with just four supergroups, which Boyd (1996: 15) ascribes to what he aptly calls a

“clean-up” procedure which does away with isolated units so that nothing will be left over which is not grouped with something else until macrounits are obtained, none of which can be considered sufficiently to resemble another to warrant further merger (the “highest [genealogical] level”) ...

In my view, this is the most enigmatic part of Greenberg’s entire classificatory enterprise in Africa, also given his own convincing argumentation (1950d: 393–394) according to which a low number of independent genealogical units on this continent is in principle unlikely (see section 2.9 for more details).

Figure 2 gives Greenberg’s classification as commonly known today. It also presents on the right side a correspondance with my set of primary classificatory units (see section 2.3.2 for more details) that are recognized in this survey and presented in section 2.4–7. It should be noted that this different inventory contains additional units that are not dealt with by Greenberg (1963a) and are thus also lacking in Figure 2, namely U10 Pere, U14 Bangime, U25 Shabo, U32 Meroitic, U47 Ongota, U49 Laal-Laabe, and U50 Kujarge; these are mostly single languages that were still unknown at the time of his research and remain isolated until today.

I Congo-Kordofanian (aka Niger-Kordofanian)

A Niger-Congo

- | | |
|-------------------|--|
| 1 West Atlantic | = U11 ATLANTIC |
| 2 Mandé | = U12 Mandé |
| 3 Voltaic | = U15 GUR + U13 Dogon |
| 4 Kwa | = western part of U6 BENUE-KWA + U8 Ijoid + U9 KRU |
| 5 Benue-Congo | = eastern part of U6 BENUE-KWA |
| 6 Adamawa-Eastern | = U16 ADAMAWA + U17 UBANGI + U7 DAKOID |

- | | |
|---------------|---|
| B Kordofanian | = U18 <u>KORDOFANIAN</u> + U19 Katlaic + U20 Kadu |
|---------------|---|

II Nilo-Saharan

- | | |
|-------------------|--|
| A Songhai | = U23 Songhay |
| B Saharan | = U27 Saharan |
| C Maban | = U28 Maban |
| D <i>Fur</i> | = U26 Furan |
| E Chari-Nile | |
| 1 Eastern Sudanic | = U21 Kuliak + U29 Taman + U30 Nyimang + U31 <i>Nara</i> + U33 Nubian + U34 Dajuic + U35 Temeinic + U36 Nilotic + U37 Surmic + U38 Jebel |
| 2 Central Sudanic | = U22 Central Sudanic |
| 3 <i>Berta</i> | = U39 <i>Berta</i> |
| 4 <i>Kunama</i> | = U24 <i>Kunama</i> |
| F Koman | = U40 Koman + U41 Baga (earlier Gumuz) |

III Afroasiatic

- A Semitic = U42 Semitic
- B *Egyptian* = U43 *Egyptian*
- C Berber = U44 Berber
- D Cushitic = U45 Cushitic + U46 OMOTIC
- E Chad = U48 Chadic

IV Khoisan

- A South African Khoisan
 - 1 Northern > U2 Kx'a
 - 2 Central > U3 Khoe-Kwadi
 - 3 Southern = U1 Tuu
- B *Sandawe* = U4 *Sandawe*
- C *Hatsa* = U5 *Hadza*

Note: GENEALOGICAL/AREAL POOL, Language family, *Single language*

Figure 2: Classification of African languages by Greenberg (1963a: 177)

2.1.4. The history of Greenberg’s final classification

In section 2.1.1 I have referred to the disparity between the almost universal acceptance of Greenberg’s classification in Africanist circles and the critical voices against it among general historical linguists. For the second group of linguists as well as for Africanists not adhering to the classification as a whole, this presents a puzzling situation, one which has been addressed, for example, from a non-Africanist perspective by Thomason (1994) and Campbell and Poser (2008: 120–145). In the following I also discuss this question and argue, in highlighting in particular the Africanist research background and the evolution of Greenberg’s hypotheses as outlined above, that the success of his African study is due to factors other than its linguistic merits and comprehensiveness.

Two crucial but widely overlooked circumstances relate to the previous Africanist research history, namely the poor state of language classification before Greenberg and the related difficulty of leveraging research results that contradicted the then prevailing canon. Regarding the first point, African linguistics, which up to the middle of the 20th century had been largely practiced in Europe, was in several respects in a situation of “intellectual crises and contradictions and thus [...] ripe for a scientific revolution,” despite Newman’s (1995: 3–4) statement to the contrary. Ideologically all previous classifications were clouded by multiple stereotypes related to the purported “un(der)developed state” of Africa and its peoples that were deeply entrenched in European academic discourse far beyond historical linguistics. The non-linguistic background had, in turn, led to a serious

and tenacious methodological shortcoming in historical linguistics in that, based on these stereotypes, language classification beyond the more obvious relationships strongly tended to be influenced by argumentation that was non-linguistic and lacked the rigor imposed by canonical historical-comparative standards, despite the fact that these had already proved to be so successful in Africa, notably in Bantu studies. In light of this context, it must not be underestimated that Greenberg, who not only stood outside this scholarly tradition but was also free from any concerns about having an academic career in Europe, was able to show a scientifically clear and comprehensive way out of the prevailing *cul-de-sac*. He called for robust methodological principles, notably: a) linguistic evidence rather than nonlinguistic arguments (concerning in particular anthropological features of subsistence type and human biology or, as with Bantu, the demographic importance of languages and the resulting strength of the research tradition); b) grammatical elements in addition to the lexicon; and c) diagnostic sound–meaning resemblances rather than simple and superficial typological similarities. He also established clearer concepts about historical language relationships, notably a rigorous distinction between affinities due to inheritance and those due to contact (which also concerned the recurrently considered but diffuse concept of “mixed languages”) as well as the “transitivity principle” of genealogical relation in the case of irregular retention of diagnostic features across an assumed family. I venture that the historical coincidence of the existing state of research and Greenberg’s “liberating” and in large parts methodologically sound approach is the single most important factor for the success of his overall framework.

The second related point is that Greenberg’s apparently novel proposals that remain robust today had mostly been prefigured by previous work that he could build on within the framework of his comprehensive and more rigorous approach to language classification. This even holds for some hypotheses where he felt compelled to make the point that his proposal came first and/or was independent (cf. 1963a: 38–39, fn. 6 and 12 on Fula and Saharan, respectively). As mentioned above, his texts are not studded with citations of previous work by others that we have come to expect based on today’s academic standards. Hence, an uninformed readership may well fail to understand that the research he had at his disposal was in important areas rife with results that called for changes of two types, namely a) abandoning the Hamitic theory, particularly in the form of Meinhof’s classificatory proposals, and b) establishing new genealogical relationships based on reliable linguistic criteria. The older hypothesis on the core of Afroasiatic aside, some relevant works concerning the former point are Klingenheben (1925) on Fula and Atlantic, D. Bleek (1927) on Khoekhoe and Khoe, and Köhler (1948) on Maa etc. and Nilotic, and concerning the latter point Westermann (1927b, 1935) on Niger-Congo, Lukas (e. g., 1936b: 333–341, 1939) on Saharan, partly Lukas (1936a, 1937/38) on Hausa and Chadic, and Tucker (1940) on Ubangi and Central Sudanic. The possible reliance on previous scholarship on these language groups

and the lack thereof on others corresponds to the fact that Greenberg was able to successfully defend his larger Afroasiatic and Niger-Congo proposals against the attacks from “conservative” Africanist circles, while he simply ignored critiques of his genuinely novel hypotheses, namely the existence and composition of Nilo-Saharan and Khoisan, for example, Westphal’s (1956, 1962a, 1962b, 1971) adverse but well-founded position regarding the latter.

Newman (1995: 1) has characterized the reception of Greenberg’s classification as ranging “from adulation to highly emotional rejection”. It is possibly true that in the beginning there was a certain polarization of opinions that also prompted some scholars to take an “all-or-nothing” approach to Greenberg’s scheme. This in turn impeded an engaged attempt to separate the wheat from the chaff regarding both the robustness of individual hypotheses and the real yield of different methodologies. Given the comprehensiveness of the classification, this was compounded by the sheer lack of specialist knowledge on and/or interest in the language units Greenberg subsumed under one or another super-group, notably Nilo-Saharan and Khoisan. This unfortunate situation would be further aggravated in subsequent years as certain political events led to a period of decreased interest in Africa and, consequently, its languages. Already Welmers (1963: 413) wrote:

... new contributions in this revision of Greenberg’s classification – primarily the inclusion of a number of small groups into larger families – will probably not be vigorously criticized in themselves. Few people know much about the languages in question, and it is interesting that adverse criticism seems generally to come from sources that are associated with some kind of vested interest. Crudely, no one cares enough about Songhai or Koman or Fur to get involved in a dispute with Greenberg as to his conclusions or the methodology that underlies them.

There are other short- and long-term circumstances outside African linguistics that favored the enduring success of Greenberg’s (1963a) classification. One is mundane rather than scientific, but important nonetheless: the post-war period was marked by the United States taking on a globally leading role in all kinds of domains, including many parts of academia, which is aptly characterized by Wolff (1981: 27) with respect to the present topic: “damit betrat die US-amerikanische Afrikanistik etwas provokant die Bühne” [with (Greenberg’s classification of 1949–1954), a North American brand of African linguistics somewhat provocatively entered the stage].

The new orientation toward US scholarship was also associated with a shift in general linguistic paradigms that, generally speaking, implied a decreasing interest in historical questions and the associated traditional linguistic methodology, which once formed a cornerstone of the discipline. This concerns especially generative syntax marginalizing typological and historical linguistics and lexicostatistics as a nonorthodox historical method.

Lexicostatistics would come to play a particular role in that it entered the scene as the seemingly missing scientific tool to effectively put into practice what

Greenberg repeatedly advocated, multilateral or mass comparison in the domain of lexicon, which in its original form is widely condemned in non-Africanist circles for not providing probative evidence (see, e. g., Pawley [2009: 165–168] regarding Greenberg’s little-known Indo-Pacific hypothesis). The appeal of lexicostatistics is also embedded in the contemporary positivist trend toward quantitative data analysis, which today tends again to be seen as directly yielding answers instead of being a crucial supplement to qualitative approaches to some larger scientific question. For post-Greenbergian African linguistics, it can be said that mass comparison and lexicostatistics celebrated a coincidental but enduring marriage that came to marginalize the traditional historical-comparative method.

The last approach only continued to thrive in a few places, primarily in France and Germany, which had a relatively dense Africanist infrastructure that could incorporate this research despite it being time-consuming and having relatively little impact in the short term. A reduced application of the more rigid method also correlates with a decrease in general standards in historical comparison, which is discussed in section 2.2.

In summary, the apparent contradiction between the negative reception of Greenberg’s language classifications in other geographical areas and the success of the same approach in Africa is not all that surprising. The latter can be argued to be the net result of various coinciding factors and cannot be reduced to the merits of a fresh and sound linguistic approach. That is, all the points made above are not meant to diminish the enormous achievement made by Greenberg but to better comprehend why his overall scheme has enjoyed such a good reputation despite its well-known drawbacks.

There is yet another circumstance of Greenberg’s classification work that also relates to how scholars should deal with it today. At least in the beginning, Greenberg himself had pointed out that the nature of his work places it more in the realm of creating rather than testing hypotheses, for example, when writing (1950d: 393) that his proposals remain to be substantiated by the comparative method: “Further investigation, particularly the reconstruction of parent forms within each language family, is necessary before these and other similarities can be adequately evaluated.” This important point was rightly reiterated by other scholars, for example, Heine (1992: 32):

Although Greenberg’s work represents considerable progress over that of previous writers, it leaves a number of questions open. His approach is largely inadequate for the PROOF of genetic relationship; it can do little more than offer initial hypotheses, to be substantiated by more reliable techniques like the comparative method. In a number of instances, languages or language groups have been placed in a given family solely on the basis of a handful of ‘look-alikes’, i. e. morphemes of similar sound shape and meaning.

Thus, one major problem of post-Greenbergian scholarship is that historically oriented Africanists have not succeeded in, or worse, bothered with converting most of the new hypotheses into more robust frames of reference by standard methods of hypothesis testing in the discipline. What Childs (2003: 47) says about the research history of the apparently spurious Atlantic family, the language group he happens to specialize in, must be extended to the African continent as a whole, namely “that scholarly inertia reinforces mistakes, which are thereby perpetuated indefinitely, effectively forestalling any re-examination of the facts”.

A reorientation within African language classification is relatively recent. Emanating from the long-standing dissatisfaction with Greenberg’s Khoisan hypothesis on the part of language specialists (cf., e. g., Sands 1998b, 1998c; Güldemann 1998; Güldemann and Voßen 2000), serious doubts were reaffirmed through the repeated reference to the inadequacy of his four-family scheme for typological comparison (cf. Güldemann 1998, 2003b, 2005a, 2008c, 2008d), and have culminated so far in continental surveys that argue for the recognition of a greater linguistic diversity in Africa, including the discourse about possible isolate languages (Dimmendaal 2008b, 2011; Sands 2009; Hombert and Philippson 2009). All these works agree that a number of Greenberg’s proposals still stand and others may well be confirmed in the future by more convincing evidence.³ Thus, it is not Greenberg’s enterprise as a whole but more specifically his last highly synthetic classification of 1963 that must be questioned today.

2.2. Evidence supporting genealogical classifications

2.2.1. Introduction

In the context of this book it is not possible nor necessary to give an introduction to historical linguistics in general and genealogical classification in particular (for recent overviews see Joseph and Janda [2003] and Campbell and Poser [2008]). However, the history and current state of historical linguistics on African lan-

³ It is of secondary concern whether there is scientific merit in proposing an ultimately correct hypothesis for the wrong reasons. At the time, most of the proposals on distant genealogical relationships, notably the maximal groups like Khoisan, Niger-Kordofanian, and Nilo-Saharan, had to have been the result of rather unsystematic trawling through large amounts of data and resulted from Greenberg pressing his subjective interpretations into a single historical explanation, namely genealogical inheritance. When, so to speak, one overhastily casts the widest possible single-type net, it is simply inevitable that some of the initial catch will turn out to be replicated by later, more systematic searching.

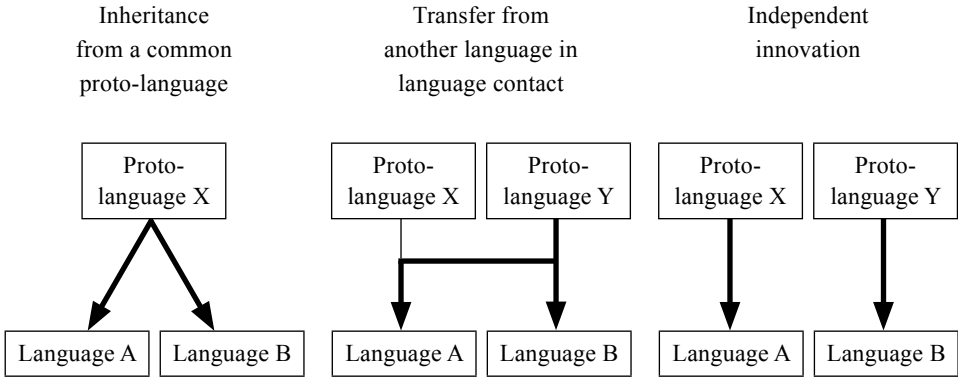


Figure 3: Three major scenarios that lead to shared linguistic features among languages

guages make it necessary to go into some details about the problem of establishing linguistic genealogical relationships.

Generally speaking, grouping languages into a lineage, understood as any group with a common descent in the sense of Nichols (1992: 25), can be seen as a kind of “discovery procedure” that consists in the exclusion of all other possibilities that can explain shared linguistic features according to an accepted methodological framework. In other words, the real challenge in language classification is not to find isoglosses for the sake of establishing genealogical relationships but rather to identify the multifold patterns of differently caused isoglosses and interpret them adequately.

Figure 3 displays a basic typology of scenarios in which two languages may come to share an isogloss. The right-most scenario, independent innovation, differs from the other two in lacking any known causal historical event that can be located in space and time. The presence of a feature in two or more languages in this basic scenario can be explained by such diverse factors as coincidence, parallel universal drift, and, only becoming more popular in the recent past, parallel environmental drift. The two scenarios on the left of Figure 3 differ from independent innovation in that the presence of a modern isogloss is explained historically. Here a basic distinction between two types of historical explanations is recognized, namely contact-induced innovation vs. shared genealogical inheritance.

In many cases where similarities between languages and language groups are observed, the major challenge in language classification is to disentangle these two historical scenarios. This undertaking requires the use of criteria that are as systematic and constrained as possible. The heavy interference of language contact in the modeling of genealogical language relationships has been observed and discussed recurrently, particularly so in the recent past (cf., e. g., Noonan 2010; McMahon 2013). Two Africanist contributions to Aikhenvald and Dixon (2001),

addressing the problem of areal diffusion and genetic inheritance from a global perspective, come to partially different conclusions for the African continent. Heine and Kuteva (2001: 393) write: “The conclusion reached is that contact-induced language change and the implications it has for language classification in Africa are still largely a terra incognita.” Dimmendaal (2001a: 387–388), who is largely confident about Greenberg’s genealogical classification, concludes with reference to the wider Gulf of Guinea coast area in West Africa that “... important from a methodological point of view, areal diffusion did not obscure the original genetic relationship”. On Dimmendaal’s (2011) own current account, Ijoid (U8) – one group in the area sharing numerous structural features and lexical items with the neighboring Niger-Congo languages – should, however, no longer be viewed as belonging to this lineage. In section 2.4–8 below I mention in fact quite a few cases other than just Ijoid where isoglosses can be interpreted ambiguously and thus require deeper and more sophisticated investigation than heretofore applied in order to come to robust classificatory conclusions, thus siding with the more cautious position by Heine and Kuteva (2001). I have argued in Güldemann (2010) that genealogical and areal signals are especially prone to ambiguous analyses on higher-order levels involved in Greenberg’s (1963a) long-range comparisons, and this is supported by Nichols’s (2010) survey of macro-families and macro-areas on a global scale (cf. also Güldemann this volume, chapter 3.2).

In order to tackle this and similar issues, the linguistic evidence mustered for any genealogical relationship should comply with certain standards. In the ideal case, evidence should be “individual-identifying” in terms of Nichols (1996) and at the same time unlikely to be transferred by language contact. Three principles that are widely accepted (cf., e. g., Newman 2000) but, I argue, too often disregarded in Africanist circles that adhere to Greenberg’s classification, are briefly discussed in the following, namely a) morphological evidence over lexical evidence, b) paradigms over atomic items, and c) lineage history over data quantity.

2.2.2. Morphological evidence over lexical evidence

Several prominent historical linguists, such as Meillet (1958: 91, 97) as cited in Nichols (1996: 47), have made demands for grammar to take primacy over lexicon:

Grammatical correspondences are proof, and only they are rigorous proof, provided one makes use of the material detail of the forms and that it is established that particular grammatical forms used in the languages under consideration go back to a common source.

While one can initially establish vocabulary resemblances between two or several languages as an indication of where to do further research, this cannot furnish a definitive demonstration; vocabulary can only orient the research, and proof comes from elsewhere.

While some scholars may well debate this position, there are good reasons for adopting it, particularly because lexicon, as opposed to morphology, is not just subject to extensive change but more specifically to substitution, and the form of new semantic replacements is determined by many factors beyond language-internal processes. This problem becomes increasingly serious as the distance grows between languages that are purported to be genealogically related on the basis of lexical isoglosses. For one thing, the assumed proto-forms become phonetically ever more reduced and abstract, which makes it difficult to exclude not only sheer coincidence but also universally relevant sound–meaning correlations (see Blasi et al. 2016). Moreover, the temporal and geographical scale involved exponentially increases the multitude of diverse historical trajectories. Tucker and Bryan (1956: XVI, ADDENDA), while not adequately addressing Greenberg’s overall approach that relies considerably on morphology, correctly comment on his controversial affiliations based on scattered vocabulary resemblances:

The only conclusion which can be reached at this stage is that mere vocabulary comparison, unsupported by phonology [presumably referring to regular sound correspondences], may give rise to a variety of classifications, each as convincing as the other. ... That is why, in the present work, the authors prefer to keep their classification down to the ‘Larger Unit’, in which the relationship of member Languages or Language Groups is indisputable, leaving the wider classification open for further research.

One major cause of vocabulary replacement is, of course, contact-induced borrowing (see Haspelmath and Tadmor (2009) and Tadmor, Haspelmath, and Taylor (2010) for recent survey discussions). Such lexical change can disguise the coherence of a genuine language family, as diagnosed by Pasch (1986: 412) for the Mbaic group (U17.C):

Die Tatsache, daß die lexikostatistische Untersuchung auf die vier Mba-Sprachen beschränkt geblieben ist, ist mit dafür verantwortlich, daß das obige Ergebnis zustande kam. Wären andere Sprachen, insbesondere das Zande und das Lingala in die Untersuchung einbezogen worden, hätte es wahrscheinlich ein dergestalt verschiedenes Ergebnis gegeben, daß die Mba-Sprachen keine geschlossene Sprachfamilie mehr bilden würden. [The fact that the lexicostatistic analysis was restricted to the four Mba[ic] languages is one reason why the above result [of a certain amount of lexical unity] was obtained. Had other languages, in particular Zande [Zandic, Ubangi] and Lingala [Bantu, Benue-Kwa], been included in the investigation a quite different result might have emerged to the effect that the Mba[ic] languages would not have formed a coherent language family.]

In fact, Greenberg’s (1963a: 9) wider survey within his Eastern (aka Ubangi) group failed to detect the close linguistic relationship among the three Mbaic languages he considered. This was only discovered later by looking at morphological data concerning noun classification, which brings home the point that morphological evidence is a more reliable indicator of genealogical relationship than any superficial inspection or measurement of lexical proximity.

A yet more worrying concern relates to regular sound correspondences, even in more stable lexicon, which is viewed by some to be the non plus ultra for the acceptance of a language family. That is, such correspondences can be the result of intensive language contact, for example, if such contact was relevant for the ultimate emergence of a synchronically attested lineage. Here, I do not claim that a linguistic history coming close to a “mixed-language” or “creole” origin should be hypothesized with the same ease as normal transmission producing canonical genealogical relationships – a facile assumption that was recurrent in early African scholarship as well as among Greenberg’s critics; at the same time, individual cases may require further investigation before this possibility can be excluded.

There is another cultural reason why inherited lexicon can be subject to increased substitution, and thus why vocabulary data, when used on their own, may be unsuitable for ascertaining genealogical relationships, namely linguistic taboo. Just to mention one example, Kleinewillinghöfer (1995, 2001) views this as a major factor in such Adamawa languages as Longuda, Cham, and Tso, which in Cham goes hand in hand with heavy lexical substrate interference, here of the replaced language Jalaa (see section 2.3.3).

In view of all the above phenomena, it is in fact surprising how heavily historical linguistics, both in Africa and outside this continent, has been and still is relying on lexical evidence for elucidating genealogical relationships on high and low classificatory levels. Greenberg’s original approach of using largely isolated lexical items attested in single modern languages has developed over time toward ever more unconstrained forms of long-range comparisons. Their fate can be seen in such works as Blench (2008): the data he presents started out as evidence for one or the other of Greenberg’s four macro-groups, then turned into “Pan-African roots”, but, when expanding the search, end up recurrently as “global etymologies”.

As mentioned in section 2.1.4, an even more prominent role in post-Greenbergian African linguistics has been played by lexicostatistics. It is still used today for classification despite its well-known problems (cf., e. g., Elugbe and Bankale [2004] as just one recent example discussing the many controversial issues arising from lexicostatistics in the Benue-Kwa pool of Niger-Congo). In view of the renewed trend toward using only quantitative lexical data for reconstructing linguistic and nonlinguistic history, now in combination with phylogenetic methods (cf., e. g., Holden [2002] or Currie et al. [2013] on Bantu; and Kitchen et al. [2009] on Semitic), it remains to be seen whether this research will take concerns and ideas of historical linguistics on board. That the computer-assisted analysis of quantitative lexical data is as such a highly promising enterprise should not be questioned (see Heggarty [2010] for an example of a linguistically sophisticated approach).

2.2.3. Paradigms over atomic items

The second principle of preferring paradigmatic data is partly related to the first principle in that suitable morphological elements also frequently come in structured sets. Isoglosses combining morphology and paradigmaticity most easily meet the requirement of being individual-identifying, explaining why pronominal and similar elements have proved to be so attractive for testing hypotheses of genealogical relations. Such evidence makes multiple independent development and transfer by means of contact simultaneously unlikely – although these two scenarios still cannot be excluded automatically. For instance, Campbell (2003: 276) brought to attention that sheer coincidence accounts for the strong similarity of a set of verbal person suffixes in Early Indo-European and Proto-Eastern Miwok in northern California, and Seifart (2012) shows that paradigm borrowing is in fact recurrently attested under certain circumstances. However, these data do not minimize the elevated diagnostic value of morphological paradigms in comparison to other types of evidence but rather serve as a reminder that even this evidence should preferably exist in more than a single case.

Nevertheless, paradigmaticity is a preferred criterion in its own right. On the one hand, it is a crucial requirement even for morphology, because comparing only single isolated markers, which has been pursued extensively by Greenberg and other scholars working on remote relationships, is in fact quite problematic. This is because morphological forms generally tend to be both short in form as well as drawn from a restricted unmarked subset of the phonological inventory, which are both factors that increase the possibility of chance resemblance. On the other hand, paradigmaticity also significantly improves the diagnostic value of lexical data. Indeed, the relevant domain of numerals presents a prime case of using structured groups of lexemes for assessing historical-comparative questions. Greenberg (1963a) himself made this point by means of the short paradigm of lower numerals in eight languages, reproduced in Table 2, which indeed gives a first indication about their correct genealogical affiliation to two distinct language families (assumed cognates within each lineage are printed in boldface and left-aligned).⁴

⁴ At the same time, the data also demonstrate the risks of such superficial comparisons. For example, the apparent cognate in Kotopo aka Peere of the series for ‘two’ does not seem to reflect an old inherited form. First, forms with *Ba seem to be more restricted in Niger-Congo. Second and more importantly, the more likely proto-form of the lower-order family Samba-Duru to which Kotopo belongs does not reflect a potentially inherited *Ba. (See Table 27 for the empirical data.)

Table 2: Lexical comparison of numeral paradigms (after Greenberg 1963a: 4)

No.	Language	Genealogical classification		'one'	'two'	'three'
1.	Berti	Saharan		<i>sang</i>	<i>su</i>	<i>soti</i>
3.	Tedaga			<i>toro</i>	<i>ču</i>	<i>agozo</i>
6.	Kanuri			<i>tilo</i>	<i>ndi</i>	<i>yasko</i>
8.	Zaghawa			<i>lakoi</i>	<i>sw.e</i>	<i>we</i>
2.	Kotopo		Samba-Duru, Adamawa	<i>wate</i>	<i>i.ba</i>	<i>ta.ti</i>
4.	Ahlō (aka Igo)	Niger-Congo	Ka-Togo, Benue-Kwa	<i>ili</i>	<i>i.wa</i>	<i>i.ta</i>
5.	Proto-Bantu		Bantoid, Benue-Kwa	<i>mwe</i>	<i>ba.li</i>	<i>ta.to</i>
7.	Efik		Cross River, Benue-Kwa	<i>kiet</i>	<i>i.ba</i>	<i>i.ta</i>

For some language groups, it is shown below that already a superficial survey of numerals in reconstructed form, even if preliminary, can give a more transparent picture regarding proposed genealogical hypotheses as well as the possible identification of new ones. While this is already evident for the lower numerals up to 'five', the potential of such research is even greater when also looking at higher numerals like 'six' through 'nine' and 'eleven' through 'nineteen', because these are often petrified compounds with lower numerals as their components and thus potentially retain old lexical items for an even longer period of time, as recognized by previous research (cf., e. g., Boyd 1989b; Zelealem 2004; Blažek 2009a).

Unfortunately, numerals, too, can undergo enormous change, to the extent that they may not be useful in certain families and/or on some genealogical levels; for example, this holds for deeper relations in Afroasiatic according to Wenger (2002). Moreover, and more seriously, there are recurrent instances of shared elements in a coherent segment of the paradigm, even in lower numerals, that do not reflect common inheritance but rather language contact. A representative case is the Berber languages, investigated in detail by Souag (2007), where Arabic numerals were borrowed very frequently and in variable degrees up to the replacement of inherited items like 'three,' 'four,' and 'five.'

While in the case of Berber the pressure toward borrowing even lower numerals was ultimately caused by a difference in sociolinguistic prestige, some contact settings involve circumstances in which numeral borrowing even has straightforward structural reasons. That is, languages with restricted numeral systems, a feature recurrent among but not limited to foragers, are likely to borrow numerals from 'three' upwards and retain them once their use has become regular. Such a scenario, which will have been frequent in prehistory, has to be excluded before a modern case of a shared numeral set is interpreted in terms of genealogical inheritance. Such a suspicious case is Ijoid (U8): its forms for 'one' and 'two' are

unique, and for ‘one’ not even uniform across this small lineage, while ‘three’, ‘four’, and ‘five’ are suspiciously similar to forms in neighboring Benue-Kwa languages (see Table 27 in section 2.5.2.2). Given that other diagnostic evidence for Ijoid’s Niger-Congo membership is so far lacking, this picture could in fact reflect language contact.⁵

In addition to numerals, suitable genealogical evidence can be sought in other lexical paradigms. A case in point is sets of suppletive lexemes correlating with certain grammatical categories. This is shown, for example, by the case of number-sensitive verb-root suppletion that supports the establishment of the Kx’a family (U2) in southern Africa. According to Honken’s (2004) data collation, the Ju complex and the †Hoan variety of †Amkoe share among other things close to ten verb roots that are organized language-internally in a lexeme pair that varies, depending on the valency, with the number of the subject or object, including two complete sets for such basic verbs as ‘stand’ and ‘sit’. This not only supports the unity of Kx’a but also helps to sort out other languages: the grammatical phenomenon as such is also found in the geographically close but genealogically unrelated Tuu language Taa but the verb lexemes are not etymologically related. This is shown in Table 3 (if one of the number counterparts is not listed, the relevant synchronic forms are not cognate across the two branches of the Kx’a family).

Table 3: Verb root suppletion in Kx’a and Taa (after Honken 2004: section 2.1.3.2)

Gloss	Ju (Kx’a)		†Amkoe (Kx’a)	Taa (Tuu)
	!Xuun	Jul’hoan	†Hoan	East !Xoon
stand (S)	<i>ʔ!ηũ</i>	<i>η!ú</i>	<i>!ú</i>	<i>//húũ</i>
stand (P)	<i>g//à</i>	<i>g//à</i>	<i>g//à</i>	<i>ʔ//nũhã</i>
sit (S)	<i>ʔ!ηũŋ</i>	<i>η!áj</i>	<i>ʔ!ηá</i>	<i>ts^húu</i>
sit (P)	<i>g!^hó</i>	<i>g!^hòó</i>	<i>!q^háũ</i> ‘recline’	<i>!ʔáã</i>
arise (S)	<i>tsáó</i>	<i>tsáú</i>	<i>cú</i>	<i>kx^ʔába</i>
drop (P)	<i>tà^ʕm</i>	<i>tà^ʕm</i>	<i>(t/á^ʕm)</i>	<i>//^ʔáli</i>
take (P)	<i>η!ũ^hi</i>	<i>η!ũi</i>	<i>kí-η!ũi</i>	<i>ʔ^hãð</i>
take out (S)	<i>g!xà</i>	<i>g!χà</i>	<i>kí-!χáo</i>	–
kill (S)	<i>!^hũ</i>	<i>!^hú</i>	<i>!^hò</i>	–

⁵ Of course, a similar situation with numerals can also hold in a language (group) that does display additional genealogical evidence (cf. such a potential case with Bennett and Sterk’s [1977: 253–254] so-called Nyo group within Kwa based on the numeral for ‘two’, cf. Table 27 below). This picture could reflect an inverse historical scenario whereby a population originally speaking a language with a restricted numeral system underwent language shift but retained its lowest numerals for ‘one’ and ‘two’.

While cases of root suppletion are possibly too rare and restricted in order to be important on a larger scale, another domain worthy of future systematic investigation may be kinship vocabulary, whose paradigmatic size is larger and has structured patterns of morphological complexity like affixation and compounding.

Table 4: Shared kinship vocabulary in Mundu-Baka and Ndogoic

Family	‘mother’	‘man/male’	‘maternal uncle’	Source
Mundu-Baka	*na~*na	*mɔ.kɔ.(sɛ)	*nɔ.kɔ	Winkhart (2015)
Ndogoic	*nà	*Dā.kò	*nù.kù	Moñino (1988: 118, 122, 127)

An example from the Ubangi pool can illustrate the phenomenon of compounding. Table 4 shows that Mundu-Baka (U17.D) and Ndogoic (U17.G) not only share roots involved in the words for ‘mother’ and ‘man/male’ but also combine the two in the expression of ‘maternal uncle’. The type of compound is semantically not unique in Africa nor are the two lexical roots (the one for ‘mother’ is widespread in Niger-Congo, and that for ‘man/male’ is shared at least by other Ubangi families). The entire pattern of the three lexemes and their relations to each other warrants, however, a more concrete historical explanation for the relation between the two groups.

2.2.4. Lineage history over data quantity

The third principle of giving primacy to an interpretation of data in terms of a plausible lineage history relates to the very core of historical linguistics. There are two models accounting for historically induced isoglosses, “vertical” genealogical inheritance within a phylogenetic family structure and “horizontal” contact-mediated transfer across languages. The genealogical family-tree model in particular entails straightforward principles regarding the trajectories of linguistic inheritance within this structure, which have been ignored too often in major proposals on African language classification, for example, that by default modern language items can only be the reflex of one proto-form, that proto-languages are unlikely to have multiple forms for basic semantic concepts, etc.

One of the major drawbacks in this respect has been the widespread but particularly detrimental practice of basing historical comparisons predominantly on the attestation of presumably diagnostic linguistic characters in individual modern languages rather than on plausible proto-forms of larger language sets. The first approach is a direct continuation of Greenberg’s quantitatively oriented mass comparison, while the second is qualitative, providing not only probative evidence but also plausible phylogenetic histories. Sasse (1974: 621–622) sounded the following note of caution, without much effect, however:

... würde uns zum Beispiel lehren, die Vergleichung von einzelsprachlichem Material ohne Berücksichtigung von genetisch zusammengehörigen kleineren Einheiten endlich aufzugeben. Niemand bildet sich ein, Aufschlüsse über die Verwandtschaftsverhältnisse des Indogermanischen zu erhalten, wenn er die Oberpfälzer Mundart mit dem Kurdischen vergleicht. ... Unsere Aufgabe besteht also zuerst in der Etablierung kleinerer Gruppen, deren genetische Verwandtschaft in sich klar und einwandfrei beschreibbar ist. [... the recognition of and cooperation with already successful philologies) would teach us, for example, to abandon once and for all the comparison of material of individual languages without taking into account smaller genealogically related units. Nobody expects to gain insight into the genealogical relationships within Indo-European by comparing the (German) dialect of the Upper Palatinate with Kurdish. ... Our task thus consists first in the establishment of smaller groups, the genealogical relation of which can be described clearly and unambiguously.]

The danger of the facile interpretation of “dense” lexical isogloss distribution in terms of inheritance is illustrated by Güldemann and Loughnane (2012) with respect to the Khoisan hypothesis. The work shows that body-related lexicon that is widespread across modern languages of all three relevant families in southern Africa is not good evidence for their higher-order relationship, because as soon as lineage-internal reconstruction is pursued, the majority of cross-family isoglosses can be shown to ultimately originate in one lineage and thus their presence in others turns out to be better explained by language contact, or the proto-forms become more dissimilar, no longer justifying a historical interpretation. This study does not yet provide solid reconstructions, and above I have deliberately referred in general to “plausible” proto-forms. Clearly, if one were to await the painstaking establishment of final reconstructions, any investigation of non-obvious genealogical relationships would be unduly deferred. Thus, there is a positive role of what has been called “quasi-reconstructions” or “pseudo-reconstructions”, because they give a better picture about whether modern attestations of a linguistic form in a comparison are likely to go back to the proto-language of the relevant lineage.

In some sense, there is a counterpart of the above procedure concerning lexicon that deals with structural linguistic features. Greenberg (e. g., 1977: 103) initially called it the “diachronic process approach”; today it is better known as “diachronic typology” and includes the results of grammaticalization research, as proposed by Greenberg (1995). It entails at least two requirements. First, individual proto-stages within a language family are reconstructed as systems supported by global cross-linguistic diversity. Second, the differences among them and between synchronically attested stages can be explained by plausible morphosyntactic changes (see, e. g., the overview by Harris and Campbell [1995]) *and* these are in compliance with the phylogenetic history assumed for a given lineage. While Greenberg (1963a and later works) provided support of this kind in connection with parts of his Niger-Kordofanian and Afroasiatic hypothesis (see section 2.5 and 2.7),

he failed to account for the modern diversity within Khoisan and Nilo-Saharan (see section 2.4 and 2.6). A few laudible exceptions aside, such as the discussion revolving around word order and grammatical relations in Nilotic and Surmic (cf., e. g., Andersen 1988; Hieda 1991; Dimmendaal 1998a, 2005), African historical linguistics today is still characterized by the neglect of diachronic typology and similar techniques in the establishment of plausible phylogenetic histories.

2.3. The present classification survey

2.3.1. A typology of evidence for genealogical hypotheses

From the outset it must be said that the following African language survey is not intended as a new genealogical classification in the traditional sense, for example, comparable to Greenberg's (1963a) framework. Instead, it is meant to enable readers to reach their own well-founded conclusions about the entirety of genealogical relationships that have been proposed up to now, and to do so according to the criteria they deem sufficient/necessary.

For this purpose, I classify evidence claimed for genealogical relationships into basic types, as listed in Table 5, and will assign these types to the individual proposals in Africa to be discussed below. Individual decisions necessarily entail subjectivity on my part but due to the exhaustive coverage and the unitary criteria this survey is nevertheless hoped to provide both a balanced picture of comparative research across the entire continent and, particularly for non-specialists, a better understanding about the nature and reliability of particular hypotheses. (Obviously, this typology cannot cover works that just claim a relationship without at least pointing to some concrete data.)

Since the classification in Table 5 should be intuitively clear for the historically-interested linguist, only a few short clarifications are in order. The types A, reconstructed morpheme paradigms, and B, regular sound correspondences in the lexicon, are straightforward in that they comply with the traditional requirements

Table 5: Types of linguistic evidence for genealogical hypotheses

Code	Characterization of evidence type
A	Morphological reconstructions of a paradigmatic nature
B	Vocabulary reconstructions with regular sound correspondences
C	Recurrent obvious resemblances in vocabulary and/or morphology with bona fide reconstructibility
D	Scattered resemblances in vocabulary and/or morphology
E	Lexicostatistic calculations
F	Typological-structural similarities

within the historical-comparative method, established in the late 19th century and described since then in a number of textbooks, collective volumes, etc., for example, Anttila (1989), Hock (1991), Durie and Ross (1996), Campbell (1998), and Joseph and Janda (2003), to mention some more recent ones. Both types of evidence involve the potentially problematic issue of quantity. In principle, the more evidence is submitted the better the proof for a proposed relationship, but some types of data when assessed in terms of Nichols (1996) can attain “individual-identifying” quality despite limited quantity (see section 2.2 above). An important caveat, when applying the criteria laid out in standard methodology, is that not all works on African language classification invoking “regular sound correspondences” actually supply them in any canonical sense and will thus not be assigned a type-B evaluation. This holds, for example, for the studies by Ehret on Nilo-Saharan (2001) and South African Khoisan (2003: 68–71), because his “correspondences” are not supported by sufficient etymologies or even are not substantiated by any data – this quite apart from the possibility that lexical isoglosses, even regularly related ones, may have explanations other than inheritance.

The assessment of an assumed lineage in terms of type C is based on what Nichols (1996) and earlier authors like Meillet (1958) call “self-evidence of relatedness”, for example, in such Indo-European subfamilies as Slavic, Germanic, and Romance. Their family status is obvious or at least easily recognizable even for outsiders and is often accompanied by a consciousness of common descent ingrained in the oral and/or written memory of the speakers as well as the fact that knowing one group language immensely facilitates learning a related one. However, only with the systematic presentation of data according to the criteria of A and B can the relevant lineage be fully accepted.

Evidence of the types A, B, and C is commonly held to be reliable for accepting a genealogical relationship, provided, of course, that non-specialists can in fact inspect the necessary data in a sufficiently compact form. This is not the case with evidence of the types D, E, and F. According to mainstream historical linguistics, these can certainly contribute to hypothesis creation but do not justify the assertion of a genealogical link, even if extensive data are provided. While evidence of type D is intricately related to that of A and B in the sense that all involve similar linguistic data and analysis, the former lacks the systematicity and regularity required within the latter. Sometimes it is hard, though, to make a categorical distinction in terms of quantity and quality, so that particularly in such borderline cases my decision for judging some evidence as A/B or as D is inevitably subjective.

While both E, lexicostatistics, and D, scattered lexical resemblances, may involve a large amount of data, what distinguishes them is that the compared items in the former are systematically collected across the entire comparative space while in the latter they are taken opportunistically from diverse classificatory entities according to suitable comparisons, up to the point of assembling isolated look-alikes with lax semantic association.

When, in a certain case, I consider type-E evidence to be a central argument in an hypothesis, this does not just mean that lexicostatistic calculations exist but that their values are elevated, suggesting at least the likelihood of historical connectivity across a given group. There are many more lexicostatistic studies in African linguistics that are not recorded here because they involve such low proximity values that a historical interpretation is unwarranted. Moreover, satisfying lexicostatistic calculations are no longer mentioned if A- or B-type evidence exists.

Finally, typological similarity – type F – can and often does inform the plausibility of a hypothesis but may also be potentially misleading, as the history of African language classification amply shows. As mentioned above, typological indications can also be strong if an assumed lineage is structurally diverse but arguments of diachronic typology make the existence of a single original profile plausible. Again, existing type-F evidence is only mentioned in cases that are not already justified by A- and/or B-type evidence.

2.3.2. Basic classificatory units

As has been recognized by previous scholars, including Greenberg (1963a) himself, robust evidence for his four super-groups has yet to be identified using historical-comparative methodology; in other words, none of his groups have been proven to exist in the form in which he has presented them. Given the current state of knowledge, Niger-Kordofanian and Afroasiatic contain doubtful members, while Khoisan and Nilo-Saharan remain inconclusive with respect to their very existence. As will be discussed below, until quite recently a major contributing factor has been the insufficient amount of descriptive research on quite a number of basic language groups, and for some units this still holds today. In such cases, this alone indicates that a classification within Greenberg's scheme is premature.⁶ For all these reasons, Greenberg's four groups serve here primarily as pragmatically oriented reference points for the reader and are from now on called "domains" in a genealogically noncommittal sense.

Instead of focusing on these four groups, this survey looks at far smaller entities called here "basic classificatory units". They are intended to serve as robust low-level groups upon which higher genealogical relationships can be built that require more extensive and sophisticated argumentation, including the super-groups already proposed. In the following presentation, these units receive an identification code: "U" followed by consecutive numbering that covers the entire

⁶ I regularly indicate below which of the basic classificatory units still lack a modern and publicly available description today, or did so before 2000, when more serious and concrete reservations against Greenberg's general genealogical four-way scheme resurfaced after 30 years of little-contested acceptance (cf. Güldemann 1998, 2003b, 2008b, 2008c, 2008d; Sands 1998b, Sands 2009; Dimmendaal 2008b).

continent. This amounts to an inventory of 50 such units indigenous to Africa and the Arabian peninsula. Since these are far from uniform in terms of size, internal structure and genealogical profile, I distinguish four unit types. These are given in Table 6, including their special graphic representation used at appropriate places.

Table 6: Four types of basic classificatory units

No.	Unit type
1	<i>Single language</i>
2	Language family
3	GENEALOGICAL (LANGUAGE) POOL
4	<u>AREAL (LANGUAGE) POOL</u>

The first type are “single languages” without any obvious closer relation to another language (group); when referred to as a basic classificatory unit the language name may be written in italics. They have the status of being isolated or at least unclassified on different genealogical levels up to the extreme of being language isolates on a global scale.

The second type of unit, a “language family”, written in plain type, comprises at least two languages. The genealogical relationship between member languages, whatever their number, is required to be either “self-evident” in the sense of Nichols (1996) or to have been substantiated for precisely this unit by robust historical-comparative evidence that has not been publicly and authoritatively contradicted.

These first two concepts of single language and language family are viewed here to be “lineages” in the sense of Nichols (1992: 24–25) – a term for any set of languages that form a genuine genealogical entity irrespective of its age, complexity and classificatory level. For example, Afroasiatic, Semitic, Ethio-Semitic and Egyptian are all lineages but on different levels of observation: an independent family, a subgroup within Afroasiatic, a subgroup within Semitic of Afroasiatic, and an isolated language of Afroasiatic, respectively.

Importantly, the listing of single languages and families as basic lineages does not imply that there is no robust evidence for higher-order genealogical relations between some of them. Just to mention one example, this is the case for the core of Niger-Kordofanian. Since Westermann’s (1935) decisive study on noun classification systems there can be no doubt that numerous languages in western and central Africa form a large and old lineage. His study dealt with Mel, Gur, Ghana-Togo Mountain, Potou-Akanic, Edoid, Yoruboid, Igbooid, and Bantoid, which except for the first two groups are all subsumed under Benue-Kwa (U6). The reason for dealing here with these and other groups separately is twofold. First, most works presenting the relevant evidence, like Westermann (1935), have not argued that their set of language groups forms a family under the explicit exclusion of other

groups. Second, the larger group, here Niger-Kordofanian, cannot be considered to be an undisputed lineage on the basis of the evidence provided. Such a situation differs from that in other groups listed below as basic lineages. For example, the evidence for the relationship between Khoe and Kwadi of the Khoe-Kwadi family is certainly less extensive and, some may even argue, less compelling than that for the relationship between, say, Bantu and Gur. However, the Khoe-Kwadi family does not contain (groups of) languages for which the adduced genealogical evidence does not hold, and it has not been disputed so far.

There is a third type of basic classificatory unit employed here, “genealogical (language) pool”, written in appropriate contexts in capital letters. This concept is primarily relevant for the Niger-Kordofanian domain, notably for Benue-Kwa, Kru, Atlantic, Gur, Adamawa, and Ubangi, so that a more detailed discussion of empirical data can be found in section 2.5.3; here, only a few general remarks are made. Genealogical pools are not established lineages in the above sense but rather pragmatically useful/necessary entities that mostly arise from the history of African language classification. They can be characterized as sets of languages that are commonly and often quite plausibly associated with a higher-order group but whose internal genealogical coherence against the rest of this lineage has not been demonstrated or is altogether doubtful. If a genealogical pool has neighbors assumed to belong to the same higher-order group, a recurrent factor for its justification is a certain amount of typological unity. For example, Ubangi comprises a geographically compact set of language groups north of the Bantu area in which the noun classification system typical for Niger-Congo is completely absent, except for the small Mbaic family (U17.C). The reverse situation holds for Atlantic: this group consistently displays noun classification but is geographically sealed off from other similar Niger-Congo languages by the Mande family, which lacks this feature. An arguably more crucial albeit not necessarily consistent factor for the original establishment of a genealogical pool is that its languages are found in a relatively compact geographical area.

It should be clear that the characterization of a group as a genealogical pool implies the possibility of various genealogical interpretations in the future in addition to a more satisfactory demonstration of its family status. That is, individual subunits may a) only be genealogically close to parts of the pool, b) be closer to units outside the pool, and c) even represent independent units on a higher genealogical level. This implies that each subgroup of a pool must be evaluated independently with respect to its higher-order relationship.

What language families and genealogical pools have in common is that they both comprise two or more languages that are viewed here as going back demonstrably or with all likelihood to a common proto-language at some historical stage. They thus differ from the fourth and last type of basic classificatory unit, the “areal (language) pool”, also written in capital letters and additionally underlined. These share many characteristics with the genealogical pool but crucially their genealog-

ical status is far more uncertain. That is, in addition to the inconclusive genealogical coherence of an areal pool, it is even possible that one or more of its groups may have to be removed from the higher-order lineage they are currently assigned to, either by aligning it with another lineage or treating it as an isolate lineage. Possible areal pools are Kordofanian (U18) and Omotic (U46).

The last three types of basic classificatory units are of variable complexity. It goes without saying that the larger they are, the more likely it is that they can themselves be composed of real lineages and genealogical pools. For example, Benue-Kwa, the largest genealogical pool in Niger-Kordofanian, contains itself groups that are not yet conclusive families, notably Bantoid, Cross-River, Kainji-Platoid, Ghana-Togo Mountain, and Lagoon.

A few final words are in order on some terminological principles applied here for classificatory units and the changes arising from them in comparison with previous usage. This is also relevant because there still exists terminological variation or even confusion for a considerable number of language groups in Africa.

The central requirement for a term to be used here is unique identification. This often results from such useful conventions as naming a group after a specific geographical landmark or, even better, after a recurrent or reconstructable word for ‘people’, as is the case with such families as Tuu (U1), Khoe (within Khoe-Kwadi, U3), Bantu (within Benue-Kwa, U6), etc. Such established and unambiguous terms, in particular, if used by language specialists, have been adopted here. However, many language families are named after a major member language, owing to demographic factors, accidental research history, etc., so that the terms are ambiguous in that they refer to both the group and the relevant single language. This is particularly frequent in such incompletely documented genealogical pools as Adamawa, Ubangi, and Kordofanian. In order to ensure the necessary distinction can be made between different classificatory levels, I have created unambiguous group names based on the traditional single-language names by adding the suffix *-ic* according to the principles in Table 7.

Table 7: Present conventions for group names based on single-language names

Language name	Rule	Examples
Final consonant	add <i>-ic</i>	Kimic (Adamawa), Heibanic (Kordofanian)
Final <i>-a</i>	add <i>-ic</i>	Gbayaic (Ubangi), Katlaic (Niger-Congo)
Final <i>-e</i>	delete <i>-e</i> , add <i>-ic</i>	Mumuyic (Adamawa), Zandic (Ubangi)
Final <i>-i</i>	add <i>-c</i>	Ngbandic (Ubangi), Talodic (Kordofanian)
Final <i>-o</i>	add <i>-ic</i>	Kulangoic (Gur), Ndogoic (Ubangi)
Final <i>-u</i>	add <i>-ic</i>	Samuic (Gur), Dajuic (Nilo-Saharan)
Single open syllable	retain vowel, add <i>-ic</i>	Mbaic (Ubangi)

Another principle is to keep terms as simple as possible. In particular, I use some bipartite names but avoid tripartite ones (e. g., Bongo-Bagirmi rather than Sara-Bongo-Bagirmi).

These conventions do not necessarily represent final terminological proposals but rather serve the purpose of providing a simple and unambiguous reference system until language specialists can create and agree on names that are suitable for and better reflect the nature of a given group.

2.3.3. Scope and structure of the survey

Given the present primary focus on basic classificatory units as defined above, it should be clear from the outset that the following discussion does not attempt to result in any new all-comprising genealogical classification of African languages. Obviously, this would be in between Greenberg's four super-groups and the present list of 50 basic classificatory units, which are conceived of as the principal building blocks for more conclusive genealogical hypotheses. Instead, the aim of this study is to present the current state of research in the field so that it can be related more easily to the different approaches of establishing genealogical language relationships in historical linguistics, in particular the standard historical-comparative method. In other words, this survey serves primarily to give non-specialists the opportunity to evaluate for themselves the different classification proposals for African languages, depending on what evidence they deem sufficient and/or convincing. Thus, I try to report and discuss all the important proposals on genealogical relations beyond the 50 units, including, of course, Greenberg's four large domains.

Another general point regarding this survey is that it does not deal with all languages spoken in Africa and the adjacent Arabian Peninsula today or in the recoverable past. Instead, it focuses on the genealogical classification of the relevant languages that are:

- a) spoken (rather than signed, drummed, whistled, etc.),
- b) used by a canonical speech community,
- c) indigenous to the area (to be specified below), and
- d) sufficiently attested.

The first two criteria exclude non-spoken languages and special-purpose languages, respectively. The criterion under c) motivates the exclusion of a third major group of languages spoken in Africa today, namely those known to have an at least partial origin, and thus genealogical alliance, outside the area of interest. This comprises in particular the non-indigenous languages that have taken root in Africa and Arabia over the last three millennia, as listed in Table 8. Other sources like Sands (2009) and Hammarström (this volume) give some more information about all three groups of languages.

Table 8: African languages not treated in the present classificatory survey

Language (group)	Origin
Malagasy complex (Austronesian)	Immigration to Madagascar from Indonesia
Indo-Aryan and Dravidian languages	Immigration from South Asia
European languages	Immigration during European colonization
Pidgins, creoles, urban youth languages	Local emergence in late language contacts

A final set of cases is not treated in the main survey for another reason. There are a number of single languages, or ethno-linguistic communities that are assumed to have (had) a separate language, which have a unique classificatory status on the level of the continent in the sense that previous scholarship has not assigned any genealogical status to them or their status is to some extent equivocal.⁷ In line with Köhler's (1975: 338–344) practice, such cases should be dealt with in a comprehensive genealogical classification, either by integrating them according to appropriate standards or by discarding them for one or the other principled reason.

A typical assessment of such languages has been that by the *Ethnologue*, which treats them as unclassified or, far more rarely, as isolates. The assumption of genealogical isolation has only recently become more fashionable, as in Hombert and Philippson (2009), although these authors leave it entirely unclear which of the 28 languages they list are currently likely candidates for such a status. The *Ethnologue*'s initial evaluation of “unclassified” turns out to be appropriate for the majority of cases – due primarily to a paucity of data. If a language is assumed to be extinct, so that the lack of data for classification is irremediable, it is not just unclassified but effectively unclassifiable.

I list the relevant candidate cases in Table 9 and subsequently provide a brief discussion of various subtypes. I am very grateful to Harald Hammarström who commented on an initial draft and added a number of cases and relevant sources to the final list below. It goes without saying that there may well be additional cases that have escaped our attention. The table gives the name(s), the ISO code (if there is one), the country where encountered, the language's status with the target of language shift, if relevant and known, the major source(s), and genealogical hypotheses entertained in the literature. Languages that are listed in Table 9 but that are spoken today and/or have been subject to detailed research informing their classification are taken up again in later sections, as indicated in the second-last column.

The 43 entities in Table 9 are now discussed in some more detail according to different subtypes. Five still extant languages are covered by the discussion in the main sections below. Two languages have been misclassified in the *Ethnologue*, because they belong to other established lineages. Kara aka Fer has been shown

⁷ Given the focus on a continental scope, this is not the place to deal with any problematic cases on lower classificatory levels.

Table 9: African (speech) communities with unclear linguistic-genealogical status (Ethnologue; accessed 30 June 2016)

No.	Language	ISO	Country	Status and shift target	Source(s)	(Assumed) classification
1	Bung ¹	bqd	Cameroon	† > Kwanja	Connell (1998c)	(Benue-Kwa, Adamawa)
2	Centúúm~Jalaa ²	cet	Nigeria	† > Cham	Kleinewillinghöfer (2001)	(Isolate)
3	Dama	–	Sierra Leone	† > Mende	Dalby (1963)	(Mande)
4	Dima of Bottegò	–	Ethiopia	†	Conti Rossini (1927: 251)	–
5	Duli ³	duz	Cameroon	† > Fula	Kleinewillinghöfer (2014b); Hammarström (2015: s42–43)	(Adamawa)
6	Funj	–	Sudan	† > Sudanese Arabic	Spaulding (1972, 1973)	–
7	Gail ¹	gic	South Africa	spoken as L2	Cage (2003)	Speech register
8	Gey ³	guv	Cameroon	† > Fula	Kleinewillinghöfer (2014b); Hammarström (2015: s42–43)	(Adamawa)
9	Gomba	–	Ethiopia	† > Nyangatom	Sommer (1992: 346)	–
10	Guanche	–	Spain	† > Spanish	Wölfel (1965); Vycichl (1987); see also section U44	(Berber)
11	Gule	gly	Sudan	† > Sudanese Arabic	Seligmann (1911/12); Bender (1983a); see also section U40	(Koman)
12	Hamba	–	Tanzania	† > Makonde?	Maho and Sands (2002: 399); Hammarström (2015: s45)	–
13	Irimba	–	Gabon	?	Hombert and Philippson (2009)	–
14	Kara ¹	kah	CAR	spoken	Boyeldieu (1987, 2000)	Central Sudanic

No.	Language	ISO	Country	Status and shift target	Source(s)	(Assumed) classification
15	Kazibati-Mongoba	–	DRC	?	Costermans (1938); Bulek and Hackett (1956: 104)	(Ubangi)
16	Kujarge ¹	vkj	Chad	spoken	see section U48	(Chadic)
17	Kwisi	–	Angola	†	Estermann (1956: 39–50); Westphal (1965: 135)	–
18	Laabe	–	Chad	† > Laal	Boyeldieu (1977: 190); see also section U49	(Adamawa, Chadic, Isolate)
19	Laal	gdm	Chad	spoken	see section U49	(Adamawa, Chadic, Isolate)
20	Lufu ¹	ldq	Nigeria	spoken	Prischnegg (2010); Blench (2012a)	Benue-Kwa
21	Luo-Kasabe ¹	luw	Cameroon	† > Mambila	Connell (1998c)	(Benue-Kwa)
22	Mangio	–	Ethiopia	† > Kafa	Cerulli (1951: 11–21)	–
23	Mangree	–	Ivory Coast	†	Fodor (1975: 162–164)	–
24	Mawa-Marawa ¹	wma	Nigeria	†	Temple (1922: 271, 430); Gunn (1956: 13)	(Benue-Kwa)
25	Meroitic	–	Sudan	† > some Nubian?	see section U32	(Nilo-Saharan)
26	Mige	–	Chad	?	Tucker and Bryan (1956: 53)	–
27	Mimi of Decorse	–	Chad	†	Gaudefroy-Demombynes (1907); Starostin (2011)	(Maban, Isolate)
28	Mimi of Nachtigal	–	Chad	†	Lukas and Völckers (1938); Starostin (2011)	(Maban, Isolate)

29	Mpra	–	Ghana	† > Gonja and Dukulbi	Cardinall (1931); Goody (1963); Blench (2007c)	(Niger-Kordofanian, Isolate)
30	Nimbari	nmr	Cameroon	† > Fali	Strümpell (1910); Kastenholz and Kleinwillinghöfer (2012)	(Adamawa)
31	Numidian	–	Algeria/ Tunisia	†	Rössler (1958, 1979b); see also section U44	(Berber)
32	Oblo	obl	Cameroon	† > Fula?	Dieu and Renaud (1983: 98); Ayoitte and Ayoitte (2002)	(Adamawa)
33	Okwa	–	?Ghana	†	Fodor (1975: 165–166)	–
34	Oropom	–	Uganda	† > Karimojong	Wilson (1970); Souag (2004)	(Isolate)
35	Rer Bare ¹	rer	Ethiopia	† > Somali	Bender (1975c: 74–75)	–
36	Serengeti Dorobo	–	Tanzania	† > Maa	Baumann (1894: 167–168, 366); ASLIP Staff (2009: 205–207)	(Nilotic)
37	Shabo ¹	sbf	Ethiopia	spoken	see section U25	(Nilo-Saharan)
38	Tamma	–	Ethiopia	spoken	Dessaiegn (2013: 5–6)	–
39	Vazimba-Beosi	–	Madagascar	† > Malagasy	Birkeli (1936); Blench (2010c)	–
40	Wavu II	–	?Ghana	†	Fodor (1975: 131–137)	–
41	Weyto ¹	woy	Ethiopia	† > Amharic	Cohen (1939: 357–371); Darmon (2010)	(Cushitic, Nilo-Saharan)
42	Wutana	–	Nigeria	–	Temple (1922: 367, 431); Blench (2012a)	–
43	Yeni ¹	yei	Cameroon	† > Mambila	Connell (1998c)	(Benue-Kwa)

Note: ¹ = “unclassified” according to Ethnologue; ² = “isolate” according to Ethnologue; ³ = apparently one language, Duli-Gey; (...) = suggested but inconclusive membership according to present basic classificatory units or Greenberg domains

by Boyeldieu (1987, 2000) to belong to Bongo-Bagirmi within Central Sudanic (U22.A). Lufu is a Jukunoid language within Benue-Kwa (U6.C) according to Prischnegg (2010), and the Ethnologue reports that it is close to Bete, another Jukunoid language. Kujarge, Laal, and Shabo are still of indeterminate status and are treated later as separate units, as indicated in the table.

Gail should be excluded from a genealogical scheme because of its socio-linguistic profile. It is a speech register used by parts of the South African gay community who speak English or Afrikaans as a first language (cf., e. g., Cage 2003). Like numerous other similar cases, the status of Gail as a marked register without first language speakers precludes its canonical treatment within the present classification survey.

Most of the remaining 37 languages in Table 9 are best characterized as unclassified or even unclassifiable in line with the Ethnologue, because the limited quantity and quality of the data available makes their genealogical assignment at best tentative and at worst meaningless. The information on such languages ranges from limited lexical and grammatical material to short vocabularies (typically containing numerals but without diagnostic structural data) to no data at all. This situation is mostly beyond remedy because the languages were already (virtually) extinct when the material that exists today was recorded. A recurrent additional problem concerns the reliability and authenticity of the data, because they were often collected by insufficiently trained people from consultants whose ethnolinguistic and personal background was not well understood. In some cases, the data may stem not from a separate language but rather from a variety of an existing one spoken by a special social group, as with the Mangio, Vazimba-Beosi, and Weyto⁸ foragers, or even from a hoax, as possibly with Oropom (see Souag 2004).

Such assumed languages as Gomba, Hamba⁹, Irimba, Kwisi, Laabe, Mawa~Marawa, Mige, Oblo, Okwa, Rer Bare, Tamma (not to be confused with the Taman language Tama), and Wutana currently exist in name only; there is practically no data that can be inspected. For Centúúm (aka Jalaa), Dima, Gule, Kazibati-Mongoba, Mangio, Mangree, Mimi of Decorse, Mimi of Nachtigal, Mpra, Oropom, Vazimba-Beosi, Wavu II, and Weyto, there are variable amounts of lexical data and occasionally a little grammatical information, while for Funj and Serengeti Dorobo there is in addition a short but so far uninterpretable text. However, the chances

⁸ While these hippo-hunters are said by the early observer James Bruce to have had a separate language, this is not attested directly. It can only arguably be inferred from the specialized vocabulary that is part of the variety of Amharic reported for them in later sources. See also Taine-Cheikh (2013) for the apparently similar cases of the Nemadi and Imeraguen foragers of Mauritania who today speak Hassaniyya Arabic.

⁹ This entity should not be equated with the Bantu variety Ndonge Hamba, although a historical relation between the two most probably exists, as they are reported in the same area.

of genealogically classifying this second set of cases are only slightly better than for the first, because the languages are also (likely to be) extinct and their research context is highly fragmentary.

The general problem discussed in section 2.2.2, namely that language classification based primarily on lexical material cannot be fully reliable, is compounded in most cases by the restricted quantity and quality of such data. Sometimes the word list does not even contain a full set of pronouns and numerals, whose lexical paradigmaticity could serve as better classificatory diagnostics. The notorious difficulties of interpreting the presumable origin of individual lexical items, and particularly of correctly identifying what is borrowed and what is inherited vocabulary, are amply testified in some recent classificatory treatments like Souag (2004) on Oropom, Blench (2007c) on Mpra, and Starostin (2011) on the two Mimis. This can also be discerned from the fact that different scholars arrive at contradictory interpretations for given languages based on the same restricted material. A case in point is the evaluation of the two data sets for languages called Mimi. Doornbos and Bender (1983: 62–66) conclude that Decorse's material represents a Maban language while the language in Nachtigal's corpus remains unclear. Starostin (2011), who applies a more sophisticated methodology, has the opposite assessment: if anything, the Maban language is Nachtigal's Mimi and Decorse's lect is a possible isolate within Nilo-Saharan. Some of the above cases, including the possible Oropom hoax, may even be mere oddities of the history of science and thus have no place in a genealogical classification of African languages.

In some cases, the available data in conjunction with historical and geographical information can make a proposed classification stronger. This is the case with Bung, Luo~Kasabe, and Yeni as Mambiloid languages; Dama as a Mande language; and Duli~Gey and Nimbari as generic Niger-Congo languages in the Adamawa pool. Finally, three language complexes, namely Guanche, Meroitic, and Numidian, are special in that they are attested in written documents from the precolonial period involving predominantly toponyms, personal names, titles etc. These have been the subject of sophisticated philological research embedded in a wider multidisciplinary context that can contribute to more specific genealogical hypotheses to be taken up in section U32 for Meroitic and in section U44 on Berber for Guanche and Numidian.

However restricted the data basis for the cases in Table 9 may be, it is clear that a realistic and principled linguistic assessment is needed for them, particularly because they tend to incite some scholars to come up with far-fetched hypotheses that are in turn frequently cited by non-linguists, who likely lack the linguistic knowledge necessary to make an informed judgement about the validity of such proposals. Consider, for example, Blench's (2012b: 21) brief treatment of Centúúm~Jalaa:

Nigeria has a single language isolate, the Jalaa or Cen Tuum language, spoken among the Cham in the Gombe area of NE Nigeria (Kleinewillinghöfer 2001). Jalaa, like Laal in Chad, has a significant proportion of loanwords from a scatter of neighbouring languages, but a core of lexemes without etymologies. Analysis so far suggests that it is unrelated to any other language in the world and thus may be a survival from the pre-agricultural period, when West Africa would have been occupied by small bands of foragers speaking a diverse range of now disappeared languages. Other comparable language isolates in West Africa are Laal (Chad) and Bangi Me (Mali) ... It is assumed that there was once a family of languages related to Jalaa, named ‘Jalaic’ ..., and that this is now the last remaining representative of a putative now-vanished language family [spoken by unidentified foragers]. Evidence from Mali (Onjougou), Birimi (Ghana) and Shum Laka (Cameroon) puts the settlement of West Africa by modern humans to at least ca. 40,000 BP.

For one thing, it is unclear why Blench couples the potential status as an isolate language with a forager subsistence without any indication for it from anthropological or other data. It is also clear that an unidentified vocabulary component in an extinct and poorly known language variety, even if found in the basic lexicon, may have explanations other than reflecting an entire isolate lineage, and thus this assumption is equally speculative. Obviously, historical hypotheses on this and similar cases have to be scaled to the quality and quantity of the available language material if historical linguistics is to maintain its credibility for other scientific disciplines.

The remaining sections of this chapter deal with African languages that do not pertain to any of the above cases. Since Greenberg (1963a) has been and still is the major reference in the discipline, their genealogical classification is treated according to his four proposed super-groups, with the important caveat that they should not be understood here as “families” but rather as pragmatically handy domains that do not involve a claim about a genealogical relationship. The order will be geographical from south to north: Khoisan, Niger-Kordofanian, Nilo-Saharan, and Afroasiatic.

Several languages that are not obvious members of any of Greenberg’s (1963a) four units were identified only after his research, for example, Pere in the Niger-Kordofanian domain. Although they do not find a straightforward place in his classification, they are integrated in the domain they are associated with either based on previous hypotheses or on geographical grounds, again without necessarily implying that they belong there in a genealogical sense or even that they have been claimed to do so. This solution does not distort his overall scheme, because all four domains already contain languages or families that may have been assigned to a group based on geography and, resulting from this, possible contact-induced similarities to other languages of a super-group rather than a true genealogical relationship. Obviously, all such cases are potential candidates for isolated African lineages.

Within each domain the presentation follows a unified outline. I start with presenting a short classification history and an inventory of the basic classificatory units, whereby the inventory tables follow the same outline in containing the unit code, the unit name used here, the number of member languages, largely according to Hammarström et al. (2016, henceforth *Glottolog*), some information on the state of documentation, and the approximate geographical location. This is followed by a discussion of the diagnostic evidence that has been proposed for a given domain and that serves as the background before which the membership of lower-order units should be evaluated. In the third central part, the basic classificatory units, which are the more secure building blocks for establishing any non-obvious higher-order relations, are presented and discussed individually with particular reference to their internal coherence and external relationships. Due to the nature of genealogical and areal pools explained above and relevant in Niger-Kordofanian and Afroasiatic, the potential importance of their subunits imposes an additional substructure on the relevant sections. The presentation of each domain closes with a discussion of proposed genealogical entities above the basic-unit level, including Greenberg's four super-groups themselves.

Differences in the presentation arise, however, from the considerably diverse nature of the diagnostic evidence across the four domains. That is, it is more straightforward to determine whether assumed members of Niger-Kordofanian and Afroasiatic meet the crucial criteria or not, because these domains possess a majority core that is characterized by individual-identifying features in terms of Nichols (1996). These two chapters thus revolve more around the question as to which basic units are robust members of the assumed lineage core. Membership in Khoisan and Nilo-Saharan, on the other hand, can hardly be evaluated, because both domains lack such a well-defined genealogical core. Accordingly, basic classificatory units here are discussed predominantly on their own and the question of their possible position vis-à-vis any other unit(s) is deferred to the summary discussion, which focuses on the genealogical status of the entire domain and some subsidiary hypotheses.

The presentation of the four domains is followed in section 2.8 by a brief discussion of proposals on genealogical higher-order groups that go against and/or beyond Greenberg's (1963a) scheme and in section 2.9 by a summary outlook on genealogical language classification in Africa and its significance beyond the field itself.

2.4. The Khoisan domain

2.4.1. Classification history and lineage inventory

The smallest of Greenberg's (1950c, 1963a) supergroups is Khoisan, formerly known as "Bushman and Hottentot". This set of languages had been thought to be a family by earlier scholars like Schapera (1930) and Westermann (1940). Greenberg's internal subgrouping was largely based on the pioneer work by Dorothea Bleek (1927, etc.), and later comparativists who followed his hypothesis did not dramatically change it other than using possibly more up-to-date terminology. There are several linguistic Khoisan surveys dealing, among other things, with classificatory issues, most importantly Westphal (1971), Köhler (1981), Winter (1981b), Güldemann and Voßen (2000), and Honken (2013a). The most recent treatment of genealogical and other types of linguistic classification is Güldemann (2014a).

Somewhat unexpectedly given its small size in terms of number of languages and geographical spread, the group has been problematic as a lineage from the very beginning for a number of reasons. Up to and at the time of Greenberg's (1950c, 1963a) proposal, the crucial reason was arguably the limited quantity and quality of data available. This factor was and partly still is all the more serious because the languages concerned are among the most unusual and complex ones on the globe, not just in terms of phonetics and phonology but in certain other linguistic domains as well.

Although this detrimental situation has changed tremendously since then, a more convincing case for such a language family has not been made so far. For a long time, the research situation was characterized by a marked dichotomy in approach. Some language specialists, who were interested in the genealogical question, (partly) rejected Greenberg's family concept (Westphal 1962a, 1962b, 1971; Sands 1998c; Güldemann 1998, 2008b; Güldemann and Voßen 2000) or at best took it as a possible working hypothesis (Köhler 1981; Traill 1986; Sands 1998a, 1998b). Other scholars, most of whom were interested primarily in long-distance comparison and worked exclusively with secondary data (Honken 1977, 1988, 1998; Ehret 1986, 2003; Ruhlen 1994; Starostin 2003, 2008; Plessis 2009), accepted Greenberg's proposal, albeit without mustering more support for it among historical linguists. Moreover, Honken (2013a) and Starostin (2013) seem to have backed away from their earlier views. Hence, Plessis (2009) aside, who tries to substantiate narrow Southern African Khoisan, albeit without any new or more convincing methods and data, the family concept of Khoisan today no longer appears to have any supporters who actively engage with and contribute to historical scholarship.

The terminology within the Khoisan domain varied (and may still vary) considerably (see Güldemann 2014a for some discussion). Its internal constituency,

however, has changed little since Greenberg's work, in spite of the later discovery of two crucial languages, Kwadi and ǀ'Amkoe (which, until recently, was mostly known under a dialect name as ǀHoan). These two languages have since been added to different, previously established genealogical groups: Kwadi has joined Khoe (formerly called Central South African Khoisan) to form Khoe-Kwadi, and ǀ'Amkoe has joined Ju (formerly known as Northern South African Khoisan) to form Kx'a (see below). The basic lineages currently recognized are given in Table 10.

Table 10: Basic classificatory units in the Khoisan domain

No.	Unit	1	2	3	4	Geographic location
U1	Tuu	7		X		southern Kalahari Basin
U2	Kx'a	2				northern Kalahari Basin
U3	Khoe-Kwadi	12				entire Kalahari Basin
U4	Sandawe	1		X		northern Tanzania
U5	Hadza	1		X	X	northern Tanzania

Note: 1 = Number of languages; 2 No grammar sketch before 1965; No comprehensive modern published description; 3 = before 2000, 4 = today

2.4.2. Diagnostic evidence

Greenberg (1950c, 1963a) could not build on previous studies containing extensive historical-comparative argumentation and his own evidence for Khoisan turns out to be very limited. Moreover, one of the major goals of his treatment was to show that "Hottentot," as Khoekhoe was known then, was related to "Central Bushman," or Kalahari Khoe, rather than proving the unity of the "Bushman" (San) languages, which he merely took for granted based on his superficial inspection of Bleek's (1929, 1939/40) comparative surveys.

2.4.2.1. Morphology

Greenberg (1950c, 1963a) entertained 30 comparisons of morphological markers, which Güldemann (2008b) assessed critically, concluding that they are insufficient and/or spurious for a number of reasons, namely:

inaccurate or at best doubtful data partly aggravated by his sloppy use thereof, his disregard of basic principles of historical-comparative reconstruction and diachronic typology, insufficient representation of the individual groups, probably coincidental resemblances, and possible borrowing across different families. (Güldemann 2008b: 145–146)

Other morphological comparisons, for example, Honken (1977) on pronominal elements and Sands (1998a) on possible "noun class" suffixes, have equally failed

to come up with plausible concrete traits of a Proto-Khoisan language. Hence, the most promising way to advance the field is to concentrate on the historical assessment of lower-order groups, which is currently underway. It is noteworthy that the first relevant results regarding pronoun systems (Güldemann 2004a, 2004b, forthcoming b) render the different family reconstructions even more dissimilar, which further weakens the Khoisan hypothesis. Sands' (1998a) idea that the second mora of lexical roots in the languages of southern Africa may harbor old classifying suffixes is not promising in principle, *pace* Campbell and Poser (2008: 141). This is because the only concrete evidence to this effect is found in a rather inconsistent fashion in just a single language complex of the Tuu family, and the existing formal similarities in this position across the area are equally well explained by the universal phonotactic lexical template of the Kalahari Basin.

2.4.2.2. Lexicon

As mentioned, Greenberg merely assumed, and did not argue for, the lexical unity of the languages in southern Africa, and thus he was content to propose only scattered isoglosses between the southern languages on the one hand and Sandawe and Hadza on the other. Sands (2016) gives a detailed account of why the older Khoisan material by Bleek (1956), which comprised Greenberg's database, is extremely unreliable and thus largely inappropriate for use in in-depth historical linguistics.

Later studies focusing on the lexicon were able to incorporate more up-to-date material but they still suffered from an incomplete and genealogically unbalanced representation of the different lineages. The last problem has been particularly serious for Tuu and Kx'a, whose lexical profile is still too often inappropriately derived from the two dialects that happen to be documented in more detail, East !Xoon of Taa (Traill 1994) and Tsumkwe Jul'hoan of Ju (Snyman 1975; Dickens 1994), respectively. Apart from largely uncommented lists of juxtaposed words similar to Greenberg's original study, such as Ehret (1986) and Ruhlen (1994), lexical Khoisan research differs widely in methodology. It ranges from positing abstract consonant correspondence charts without any data (Ehret 2003) over lexicostatistic approaches (Sands 1998b; Starostin 2003) to genuine and multi-faceted attempts to identify regular sound patterns (Honken 1988, 1998; Sands 1998b; Starostin 2008, 2013). However, none of these works have managed to produce Proto-Khoisan reconstructions that are supported by robust sound correspondences. Some recent lexical studies like Starostin (2013) effectively conclude with the abandonment of the all-comprising genealogical hypothesis.

Nevertheless, there is a consensus that one can observe "dense" lexical distributions across the Kalahari Basin, which becomes particularly clear from Traill (1986). Güldemann and Loughnane (2012) addressed this issue for the important lexical domain of body part vocabulary, concluding that a more rigorous approach

of bottom-up reconstruction does not favor a genealogical interpretation, because many superficial isoglosses can be alternatively explained by a complex history of linguistic convergence and diffusion.

2.4.2.3. Typology

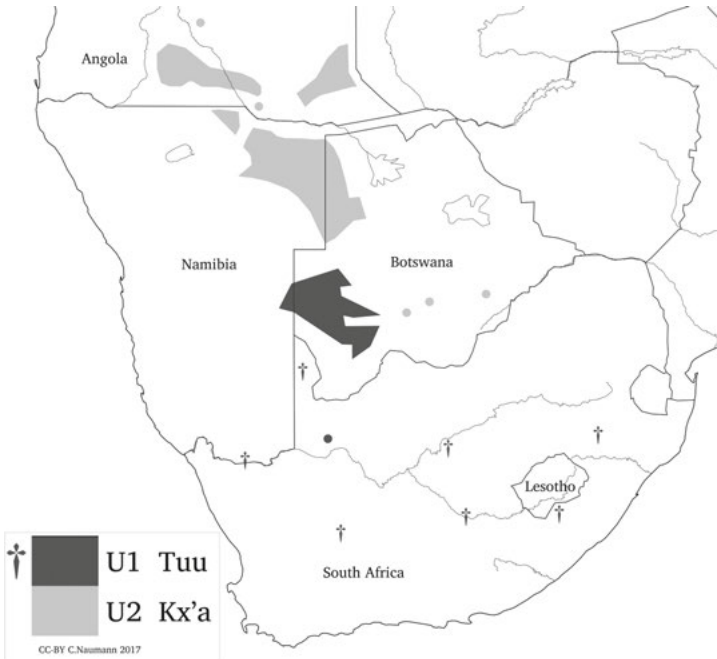
Beyond referring to the well-known phonetic-phonological commonalities, there is little discussion by Greenberg (1963a) about some structural homogeneity across Khoisan or the possible historical relations between the different modern structure types. Although he explicitly rejects typological features as arguments for genealogical relationships, one wonders in the case of his Khoisan assessment whether he was misled by the extreme rarity of clicks and other quirks of sound structure, given that other more robust and suitable isoglosses are so scarce. Indeed, later studies pointed out the considerable diversity of the group even in terms of phonetics and phonology (cf. Traill 1980; Güldemann 2001).

Table 11: Typological split between Khoe-Kwadi and Non-Khoe

Feature	Khoe-Kwadi	Non-Khoe (=Tuu+Kx'a)
Dominant transitive alignment	accusative	neutral
Transitive word order	SOV	SVO
Head position in noun phrase	final	initial
Preposition	no	yes
Default relational marker	no*	yes
Verb serialization	no	yes
Verb compounding	no*	yes
Verb derivation morphology	yes	no
First-person inclusive	no*	yes
Gender-agreement class ratio	< 1	≥ 1
Number marking on noun	regular (+ dual)	irregular (no dual)
Number-sensitive stem suppletion	no	yes

Note: * exceptions due to language contact with Non-Khoe

Table 11 presents the comparison of certain features across language groups in southern Africa alone that bring Güldemann (1998, 2013c) to recognize a major grammatical split between Khoe-Kwadi and “Non-Khoe” (which subsumes Tuu and Kx'a). At the same time, Khoe-Kwadi shows typological affinities with Sandawe in eastern Africa (Heine and Voßen 1981; Güldemann 2013c). Hadza, the second eastern African language, is typologically isolated. So far, no attempt has been made to reconcile the three different structural profiles by means of diachronic typology.



Map 1: Geographical location of Tuu (U1) and Kx'a (U2)

2.4.3. Basic classificatory units

U1 Tuu

The Tuu family (formerly Southern South African Khoisan) can be assumed to have been distributed over the larger portion of South Africa and the adjacent areas in southern Namibia and Botswana (see Map 1). Since most Tuu languages are now extinct, the family only survives in the form of two language complexes, namely Taa, spoken in Botswana and a small area in Namibia, and the moribund Nlŋg in South Africa, often called Nluu after the name of the western dialect. Both are seeing better and better documentation and description (see, e. g., Collins and Namaseb [2011] on Nlŋg and the morpho-syntactic contributions by Güldemann in Voßen [2013] on Taa). An extensive if outdated documentation also exists on the extinct !Xam once spoken predominantly south and west of the Orange River, for which Voßen (2013) also contains a modern analysis by Güldemann.

Due to this research situation, the internal reconstruction of the Tuu family is hampered by the scarcity of reliable modern data and the insufficient state of analysis of the partly rich archival material on its extinct languages. As such, its internal and external classification has varied considerably after Bleek's (i.a., 1927,

1956) initial work was taken over by Greenberg (1963a). For instance, Westphal (1971) separated the group into two and even questioned the membership of the extinct !Xam language in the southern !Ui branch. Köhler (1981) enlarged Bleek's unit by a language only recognized in the 1970s (see section U2 on †'Amkoe). All these classifications were presented with hardly any discussion of linguistic data.

A few comparative remarks in Traill (1975) aside, the first dedicated attempts at demonstrating the unity of Tuu are Hastings (2001) and Güldemann (2005b). The last work argues for the structural unity of the family and presents grammatical reconstructions, notably a full pronoun paradigm repeated in Table 12 from Güldemann (2014a: 32) as well as more numerous lexical proto-forms, including a few dimly emerging sound changes.

Table 12: The pronoun system of Proto-Tuu

Person	Singular	Plural
1st inclusive	*i	
1st exclusive	*N	*si
2nd	*a	*u
3rd	*ha, *hi	

At the same time, lexical diversity within Tuu can be considerable in certain domains, as evidenced by the impossibility of reconstructing the few numerals and quantifiers that make up the restricted system universally seen in the family (see Güldemann forthcoming a).

Recent work has refined the dialect classification of the large Taa cluster (Nauermann 2014) and determined its genealogical position relative to other Tuu languages (Güldemann 2014b). This has led to a revised classification in which the poorly known Lower Nossob varieties are affiliated with the Taa complex in the north rather than the !Ui branch in the south, a grouping that is in line with Westphal's (1971) earlier assessment.

U2 Kx'a

The recently established Kx'a family comprises two entities (see Map 1). One is the language complex Ju (formerly known as Northern South African Khoisan, and currently also called !Xu(u)n by Bernd Heine and Christa König), which spreads from southern Angola deep into the northern half of Namibia and northwestern Botswana. The other is the far smaller and already moribund dialect cluster †'Amkoe (formerly †Hoan) in south-central Botswana, which was only discovered in the early 1970s (cf. Traill 1973) and was thus unknown to Greenberg (1963a).

As mentioned, both units are dialect clusters whose internal complexity is not yet fully documented and understood. The most recent subclassification of Ju dialects based on sound changes is Sands (2010b), while Heine and König (2015) present extensive grammatical information from a comparative view. New insights into †'Amkoe-internal diversity can be found in Collins and Gruber (2014) and Gerlach (2016).

The unity of the two entities had been prefigured by Westphal (1974), Sands (2010b, presented as a talk in 2003), most importantly Honken (2004), and Güldemann (2004a). By means of a substantial amount of shared lexicon, involving regular sound correspondences and a preliminary proto-phoneme system, Heine and Honken (2010) have provided the most solid and extensive evidence for what they have come to call the Kx'a family (replacing the earlier preliminary term “Ju-†Hoan”). Further supporting lexical data are discussed by Gerlach and Berthold (2014) and Sands and Honken (2014). The comparative evidence for pronouns is less compelling than in Tuu but still involves arguably up to five cognate items discussed in Güldemann (2004a: 33), four of which are given in boldface in Table 13.

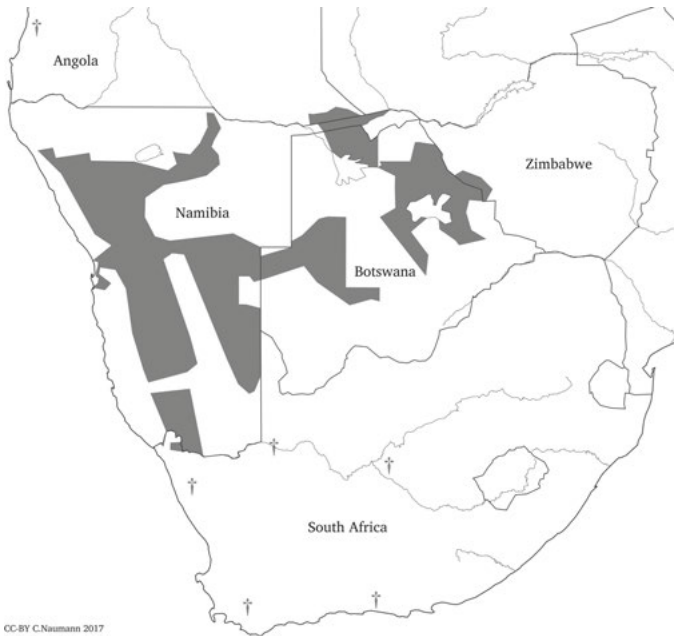
Table 13: The pronoun systems of Proto-Ju and †'Amkoe

Person	Proto-Ju			†'Amkoe	
	Singular	Dual	Plural	Singular	Plural
1st inclusive	*m̄			<i>qa''a</i>	
1st exclusive	*mí ~ ma	–	*è	ma	<i>n-!ka'e</i>
2nd	*ă	–	*ì	<i>u</i>	<i>dji</i>
3rd (Proto-Ju: Human)	*hă	*sa	*s̄j ~ si	ya	tsi

Note: Ju reconstructions are restricted to simplex forms without number suffixes.

U3 Khoe-Kwadi

The Khoe-Kwadi family comprises around ten languages and dialect clusters spread widely across southern Africa, from southern Angola over Namibia and Botswana to the wider Cape region of South Africa (see Map 2). Its profile and research history is somewhat similar to the Kx'a family in that it comprises a larger, well-established group on the one hand and an only recently discovered, geographically isolated language on the other.



Map 2: Geographical location of Khoe-Kwadi (U3)

Its primary component Khoe (formerly Central South African Khoisan) has been regarded as a valid genealogical entity as soon as Greenberg (1950c) successfully refuted Meinhof's (1912) misguided approach to classifying Khoekhoe aka "Hottentot" as "Hamitic". After such pioneering studies as Maingard (1961, 1963), Köhler (1962, 1966, 1971), and Winter (1981a, 1986), Voßen embarked on a detailed historical-comparative reconstruction of the family (cf. Voßen 1984, 1986, 1988, 1991b, 1992, 1994, 1998, 2006, 2010, 2011). Voßen (1997) in particular establishes regular sound correspondences, contains close to 500 lexical proto-forms, and reconstructs considerable portions of the verbal, nominal, and pronominal morphology of Proto-Khoe. Moreover, recent research by Elderkin (2004, 2008, 2013, 2016a, 2016b) and Honken (2008) focused on yet more fine-grained tonal and segmental reconstructions.

Another important historical aspect of Khoe has been proposed before the background of increasing research on language contact in the area, namely that the family as a whole and the Khoekhoe branch in particular were subject to considerable substrate influence from indigenous languages of the Kx'a and Tuu families (Güldemann 2002, 2006, 2008a).

The second half of the 20th century witnessed the linguistic recognition of the isolated and then moribund language Kwadi of southwestern Angola, which accordingly was not dealt with by Greenberg (1963a). The restricted empirical data collected primarily by Ernst Westphal have only recently been subject to a

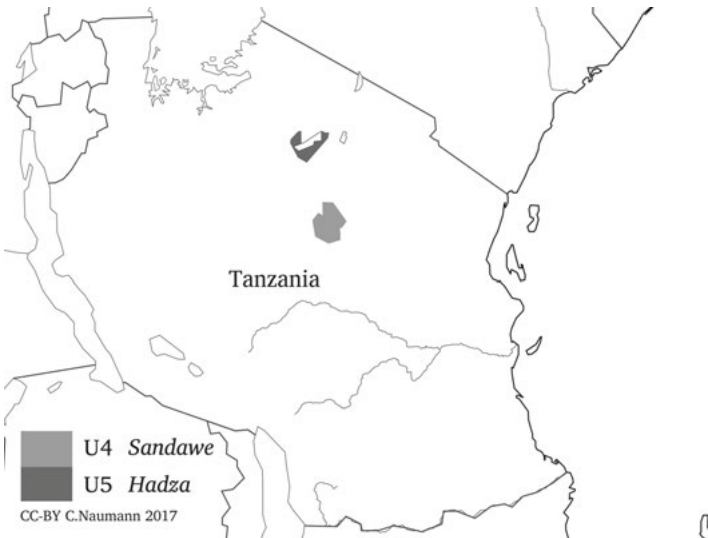
more systematic analysis and description (see Güldemann 2013a). On this basis, Güldemann (2004b) develops a detailed scenario of how the pronominal systems of Kwadi and Proto-Khoe can be traced back to a full reconstructed pronoun system of the minimal-augmented type given in Table 14.

Table 14: The pronoun system of Proto-Khoe-Kwadi

Person and gender	Minimal	Augmented
1st inclusive	*mu	?
1st exclusive	*ti ~ ta	?
2nd	*sa	*o ~ u
3rd masculine	*pronoun base-(?)-*V ^[front]	*pronoun base-(?)-*u
3rd feminine	*pronoun base-*(s)V ^[front]	*pronoun base-(?)-*V ^[front]

Note: pronoun base like deictic *xa or generic noun *kho ‘person’

Additional historical analysis by Güldemann and Elderkin (2010) provides evidence for the genealogical relation between Kwadi and Khoe in the form of ca. 50 lexical correspondences. As restricted as the data on Kwadi are, there are promising signs that even more grammatical isoglosses can be identified in the future once all the material is analyzed exhaustively. Thus, Güldemann and Fehn (2014) propose an additional Proto-Khoe-Kwadi feature in the form of a non-symmetrical multi-verb construction, *[[ROOT-(a)Ra]_{DEPENDENT}+ROOT_{HEAD}], that is similar to typologically recurrent periphrastic structures in which the first verb is a syntactically dependent non-finite form, marked here by *(a)Ra.



Map 3: Geographical location of *Sandawe* (U4) and *Hadza* (U5)

U4 Sandawe

Sandawe, spoken in north-central Tanzania (see Map 3), is one of three East African languages with phonemic clicks. As opposed to the other two languages with clicks outside of southern Africa, Hadza (U5) and Dahalo (Cushitic, U45), Sandawe is spoken by a relatively large population with around 50,000 speakers, who have undergone a subsistence change from foraging to food production in the recent past (Newman 1970; Ten Raa 1986). The language has no obvious linguistic relative but is now well documented (see, e. g., Elderkin 1989; Eaton 2002, 2010; Eaton, Hunziker, and Hunziker 2007; Steeman 2011; Ehret and Ehret 2012), which is beneficial for serious historical comparisons. The hypothesis of linking it more closely to Khoe-Kwadi is dealt with in section 2.4.4.2.

U5 Hadza

Hadza is a second isolated click language but is spoken by only around 1,000 people in northern Tanzania in the Rift Valley around Lake Eyasi (see Map 3); a sizable portion of the community still follows a traditional foraging lifestyle. While the Hadza are one of the anthropologically most intensively studied people, the documentation and description of the language are still insufficient. Several researchers have embarked on a detailed linguistic study but no modern comprehensive description has been produced so far; much of the available information is distributed over shorter treatments of specialized topics. Sands (2013) is the most compact linguistic source on Hadza, and Sands (2010a) reviews the other relevant literature.

The amount of literature concerned primarily with the genealogical classification of Hadza (cf. Greenberg 1950c, 1963a; Tucker 1967a, 1967b; Elderkin 1982, 1983; Fleming 1986; Sands 1998b, 1998c) is in fact disproportionate to that dealing with its actual linguistic description. This situation is also surprising in view of other problems to be faced when trying to classify it. Sands (2016) is a telling demonstration of the fact that early treatments suffered from the use of not only insufficient but, even worse, highly defective data. Another relevant issue is the large amount of likely borrowing layers in the language (cf. Elderkin 1978), which even concerns expectedly stable elements like kinship terms (Miller 2016).

Two major competing hypotheses exist for assigning Hadza to another language group. The mainstream view according to Greenberg, Fleming, and others was that it is part of Khoisan. Another idea proposed by Tucker was that Hadza belongs in a wider concept of Afroasiatic. Sands (1998b, 1998c) was the first to express a systematic critique of the equivocal methodology and evidence found in the Khoisan-related works, and thereby heralded a growing skepticism about classifying this language as a whole. Sands (2010a) is a detailed justification for

treating Hadza as an isolate – an assessment that by now seems to be shared by the general linguistic public.

2.4.4. Higher-order hypotheses and summary

2.4.4.1. Tuu and Kx'a

As briefly discussed in Güldemann (2014a), there are currently two hypotheses about genealogical relations in the Khoisan domain worth pursuing beyond the five lineages described above. Still equivocal and little investigated is the idea about a larger lineage subsuming Tuu and Kx'a. At least since Güldemann (1998) the two families have been associated with each other on account of their shared and typologically marked structural profile, which has been differentiated from the Khoe-Kwadi-Sandawe type under the purely typological label “Non-Khoe” (see also Güldemann and Voßen 2000). Since serious historical-comparative research on both families has only begun recently, it is still worth testing whether this considerable structural unity may be the result of a common inheritance. Similar pronominal elements given in Table 15 make this a viable line for future study.

Table 15: Affinities between pronoun elements in Tuu and Kx'a

Pronoun element	Proto-Tuu	Proto-Kx'a or Proto-Ju
1st person singular pronoun	*N	*mi ~ ma (Proto-Kx'a)
2nd person singular pronoun	*a	*a (Proto-Ju)
3rd person	*ha	*ha ~ ya (Proto-Kx'a)
3rd person	*hi	*yi ~ hi (Proto-Ju)
Exclusive plural	*si (1st person)	*tsi (3rd person own-group, Proto-Kx'a)

Collins and Honken (2016) have made a much stronger genealogical claim to the same effect by referring to the partial segmental similarity of other grammatical elements across the Tuu and Kx'a families. Before the background of typologically idiosyncratic traits in nominal number marking entertained already by Güldemann and Voßen (2000: 112–113), the authors reconstruct a common plurality prefix *ki- (which is possibly rather a plural word), based on *ki-* in ǀAmkoe (Kx'a), *ka-* in Taa-Lower Nossob (Tuu), *ka-* in the western Nǀng dialect Nǀuu, and *gi-/ge-* in ǁXegwi (both !Ui, Tuu). Collins and Honken fail to recognize the presence of plural *ka* in the eastern Nǀng dialect and of a *ka* in ǁXam – yet another !Ui language – that turns up in plural derivational compounds – data that make a Proto-Tuu form *ka far more likely. This in turn weakens an etymological link to the so far single Kx'a element *ki* of ǀAmkoe, because the only common denominator is an initial velar plosive – a historically non-diagnostic segment in the languages of the area,

even more so in grammatical items. For the record, a similar situation applies with respect to multipurpose oblique prepositions with initial *k* found across Kx'a and Taa-Lower Nossob of Tuu. In general, without wanting to exclude a possible historical relation, such hypotheses are at this stage premature and require a deeper synchronic and diachronic understanding of the constructions and markers involved.

Another research approach also proposes a specific genealogical connection between Tuu and Kx'a. Starostin (2008) has joined the two families under a single lineage called "Peripheral Khoisan", based on a purely lexical comparison that necessarily draws heavily on the more extensive data of just two unrelated but geographically close language varieties, namely the Ju dialect Tsumkwe Jul'hoan of the Kx'a family and the Taa dialect East !Xoon of the Tuu family. This biased data basis is highly problematic for drawing any far-reaching conclusions (see Honken [2013b] for more discussion). Indeed, the ongoing more detailed research on the internal and external relations of the Taa language complex reveals that East !Xoon in particular is not fully representative of Taa, nor is Taa representative of the Tuu family. On the contrary, there are strong indications that a good portion of the lexical material of East !Xoon and other Taa varieties that is shared with Jul'hoan and other unrelated but neighboring languages like Naro, Glui, and ʔAmkoe is due to intense lexical convergence in the Central Kalahari area (cf. Traill and Nakagawa 2000; Güldemann and Loughnane 2012; Gerlach 2016). Refuting Starostin's lexical argument for his "Peripheral Khoisan" does not mean, however, that lexical isoglosses between Tuu and Kx'a languages cannot reflect inheritance. Güldemann and Loughnane (2012: 243–245) show that some intriguing similarities exist in body part vocabulary on various reconstructed levels of the two families. These point into the same direction as the pronominal data, namely that the hypothesis of a single family joining Tuu and Kx'a is worth pursuing.

Traill (2001) entertained yet another striking affinity between the above two dialects, namely a highly similar frequency of consonant types across the lexicon, without this distribution being tied to particular lexical items. While Traill's hypothesis to view this phenomenon as a historically significant fact is likely, it can not yet be evaluated conclusively, because no systematic comparison of this phenomenon has been undertaken beyond the two speech varieties. A first pilot study in this direction by Güldemann and Nakagawa (forthcoming) indicates that universal trends and sub-areal signals in the Kalahari Basin are also involved so that genealogy could only be a partial explanation for this type of similarity.

2.4.4.2. Khoe-Kwadi and Sandawe

Given that Sandawe has no obvious linguistic relatives, much of the earlier attempts to classify the language focused on possible links to other languages with click phonemes and/or other linguistic isolates in the geographical vicinity. A link to

“Khoisan” in southern Africa, in particular with Khoekhoe, has been popular since the first data were analyzed from a historical perspective, notably by Dempwolff (1916), Drexel (1929/30), and Tucker (1967a: 21, 24). Both lexical similarities and a shared sex-based gender system including a few individual markers played a role in this proposal. This hypothesis also informed Greenberg’s (1950c, 1963a) framework for his all-comprising “Khoisan” family. Other Sandawe comparisons by Ten Raa (1969), Elderkin (1983), and Fleming (1986) focused on eastern Africa with a view on Hadza (U5), Dahalo (Cushitic, U45), Oropom (section 2.3.3), and the Kuliak group (U21).

With the availability of more extensive information on Khoe languages in southern Africa, and having himself collected new up-to-date Sandawe data, Elderkin (1986, 1989) revived the concrete genealogical link of Sandawe to the now larger family (see also Köhler 1973/74: 190). Today, this hypothesis appears in yet a different light due to the newly proposed relation between Khoe and Kwadi, whereby the general typological affinity between all relevant languages, mentioned in section 2.4.2.3, is compatible with this idea. Güldemann and Elderkin (2010) present the most recent discussion of the relevant grammatical and lexical data. Among other things, they list several pronominal forms that might be cognate between the two entities, as given in Table 16.

Table 16: Affinities between pronoun elements in Proto-Khoe-Kwadi and Sandawe

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

Weighing all the evidence for and against such a unit, the authors conclude that it is a promising but not sufficiently proven hypothesis, so that it is still safest to treat Sandawe as an isolated language, *pace* Dimmendaal (2008b: 841).

2.4.4.3. Summary

As outlined in section 2.4.1, all the evidence proposed so far for a Khoisan family has been refuted by linguists working on the relevant languages. Greenberg’s “Macro-Khoisan” involves hardly more than the commonality of clicks, which cannot serve as a genealogical argument (see, e. g., Güldemann 2007a; Güldemann and Stoneking 2008). The other, more restricted idea about a South African Khoisan unit appears to have been inspired primarily by geographical considerations. Today it must be evaluated against the competing hypothesis about a

pre-Bantu linguistic area called the Kalahari Basin, which provides an alternative explanation for the isoglosses shared by the three lineages Tuu, Kx'a, and Khoekwadi (cf., e. g., Güldemann 1998; Honken 2006; Güldemann and Fehn 2017; see also Güldemann, this volume, chapter 3.2). Since no new versions of or evidence for a Khoisan hypothesis have grown out of any more recent scholarship, there is little empirical ground left for currently propagating such a family. Based on the above discussion, the Khoisan domain comprises five lineages, whereby there is some chance for further consolidation in the future to four or even three genealogical units. This summary is also given again in Table 75 of section 2.9.

2.5. The Niger-Kordofanian domain

2.5.1. Classification history and lineage inventory

It may have been noticed that I stick to Greenberg's original terminology. This is because the classification of and accordingly the terminology for the entire Niger-Kordofanian domain is in flux. Following major works like Bendor-Samuel (1989), many post-Greenbergian publications have settled on replacing the highest-order term with the name of its earlier main branch Niger-Congo and creating/using new terms for the latter such as "Volta-Congo" (Stewart 1976), "Central Niger-Congo" (Bennett and Sterk 1977) and the like. It is unclear to me which of the later hypotheses will prevail, including the optimistic assessment of Kordofanian as a phylogenetically deeper clade by Williamson (1989b: 19) and other scholars. I thus prefer to follow Greenberg's unambiguous usage of Niger-Kordofanian as the highest assumed lineage and Niger-Congo as its major branch.

The Niger-Kordofanian family has been accepted in Greenberg's extension by most scholars working after him on this topic, but has been subject to a large amount of reanalysis regarding its internal setup (cf., e. g., Bennett and Sterk 1977; Schadeberg 1986; Bendor-Samuel 1986; Williamson 1989b; Williamson and Blench 2000). All of these newer proposals, provided they give any evidence at all, are based on lexical data, whereby lexicostatistics and/or the assessment of supposedly diagnostic single lexemes play a particularly prominent role.

There are two types of major change. First, while Greenberg has just two main branches, Kordofanian and Niger-Congo, with six coordinate groups in the latter branch, subsequent schemes normally display a well-articulated genealogical tree structure. Second, certain subgroups have been successively moved up the tree to become more peripheral to, or in genealogical terms, "earlier offshoots" from, the core. Kordofanian and some previously unknown languages aside, this development concerns Mande, Ijoid, Dogon, Atlantic, and Kru. A representative case of such a later classification is given in Figure 4. It reproduces the assumed family tree structure to the extent necessary in this context and is keyed on the left to the basic classificatory units recognized here (see Table 17 below).

NIGER-CONGO [= Greenberg's NIGER-KORDOFANIAN]

U18+19	Kordofanian
	Mande-Atlantic-Congo
U11	Atlantic
U12	Mande
	Ijo-Congo
U8	Ijoid
	Dogon-Congo
U13+14	Dogon
	Volta-Congo
	West
U9	Kru
	Clade without name
U10	?Pre
U15+16+17	Clade without name
U6+7	East (= Benue-Kwa)

Figure 4: Niger-Kordofanian after Williamson and Blench (2000: 18)

Despite the wide acceptance of the genealogical hypothesis, there exist serious issues that have led to more critical assessments of Niger-Kordofanian. Early skeptical positions like that of Dalby (1965: 16) anticipated the need for my present recognition of something like genealogical pools by rejecting the common approach of accepting and working with several unproven lineages:

In the classification of West African languages, there is a need for some of the larger so-called 'genetic' groupings to be broken down into more coherent and scientifically established units, in order that the *interrelationships* of these closer groupings may be examined in detail. If this is done, then there is hope that the classification of West African languages may one day make a valid contribution to our knowledge of African pre-history.

A later example of a more reserved evaluation of the state of Niger-Kordofanian after 40 years of research is Olson (2006). This author argues that research practice commonly suffers from the insufficient presentation of empirical data and their sources, which enables other scholars to more easily replicate research results, and from a deficient historical methodology, which involves primarily superficial resemblances, lexicostatistics, and cherry-picked lexical diagnostics. The following questions are identified as particularly problematic: the relationship between Kwa and Benue-Congo, the exact definition of what a Bantu and/or Bantoid language is, and the internal and external status of Adamawa-Ubangi. Babaev (2011) is a short description of the current state-of-the-art in Niger-Kordofanian historical research that also points out the enormous gaps in the field.

Table 17: Basic classificatory units in the Niger-Kordofanian domain

No.	Basic unit	1	2	3	4	Geographic location
U6	BENUE-KWA (>20)	1065				Ivory Coast to southern Africa
U7	DAKOID	5	X	X	X	northwestern Nigeria
U8	Ijoid	10		X	X	Niger delta (Nigeria)
U9	KRU (2)	39				Liberia, southern Ivory Coast
U10	Pere	1	X	X	X	northern Ivory Coast
U11	ATLANTIC (7)	64				western Atlantic coast (except Fula)
U12	Mande	75				western half of West Africa
U13	Dogon	19	X	X		Bandiagara escarpment (Mali)
U14	Bangime	1	X	X		Bandiagara escarpment (Mali)
U15	GUR (7)	97				central interior West Africa
U16	ADAMAWA (14)	86				western Nigeria to southern Chad
U17	UBANGI (7)	72				Cameroon to South Sudan
U18	<u>KORDOFANIAN</u> (4)	21		X		Nuba Mountains (Sudan)
U19	Katlaic	3		X	X	Nuba Mountains (Sudan)
	Approximate total	1500				

Note: GENEALOGICAL/AREAL POOL; (n) = Number of potentially separate subgroups; 1 = Number of languages; 2 = No grammar sketch before 1965; No comprehensive modern published description: 3 = before 2000, 4 = today

In view of these problems, my treatment works with a more fine-grained inventory of basic classificatory units and their constituent parts, including the concept of genealogical pools applied to some purported lineages. This is shown in Table 17. As can be seen, several groups are also still in need of far better documentation.

Before addressing the current state of historical linguistic comparison for assumed member groups of Niger-Kordofanian as well as for the unit as a whole, one important aspect of previous methodology should be mentioned. It concerns the exceptional role accorded to a single subgroup, namely Bantu – an approach that has been relevant throughout the research history in the domain at issue. It is comparable to the situation in other fields where, due to demographic and sociopolitical circumstances and the resulting research history, one important lineage of a larger group tends to determine research approaches, such as, for example, Sinitic for Sino-Tibetan, or in African studies itself, Semitic for Afroasiatic. A representative and possibly even formative statement about this special perspective on Bantu is the following quotation from Stewart (1976: 3–4):

In the light of Greenberg's classification [with Bantu as a very low clade in the family tree] Guthrie's [1967–71] work on the Bantu languages takes on a new significance as an important advance toward the reconstruction of the history of the entire Niger-Kordofanian language family. One can even say that the reconstruction of proto-Bantu is a natural first step toward the eventual reconstruction of proto-Niger-Kordofanian, since for two reasons the Bantu group is particularly well suited to the application of the techniques of linguistic reconstruction: in the first place it includes a very large number of distinct languages ...; and in the second place these languages are quite closely inter-related ... In any case the ultimate goal, proto-Niger-Kordofanian, is almost certainly more similar to Guthrie's proto-Bantu than to any of the present-day languages or to any of the non-Bantu proto-languages which have so far been reconstructed.

There can be no doubt about the exceptional suitability of the Bantu family for historical-comparative reconstruction as well as its importance for Niger-Congo as a whole. However, the logic of Stewart's final claim is problematic at best, because he gives no reason for assuming that Proto-Bantu underwent so few changes that it could serve as a good model for reconstructing the earliest stage of Niger-Kordofanian. Its agreed-upon deep position in the family tree does not exclude but certainly also does not suggest such a hypothesis. Nor does Stewart's own subsequent discussion, according to which Proto-Bantu has plausibly lost four phonological features, namely ATR vowel harmony, nasal vowels, fortis-lenis consonant contrast, and labial-velar stops, that can be assumed to have been present in an earlier chronolect comprising at least Gur and other Benue-Kwa groups. Before Proto-Bantu can serve as a proxy for Niger-Kordofanian reconstruction, robust evidence in favor of this idea needs to be assembled. To consider another example, it is clear that Early Modern English and its numerous varieties spoken today across the globe are not a good starting point for assessing Proto-Germanic, leave alone Proto-Indo-European.

Despite this caveat, Bantu has been used recurrently as a reference point in addressing much older stages of the assumed lineage, also because the main identifying features for something like Niger-Kordofanian, namely the typical systems of noun classification and verb derivation, are so prominent in the family and also have been, and still are, described there in most detail. To mention one example, this approach recently created a controversy revolving around the question of whether (or to what extent) the morphosyntactic reconstruction of the Proto-Bantu predicate (e. g., by Meeussen 1967), which is itself biased toward highly fusional Savannah Bantu languages, should serve as a model for reconstructing earlier language states outside Bantu up to the level of Proto-Niger-Congo. While Hyman (2007b, 2011) opts for this hypothesis, Güldemann (2003a, 2011a, 2013b) does not view a reconstruction in line with Meeussen (1967) to be representative for traditional Bantu as a whole, and thus does not allow it such a central role for approaching far older chronolects.

2.5.2. Diagnostic evidence

2.5.2.1. Morphology

There exist occasional attempts to reconstruct individual morphological elements such as, for example, Welmers's (1963) bold proposal, based on very limited empirical data, to reconstruct two Proto-Niger-Congo genitive markers. Most work proposing individual identifying evidence for such a proto-language focuses, however, on larger morphological paradigms, notably concerning verbal derivation, noun classification, and more recently pronouns. Since these three domains are assumed to involve partly elaborate marker sets, robust reconstructions should certainly satisfy historical-comparative linguists and are discussed subsequently.

2.5.2.1.1. *Pronouns*

Pronouns are generally assumed to be very reliable diagnostic markers of genealogical relationships. However, even here borrowing cannot be excluded and, more importantly, language-universal trends toward unmarked segments and closed-set phonosymbolism may lead to a considerable amount of chance resemblances (cf. Gordon 1995; Rhodes 1997; Nichols and Peterson 1996; Nichols 2001).

Until recently the dedicated study of Niger-Congo pronouns has been neglected, although individual reconstructions appear in Westermann (1927b) and Mukarovskiy (1976/7). This situation changed during the last decade with the appearance of several studies by Babaev (2008, 2010a, 2010b, 2012a, 2012b) as well as a number of contributions in Ibriszimow and Segerer (2004) and Pozdniakov, Vydrin, and Zheltov (2010). These deal with various subgroup levels as well as issues of a family-wide scope, including more theoretical and methodological aspects that have to be taken into account when attempting pronoun reconstructions, notably Pozdniakov and Segerer (2004a), Pozdniakov (2010), and Segerer (2010b).

Güldemann (2017, see also 2011b), to which the reader is referred for more details, follows a different approach apart from a restriction to the forms for speech-act participants. According to the more fine-grained classificatory scheme implied in Table 17, including the subgrouping of the basic units, Niger-Congo is not viewed as being composed of half a dozen large lineages. The study starts out instead from elements in low-level groups that are mostly genuine families and compares them in terms of recurrent single characters as well as patterns of paradigmatic contrasts.

The paradigms compared are given in Table 18. A number of remarks on the data given in this table as well as in the following Tables 25–27 and 29 are in order. In general, I attempt to present data that reflect a character state that is as old as

Table 18: Speech-act participant pronouns across Niger-Kordofanian classificatory units

	Lineage	1S	2S	1P(.E)	2P	Source
(U6.A)	Bantoid: Bantu	*mi/ *-n-	*u-	*-cú-	*-nú-	Meeussen (1967: 105); Güldemann (2011b)
(U6.A)	Bantoid: Mambiloid	*mI	*wO	(-)TV	(-)NV	Connell (2010)
(U6.B)	Cross River: Lower	*-mĩ	*-fò	*-jĩ.t	*-ni.n	Connell (1991: 344–345)
(U6.C)	Kainji-Platoid: Jukun	*-mi	*-wu	*-yE	*-nE(n)	Storch (1999: 370)
(U6.C)	Kainji-Platoid: Yukubenic	*-m(V)	*-(w)u	*-Ti	*-Ni	Prischnegg (2010: 118)
U6.D	Igboid	*-mĩ	?	*-`-nĩ	*-nõNõ	Williamson, Blench, and Ohiri-Aniche (2013: series 560, 562–563)
U6.F	Nupoid	*-mi	*-wO	*-(y)i	*-Ni	Blench (2013d: 114–118)
U6.G	Edoid	*-mħe	–	*-mħanhi	*bħa(dh)ɪ	Elugbe (1986: 133, 203, 207)
(U6.H)	Akpes: <i>Ekiromi</i>	-nV	-sV	-sĩ	-nĩ	Agoyi (1997: 4–5)
U6.I	Ukaan	*dʒO	(h)O	*ba	*mana	Abiodun (1999: 87, 79); Salfner (2009: 68, 69, 218)
U6.J	<i>Oko</i>	-mɛ	-wɔ	-tɔ	-nɔ	Atoyebi (2010: 110)
(U6.K)	Owon-Arigidi: <i>Arigidi</i>	<i>min</i>	<i>rin</i>	ò	<i>mɛn</i>	Oshòdi (2011: 24–29)
(U6.L)	Ayere-Ahan: <i>Ahan</i>	<i>emi</i>	<i>ngħo</i>	<i>aa</i>	<i>ɛɛ</i>	Akanbi (2014: 78); Ogunmodimu (2015: 25, 26)
U6.M	Yoruboid	*-mĩ	*-b'V	*-b'a	*-b'Ŷ	Alkinkugbe (1978: 406, 409, 416, 442)
U6.N	Gbe	*mV/ *NE	*(-)o	*mĩ	*mi	Capo (1993:15)

(U6.O)	Ghana-T.-M.: Ka-Togo	*-mV	*-wó	?	?	Heine (1968: 235, 253)
(U6.O)	Ghana-T.-M.: Na-Togo	*-mV	*-wó	*-TV	?	Heine (1968: 235, 253, 249)
U6.P	Potou-Akanic: Akanic	*-mE	*wO/fO	*jε	*mO	Burmeister (1988: 103)
U6.Q	Gã-Dangme	*mj-	*bò	*wò	*nyɛ	Kropp Dakubu (2006: 46–49)
U6.R	Lagoon: Abe	mə	fə	e-lə	e-ɲə	Kouadio (1983: 34–35)
U6.S	Ega	ní	Ó	wá	ɣÚ	Bolé-Richard (1983b: 392)
(U7)	Dakoid: Samba Daka	mèè	wèè	wòò	vèè	Boyd (2004: 275)
U8	Ijoid	*j/ε	*i/i	*ɔ/o	*wV	Williamson (2004b: 18, 36, 38)
U9.A	Kru	*n/ń	*n/ń	*à	*a	Marchese (1983: 228)
U9.B	Siamou	ń	á	ń	yíi	Toews (2015: 40)
U10	Pere	kV	mU	wó	ɲí	Creissels (2010: 3)
(U11.A)	Atlantic: Cangin	*mí	*fó	?	*dO	Droic (2005: 187)
(U11.B)	Mel: Temnic	*mí	*mO	*sV	*nV	Wilson (1961: 58)
U11.C	Gola	mḗ	mḗ	(s)e	ne	Westermann (1921: 41)
U11.D	Limba	yañ	yí	min	been	Clarke (1922: 104, 147, 150)
U11.E	Sua	meN-	mɔɔ	ɲɔɔ	ɲɔɔ	Wilson (2007: 209–210)
U11.F	Nalu	mu-/ bee	yí	biye	Nee	Wilson (2007: 209–210)
U11.G	Rio Nunez	-	-	-	-	Wilson (2007: 209–210)

	Lineage	1S	2S	IP(,E)	2P	Source
(U12)	Mande: Manding	*N	*i/*e	*aN	*a(i)	Davydov (2010: 36–37)
(U12)	Mande: Southwest	*ηé	*i/*é	*mù	*wó	Babaev (2010a: 36, 44)
(U12)	Mande: Mani-Bandama	*Ñ	*ī/*ē	*yī/*ō	*kā	Výdrin (2006: 406); Babaev (2010a: 36)
(U12)	Mande: Niger-Volta	*mó	*ʔí	*wó	*kó	Schreiber (2008: 327)
U13	Dogon	*mi	*O	*I	*E	Moran, Forkel and Heath (2016)
U14	<i>Bangime</i>	<i>mí</i>	<i>a</i>	<i>ndε</i>	<i>aa(ru)</i>	Hantgan (2013: 277)
(U15.A)	Central: Oti-Volta	*mV	*bV/(f)V	*tV	*(n)yV	Manessy (1975: 175); cf. Mieke (2004)
(U15.A)	Central: Gan-Dogose	*mɪ	*mv	*a	*ì	Mieke (2004: 117)
U15.B	Kulangoic	*mI	*wO	*bl	*I	Mieke (2004: 117–118)
U15.C	<i>Miyobe</i>	<i>-m nV</i>	<i>(-)Po</i>	<i>(-)T-</i>	<i>(-)/n-</i>	Pali (2011: 225)
U15.D	Tiefö	*nV	*mV	*e	?	Winkelmann (1998: 140); Heath, O. and H. (2017: 33)
U15.E	<i>Viemo</i>	<i>mə na</i>	<i>wə a</i>	<i>sa</i>	<i>ã(-)</i>	Prost (1979: 52)
U15.F	Tusian	*mE	?	?	*i/y	Prost (1964: 286); Zaugg-Coretti (2005: 18)
U15.G	Samuic	*n(i)	*mV	*Ti	?	Mieke (2004: 118)
U15.H	Senufo	*mI	*mO	*wo	*ye	Mieke (2004: 119)
U16.A	Tula-Waja	*mI	*mO	*nEn	?	Kleinewillinghöfer (2012c)
U16.B	Longuda	*nyI	*mO	?	?	Kleinewillinghöfer (2014c)
U16.C	Bena-Mboi	*na	*(n)ga	*(n)da	*Sa	Kleinewillinghöfer (2011c)

(U16.E)	Samba-Duru (minus Samba)	*mI	*mO	?	*(-)I(N)	Boyd (1974: 97-8); Kleinewillinghöfer (2015c)
U16.F	Mumuyic	*mE/*N	*mo	*rO/ wO	*noO	Shimizu (1979: 108-109)
U16.G	Maya	*m(E)	*mo	*tO	*no	Kato, Yoder, and Blench (n.d.: ix-xii)
U16.H	Kebji-Benue	*mi	*mO	*ru	*Bai	Boyd (1974: 97-8)
(U16.I)	Kimic: <i>Kim+Goundo</i>	*m(b)i	*mO	?	?	Mouchet (1954: 178); Roberts (2009: 4)
U16.K	<i>Day</i>	-mà	-mò	-mā	-mō	Nougayrol (1979: 167)
U16.L	<i>Baa~Kwa</i>	-mi	-mu	iyi-(t)	iyi-n	Kleinewillinghöfer (2011b, p. c.)
U16.N	<i>Fali</i>	(-)mi	*mu	*to	*no	Sweetman (1981: 74, 85, 88-89); Kramer (2014: 156)
U17.A	Gbayaic	*mi	*mé	*(-)lé	*(-)né	Moñino (1995: 648-649, 2010a: 88)
U17.B	Zandic	*mI	*mO	?	*nE	Boyd and Nougayrol (1988: 71)
U17.C	Mbaic	?	*mO	?	?	Pasch (1986: 400-401)
U17.D	Mundu-Baka	*ma	*mU	*ʔa	*ʔI	Winkhart (2015: 66)
U17.E	Ngbandic	*mbi	*mò	*ʔè/(h)è	*ʔi/(h)i	Boyeldieu (1982c: 34, 45, 56)
U17.F	Bandaic	*mĒ	*MBĚ	*ʔā	*ʔē	Moñino (1988: 119, 125, 143, 146)
U17.G	Ndogaic: South	*ne/*yε	*wo/*ηɔ	*du	?	Tucker and Bryan (1966: 91); Santandrea (1961: 47)
U18.A	Heibanic	*ni	*ηa	*-n(a)-	*-n(a)-	Schadeberg (1981a: 182, 184)
U18.B	Talodic	*-iη	*-aη	*-min	*-non	Norton and Alaki (2015: 153-154)
U18.C	<i>Lafofa</i>	ηéε-	(ná)ηɔɔ-	yéε-	ɔɔ-	Schadeberg (1981b: 155)

	Lineage	1S	2S	IP(.E)	2P	Source
U18.D	Rashadic	*ɲi	*ɲɔ	*ni	*no	Schadeberg (2013: 331–332); Alamin (2015)
U19	Katlaic	?	*ɲVɲ	*nEn	*nVn	Hellwig (2013: 240); Schneider-Blum (2013: 285)

Notes: (U...) = data disregard portions of a lineage; likely reflexes of proto-form are left-aligned; likely secondary reflexes of proto-form are center-aligned; non-cognates of proto-form are right-aligned; – = no form(s) given; xxx = single-language form; * = cited reconstruction; * = pseudo-reconstruction; ? = no single (plausible) reconstruction; (If there is evidence for an inherited clusivity distinction, it is the exclusive form that is given in the column where the single first-person plural form of units without such an opposition is listed.)

possible. Single-language units do not require a reconstruction but just the relevant form, given in italics. For families, I have tried to find reconstructions that can be cited from the literature, marked by the conventional *X. The reconstruction symbol may, however, still mask a so-called “pseudo-reconstruction,” because the proposed form is not based on a sufficient historical-comparative procedure. Moreover, a cited reconstruction does not necessarily imply that it is the most likely one: for example, while Table 18 lists Meeussen’s (1967: 105) *-N- as the first-person singular index of Proto-Bantu, a dedicated survey in this family and its close relatives reveals that a root *mI is a solid reconstruction for the principal person marker (Güldemann 2011b). For other families with sufficient comparative data but without proto-forms I have established pseudo-reconstructions myself through superficial data inspection, marked by a preceding subscript star (*X). This may even hold for a few cases in which a data source includes a proto-form but I consider it to be deficient. In Table 18 (and Table 27 of section 2.5.2.2), the reader is asked to observe the alignment of forms within a feature column: similar elements that suggest cognacy are aligned with each other, mostly toward the left side of a cell; a few cases of restricted similarities are marked by mid-column alignment; dissimilar forms, hence likely non-cognates, are right-aligned. Last but not least, listing an individual form, reconstructed or not, in no way implies that I claim real cognacy; there may well be look-alikes. The major purpose of all these tables is to show that some forms are indeed recurrent across the domain and merit a reconstruction for an old genealogical entity even at this early stage of historical comparison.¹⁰

Table 19: Proposed pronoun paradigms of Proto-Niger-Congo

Source	1S	2S	1P	2P
Güldemann (2017)	*mV ^{front}	*mV ^{back}	*TV ^{close}	*NV ^{close}
Babaev (2012a)	*mi/ *N=	*wU/*U=	*tI~*tU	*nI~*nU
Mukarovsky (1976/7: LXII, LXX, LXXI)	* (a) mi/ *ni	*mu-/ *-bhi-	*tiu	*-ni (a) / *mui
Westermann (1927b: 256–257, 261, 264–265, 288)	*mì/ *na~ni	–	*tí~*tú	–

¹⁰ Another convention in the tables is that capital letters symbolize abstract segments. They are: A, open (front) vowel; B, labial consonant b/v/w; DN, alveopalatal stop alternating with n; E, front vowel; J, j/z; K, k/g; N, nasal; O, back vowel; T, alveopalatal consonant t/d/l/r; ʈ, close vowel; V, indeterminate vowel.

My comparative methodology leads to a preliminary proto-paradigm given in the first line of Table 19. The table also shows that my proto-forms are overall compatible with those proposed by previous authors. The major difference is that such an early historical level does not strongly suggest a well-articulated difference of pronouns according to morphosyntactic context, as recurrently proposed in Babaev's work. Moreover, I assume that a first-person singular form with an alveolar~palatal nasal does not warrant reconstruction thus far, because attestations are too sporadic and have other possible origins. Finally, the original second-person singular form is assumed to have an initial bilabial nasal, so that forms starting with a non-nasal consonant or lacking a consonant entirely are innovations. Since such a feature significantly clusters in the Benue-Kwa pool, it may well represent a clade-specific development there.

Another recent development in pronoun reconstruction is the assessment of forms referring to the clause subject in relation to the verb. Focusing on the first-person singular, Anderson (2012) in particular proposes that preverbal pronouns fused at an early stage with other grammatical elements to form so-called STAMP (subject–tense–aspect–modality–polarity) portmanteau morphemes that originally encoded a binary aspect distinction and were (and in many languages remained) separate from the verb. The importance of STAMP grams as such would have been a general areal trend shared also by unrelated language families (cf. Güldemann 2003a, 2011a; Nurse 2007; Anderson 2011, 2015).

2.5.2.1.2. *Verb derivation suffixes aka “extensions”*

Bantu languages are widely known for their suffixal verb “extensions” that change verb roots primarily in terms of valency but may also alter other semantic aspects of the state of affairs, and Proto-Bantu can be reconstructed with an elaborate morphological paradigm of such elements (cf. Meeussen 1967; Guthrie 1967–71). Similar systems are also widespread in the Niger-Kordofanian domain and the fact that some of its assumed members show hardly any reflexes can be explained partly as the result of morphological attrition.

Voeltz (1977) is the first dedicated attempt to trace a Bantu-like system back to the oldest proto-language in the form of concrete reconstructions. Although his study is cited regularly in connection with the historical assessment of Niger-Kordofanian – indeed, to such an extent that outsiders may even view the question of the proto-system as settled – it has serious defects, of which only the most important methodological ones are mentioned here.

For one thing, the author imposes a strong bias on his analysis by taking the Proto-Bantu system as the baseline. Numerous suggestive affinities between Proto-Bantu reconstructions and forms of individual languages outside Bantu can indeed be found, and there is no doubt that a good number of them reflect common inheritance. A superficial comparison of Proto-Bantu and five non-Bantu lan-

guages is illustrated in Table 20; sources like McGill (2009) and Elders (2007a) explicitly make these and other etymological associations.

Table 20: Selective comparison of derivational verb suffixes across Niger-Kordofanian

Proto-Bantu	Cicipu (Kainji)	Degema (Edoid)	Kulango (Gur)	Longuda (Adamawa)	Bijago (Atlantic)
Schadeberg (2003: 72)	McGill (2009)	Kari (1995: 150)	Elders (2007a: 192)	B. Newman (1978)	Segerer (2002: 226)
*-i/-ici- CAUS	-is- CAUS	-VsV CAUS	–	-k- TR	-i CAUS
*-il- DAT (APPL)	-il- PLUR	–	-li ITER-expertive	-(di)r- OBL	–
*-an- ASSC (RCPR)	–	Vn in -VηVnV RCPR	–	-n- PLUR, RCPR	-an ASSC- RCPR
*-a(n)g- REPT	–	Vη in -VηVnV PLUR	-ga PLUR	-ṽ IPFV	–
*-ik- NEUT	–	–	-si STAT	–	-ɔk MID
*-ɔl- SEPR (TR)	-uw- SEPR	–	-tu, -ru SEPR	–	–

In view of such a picture and Voeltz's general approach it comes as no surprise that nine of his ten verb extensions reconstructed for an early Niger-Kordofanian chronolect are very close in both form and function to the Bantu ones. However, while Bantu is a numerically and geographically large unit, it only represents a minor and genealogically young clade in the assumed family tree, so that it needs to be shown first that its proto-system can indeed serve as a good guideline for extrapolating far earlier language states.

The Bantu bias is compounded by the kind of empirical evidence offered from the hundreds of non-Bantu Niger-Kordofanian languages in support of the reconstructions. That is, the evidence largely comes from a restricted number of individual modern languages, as in Table 20, and worse, the comparative associations are primarily steered by superficially similar morpheme forms, neglecting recurrent differences in meaning. Given the general shortness of these suffixes, Voeltz's study cannot separate any truly inherited material from look-alikes arising through chance, independent innovation, or language contact.

The difficulty of correctly identifying inherited morphemes by comparing isolated elements from individual languages or even families can be easily illustrated. One case in point is the derivational suffix system of Waja. Thus consider (1b) and (1d), which exemplify its passive-intransitive suffix *-u-* (= *-w-* in the example) and its pluractional suffix *-Vŋ-*, respectively.

- (1) a. *a dúm-ò*
3S bite-‘DEF’
‘he has bitten’
- b. *a dúm-w-à*
3S bite-PASS-‘DEF’
‘he has been bitten’
- c. *a gél-ì*
3S break-‘DEF’
he has broken it
- d. *a gél-èŋ-à*
3S break-PLUR-‘DEF’
‘he has broken many things/often’
(Kleinewillinghöfer 1996b: 35)

Formally and functionally similar morphemes that also occur between the root and a final vowel suffix are reconstructed for Proto-Bantu, namely the passive *ú and “pre-final” *a(n)g (cf. Meeussen 1967: 92, 110). Within the approach followed by Voeltz (1977) it is more than tempting to associate the Waja forms with those of Proto-Bantu and thus trace similar suffixes back to a very early language state.

Table 21: The Waja verb extensions in areal context (Kleinewillinghöfer 1996b: 35–36)

Waja	Local Chadic	Proto-Chadic
Destinative <i>-ń-</i>	‘toward speaker’ <i>-n-</i> (Tangale)	Destinative *in
Altrilocal <i>-we</i>	Grade 7 <i>-o</i> (Hausa)	Distant *(a)wa
Passive-intransitive <i>-u-</i>	Grade 7 <i>-u</i> (Hausa)	–
Plurality <i>-Vŋ-</i>	–	–
Relational-instrumental <i>-íy-</i>	–	–

However, as shown in Table 21, Kleinwillinghöfer (1996b) entertains equally good matches of the passive-intransitive *-u-* (and other suffixes) in neighboring languages from the Chadic family that are in intense language contact with Waja (cf., e. g., Jungrathmayr 1980; Kleinwillinghöfer 1990a). Hence, a possible genealogical interpretation is obviously ambiguous as long as it has not been shown that the Waja forms actually go back to proto-forms in, say, the Tula-Waja group or preferably in yet older language states.

Similar cases can be added, suggesting strongly that one is faced with a general rather than a language-specific problem. Thus, some Kru languages also possess a passive suffix *-o/o* but Marchese (1983: 288–291) plausibly argues that it is a group-internal innovation. Late innovation of an item in certain languages or groups is a general possibility to be reckoned with in comparing synchronic forms, even though they do not look obviously different from ancient extension reflexes. This is also relevant for some suffixes in the languages dealt with in Table 20: the benefactive suffix *-ke* in Degema is possibly derived from *kije* ‘give’ (Kari 1995: 150); repetitive *-pa* in Kulango could go back to *pá* ‘again’ (Elders 2007a: 192); and Segerer (2002: 226) even traces all but one of seven Bijago suffixes back to transparent and thus recent grammaticalizations, including the three items given in Table 20. It is clear that such late innovations cannot be reflexes of ancient Proto-Niger-Kordofanian verb extensions; however promising modern associations may be at first glance, they can nevertheless just as easily be look-alikes.

Clearly, the reconstruction of concrete verb derivation suffixes in Niger-Kordofanian is an extremely complicated issue that cannot be dealt with appropriately in an approach as followed by Voeltz (1977) but instead requires laboriously sifting through a huge amount of data. What Becher and Drolc (2007) summarize for a survey within the Atlantic pool, a relatively small set of languages, carries over to the historical-comparative picture across the entire Niger-Kordofanian domain: “Atlantic verb extensions are widespread, but varied and etymologies are mostly unknown. The establishment of cognates is obscured by sound and meaning changes, loss, merger and renewal processes.”

The historical problem on the highest level of Niger-Kordofanian has been addressed most intensively by Hyman (e. g., 1993, 2004, 2007a, 2011, 2014). Due to his particular expertise in Bantu, he also took this group as his point of departure. Initially accepting Voeltz’s (1977) work, he assumed “that the ... Bantu/Atlantic verb-stem structure represents the Proto-Niger-Congo situation” (Hyman 2004: 71). This quite general claim was challenged by Güldemann (2011a: 119–123, 2013b). In particular, while the existence of an elaborate paradigm of verb extensions can be safely assumed for an early proto-language, it must be questioned whether Voeltz’s reconstructions are valid (see above) and whether the specific complexity and morphotactics of the extension system in mainstream Bantu should be projected back to early Niger-Kordofanian.

As an illustration, in (2) I compare the so-called CARP (causative–applicative–reciprocal–passive) suffix-order template reconstructed by Hyman (2003) for Bantu and a largely matching structure in the Mel language Themne with the (simplified) verb stem structure of a selection of other languages (largely identical to that in Table 20) that also possess elaborate extension systems (/ separates different meanings of a single morpheme; [...] signals morphemes after a final default vowel; (...) possible suffix stacking).

- (2) a. “CARP” template in Early Bantu (Bantoid, Benue-Kwa) (Hyman 2003)
***ROOT-CAUS-APPL-RCPR-PASS-FINAL**
- b. Themne (Mel, Atlantic) (Kanu 2004: section 1.4–1.5)
ROOT-CAUS/ITER-DIR/LOC-RCPR/INSTR/BEN~REFL-NEG
- c. Cicipu (West Kainji, Benue-Kwa) (McGill 2009: 209, 221–232)
ROOT-PLUR-CAUS-FINAL-[ANTICAUS-APPL-PFV-CPET]
(at least 6 of 9)
- d. Igbo (Igboid, Benue-Kwa) (Ọnụkawa 1999)
ROOT-EXT1a-EXT1b-EXT2a-EXT2b-EXT2c-EXT2d-EXT2e
(max. 6 of >30)
- e. Degema (Edoid, Benue-Kwa) (Kari 1995: 164–166)
ROOT-RCPR/REFL/BEN/PLUR-CAUS-REFL-PLUR/HAB
(max. 3 of 4)
- f. Kulango (Kulangoic, Gur) (Elders 2007a)
ROOT-EXT1-EXT2-EXT3
(max. 3 of >15)
- g. Longuda (Adamawa) (B. Newman 1978)
ROOT-TR-PLUR/RCPR-APPL-FINAL-[IPFV] (?4 of 4)
- h. Bijago (Core, Atlantic) (Seeger 2002: 225)
ROOT-MIDorRSLT-INSTR-ASSC/RCPR/BEN-CAUS (max. 3 of 7)

Several observations can be made from the comparison in (2). First, restrictions on the number of suffixes are recurrent despite a larger suffix inventory, so that it remains unclear whether the inventory size goes hand in hand with a high degree of suffix stacking. Overall, there is no obvious correlation between the size of the suffix inventory, the possible number of suffixes on a verb, and/or the age of the overall system or individual markers. Regarding the last point, Igbo is a particularly dramatic case: the whole system, which at face value might be taken to support the assumption of a widespread and thus also early complexity, is with all likelihood of quite recent vintage, presumably emerging from the grammaticalization of verb root serialization and compounding. In a similar vein, the considerable differences between the complex verb-stem morphotactics across the languages, including CARP order in canonical Bantu, do not suggest that these patterns date back to an equally elaborate template in a very early language state. I will only mention two details in support of this view. For one thing, the causative suffix

occurs in very diverse positions: early in Bantu, Cicipu, and Themne; intermediate in Degema; and late in Bijago (and Moore of Gur, cf. Hyman 2011: 24). Moreover, only some languages and groups, namely Bantu, Cicipu, and Longuda, possess a so-called “final-vowel” segment, and its position in the suffix string differs immensely. The overall picture is certainly compatible with the alternative hypothesis that an elevated verb-stem complexity was an independent development after the break-up of the family.

Investigating the multiple challenges one faces when comparing verb extensions from more distant languages by roping in a wealth of language-specific and comparative data, Hyman (2014: 210) most recently makes a more reserved conclusion:

Because of their distribution in Africa (and worldwide) and their ability to change, renew, and possibly be borrowed, I have not been able to find a reliable morphological property that uniquely indicates Niger-Congo. We therefore are dependent upon demonstration of cognacy, which is difficult because grammatical morphemes are so short and undergo natural reduction processes.

At the same time, he offers useful methodological pathways that can be used to tackle these problems in the future. These insights, together with the understanding that the comparison between single items of modern languages needs to give way to bottom-up reconstruction of entire systems in core groups of the family, promise advances that go well beyond the simple recognition that a typological feature is in principle reconstructable for an early proto-language.

2.5.2.1.3. *Noun classification and gender*

The hallmark of typical Niger-Congo languages is a system of noun classification involving both marking on the noun and nominal agreement, instantiating a canonical, though distinct, type of gender system in terms of Corbett (1991).

- (3) a. *m-toto yu-le m-moja a-me-ni-pa cha-kula*
 “1”-child 1-DI.DEM 1-one 1-PERF-1S.OBJ-give 7-food
cha-ke
 7:GEN-1:POSSR
 ‘this one child gave me her/his food’
- b. *wa-toto wa-le wa-wili wa-me-ni-pa cha-kula*
 “2”-child 2-DI.DEM 2-two 2- PERF-1S.OBJ-give 7-food
cha-o
 7:GEN-2:POSSR
 ‘those two children gave me their food’
 (constructed)

The situation held to be typical is commonly illustrated by a Bantu language like Swahili. The examples in (3) show the following important features of such a system:

- a) The marking normally involves overt exponents – in (3) in boldface – at the agreement trigger itself – in (3) the initial subject nouns *mtoto* and *watoto* – defining what is called here a noun form class as well as at the multiple agreement targets – in (3) demonstrative, numeral, verb, and possessor pronoun – defining an agreement class.
- b) The exponents conflate gender and number and are predominantly dedicated to specific values in the system. Thus, the noun form class *m(u)* and the corresponding forms of the agreement class 1 in (3a) encode (reference to) a singular and human entity, while the noun form class *wa* and the corresponding agreement class 2 in (3b) encode (reference to) a plural and human entity.
- c) The exponents of specific agreement and noun form classes normally stand in a one-to-one relationship, and moreover often have an identical form, as in (3)b. with an affix *wa* in both the noun form class *wa* and the agreement class 2 (the *o* in the last context derives underlyingly from *wa-o*), resulting in a highly alliterative system (the more complex case in (3a) is less typical). This recurrent phenomenon has led to the conceptual conflation of corresponding agreement and noun form classes under the philological notion “noun class” with a single numbering system, as in (3) with the two “noun classes” “1” and “2”.
- d) The system normally entails numerous such “noun classes” (in Swahili close to 20), most of which pair up for count nouns across the two number values, singular and plural, and form genders on account of the agreement behavior, paralleled by a typical number declension based on noun form classes (in (3), the gender is that of human nouns). The set of genders (and parallel declensions) is large, involving a wide range of semantic assignment features but notably excluding sex.

Already Westermann (1935) showed for many (but not all) such systems that they involve cognate markers in geographically widespread languages, notably from such important groups as the Gur pool; Mel in the Atlantic pool; and Ghana-Togo Mountain, Potou-Akanic, Edoid, Yoruboid, Igboid, and Bantoid in the Benue-Kwa pool. Later, similar evidence has been reported for additional groups, especially in the Adamawa pool. Such a situation meets the requirement for cognate paradigmatic morphology, reflexes of which are exemplified partly in Table 25 and section 2.5.3. Accordingly, the generalized skepticism by some non-Africanists like Campbell and Poser (2008: 130–132), who state that “reliance on the noun-classifier concord systems constitutes a serious problem for classification. The trait is not convincing as a ‘genetic marker’,” can only be understood if assuming their non-familiarity with the relevant, admitted widely dispersed literature.

Nevertheless, there are enormous problems in historically assessing this domain that have hampered a fuller reconstruction of a proto-system for the entire lineage. Some of them are discussed in the following. For one thing, Williamson's (1989b: 31) claim that "[t]he best-known grammatical feature of the Niger-Congo languages is undoubtedly their system of noun classification which, in a well-preserved, reduced or purely vestigial form, can be traced in every branch of the family, and hence must be reconstructed for proto-Niger-Congo", is robust with respect to the system's in-principle reconstructibility for an early language state but cannot be accepted so far regarding a "universal" distribution in the hypothesized lineage. Thus, some important assumed Niger-Kordofanian subgroups have not (yet) been shown to have (possessed) the noun classification system, so that their very family membership stands in question on account of this domain. This will also be documented in more detail in section 2.5.3. below.

A second major problem concerns the identification of what Williamson refers to above as "reduced or purely vestigial" forms of the proto-system. Given the large size, and accordingly the enormous time depth of the family, it comes as no surprise that a considerable synchronic diversity developed after it split up. Greenberg (1949a: 90–93, 1977, 1978) himself, as well as later works, for example, Demuth, Faraclas, and Marchese (1986), Williamson (1989b: 31–40), Dimmendaal (2001a: 377), and recently Good (2012), have charted parts of this diversity across Niger-Congo and outlined some of the historical dynamics leading to it. In so doing, they have also successfully disproved proposals by Westermann (1947: 15–16) and other earlier scholars claiming that certain phenomena in western Benue-Kwa languages, notably in number declension, are the result of contact interference with Bantu-like languages rather than the degradation and reduction of an inherited Niger-Congo system. All this research, however, does not give reason to identify in an easy manner noun class "vestiges" in all sorts of modern grammatical elements.

In cases where the language-/group-specific system displays close typological similarity to the proto-type, preferably in both agreement and noun form classes, the task of the comparison is primarily to establish cognate markers regarding both form and meaning. Such canonical historical research is complicated because the exponents across different families can diverge considerably in form. While in some languages noun form and/or agreement classes only display a thematic vowel (e. g., Edoid, Yoruboid, etc. in Benue-Kwa), in others they only have a thematic consonant followed by a default vowel (e. g., Cangin in Atlantic; Tula-Waja, Longuda, Bena-Mboi, and Kebi-Benue in Adamawa; and Mbaic in Ubangi). Before the general assumption that at least the larger portion of class markers, both on the noun trigger and on the agreement target, had a CV shape in the proto-language, this would imply the loss of the initial consonant and the neutralization toward an invariable vowel, respectively, which increases the possibility of chance resemblances. Nevertheless, comparison and reconstruction is a realistic

undertaking, once the data in the low-level groups are sufficient and are compared properly.

The necessity for an accurate and philologically informed historical analysis can be shown by several examples. Thus, the *k-class in some Cangin languages of Atlantic with the meaning of descendent and diminutive could certainly be connected in a superficial comparison with similar elements in other Niger-Congo languages, for example, the exponent of the Bantu class *7, which has a recurrent diminutive function. However, the diminutive meaning of Cangin *k- does not reflect any direct inheritance of such an old Niger-Congo class marker. It is shown in (4) that it results instead from the fact that the word for ‘offspring’, which starts with *k* and is for this phonological reason assigned to the *k*-class, is used as the initial head of compound nouns and passes on its agreement behavior to the complex nominal (cf. Drolc 2005: 126, 248).¹¹

- (4) Noon
kʊ ‘offspring, child’
kʊ-baay ‘puppy’
kʊ-dɔɔʔ ‘little stick’
 (Drolc 2005: 126)

Another case in point for an apparently old but spurious noun-class reflex is the human plural element *wa* specific to the Kru languages Godie and Bete. It could well be viewed as related directly to the Proto-Niger-Congo marker *ba of class *2. However, Marchese (1988: 325) proposes that it is a Kru-internal innovation, because it can be explained as the result of coalescence of the real human plural marker *ʊ of Proto-Kru and a defunct imperfective marker *a.

A yet more difficult situation for the historical comparison holds in all those languages that display very restricted agreement and/or noun form classes, or entirely lack one of the two components. Promising remnants of earlier agreement elements are recurrently found in third-person pronouns, notably elements that are the likely result of generalization of forms of the human gender classes *1/*2.

Once agreement is lost, any potential relation to the inherited system can only be discerned from nominal morphology in general and number declension in particular. Previous work has identified different types of marking that counts as a likely, or at least promising, reflex of an earlier Niger-Congo-type gender system. These are a) noun affixes, particularly in number-sensitive pairs (cf., e. g., Elugbe [1983] on Edoid and Boyeldieu [1983] on Buai); b) lexicalized noun affixes on elements no longer functioning as nouns (cf., e. g., Miede [1997b, 2001] on some

¹¹ Such cases must have happened multiply and at different historical stages. Kähler-Meyer (1971) argues for a very similar scenario within Bantu (or Bantoid) in that its diminutive class *19 derives from the widespread Niger-Congo stem for ‘child’.

numeral stems in Gur); c) thematic elements on nouns that correlate with a specific class meaning (cf., e. g., Greenberg (1963a) referring to various languages with recurrent initial or final nasal segments on liquid and mass nouns indicating an earlier class *6A); and finally d) initial consonant alternation/mutation on nouns (cf., e. g., Klingenberg [1925] on Atlantic and Gerhardt [1988: 72] on Plateau).

At the same time, a number of phenomena can and have been associated with assumed Proto-Niger-Congo elements that have a (possibly) different origin and thus do not qualify as good evidence in favor of a family membership of a relevant language group. Such noun morphology, which may match assumed proto-classes in both form and meaning, concerns such diverse elements as grammaticalized heads of nominal compounds, number markers, adpositions, and non-agreeing determiners.

Olson (1996, 2006, 2012) has discussed a particularly instructive case within this general theme: the vowel prefixes found in many Bandaic languages were taken by Greenberg (1963a: 12–13) as noun-class reflexes but are in fact phonotactically required segments.

A more common phenomenon is that compound heads become affixes. They can easily take on a classificatory function as soon as they are applied to a larger set of nominals, but need not come to involve agreement, as opposed to the cases reported above. Thus, Elders (2006: 67–72) and Anonby (2005) provide an extensive discussion about noun affixes and “denominal performatives” in Kebi-Benue languages that look suggestive but are wrongly analyzed as traces of an older noun-class system. Earlier reports about such phenomena are Gerhardt (1988), dealing with various Plateau languages that use the stems for ‘person’ and ‘child’ as regular compound heads, and Storch (1999: 108–111), treating similar morphological forms in the Jukunoid language Hone.

Given that Niger-Congo noun affixes regularly mark gender AND number, simple number-sensitive affixes, especially making up a complex system, represent another major type of noun morphology that has been mistaken for a reflex of old noun-class marking. This problem is compounded by the fact that assumed Niger-Kordofanian groups in the (north)east are geographically entangled in an area whose languages are known for their complex number declension systems. An exemplary case of the facile interpretation of number marking as being related historically to an earlier noun-class system is the classification history of Kadu (U20). Greenberg (1963a) first assigned it to Kordofanian, and thus to the wider Niger-Kordofanian unit, because he saw in its complex system of noun prefixes a parallel to the class prefixes of neighboring language groups. Schadeberg (1981f: 301–304) later convincingly demonstrated the inadequacy of this approach by showing that these prefixes instead reflect a complex number-marking system, which is of the tripartite type identified by Dimmendaal (2000) for the wider area.

Last but not least, there is evidence that a language can acquire features of its noun morphology that look to be inherited from Proto-Niger-Congo by way of language contact. Thus, some Mbaic languages from the Ubangi pool, already possessing a suffix system, have borrowed noun prefixes from neighboring Bantu. Pasch (1987, 1988) reports that Ndunga took over a singular–plural prefix pair *li-/ma-* for around 50 nouns, which Greenberg (1963a: 13) had taken to be a direct reflex of the Proto-Niger-Congo gender *5/*6. According to Pasch (1986: 33–36), the Bantu prefix *mo-* of the human singular class 1 borrowed by Mba even shows the first signs of productivity. Mutual contact-induced changes in the nominal declension involving suffixing languages of Southeast Gurunsi (Gur) and prefixing languages of the Guang (Potou-Akanic) and Ghana-Togo Mountain groups are also entertained by Kleinewillinghöfer (2000, 2002: 76–79, 90).

Various historical factors can even conspire to create a considerably complex system of number declension that is quite Niger-Congo-like. The relatively recent emergence of nominal prefix morphology that indexes features relating to both number and nominal classification has been discussed repeatedly for unrelated West Nilotic languages (cf. Dimmendaal 2000, 2001a, 2001b; Storch 2003, 2005; Hieda 2011). The general process is said to have involved language-internal phenomena like inherited noun morphology and the grammaticalization of nominal compounds as well as language contact with neighboring Niger-Congo languages.

Dimmendaal (2000: 246–249, 2001a: 382, 2001b: 102–104) deals with the creation of prefixal number alternation in Dholuo, which is in contact with Bantu languages. This involves both language-internal formation and direct borrowing, as shown in Table 22.

Table 22: Noun prefixes sensitive to number and noun classification in Dholuo (after Dimmendaal 2000: 246–249)

	Singular	Plural	Historically related to:
Human	<i>ji-</i>	<i>jo-</i>	*jal/jo(o)l ‘traveler’
Human	<i>mi-</i>	<i>wa-</i>	Swahili loans in <i>mu-/wa-</i>
Diminutive	<i>nya-</i>	<i>nyi-</i>	<i>nyákô/nyiri</i> ‘girl, daughter’
Locative	<i>ka-</i>		<i>ka</i> ‘place’

Further north Storch (2003: 78–82) reports the similar emergence of a prefix system for Belanda Bor and connects this partly to contact with Belanda Viri, a language of the Ndogoic group in Ubangi (U17.G).

Table 23: Noun prefixes sensitive to number and noun classification in Belanda Bor (after Storch 2003: 81–82)

	Singular	Plural	Historically related to:
Human	<i>ji-</i>	<i>jò-</i>	*jal/jo(o)l ‘traveler’
Unmarked	Ø-	<i>ká-</i>	–/?
Diminutive	<i>dì-</i>		?*‘child’/?
Singularized mass	<i>ní-</i>	<i>káńí-</i>	*ńi ‘daughter’/unmarked plural

The noun prefix paradigms in Dholuo and Belanda Bor are still far from being like a gender system of the Niger-Congo type, notably because this type of morphology does not apply throughout the nominal lexicon and, more importantly, is not associated with agreement, but they are certainly parallel to Niger-Congo “noun classes” in that they encode both number and noun semantics. The history of these systems also throws some light on how an initially small morphological paradigm can become larger and more similar to the Niger-Congo canon, which can certainly mislead linguists in their search for distant genealogical relationships.

A third and final problem to be mentioned here for the historical-comparative assessment of Niger-Congo gender systems is the research bias, referred to in section 2.5.1., toward Bantu and its reconstructed proto-language.

The Proto-Bantu “noun class” system is shown in Table 24. Assuming the overall adequacy of this reconstruction, its detailed information allows one to establish a close approximation to the original situation regarding in particular the number-mapping of agreement classes to form the gender system and the number-mapping of noun form classes to form the declension system, including the charting of several single-class categories for non-count nouns/referents.

Table 24: Proto-Bantu “noun classes” (conflating agreement classes and noun form classes) (after Meeussen 1967: 96–104)

“Noun class”	Number	Agreement class	Different agreement targets				Noun form class
			CONC	NUM	SBJ	OBJ	
*1a	S	1(a)	ju-	u- ?	u-, a-	mu-	Ø
*1	S						
*3	S	3	gu-	u- ?	gu-	gu-	mu-
*18	TR	18	mu-	mu-	mu-	mu-	
*2	P	2	ba-	ba-	ba-	ba-	ba-
*4	P	4	gi-	i- ?	gi-	gi-	mi-
*5	S	5	di-	di-	di-	di-	ĩ-
*6	P	6(A)	ga-	a- ?	ga-	ga-	ma-
*6A	TR						
*7	S	7	ki-	ki-	ki-	ki-	ki-
*8	P	8	bĩ-	bĩ-	bĩ-	bĩ-	bĩ-
*9	S	9	ji-	i- ?	ji-	ji-	n-
*10	P	10	jĩ-	ĩ-	jĩ-	jĩ-	
*11	S	11	du-	du-	du-	du-	du-
*12	S	12	ka-	ka-	ka-	ka-	ka-
*13	P	13	tu-	tu-	tu-	tu-	tu-
*14	S, TR	14	bu-	bu-	bu-	bu-	bu-
*15	S, TR	15/17	ku-	ku-	ku-	ku-	ku-
*17	TR						
*16	TR	16	pa-	pa-	pa-	pa-	pa-
*19	S	19	pĩ-	pĩ-	pĩ-	pĩ-	pĩ-

Note: single agreement class: *1/*1a

single noun form class: *1/*3/*18, *9/*10

(*6/*6A, *15/*17);

(*6/*6A, *15/*17)

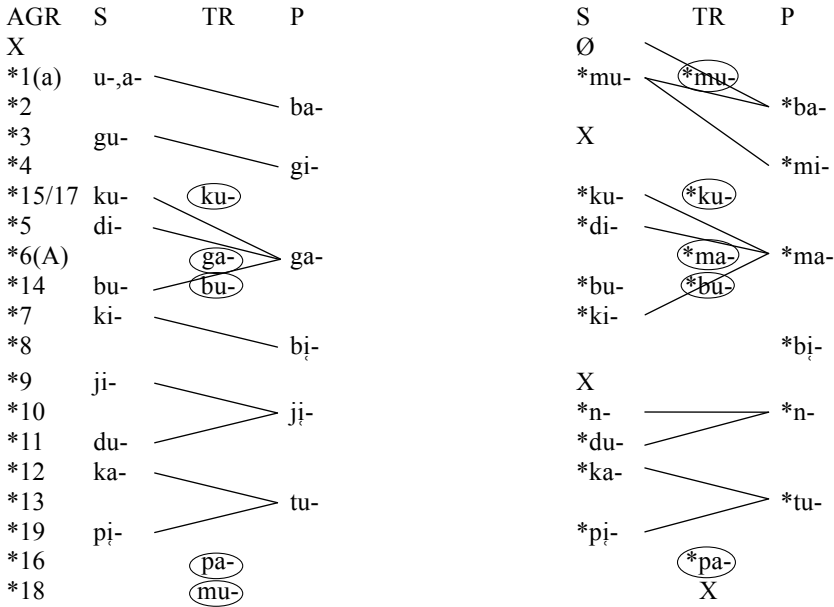
As mentioned in connection with (3)b., the system in modern Bantu languages and in their proto-language is portrayed primarily in terms of a one-to-one relation between a noun form class and an agreement class, often involving widespread alliteration. As Table 24 and Figure 5 show, however, even the reconstructed proto-system entails at least three major mismatches, namely two cases where one noun form class matches more than one agreement class and one case for the inverse situation.

AGR(eement)		Noun form
X		∅
*1(a)	u-,a-	*mu-
*3	gu-	X
*18	mu-	X
*2	ba-	*ba-
*4	gi-	*mi-
*15/17	ku-	*ku-
*5	di-	*i-
*6(A)	ga-	*ma-
*14	bu-	*bu-
*7	ki-	*ki-
*8	b _i -	*b _i -
*9	ji-	*n-
*10	j _i -	X
*11	du-	*du-
*12	ka-	*ka-
*13	tu-	*tu-
*16	pa-	*pa-
*19	p _i -	*p _i -

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

Figure 5: Mapping of 18 agreement classes and 16 noun form classes in Proto-Bantu

In spite of the overall strong one-to-one alliterative mapping between agreement classes and noun form classes shown in Figure 5, the different size of their inventories, 18 vs. 16 classes, respectively, already implies that the gender system based on agreement and the declension system based on noun affixes cannot be identical. A full and explicit comparison is presented in Figure 6. The crucial differences are that the gender system is “convergent” in terms of Heine (1982) and Corbett (1991) and entails 10 paired genders for count nouns while the declension system is “crossed” and entails 11 morphological number alternations, caused by the additional ∅-marked noun form class.



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

Figure 6: Gender system (left) vs. declension system (right) of Proto-Bantu

This analytical picture means that the philological concept of a unitary “noun class”, which conflates agreement class and noun form class, while capable of covering a large portion of the system, is nevertheless misleading regarding the whole picture, even in Bantu, for which the model was originally established. While the problem as such has been recognized (cf., e. g., Voorhoeve and Wolf 1969: 4), Güldemann and Fiedler (forthcoming) show that historical-comparative Niger-Congo research largely follows this Bantu tradition. However, in contrast to Bantu studies, there is a strong tendency to neglect agreement as the definitional parameter of gender and to use instead noun form classes and the declension system they establish to describe and reconstruct gender systems. This approach hampers the successful historical comparison and reconstruction of earlier language states and thus also attainment of the ultimate goal of arriving at a likely proto-system. In order to overcome this problem, noun morphology and the resulting number declension system can certainly be addressed in tandem with agreement and the resulting gender system but should nevertheless be carefully separated from it. The following discussion of individual language groups is only to show the degree to which their systems are similar to the most robust reconstruction of Bantu, focusing on languages and groups that are not dealt with by Westermann (1935). When I deal with a system as a whole, I will mostly limit myself to the representation

of agreement-based genders and point out possible links to reconstructed Bantu classes. A summary survey of possible reflexes of the most frequently recurring classes, namely *1 for human singular, *2 for human plural, and *6A for liquid and mass nouns, is given in Table 25.

Table 25: (Potential) reflexes of classes *1, *2, and *6A across Niger-Kordofanian classificatory units

	Lineage	*1 Singular		*2 Plural		Meaning	*6A Transnumeral			Source
		Noun affix	Concord/pronoun	Noun affix	Concord/pronoun		Noun affix	Concord/pronoun	Meaning	
(U6.A)	Bantoid: Bantu	*m̥i-	*ju/ a	*ba-	*ba	Human	*ma-	*ga	Liquid, mass	Meussen (1967: 98)
(U6.A)	Bantoid: Ekoid	*n̥-	–	*(b)jà-	–	Human	*,a-	–	Liquid, mass	Crabb (1965: 85, 98, 102)
(U6.B)	Cross River: Upper	*ɔ̄-/ ɔ̄-	*o/ɔ	*bà-/ bə-	*ba/ bə	Human	*m̥à-	*dà/ *d̥	Liquid	Dimmendaal (1978: 190–195)
(U6.B)	Cross River: Lower	*O-	–	*Ba-/ e-	–	Human	–	–	–	Connell (1987)
(U6.C)	Kainji-Platoid: Ninzic	*t̥-	*,w(a)	*ba-	*ba	Human	*,ma-	–	Liquid	Gerhardt (1972/73, 1983a: 202–205)
(U6.C)	Kainji-Platoid: <i>Yukuben</i>	t̥-	t̥-	bà-	bà-	Human	bà-	bà-	Liquid, mass	Prischnegg (2008: 135–136, 180)
U6.D	Igboid	–	*-yè	–	*-ḍé	3rd person	–	–	–	Williamson, Blench, and Ohiri-Aniche (2013: s.561, s.564)
U6.F	Nupoid: <i>Grade</i>	t̥-	t̥-	bà-	bà-	Human, 3rd person	bà-	–	Liquid	Sterk (1978)
U6.G	Edoid	*O-	–	*A-	–	Human	*A-	–	Mass	Ehugbe (1983: 66, 67)
(U6.H)	Akpes: <i>Ektromi</i>	O-	-t̥	a-	-bà	Human	–	–	–	Agoyi (1997: 2, 4)
U6.I	Ulkaan	*O-	*O-	*A-	*A-	Human	*A-	*A-	Transnumeral	Abiodun (1997); Salfner (2009: 59–61)

U6.J	<i>Oko</i>	ó-	-yɛ	-	-bɛ	Human, 3rd person	-	-	-	Atoyebi (2010: 67, 110)
(U6.K)	Owon-Arigidi: <i>Arigidi</i>	-	-	-	wá	3rd person	-	-	-	Oshodi (2011: 24–29)
U6.M	Yoruboid	*ɔ-	*-ɲū	-	*-b'ä	Human, 3rd person	-	-	-	Akinkugbe (1978: 302–303, 779, 419)
(U6.O)	Ghana-T.-M.: Ka-Togo	*o- > -wə	*o	*ba- > -bə	*ba	Animate	*N-	*N-	Liquid, mass	Heine (1968: 187–191, 129, 208–210)
(U6.O)	Ghana-T.-M.: Na-Togo	*o-	*o	*ba-	*ba	Animate	*N-	*N-	Liquid, mass	Heine (1968: 187–191, 129, 208–210)
(U6.P)	Potou-Akanic: Guang	*O-	*O-	*bA-	*bA-	Human	*N-	*N-	Liquid, mass	Manessy (1987); Snider (1990); Fiedler (p. c.)
U6.Q	Ga-Dangme	-	*è-	-	*ä-	Human	-	-	-	Kropp Dakubu (2006: 46)
U6.S	<i>Ega</i>	ɔ-	ɔ-	-	-	Human	a-	a-	Liquid, mass	Bole-Richard (1983a)
(U7)	Dakoid	-	-	-bū	béé	3rd person	-	-	-	Boyd (1994: 18, 2004: 223)
U9.A	Kru	*-ɔ	*ɔ	-	-	Human	-	-	-	Marchese (1988: 324–328)
U9.B	<i>Siamou</i>	-	á	-	-	3rd person	-	-	-	Prost (1964: 358)
U10	<i>Pere</i>	-(y)O	a/ yɛ	-(m)bɛ	bé	(Animate) 3rd person	-mu	-	Liquid (some)	Creissels (2010: 3, 4–10)
(U11.A)	Atlantic: Cangin	-	* (y)ə	-	*ba	Animate	*m-	*m-	Liquid, mass	Droic (2005: 122–124; 119–121)
(U11.B)	Mel: Temnic	*(w)o-	*(w)o	*a-	*a	Animate	*ma-	*ma	Liquid, mass	Wilson (1961: 53–57)

Lineage	*1 Singular		*2 Plural		Meaning	*6A Transnumeral			Source
	Noun affix	Concord/pronoun	Noun affix	Concord/pronoun		Noun affix	Concord/pronoun	Meaning	
U11.C	(w)0-...-(0)	(w)0	a-...-(pa)	a	Animate	ma-...-(ma)	ma	Liquid, mass	Koroma (1994: 25–26, 59)
U11.D	wɪ- (et al.)	w0	bɪ- (et al.)	bɛ	Animate	ma-	ma	Liquid, mass	Berry (1958)
U11.E	(a)-	–	-(än)	wa	Animate	m-/N-	mɛ	Liquid	Wilson (2007: 148, 212–213, 217–218)
U11.F	–	a-	bɛ-	bɛ(-)	Animate	ma-	–	Liquid (some)	Wilson (2007: 131–134, 212–213, 217–218)
U11.G	*(w)0-	–	–	–	Human	–	–	–	Wilson (2007: 136, 212–213, 217–218)
U12	–	–	–	–	–	–	–	–	
U13	–	–	–	*b0	Human, 3rd person	–	–	–	Heath and Prokhorov (2010)
U14	–	–	–	–	–	–	–	–	
(U15.A)	*-0/ a	*0/ a	*-(m)ba	*ba	Human	*-ma	*ma	Liquid, mass	Manessy (1975: 80–133)
U15.H	*-wV	*wV	*-bVIV	*pV	Human	*-mV	*mV	Liquid, mass	Miehe (2007)
U16.A	*-V	*W	*-BV	*B	Human	*-mV	*B	Liquid, mass	Kleinewillinghöfer (1996b: 29–31, 2012c)
U16.B	–	a	-b	ba	Human	-mV	mV	Liquid, mass	Jungraithmayr (1968/69); B. Newman (1978)

U16.C	ʔana-Mboi	–	–	–	*(y)a	*-Ba	*Ba	Human	*-ma	*ma	Liquid, mass	Kleinewillinghöfer (1992, 1993)
U16.H	Kebi-Benué	–	–	–	–	–	–	–	-ml	–	Liquid, mass	Elders (2006: 65–67)
U16.N	Fali	–	–	–	–	–	*o'wa	3rd person	-m	–	Liquid (some)	Sweetman (1981: 90)
U17.A	Gbayaic	–	–	*ʔà	–	–	*wà	3rd person	–	–	–	Moñino (1995: 649)
U17.B	Zandic	–	–	–	*a-	–	–	3rd person (animate)	–	–	–	Tucker (1959: 119, 180, 221)
U17.C	Mbaic	*-wo	*w	–	–	–	–	Human	*-mV	*-m	Liquid, mass	Pasch (1986: 359)
U17.E	Ngbandic	–	–	*à	*á-	–	–	3rd person	–	–	–	Moñino (1988: 118); Boyeldieu (1982c: 34)
U17.F	Bandaic	–	–	–	*a-	–	–	3rd person (animate)	–	–	–	Tucker and Bryan (1966: 89)
U18.A	Heibanic	*gu-	*gu-	–	–	–	–	Animate	*ɲ-	*ɲ-	Liquid, mass	Schadeberg (1981a: 132–152)
U18.B	Talodic	*pV-	*pV-	–	–	–	–	Animate	*ɲu-	*ɲu-	Liquid, mass	Norton and Alaki (2015: 107–112)
U18.D	Rashadic	*w-	*w-	–	–	–	–	Animal	*ɲ-	*ɲ-	Liquid, mass	Schadeberg (2013: 330, 333–338)

Notes: (U...) = data disregard portions of a lineage, likely reflexes of proto-form are left-aligned; likely secondary reflexes of proto-form are right-aligned; – = no relevant form; xxx = single-language form; * = cited reconstruction; * = pseudo-reconstruction

Table 26: Typical nominal lexemes across Niger-Kordofanian classificatory units

	Lineage	'person'			'people'			'tongue'			Source(s)
		Prefix	Root	Suffix	Prefix	Root	Suffix	Prefix S/P	Root	Suffix S/P	
(U6.A)	Bantoid: Bantu	*mu-	ntu		*ba-	ntu		*du-/ji-	dimi		Meeussen (1980: 46, 53; 1967: 98)
(U6.A)	Bantoid: Ekoid	*h-	nè		*(b)à-	nè		*(I)E-/-	LEBE		Crabb (1965: 85; 98)
(U6.B)	Cross River: Upper	*ò-	nèTO		*bà-	nèTO		*-	díBí		Dimmendaal (1978: 311, 313, 276 [‘to lick’], 279)
(U6.B)	Cross River: Lower	NO			NO			*ǵ-/a-	lé-mè		Connell (1994: 17)
(U6.C)	Kanji-Platoid: Ninzic	*u-	nÉt		*ba-	nÉt		*1-/?	rem		Gerhardt (1983a: 149, 153)
(U6.C)	Kanji-P.: Central Jukunoid	* nguT	-u		* nguT	-a		*(-)	dema		Shimizu (1980, 2: 172; 79–80)
U6.D	Igboid	*ò-	míCé		?			*i-	dV		Williamson, Blench, and Ohiri-Aniche (2013: series 185, series 466)
U6.E	Idomoid	*φ-	njinyi		?			?			Armstrong (1983: 115)
U6.G	Edoid	-			-			*U-/A-	dhamhi		Elugbe (1986: 163)
U6.H	Akpes	*ḡ-	mī		*ā-	mī		*i-	da(-)		Agoyi (1997: 2); Ibrahim-Arribayi (1989: 35)
U6.I	Ukaan	*ḡ-	mī		*ā-	mī		NO			Abiodun (1999: 302, 325)

U6.K	Owon-Arigidi	*ɛ- nɛ̃	–	*- rɛ̃	Fadoro (2010: 56, 126)
U6.M	Yoruboid	*ɔ- nĩ	*ɛ- nĩ	*è-/– dè	Akinkugbe (1978: 640, 510–512)
U6.N	Gbe	*- nũ-	*- nũ-	*- dɛ̃	Capo (1991: 220, 224); Kluge (2000: 114, 118, 120)
(U6.O)	Ghana-T.-M.: Ka-Togo	? *o- tɛN	? *ba- tɛN	*ki-/bi- nɛ(B)ɛ̃	Heine (1968: 246, 237)
(U6.O)	Ghana-T.-M.: Na-Togo	? *o- tɛN	? *ba- tɛN	*o-/– Nɛmi	Heine (1968: 246, 237)
(U6.P)	Potonu-Akanic: Guang	*o- ɲV	*a- ɲV	?	Manessy (1987: 30)
U6.Q	Ga-Dangme	? * Nu –	NO	*li- lɛ̃ –	Kropp Dakubu (2006: 37, 47)
U6.S	<i>Ega</i>	? ɔ- ɲáá	?	NO	Blench (2004b: 4, 3)
(U7)	Dakoid: <i>Samba</i> <i>Daka</i>	? nɛ́ɛ	NO	? láá	Boyd (1997: 182, 196)
(U8)	Ijoid: Ijo	NO	NO	*ɪ- bɛ̃l –ɛʊ	Williamson (2004b: 24, 34)
U9.A	Kru	* nɪ –(O)-	?	* mĩ(l) –(O)	Marchese (1983: 349, 393)
U9.B	<i>Siamou</i>	NO	NO	dɛ̃ /-'	Prost (1964: 427, 431)
U.10	<i>Pere</i>	? ɲò –ɲò	? nĩ –mbɛ	? ɲèɲ –gɛ̃	Creissels (2010: 8, 6)
(U11.A)	Atlantic: Cangin	NO	NO	*pe-/tɛ- dɛ̃(e)m (-)	Droic (2005: 122, 237, 127 f, 235)
(U11.B)	Mel: Temnic	NO	NO	*dɛ̃-/ meL (-)/EN	Dalby (1965: 13)
U11.C	<i>Gola</i>	(o)- ɲun –(o)	a- ɲun –(nã)	(-) miè(l) (-)	Westermann (1921: 27–30, 178)

	Lineage	'person'			'people'			'tongue'			Source(s)
		Prefix	Root	Suffix	Prefix	Root	Suffix	Prefix S/P	Root	Suffix S/P	
U11.D	<i>Limba</i>	? (wu)-	n(de)		? bi-	n(de)		fi-/tafi-	lin		Clarke (1922: 101, 133 ['(s) he'], 141 ['they'], 143)
U11.E	<i>Sua</i>		neer			neer	-an	(n)-/i-	dem	-ete	Wilson (2007: 213, 223)
U11.F	<i>Nalu</i>		n-	neen		be-	neen	/a-	rim		Wilson (2007: 213, 223)
U11.G	Rio Nunez	*wu-	nV		*BE-	N		*(E)-/a-	lEm		Wilson (2007: 213, 223)
U13	Dogon	*	nu		*	nu	-bo	*	nEN	-dV	Heath and Prokhorov (2010); Moran, Forkel and Heath (2016)
U14	<i>Bangime</i>										Hantgan (2013: 336, 338)
(U15.A)	Central: Oti-Volta	*	nit(V)	-V	*	nit(V)	-ba	*(Je)-/-	lEm	-	Manessy (1975: 287, cf. 264, 278, 273)
U16.A	Tula-Waja	*	n(r)		*	nI	-b(U)	*,be-	lEm	-tV	Kleinwillinghöfer (2012c)
U16.B	Longuda	*	(n)yIr	-E	*	(n)yI	-bE	*,dl-	lIm	-Ka	Kleinwillinghöfer (2014c)
U16.C	'Bana-Mboi	*	yet	-e	*,b-	Et	-a	*,dE-	lmaa	-ra/ta	Kleinwillinghöfer (2011c)
(U16.E)	Samba-Duru (minus Samba)	?			?			*	mE(l)	-	Boyd (1974); Kleinwillinghöfer (2015c)
U16.F	Mumuyic							*	dEE	-tE	Shimizu (1979: 97, 100)
U16.G	Maya										Kato, Yoder, and Blench (n.d.: vi, iii)
U16.H	Kebi-Benué	? *	rV		*	rV		*(le)-	lim		Boyd (1974: 63 ['man'], 82 ['old person']; 77)
U16.K	<i>Day</i>								le	-le	Nougayrol (1980: 169; 164)

U16.L	<i>Baa-Kwa</i>	NO	NO	NO				<i>dyěñ</i>	<i>-(vi)</i>	Kleinwillinghöfer (2011b)
U16.M	<i>Nyingwom-Kam</i>		<i>à- nyiu</i>	<i>nyi</i>	<i>-yo</i>			<i>à- lim</i>	<i>-əni</i>	Kleinwillinghöfer (2015b)
U16.N	<i>Fali</i>		* <i>midu</i>	* <i>(o)- nit</i>	<i>-ay</i>			* <i>ɛ:ŋ</i>	<i>-gu</i>	Sweetman (1981: 73 ['man'], 54; 76)
U17.A	<i>Gbayaic</i>	NO	NO	NO				* <i>lé(m)</i>	<i>-Be</i>	Moñino (1995: 563; 541)
U17.B	<i>Zandic</i>		* <i>gwa- nl</i>	?				* <i>miLa</i>	<i>-a</i>	Tucker (1959: 264–265; 258–259)
U17.C	<i>Mbaic</i>	NO	NO	NO				* <i>(-)</i> <i>mE</i>	<i>-</i>	Pasch (1986: 385; 383)
U17.D	<i>Mundu-Baka</i>	NO	NO	NO				* <i>mi(DN)</i>	<i>-E</i>	Moñino (ed., 1988: 128; 120)
U17.E	<i>Ngbandic</i>		? * <i>zò</i>	? * <i>a- zi</i>				* <i>(li)- mEn</i>	<i>-ga-</i>	Moñino (ed., 1988: 128; 120)
U17.F	<i>Bandaic</i>		? * <i>zū</i>	? * <i>a- zū</i>			NO			Moñino (ed., 1988: 128; 120)
U17.G	<i>Ndogoic: South</i>		? * <i>dū</i>	?				* <i>mè</i>		Santandrea (1961: 156–157; 160–161)
U18.A	<i>Heibanic</i>	NO	NO	NO				* <i>ɖ-/d- ŋela</i>		Schadeberg (1981a: 42–43, 179; 50–51, 176–177)
U18.B	<i>Talodic</i>		* <i>p- ol(o)</i>	<i>ol(o)</i>				* <i>tu-/ə- ləŋe</i>		Norton and Alaki (2015: 138, 140)
U18.C	<i>Lafofa</i>	NO	NO	NO				<i>liápi</i>		Schadeberg (1981b: 35, 41)
U18.D	<i>Rashadic</i>		* <i>JVt</i>	* <i>JVt</i>	<i>(-)</i>			* <i>ŋV(I)</i>	<i>(-)</i>	Schadeberg (2013: 336, 337)

Notes: (U...) = data disregard portions of a lineage; – = no form(s) given; xxx = single-language form; * = cited reconstruction; * = pseudo-reconstruction; ? = no single (plausible) reconstruction; NO = no cognate with Niger-Congo form based on superficial inspection

Table 27: Lower numerals across Niger-Kordofanian classificatory units

	Lineage	'two'	'three'	'four'	'five'	Source
(U6.A)	Bantoid: Bantu	*-bV.di	*-tá.tu	*-na.i	*-táa.no	Meeussen (1967: 105)
(U6.A)	Bantoid: Jarawan	*-ba.ri	*-ta.tu	*-n(E)	–	Gehrhardt (1982: 94, 84)
(U6.A)	Bantoid: Ekoid	*-ba.(l)	*-Tá(a)	*-nE	*-Tá.n	Crabb (1965: 68–69, 97, 99)
(U6.A)	Bantoid: Mambiloid	*Ba	*ta.R	*na	*tV.n	Connell (2010)
(U6.B)	Cross River: Upper	*-ppán-	*tá.DN	*-ná.(ŋ)j	*tá.ñ(ó)	Dimmendaal (1978: 243, 267, 273, 312)
(U6.B)	Cross River: Lower	*-bá	*-tá	*-niáŋ	*-tíò.n	Connell (1991: 340–341)
(U6.C)	Kainji-Platoid: Nimzic	*-pah	*-ta.t	*-na.s	*-tò.ŋ	Gerhardt (1983a: 144, 153)
(U6.C)	Kainji-P.: Central Jukunoid	*-pan	*-ta.r	*(-)NE.(n)	*-to.n	Shimizu (1980.2: 1, 51–52, 108, 61–62); Storch (1999: 373)
U6.D	Igboid	*-bòwá	*-tò	*-nò	*-tò	Williamson, Blench, and Ohiri-Amiche (2013: series 551–554)
U6.E	Idomoid	*-pà	*-tā	*-nE	*-rūš	Armstrong (1983: 111, 116–118, 121)
U6.F	Nupoid	*-ba	*-ta	*-nV	*-tu.(N)	Blench (2013d: 133–135)
U6.G	Edoid	*-və	*-cha.G1	*-niə	*-chi.Na.nhi	Elugbe (1986: 150, 153, 211, 228)
U6.H	Akpes	*-di.aN	*-sa.s	*-ni.(N)	–	Ibrahim-Arribiyi (1989: 33, 35)
U6.I	Ukaan	*wà	*tá.rV	*ná.hí	*tjò.nV̄	Abiodun (1999: 331)
U6.J	<i>Okò</i>	-bò.rè	-ta	-ta	<i>u-pi</i>	Atoyebi (2010: 150)
U6.K	Owón-Arigidi	*-ji	*-da	*-nɛ	*-tV̄	Fadoro (2010: 90)
U6.L	Ayere-Ahan	*-ji	*-ta	*-rEn	*-(n)tu	Blench (2007b: 15); Ogunmodimu (2015: 66)
U6.M	Yoruboid	*-ji	*-ta	*-rĩ	*-ròá	Akinkugbe (1978: 480, 590, 614, 666)

U6.N	Gbe	*-bè	*-tš	*-nĕ	*-á.tš	Capo (1990: 66–67); Kluge (2000: 141–143)
(U6.O)	Ghana-T.-M.: Ka-Togo	?	*-ta	*-nV	*-to.(N)	Heine (1968: 236–237, 245, 248)
(U6.O)	Ghana-T.-M.: Na-Togo	*-NO	*-tE	*-na	*-(to).no	Heine (1968: 236–238, 245, 248)
U6.P	Potou-Akanic	*(-)nš	*-tā	*-nā	–	Stewart (1993: 28, 35, 37; 2002: 215, 223)
U6.Q	Ga-Dangme	*-nyš	*-tĕ	„JwE	*-nĭ.mš	Kropp Dakubu (2006: 46, 54)
U6.R	Lagoon: ABe	a.nš	a.re	a.tE	o.ni	Dumestre et al. (1971: 270–271)
U6.S	Ega	-jč	-tā	-tĕ	-jwĕ	Blench (2004b: 11)
U7	Dakoid	*ba.ra	*ta.ra	*na.sa	*tO.(p)ona	Boyd (1989b: 170)
U8	Ijoid	*mga-mV	*taa.to	*-nŋ.i	*to.nŋ.iš	Williamson (2004b: 14, 33, 35)
U9.A	Kru	*sO/sŌ	*ta/tā	*(-)na/nĭe	?	Marchese (1983: 399–400)
U9.B	Siamou	nĭ	fyar	yiro	kwĕ	Prost (1964: 354)
U10	Pere	yŋgč	tā: nč	nā:	nĭ	Creissels (2010: 7, 9, 10)
(U11.A)	Atlantic: Cangin	*ana	*a(ĕ)gĕ(a)y	?	?	Droic (2005: 203)
(U11.B)	Mel: Temnic	*-rə.ŋ	*-sa.s	*-an(ə)le	*(kə)Tamat	Wilson (1961: 62)
U11.C	Gola	ti.el	tā.(l)	tĕ.nā	nŋ.no	Westermann (1921: 39)
U11.D	Limba	-le	-ta.t	-na.n	-sŋhi	Clarke (1922: 94, 96, 142, 144)
U11.E	Sua	-ceŋ	-ra.r	-na.n	sŋgun	Wilson (2007: 200–201)
U11.F	Nalu	-le	pwaat	-na-ŋ	teeduj	Wilson (2007: 200–201)
U11.G	Rio Nunez	*-IE	*-Tĕ.T	*-nə.ŋ	?	Wilson (2007: 200–201)
(U12)	Mande: Southwest	*fĕle	*sa(g)ba	*naa.ni	*zɔɔ	Dwyer (1988: 145); Kastenholz (1996: 188, 189)

Lineage	'two'	'three'	'four'	'five'	Source
(U12)		*peIa	*jalko	*sireko	*sodu Schreiber (2008: 327)
U13	*leV	*ta.n(dV)	*nai	*nu(m)V	Moran, Forkel and Heath (2016)
U14		<i>jindò</i>	<i>néè</i>	<i>nindí</i>	Hantgan (2013: 489)
(U15.A)	*le	*ʃa	*na:(si)	*nu	Manessy (1975: 180, 306, 308)
(U15.A)		*nyo	*nyí	*mU.wa	Miehe (2001: 270)
U15.B	?	*sA.(r)	*na	*tO	Miehe (2001: 271)
U15.C	<i>-tí.ré</i>	<i>-tā.nī</i>	<i>-nā</i>	<i>-nībū</i>	Pali (2011: 262)
U15.D		*jō	*ŋ(w)Ō	*kã	Heath, Ouattara, and Hantgan (2017: 40)
U15.E		<i>ni.ni</i>	<i>juumi</i>	<i>kvege</i>	Prost (1979: 39)
U15.F		*ni.nV	*Vnyā	*k(V)lV	Prost (1964: 279); Zaugg-Coretti (2005: 36)
U15.G	?	*tV	*naa.(so)	*susu	Miehe (2001: 271)
U15.H		*Suní	*TiKyEr(E)	*kaKuro	Miehe (2001: 271)
U16.A		*rVP	*naa.T	*nU.(N)-	Kleinewillinghöfer (2012c)
U16.B		*Kwa(t)	*nyl.r	*nyO.(N)	Kleinewillinghöfer (2014c)
U16.C		*fEʃE	*kurun	*nO.n	Kleinewillinghöfer (2011c)
(U16.E)		*i.tV	*naa.r	*nO.n-	Boyd (1974: 68, 73, 75); Kleinewillinghöfer (2015c)
U16.F		*zi.ti	(d)nee.ti	*maani	Shimizu (1979: 82, 106–107)
U16.G		*iDNE(t)	*naa.t	*nu.ŋ	Kato, Yoder, and Blench (n.d.: v)
U16.H		*si.tV	*na.i/na.N	*ndep	Boyd (1974: 68, 73, 75)

U16.I	Kiric: <i>Kim</i>	*zi	*ta(°)	*nda	*nūy	Lafarge and Seignobos (1975: 104)
U16.K	<i>Day</i>	<i>dii</i>	<i>tāā</i>	<i>ndāā.g</i>	<i>sāri</i>	Nougayrol (1980: 154, 157, 171, 177)
U16.L	<i>Baa-Kwa</i>	<i>gbèè</i>	<i>mwāān</i>	<i>nā.t</i>	<i>nūú</i>	Kleinewillinghöfer (2011b)
U16.M	<i>Nyingwom-Kam</i>	<i>yiraak</i>	<i>cā.r</i>	<i>nā.r</i>	<i>pwá.n</i>	Kleinewillinghöfer (2015b)
U16.N	<i>Fali</i>	<i>cuk</i>	*ta.n	*na.n	<i>kēɛɛw</i>	Sweetman (1981: 90–91); Kramer (p. c.)
U17.A	Gbayaic	*lii.tò/	*biá	*ná.r(á)	*mörkó	Moñino (1995: 654)
U17.B	Zandic	?	*ta.(i)	?	*-Sθ	Boyd and Nougayrol (1988: 69–71)
U17.C	Mbaic	?	?	*-na	?	Pasch (1986: 398)
U17.D	Mundu-Baka	*-Si	*-tá	*-na	*Büè	Winkhart (in prep.); cf. Moñino (1988: 101, 106, 133, 142)
U17.E	Ngbandic	*-sè	*-tá	*-siO	*-kO	Moñino (1988: 101, 106, 133, 142)
U17.F	Bandaic	*-Si	*-tá	*-nā	*mīndú	Moñino (1988: 101, 106, 133, 142)
(U17.G)	Ndогоic: South	(-)s.o	*ta.o	*na.o	*vo.o	Santandrea (1961: 37); cf. Moñino (1988)
U18.A	Heibaic	?	?	*-aŋo	*-uŋine	Schadeberg (1981a: 56, 180–181)
U18.B	Talodic	*-edac	*-əŋɔk	*baɗandɔ	(derived)	Norton and Alaki (2015: 151)
U18.C	<i>Lafofa</i>	<i>pa.ǰéér.ij</i>	<i>pa.daa.ij</i>	<i>kékká</i>	<i>kiligúm</i>	Schadeberg (1981b: 45)
U18.D	Rashadic	*-(r)ko(k)	*-V.tta	*-aaram	*-arVm	Schadeberg (2013: 338)

Notes: (U...) = data disregard portions of a lineage; likely reflexes of proto-form are left-aligned; likely secondary reflexes of proto-form are center-aligned; non-cognates of proto-form are right-aligned; – = no form(s) given; xxx = single-language form; * = cited reconstruction; * = pseudo-reconstruction; ? = no single (plausible) reconstruction

2.5.2.2. Lexicon

Since Westermann's (1927b) pioneering work it has been recognized that many language groups subsumed today under Niger-Kordofanian share a considerable lexical stock. Mukarovsky's (1976/7) study has further substantiated this impression, although his scope over different groups is partly different and in particular excludes the Mande family. The major problem with both comparative studies is that the results are not genuine lexical proto-forms. Stewart, who has been working since the 1970s according to standard methodology on a pilot lexical reconstruction comprising Proto-Bantu and Proto-Potou-Akanic (previously Potou-Tano), gives a fair judgement about the state of the art in Niger-Kordofanian lexical comparison when he writes (2002: 201):

In fact my Proto-Potou-Akanic-Bantu is the only true protolanguage on offer that is ancestral to Proto-Bantu. Mukarovsky, like Westermann before him, provides starred forms, and the unwary have often mistaken these for true reconstructions arrived at by the comparative method, though Mukarovsky himself accurately characterizes Westermann's starred forms as "pseudo-reconstructions of Proto-Western Sudanic" ([Mukarovsky 1976/7] vol. 1: 36) and, to his credit, refrains from claiming that the status of his own Proto-Western Nigritic starred forms is any different. Pseudo-reconstructions differ from true reconstructions in that it is not possible to derive from them, by a specified set of diachronic rules, their putative reflexes in the daughter languages.

The fact that Stewart's Proto-Potou-Akanic-Bantu merely comprises two lineages from within the Benue-Kwa pool implies that the scope of genuine historical-comparative lexical reconstruction in the Niger-Kordofanian domain is currently still limited indeed.¹²

There is, of course, other published work on lexicon-based comparison and classification in Niger-Kordofanian. However, this is restricted either to lexicostatistic analysis (notably Bennett and Sterk [1977], which triggered several follow-up studies), or to the discussion of relatively few sample lexemes and their supposed phonological change, which suffers from a limited and often eclectic database. The latter holds in particular for Williamson's (1971, 1992, 2000b, 2004a; see also Elugbe and Williamson 1977) studies. Apart from a considerable bias toward establishing Ijoid as a member of the larger family, it is also noteworthy that her work has engaged little with the canonical reconstructions available, notably those by Stewart.

This evaluation by no means implies the absence of a lexicon that spans large portions of the Niger-Kordofanian domain and which may turn into a set of robust

¹² Stewart (2007) extends his research scope to include so-called "Fulanic" languages representing Atlantic (in the narrow concept of section U11.A) but can only advance abstract comparisons of phoneme systems rather than concrete lexical proto-forms.

proto-forms after dedicated and rigorous research. As an illustration, Table 26 assembles comparative data for two stems for ‘person’ and ‘tongue’, including their grammatical behavior, that display considerable similarities across different groups and languages. In part, these have already been subjected to detailed historical-comparative inspection (cf., e. g., Wolf [1992] on the intricacies of and possible solutions to the reconstruction of ‘tongue’, or Meeussen’s [1974] demonstration, confirmed here even outside Benue-Kwa, that the root **n(V)tV* ‘person’ is, *pace* Greenberg [1974], not a Bantu innovation). These data only serve to show that a sufficiently large genealogical core within Niger-Kordofanian is also supported by lexical evidence. It goes without saying that the mention of a particular group- or language-specific form in the table is not meant to imply any claim, let alone establishment, of cognacy. Also, the still enormous variation of the forms cited in Table 26 does not ensure that parts of a comparative series can always be distinguished clearly from similar forms in unrelated languages (see, e. g., ‘tongue’ vis-à-vis Hieda’s (2009: 107–108) similar forms in Nilotic languages).

As discussed in section 2.2.3, a yet more promising line of research is the inspection of lexical paradigms. One potentially fruitful domain, namely numerals, has been and still is a recurrent focus of research (cf., e. g., Hoffmann 1953; Meeussen 1969; Boyd 1989b; Miede 1997b, 2001; Williamson 2000b). Pozdniakov (2012) is the most recent treatment of lower numerals across the entire domain, including an extensive and insightful discussion of relevant methodological problems.

Similar to my approach to pronoun paradigms (see section 2.5.2.1.1 above and Güldemann 2017), I have surveyed the lower numerals ‘two’, ‘three’, ‘four’, and ‘five’ across a large number of Niger-Kordofanian subunits, the data of which are given in Table 27. On this basis it is possible to advance a preliminary reconstruction of a proto-paradigm, as given in the first line of Table 28.

Table 28: Proposed lower numeral paradigms of Proto-Niger-Congo

Source	‘two’	‘three’	‘four’	‘five’
Güldemann	*Ri	*ta(C)	*na(C)	*nU
Pozdniakov (2012)	*-di	*thati	–	–
Mukarovsky (1976–1977: LXX, LXIX, LX, LIX)	*-bà.li	*-tháthu	*-nán-/ *-ní(a)-	*-t(s)á.nu
Westermann (1927b: 204, 221, 263–265, 271)	*-bà-/*-gì/ *-n(i)u(a)	–	*-na(n)-/*-ni	-nú-

The proto-forms I propose are similar to those advanced by earlier research but have a better empirical foundation in that they are based partly on intermediate reconstructions and a more complete coverage of subgroups. Another similarity to the

situation with pronouns is that some earlier reconstructions of numerals are arguably biased toward forms recurrent in Benue-Kwa and Bantu in particular. Especially Mukarovsky's proto-forms for 'two' and 'five' (like those of Williamson 2000b: 57–59) project back initial CV segments to the Proto-Niger-Congo stage although they occur almost exclusively in Benue-Kwa languages. In line with earlier discussions (see Mieke 1997b, 2001; Pozdniakov 2012), these elements are better analyzed as prefixes incorporated into these numeral stems in later periods and subgroups.

2.5.2.3. Typology

In a language family of the assumed age and size of Niger-Kordofanian (or Niger-Congo) one must expect a considerable amount of typological diversity, and this is indeed the picture found across modern languages. Table 29 records basic features of word order (transitive clause, noun phrase) and morphology ("noun classes", verb extensions) that have received some attention in the reconstruction of the early typological profile in the Niger-Kordofanian domain.

There has been considerable controversy over the original word order profile of Niger-Congo. A focused discussion of this issue was initiated by Givón (1971a, 1971b), particularly in his influential (1971a) article, where it is argued that synchronic morphology largely reflects diachronically earlier syntax. He started out in particular from the observation that many Niger-Congo languages display suffixes in various grammatical domains, which, in his account, reflects earlier syntactic head constituents. He thus entertains a large-scale word order shift from a consistently head-final to a head-initial syntax for the entire family. Later studies, for example, Givón (1975, 1979), Hyman (1975), Lord (1977), Madugu (1979, 1981), and Williamson (1986), reiterated or followed this hypothesis.

While Givón's general idea has a number of merits for historical linguistics, it also has risks when applied too mechanically. Its concrete application to the Niger-Congo problem does not take a number of other aspects and alternative explanations into account. These are in particular the following: a) a cross-linguistic suffixation preference irrespective of syntax (cf., e. g., Bybee, Pagliuca, and Perkins 1990; Himmelmann 2014); b) the observation that (proto)-languages need not be consistent regarding the syntactic parameter of headedness; and c) the historical caveat that some families, for example, Mande and Ijoid, which are thought to lend crucial support to the head-final hypothesis, may turn out to be unrelated and hence irrelevant to the question at issue.

The alternative view that Niger-Congo was by and large head-initial has been proposed at least since Heine's cross-African research on word order typology (1975, 1976a). Defense of and further support for this hypothesis is provided by Heine (1980), Claudi (1993), and Heine and Claudi (2001), focusing in particular on the attested innovative emergence of the preverbal position of objects by way of grammaticalization changes (see also Marchese 1986). These studies have so far

not been challenged again by the opposite view of Niger-Congo being originally head-final.

Gensler (1994, 1997), Gensler and Güldemann (2003), and Güldemann (2007b, 2008d, 2011a) support the idea of an early head-initial profile of Niger-Congo but view the phenomenon of preverbal objects in Niger-Congo as a potentially old alternative clause order with a history of multiple causation. Notably, many cases of innovative O-V patterns are arguably triggered by information-structural factors. Moreover, a likely contributing circumstance for the emergence of preverbal objects in some secure Niger-Congo groups was local contact with languages possessing this feature regularly like Mande, Dogon, and Ijoid. This factor might also be relevant for some of the variation that holds in the noun phrase of western and central Niger-Kordofanian languages.

Given the size of the group and, by implication, its advanced age, one can hardly exclude any change from an earlier to a modern profile, however radical it may appear. In this sense, typological data cannot decisively inform the question of whether a language (group) is a member of the larger family. Nevertheless, the realistic assumption that elaborate morphological systems of verb derivation and noun classification have to be reconstructed for some early proto-stage has, of course, several implications for the typological type of this language and the likely reflexes in its presumed modern daughter languages. The attempt to relate modern typological diversity across related languages in this regard had already preoccupied early researchers like, for example, Westermann (1947), dealing with possible historical trajectories in the inherited noun classification system. The problem of diachronic typology also played a central role in the discussion revolving around Greenberg's classification. Compare, for example, a statement by Westphal (1957: 523).

Greenberg has courageously ignored the regular consonantal transformations and the well-defined prefixal agreements of Bantu and has so enabled himself to compare the West-African languages with Bantu, but he still owes us an explanation and exposition of his method and a statement of the circumstances in which one can equate the absence of characteristic morphological features in one set of languages with their presence in another. He has not shown what actually takes place when the typical Bantu morphology is transformed into an isolating language (or a language with limited prefixal systems), or to view from the other side, he has not shown how isolating West-African languages suddenly come to have the Bantu prefixal system. If, on the other hand, he suggests that the Semi-Bantu languages have the potentiality of developing into both isolating and inflexional languages of the two kinds under discussion, then I think he is most unwise to do so without discussing the stages of the transformations both ways much more fully than he has done.

To Greenberg's credit, he did in fact attend to this problem in the Niger-Kordofanian domain in both his original classification and later studies (e. g., 1977, 1978). He thus paved the way for similar but more detailed work that focused in particular on the considerable morphological reduction undergone by entire language groups in

Table 29: Typological features across Niger-Kordofanian classificatory units

	Lineage	Transitive sentence word order	Noun phrase word order		“Noun classes”	“Verb extensions”	Major source(s)
			Genitive modifier	Other modifiers			
U6.A	Bantoid	S-V-O/S-AUX-O-V-X	HI	HI	YES	YES	Meeussen (1967); Watters (1989)
U6.B	Cross River	S-V-O/S-AUX-O-V-X	HI/ (HF)	HI	YES	(YES)	Faraclas (1989); Connell (1994)
U6.C	Kanji-Platoid	S-V-O/(S-AUX-O-V-X)	HI	HI	YES	YES	Gerhardt (1983a, 1989)
U6.D	Igboid	S-V-O/S-AUX-O-V-X	HI	HI	NO	YES	Manfredi (1989); Emenajo (1978)
U6.E	Idomoid	S-V-O/S-AUX-O-V-X	HI	HI	YES	?	Armstrong (1989)
U6.F	Nupoid	S-V-O/S-AUX-O-V-X	HI	HI	(YES)	NO	Hyman and Magaji (1970); Blench (1989b)
U6.G	Edoid	S-V-O	HI	HI	YES	YES	Elugbe (1983, 1989)
U6.I	Ukaan	S-V-O/S-AUX-O-V-X	HI	HI	YES	(YES)	Salffner (2009)
U6.J	<i>Oko</i>	S-V-O	HI	HF	NO	NO	Atoyebi (2010)
(U6.K)	Owon-Arigidi: <i>Arigidi</i>	S-V-O	HI	HF	NO	NO	Oshodi (2011)
(U6.L)	Ayere-Ahan: <i>Ahan</i>	S-V-O/(S-AUX-O-V-X)	HI/ (HF)	HI	NO	?	Akanbi (2014); Ogunmodimu (2015)
U6.M	Yoruboid	S-V-O/S-AUX-O-V-X	HI	HI	NO	NO	Awobuluyi (1978)
U6.N	Gbe	S-V-O/S-AUX-O-V-X	HI	HI	NO	NO	Essegbey (2005)
U6.O	Ghana-Togo Mountain	S-V-O	HI	HF	YES	?	Kropp Dakubu and Ford (1988)

U6.P	Potou-Akanic	S-V-O/(S-AUX-O-V-X)	HF	HI	(YES)	NO	Dolphyne and Kropp Dakubu (1988)
U6.Q	Ga-Dangme	S-V-O/(S-AUX-O-V-X)	HF	HI	NO	NO	Kropp Dakubu (1988)
U6.R	Lagoon: <i>Abe</i>	S-V-O	HF	HI	NO	?	Kouadiou (1983: 29-38)
U6.S	<i>Ega</i>	S-V-O	HF	HI	YES	NO	Bolé-Richard (1983a, b)
(U7)	Dakoid: <i>Samba Daka</i>	S-V-O/(S-AUX-O-V-X)	HF	HI	NO	YES	Boyd (1996/97, 1999, 2004)
(U8)	Ijoid: <i>Izon</i>	S-O-V	HF	HF	NO	(YES)	Williamson (1965)
U9.A	Kru	S-V-O/(S-AUX-O-V-X)	HF	HI	YES	YES	Marchese (1983)
U9.B	<i>Siamou</i>	S-(AUX)-O-V-X	HF	HI	NO	NO	Prost (1964), Toews (2015: 17-75)
U10	<i>Pere</i>	S-V-O/(S-AUX-O-V-X)	HF	HI	NO	(YES)	Creissels (2010)
(U11.A)	Atlantic: Cangin	S-V-O/(S-AUX-O-V-X)	HI	HI	YES	YES	Wilson (1989)
(U11.B)	Mel: Temnic	S-V-O/(S-AUX-O-V-X)	HI	HI	YES	YES	Wilson (1989)
U11.C	<i>Gola</i>	S-V-O/(S-AUX-O-V-X)	(HF)	HI	YES	YES	Fachner (1994)
U11.D	<i>Limba</i>	S-V-O	HI	HI	YES	?	Berry (1958)
U11.E	<i>Sua</i>	S-V-O	HF	HI	YES	YES	Wilson (2007: 147-151)
U11.F	<i>Nalu</i>	S-V-O	HI	HI	YES	?	Wilson (2007: 131-134)
U11.G	Rio Nunez	S-V-O	HI	HI	YES	?	Wilson (2007: 135-137)
U12	Mande	S-AUX-O-V-X	HF	HI/ (HF)	NO	(YES)	Dwyer (1989); Vydrin (2012)
U13	Dogon	S-O-V	HF	HI	(YES)	YES	Heath and Prokhorov (2010); Moran, Forkel and Heath (2016)
U14	<i>Bangime</i>	S-V-O/(S-AUX-O-V-X)	HF	HI	NO	YES	Hantgan (2013)

	Lineage	Transitive sentence word order	Noun phrase word order		“Noun classes”	“Verb extensions”	Major source(s)
			Genitive modifier	Other modifiers			
U15.A	Central Gur	S-V-O/(S-AUX-O-V-X)	HF	HI	YES	YES	Bendor-Samuel (1971); Naden (1989)
U15.H	Senúfo	S-AUX-O-V-X	HF	HI	YES	(YES)	Carlson (1997)
U16.A	Tula-Waja: <i>Waja</i>	S-V-O	HI	HI	YES	YES	Kleinwillinghöfer (1990b, 1996b)
U16.B	Longuda	S-V-O	HI	HI	YES	YES	Jungraithmayr (1968/9); B. Newman (1978)
U16.E	Samba-Duru	S-V-O/(S-AUX-O-V-X)	HI/	HI/ (HF)	YES	?	Boyd (1974: 52); Kleinwillinghöfer (2011a, 2012b)
U16.F	Mumuyic	S-V-O	HI/	HI	NO	YES	Shimizu (1979: 29–32, 1983)
U16.H	Kebi-Benué	S-V-O	HI	HI	(YES)	YES	Boyd (1974: 52); Elders (2006)
U16.I	Kimic	S-V-O	(HI)/	HI	NO	?	Mouchet (1954); Iberg (1990); Roberts (2009)
U16.J	Buatic	S-V-O/(S-AUX-O-V-X)	HI/	HI	(YES)	(YES)	Tucker and Bryan (1966: 161–164); Boyeldieu (1985)
U16.K	<i>Day</i>	S-V-O	HI	HI	NO	?	Nougayrol (1979)
U16.N	<i>Fali</i>	S-V-O	HI	HI	NO	YES	Kramer (2014)
U17.A	Gbayaic	S-V-O	HI	HI	NO	YES	Moñino (1995)
U17.B	Zandic	S-V-O	HI/	(HI)/ HF	NO	YES	Tucker and Bryan (1966: 141–160)
U17.C	Mbaic	S-V-O/(S-AUX-O-V-X)	HI	HI/ (HF)	YES	YES	Tucker and Bryan (1966: 108–140)
U17.D	Mundu-Baka	S-V-O	HEAD-MOD	HEAD-MOD/ (MOD-HEAD)	NO	NO	Tucker and Bryan (1966: 85–107)

U17.E	Ngbandic	S-V-O	HI	HI/	(HF)	NO	NO	Tucker and Bryan (1966: 85–107)
U17.F	Bandaic	S-V-O	HI	HI/	(HF)	NO	NO	Tucker and Bryan (1966: 85–107)
U17.G	Ndogoic	S-V-O	HI	HI/	(HF)	NO	NO	Tucker and Bryan (1966: 85–107)
U18.A	Heibanic	S-V-O	HI	HI	YES	YES	YES	Tucker and Bryan (1966: 270–288)
U18.B	Talodic	S-V-O	HI	HI	YES	YES	YES	Tucker and Bryan (1966: 270–288)
U18.C	<i>Lafofa</i>	S-O-V	HI/	HF	HF	YES	?	Tucker and Bryan (1966: 270–288)
U18.D	Rashadic	S-O-V	HI/	(HF)		(YES)	YES	Tucker and Bryan (1966: 289–299)
U19	Katlaic	S-V-O	HI	HI		NO	YES	Tucker and Bryan (1966: 262–9); Alamin Mubarak (2009)

Notes: (U ...) = data disregard portions of a lineage; ? = no data; HF = head-final; HI = head-initial; YES = present; NO = absent; (...) = restricted relevance

Benue-Kwa (cf. Williamson 1985; Hyman 2004; Good 2012) and elsewhere. Thus, in principle, there is no obstacle to explaining how isolating languages without the morphological systems in question could emerge from an ancestor that had them.

2.5.3. Basic classificatory units

U6 BENUE-KWA

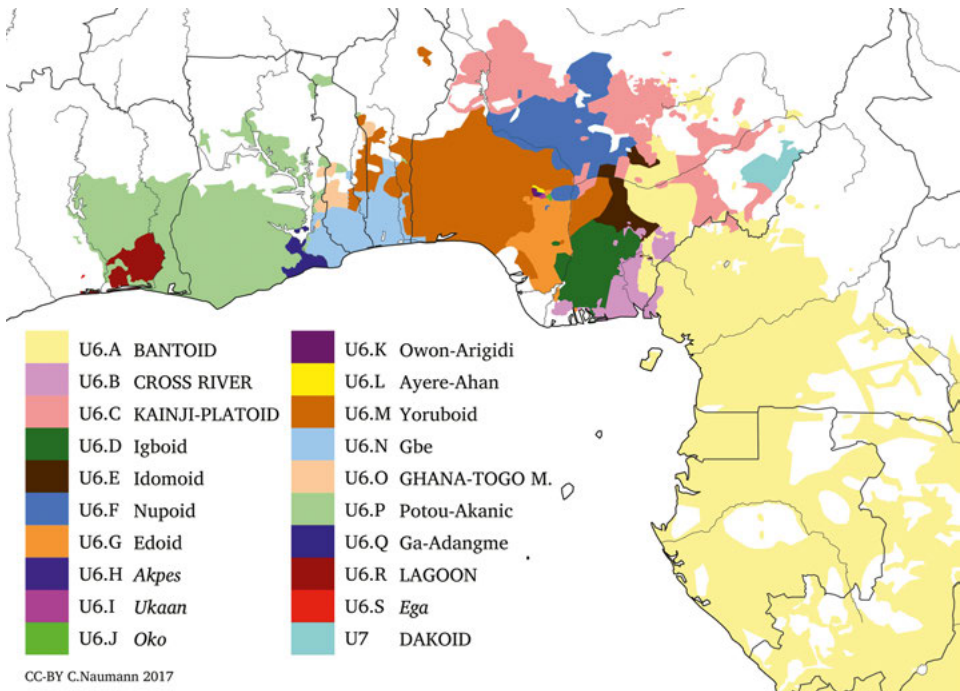
For various reasons Benue-Kwa is the central group of the Niger-Kordofanian domain. It is the largest in terms of number of languages and territorial extent, and its core area in the northwest occupies a geographically central position (see Map 4). Quite a few subgroups display the individual-identifying features of the phylum laid out above. And last but not least, it harbors at the same time a structural diversity that is representative for that across the entire unit.

Since Benue-Kwa was presented by Greenberg (1963a) under two separate units, Benue-Congo and Kwa, previous surveys as well as historically oriented works normally dealt with these two units separately: cf., for example, Stewart (1971, 1989) and Kropp Dakubu (2012) for Kwa, and Williamson and Shimizu (1968), Wolf (1971), Williamson (1971, 1973, 1989a), and Elugbe and Bankale (2004) for Benue-Congo.

The overall composition of Benue-Kwa results from three major factors: the initial extensive research revolving around the large Bantu family, the still ambivalent assessment of the relation between it and Western Sudanic by Westermann (1927b), and Greenberg's (1963a) final elaboration of this historical problem. Westermann had made a typological rather than genealogical distinction in Western Sudanic between a more Bantu-like Benue-Cross group and a Kwa group. Greenberg aptly joined the first group with Bantu to form Benue-Congo. He also pooled three of Westermann's Kwa groups, which form a western geographical cluster against other Kwa groups further east, into his "Kwa b", namely Lagoon, Togo-Rest (= Ghana-Togo Mountain), and Ewe-Tschi (= Gbe, Potou-Akanic, and Ga-Dangme) – a step already prefigured by Westermann himself (e. g., 1925).

Later Ijoid (Greenberg's "Kwa h", U8) and Kru (Greenberg's "Kwa a", U9) were removed from Kwa and elevated to higher-order nodes within Niger-Congo, so that a tripartite geographical division emerged, namely western "Kwa b" vs. eastern "Kwa c-g" vs. Benue-Congo "A-D". At the same time the close relationship between Westermann's Benue-Cross languages (= Benue-Congo "A-C") and their adjacent Kwa neighbors (= "Kwa c-g") had always been apparent, so that Greenberg's division between Kwa and Benue-Congo was questionable from the very beginning, as he admitted himself (1963a: 39, fn.13).

The apparent untenability of a genealogical partition between eastern Kwa and adjacent Benue-Congo became a central issue of subsequent research. Stirred in



Map 4: Geographical location of BENUE-KWA (U6) and DAKOID (U7)

particular by Bennett and Sterk’s (1977) lexicostatistic study and their concept of “South Central Niger-Congo” but also by the recognition of Bantu-like noun classification systems in Nupoid, Idomoid, and Edoid languages, Greenberg’s genealogical division repeated under (I) became reorganized as that under (II):

- (I) Western (Old) Kwa + Eastern (Old) Kwa vs. (Old) Benue-Congo
 - (II) (New) Kwa vs. Western (New) Benue-Congo + Eastern (New) Benue-Congo
- The “Benue-Congo Working Group” in particular has tried to tackle this classificatory problem since the 1960s, focusing on the following issues (Williamson 1989a: 248):

- a) delimiting Bantu from the rest of Bantoid
- b) delimiting each of the branches of Benue-Congo
- c) delimiting Benue-Congo from Kwa

More than five decades later, none of these questions have been resolved conclusively. Hence, it seems more useful for the time being to present Benue-Kwa as a genealogical pool consisting of numerous subgroups; some of these, for example, Bantoid, Cross River, Kainji-Platoid, Ghana-Togo Mountain, and Lagoon, are for

now genealogical pools themselves rather than proven phylogenetic entities. The persisting difficulties in determining a conclusive genealogical structure is as such not surprising. Apart from the size of the task involving a multiplicity of languages, many of which not or insufficiently described, there are clear signs that earlier genealogical signals may well have eroded through subsequent language contact between languages that after all are relatively closely related. To mention just one example, Armstrong (1964) presents evidence according to which widely spread languages from Yoruboid, Idomoid, Igboïd, and Gbe share detailed vocabulary related to a divination cult, which implies intensive cultural and linguistic contact in the past. Before the background of a multitude of new genealogical configurations that have been advanced for Benue-Kwa languages after Greenberg's initial proposal I refrain from giving any of these subclassifications, because this risks being interpreted as an informed statement about articulated genealogical relationships.

Roger Blench's prolific classificatory enterprise is exemplary in this respect. This author has the merit of spearheading particularly the inventarization and lexical documentation of the myriad of underdescribed languages in Benue-Kwa and beyond. At the same time, it has become ever more difficult for both insiders and outsiders to keep track of his reshuffling of the family tree of Niger-Congo in general and its central Benue-Kwa portion in particular. Just to mention some examples: Should one follow Blench (1989a: 130, 2012a: 95), where Gbe is a Western or New Kwa branch, or rather Blench (2006a: 118, 2012b: 30), where it belongs, together with Yoruboid, etc., to "Volta-Niger" (his new term for Eastern Kwa aka Western Benue-Congo)? Does Dakoid go with Mambiloid, etc. into non-Southern Bantoid, as per Blench (1993: 113, 2000b: 161, 2006a: 122, 2012a: 99), or is it, as per Blench (2000b: 166, 2004a: 16), a primary branch of "Central Nigerian" (a new clade within [Eastern] Benue-Congo assumed by him to comprise Jukunoid, Plateau, and Kainji as opposed to Bantoid and Cross River)? Is Ukaan a member of Western Benue-Congo as in Blench (1989a: 130), is it a part of Bantoid-Cross River in Eastern Benue-Congo as in Blench (2000b: 161, 2005b: 9), is it a primary Benue-Congo branch as in Blench (2012b: 25), or is it better placed at a yet higher Niger-Congo node as in Blench (2006a: 118)? Or finally, does a single language like Ega warrant an entirely different look at "East Volta-Congo" (aka Benue-Kwa), according to which this large set of languages has arisen out of a flatly structured "dialect chain that has diversified" (Blench 2004b: 16)? Irrespective of whether any of his numerous classificatory decisions withstand more detailed and methodologically canonical scrutiny, outsiders cannot distinguish them from mere speculations. This is because most of them are just posited, and if empirical material is at all presented, the reader is left with the task of interpreting how and why certain pieces of data, mainly of a lexical nature, are thought to be more diagnostic than others in a particular classificatory context.

Inconclusive and/or contradictory classifications in the Benue-Kwa domain are, of course, a more general problem transcending the work of a single prominent scholar. Just to mention one exemplary case, the remnant languages in the wider Akoko region west of the Niger-Benue confluence, comprising Akpes (U6.H), Ukaan (U6.I), Oko (U6.J), Owon-Arigidi (U6.K), and Ayere-Ahan (U6.L), have been embedded in Benue-Kwa and Niger-Congo in multiple different ways (see below). Blench's various tree versions aside, their classification has been dealt with notably by Agoyi (1997), Ohiri-Aniche (1999), Elugbe (2001, 2012), Elugbe and Bankale (2004), and Bankale (2008). The contradiction between this attention and the inconclusive results is a function of two circumstances: crude methodology focusing on very restricted lexicostatistics and insufficient documentation (only two of the five lineages are known in some detail, and this for less than ten years).

The focus for historical comparisons in Benue-Kwa has been on lexical data, for which there are such major and extensive data collations as Williamson and Shimizu (1968), Williamson (1973), and Kropp Dakubu (ed. 1977, ed. 1980). However, most of the work remains superficial and unsystematic for several reasons beyond the already mentioned bias toward lexicostatistics. The deficiency regarding the study of sound change was mentioned in section 2.5.2.2; very few studies, for example, Miehe (1985b), have tried to address certain issues more systematically. Also, while there exist lexical reconstructions for a number of subgroups, to be mentioned below, these are, *pace* Williamson (1989a: 248), not all the result of a rigorous application of the historical-comparative method – indeed, some authors themselves use terms like “pseudo-” or “quasi-reconstructions”. Another defect of lexical comparative work in Benue-Kwa is that whatever the quality of the reconstructions, they are often not used on higher comparative levels. Equally serious for the question of reliable subgrouping is that relevant studies mostly do not discuss to what extent their reconstructions are exclusive to a given group vis-à-vis other languages in Benue-Kwa and beyond. For example, Ohiri-Aniche (1991) sets out to reconstruct the consonantal proto-system of a group forming a geographically compact block in southern Nigeria and comprising Igboid, Edoid, and Yoruboid, but gives hardly any justification that this particular set is a real clade excluding other Benue-Kwa groups. In some other works the very proto-language as a realistic speech form in a particular temporal and geographical setting is doubtful. To mention a central example, Wolf's (1971: 54–59) often cited Proto-Benue-Congo displays double or even triple proto-forms for basic and generic lexical items like, for example, ‘belly’, ‘knee’, ‘tongue’, ‘tooth’, ‘buffalo’, ‘crocodile’, ‘elephant’, ‘blood’, ‘fat, grease, oil’, and ‘water’. Such a high but unmotivated incidence of multiple reconstructions, which themselves seem to be valuable in principle, casts doubt on whether a single proto-language is involved. Recently, Kropp Dakubu (2012) had resumed more widespread lexical reconstruction, thereby also trying to rescue the idea of a Kwa family, but her research has

unfortunately not come to completion and the available study still suffers from defects typical of earlier works. As referred to already in section 2.5.2.2, Stewart's reconstructions are exceptional in that he tries to relate the proto-languages of Bantu and Potou-Akanic to each other in a systematic way.

In terms of morphology, as can be expected, the focus has been on the inherited gender and noun declension system and related issues, as in such comparative studies as Kähler-Meyer (1971), Wolf (1971), Hyman and Voorhoeve (1980), Menne (1992), Williamson (1993), and Gerhardt (1994), to mention just a few. This research has established a robust set of proto-forms but their exact historical relevance is hampered by the problem that it remains partly unclear to what extent individual forms reflect old Niger-Congo inheritance or are innovations that are diagnostic for subgrouping.

One important and revealing theme of the previous historical research in the Benue-Kwa pool is the enormous typological change that some of these relatively closely related languages have undergone (see section 2.5.2.3 above). Since the resulting grammatical profile is associated with what used to be called Kwa, a series of instructive studies have been published that broach the issue of "how to become" Kwa-like, such as Williamson (1985), Hyman (2004, cf. also 1974), and Good (2012). These show that detailed work on diachronic typology can crucially inform historical reconstruction, although it remains unclear whether the changes themselves are reliable criteria for subgrouping, as envisaged by Manfredi (2009). In the following I present and briefly discuss the 19 groups subsumed under Benue-Kwa.

U6.A BANTOID

The role of Benue-Kwa for Niger-Kordofanian is played within Benue-Kwa itself by Bantoid, for which see the relevant overviews by Hedinger (1989), Watters (1989), and Watters and Leroy (1989). As the name suggests, this status in turn is due to the fact that the Bantoid core is Bantu – by far the largest close-knit language group in Africa in terms of number of languages (more than 500) and geographical extent (from the Central African rainforest southwards to the limits of the continent). Since Greenberg's work (e. g., 1949c, 1972a), the synchronic picture has been described as the result of one of the most spectacular linguistic expansions of the last few millennia, starting in the area where the modern non-Bantu Bantoid languages are found. While many parts of this process are still poorly understood, it is researched today by multiple and sophisticated methods within an interdisciplinary perspective (see, e. g., Bostoen, Grollemund, and Muluwa 2013; Grollemund et al. 2015).

The central role of Bantu can be considered in some sense to be the "curse and blessing" of historical-comparative research in this domain. On the one hand, the group has been studied since Meinhof (1899, 1948) very intensively and suc-

cessfully and was thus placed at the forefront of historical-comparative research not just on African languages but on languages with little or no early written tradition in general. Bantu, as defined by Guthrie (1948), involves today hundreds of lexical proto-forms (Guthrie 1967–71; Meeussen 1980; Coupez, Bastin, and Mumba 1998; Bastin et al. 2002) and a great amount of detailed morphological and syntactic reconstructions (see, e. g., Meeussen 1967). On the other hand, as remarked in section 2.5.1 above, the advanced understanding of the synchronic and diachronic profile of Bantu tends to steer the historical assessment of its lesser-known relatives, both in Bantoid and beyond, without any proof that this approach is appropriate.

Bantoid itself must be viewed as a genealogical pool for various reasons that go beyond mere uncertainties about its internal classification, which have existed since early on (see the controversy of Greenberg [1974] and Meeussen [1974] as just one example). First and foremost, in spite of our highly advanced historical knowledge about Bantu it has not yet been conclusively delimited from its closest Bantoid and other Benue-Kwa relatives in the northwest, as acknowledged by Nurse and Philippson (2003: 5–7). A first principled attempt to establish some defining criteria for Bantu was made by Greenberg (1963a: 35), Crabb (1965: 14), and Welmers (1978), figuring the assumed innovation of nasal prefixes in some noun classes as the central argument (see Hyman and Voorhoeve [1980] for detailed and particularly crucial data). Since this proposal has been contradicted by Miede (1985a, 1991), the validity of this once promising hypothesis needs to be reviewed. The position of Bantu within Bantoid has also not been resolved by lexicostatistic investigations (e. g., Gerhardt 1980; Guarisma 1986; Piron 1995, 1998a, 1998b; Bastin and Piron 1999; Bastin, Coupez, and Mann 1999). Moreover, an unclear genealogical status also holds for other Bantoid groups. One example is Mambiloid, for which Blench (1993) and Connell (2000, 2010) fail to establish defining traits that are not found in other languages outside this group (see also Piron 1995). Good (2010, 2013) argues that another such case is Beoid. Last but not least, problems also exist with respect to the external demarcation of Bantoid, as is evident from the existence of such controversial lineages like Dakoid (U7).

It comes as no surprise then that there have hardly been any attempts to properly reconstruct Bantoid – this in spite of the existence of extensive data that could be subjected to systematic comparison. Instead, most studies are concerned with the question of whether, or in what way, a given language (group) can be allied with Bantu (cf., e. g., Crabb 1965; Maddieson and Williamson 1975; Gerhardt 1978, 1982; Shimizu 1983a; Thwing 1987). An exception is Babaev's (2008) attempt to reconstruct the pronouns of Proto-Bantoid, which suffers, however, from the preconceived assumptions that Bantoid is a true clade and that Bantu is a viable model for its proto-language.

The overall problematic historical-comparative evaluation of Bantoid is compounded by two other facts. First, it has been a long – and in fact still ongoing –

process to identify and then fully document the multiplicity of Bantu-like languages in Nigeria and Cameroon (cf., e. g., Maddieson and Williamson 1975; Breton 1993; Connell 1998c; Good 2013). Second, there is growing evidence that the area is characterized by a very complex sociolinguistic history involving in particular secondary contact between differentiated but nevertheless still closely related languages (see Warnier [1979] and Good [2013] for the wider Grassfields area). In general, while Bantoid represents an essential and undeniable member of Niger-Congo, its status in this family and ultimate role for its reconstruction is all but clear.

U6.B CROSS RIVER

Cross River is a geographical cluster of close to 60 languages that are spoken in the extreme southeast of Nigeria and just crossing over into Cameroon. Faraclas (1989) provides an informative survey of the five subgroups conventionally identified: Bendi, (Central) Delta, Ogoni, Lower Cross, and Upper Cross.

While the close relation of the languages to Bantoid was recognized early on (cf. Westermann 1927b), their diversity regarding the presence or absence of typical Niger-Congo features has become well known through Williamson's (1985) study. This also concerns the existence of a more or less canonical noun classification system; the existing ones are the topic in Mieke (1983) and Connell (1987).

Most of the abovementioned subgroups have been dealt with in comparative and historical studies. These are Wolff (1964), Ikoro (1989), and Bond and Anderson (2006) on Ogoni (also called Kegboid); Dimmendaal (1978) on Upper Cross; Alex (1989) on Central Delta; and in particular Connell (1987, 1991, 1994, 1995) on Lower Cross. Many of these works contain numerous lexical reconstructions ready to be used in wider comparisons. Connell and Maison (1994) and Connell (1998b) have employed linguistic data for the reconstruction of population history.

Connell (1994, 1998a) extended his work further to the historical assessment of Cross River as a whole. On this topic he writes (1998a: 24) "... that the unity of the Cross River group, first proposed by Greenberg (1963a) and still considered plausible, is far from satisfactorily established. Considerably more comparative work is needed before this grouping can be taken as fact". The possibility that Cross River is actually not a true clade seems to have turned into the more appropriate evaluation by the work reported in Villa Duque, Nara, and Connell (2015). Employing phylogenetic methods on lexical data, these authors conclude that the group is unlikely to be a genuine family and that some groups appear to be closer to languages outside it, notably Bendi to Bantoid. For this reason, Cross River is dealt with here, like Bantoid, as a genealogical pool.

U6.C KAINJI-PLATOID

Kainji-Platoid, the languages of which are spoken mostly in the so-called Nigerian Middle Belt, subsumes Greenberg’s (1963a) two remaining Benue-Congo units, group A “Plateau” and group B “Jukunoid”. The rough classification history of the two is shown in Table 30.

Table 30: The history of subclassification of Kainji-Platoid

Greenberg (1963a: 8–9)		Gerhardt (1989: 362–365)		Blench (2000b)
A.1a	Kambari, ...	I.1	Kainji: Western	Kainji
A.1b	Piti, ...	I.2	Kainji: Eastern	
A.4	Rukuba, ...	II.1.B Plateau: Western		West
A.5	Eggon, ...			
A.2	Afusare, ...	II.1.A Plateau: Northern		North
		II.1.C Plateau: Central		Central
A.3	Birom, ...			Beromic
A.6	Kaleri, ...	II.1.D Plateau: Southeastern		Southeast
unknown		II.1.E Plateau: Southern		South
A.7	Yergam, ...	II.2.A Benue: Tarokoid		Tarokoid
B	Jukunoid	II.2.B. Benue: Jukunoid		Jukunoid

A number of studies of both a lexicostatistic and historical-comparative nature have argued that Plateau and Jukunoid cannot be treated as two genealogical entities that are coherent and independent from each other. Thus, Jukunoid has been proposed to be close to some Plateau subgroups, notably Tarokoid (e. g., Shimizu 1975), although Blench (2005a) tries to rescue Jukunoid as a separate genealogical unit. According to Prischneegg (2008, 2010), Jukunoid itself cannot be maintained as a genuine family within the Benue-Kwa panorama due to the separate status of its southern group comprising Kutep and Yukubenic. Another classificatory problem with Plateau is that its earlier Kainji subgroup is now accorded a position independent of the rest (cf. Gerhardt and Jockers 1981; Gerhardt 1983a; McGill 2012; McGill and Blench 2012). There are also a number of controversies regarding yet other smaller entities (e. g., Shimizu 1975 vs. Gerhardt 1983b on Eggon). Finally, there is the central unresolved issue of whether a Plateau core exists at all or whether the ten or so subgroups subsumed under it are all coordinate with each

other and even with other groups in Kainji-Platoid and beyond, as evident by the early critique by Ballard (1971: 295):

The sub-grouping of these languages is complex and merely tentative, and there is some doubt whether there are any innovations common to the whole group, raising the possibility that Greenberg's Plateau group is in fact a geographical lumping together of several distinct but related groups each co-ordinate with other, much larger, subdivisions of Benue-Congo such as Jukunoid, Ekoid, and Bantu.

In more recent studies, opinions remain divided, with Mukarovsky (1987a) and Blench (2000b) arguing against such a family and, later, Blench (2004a, 2005a) changing tack and assuming its existence.

Due to this multiply inconclusive classificatory assessment of the Kainji-Platoid domain, I present all the languages together but merely view the group as a third genealogical pool within Benue-Kwa. Such a language aggregation follows Gerhardt's (1989) survey but does not imply the acceptance of this author's presentation in terms of a hierarchical classification.

Only a few dedicated historical-comparative studies have been undertaken for low-level units that propose concrete and empirically motivated proto-forms. These are primarily Shimizu (1980), Storch (1999: 267–399), and Prischnegg (2008, 2010) on the Jukunoid domain and Gerhardt (1983a) on three seemingly more coherent Plateau groups, which in the labeling of Gerhardt (1989) are B.1 North-Western or Koro-Jaba, B.2.a South-Western A (= Ninzic in terms of Blench 2004a), and C.2 South-Central. However, these works are also far from uncontroversial concerning their assumed subgrouping so that even the reconstructions proposed there remain partly inconclusive.

From a typological perspective, Kainji-Platoid languages conform to the general Niger-Congo canon with the proviso that typical morphological features show all kinds of variation, many of them the result of historical decay. Noun classification systems have been studied in some detail by Bouquiaux (1967); Gerhardt (1972/73, 1974, 1983a, 1988, 1994); Storch (1997); and Prischnegg (2008). Gerhardt (1971, 1983a, 1984, 2002), Wolff and Meyer-Bahlburg (1979), and McKinney (1979) have dealt with the trait of suffixal verb derivation.

The great structural variation within Kainji-Platoid may also be related to the partly considerable influences from other languages that are not or only distantly related genealogically. The intensive contact with unrelated Chadic languages in the north has been dealt with in particular (cf. e. g., Hoffmann 1970; Wolff and Gerhardt 1977).

U6.D Igboid

Igboid is a compact lineage of closely related speech varieties classified in less than ten language units located north(east) of the Niger delta (see Manfredi 1989

for a group survey). It is the first of more than a dozen following units whose typological character motivated Westermann (1926b) to assign them to his Kwa unit.

Various studies, for example, Armstrong (1967), Hyman (1974), Williamson (2000a), Ohiri-Aniche (2012), and Williamson, Blench and Ohiri-Aniche (2013) provide a wealth of information for historical-comparative research within and beyond this group. As shown in some of these works and referred to above, the modern typological profile of this Kwa-type group can be derived plausibly from the canon expected for a Niger-Congo lineage. The material presented here also attests to expected forms in the pronouns for first-person singular and second-person plural, the lower numerals, and also potential reflexes of the lexemes for ‘person’ and ‘tongue’, and in pronominal form of the noun classes *1 and *2, so that its assumed Niger-Congo membership is convincing.

U6.E Idomoid

Idomoid, with fewer than ten languages, is spoken in the wider region of the lower Benue and is surveyed in Armstrong (1989). Apart from the major language Idoma, the overall documentation and description of these languages is still sketchy. The group has been argued to be a coherent unit by Armstrong (1981, 1983), first based on lexicostatistics and then on close to 130 comparative lexical series involving what he calls “pseudo-reconstructions”. There is, however, little more that can inform the judgement about both the coherence of Idomoid as well as its precise relation to other Benue-Kwa languages. Moreover, the status of Eloyi remains controversial, because it is also sometimes treated as a Plateau language (see Blench [2004a: 15–16], as opposed to Elugbe and Bankale [2004: 4]).

Morphological reduction has also brought these languages to possess a prototypical Kwa profile. There is, however, good evidence for the earlier existence of at least a Niger-Congo-type noun classification system (cf., e. g., Abiḡdun 1989 on Igede). This fact, the basic structural properties, and clear lexical reflexes (e. g., all lower numerals) make the alignment with Benue-Kwa uncontroversial.

U6.F Nupoid

A group of around ten languages northeast of the confluence of the Niger and Benue Rivers in Nigeria has come to be called Nupoid after its major language. Westermann (1927a) established the unit as part of his Kwa group, and since then it has been treated within the Benue-Kwa domain (see the surveys by Blench [1989b, 2013d] for more information). Some comparative data have been collated in Blench (2013d) but these are incomplete and not accompanied by any systematic attempts toward reconstructions. According to Elugbe and Bankale (2004: 4–5), the Ebira varieties do not even belong to Nupoid as commonly conceived, so that the group remains to be demonstrated to be a genuine family rather than a genealogical pool.

The membership of Nupoid languages in Niger-Congo is uncontroversial, though. They are not only syntactically canonical Niger-Congo languages of the area but one language, Gade (see Sterk 1978), even displays a fully functional gender system with declension classes on the noun and an associated agreement system. The paradigmatic data collected for this survey corroborate this picture in that virtually all pronouns and lower numerals display likely common Niger-Congo forms.

U6.G Edoid

Edoid is a language family of around 30 languages spoken in southern Nigeria, northwest of and to a lesser extent within the Niger Delta (see Elugbe 1989 for a survey). It has been established in its full extent as a genealogical group by Elugbe's (1986) extensive historical-comparative reconstruction of the phonological system and more than 200 lexical roots.

Westermann (1926a) and Greenberg (1963a) classified Edoid originally as a Kwa group, and many languages indeed show many structural characteristics of other such languages. However, more extensive work taking the entire family spectrum into account has shown that a clear distinction from traditional Benue-Congo languages further east cannot be maintained. Most importantly, several languages show clear traces of an earlier noun classification system, especially in the form of noun prefixes but sometimes also of concord elements (see, e. g., Elugbe 1976 on Degema; Elugbe and Schubert 1976 on Oloma; Oṃṛuyi 1986 on Edo; and Masagbor 1989 on Ivie, possibly referring to Etsako). Accordingly, Elugbe (1983) proposed the reconstruction of a proto-set of noun prefixes that correspond in both form and function with those in canonical Niger-Congo systems, and seem to reflect in particular the classes *1, *2, and *6A. Reconstructions have also been proposed for other parts of the morphology (cf., e. g., Elugbe 1984 on non-finite verb forms). Moreover, works like Kari (1995) report the existence of suffixal verb extensions in some languages whose form and function suggest that they are partly a feature inherited from Niger-Congo via Proto-Edoid. This morphological evidence is fully corroborated by lexical data, for which compare in the present survey 'tongue', the first-person singular pronoun, and all lower numerals.

U6.H Akpes

Akpes is a language complex with close to ten varieties that is virtually unknown apart from the studies mentioned below and a few more on phonological issues. It is one of five "micro"-lineages spoken in the wider, linguistically highly diverse Akoko area in the western vicinity of the Niger-Benue confluence (see Oyètádé 1995 and Ohiri-Aniche 1999). These lineages have received scholarly attention

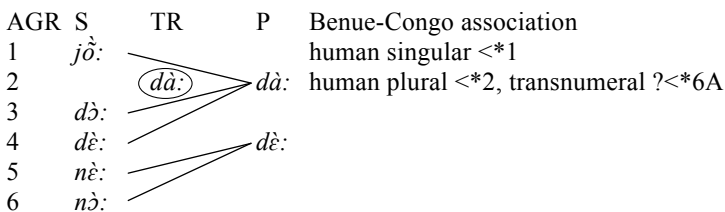
only of late, and their speakers are mostly bilingual in Yoruba and other more prestigious languages of their respective regions.

The primary source for a historical evaluation of Akpes is a study by Ibrahim-Arirabiyi (1989), who establishes the close relationship of all relevant varieties by means of inspecting more than 100 lexical comparative series and performing lexicostatistics; he does not attempt any systematic reconstruction of proto-forms, though. Of the items surveyed here, Akpes displays a number of diagnostic elements that count as plausible Benue-Kwa reflexes: classes *1 and *2, the first-person singular and both plural pronouns, and the lexemes for ‘three’, ‘four’, ‘person’, and presumably also ‘two’ and ‘tongue’.

Based on Ibrahim-Arirabiyi’s (1989) lexical data Williamson (1989a: 266–267) treats Akpes as genealogically related to Ukaan (U6.I) but isolated within Benue-Congo, an assessment apparently supported by Ohiri-Aniche’s (1999) lexicostatistic survey. Agoyi (1997) observes that number-marking of nouns in Akpes uses vowel prefix alternation and is thus similar to Ukaan and Edoid. Although this trait is merely a Niger-Congo retention, it motivates the author to propose a new family comprising all three lineages. Elugbe (2001, 2012) supports and elaborates on this hypothesis but provides equally restricted and inconclusive evidence, so that the exact affiliation of Akpes with other Benue-Kwa groups remains to be conclusively determined.

U6.I Ukaan

Ukaan is a second language complex spoken in the Nigerian Akoko area, and its four varieties are sometimes viewed as languages. The first published data is a word list in Jungraithmayr (1973b). Since then, the documentation of Ukaan has progressed considerably, focusing in particular on the Ikaan variety (see Salffner 2009, 2012, 2015; and Borchardt 2011). Abiødun (1999) is a historical-comparative study of the entire group providing more than 200 lexical proto-forms.



Note: agreement classes represented by proximal demonstratives

Figure 7: Gender system of Ikaan (after Borchardt 2011: 75–78)

Abiødun (1997) describes Ukaan’s canonical system of noun classification with both noun form classes and agreement, as given in Figure 7, which is unique in its

narrow geographical context. This gender system, as well as the full numeral paradigm and possibly the second-person singular pronoun and the word for ‘person,’ firmly establishes the embeddedness of Ukaan in the Benue-Kwa pool.

Its more precise relation to other Benue-Kwa groups is, however, highly controversial. The various hypotheses are a closer relation to Akpes (Blench 1989a: 130; Williamson 1989a: 266–267; Ohiri-Aniche 1999: 18); to Akpes and Edoid (Agoyi 1997; Abiodun 1999: 5; Elugbe 2001, 2012); to Cross River and Bantoid (Blench [1994] 2005b: 9; Connell 1998a: 23–24); or a more independent position in Benue-Congo (Bankale 2008). Salfner (2009: 42–49) summarizes the discussion and correctly points out the multiple shortcomings of the different proposals having to do with insufficient and/or inappropriate data as well as inconclusive classification criteria.

U6.J Oko

Oko (aka Oko-Eni-Osayen) is another isolated language in the wider Akoko area whose linguistic-genealogical significance was recognized first by Jungraitmayr (1973a). While for a long time it remained virtually undescribed, there is now a detailed description by Atoyebi (2010).

The language possesses a structural profile typical for Niger-Congo but has lost diagnostic noun classification and verb derivation. It shows, however, possible reflexes of the classes *1 and *2 in both noun prefixes and concords, as well as a canonical pronoun paradigm and reflexes of the numerals ‘two’, ‘three’, and ‘four’. Williamson (1989a: 266–267) treated it as an isolated unit in Benue-Congo.

U6.K Owon-Arigidi

The fourth micro-lineage in the Akoko area is in fact commonly referred to as or subsumed under the label “(Northern) Akokoid” following Hoffmann’s (1976) original suggestion (the wider notion includes Ayere-Ahan (U6.L)). Based on lexicostatistics and phonology, the almost ten speech varieties are classified by Akinyemi (2002) and Fadoṛo (2010)¹³ into two languages with a cognation rate of 70%–80% and called by the last author Owon (the previously proposed Amgbe is said to be inappropriate) and Arigidi. In order to avoid the ambiguity of Akokoid, the bipartite term Owon-Arigidi is adopted here. Fadoṛo bases his calculation on 200-word lists from all varieties and also compares these with Yoruba (Fadoṛo 2010: 126–134); unfortunately the author does not demonstrate at all how he arrives at his lexicostatistic results, nor does he attempt to reconstruct proto-forms.

¹³ Fadoṛo (2013, 2014) and Oluwadoro (2014) are articles publicly available on the internet that are recapitulations of individual parts of the original dissertation.

In the previous literature, the group in the wider Akokoid sense has commonly been treated as the closest relative of Yoruboid (cf. U6.M). This idea has been popularized in particular under the concept of a Defoid family by Capo (1989a: 281–283). This author does not justify the hypothesis himself but merely refers to Akinkugbe's (1978: 865–874) classificatory assessment, which in fact is quite inconclusive (see section U6.M). Ohiri-Aniche (1999), Akinyemi (2002), and Fadṛo (2010) try to assess the relation between Owon-Arigidi and Yoruboid by means of lexicostatistics; the various cognation rates are given in Table 31.

Table 31: Cognation rates between Owon-Arigidi and Yoruba

Comparison	Cognition/ no. of words	Source
Arigidi~Ọka Yoruba	50%/100	Ohiri-Aniche (1999: 84)
Arigidi~Standard Yoruba	55%/100	Ohiri-Aniche (1999: 84)
Owon-Arigidi~(?St.) Yoruba	\bar{x} 46%/100	Akinyemi (2002, cited in Fadṛo 2010: 144)
Owon-Arigidi~(?St.) Yoruba	\bar{x} 31%/200	Fadṛo (2010: 144)

Apart from the considerable variation of the figures in Table 31, two interrelated observations cast doubt on the usefulness of the authors' relatively crude and purely lexical approach to genealogical language classification. On the one hand, a good amount of shared lexicon must be expected as a baseline among all languages of the Benue-Kwa pool, because they are relatively closely related. On the other hand, it is widely recognized that Owon-Arigidi, like all other minority languages in the Akoko area, is under heavy contact influence of Yoruba, which makes lexical borrowing, including of basic vocabulary, rampant (cf., e. g., Akinkugbe 1978: 866, 874). This situation also renders Fadṛo's (2010: 140) historical interpretation of the numerous lexical isoglosses unsatisfactory:

Rather than regard these items as borrowing from Yorùbá, we think it would be better to regard them as pointers to Proto-Defoid. The reason for this is simple and straightforward. These lexical items are part of the basic vocabulary items which have the greatest resistance to change.

It is clear that a more robust conclusion about the place of Owon-Arigidi in the Benue-Kwa panorama can only be achieved through more qualitative comparative research that also inspects its morphosyntactic features (cf., e. g., Oshòdi 2011). The limited data available, including the first-person singular pronoun, the full set of lower numerals and the forms for 'person' and 'tongue' reported here, do not necessarily single out Yoruba as the closest relative of Owon-Arigidi but support a generic genealogical relation to Benue-Kwa languages.

U6.L Ayere-Ahan

Ayere and Ahan are two further related languages in the Akoko region. As already mentioned, they were subsumed initially under Akokoid but are now viewed as languages that form a separate unit. There are a few grammatical studies on Ahan, such as Akanbi (2014, 2015) and Ogunmodimu (2015), as well as some lexical data in Blench (2007b), including also Ayere, but the languages are still underdocumented.

As far as Ahan is concerned, it is structurally typical for Benue-Kwa languages of the area, including the absence of inherited noun classification and verb derivation. Its set of lower numerals and the first-person singular and arguably second-person singular pronouns are also comparable with canonical Benue-Kwa forms, so that its membership seems uncontroversial. However, similar to Owon-Arigidi, the exact place of Ayere-Ahan in Benue-Kwa is uncertain. According to the lexicostatistic results obtained by Akinyemi (2002: 6, cited in Fadõrõ 2010: 10) the two languages share 56% of vocabulary in a 100-word list, while their highest cognation rate with an Owon-Arigidi variety is only 38% (usually only around 30% and lower), which justifies the separation between Ayere-Ahan and Owon-Arigidi. The figures presented are, however, contradictory, because Fadõrõ (2010: 144) also cites an Ayere-Ahan~Yoruba cognation rate of 64%, which is hard to reconcile with the internal value of 56%. Unless more extensive and conclusive information comes to the fore, Ayere-Ahan is thus best treated as another separate unit of the Benue-Kwa pool.

U6.M Yoruboid

Yoruboid is a demographically and geographically important Benue-Kwa group in the southwest of Nigeria and adjacent pockets in Benin and Togo but comprises only three languages (see Capo 1989a for a survey). Its core is the extensive cluster of varieties subsumed under Yoruba; the two other members of this small family are Isekiri and Igala. While the relation between the three started to be recognized as early as in Koelle (1854), Yoruboid has been firmly established as a family by Akinkugbe's (1976, 1978) historical-comparative research, which provides among other things close to 400 lexical proto-forms.

As mentioned above, Capo's (1989a) claim about a larger Defoid family including Owon-Arigidi and Ayere-Ahan remains doubtful because of the insufficient empirical support provided for this hypothesis. Inconclusive lexicostatistic results aside, we are still confronted with Akinkugbe's (1978: 874) modest conclusion:

It is evident from our discussion above that the understanding of the true relationship within the NAK sub-group [= Northern Akokoid including Owon-Arigidi and Ayere-Ahan], and between it and the YIG sub-group [= Yoruboid] requires a more penetrating investigation than the limited time and material at our disposal have allowed.

From a wider perspective, Yoruboid has a canonical typological profile of Benue-Kwa languages of this area without verb derivation and noun classification (although the classes *1 and *2 may have reflexes in third-person pronouns). The genealogical alliance with other Benue-Kwa groups (see Ohiri-Aniche 1991) as well as the wider Niger-Congo group (see section 2.5.2.2) is clearer from lexical data.

U6.N Gbe

The Gbe cluster, spoken predominantly in the south of Togo and Benin, may be subclassified into more than 20 language-like units but also, alternatively, viewed as a single language complex (see Capo 1983). Within the Benue-Kwa pool, it is the first group presented here that is conventionally subsumed under the concept “New Kwa” (as opposed to “New Benue-Congo”) – an idea prefigured by Westermann’s (e. g., 1925) “Ewe-Tschi” group within his original Kwa. Recent survey data about the entire Gbe group are contained in Kluge (2000, 2005, 2006, 2011) and Essegbey (2005), including evidence for its uncontroversial coherence. Dedicated historical-comparative research was carried out primarily by Capo (e. g., 1980, 1982, 1989c, 1990, 1991, 1993; see also Stewart 1994) but has unfortunately not arrived at a full and systematic set of Proto-Gbe reconstructions.

Although Proto-Gbe must have already lacked the typical Niger-Congo morphology, its affiliation to this group is not in doubt. Apart from its canonical typological profile, this is also suggested by the present sample data that show good matches in the lower numerals, a couple of pronouns, and possibly also the lexemes for ‘person’ and ‘tongue’.

U6.O GHANA-TOGO MOUNTAIN

Ghana-Togo Mountain is the current term for a group that German scholars previously called *Togorestsprachen* (“Togo remnant languages”) (cf., e. g., Westermann 1927b). They are often surrounded by major vehicular languages like Ewe and Akan, and are thus subject to contact interference and marginalization (cf. Kropp Dakubu 2009 for more details), which is epitomized by the original group name. Kropp Dakubu and Ford’s (1988) survey contains such demographic facts as well as linguistic information.

Heine (1968) is an extensive historical-comparative treatment of the phonology, morphology and lexicon of the group. Despite its bipartite subclassification into Ka-Togo vs. Na-Togo, the study suggests a genealogical unit in line with earlier assessments. Later research has cast doubt on this hypothesis. For example, Stewart (1989) subsumes the Na-Togo but not the Ka-Togo group under his Potou-Akanic. Blench (2009: 31–32) made an explicit statement to the effect that the group is possibly a genealogical pool:

Although apparently a well-established group, the GTM language subgroup bears features of a typological classification – i. e. languages with noun-class affixes in a region otherwise dominated by languages with residual morphology. Heine's work has had the effect of making GTMLs seem more coherent than they really are, because many of his cognate sets reflect no more than established Niger-Congo roots widespread throughout the region.

Apart from the doubt about the unity of the Ghana-Togo Mountain languages there are also diverging ideas regarding the likely closest relatives within Niger-Congo. Heine (1968: 294–299) briefly discusses the evidence for two major hypotheses that align the group either with Gur or with other Kwa groups like Gbe and Potou-Akanic (Guang, Akan).

A general Niger-Congo affiliation of the Ghana-Togo Mountain group is beyond doubt. Apart from the clear relationship on account of the shared noun classification system known since Westermann (1935), parts of the pronoun paradigm, the lower numerals 'three', 'four', 'five', and 'tongue', possibly even 'person', conform with the expected forms.

U6.P Potou-Akanic

Potou-Akanic is a group of more than 30 languages primarily located in the southern half of Ghana with some languages spoken in Togo and Benin as well as southeastern Ivory Coast. While still included by Stewart (1989), the Na-Togo group of the Ghana-Togo Mountain languages and Ega are excluded today. Potou-Akanic received other labels in earlier studies, like (simply) Akan, Volta-Comoe, Volta-Bandama, and Potou-Tano. As implied by both the earliest and the current name, the Akan language complex and its closest relatives form the core of this group. Dolphyne and Kropp-Dakubu (1988) present a survey of the major subunits located in Ghana.

As mentioned above, Stewart (e. g., 1973, 1975, 1983, 1989, 1993, 1999, 2001, 2002, 2004) argues for Potou-Akanic within the frame of the historical-comparative method, mostly within his wider Potou-Akanic-Bantu project, so that it is based on regular sound correspondences and a good number of lexical reconstructions (e. g., more than 100 proto-forms in the latest published version of 2002). Compared to other genealogical hypotheses within Niger-Congo its likelihood as a genuine family is thus high, with the caveat that most of the published data inform the argument regarding the higher-order affiliation rather than its unity as such. There are also comparative studies on subgroups including reconstructions, notably on Guang (see Painter 1966, 1967; Manessy 1987; Snider 1988, 1989, 1990).

In this context, a word on Dampo, spoken in Ghana as a linguistic enclave in the territory of the Gur language Nafaanra, is in order. While the Ethnologue lists Dampo under the Guang group of Potou-Akanic, Blench (1999a, 2015), who carried out the most recent field work on the language and produced a vocabulary

of more than 450 items, entertains an additional possibility that “it is a language of unknown provenance that has been heavily relexified from Gonja and other languages” (2015: 11). This conclusion is hard to understand after a superficial comparison of his data with published Gonja material (see, e. g., Painter 1967, 1970). The specific similarities to this Guang language, many of which Blench fails to identify and which include all available numerals and pronouns, are so numerous and diagnostic that the classificatory assessment in the *Ethnologue* is the most plausible hypothesis. Blench’s (2007c: 5–6) observation, following unpublished work by Paul Whitehouse, that specific similarities in a few animal names exist with the virtually extinct and unclassifiable language Mpra (see section 2.3.3) is intriguing but does not justify speculation about the isolate status of Dampo. Only new non-lexical data, which may still be possible to collect, given Blench’s report of about 60–70 speakers in the late 1990s, has a realistic chance of affecting the current genealogical evaluation of the language.

The Niger-Congo membership of Potou-Akanic as a whole is secure. While, as a Kwa group, it has lost a lot of morphology, its typological structure conforms to the expected profile, and, more importantly, a functional gender system is a very likely reconstruction for the proto-language. That is, languages of the Guang subgroup have full cognate systems of nominal declension with some even keeping agreement (see Manessy [1987] and Snider [1988] for Proto-Guang reconstructions), and some others have retained a highly reduced gender system (see, e. g., Osam [1993] on Akan itself). The forms for first- and second-person singular pronouns and the lexemes for ‘two’, ‘three’, and possibly ‘person’ confirm this genealogical assessment.

U6.Q Ga-Dangme

The Ga-Dangme group comprises two languages spoken around Accra in Ghana. They have been studied most intensively by Mary Esther Kropp Dakubu. There are also treatments with extensive historical-comparative discussion by her (e. g., 1968, 1971, 1980, 1988, 2006) and Capo (1989b). It can be seen from the data assembled in the tables that the small family is a typical unit of the areal “Kwa” concept. It displays a typological structure expected for Niger-Congo and while it lacks most of the diagnostic morphology, it does possess a few plausible relics, which suggests the loss of an earlier canonical family profile.

U6.R LAGOON

The term “Lagoon” was used by Westermann (e. g., 1927b) for a geographical cluster of about a dozen Kwa languages spoken mainly in the southeastern corner of Ivory Coast, of which Dumestre et al. (1971) provide a demographic and basic linguistic survey. The present concept is more restricted, because some languages

of the original set were subsumed later under other genealogical groups in Benue-Kwa, notably Stewart's (1989: 221–229) Potou-Akanic. Such a negative definition of Lagoon languages is already prefigured by Dumestre et al. (1971: 301–313), who largely classify them in terms of their proximity~distance to Agni-Baule, which represent the local Akanic languages. The two criteria, geography and non-Potou-Akanic, leave six languages or dialect clusters to be treated here: Adioukrou, Abidji, Abe (all subsumed sometimes under Agneby), Avikam-Alladian, and finally Attie. Since there is no explicit claim that this set is of a genealogical nature, it comes as no surprise that no dedicated comparative study exists.

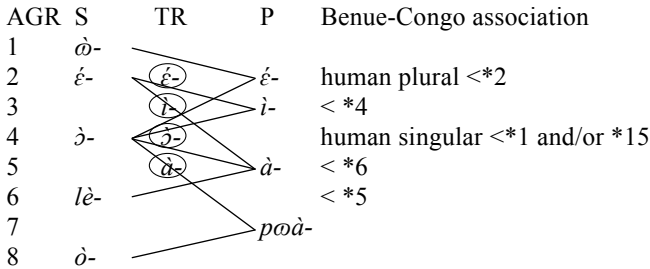
Beyond Dumestre et al.'s (1971) survey, short grammatical sketches of all languages are found in Hérault (1983), interspersed with other Ivory Coast languages subsumed under Kwa. The short treatments show that the languages are typologically similar to neighboring Kwa languages, including the fact that they sometimes show likely remnants of the noun classification system like, for example, number-sensitive noun form classes in Abiji (Tresbarats 1983: 57–60) and a reduced gender distinction in Attie (Kutsch Lojenga and Hood 1983: 248). As evident from Abe, one sample language surveyed here, the paradigmatic and lexical evidence can simultaneously point toward Niger-Congo membership, as with pronouns, or diverge considerably from expected forms, as with numerals.

U6.S Ega

Ega is a single minority language in the Benue-Kwa pool spoken in south-central Ivory Coast. Surrounded by Kru languages, it is both geographically isolated and the westernmost member traditionally subsumed under Benue-Kwa. There is only a limited amount of published linguistic material by Bolé-Richard (1983a, 1983b). The language was also the subject of a documentation project within the DOBES program (see Salfner 2004) but very few descriptive data have become publicly available.

Its position as a geographical outlier is paralleled by the fact that it also differs from other nearby Kwa languages in possessing a fully functional noun classification system whose historical relation to the Niger-Congo canon has been argued for by Bolé-Richard (1983a: 58–62); the gender system and some of the more robust etymological associations are given in Figure 8.

Other features that Ega is likely to share with secure Niger-Congo members can be gleaned from the data surveyed in the above tables; apart from a compatible typological profile and the gender system, they concern some lower numerals and personal pronouns. Before this background, one of Blench's (2004b: 16) three hypotheses, namely that Ega could be a "non-Niger-Congo language that has come under ... [Niger-Congo contact] influences", is quite unlikely.



Note: agreement classes are represented by numeral prefixes

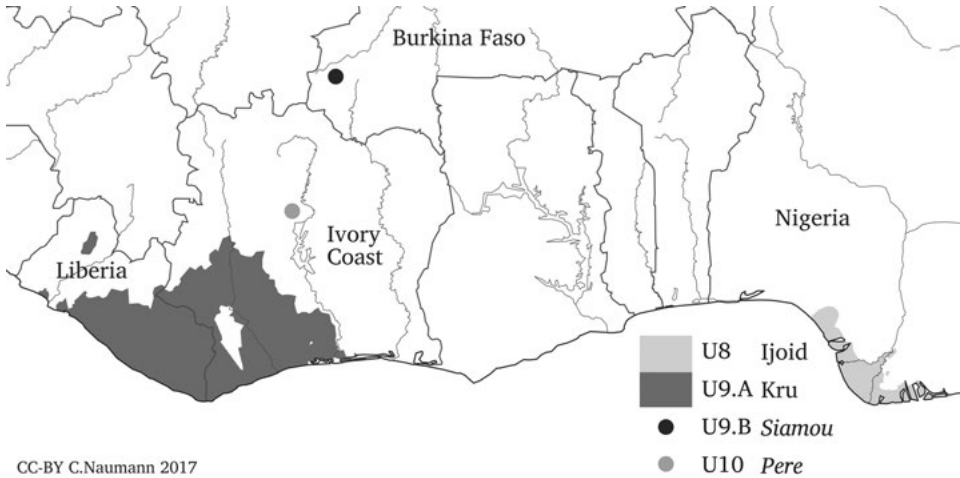
Figure 8: Gender system of Ega (after Bolé-Richard 1983a)

U7 DAKOID

Dakoid is a group of a handful of language varieties in the northern border area of Nigeria and Cameroon (see Map 4), labeled here after its best known variety (Samba) Daka. It was placed by Greenberg (1963a) into Adamawa as his Group 3. Since it was regrouped by Bennett’s (1983: 43) lexicostatistic study into Benue-Congo, its genealogical position within Niger-Congo has been controversial. Watters (1989: 401) and Hedinger (1989: 424) listed it more specifically under Northern Bantoid, albeit without any discussion of data; rather, their classification appears to be based merely on a claim in an unpublished manuscript by Roger Blench and Kay Williamson. More recently, Blench (e. g., 2000b) has affiliated it with Jukunoid, Plateau, and Kainji in his Central Nigerian.

Boyd (1994, 1996/97) is the first scholar who provides and discusses more extensive lexical material, particularly on Samba Daka, in order to assess its genealogical position. He argues that lexical affinities point in different directions, namely, in addition to Bantoid and Adamawa also to less expected Gur languages, and he concludes that “... it may still reasonably be maintained that the classification of Chamba Daka within Niger-Congo is indeterminate” (Boyd 2004: 35). However, lexical comparison has not yet brought any appreciable results. Dakoid is not even a proven lineage but for now rather a genealogical pool, because some languages subsumed under it are indeterminate in terms of their immediate genealogical affiliation, as discussed by Boyd (1999) for Gaa~Tiba. A major desideratum concerning Dakoid is the lack of sufficient empirical data, including on morphosyntactic features.

The traits surveyed here merely support a wider Niger-Congo affiliation for the narrow Daka complex in providing plausible reflexes for singular speech-act participant pronouns, the numerals ‘three’, ‘four’ and ‘five’, and potentially also for class *2 and the lexemes for ‘person’ and ‘tongue’.



Map 5: Geographical location of Ijoid (U8), KRU (U9), and *Pere* (U10)

U8 Ijoid

Ijoid, surveyed in particular by Williamson (1971) and Jenewari (1989), is a language family spoken in a relatively compact coastal belt of the central Niger Delta (see Map 5). Its central component is the language complex Ijo. Unfortunately, a systematic reconstruction of Proto-Ijo including the presentation of the full data does not yet exist, although this is necessary for at least two reasons. For one thing, the different varieties, though obviously related, display considerable diversity; they comprise nine languages according to the Ethnologue and lexicostatistic proximity can go down to 60% (Lee and Williamson 1990). Moreover, the assessment of any genealogical relationship beyond Ijo depends on a reliable picture of its proto-language.

This has become important ever since Jenewari (1983) identified the remnant language Defaka and proposed that it is Ijo's closest relative. Defaka, today in a moribund state, is spoken in an enclave in the eastern realm of Ijo and for a considerable time has been in intimate contact with the Ijo variety Nkoroo. Jenewari's genealogical hypothesis is based on the observation that Defaka and Ijo share a rather consistent head-final word order profile, a distinct pronoun system involving a tripartite sex-based gender scheme, and numerous lexical isoglosses with a few dimly emerging sound correspondences; the first two features are unique in the area and untypical for Niger-Congo.

Williamson (1998, 2004b) endorsed Jenewari's proposal and offered lexical reconstructions for the higher-order lineage Ijoid. Unfortunately, her reconstructions, like those for Proto-Ijo, are simply posited without any systematic justi-

fication. Moreover, they repeatedly appear to be shaped by intertwining two hypotheses that need to be separated, namely the unity of Ijoid and its assumed membership in Niger-Congo. As shown in Table 32, Proto-Ijoid forms are illegitimately inferred from other Niger-Congo forms and a single possible counterpart in either Proto-Ijo or Defaka (see the items in boldface), although they should be based primarily on the presence of cognates in the two units at issue.

Table 32: Selected Proto-Ijoid reconstructions (after Williamson 2004b)

Meaning	Proto-Ijo	Defaka	Proto-Ijoid	Niger-Congo
arm, hand	*ɓara	<i>káa</i>	*káa	PWS *-ka, Igbo <i>áká</i> , BLR *kaca
bag	*akpa	-	*akpa	PWS *-kua(l), Igbo <i>àkpà</i>
belly, stomach	*furou	<i>itɔ</i>	*furou	PWS *-pu, BLR *pudɔ
black, become	*kurukuru	<i>ɓire</i>	*ɓire	PWS *-bi-

Note: PWS = Proto-West Sudanic (Westermann 1927b),
BLR = Bantu lexical reconstructions

Connell et al. (2012) have assessed the Ijoid hypothesis critically based on a more extensive documentation of Defaka, in particular because Jenewari's evidence is arguably overshadowed by the possibility that many isoglosses are the result of linguistic convergence between Defaka and its Ijo neighbor Nkoroo. The authors, however, conclude that the new and more extensive data confirm the Ijoid family, because they make it possible to establish some more grammatical isoglosses and, most importantly, additional sound correspondences.

The evaluation of the external relationship of Ijoid is characterized by considerable change and ultimate uncertainty. Greenberg (1963a: 39, fn.13) classified Ijo as Kwa but admitted the uncertainty of this affiliation. Since then it has been assigned to ever-higher nodes in Niger-Congo family trees, predominantly on the basis of lexicostatistic studies and the qualitative assessment of single etyma (cf. Bennett and Sterk 1977; Williamson 1971, 1989b). However, when comparing Ijoid languages with their purported relatives it becomes clear that diagnostic evidence is largely lacking. Apart from sharing hardly anything of the typological structure of secure Niger-Congo lineages, there are no traces of the expected noun classification system and verb extensions, and pronoun forms are entirely dissimilar.

One is left with lexical isoglosses that are subject to ambiguous interpretation. Williamson (1971, 1979, 1988, 1992), in particular, compares a wealth of lexical data between Ijo and secure Niger-Congo lineages but fails to establish recurrent regular sound correspondences, which are necessary for excluding alternative explanations like borrowing and chance resemblance. The lexical similarities appear to be particularly strong between Ijoid and Bantu but the data in Table 33 illustrate the problems pertinent to her hypothesis.

Table 33: Proposed cognates between Bantu and Ijo (after Williamson 1971: 282)

No.	C1	Meaning	Bantu	Ijo
1	b~ḅ	‘goat’	- <i>búdì</i>	- <i>bóri</i>
2		‘become rotten’	- <i>bòd-</i>	<i>bùrù</i>
3		‘excreta’	- <i>bí</i>	<i>bíé</i> ‘defecate’
4	t~t	‘three’	<i>tátù</i>	<i>tárù</i>
5		‘tree’	<i>tí</i>	<i>tí</i>
6		‘platform’	<i>tádà</i>	<i>tàndà</i>
7		‘war, bow’	<i>tá</i>	<i>tě̀</i> ‘shoot’
8	c~s	‘five’	<i>cáánò</i>	<i>sónjórò</i>
9		‘cut’	- <i>cèng-</i>	<i>séngì, séngí</i> ‘slice’
10		‘choose’	- <i>càd-</i>	<i>sèlè</i>
11		‘rub’	- <i>cìng-</i>	<i>sigidi</i>
12		‘wash’	- <i>cùk-</i>	<i>sògidi</i>
13		‘poke in’	- <i>còk-</i>	<i>sógú</i> ‘till, harvest’
14	k~k	‘become strong’	- <i>kód-</i>	<i>kùrò</i>
15		‘cut’	- <i>kéd-</i>	<i>kárà</i> ‘carve’
16		‘neck’	- <i>kìngò</i>	<i>kòngò</i>
17	n~n	‘animal, meat’	- <i>yàmà~nàmà</i>	<i>námá</i>
18		‘four’	- <i>nèè</i>	- <i>né</i>
19		‘eight’	- <i>náánà</i>	<i>nijínà</i>

Table 33 displays 16 proposed cognate pairs involving four apparently regular consonant correspondences in the C1 position (the first labial series is in fact irregular: 2x b~ḅ vs. 1x b~b). However, as soon as other positions are considered, irregularity sets in. Thus, alveolar and velar segments in C2 present the following picture: 3x d~r vs. 1x t~r vs. 1x d~nd, and 2x ng~ng vs. 1x ng~g vs. 2x k~g, respectively. Equally absent are regular patterns regarding V1. Disregarding individual word pairs with semantic latitude like ‘poke in’ vs. ‘till, harvest’, or an item like ‘animal, meat’, the form of which is extremely widespread also beyond Niger-Congo, there is another general fact that makes the above comparisons suspicious as true cognates. Given that Ijoid is supposed to be an early offshoot of Niger-Congo, while the position of Bantu is very low in the family tree, some comparative pairs look in fact too similar. Hence, it is difficult to exclude the possible explanation of contact with a Bantu-like language. Indeed, borrowing is not unlikely for both a cultural word like ‘goat’ and for the set of four numerals that can so far not be traced back in these specific forms to the old language state implied by the comparison. In fact, Blench (2012c: 40–41) presents some such data within a possible scenario of language contact between the two families. Similar problems pertain to the lexical comparisons Elugbe and Williamson (1977) and Williamson (1979) have

advanced between Ijoid and Edoid, which have interacted intensively in the Niger delta region.

In a parallel fashion, Williamson (1988: 115–117) reconstructs proto-forms of Atlantic-Congo (= Niger-Congo minus Mande/Kordofanian) for such words as ‘wine palm’, ‘oil palm’, and ‘goat’, which crucially involve Ijo and lead to far-reaching conclusions for the prehistory of Niger-Congo in general and the Niger Delta in particular. However, such cultural vocabulary can be acquired by contact if a (proto-)language had not been exposed to the relevant conditions and/or environment before. This is, however, a possible scenario for some languages involved and especially for Proto-Ijoid, which gave rise to a family that may well be perceived as being indigenous in the Niger Delta and having been marginalized there by the spread of genuine Niger-Congo groups. With such data, one cannot help concluding that Williamson has intermingled linguistic and historical argumentation before the background of a preconceived genealogical classification.

Recently, Connell, Akinlabi, and Bennett (2012) reviewed the history of and evidence for Ijoid’s placement in Niger-Congo, coming to an equivocal verdict: “Ijoid is indeed fully a part of N[iger]-C[ongo], but the time depth of its separation renders current methods difficult”. While noting the overall scarcity of good evidence, they present short tables with possible sound correspondences, also restricted to the C1 position, between Proto-Ijoid on the one hand and Bantu, Mande, and Dogon on the other. Parallel to the evaluation of Williamson’s evidence, these comparisons do not comply with standard methodology, because they are not based on transparent and reliable reconstructions for any of the families involved other than Bantu and the supporting data attest numerous undiscussed exceptions, especially if entire word forms are taken into account. Equally difficult to evaluate are the isolated and phonetically short grammatical morphemes that are compared with “common” Niger-Congo forms from Westermann (1927b).

Within the present survey, Ijo’s numerals ‘three’, ‘four’, and ‘five’, and arguably also the word for ‘tongue’, suggest some kind of historical connection to canonical Niger-Congo forms. The interpretation of this finding in terms of inheritance is hard to reconcile, though, with the lack of any other typical Niger-Congo trace. Ijoid’s genealogical status is thus far from being settled, and it is possible that it will turn out to be an isolated unit, as suspected early on, for example, by Delafosse (1924: 528–529).

U9 KRU

Kru is a geographically compact language group that is spoken around the common border of Liberia and Ivory Coast (see Map 5). Its constituency has been relatively uncontroversial. According to Marchese (1989), it comprises a large core group that is split into a western and an eastern branch, recognized already by Delafosse (1904), and a few geographically and genealogically more distant languages or

language clusters, namely the Aizi complex, Kuwaa, and Siamou. The proposal to join the last language with Kru, going back to Person (1966), was the latest more substantial classificatory change. It is this addition, to be discussed below in more detail, that causes Kru to be presented here as a genealogical pool.

With respect to its external classification, Kru was first viewed to be a member of (Old) Kwa (e. g., Westermann 1927b; Greenberg 1963a: 39, fn.13). The detailed work on Kru in the 1970s has led to the current view that it is a primary Niger-Congo lineage whose exact genealogical position can only be clarified in the context of more detailed work on the higher-order group as a whole.

U9.A (Narrow) Kru

The coherence and partly the internal grouping of Kru, assumed since early on, have been confirmed by lexicostatistic studies (cf. Welmers 1977), and later also by more detailed investigations of both morphosyntactic and lexical data within a historical-comparative approach, in particular in several studies by Marchese (Zogbo) (e. g., 1983, 1986, 1988, 1989, 2012). This author reconstructs a gender system of the Niger-Congo type as well as some morphosyntactic structures in the verbal domain and compares basic lexicon across the group.

A detailed discussion of the profile and history of gender systems in Kru is presented by Marchese (1983: 189–197, 1988); her reconstruction is summarized in Table 34 and Figure 9.

Table 34: Gender system of Proto-Kru (after Marchese 1988: 324–328)

Salient meaning	Agreement class (pair)	Noun form class (pair)	Proposed Benue-Congo association
human	*ɔ/ɔ	*-ɔ/-ɔ	*1/?*bu
mass, liquid, nature	*ɔ/ɪ	*-ɔ/-ɪ	*3/*4
plant, (small) animal	*a/?ɪ	*-a/?-ɪ	
large~dangerous animal	*ɛ/ɪ	*-ɛ/-ɪ	*9/*10 or *5/?
animal	*ɛ/a	*-ɛ/-a	*5/*6

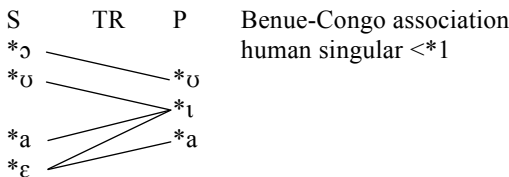


Figure 9: Gender system of Proto-Kru (after Marchese 1988: 324–328)

The systems in modern languages entail both agreement and suffixal noun form classes, whereby agreement can be highly alliterative and, depending on the language, elaborate in terms of morphosyntactic targets. Compared to canonical systems in Niger-Congo, class marking only consists of thematic vowels; on nouns these seem to have been reanalyzed partly as formal phonological triggers of agreement, and hence of gender assignment. Typological similarities aside, Marchese's (1988) proposed association of Proto-Kru markers with diagnostic Niger-Congo classes is not straightforward in terms of form, except for the human singular class *1.

A number of Kru languages display suffixal verb extensions that mostly increase valency, and some of them are reconstructed for Proto-Kru (Marchese 1983: 281–291). However, the forms of some elements are too short to reveal an obvious relation to forms in other Niger-Congo languages; others seem to be recent innovations that partly derive from generic verbs in compounds.

In terms of lexical comparison, Marchese (1983: 390–405) represents all primary lineages of the family in a word list comprising a little over 60 items. While no proto-forms are given, these data allow one to appreciate the unity of the family core. With respect to possible candidates for the Niger-Congo cognates inspected here, the lexemes 'three' and 'four' are clearer than those for 'tongue' and 'person'; speech-act participant pronouns are not obviously related to the most likely Niger-Congo reconstructions.

U9.B Siamou

The isolated language Siamou aka Seme is located far to the northeast of the Kru core in southwestern Burkina Faso and adjacent regions in Mali and Ivory Coast. It was first described in a short sketch by Prost (1964: 343–381). In the meantime, more material on the language has become available in Traoré (1984, 1985), Traoré and Bednarz (2008), and Toews (2010, 2015).

The evidence for an affiliation of Siamou to Kru proposed by Person (1966) is unsatisfactory and does not justify his claim that "le caractère kru du seme paraît avec une netteté extreme". His (1966: 487–488) lexical comparisons with individual Kru languages are random and equivocal, and *pace* Marchese (1983: 88), the language also partakes very rarely in the comparative lexical series she gives for the Kru core. The grammatical affinities of Siamou and Kru posited by Person (1966: 489–490) are only of a typological nature and often refer to the mere absence of typical Niger-Congo features. Hence, a genealogical relation of Siamou to the Kru family is far from conclusive.

Even its character as a Niger-Congo language must be considered equivocal. The sources do not report a gender system and verbal extensions, or any obvious traces thereof. From the two relevant lexical paradigms, only the word for 'three' can be associated with the recurrent Niger-Congo form; the words for 'person' and

‘tongue’ are too short to be conclusive. All in all, the current information about the language qualifies it at best as a possible member of Niger-Congo, but certainly unclassified within it, similar to Pere (U10) and Bangime (U14).

U10 Pere

Pere, aka *Pere* (or *Mbre* as per the Ethnologue), is a moribund remnant language spoken in Ivory Coast (see Map 5) whose speakers are undergoing a language shift to the neighboring Mande language Koro.¹⁴ Greenberg (1963a) does not deal with it, as it was discovered only in the 1980s by Denis Creissels. This author also provides the bulk of the publicly available data in the form of around 850 words and some basic structural features (Creissels 2010).

Boukari (2009) has compared typological features and a 100-word list of Pere in a generic fashion with Kru, Gur, and Kwa but his conclusion that its greatest synchronic affinity is with Gur languages cannot be taken as a sound historical-comparative assessment. Creissels (2010) shows that Pere is very distinct from neighboring Mande but possesses a rather canonical typological profile as well as some specific and thus diagnostic traits of Niger-Congo. This points toward its membership in this larger unit but does not allow its exact internal position to be determined – a conclusion also reached by Blench (2010b).

Regarding the set of features surveyed here it qualifies as possible Niger-Congo on account of plausible remnants of the classes *1, *2, and *6A in the form of pronouns and nominal suffixes; pronominal elements for the two second (but not first) persons; the paradigm of lower numerals; and possibly even the two lexical stems surveyed here. A fuller linguistic documentation of the language is currently underway (Jeffrey Heath, p. c.), which should provide the information necessary for a more robust and specific classification.

U11 ATLANTIC

The languages that Greenberg (1963a) subsumed under “West Atlantic”, a concept going back to Westermann (1928), have to be viewed as another genealogical pool rather than a proven lineage. The unity of Atlantic (stripped of its superfluous modifier “west” by later scholars) was questioned early on, as evident in Dalby’s (1965: 16) quotation given in section 2.5.1. Later comparativists applying lexicostatistics like Sapir (1971) and Wilson (1989) equally noted the overall low coherence of the group. By the early 2000s, some specialists had effectively abandoned the genealogical hypothesis – a situation epitomized by the title of a workshop held in 2007 at the University of Hamburg: “The Atlantic branch of Niger-Congo:

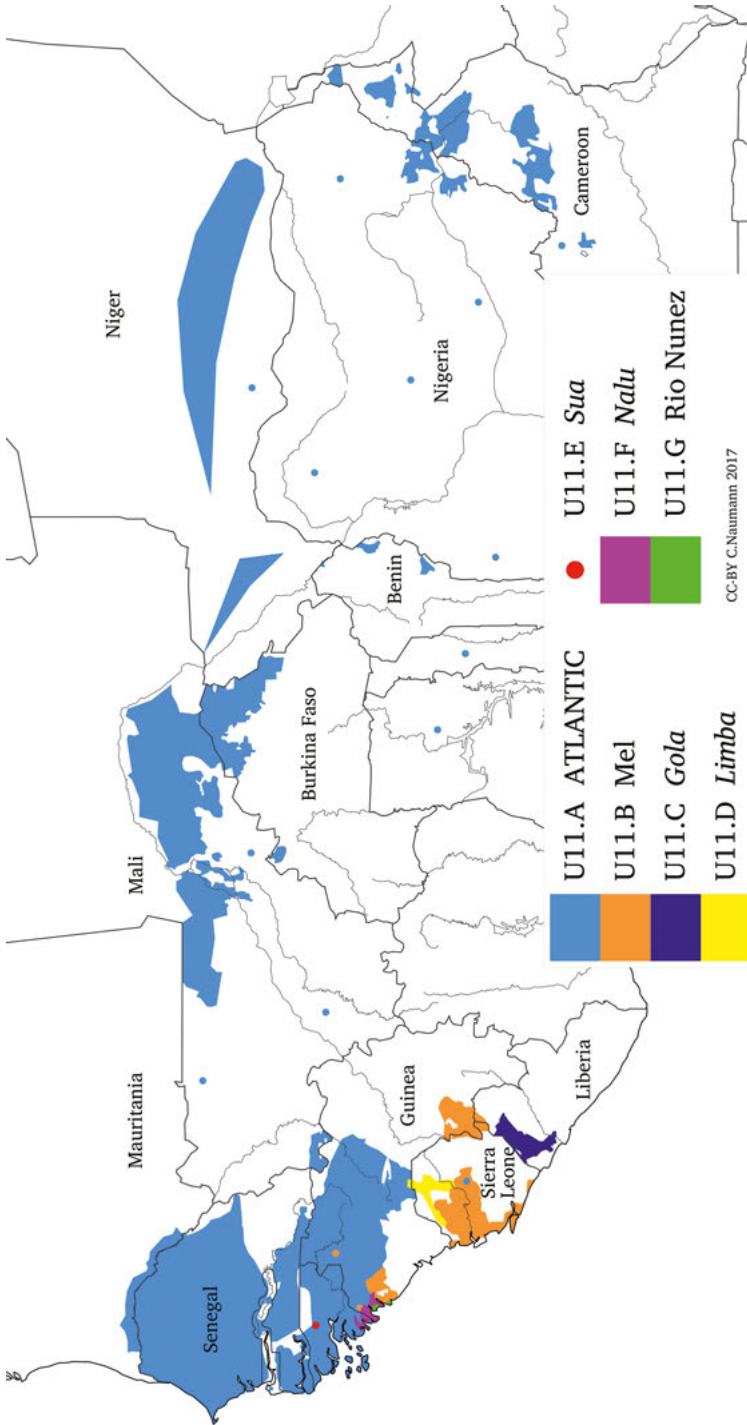
¹⁴ It must not be confused with Peere, also called Kutin, which is spoken in Cameroon and belongs to the Samba-Duru family within Adamawa (U16.E).

genetic or typological unit?” What has held these languages together is primarily their proposed membership in Niger-Congo, their predominant geographical distribution along the coast of westernmost Africa (see Map 6), and the negative definition as non-Mande, which entails in typological terms that they share the standard structural features of Niger-Congo, notably functional gender systems.

In the meantime, the comparative study across Atlantic has intensified on all levels and by means of diverse approaches, leading to important changes. Guillaume Segerer and Konstantin Pozdniakov have been the most active scholars in this domain for more than a decade. Segerer (2010a, 2010c) presents the recent state of the art. Like earlier work, both studies involve hypotheses based largely on lexicostatistics without containing extensive data for inspection. Since they are apparently based on improved material and methodology and also include qualitative results of a canonical historical-comparative approach, their results are presented in Table 35 in comparison with previous accounts, and they serve as the starting point of the following discussion.

Table 35: The history of subclassification of Atlantic

Greenberg (1963a: 8)	Sapir (1971), Wilson (1989)	Segerer (2010a, 2010c)	Subgroup source
Northern	NE Nalu, Mbulungish, B. Mboteni	? <i>Nalu</i>	
	NA Sénégal: Fula, Serer, Wolof	Fula-Serer	Pozdniakov (1988)
	ND Eastern Sénégal-Portuguese Guinea, or Tenda-Nyun	Wolof-Nyun Tenda	
	NB Cangin	Cangin	Drolc (2005)
	NC Bak	Bak	
	Bijago	<i>Bijago</i>	
Southern	SA Sua	? <i>Sua</i>	
	SB Mel	Mel	Dalby (1965)
		? <i>Gola</i>	
SC Limba	? <i>Limba</i>		



Note: Fula in Sudan, Chad, and the CAR is excluded.

Map 6: Geographical location of ATLANTIC (U11)

Compared to older assessments of Atlantic, Segerer's (2010a, 2010c) new classification entails crucial differences, the most important ones being as follows:

- (a) Atlantic is not necessarily a single coherent lineage.
- (b) The two major units in Atlantic are (I) (Northern) Atlantic and (II) Mel.
- (c) The long-time Atlantic-internal isolate Bijago is affiliated with Bak in group (I).
- (d) Wolof of group (I) is separate from Fula-Serer but possibly affiliated with Nyun.
- (e) Several languages are not affiliated conclusively with either group (I) or (II), viz. Gola, Limba, Sua, and Nalu (see below).

The abandonment of the wide concept of Atlantic as a genealogical group throws a different light on any previous attempts to reconstruct all-comprising proto-forms (cf., e. g., Wolf 1992; Pozdniakov and Segerer 2004a). These studies are at best similar to Stewart's (e. g., 2002) project of reconstructing Proto-Potou-Akanic-Bantu (see section U6), in that they would be helpful for arriving at an earlier Niger-Congo stage but do not portray a real lineage that excludes other languages outside the comparison.

Atlantic largely comprises languages that have been marginalized in various ways by the expansion of the Mande family (cf., e. g., Köhler 1975: 195; Childs 2004, 2010). Consequently, there is no reason to assume their previous internal unity. Instead, it is equally plausible that the linguistic Pre-Mande landscape was more diverse, similar to other areas in the Niger-Congo domain.

U11.A (CORE) ATLANTIC

Some form of Greenberg's "Northern (West) Atlantic" remains the largest lineage in most of the later classifications, including Segerer's (2010a, 2010c). The most important difference between this core group and Atlantic as a whole is the exclusion of the Mel group, which has been argued for a long time to be an independent unit (cf. Dalby 1965). Without Mel, Atlantic lacks its "southern" component. Accordingly, I follow Segerer's suggested terminological simplification in keeping the well-established term Atlantic but restricting it to the northern core group, and treat this unit for the time being as a primary Niger-Congo group.

According to Segerer (2010a, 2010c), this Atlantic lineage comprises two major subunits, which appear to correlate quite neatly with the presence vs. absence of the important and well-known structural trait of initial consonant mutation. While the "Mutation group", pre-figured in such early studies as Krause (1895) and Klinghenben (1925), subsumes Fula-Serer, (Ba)nyun-Buy (aka Nun)-Wolof, Cangin, and Tenda; the other group, which lacks consonant mutation, can be called Bakic, in that it subsumes the Bak languages and the Bijago cluster.

Heavily distorting sound changes, which led to the complex consonant grade system and also recurrently involved the reanalysis of morphological material, are identified by Pozdniakov (2008) and Segerer (2010a, 2010c) as one of the major

reasons for the low cognacy rates arising from superficial lexical comparisons across these languages as a whole. Compare the illustrative examples in (5), which are based on proposed morphological and sound changes; in Bijago, these would have been particularly dramatic in that earlier noun prefixes became the only phonetic substance of the modern lexical roots illustrated.

(5)

Proto-Bakic			
‘head’		‘eye’	
*bu-gof		*di-gɛs	
*bu-kof	*bu-ɲof	*di-kis	*ne-ɲɛs
*bu-kow	*bu-ɲo	*di-kil	*ne-ɲɛ
<i>fu-kow</i>	<i>(u-)bu</i>	<i>ji-cil</i>	<i>nɛ</i>
Jola Kasa	Bijago	Jola Kasa	Bijago

(Segerer 2010a)

Obviously, such processes can obscure the genealogical history of a lineage immensely so that Pozdniakov (2008: 197) writes confidently in a programmatic article on Atlantic reconstruction: “... compte tenu de tous les processus évoqués ci-dessus, de nombreuses correspondences nouvelles restent à découvrir [... considering all the processes entertained above, many new correspondences wait to be discovered].” Given that such challenging problems have now been identified, one should expect that the way is paved toward the (partial) reconstruction of whatever proto-language(s) by means of a rigorous application of the historical-comparative method.

(Narrow) Atlantic has already been subjected to a more detailed comparative analysis by Doneux (1975), focusing on gender systems but also including comparisons of verb extensions and phonological and lexical features.¹⁵ While he is able to show a good amount of shared traits, his crucial reconstructions of the gender markers, which are recurrently abstract, deviate considerably in form and/or meaning from language-specific elements and may have been steered partially by a prefigured Benue-Congo-type system. Hence, this work can only serve as a first basis for a more systematic attempt in which bottom-up reconstructions should have primacy over those oriented toward any higher-order group. Until then, Atlantic has to be treated as a genealogical pool.

More secure comparative data are occasionally available on a lower level. The small Senegalese family Cangin, in particular, has been intensively studied from a historical comparative perspective by Drolc (2005, 2006), who arrived at reconstructions for most parts of speech relating to the Niger-Congo-type gender system and more than 330 lexical items. Pozdniakov and Segerer (2004b) is another more abstract comparative study of Cangin pronouns. Similar efforts are underway for

¹⁵ There also exist studies on a smaller scale, for example, Mukarovsky’s (1974) comparison of the gender systems of four Bak languages.

other Atlantic subgroups (cf. Seeger [2012] on Proto-Bak) so that one can hope that the overall historical picture will become more transparent.

The Proto-Cangin gender system is presented in Table 36 and Figure 10. Already a superficial inspection reveals that robust cognates for at least the Proto-Niger-Congo classes *2 and *6A exist in addition to other candidates that need more secure confirmation. Similar, if more sporadic affinities exist for two speech-act participant pronouns and the word ‘tongue’.

Table 36: Gender system of Proto-Cangin (Droic 2005: 118–144, 219–222)

Salient meaning	Agreement class (pair)	Noun form class (pair)	Proposed Benue-Congo association
mass~liquids	*m-	*m-, others	*6A
inquorate ‘person’	*y-/b-	–	*1?/*2
–	*k-/t-	*k-/t-, others	*7?/?
–	*p-/t-	*p-/t-, others	
diminutive	*j-/t-	*j-/t-, others	
animate	*f-/c-	*f-/Ø	
default	*Ø~n-/c-	*Ø/Ø	*9?, *3?/?

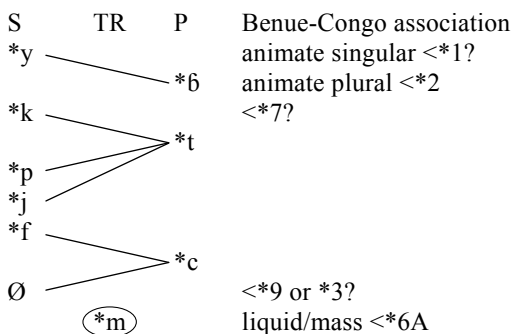


Figure 10: Gender system of Proto-Cangin (after Droic 2005: 140)

From Doneux (1975) it can be gleaned that parallel results are likely to turn up for other subgroups. Provided that future research can substantiate the new narrow Atlantic as a true family, it can be counted as a robust member of Niger-Congo.

U11.B Mel

Mel is the more concrete label for the core of what Greenberg classified as “Southern (West) Atlantic”. Dalby (1965: 5) insisted that Mel should be treated as a primary lineage within Niger-Congo rather than as a part of some larger Atlantic group (cf. Stewart 2007: 189–190): “[T]he lexical relationship existing between

Mel and many of the North-Western class-languages (i. e. the remainder of ‘West Atlantic’) is no closer, and is sometimes less close, than that existing between Mel and other African class-languages, or even between Mel and some of the non-class languages of West Africa, including Kru and Akan”.

Dalby (1965) bases the internal coherence of Mel on a set of around 300 cognate sets (not fully presented in the source), including sample sound correspondences, as well as a comparison of the gender systems of five languages: Themne, Bullom, Krim, Kisi, and Gola. The fact that Dalby views Gola (U11.C) to be an uncontroversial member of Mel but Segerer does not shows that even cautious approaches to genealogical classification may remain inconclusive without a full application of the comparative method.

A more coherent subgroup within Mel is formed by the northern group members Themne, Landoma, and several lects called Baga (this last term is not specific to Mel but refers more generally to remnant rice-farming populations in the area and also subsumes non-Mel languages to be treated in section U11.G). Wilson (e. g., 1961, 1962, 1963) studied in more detail the historical unity of this group, called here for convenience Temnic. It is this group that also reveals likely cognates to the rest of Niger-Congo with respect to the full paradigm of speech-act participant pronouns and at least the numeral ‘three’. The possible reconstruction *meL for ‘tongue’, which is different but possibly related to the usual Niger-Congo reconstruction *lEm (cf. Wolf 1992), motivated the name for the family. Mukarovsky (1958, 1961, 1966a) undertook direct comparisons between Mel languages and Proto-Bantu but does not follow traditional methodology in that he presents plausible correspondences side by side with questionable or even contradictory ones.

Looking at the gender systems of Mel, the Niger-Congo affiliation is suggested by the presence of robust reflexes of at least the human/animate and the liquid/mass noun genders involving three reconstructed agreement classes *1, *2, and *6A (cf., e. g., Wilson [1961: 53–57] and Dalby [1965: 6–9]). This is also evident in Mel languages outside Temnic, as can be seen at the system of Kisi given in Figure 11.

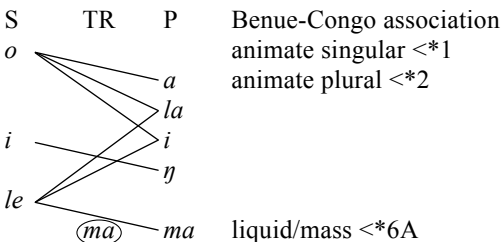


Figure 11: Gender system of Kisi (after Childs 1995: 162–170)

U11.C Gola

Gola is a relatively well-described language (cf. Westermann 1921; Fachner 1990; Koroma 1994) and is commonly affiliated with Mel. However, its lexicostatistic score with any language in the Atlantic pool, including Mel, is never higher than 10% (Segerer 2010a).

Although far from conclusive, support for a Mel affiliation can be found in verb extensions, the gender system, as dealt with by Dalby (1965: 6–9), and the restricted comparison of diagnostic lexemes undertaken here. Thus, details in the speech-act participant pronoun system and *miè(l)* for ‘tongue’ point specifically to Mel, and Becher (2002: 31) identifies three verb extensions of Gola, *-i*, *-me*, *-ne*, which almost exclusively recur in Mel languages.

A look at the gender system as presented by Westermann (1921: 26–33) and Koroma (1994: 26–36, 59) yields further support. For one thing, all agreement classes of Gola are present across Mel, so that its system can be derived potentially from a more elaborate Proto-Mel system. One can also argue that Gola goes with Mel in having a likely cognate in the animate plural class in *a*, in which the lack of the initial labial consonant is a shared feature; non-Mel Atlantic languages attest for the widespread Niger-Congo class *2 in *ba*.

U11.D Limba

Limba, although demographically quite large and even viewed by the Ethnologue as two languages, is known only from a 5,000-item vocabulary (Clarke 1922), an extensive text collection (Finnegan 1963), and quite scanty grammatical information (notably, Berry 1958). Its lexicostatistic scores with the rest of Atlantic are very low, the highest being 11% with Themne, which is its only contact language in the Atlantic pool (Segerer 2010a). Accordingly, it is considered to be isolated.

The non-specific Niger-Congo affiliation of Limba rests primarily on the nature of its gender system, which can be extracted in parts from Berry (1958). As with most other Atlantic languages, classes *1, *2, *6A and its two resulting genders have robust reflexes; an additional candidate may exist for class *15–17. The genealogical hypothesis may also be supported by the numerals for ‘three’ and ‘four’, and arguably by *lin* ‘tongue’. Mukarovsky’s (1962/63) comparisons between Limba and Proto-Bantu are only a first step to more systematic work, because they suffer from the same problems mentioned in connection with his historical work on Mel languages.

U11.E Sua

Sua aka Mansoanka is the third Atlantic language whose status remains uncertain in Segerer’s (2010a, 2010c) lexicostatistic research. It is endangered and only

known from short word lists and scanty grammatical information, which inhibits a conclusive genealogical assessment.

The language possesses plausible Niger-Congo reflexes of a full paradigm of speech-act participant pronouns and for ‘three’, ‘four’, and ‘tongue’. Wilson’s (2007: 147–151) grammatical information also attests to a Niger-Congo-like gender system that at least displays likely cognates of classes *2 and *6A.

U11.F Nalu

The last Atlantic-internal isolate in Segerer (2010a, 2010c) is Nalu. Similar to Sua, there is very little information on which to base any classification. Lexical Niger-Congo traits seem to exist with ‘tongue’, ‘four’, and possibly also for ‘I’ and ‘two’. Wilson’s (1961: 61, 63; 2007: 131–134) grammatical data show that the language has traces of a Niger-Congo gender system with both noun prefixes and, in very restricted form, agreement markers, which plausibly reflect at least the earlier existence of classes *2 and *6A.

U11.G Rio Nunez

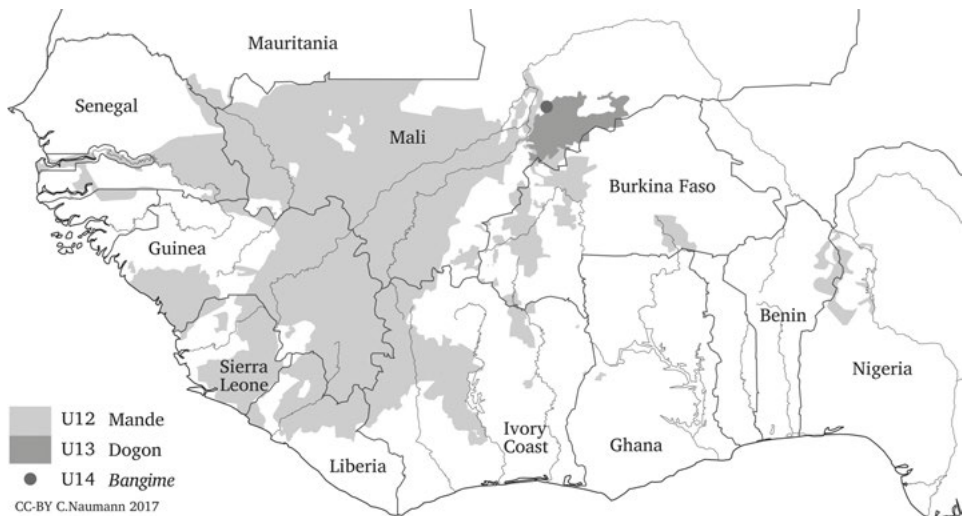
While Nalu is presented above on its own, it is recurrently listed together with two other languages that are not explicitly treated and assigned in Segerer’s (2010a, 2010c) classification, viz. Mbulungish aka Baga Fore and the nearly extinct Baga Mboteni (aka Baga Pokur) (see section U11.B for the concept “Baga”). Since both languages are located around the mouth and estuary of Rio Nunez, I use this concrete geographical term for convenient reference. Like Nalu, they are spoken by ethnic minorities under heavy influence from larger neighboring groups speaking Mande and other Atlantic languages. They are also very poorly known without any fuller grammar and dictionary. The lineage assumed to comprise both Nalu and the Rio Nunez languages is called “Mbulungish-Nalu” by the Ethnologue and “Coastal” by Fields (2001).

Fields’s (2001) study of the social history of coastal rice-farming populations of Guinea, comprising parts of the Mel family and her “Coastal” group, includes some linguistic comparison by means of lexicostatistics and is thus the most explicit classificatory treatment known to me. By assembling 100-word lists for the three languages at issue (Fields 2001: 294–300) and comparing them with each other and her Mel data, the author comes to the conclusion that they do form a genealogical unit, opposed to Mel and the rest of Atlantic (Fields 2001: 59–66). However, the lexical proximities given by Fields (2001: 61) are modest in that they do not exceed 30% and are questionable in the first place, because there is virtually no discussion of individual comparative sets, let alone a serious attempt at lexical reconstruction.

The three languages do not form a group according to Wilson’s (1961: 60–61,

2007: 131–137) assessment, which appears to be linguistically sounder. In particular, he provides a comparison of parts of their gender and number morphology, which is more reliable classificatory evidence than degrees of lexical proximity, *pace* Fields (2001: 62). On this account, Mbulungish and Baga Mboteni appear to be more closely related, because they share largely identical paradigms of prefixes and suffixes for number and noun classification, even though Baga Mboteni has lost gender agreement. Nalu does not possess comparable morphology, although it does have a restricted gender system, as mentioned in section U11.F.

The Rio Nunez languages may well belong to Niger-Congo, given likely reflexes for ‘tongue’ and the numerals ‘three’ and ‘four’ as well as less clear reflexes for classes *1 and *2. Beyond this general conclusion, the languages should be viewed as unclassified for now, like all of Segerer’s (2010a, 2010c) isolates in the Atlantic pool discussed in section U11.C–F.



Map 7: Geographical location of Mandé (U12), Dogon (U13), and *Bangime* (U14)

U12 Mandé

As opposed to such groups as Benue-Kwa, Atlantic, etc. the Mandé family is a well-defined genealogical group comprising more than 70 languages that are spoken in a large area south of the Sahara from the Atlantic coast up to western Nigeria (see Map 7). A geographically central area is dominated by the demographically and sociolinguistically crucial language complex Manding whose historical genesis is partly associated with the formation of the Mali Empire around the middle and upper course of the Niger River. Despite the relatively large lan-

guage inventory, Mande is one of the better documented families on the continent.¹⁶ Family surveys rich in information are Welmers (1971), Dwyer (1989), Kastenholz (1991/92), and Vydrin (2016).

Recognized already by Koelle (1854), the internal structure and historical dynamics of the Mande family has been the subject of investigation in quite a number of studies. Its modern internal classification took shape with Welmers's (1958) treatment, which used both lexicostatistical and historical-comparative methods. Today there exists wide agreement about the existence of around ten low-level subgroups and a major split between a western and a southeastern branch, whereby the latter comprises only two groups, namely Mani-Bandama (aka "South[ern]") and Niger-Volta (aka "East[ern]"). Apart from variable and for outsiders potentially confusing terminology (note the use of cardinal directions on different classification levels), divergent views mainly exist regarding intermediary groups, particularly so with respect to the subclassification of the primary and complex western branch (see Vydrin [2009, 2016] for the most recent discussion).

Besides applying lexicostatistic approaches on various levels, historical-comparative reconstruction has been applied to several of the Mande constituent units, notably to Southwestern by Dwyer (e. g., 1973, 1974), Vydrin (1989), and Babae (2010a); to Mani-Bandama by Vydrin (e. g., 2005, 2006); and to Niger-Volta by Schreiber (2008). A more comprehensive study tackling the entire western branch is Kastenholz (1996); this work has also been used up to now as the primary reference for the overall subclassification of Mande. Dwyer (1988), Grégoire (1988), Grégoire and de Halleux (1994), and Vydrin (2009) are additional works with scope over the entire family. In spite of this quite extensive amount of historically oriented literature there is no fuller published work yet on Proto-Mande that could be used for comparisons beyond the family. Recent works like Vydrin (2012, 2016), however, have promised to fill this gap in the not-so-distant future.

A typological hallmark of the Mande family is the cross-linguistically marked syntactic clause configuration S-AUX-O-V-X (see Creissels and Good, this volume). While it is not unique in Niger-Congo or the wider geographical area (Gensler and Güldemann 2003; Güldemann 2007b, 2008d), it has been recurrently discussed especially for Mande, including its possible historical implications, for example, by Claudi (1993, 1994), Bearth (1995), Creissels (1997, 2005), Kastenholz (2003, 2006), Tröbs (2009, 2010), and Nikitina (2011, 2012). While some scholars simply view it as an old feature to be reconstructed for Proto-Mande, others like Claudi and Nikitina attempt to derive it from a mainstream Niger-Congo clause profile with SVO order, apparently under the assumption that Mande is a demonstrated member of that larger entity.

¹⁶ This includes a sizable amount of literature by Russian scholars whose studies written in Russian unfortunately inform the general discussion about the family only to a limited extent (see Vydrin [2016] for a selection of some historically relevant studies).

Due to the considerable geographical extension of Mande it comes as no surprise that its member languages have been found to have multiple contact relationships outside the family and that studying these relationships can also throw some light on linguistic prehistory. For example, Mande language contact is discussed with respect to Atlantic (Childs 2004, 2010; Dwyer 2005; Vydrin and Vydrina 2010), Gur (Beyer 2010; Beyer and Schreiber 2013), and Songhay (Nicolai 2006), whereby the particular pattern regarding the direction of interference depends on the sociolinguistic status of the contact partner. Especially in the southern and southwestern realm of the family, Mande languages appear to have been widely dominant and hence the target of language shift whereby their structure underwent simplification and/or a drift to local linguistic patterns – a point convincingly argued for by Vydrin (2004) concerning phonological data. This pattern seems to support Vydrin's (2009) hypothesis that the homeland of Mande is to be sought in its modern northern rather than southern realm.

The external genealogical relationship of Mande has been a controversial topic since Greenberg's claim about its membership in Niger-Kordofanian. While Mukarovsky's (1965, 1966b, 1966c, 1966d, 1971, 1988, 1995) skepticism is clouded by his own speculative associations of Mande with various families outside Niger-Kordofanian, it is not clear whether the quantity, quality, and diagnostic value of the evidence he musters is entirely different from that in Greenberg's proposal. That the latter is weak is also recognized by other scholars: Köhler (1973/4) treats Mande as a fifth separate African unit – his most substantial deviation from Greenberg's (1963a) classification. Moreover, at least the Mande-Songhay affinity is viewed also by other scholars to be so significant that it warrants a new and more detailed assessment (cf. Creissels 1981).

The reluctance of some scholars to assign Mande to Niger-Kordofanian has obvious empirical reasons that have been known for a long time. So far, no convincing case for even remnants of relevant morphological traits in Mande can be made (cf. Vydrin 2012 for a recent overview); this also applies to the hypothesis that phonological alternations in nouns in some Mande languages might be prefixal remnants of an inherited noun class system (cf. Creissels 1979; Pozdniakov and Vydrin 1986; Vydrin 1989). With respect to the lexicon, too, Mande displays a distinctive profile that sets it apart from the Niger-Congo core. Dwyer (1998) argues that Mande does share a considerable amount of lexicon with Niger-Congo but at the same time has to concede that his comparative data, namely his own Proto-Mande, the basis of which is not presented in the study, and Mukarovsky's (1976/7) Proto-West-Nigrific, are far from providing established and sufficiently proven reconstructions. The same situation holds for a similar argument made by Vydrin (2016: 120). The limited affinity of Mande to Niger-Congo is also reflected by the absence of convincing cognates in the pronouns and numerals surveyed here in that any meaningful item occurs merely on the subgroup but not the proto-level (e. g., *naa.ni 'four' in the southwest branch; cf. also Mukarovsky 1971). Overall,

unless more robust and systematic evidence is brought forward, the long-standing but vague idea that Mande is distant from the rest of Niger-Kordofanian as one of its earliest offshoots should give way to the neutral assessment that it is a family without a proven genealogical affiliation.

U13 Dogon

Dogon languages are spoken on and around the Dogon Plateau in south-central Mali (see Map 7). This family is one of the African lineages whose image, classificatory and otherwise, has changed most dramatically in the recent past, which is mainly due to the “Dogon languages and Bangime project” initiated by J. Heath (see Moran, Forkel and Heath 2016).

For one thing, while Dogon was viewed in the past as a complex language or dialect cluster (cf., e. g., Bendor-Samuel, Olsen, and White 1989), it is now recognized as a family of more than 20 languages and many more dialects with a rather complex sub-branching (cf. Hochstetler, Durieux, and Durieux-Boon 2004; Moran and Prokić 2013; Moran, Forkel and Heath 2016). That the family is nevertheless a relatively close-knit unit is evident from Heath, Moran, and Prokhorov’s (2012) lexicostatistic chart based on the Swadesh 100-word list in that only a couple of cognacy rates across all language pairs fall below 40%.

Another radical change regarding Dogon concerns its state of documentation. For a long time, the only published and more comprehensive description was that by missionaries on Donno So (Kervran and Prost 1969, 1986; Kervran 1993). The website of the above documentation project now offers a number of extensive grammatical descriptions, two of them published (Heath 2008; McPherson 2013), as well as a large amount of other material. This great increase in the level of knowledge about the group already allows for a better assessment of its typological profile and its internal diversity, although historical-comparative reconstructions of the family are not yet available.

Equally dramatic is the change of the genealogical position of Dogon within the Niger-Kordofanian domain. While Greenberg (1963a) still lists Dogon under Gur (U15), it was given a separate status by Bendor-Samuel, Olsen, and White (1989), possibly coordinate with such families as Kru, Kwa, Benue-Congo, etc. according to Williamson (1989b: 21). Now it is considered to be a yet more peripheral Niger-Congo family (cf., e. g., Williamson and Blench 2000: 18). This marginal status seems to be due to the fact that, among other things, Dogon stands out against the Niger-Congo canon due to its quite coherent head-final word order.

Nevertheless, a number of its languages turn out to possess some of the features that are typical for Niger-Congo. For example, Najamba aka Bondum Dom and related varieties have a noun classification system with agreement on adjectives and participles that, albeit reduced, could be argued to be comparable to the Niger-Congo type (see Figure 12). This seems to be supported by the recurrent

existence of an element that may be reconstructed as a third-person (human) plural marker, *bV, that surfaces in both nouns and pronouns and resembles the common Niger-Congo form for class *2 (cf. Heath and Prokhorov 2010).

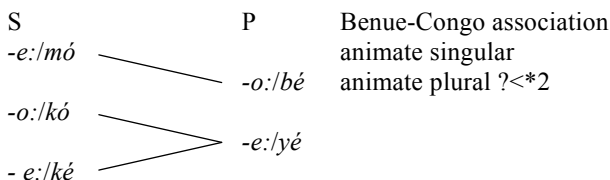


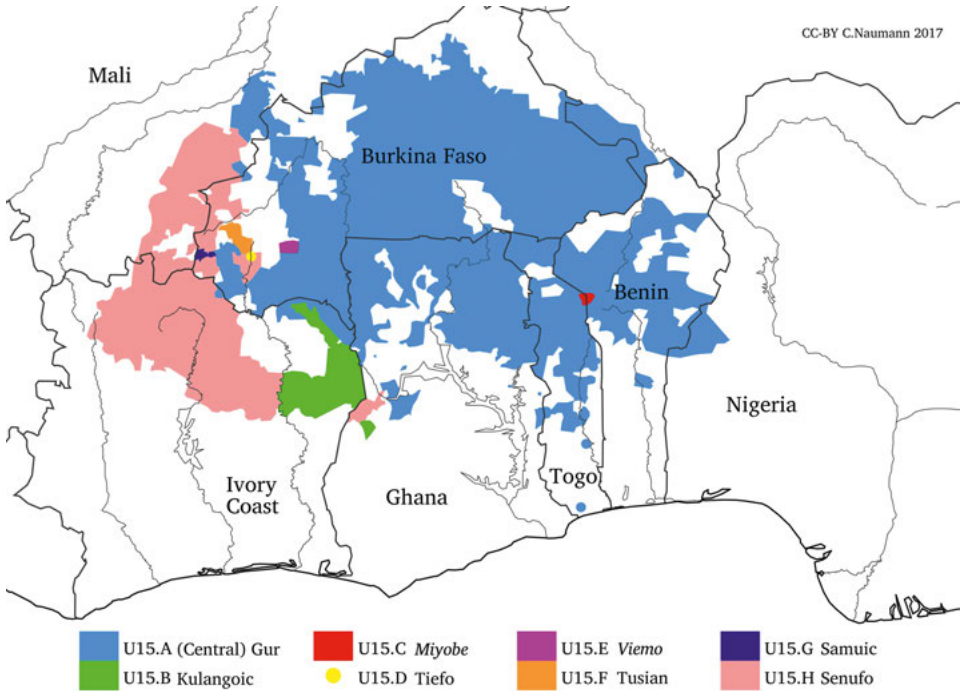
Figure 12: Gender system of Najamba aka Bondum Dom (after Heath 2015)

The full numeral paradigm surveyed here, the first- and second-person singular pronouns, and potentially also the words for ‘person’ and ‘tongue’ all appear to support a Niger-Congo affiliation. Overall, the genealogical status of Dogon is nevertheless an open question and awaits a serious comparison of Proto-Dogon with what can be assumed to be relevant for early Niger-Congo.

U14 Bangime

Practically unknown at Greenberg’s (1963a) time, Bangime is an isolated minority language spoken by a few thousand people in the northwestern part of the Dogon-dominated Plateau (see Map 7). It is surrounded by such distinct and diverse languages as Tiranige (Dogon), Bozo (Mande), and Fula (Atlantic). Although the ethnic group identifies unilaterally with the Dogon, anthropologists recognized its distinctness early on. The language was nevertheless subsumed under Dogon, mainly due to the lack of any substantial linguistic documentation. In the wake of the “Dogon languages and Bangime project”, the language received more attention in the recent past, culminating in a first extensive description by Hantgan (2013).

The available data have made it clear that Bangime cannot be shown convincingly to be a part of Dogon or any other family (see Blench 2010a; Hantgan 2010). Accordingly, it is now listed even by the Ethnologue as an isolate, the only one in Africa except for the questionable Jalaa. Its typological profile can be distinguished from all neighboring lineages like Dogon, Mande, and Atlantic but falls within the general range found across the Niger-Kordofanian domain. The lack of any diagnostic morphological traces is not a strong criterion for its classification either way. Its lower numerals for ‘three’, ‘four’, and ‘five’ as well as the first-person singular pronoun can be argued to present evidence in favor of its membership in Niger-Kordofanian. The question of its genealogical classification is also complicated by the suggestion made by Hantgan (2013) that the language is at least partly a secret language with a potentially mixed origin, although this idea still awaits a full exposition and justification.



Map 8: Geographical location of GUR (U15)

U15 GUR

The approximately 100 languages traditionally subsumed under Gur and spoken in a compact area south of the bend of the Niger River (see Map 8) form another genealogical pool within Niger-Congo (see Bendor-Samuel 1971 and Naden 1989 for surveys of the group). Earlier alternative labels for the group are “Mossi” (cf. Westermann 1913) and still today within the important French research tradition “Voltaïque”. The development of its internal classification is reproduced in Table 37.

The necessity to present Gur as a genealogical pool has already been aptly expressed by Naden (1989: 143) for the group itself (but see also below on external relationships):

The ... languages [outside Central Gur] ..., especially Senufo, may well be no more closely related to Central Gur than to Guang or Togo Remnant [= Ghana-Togo Mountain], or than these to Central Gur or Volta-Comoe [= Potou-Akanic]. Classificatory studies at a level between these lower-level groupings and the level of Volta-Congo [= Niger-Congo in the present use] are presently in flux.

Table 37: The history of subclassification of Gur

Greenberg (1963a: 8)	Naden (1989: 144–151)	Miehe, Reineke, and Winkelmann (2012: 725–727)
g. Gurma, ...	Central: Oti-Volta	Central: North
d. Mossi, ...		
c. Grusi	Central: Grusi	Central: South, including now
e. Tem, ...		
f. Bargu (Bariba)	? Bargu	Baatɔnum
b. Lobi-Dogon	? Lobi	Lobiri-Jaane
	? Logon	? Kulangoic
	? Kulango	
	Dogon > section U13	–
	??? Wara-Natioro	??? Samuic
unknown	??? Tyefo	??? Tiefɔ
unknown	??? Viemo	??? <i>Viemo</i>
unknown	??? Win	??? Tusian
unknown	??? Kuyobe	??? <i>Miyobe</i>
a. Senufo	??? Senufo	??? Senufo

Note: ??? uncertain status vis-à-vis Central Gur

Since Naden's study, tremendous progress has been made in the documentation, description, and historical comparison of the languages, and the genealogical assessment of some members has certainly become clearer. However, the situation has not changed in principle, as is apparent from the most recent classification found in Miehe, Reineke, and Winkelmann (2012: 725–727) as well as from the persistent lack of Gur reconstructions based on all languages conventionally subsumed under it.

Despite such problems, Gur is one of the language groups in Africa that has been studied most intensively in the framework of historical-comparative methodology. This is primarily to the credit of Manessy (cf., e. g., 1969, 1975, 1979, 1982; see the succinct summary of his extensive Gur oeuvre by Miehe 1997a), because he insisted, among other things, on bottom-up reconstruction based in particular on morphological features – this in a period of elation for lexicostatistics during the 1960s and 1970s. His research agenda was taken up by a major German research initiative starting in the 1990s, resulting in, among other things, such comparative works as Miehe (1997b, 2001, 2004, 2006); Miehe and Winkelmann

(eds., 2007); and Mieke, Reineke, and Winkelmann (eds., 2012). The results of this research make it clear that virtually all Gur languages possess typical Niger-Congo systems for noun classification, well beyond the three proto-classes surveyed here (cf. Mieke's [1997a: 15–16] synopsis of Manessy's reconstructions), which alone is sufficient evidence for their membership in the higher-order lineage.

The linguistic history of peoples speaking Gur languages was also addressed by means of other approaches. These include lexicostatistics – one of the first foci by Swadesh himself (see Swadesh and Arana 1966); the study of cultural vocabulary and nonlinguistic information like migration traditions (see Köhler 1958; Manessy 1977; Beyer 1998); and research on different patterns of language contact, for example, with Mande in the (north)west (e. g., Beyer and Schreiber 2013; Schreiber 2014) and with Benue-Kwa in the south(east) (e. g., Kleinewillinghöfer 2000, 2002).

In addition to the uncertainties about the connections between the various Gur subgroups, another crucial observation was made regarding external genealogical relations. Especially on account of the important Niger-Congo diagnostic of gender marking, Kleinewillinghöfer (1996b) argues that at least the Tula-Waja family (U16.A) within the Adamawa pool shows striking affinities with the core group of Gur, warranting the suggestion of a close genealogical link between the two. This proposal has been well received by other specialists to the extent that the connection became the focus of the workshop titled “Adamawa-Gur Sprachen im Brennpunkt afrikanistischer Forschung [Adamawa-Gur languages in the focus of African studies]” held in 2016 at the University of Hamburg (see <http://www.aai.uni-hamburg.de/afrika/adamawa-gur/>). Nevertheless, the uncertain constituency of the Gur family itself and of other Niger-Congo lineages implies that it is too early to conclusively evaluate the historical implications of such a link.

U15.A (Central) Gur

The core of the genealogical pool, containing around 70 languages, has come to be called “Central” but for the time being may be better conceived of as Gur proper to which other questionable groups still have to be related in a more conclusive manner. The family was proposed by Manessy (1979) by joining lineages previously established by him into a single larger unit; these were Gurunsi (see Manessy 1969), Oti-Volta (see Manessy 1975; cf. also Beyer 1998 and Sambieni 2005), Koromfe, and implicitly Cerma-Curama (see Manessy 1978). The proposal is based on regular sound correspondences, comparative verbal and nominal morphology, and close to 100 lexical reconstructions. One particular focus is the comparison and reconstruction of the gender system (which in some modern languages is only retained in the nominal declension system). He also used this trait later for adding other groups like Lobiri-Jaane, Gan-Dogose, Bwamu, and Bariba (see Manessy 1982, 1983, 1993). The inspection of the reconstructed gender systems as well as diagnostic lexical proto-forms leave no doubt about the Niger-Congo

membership of this group but, as indicated above, the exact affiliations within it remain open.

U15.B Kulangoic

Less than a handful of closely related languages spoken close to and partly across the northeastern border of Ivory Coast are subsumed under a family named here after its major member, Kulango. There are a number of descriptive studies concerning languages of the small family, the most significant one being the full grammar on Kulango of Bouna by Elders (2008). The comparative Kulangoic research that the same author had been preparing has not been completed due to his untimely death. His (2007b) brief comparative notes on the canonical gender system remain as indeterminate as the central conclusion in the classificatory overview by Manessy (1982: 128–138), who states that the Kulangoic languages “appartiennent à la famille voltaïque, mais qu’ils sont issues d’un autre rameau que les langues proto-centrales” [belong to the Gur family, but derive from another branch than the languages of Proto-Central]. That is, the peripheral position of the group vis-à-vis the core of Gur entails a general Niger-Congo affiliation but at the same time the possibility that its closest relative(s) may still be found outside this genealogical pool.

U15.C Miyobe

Miyobe (also known under the exonym Sol(l)a) is a single language spoken on the northern stretch of the border between Togo and Benin. Its exact classification remains controversial, because Naden (1989: 150, fn. 13) has questioned Manessy’s assumption that it belongs to Oti-Volta. The documentation of the language has improved in the meantime, notably through the works of Rongier (1996) and Pali (2011); unfortunately, however, neither one uses their data to address the genealogical status of Miyobe vis-à-vis Gur and beyond. A superficial inspection of its gender system, as described by the above sources, displaying agreement and, as opposed to the Gur canon, *prefixal* noun declension, leaves no doubt that Miyobe is a Niger-Congo language. Its exact position remains to be determined, though – a conclusion also arising from its generic forms for the pronouns and lower numerals recorded here.

U15.D Tiefó

Tiefó (aka Cɛfɔ) is the first of four language units that are spoken by little-known minority groups in the southwest of Burkina Faso, and sometimes beyond its borders, and have not yet been related conclusively to the rest of Gur or any other Niger-Congo group. The group comprises two languages threatened by shift to the

vehicular Mande language Jula, namely the moribund Tiefö of Daramandugu documented by Winkelmann (1998, 2001, 2007a) and the highly endangered Tiefö of Numudara~Niafögo described recently by Heath, Ouattara, and Hantgan (2017). Manessy (1982: 143–145) provides a short comparative discussion of Tiefö and, based on very restricted data, assigns it to Gur. In a similar fashion, Winkelmann (2001, 2007a) attempts to reconstruct an earlier noun classification system of the Niger-Congo type for the Daramandugu variety whereby all “nominal endings, plural morphemes, pronouns and dialectal variations were taken into consideration, under the assumption that these elements are remnants of the same [Gur gender] system” (2007a: 492). Her results are far from unequivocal, because both suffixal noun morphology and agreement marking of the language may but need not be (partly) cognate with the assumed proto-paradigm. Yet another situation holds in the Niafögo variety described by Heath, Ouattara, and Hantgan (2017) in which the small set of article-like vowel prefixes is the central part of relevant noun morphology. An equivocal picture also emerges from the limited data inspected here in that only a couple of elements, namely for second-person singular and ‘three’, could go back to early Niger-Congo forms. A genealogical relationship of Tiefö to Gur, or more generally Niger-Congo, is certainly possible but so far poorly supported; its conclusive establishment requires a dedicated comparative investigation based on all available relevant data.

U15.E Viemo

The Viemo language is the second of the relevant isolated entities. Published data are available in Prost’s (1979) grammar sketch and Winkelmann’s (2007c) description of the gender system. Manessy’s (1982: 138–143) comparative assessment parallels that for other similarly unclassified Gur units, namely that “il s’agit d’une langue dont l’appartenance à l’ensemble voltaïque ne fait, du point de vue typologique, aucun doute, mais dont la parenté généalogique avec les autres composantes de cet ensemble est difficile à établir” [it is a language whose affiliation to Gur is beyond doubt from a *typological* perspective but whose *genealogical* relation to the other components of this group is difficult to establish, emphasis mine] (Manessy 1982: 138). Since Gur as a whole is “typologically” not easy to distinguish from other geographically close Niger-Congo languages with functioning noun classification systems, for example, of the Ghana-Togo Mountain and Guang groups, his specific genealogical characterization is equivocal. Winkelmann’s (2007c) more extensive discussion of the gender system also does not go beyond identifying a canonical Niger-Congo system. A similar conclusion has to be drawn here from the pronoun and numeral data, which show some likely Niger-Congo cognates but do not clearly point to a particular affinity with the Gur core.

U15.F Tusian

The third isolated Gur unit in southwestern Burkina Faso is Tusian, comprising the two languages Win (aka South Tusian) and Tir (aka North Tusian); Prost (1964: 249–342) and Winkelmann (2007d) deal with the former and Zaugg-Coretti (2005) with the latter. Both Tusian languages have a complex system of suffixal number declension on nouns, similar to many other Niger-Congo languages, but a restricted agreement system revolving around humanness~animacy. Some pronouns and lower numerals correspond to forms assumed for Proto-Niger-Congo. All these features point to a generic membership in the larger family, while other more concrete proposals like a Gur or even specific Senufo affiliation have not been made in an empirically sound fashion.

U15.G Samuic

The last linguistic unit in southwestern Burkina Faso with an unclear relation to the core of Gur is Samuic, consisting of three poorly known languages. The main data sources are Prost (1968) and the four relevant contributions in Mieke and Winkelmann (eds., 2007: 512–565) dealing with the gender system of each language and their comparison. According to Winkelmann's (2007b) overview article, the noun classification systems are reduced in having fewer and less regular noun declensions and agreement restricted to human vs. non-human. These data as well as the pronouns and numerals assembled here suffice to recognize the Niger-Congo membership of the family but not to determine its more precise position with respect to canonical Gur or any other group in the larger unit.

U15.H Senufo

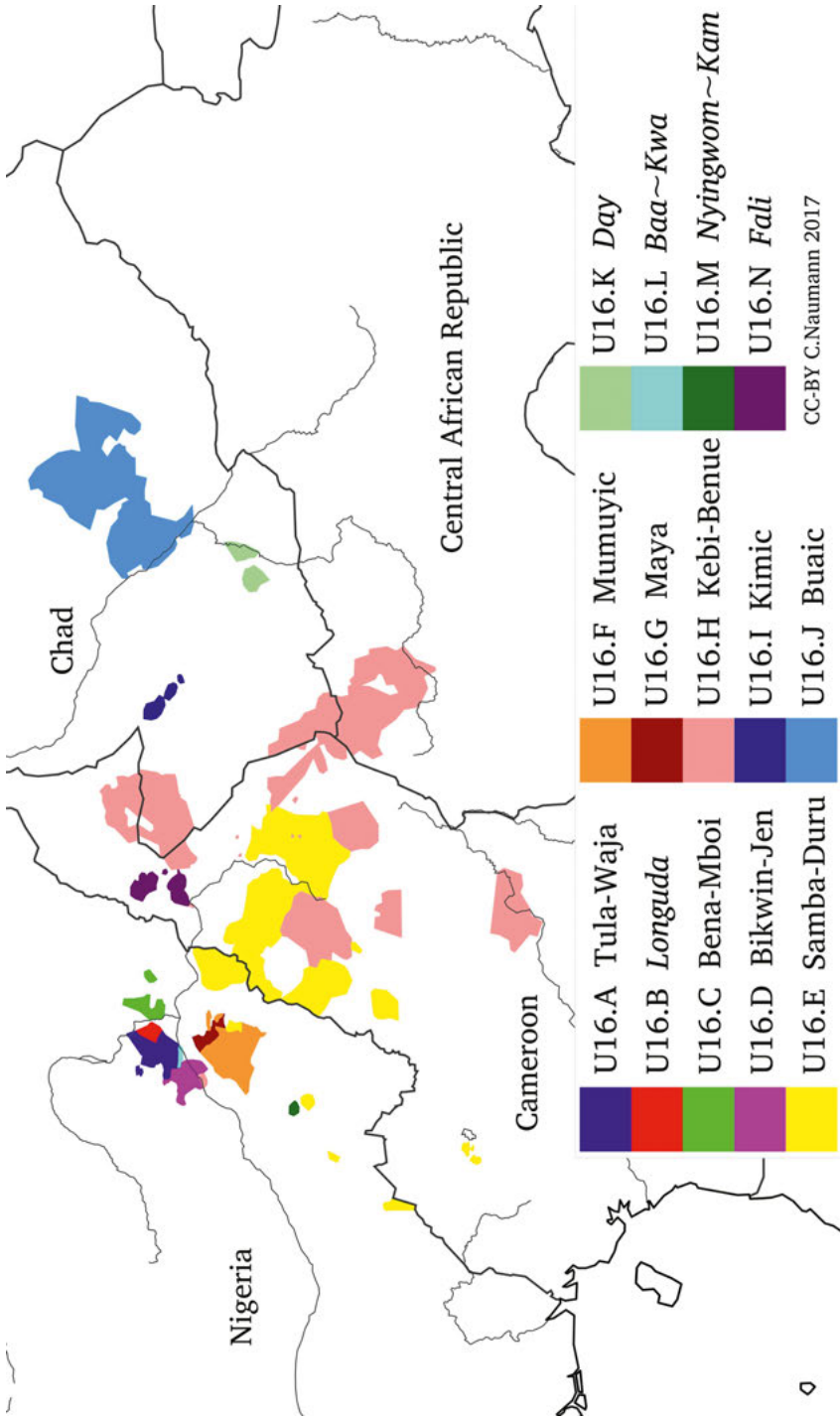
The Senufo group consists of more than a dozen languages distributed in southern Mali, southwestern Burkina Faso, northeastern Ivory Coast, and western Ghana (see the survey by Carlson 1997). It has long been recognized as having a distinct character setting it off from the rest of Gur. One of its common denominators is its consistent S-AUX-O-V-X word order and other head-final features, which, in view of the group's westernmost distribution, may reflect its increased contact interaction with other such lineages, notably Mande. Efforts to reconstruct Proto-Senufo go back again to Manessy (1994, 1996a, 1996b, 1996c, 1996d) who dealt primarily with phonology and morphology. No substantial list of lexical proto-forms is available so far. The indeterminate relation to Gur aside, there is no doubt that Senufo is a typical Niger-Congo lineage of its geographical area. This is particularly clear from its gender system with suffixal noun declension and full agreement (cf. the summary by Mieke 2007) but also supported by other traits, for example, lexical elements like the singular speech-act participant pronouns and the numeral 'three'.

U16 ADAMAWA

Adamawa is a highly diverse genealogical pool of Niger-Congo in its northeastern periphery (see Map 9). While joined by Greenberg (1963a) specifically with Ubangi (then called Eastern), this larger unit was recurrently questioned or even abandoned (cf., e. g., Köhler 1975; Bennett 1983; Kleinwillinghöfer 1996b, 2014a), so that Adamawa is treated here on its own.

Table 38: The history of subclassification of Adamawa

Greenberg (1963a: 9)	Bennett (1983)	Boyd (1989a)	Present name (subgroup source)
4 Vere, ...	Chamba-Namshi	Duru	Duli-Gey (see section 2.3.3)
2 Chamba, ...		Leko	Samba-Duru (Kleinwillinghöfer 2015c)
5 Mumuye, ...		Mumuye-	Mumuyic (Shimizu 1979)
		Yendang	Maya (Kato, Yoder, and Blench n.d.)
12 Nimbari	–	Nimbari	<i>Nimbari</i> (see section 2.3.3)
6 Dama, ...	Mangbei-Mbum	Mbum	Kebi-Benue (Boyd 1974; Elders 2006)
14 Masa	–	Kim	Kimic
unknown	unknown	Day	<i>Day</i> (Nougayrol 1979)
13 Bua, ...	Boa-Kula	Bua	Buaic (Boyeldieu 1988)
1 Tula, ...	Tula-	Waja	Tula-Waja (Kleinwillinghöfer 1996a)
10 Longuda	Longuda	Longuda	<i>Longuda</i> (Kleinwillinghöfer 1996a)
7 Yungur, ...	Yungur	Yungur	Bena-Mboi (Kleinwillinghöfer 1996a)
unknown	Burak-	Burak	Bikwin-Jen (Kleinwillinghöfer 1996a)
9 Jen, ...	Jen	Jen	
unknown	unknown	Kwa	<i>Baa</i> (Kleinwillinghöfer 1996a)
8 Kam	–	Kam	<i>Nyingwom</i> (Kleinwillinghöfer 2015b)
11 Fali	Fali	Fali	<i>Fali</i> (Sweetman 1981)
3 Daka, ...	Daka > section U7	–	–



Map 9: Geographical location of ADAMAWA (U16)

Table 38 contains the major classificatory developments of the Adamawa pool and important sources that are related to individual subgroups and contain crucial information for comparative purposes and/or introduce new terminology, which for many units is still in flux. Apart from amending group names according to the principles laid out in section 2.3.2, the table largely reflects the current approach by Kleinewillinghöfer, who has been the most versatile scholar on Adamawa languages since the 1990s.

According to this author, the evidence for an Adamawa lineage as well as for the various subgroups is meager and unconvincing; for non-specialists, the proposals are in fact impossible to understand and evaluate. While Bennett's (1983) subgrouping is based on very fragmentary lexicostatistics, Boyd's (1989a) scheme is based on the mere inspection of word lists and simply posited without referring to any concrete supporting data.

The picture becomes even more intransparent when considering Boyd (1974), the only early historical-comparative treatment within the Adamawa domain, which, one would think, would have informed partially the classificatory scheme(s) of Table 38. This study predominantly deals with comparative word lists from three more obvious Adamawa units: Kebi-Benue (twelve varieties), Samba-Duru (three varieties of the Duru group), and Mumuyic (one variety). It is not this relatively limited coverage of the Adamawa domain but rather the methodological treatment of the data that makes the study and its results difficult to interpret if not unusable. Besides the fact that the languages of the three groups are interspersed in the tabulation, the nature of the two particular sets of approximately 200 lexical reconstructions is simply counterintuitive. The first set (line "lc" for "Lakka") is confined to the Kebi-Benue family but seems to exclude the available data for Mbum and Mundang from the same group and would thus not represent an informative proto-language that is useful, for example, for any higher-order comparison. The second set (line "L₂") contains reconstructions of a far more abstract lineage – one that crosses the boundary between two of the three Adamawa "cores" invoked by Boyd (1989a). Although this lineage would comprise more than half a dozen of Greenberg's units, Boyd tries to derive its proto-language by comparing only Proto-Lakka and a single Duru variety. For Boyd's (1989a) scheme to be on the right track, his (1974) data would first make it necessary to establish one set of reconstructions based on all Kebi-Benue varieties and a second set based on the single Mumuyic and all three Duru varieties; only then would one investigate the higher-order unit the L₂ set is intended to represent. If Boyd's Proto-Lakka is already questionable, his second set is of hardly any use, including all of his quite detailed comparative remarks regarding sound changes, etc.

The failure to proceed according to canonical methodology is also evident in Boyd (1989b), another historically intended study dealing with numerals across Adamawa. The author assembles a large amount of data from virtually all groups given in Table 38 and entertains partly intriguing hypotheses on the possible

makeup and history of numeral roots. However, instead of attempting to reconstruct from the bottom up within each group, he tries to derive the majority of the immensely different Adamawa numerals from preconceived forms of such Adamawa-external units as Cross River and Plateau. At the same time, he does not give plausible reasons why these in particular should serve as an orientation for the historical-comparative evaluation of Adamawa nor does he justify why any unitary reconstructions should be expected for this group in the first place. Serious questions about how he represents and analyzes his data arise already for smaller units. For example, regarding the first of his purported Adamawa-internal groups, labeled A (comprising, according to the present terminology, Samba-Duru, Mumuyic, and Maya, extended further by *Nyingwom*), Boyd (1989b: 149) writes: “The roots for numerals in these languages are clearly related; furthermore, lexical similarities are equally apparent in the rest of their vocabularies ... All thus appear by simple inspection to be members of a single larger unit”. His relevant discussion for this group (Boyd 1989b: 158–164) shows, however, that for numerals alone the etymological coherence regarding ‘two’, ‘three’, and ‘four’ contrasts with a considerable diversity across the rest of the numeral paradigm.¹⁷ The three arguably shared forms are, however, so widespread in Niger-Congo, that they cannot be diagnostic for his Adamawa A. Given the data in Table 39, one would have to ask why, according to such a criterion, an Ubangi family like Gbayaic does not also qualify as a member of this group.

Table 39: Lower numerals across Boyd’s “Adamawa A” and in Gbayaic

No.	Unit	‘two’	‘three’	‘four’
U16.E	Samba-Duru (minus Samba)	*-i.tV	*taa.r	*naa.r
U16.F	Mumuyic	*zi.ti	*taa.ti	*(d)nee.ti
U16.G	Maya	?	*taa.t	*naa.t
U16.M	<i>Nyingwom~Kam</i>	<i>yi.r.aak</i>	<i>cà.r</i>	<i>ná.r</i>
U17.A	Gbayaic	*líí.tò	*tà.r(à)	*ná.r(á)

Overall, the most reliable result of comparative Adamawa research after Greenberg is the simple recognition that his original constituency and identification of 14 subgroups needs to be thoroughly revised. Moreover, the later attempts of

¹⁷ That the hard-to-classify Duli-Gey is not even close to the rest of the purported group in the lower numerals, at least some of them apparently being Chadic loans (Boyd 1989b: 163–164), might be viewed as a minor problem, given that a dedicated inspection of the material on these extinct languages by Kleinwillinghöfer (2014b) contradicts Boyd’s assumed classification.

subclassification are empirically weak if not entirely unsubstantiated and vague. While the first part of Boyd's (1988b: 236) following statement may no longer apply, its second part has not lost anything of its relevance after more than 25 years of additional research: "Les possibilités de comparaison au niveau général dans la sous-branche Adamawa (sans compter encore avec les langues oubangiennes) sont si limitées qu'on voit plus d'intérêt actuellement à concentrer les efforts de reconstruction sur des groupes individuels ou sur les sous-ensembles principaux" [The possibilities for comparison on a general level in the Adamawa subbranch (even without including the Ubangi languages) are so limited that it currently appears to be of greater interest to concentrate efforts toward reconstruction on individual groups or the principal subgroups].

The relationship of Adamawa, or better its more secure subgroups vis-à-vis Niger-Congo, is partly less problematic but also far from resolved. Greenberg (1963a: 10–12) provided promising grammatical evidence in some groups in the form of a) noun class affixes or b) remnants thereof (e. g., number marking) that correlate with assumed Proto-Niger-Congo forms. However, this has only been shown to hold for a minority of groups, namely Tula-Waja, Longuda, Bena-Mboi, and Samba-Duru for evidence of type a), and Buaic, Kebi-Benue, and Maya for type b) (cf. Jungraithmayr 1968/69; Kleinwillinghöfer 1992, 1993, 1996a, 1996b, 2011c, 2012a, 2012b, 2014a; Boyeldieu 1980a, 1986, 2012; and Elders 2006 for more details). The Niger-Congo membership of all other Adamawa groups rests on lexical affinities and/or their assumed relationship to any of the first-mentioned groups.

Importantly, the data concerning (earlier) noun classification do not strengthen the tacit assumption about the coherence of Adamawa; rather, they weaken it. Boyeldieu (1980a: 50) still remains inconclusive regarding the problem of whether the comparable features between Niellim from Buaic and Tula from Tula-Waja are common to Niger-Congo as a whole or help to define an entity like Adamawa. Kleinwillinghöfer's (1996b, 2010) hypothesis of relating at least Tula-Waja to Gur rather than to other Adamawa groups practically implies the abandonment of the traditional Adamawa unity.

U16.A Tula-Waja

The Tula-Waja family just mentioned consists of eight languages in northeast Nigeria that are relatively heterogeneous. It has been surveyed most recently by Kleinwillinghöfer (1996a, 1996b, 2012c), providing primarily lexical data based on comparative Swadesh lists and a more detailed discussion of the noun class system of some languages.

The family is remarkable from a lexical perspective in that it is unexpectedly diverse, as opposed to its otherwise more homogeneous profile. The considerable lexical replacement, which has particularly affected nouns, including relatively

stable vocabulary, is explained convincingly by the existence of linguistic taboo practices (Kleinewillinghöfer 1995) as well as intense borrowing from neighboring languages that are only remotely related (Jukunoid) or entirely unrelated (Chadic, Saharan, and the arguably isolated extinct substrate Centúúm~Jalaa) (Kleinewillinghöfer 1995, 2001, 2012c). The intimate contact relationship with Chadic languages even motivated Greenberg (1950a: 53) to join the group with his Afroasiatic family.

The Niger-Congo affiliation of Tula-Waja is fully supported by canonical typological traits, notably suffixal verb derivation and noun classification, as well as expected forms for ‘person’, ‘tongue’, ‘three’, ‘four’, ‘five’, and pronouns for first- and second-person singular. The profile of the attested gender systems makes the relationship uncontroversial. This can be seen in the gender system of Waja as described by Kleinewillinghöfer (1990b: 110–164): even if the wide range of etymological associations by the author may not hold up entirely, the evidence for cognate forms goes beyond the standard classes *1, *2, and *6A.

As mentioned above, Kleinewillinghöfer (1996b) argues that the noun classification systems of Tula-Waja languages in fact display such striking similarities with those of certain Gur languages that the two units must be more closely related. This view, which takes up ideas put forth by Jungraithmayr (1968/69) and has also been suggested by the lexicostatistical studies by Bennett and Sterk (1977: 249) and Bennett (1983: 36–37), has been favorably received by other scholars. This represents the first case where a promising link is established across Greenberg’s Niger-Kordofanian groups beyond simply merging them. Since his groups appear to have been motivated by geographical rather than robust genealogical criteria, such a finding should be expected, though. This motivates the general approach assumed here, viz. treating the larger groups that lack convincing historical-comparative evidence, among them Adamawa, as pools rather than true families.

U16.B Longuda

Longuda is a dialect cluster in northeast Nigeria spoken east of the Tula-Waja family. The information provided by Kleinewillinghöfer (1996a, 2014c) attests to the fact that the historical-comparative profile of this lineage is in several respects similar to that of its western neighbor. Even the cultural background of lexical tabooing applies to it and accounts for a considerable lexical diversity between dialects (Kleinewillinghöfer 1995).

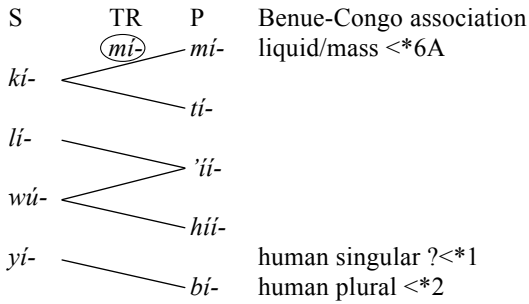


Figure 13: Gender system of Longuda (after Jungraithmayr 1968/69: 175–177)

Figure 13 gives the core of the gender system of the Gwaanda dialect as far as it can be extracted from Jungraithmayr (1968/69), including plausible etymological associations with Niger-Congo classes. The system is exemplified by the agreement classes as reflected in the relevant demonstrative prefixes, which, except for one class, only give good evidence for a thematic consonant; agreement classes and noun form classes fully correlate in the limited data of this source. A look at B. Newman (1978) also reveals the second typical Niger-Congo trait, viz. a fully functional system of derivational verb suffixes (cf. section 2.5.2.1.2.).

The similarity of Longuda to Tula-Waja with respect to its Niger-Congo affiliation is also reflected in the other features surveyed here: it has plausible cognates for ‘person’, ‘tongue’, ‘three’, ‘four’, ‘five’, and the second-person singular pronoun.

U16.C Bena-Mboi

Bena-Mboi (= Bena-Mboi) is the name proposed by Kleinewillinghöfer (1996a, 2011c) for the former Yungur group comprising seven languages spoken in north-east Nigeria, yet further east of Tula-Waja and Longuda. Apart from the lexical and noun classification data provided by Kleinewillinghöfer (1992, 1993, 2011c) very little is known about these languages.

However, the genealogical relation of the family to Niger-Congo can be argued for convincingly on account of its gender systems as documented by Kleinewillinghöfer (1992, 1993) and more recently by Van de Velde and Idiatov (2015). There are various promising affinities beyond the proto-classes *2 and *6A. Moreover, diagnostic lexical items as for ‘three’, ‘five’, ‘tongue’, and possibly even ‘person’ support this view. This picture contrasts, however, with the fact that the pronoun systems in Bena-Mboi do not show a single convincing match with common Niger-Congo forms.

U16.D Bikwin-Jen

According to Kleinewillinghöfer (1996a, 2015a), six languages of the Bikwin group and three languages of the Jen group form the Bikwin-Jen family in north-east Nigeria, located immediately south of the Tula-Waja family. Apart from some grammatical information in Jungraithmayr (1968/69) on the Bikwin language Burak, Kleinewillinghöfer's studies provide the bulk of the available information, which is essentially lexical but spans the entire group. The evidence he (1996a: 95–97) gives for joining Bikwin and Jen into one family is quite meager and is also far from obvious from inspecting Kleinewillinghöfer's (2015a) full lexical tables. It is thus possible that Bikwin and Jen may be separate within the Adamawa pool.

While none of the languages possess a functional system of noun classification, there is no indication, especially in Jungraithmayr's Burak data, that their typological profile diverges otherwise from the Niger-Congo mainstream. Since the status of Bikwin-Jen as a family is equivocal, no pseudo-reconstructions are provided here in the relevant tables; the reader is referred instead to Kleinewillinghöfer (2015a). However, positive evidence for a generic relationship to Niger-Congo can be identified in both Bikwin and Jen regarding the diagnostic items surveyed here, namely in likely cognates for the first- and second-person pronouns, the numerals 'three', 'four', and 'five', and 'tongue', although all these do not obviously point to unitary Bikwin-Jen reconstructions.

U16.E Samba-Duru

According to Kleinewillinghöfer (2015c), around 20 languages around and east of the northern border region of Nigeria and Cameroon can be classified as members of Samba-Duru, which joins two separate groups of Greenberg (1963a). However, the genealogical unity of all the languages is difficult to assess, because the comparative data like Boyd (1974) on the Duru group and Kleinewillinghöfer (2011a, 2012b, 2015c) mostly on the Vere, Gimme, and Doyayo groups are incomplete in not including in particular the crucial Samba unit.

The membership of Samba-Duru languages within Niger-Congo appears to be more robust, because clear links arise from an inspection of basic typological properties, diagnostic lexical items (cf. the forms for first- and second-person singular, 'three', 'four', and 'five'; and possibly for 'tongue' and second-person plural), and the existence and concrete formal profile of the attested gender systems.

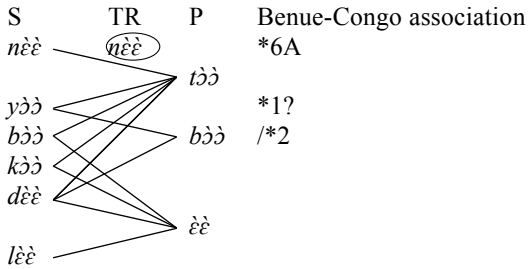


Figure 14: Gender system of Longto (after Kleinewillinghöfer 2012a)

Figure 14 gives the heavily crossed gender system of the Duru language Longto, which is established by eight agreement classes, represented above by the absolute pronouns (the short introduction of the source does not state whether some of the 11 class pairs are inoperative rather than productive genders). According to Kleinewillinghöfer (2012b, 2014a), the data on noun classification across Samba-Duru even suggests, similar to the Tula-Waja family, a relationship to the Gur pool.

U16.F Mumuyic

Mumuye is the demographically biggest language in the entire Adamawa pool and also provides the label for a small family of half a dozen languages spoken in northeastern Nigeria south of the Benue River. Shimizu (1979) is one of the rare cases in Adamawa research of a detailed dialectological and historical-comparative study of a number of varieties of Mumuye proper and two close languages, Pangseng and Rang, including a good number of lexical reconstructions.

The typological profile of the family conforms to the Niger-Congo mainstream except that a noun classification system does not exist. Shimizu (1979: 29–32) reconstructs a couple of verb extensions (including causative *-se), and on the basis of phonotactic arguments also nominal suffixes, which, however, do not show any obvious link to old Niger-Congo class markers. The reconstructed pronoun paradigm for first- and second-person singular and plural as well as ‘three’ and ‘four’, possibly even ‘tongue’, also support a Niger-Congo membership.

U16.G Maya

Yendang is not a single language but in fact a small family of a handful of languages formerly labeled after its major member but called here Maya following Kato, Yoder and Blench (n.d., see below). It is located immediately north of Mumuyic and in the past has been aligned with it genealogically. Since there is no demonstration of this assumed relationship, it is dealt with here separately.

Kato, Yoder and Blench (n.d.) present the most recent and extensive data, comprising comparative worldlists of a little under 400 items from four varieties, and propose Maya as the new group name. This is taken over here, because it seems more suitable than a term like Yendang(ic), which is oriented toward a single variety. A superficial inspection of these vocabularies makes the coherence of the group plausible. The scarcity of any relevant comments about clear etymological links also seems to justify the current treatment of Maya as independent from Mumuyic. Finally, the full pronoun paradigm for first- and second-person singular and plural as well as for the numerals for ‘three’, ‘four’, and ‘five’ can be related to the canonical Niger-Congo forms. This makes a general affiliation of Maya to this larger lineage very likely, even if the most diagnostic morphological evidence of noun classification is not attested.

U16.H Kebi-Benue

The name Kebi-Benue, originally coined by Mouchet (1938) and taken up in Elders’s (2006) survey article, is used here for the family referred to in the past as Mbum or Lakka. It comprises more than a dozen languages spoken in Cameroon, Chad, and the Central African Republic – among them some of the demographically largest languages in the Adamawa pool.

Since Boyd’s (1974) historical-comparative treatment of his “Lakka” deals only with parts of the family, Elders (2006) can be viewed as the first more comprehensive historically oriented survey. One of its major aims is to lay the methodological groundwork for a systematic reconstruction with a particular focus on diagnostic morphology. Without already attempting any grammatical proto-forms, he (2006: 74–75, 65–72) argues that the ancestral language is likely to have possessed suffix systems for both verbal derivation and noun classification.

Noun class agreement is absent today so that there is no gender system and, like in some other Niger-Congo groups, the inherited noun class suffixes have been regularized toward thematic consonants without any vowel distinctions. However, the set of reconstructable forms contains a good match with at least the proto-class *6A. At the same time, Anonby (2005) and Elders (2006) argue convincingly that the inventory of modern nominal affixes is far more extensive and that many of them are of a different and much more recent origin and must not be mistaken for reflexes of ancient Niger-Congo morphology. This caveat applies to some of the etymological associations made by Greenberg (1963a) and other authors within the traditional classification framework.

The morphologically based hypothesis that Kebi-Benue belongs generically to Niger-Congo is supported by the lexical items surveyed here: ‘tongue’, ‘three’, ‘four’ and the full pronoun paradigm, and possibly even ‘person’, match the expected canon.

U16.I Kimic

The group traditionally called Kim, after its major member, subsumes three minority languages spoken in southwestern Chad; one language, Goundo, is already moribund (Roberts 2009). Research on this family, which is renamed here Kimic, is quite limited and lacks a comparative treatment across all its members.

Before this background, it comes as no surprise that the genealogical classification of the languages has been problematic. Greenberg (1949a: 89, 92) treated Kim, a larger dialect cluster that was called Masa for a long time, as an isolated unit within Adamawa. In Tucker and Bryan (1956: 43–45) the group was misclassified as being related to Chadic languages, due to the polysemy of the then current ethnonym. Hoffmann (1972) rectified this error and reestablished Greenberg's position. Caprile (1972) aside, who listed Kimic languages together with the Kébi-Bénue group, this has been the dominant approach ever since.

The general morphosyntactic profile of Kimic languages, which is adumbrated in Mouchet (1954), Iberg (1990), and Roberts (2009), is compatible with a Niger-Congo affiliation, although the more diagnostic traits of verb extensions and noun classes are not attested. The very limited lexical data give somewhat more positive evidence for the Niger-Congo hypothesis in that the tentative generalizations for the first- and second-person singular pronouns as well as the Kim numerals for 'three', 'four', and 'five' match the expected forms.

U16.J Buaic

Another Adamawa group of around ten languages, which are spoken exclusively in southern Chad, is the Buaic family (cf. Boyeldieu 1988 for a brief overview). Although the family has not yet been documented completely and the diagnostic lexical items of present interest could not be surveyed for lack of sufficient data, first studies with a comparative focus already exist (cf. Boyeldieu 1988, 2012) and support a generic Niger-Congo membership.

Although Buaic languages do not possess functioning systems for verb derivation and gender, there are salient morphological phenomena that can count as remnants thereof. Number-sensitive suffix alternations on nouns are especially complex and are fruitfully analyzed by Boyeldieu (1980a, 1986, 1988) as reflexes of an earlier canonical Niger-Congo class system allowing one to make even a couple of potential etymological connections. Boyeldieu (1980a) entertains in fact a more specific relation of the Buaic system with that in the Tula-Waja family. If accepting Kleinewillinghöfer's (1996b) proposed link between Tula-Waja and Gur, such an additional connection would have yet wider historical repercussions. The modern situation generalized for the entire family (cf. Figure 15) most probably arose from the loss of class agreement and the erosion of the marking on nouns, which has made the relation to the inherited system less transparent.

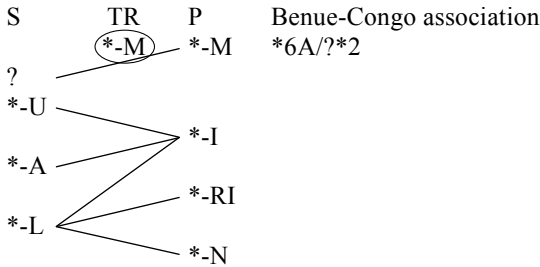


Figure 15: Reconstructed declension of Common Buaic (after Boyeldieu 1988: 283–284)

There is another historically interesting phenomenon arising from Boyeldieu’s comparative work. The author (1980b) points out the existence of considerable lexical isoglosses between Buaic languages and their unrelated neighbors from Chadic, and the impossibility of currently determining the borrowing direction. As has been occasionally mentioned also for other groups, the extensive contact-induced lexical turnover, even of core vocabulary, poses immense problems for historical-comparative research in the Adamawa pool in general; some comparative lexical series blur genealogical boundaries on a yet larger scale. This should be a warning against roping in superficial lexical comparisons for the establishment of any kind of genealogical relationship.

U16.K Day

Day is one of the several isolated languages subsumed under Adamawa. It is spoken in southern Chad southeast of Sarh. It is described by Nougayrol in several works, notably a phonology and (largely nominal) grammar sketch (1979) and a lexicon (1980).

Its classificatory position has also been discussed controversially. Tucker and Bryan (1956: 42) listed it first as a Buaic language but viewed it subsequently (1966: 164–167) as a lexically mixed language with a perceived stronger grammatical component of Mundu-Baka from Ubangi (see U17.D). Later, it was simply subsumed under Adamawa (e. g., Boyd 1989a: 189) with reference to Nougayrol’s work. However, Nougayrol (1979: 18) did not give any evidence to this effect but merely referred to Caprile’s (1978) generic assignment of Day to Niger-Congo when writing in a very tentative fashion: “Cette hypothèse nous semble digne d’être retenue: le day n’est pas sans ressemblance, au moins sur le plan lexical, avec certaines langues classées dans le sous-groupe Adamawa du groupe Adamawa-Oubangui” [We believe this hypothesis is worth retaining: Day is not without affinity, at least lexically, to certain languages in the Adamawa subbranch of the Adamawa-Ubangi group].

Before this background, Day is effectively unclassified. The present restricted survey does not give any more clues. The unremarkable word order patterns aside, Day has not been shown to have typical Niger-Congo traits like verb extensions and gender marking. Searching for diagnostic lexical items, the evidence is equally meager, with very few signs of shared paradigmaticity: one can plausibly compare only ‘three’, ‘four’, and the second-person singular pronoun; the forms for ‘tongue’ and the first-person singular pronoun are less certain.

U16.L Baa~Kwa

Baa or, according to the exonym, Kwa, is a single language spoken in the vicinity of Tula-Waja and Jen languages but not obviously related to them or to any other Adamawa language. The only data available are provided by Kleinewillinghöfer (1996a, 2011b). Virtually nothing is known so far about the grammar of Baa, except that it does not seem to possess a gender system of the Niger-Congo type. Plausible cognate forms for ‘tongue’, ‘four’, ‘five’, and all surveyed pronouns suggest, however, that it belongs to the larger family.

U16.M Nyingwom~Kam

Nyingwom or, by the exonym, Kam, is another single Adamawa language that is isolated in genealogical and, in being spoken west of Dakoid, also geographical terms. The only modern information consists of a few details on grammar and a short word list (Kleinewillinghöfer 2015b). Similar to Baa, the language appears to lack Niger-Congo noun classification, but possesses forms for ‘person’, ‘tongue’, ‘three’, ‘four’, and ‘five’, which would support its membership in this lineage (the available pronoun data are too scanty to draw any conclusions).

U16.N Fali

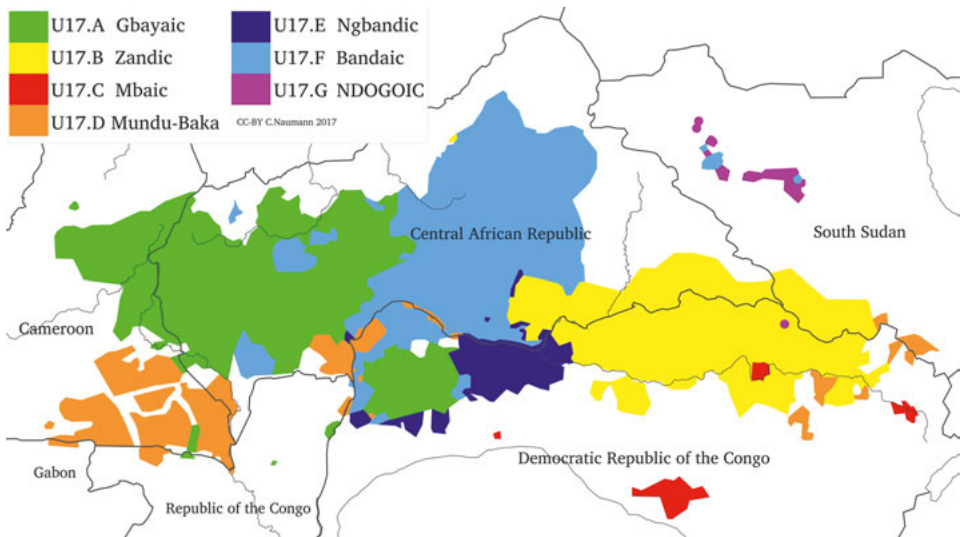
The last unit to be treated in the Adamawa pool is Fali, a larger language complex spoken in northern Cameroon. Sweetman (1981) is a lexical dialect survey used for historical-comparative reconstruction and offers several hundred proto-forms. A detailed grammar by Kramer (2014) has been published recently. On the basis of these works, it can be concluded that Fali possesses a typological profile canonical for Niger-Congo, including verb extensions but excluding a typical noun classification system. Regarding the latter feature, it may be argued that there are possible reflexes of class *2 and *6A in a pronoun and some relevant nouns like ‘blood’ and ‘oil’, respectively. Its generic Niger-Congo affiliation is confirmed by plausible cognates for ‘person’, ‘tongue’, ‘three’, and ‘four’, as well as a full pronoun paradigm for speech-act participants.

For the record, it has been repeatedly observed that Fali is difficult to relate to

other units in the Adamawa pool (Boyd 1988b: 233; Williamson and Blench 2000: 18). Under the present approach, this is not surprising, because many Adamawa units may well turn out to have their closer relatives outside this domain. Observe in this respect the comparisons between three lexical reconstructions of Proto-Fali (Sweetman 1981: 58) and Proto-Bantu (Bastin et al. 2002) in (6).

(6)	Proto-Fali	Proto-Bantu	
	*džo:yu	*-jɔni	‘bird’
	*džɔ:yu	*-joka	‘snake’
	*džo:ŋgu	*-jɔŋɔ	‘pot’

It can be seen that in all three comparisons the first syllables match closely. While this of course does not imply a greater historical significance, such a finding makes it worth reiterating that the net should be cast wider if the genealogical assignment of individual Adamawa groups and the general family structure of Niger-Congo is to become more conclusive.



Map 10: Geographical location of UBANGI (U17)

U17 UBANGI

The Ubangi group is yet another genealogical pool normally presented heretofore as a Niger-Congo lineage. It is the southeasternmost subgroup located in central Africa (see Map 10).

Apart from the abandonment of Greenberg's (1963a) Adamawa-Ubangi by Bennett (1983) and other scholars, important stages of the classificatory history of Ubangi are presented in Table 40.

Table 40: The history of subclassification of Ubangi

Greenberg (1963a)	Samarin (1971)	Bennett (1983)	Boyd (1989a)	Name used here
1 Gbaya, ...	Gbaya, ...	Gbaya	Gbaya	Gbayaic
3 Ngbandi, ...	Ngbandi, ...	Sango-Ngbandi	Ngbandi	Ngbandic
6 Ndogo, ...	Ndogo, ...	Ndogo, ...	Sere	Ndogoic
5 Bwaka, ...	Ngbaka-Ma'bo, ...	Mundu-Gbanziri	Ngbaka	Mundu-Baka
2 Banda	Banda	Banda	Banda	Bandaic
8 Mondunga, ...	Mondunga, ...	Mba-Mondunga	Mba	Mbaic
7 Amadi, ...	Amadi, ...	Ma		
4 Zande, ...	Zande, ...	Zande-Pambia	Zande	Zandic

Tucker (1940: ix, 15–20) prefigured the family by identifying a genealogical unit that at least included, in the present terminology, Ndogoic, Mundu-Baka, Bandaic, and Zandic within his purely geographical concept “Eastern Sudanic”. Greenberg (1949a, 1963a) extended this group to his so-called “Eastern” by listing eight subunits without any internal structure. Tucker and Bryan (1956: 144–146) accepted a general affiliation of the individual units to Niger-Congo but observed that the group as such “cannot be justified ..., except on the grounds of geographical expediency”.

Accepting Ubangi as a clade, later hypotheses about specific internal relationships vary considerably, and they are difficult to understand because they lack virtually any empirical justification. Samarin (1971), who suggested changing the name Eastern to Ubangi(an) in line with Delafosse (1924: 498–504), referred to Bouquiaux and Thomas (p. c.), who at this time proposed joining four of eight subgroups into a single unit, reducing Ubangi to five subfamilies.

Based on a few proposed lexical innovations, Bennett's (1983) lexicostatistic study argued for a very different core group called Kã; Gbayaic, previously part of the core, was excluded from Ubangi altogether. A substantial change in Ubangi studies was the final recognition of the genealogical entity Mbaic, uniting Greenberg's groups 7 and 8 (see section U17.C). The last Ubangi-internal classification was offered by Boyd (1989a), again not based on concrete evidence but mere reference to his “understanding of available lexical data, much of which can be consulted in Moñino (1988)” (Boyd 1989a: 191). He excluded Gbayaic and Zandic from the Ubangi core; within this core he assumed a closer unit Sere-Ngbaka-Mba

(= Ndogoic + Mundu-Baka + Mbaic), which has also been popularized since then by the Ethnologue.

If any judgment is made on the above proposals, it has to rely so far on two survey works: Boyeldieu and Cloarec-Heiss (1986) and Moñino (1988). The first is a dialectometric study dealing with five of the seven Ubangi subgroups; it is based on five varieties from Gbayaic, two from Ngbandic, seven from Mundu-Baka, three from Bandaic, and two from Zandic, and presents the primary data consisting of 100-word lists. While it follows a lexicostatistic approach, it is far more fine-grained regarding linguistic details for cognacy judgment than mainstream analyses of this kind. Its overall results are given in Figure 16 (group names have been changed to my usage).

Gbayaic	820				
Ngbandic	144	924			
Mundu-Baka	162	220	664		
Bandaic	109	200	245	721	
Zandic	079	177	126	115	539
	Gbayaic	Ngbandic	Mundu-B.	Bandaic	Zandic

Figure 16: Dialectometric group distances across five Ubangi subgroups (Boyeldieu and Cloarec-Heiss 1986: 353)

Each subgroup is confirmed by internal lexical cohesion, evident at the elevated values marked in boldface in Figure 16. At the same time, genealogical relations between the groups are not suggested clearly by this particular empirical basis – the overall low values indicate lexical distance rather than proximity. Since Ndogoic and Mbaic are not included, this study cannot shed any light on Boyd and Pasch’s (1988) and Boyd’s (1989a) hypothesis about the existence of a Sere-Ngbaka-Mba unit.

Moñino (1988) is the second important work for the historical-comparative assessment of Ubangi. It also provides good-quality lexical data in the form of well-arranged lists of a little more than 200 items from seven Gbayaic, three Ngbandic, six Mundu-Baka, four Mbaic, two Ndogoic, eight Bandaic, and three Zandic varieties. This basis also allows non-specialists to evaluate lexical comparisons within and between the basic groups. A cursory inspection of these data does not reveal any obvious unity within Boyd’s (1989a) Sere-Ngbaka-Mba that would exclude Bandaic and Ngbandic. Apart from the fact that Ndogoic and Mbaic do not emerge as lexically coherent groups with a sufficient number of lexical reconstructions to be compared with other groups, the search for the closest match of Mundu-Baka forms often does not point to these two units.

That superficial inspection of data can return very diverse results can be seen

at the comparisons made in the present survey. Here, a more likely core group of Ubangi emerges with Mundu-Baka, Ngbandic, and Bandaic, defined by some partly exclusive traits. These are notably a distinction of first-person plural vs. second-person plural conveyed essentially by an opposition of an open vs. close vowel quality, and a numeral paradigm for ‘two’ through ‘four’, where the roots are universally preceded by a segment *BV and in which the fricative consonant of the form *SI for ‘two’ appears to be a common innovation. Incidentally, this picture corresponds to the dialectometric results by Boyeldieu and Cloarec-Heiss (1986) given in Figure 16 in which the highest affinity values are precisely found with these three group pairs, viz. 200–245. Ndogoic would appear to be the next candidate for being joined to this core.

A second important contribution by Moñino (1988), which is relevant for the place of Ubangi languages within Niger-Congo, is that the authors, all language specialists, explicitly distance themselves from the assumption of a genealogical unity of all Ubangi groups vis-à-vis the rest of Niger-Congo: “Cet ensemble est considéré ici comme une base empirique d’analyse, et non comme une famille linguistique déjà donnée: ce qui est à établir et à démontrer est précisément son unité ou sa diversité originelle, ainsi que le degré de relation entre ces langues, ... ” (Moñino 1988: 18) [This group is considered here as an empirical basis of analysis, and not as a language family already given: it is precisely its unity or its original diversity as well as the degree of relationship between these languages that need to be established and demonstrated].

For the time being, it thus seems safer to consider Ubangi as a pool comprising at least seven lineages (as opposed to the five of Boyd [1989a] and the Ethnologue), whose exact genealogical affiliation to each other as well as to other Niger-Congo groups still remains to be determined. Before this background, the historical hypotheses proposed by Thomas (1979) and Bouquiaux and Thomas (1980) as well as Saxon (1982), which entail specific migration scenarios of individual Ubangi groups, must be considered with caution, because the linguistic basis of their genealogical subgrouping is either highly questionable or not identified at all.

With respect to the relation between Ubangi groups and Niger-Congo it can be generalized that they show a canonical typological profile but largely lack the most diagnostic evidence of verb extensions and, with one exception, noun classification. Recently, Dimmendaal (2008b: 841, 2011: 319–320) has rejected the Niger-Congo affiliation of Ubangi altogether, albeit without any explanation. One can only speculate that his claim arises from the fact that Ubangi groups do not possess the typical morphological Niger-Congo features and that the little evidence invoked by Greenberg (1963a) in this respect, notably purported reflexes in Mbaic (U17.C) and Bandaic (U17.F) of the inherited noun classification system, is equivocal and has indeed been partly refuted.

However, as is also shown below with respect to pronouns and other potentially diagnostic lexical items, Ubangi subgroups do not fare any worse than many

other assumed Niger-Congo members that heretofore have not been disputed by Dimmendaal and other scholars. Obviously, the genealogical problem can only be advanced by a dedicated historical investigation of the empirical data. In the following, the status of the individual groups is presented.

U17.A Gbayaic

Gbayaic is a well-defined lineage of around 15 languages distributed primarily in the west of the Central African Republic and in smaller pockets in the Democratic Republic of Congo, Cameroon and Congo-Brazzaville. The more recent historical assessment of this family, which turns out to be incompatible with Greenberg's (1963a) hypotheses, is a good example that more dedicated and focused historical-comparative research is indeed necessary and at the same time possible.

Bennett (1983: 39–40) was the first to question its Ubangi affiliation because his lexicostatistic research did not reveal any convincing evidence to this effect so that he accorded it an isolated position in his North Central Niger-Congo spectrum.

Moñino (e. g., 1995, 2010a, 2010b; calling the family Gbaya-Manza-Ngbaka) carried out an exceptionally detailed historical-comparative reconstruction, dealing with phonology, lexicon, and morphology and presenting among other things more than 1,000 lexical and grammatical reconstructions. Similar to Bennett (1983), the author questioned its Ubangi membership. In an admittedly superficial lexical comparison of Proto-Gbayaic with other Niger-Congo groups he (2010b) unexpectedly finds instead that its affinity with Proto-(Central)-Gur appears to be greater than with any other Ubangi unit.

While the exact place of Gbayaic within Niger-Congo has become an entirely open question, its membership as such can be supported by a full speech-act participant pronoun paradigm, the lexemes for 'three', 'four', and 'tongue', and possibly the third-person pronouns, which could go back to the human classes *1 and *2.

U17.B Zandic

Zandic, dominated by its largest language Zande, is a compact language family around the border triangle of South Sudan, the Central African Republic, and the Democratic Republic of Congo. Tucker's (1959) comparative study, which includes around 400 lexical series, dealt with four languages; another language, Geme was found later to also belong to the group. Tucker's (1959) family survey, Moñino's (1988) lexical material, and Boyd and Nougayrol's (1988) detailed discussion of Geme provide a good comparative picture, however, without offering any reconstructions.

While Zandic has verbal extensions, the most diagnostic Niger-Congo trait of gender marking is hard to identify. The (animate) plural prefix could be related to the noun prefix of class *2; moreover, Boyd and Nougayrol (1988: 74–76)

comment on the recurrent family-internal alternation in non-count nouns between the presence and absence of a final segment with *m*, which could arguably be interpreted as a reflex of a noun suffix of class *6A. In terms of lexical evidence, the speech-act participant pronouns for first- and second- person singular as well as second-person plural, the numeral ‘three’, and the common form for ‘tongue’ in its metathesized reflex are good Niger-Congo candidates.

U17.C Mbaic

As opposed to Gbayaic and Zandic, Mbaic is a small and geographically highly fragmented family of four languages spoken in the northeast of the Democratic Republic of Congo. Although already treated as a group by Bulck (1952) and Tucker and Bryan (1956), the family was not recognized by Greenberg (1963a), Samarin (1971), and Bennett (1983), who largely dealt with lexicon.

The conclusive establishment of Mbaic as a family is due to Pasch’s (1986) reconstruction of a gender system of the Niger-Congo type, the only such case within Ubangi – just another example showing that morphological evidence should be favored over lexical data in genealogical classification.

Table 41: Some noun classes in Mbaic (Pasch 1986: 74, 142–143, 229–230, 273)

Class	Exponent	Ndunga	Mba	Dongo	Ma	Proto-Mbaic	Partial meaning	Benue-Congo
11	Noun suffix Concord	<i>-mɛ</i> <i>m</i>	<i>-me</i> <i>M</i>	<i>-mo</i> <i>m</i>	<i>-mo</i> -	*-mo	liquid, mass	*6A
1	Noun suffix Concord	\emptyset (<i>w</i>)	\emptyset (<i>w</i>)/ <i>g</i>	\emptyset (<i>w</i>)	\emptyset -	*-wo	human singular	*1
7	Noun suffix Concord	<i>-gɛ</i> <i>g</i>	<i>-ge</i> <i>G</i>	<i>-go</i> \emptyset	<i>-wo</i> -	*-go	human singular	?
2	Noun suffix Concord	<i>-yɛ</i> <i>y</i>	<i>-V</i> <i>y/-V</i>	<i>-nyo</i> <i>ny</i>	<i>-yo</i> -	*-yo	human plural	?

It is not easy to argue, however, whether this proto-system is unfallible evidence for a Niger-Congo affiliation. Table 41 shows a few of the 15 proto-classes, some of which have been directly compared to established Niger-Congo classes. These classes, whose exponents are nominal suffixes and concords, are exclusively conveyed by thematic consonants without any distinctive role of the accompanying vowel. The only clear Proto-Mbaic counterparts of Niger-Congo classes can be proposed for *1 and *6A. However, the human gender in Mbaic does not obviously correspond to the Niger-Congo pair *1/*2, in view of the existence of an additional

human singular class and the form *yo of the human plural class. Given that the size of consonant inventories in Mbaic ranges between 24 and 32, the chance of coincidental similarity to reconstructed Niger-Congo class markers cannot yet be dismissed. So the particular data from gender marking, though certainly promising, is not yet conclusive evidence that this family is a member of Niger-Congo (see Greenberg [1949a: 93] for a similar remark concerning the single language Ndunga).

With respect to lexical relations, Mbaic displays a considerable internal heterogeneity, which is reflected by very low lexicostatistic values based on word lists of close to 200 items (Pasch 1986: 410–412). This suggests that the languages were subject to considerable divergence processes after separating from each other, perhaps triggered in particular by locally different contact influence, notably from Bantu in the south(west) and from Zande in the north. This restricted lexical coherence of the group also makes it difficult to arrive at proto-forms. However, the few more secure reconstructions emerging from the present survey, viz. for second-person singular, ‘four’, and ‘tongue’, are all favorable for a Niger-Congo affiliation.

U17.D Mundu-Baka

The geographically largest Ubangi group, called here Mundu-Baka, comprises more than a dozen languages and ranges from northeastern Gabon to the western South Sudan. Like Mbaic, its territory is highly fragmented by languages from Bantu and other more compact Ubangi families such as Gbayaic, Zandic, Bandaic, and Ngbandic.

Bulck (1938) seems to be the first one to have delineated precisely the constituency of the family called by him Ubangi-Uele. Other names previously used for the family were mostly oriented to the language Ngbaka Ma’bo, but Ngbaka also refers to a prominent Gbayaic language (cf. Moñino’s family label Gbaya-Manza-Ngbaka) and is hence prone to create confusion. Mundu-Baka used here refers to its eastern- and westernmost language, respectively. The term also alludes to a historically remarkable fact about the family: its westernmost speech varieties, notably Baka, are spoken almost exclusively by Pygmy foragers, most of which are no longer in contact with other non-foraging Mundu-Baka populations. The new term thus parallels the similar cases of two Central Sudanic families, Mangbutu-Efe (U22.H) and Mangbetu-Asua (U22.I), whose second terminological component also refers to a prominent Pygmy forager variety.

So far, very little published historical-comparative work exists on this Ubangi group. Paulin (2010: 73–105) contains a first attempt of a more systematic comparison based on the relevant lexical data in Moñino (1988), mostly in the form of schematic tables of segment correspondences and their relevant lexical series, but does not propose any reconstructions. A more comprehensive and informative study is Winkhart (2015): the author attempts to take all currently available lexical

and grammatical material into account, thus providing a more representative picture than Boyeldieu and Cloarec-Heiss (1986) and Moñino (1988) with their necessarily selective language choices, and he focuses on establishing grammatical and lexical proto-forms. Within the present restricted survey, the lexical items for ‘three’, ‘four’, ‘tongue’, second-person singular, and less clearly first-person singular would support the general Niger-Congo affiliation of Mundu-Baka.

U17.E Ngbandic

If one disregards the historically recent emergence of vehicular Sango, which today is the national language of the Central African Republic, the Ngbandic family is a small and geographically compact group of half a dozen languages centered on the upper course of the Ubangi River. In fact, it seems to be more appropriate to consider the majority of the varieties to form a single language complex in view of the lexicostatic coherence evident in Figure 16 and Boyeldieu’s (1982c: 17) following assessment:

Parler de *langues* sango, yakoma, etc. me semble être un artifice de langage qui n’est fondé que sur la distinction de différents *ethnonymes* dont l’application elle-même n’est pas toujours claire ... En fait il s’agit bien d’une seule langue (que l’on pourrait appeler *ngbandi*, par référence au nom le plus largement répandu) dont les variantes dialectales sont fort minimales ... [To speak of the languages Sango, Yakoma, etc. seems to me to be an artificial usage that is only grounded in the distinction of different ethnonyms whose application is itself not always clear ... In fact, there is just a single language (which can be called Ngbandi with reference to the most widespread name) whose dialectal variants are pretty minimal ...]

Gbayi, which is sketched by Boyd (1988a), was identified late as a Ngbandic language. There are indications that it may be the result of a language shift by a Zandic-speaking group, namely that it is spoken in the neighborhood of the Zandic language Nzakara and that its alternative name Kpatiri is virtually the same as Kpatili, which is a spurious language entry of Zandic without any linguistic data. Gbayi is more deviant from the central dialect chain, which may well be due to recent contact-induced innovations. For external comparisons, it is thus justified to take data from the core dialects as the primary reference; in Boyeldieu and Cloarec-Heiss (1986) and Moñino (1988) such data come from a Yakoma variety.

If one looks for Niger-Congo affinities in Ngbandic, the forms for first- and second-person singular, ‘three’, and ‘tongue’ look as expected; a third-person singular pronoun and a nominal plural prefix could be argued to be reflexes of the classes *1 and *2, respectively; a slight possibility of affinity also exists for the word for ‘person’.

U17.F Bandaic

Bandaic is, after Gbayaic and Zandic, a third Ubangi unit with a compact geographical distribution over a wide area. It is concentrated in the center-east of the Central African Republic but also spoken in pockets further west as well as in the west of the South Sudan and the north of the Democratic Republic of Congo. The study of this group, which encompasses many and partly diverse speech varieties, has been the particular focus of research conducted by France Cloarec-Heiss, who, since the 1970s has embarked on a full-scale documentation of the group-internal diversity and the reconstruction of parts of its history, including the question of how the modern distribution pattern came into being. Several important conclusions have emerged from her work.

First, according to Cloarec-Heiss (e. g., 1978, 1986, 2000) Bandaic comprises, on the one hand, a large and more homogeneous core that can be conceived of as a dialect cluster and, on the other hand, several smaller and peripheral varieties that are better attributed the status of languages which are nevertheless closely related to the core. The greatest diversity is found in the southern distribution area across the border between the Central African Republic and the Democratic Republic of Congo and the Ubangi River.

A second and historically important point detailed particularly in Cloarec-Heiss (1995, 1998) is that the Bandaic family as a whole shares a considerable number of linguistic traits with genealogically unrelated Bongo-Bagirmi languages (subsumed under Central Sudanic, U22.A), which are mostly spoken today in the north of Bandaic. This observation leads her (1998: 12) to the following historical interpretation:

... le faible nombre d'éléments lexicaux d'origine SC et surtout la nature du vocabulaire qui présente des affinités avec les langues SC (biotope et culture), les traits phonético-phonologiques qui témoignent chez les Banda d'habitudes articulatoires différentes de celles des Oubangiens, les ressemblances morphosyntaxiques, amènent à poser l'hypothèse que les actuels locuteurs banda étaient à l'origine des populations SC qui ont rapidement adopté une nouvelle langue appartenant au rameau oubanguien [the moderate number of lexical elements of Central Sudanic origin and above all the nature of the vocabulary, that presents affinities with Central Sudanic languages (biotope and culture), the phonetic-phonological traits that testify to articulatory habits among Banda that are different from Ubangian ones, [and] the morpho-syntactic similarities lead to proposing the hypothesis that current Banda speakers were originally Central Sudanic populations that quickly adopted a new language belonging to the Ubangi branch].

Bandaic is also interesting from a methodological perspective in that it is an exemplary case for reminding historical linguists, particularly in the Niger-Congo domain, of the inadequacy of superficial inspection of language data and their facile interpretation in terms of genealogical relatedness. Greenberg (1963a:

12–13) proposed that the ubiquitous vowel prefixes on nouns in most Bandaic languages are a reflex of inherited Niger-Congo class markers. This hypothesis has been refuted by Olson's (2006, 2012) research, which explains the vowel prefixes as one of several reflexes of prothetic augmentation steered by word minimality constraints – a phenomenon that is also attested in similar form at least across Mundu-Baka (Winkhart 2015).

This does not exclude, however, that Bandaic is a member of Niger-Congo. Lexical elements typical for this group exist with the numerals 'three' and 'four', the first- and second-person singular pronouns; the word for 'person', which resembles that in Ngbandic, is as questionable as in that lineage. Also similarly to Ngbandic, the plural prefix might have its origin in the marker of class *2.

U17.G NDOGOIC

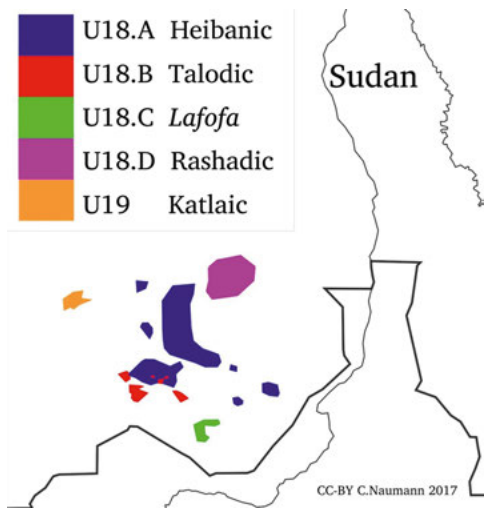
The small group of nine languages called here Ndogoic is distributed along the Congo-Nile watershed north of Zandic in South Sudan and the Democratic Republic of Congo. As opposed to Zandic, the group is geographically highly fragmented, in the south by the predominating Zandic speakers themselves and in the north by languages other than from Ubangi. The group's name varies across different publications; I follow here the early usage focusing on the largest language Ndogo (instead of Sere employed in more recent Ubangi surveys). Most of the quite restricted data on Ndogoic languages come from Santandrea (1950, 1961, 1969), who presents and discusses comparative grammatical data and word lists but does not attempt any kind of historical reconstruction.

Little is known about any of the Ndogoic languages. Ndogo itself was studied more extensively within early missionary contexts, while only Sere and (Belandia) Viri seem to have been subject to more recent linguistic research. These three languages together with Bai and Tagbu form a coherent subgroup that was established by Santandrea (1961) and is also acknowledged in current internal classifications of Ndogoic. The lexical Ubangi comparisons by Boyeldieu and Cloarec-Heiss (1986) as well as Moñino (1988) deal with Sere and Viri alone and thus represent only this core group.

The four remaining, northernmost languages, Feroqe, Mangayat, Indri, and Togoyo, treated by Santandrea under the term Raga East, are yet harder to assess genealogically. For one thing, Santandrea's material is so far the only existing data, and may remain so, because at least the last three languages are said to be nearly or already extinct. Moreover, they display a greater diversity from the core group and even among themselves (cf. Santandrea 1969: 267), whereby Feroqe and Mangayat go together against Indri and Togoyo. For example, the last two do not share typical Ndogoic features in the pronominal and numeral paradigms but display the widespread Niger-Congo pattern *mi/*mo in first- and second-person singular pronouns (Santandrea 1969: 103), found nowhere else in the group. Hence, it

cannot be excluded that a more systematic historical study will reveal that the four northern languages have to be separated from the Ndogoic core, and even from each other. This is also the reason to treat Ndogoic as a whole as a genealogical pool.

As with most Ubangi groups, the membership of Ndogoic in Niger-Congo rests so far on lexical material alone. In the present survey, this evidence exists for the Ndogoic core regarding the items for ‘three’ and ‘four’, probably ‘tongue’ and second-person singular, and least clearly ‘person’.



Map 11: Geographical location of KORDOFANIAN (U18) and Katlaic (U19)

U18 KORDOFANIAN

Based on such survey studies as MacDiarmid and MacDiarmid (1931) and Stevenson (1956/7) on the highly diverse linguistic landscape of the Nuba Mountains of Kordofan (see Map 11), Greenberg (1963a) subsumed five lineages under his new Kordofanian unit. He based this on the existence of noun-class parallels and assumed lexical evidence, the group name being inspired by the fact that all are found exclusively in this area. Since then, Kordofanian has been subject to considerable redefinition, if not deconstruction. Its changing research history is summarized in Table 42; I have adapted here Schadeberg’s (1989) labels according to the convention referred to in section 2.3.2.

Table 42: The history of subclassification of Kordofanian

Greenberg (1963a: 8–9)	Schadeberg (1989)	Blench (2013c)	Present name
Koalib	Heiban	Heiban	Heibanic
Talodi	Talodi	Talodi	Talodic
		Tegem-Amira	<i>Lafofa</i>
Tegali	Rashad	Rashad	Rashadic
Katla	Katla	Katla-Tima	Katlaic > section U19
Tumtum	Kadugli > section U20	–	–

The first major classificatory change resulted from Schadeberg’s survey research on Kordofanian that upheld the group as a whole but excluded the Kadu(gli) family (cf. Schadeberg 1981f), which since then has been commonly treated under Nilo-Saharan (see section U20). A second, more recent change was caused by the first detailed documentation of another group comprising Katla and Tima, which since then tends to be viewed as an independent group within Niger-Congo (see section U19). Even the remainder of Kordofanian is treated here only as an areal pool, because recent studies do not consider it to form a proven genealogical entity nor to be securely related as a whole to Niger-Congo.

Thus, Blench (2013c), taking up his ideas expressed in several unpublished surveys, is the first published statement to the effect that the evidence for the unity of Kordofanian provided up to now is unconvincing. He proposes three groups as early separate offsprings from the rest of Niger-Congo; his alternative classification involves in particular separating Lafofa (aka Tegem-Amira) from Talodic and, in line with Dimmendaal (2011), joining Rashadic with Katlaic (aka Katla-Tima). Whatever the future of his proposals, his methodological approach is a step backwards: while Schadeberg’s work provides and discusses substantial empirical data and involves diagnostic paradigmatic morphology, Blench’s evidence is extremely limited and merely lexical, namely four comparative series for the separation of Lafofa, and nine in favor of his Rashadic-Katlaic group.

Hammarström (2013) takes a quite different approach. He refrains from making any new classificatory proposals but rather evaluates the evidence invoked so far for Kordofanian, both as a unit and as a member of Niger-Congo. Since the lexical material is viewed to be generally too sporadic and hence weak proof, primary attention is paid to the nominal classification systems of Heibanic, Talodic, Lafofa, and Rashadic. Their overall typology is certainly like that in secure Niger-Congo members, and Schadeberg (1981c, 1989) has “consolidated” them in a rather sketchy way for proposing tentative reconstructions entailing Niger-Congo correspondences that look impressive at first glance. Hammarström scrutinizes these

claims regarding the possible role of chance resemblances and brings forward typological evidence for an alternative explanation for the emergence of this noun classification type. Hence, even this morphological argument must remain unsettled until more description and conclusive historical research have been accomplished.

Accordingly, the four remaining units, Heibanic, Talodic, Lafofa, and Rashadic, are discussed individually, also with respect to the Niger-Congo hypothesis. This is justified, too, by the fact that a full and in-depth documentation of the languages is only now underway, so that previous historical conclusions may well turn out to have been simply premature.

U18.A Heibanic

Heibanic is the largest subgroup of Kordofanian, with ten languages spoken in the centre and the southeast of the Nuba Mountains. Schadeberg (1981a) is a first systematic historical-comparative study, based on phonological and morphological data as well as 200-word lists from all ten languages. It establishes several regular sound correspondences and preliminary proto-forms of about 110 lexical items as well as morphological paradigms for noun form and agreement classes and for personal and possessive pronouns.

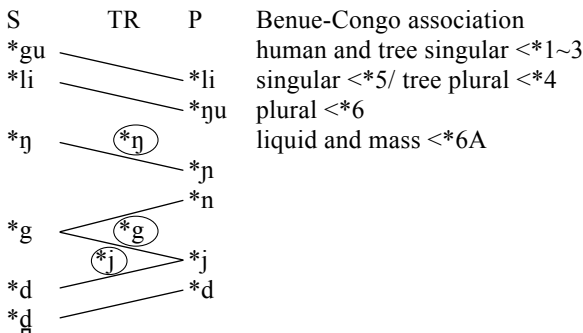


Figure 17: Gender system of Proto-Heibanic (after Schadeberg 1981a: 132–152)

The reconstruction of the proto-gender system is shown in Figure 17. To the extent possible, it considers genders established by agreement rather than noun form classes and excludes uncertain and likely inoperative genders. According to Schadeberg (1981c: 123), there exist suggestive associations with several of the commonly assumed Niger-Congo classes.

The curious case of the gender system of Laro is discussed by Schadeberg (1981a: 147–149, 1981d): the fact that this language does not share a single gender

with its otherwise obvious Heibanic relatives is proposed to be the result of conscious language manipulation. If this is indeed the correct explanation, that would be a disconcerting fact for historical-comparative methodology, which strives to recover presumably regular linguistic history.

Despite its widespread acceptance, the assumed relationship to Niger-Congo remains equivocal for the reasons outlined above. The lexical evidence surveyed here is expectedly equally inconclusive: while one could argue for a few affinities such as with ‘tongue’ and ‘you (plural)’, these could just as well be spurious look-alikes – a problem holding for all Niger-Congo candidates in the Nuba Mountains. The typological structure of Heibanic languages conforms to Niger-Congo trends, and the noun classification system is certainly a promising trait to inspect with a new systematic reconstruction using the far more extensive data currently coming in.

U18.B Talodic

Talodic refers to the second-largest family within Kordofanian, with a little less than ten languages spoken in the southwest of Heibanic, for which Schadeberg (1981b) provides a historical-comparative study parallel to that for this other family. Considering five of eight Narrow Talodic languages and Lafofa, he establishes the unity of the former (see section U18.C for Lafofa), and presents parallel historical-comparative data sets like, for example, 150 preliminary lexical reconstructions. Norton and Alaki (2015) is a recent survey of the family and also

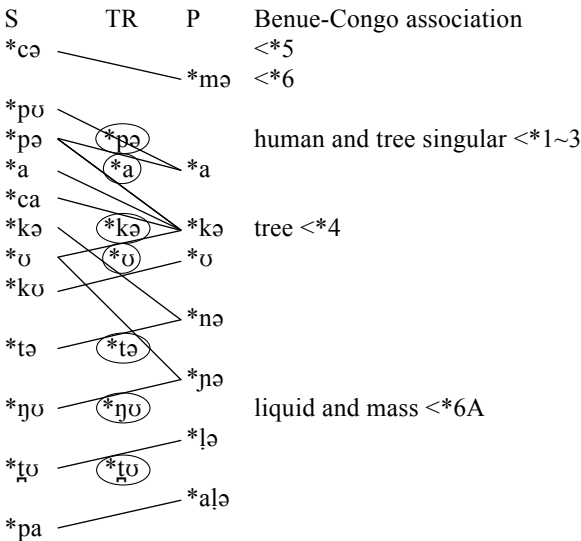


Figure 18: Declension system of Proto-Talodic (after Norton and Alaki 2015: 107–112)

resumes the historical-comparative work. Since they take into account the entire group, their results largely supersede Schadeberg's. They provide a full subclassification based on various methods, regular sound correspondences, and close to 300 proto-forms for both lexical and grammatical items.

Norton and Alaki's (2015) extensive discussion of the gender system reveals a more complex and partly different picture compared to Schadeberg (1981b), which also affects the claims regarding similarities between Talodic and common Niger-Congo. Figure 18 presents the recent reconstruction of the prefixal declension system on nouns, having to assume that the gender system based on agreement is largely similar, as well as the assumed Niger-Congo associations according to Schadeberg (1981c: 123). While certain similarities may be reflexes of a genealogical relationship, they are far from conclusive. A similar equivocal impression emerges from the typological profile of the group and the inspection of the lexical data dealt with here.

U18.C Lafofa

Lafofa, also called Tegem, subsumes three closely related varieties spoken in or close to the Liri mountain range. The location itself hosts, besides the southeasternmost Talodic language Nding (Schadeberg 1981b: 15), Lafofa proper. According to Manger (1994: 40–43), this variety derives from a 19th-century immigration from Tegem in the east, one of the two Lafofa localities outside the range; the third variety is called El Amira and is spoken south of the mountains. The unit is so little known that it is still unclear whether the differences between the varieties require the assumption of more than one language, as claimed by Blench (2013c: 580). The only substantial data available are found in Stevenson (1956/7, vol. 41: 43–46), Tucker and Bryan's data synopsis (1966: 270–288), and the later material by Schadeberg (1981b).

As opposed to earlier authors, Greenberg (1950d: 390) and Schadeberg (e. g., 1981b) allied Lafofa with Talodic; the second author (*ibid.*: 158) writes on the basis of his own data:

The relatively isolated position of Tegem (Lafofa) has been obvious at all stages of comparison. ... Indeed, we may ask on what grounds Tegem should be classified with the other TALODI languages. ... Although a comprehensive subclassification of Kordofanian is outside the scope of the present study I am convinced that Greenberg's position is the correct one ... This is not only supported by lexical resemblances but also by, e. g., their sharing labial consonants as prefixes for classes 1 (*b-) and 6 (*m-).

Hammarström (2013: 551–553) presents a critical assessment of the concrete evidence on which the hypothesis is based, considering it too weak and equivocal. The in-depth study by Norton and Alaki (2015: 68–70) corroborates this; they conclude that “Talodi and Lafofa are unrelated as far as the structure of their lexicons

is concerned” (cf. also the few comparative data presented here). This is in line with another feature distinguishing Lafofa from Talodic (and Heibanic), viz. its variable word order patterns, including head-final features; these are shared with Rashadic, the Kordofanian group treated subsequently, with which at least Tegem proper shared a common history connected to the Tegali kingdom (Manger 1994: 41–43). In view of all these observations, Lafofa is best treated as a separate unit in the Kordofanian pool and should be considered a research priority in the future.

U18.D Rashadic

Rashadic, spoken in a compact area in the northeast of the Nuba Mountains, comprises two dialect clusters, commonly referred to as Tagoi and Tegali after one dialect each. First research already goes back to the 19th century, for example by the Tutschek brothers in Germany on the Tumale dialect of Tagoi. Nevertheless, with only three modern studies (Schadeberg and Elias 1979; Schadeberg 2013; Alamin 2015), Rashadic is by now the least known Kordofanian family. Schadeberg (2013) provides a survey, including some new data, which serve here to give an approximate profile of this small lineage.

The limited extent of Rashadic documentation contrasts with the fact that it is in some respects puzzling and thus important for historical-comparative research. Crucially, the two dialect clusters are transparently related genealogically on account of diagnostic lexical and other data but they differ with respect to the feature of noun classification (see already Stevenson 1956/7, vol. 41: 46). That is, Tegali nouns neither have relevant class affixes nor do they trigger concord but Tagoi has a fully-grown gender system of the Niger-Congo type involving noun phrase-internal agreement.

A systematic analysis of the noun classification system in Tagoi is difficult on the basis of Schadeberg’s (2013) data. On the one hand, there is no or only insufficient information on the agreement behavior of the important group of prefixless nouns, which include kinship terms and loan words (but see Schadeberg and Elias 1979: 19). On the other hand, it is not possible to separate noun form classes of prefixed nouns and their pairings from the potentially diverging agreement patterns. Nevertheless, Table 43 and Figure 19 give an attempt to extract the system from Schadeberg’s (2013) lexical material and some more information in Schadeberg and Elias (1979). The table gives all nominal stems that are cognate in the two varieties dealt with, viz. Tagoi proper and Turjok, and whose class assignment is identical.

Table 43: Declension system across two Tagoi varieties (after Schadeberg 2013)

Class pair	DERIVATIONAL MEANING and lexemes	Benue-Congo association
<i>k/s~h</i>	Vegetation: bark, branch, flower, leaf, tree Body: belly, bone, feather, guts, hair, head, liver, mouth, nail Animate: louse, man, person~woman Other: clothes, cloud, fire, mountain, river, year	
<i>k</i>	Environment: daylight, earth, night, sand, smoke, woods	
<i>c/n</i>	child, finger, hand, moon~month	
<i>w/y</i>	Animate: bird, dog, gazelle, snake, people~women; in Turjok: Human + tree species (cf. Schadeberg and Elias 1979: 20–21)	*1~3/*4
<i>y</i>	rain, smell, sun~day, wind~air	
<i>y/η</i>	egg, eye, heart, nose, stick, stone; in Turjok: Tree fruit (cf. Schadeberg and Elias 1979: 30)	*5/*6
<i>η</i>	LANGUAGE; Mass nouns: ashes, blood, water	*6A
<i>t/η</i>	back, breast, horn, leg, star, tooth	
<i>t/y</i>	neck, rope, skin, tail, tongue	
<i>t</i>	LOCATION; grass	

The resulting system schematized in Figure 19 could be argued to have reflexes in Niger-Congo, as Schadeberg proposes (1981c: 123), provided this picture holds up when considering all Tagoi varieties.

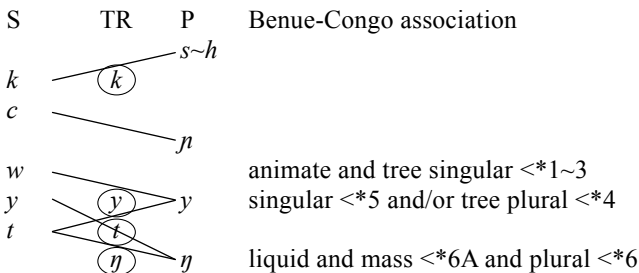


Figure 19: Declension system of two Tagoi varieties (after Schadeberg 2013)

An equally important but entirely open issue is the historical status of the system in Rashadic as a whole. While scholars like Stevenson (1956/7, vol. 40: 102), Tucker and Bryan (1966: 270), and Blench (2013c: 576–577) assume that the situation in Tagoi is the result of contact, Schadeberg (1981c: 121) holds the loss of such a system on the part of Tegali to be more probable implying the existence of such a system in Proto-Rashadic.

The typological profile of Rashadic is ambivalent vis-à-vis Niger-Congo stand-

ards. While its noun classes (in Tagoi), verb extensions, and normally head-initial noun phrases make it look “canonical”, less typical features also exist, namely head-final noun phrases, at least in Tegali (cf. Schadeberg 2013: section 2.4, ex. 15, 17; section 4, ex. 24, 26, 31, 40, 41, 51), and verb-final clauses in the family as a whole. The superficial lexical comparisons carried out here do not give clear hints either: nothing in the way of familiar paradigms emerges, but individual items like ‘person’, ‘tongue’, ‘you (P)’ and ‘three’ are arguably related to common Niger-Congo forms.

A possible genealogical link closer at hand, namely to Katlaic was entertained first by Stevenson (1956/7, vol. 41: 51) and taken up recently by Dimmendaal (2011: 91, 324; 2013) and Blench (2013c: 579); it is treated subsequently in section U19. Overall, Rashadic has an indeterminate genealogical status, echoed by Sasse’s (1981c: 160–163) purely methodologically intended contribution according to which even an Afroasiatic link could be entertained, if one is satisfied with genealogical hypotheses based on sporadic similarities.

U19 Katlaic

Katlaic is located in the northwestern part of the Nuba Mountains (see Map 11) and comprises Katla-Julud and Tima. Until recently little was known about the family, but our knowledge has now increased considerably thanks to two documentation projects (see Schneider-Blum [2013: XII–XIV] for the extensive work on Tima and Hellwig [2013] on Katla). Since language specialists have removed the group from the Kordofanian pool, similar to Kadu, it is presented here separately.

The unity of the small family is obvious, but noticeable structural differences between the two major units exist. They are motivated historically by various inferred contact events, whereby according to Dimmendaal (2009a) the special character of Katla-Julud emerged through shift-induced interference from Temeinic (U35) of Nilo-Saharan. So far, hardly any publication deals systematically with historical-comparative reconstruction within Katlaic or at least presents comparable data for inspection, so that any discussion relevant here cannot refer to established or even preliminary proto-forms.

Nevertheless, the external genealogical position of Katlaic was addressed recently by Dimmendaal (e. g., 2009a, 2009c, 2013), involving several new proposals that divert from Greenberg’s Kordofanian hypothesis. The following is a summary of his (2011: 91, 324) conclusions:

... Katla and Rashad differ considerably from the two Kordofanian language clusters Heiban and Talodi. Also, although the Katla group does have a noun-class system, several of the actual forms do not appear to be cognate with those reconstructed for the two Kordofanian subgroups Heiban and Talodi by Schadeberg ... In actual fact, there appears to be more grammatical evidence for a closer genetic affiliation between the Katla plus Rashad group and Niger-Congo subgroups like Benue-Congo and Kwa ...

The Katla plus Rashad group consequently are better treated as an independent, early Niger-Congo split off.

The author (2010b: 215 fn. 4, 2011: 297, 2013) refers primarily to derivational verb suffixes and assumed remnants of an earlier noun-class system that look similar to forms reconstructed specifically for Bantu and/or Benue-Congo rather than generally for Niger-Congo. If his claim were to be substantiated, it would have important implications for the history of the entire family. However, the available data are unfortunately too rudimentary and thus remain inconclusive. Moreover, synchronic and diachronic analyses are not sufficiently separated, which is particularly evident with respect to the alleged remnants of a noun class system as treated by Alamin Mubarak (2009, 2012) and Dimmendaal (2013). Under the assumption that Katlaic is Niger-Congo and is thus expected to have had a typical noun classification system, the description of modern Tima is intricately interwoven with the genealogical hypothesis. That is, its numerous nominal prefixes, which encode number, derivational functions, and grammatical relations and possess diverse productivity, are analyzed even synchronically as “noun classes” in as much as they are more or less plausible formal and/or functional matches of such elements in other Niger-Kordofanian languages. An alternative, historically unbiased analysis would simply diagnose a complex system of nominal declension and derivation with some features that are also motivated areally, notably irregular number with four partly lexicalized singular/singulative markers, including zero, and one plural/collective counterpart whereby noun phrases only display number agreement employing the most productive prefixes, namely singular *kV-* and plural *l-*. Tima also has prefixes deriving language names (*dV-*) and deadjectival abstract nouns (*bV-*) as well as an elaborate set of locative prefixes. It is true that typical Niger-Congo languages, including Bantu, conflate all these functions morphologically within their noun classification system, and it comes as no surprise that Dimmendaal finds Tima prefixes that look similar to some in the large inventory of Proto-Bantu classes. This also applies, in accordance with his hypothesis, to Rashadic but, as per Alamin Mubarak (2009: 33) and against his explicit claim, also to three prefixes found in Heibanic languages as well, namely *kV-*, *lV-* and *d-*, encoding singular, locative, and language nouns, respectively. Moreover, a formal and semantic profile of nominal prefix morphology similar to that for Tima can be found in other languages of the wider area, for example, in West Nilotic (see the discussion revolving around Tables 22 and 23 in section 2.5.2.1.3.), for which Dimmendaal would not want to claim any connection to Niger-Congo. Such an overall inconclusive picture calls for reconstructing first Katlaic, Rashadic, and the other Kordofanian families and testing various low-scale proposals before a wider comparison can be undertaken.

2.5.4. Summary

The above survey of the Niger-Kordofanian domain has recognized 14 basic classificatory units, whereby seven of them are identified as genealogical or areal pools that are broken up further into genealogically more reliable entities. In some cases, even these may turn out not to represent true phylogenetic clades, as is the case with various subgroups in Benue-Kwa and with Ndogoic in Ubangi. The entire group inventory exceeds far more than 50 entities, which obviously confronts scholars interested in an exhaustive and systematic historical-comparative evaluation with an enormous task, similar to the situation in the proposed Trans-New-Guinea family. An assessment of these numerous subgroups with respect to the individual-identifying evidence outlined in section 2.5.2. is, however, less complex. On the level of the 14 basic units, I identify three pragmatically oriented categories concerning the likelihood of Niger-Congo membership and call them “robust members”, “promising members”, and “weak members”, if assessed with respect to the evidence identified above as diagnostic within the historical-comparative method. In view of the limited amount of data discussed here and the overall superficial evaluation, it goes without saying that my assignment of some groups to one or another category must entail a considerable amount of subjective ad-hoc judgement. It is hoped that specialists are soon in a position to rectify any misinterpretation on my part. Table 75 in section 2.9 summarizes the results in a schematic form.

The first set of robust family members comprises the following six units (numbers of pool subgroups in parentheses): Benue-Kwa (>20), Dakoid, Atlantic (7), Gur (8), and Adamawa (14). Since Kordofanian groups are not part of this set, the implied lineage is appropriately called Niger-Congo, parallel to Greenberg’s original usage. With close to 1,300 languages, this is still an exceptionally large lineage both on the continent and globally.

In order to arrive at a first empirically sound subclassification, I venture that it is safer to start working with this set of language groups instead of already roping in data from any other less secure unit. Regarding subgrouping, it is far too early to give any concrete proposals in this context. However, an inspection of some of the data collated here help to illustrate potentially fruitful paths for future research. That is, some presumably innovative morphological and lexical traits assemble across these core groups in a way that may be suggestive of possible genealogical signals.

Table 44 deals with four items, all of them partaking in some form in a paradigmatic structure: the second-person singular pronoun ‘you’, the noun for ‘person’ embedded in the inherited gender system, and the numerals ‘five’ and ‘two’. They are chosen because they display to different degrees significant changes that are arguably innovative and unidirectional vis-à-vis the assumed proto-forms.

The first phenomenon is the final lenition and ultimate truncation of the inher-

Table 44: Potential innovations defining a partial Niger-Congo subclassification

Classificatory unit		‘you’	‘person’				‘five’	‘two’
Code	Name	* mV ^{back}	(-)l/2(-) * nV ^{front}	tV ^{?back}		* nV ^{back}	* RV ^{front}	
U16.N	<i>Fali</i>	<i>m u</i>	–	<i>n i d u</i>		–	–	
U16.B	Longuda	<i>m O</i>	-E/bE (n)	<i>yI (r) Ø</i>		Ø <i>ny O-</i>	–	
U16.A	Tula-Waja	<i>m O</i>	-Ø/b(U)	<i>n I (r) Ø</i>		Ø <i>n U-</i>	–	
U15.A	(Oti-Volta)	b V	-V/ba	<i>n i t (V)</i>		Ø <i>n u</i>	Ø <i>l e</i>	
U6.M	Yoruboid	b’ V	ɔ/ɛ-	<i>n ĩ Ø Ø</i>		rɔ ~ á	Ø <i>j i</i>	
U6.I	Ukaan	(h) O	ð/â-	<i>n í Ø Ø</i>		tʃð n Ñ	wà Ø Ø	
U7	(<i>Samba Daka</i>)	<i>w èè</i>	–	<i>n èé Ø Ø</i>		<i>tO (ŋ) o-</i>	<i>ba r a</i>	
U6.C	(Ninzie)	?	u/ba-	<i>n E t Ø</i>		tó ŋ Ø	pah Ø Ø	
U6.A	(Ekoid)	?	ñ/(b)â-	<i>n è Ø Ø</i>		Dô n Ø	ba (l) Ø	
U6.A	(Bantu)	Ø <i>u</i>	mu/ba-	<i>n Ø t u</i>		taa n o	bV d i	

Note: (...) = data only from a subentity of the classificatory unit, ? = no data, – = not attested

ited lexeme ‘person’. Given the limited evidence, this change is not fully clear regarding the final back vowel but quite secure for the preceding alveolar plosive. This type of root reduction does not define any lineage but reflects with all probability multiple, independent events that are related to the well-known areal phenomenon of becoming “Kwa-like” in the wider Gulf of Guinea coast area (see section 2.5.2.3. above and section 3.2.3.4 below). This is confirmed by the observation that the same set of lineages display similar processes affecting also the two numeral stems recorded in the table.

The second assumed innovation set is onset changes in the second-person singular pronoun ***mV**^{back} > ***BV**^{back} > **V**^{back} (see Güldemann [2017] for more discussion). Again, parts of the process chain seem to have happened more than once independently, e. g., the denasalization of initial *m* (cf. the ongoing process in Bandaic of Ubangi), so that the fact that Oti-Volta and the Benue-Kwa groups share this isogloss does not have to be interpreted as a genealogical signal.

The two changes displayed in the last two table columns, namely the incorporation of (? class) prefixes in the inherited simpler numeral roots for ‘five’ and ‘two’ (cf. Mische [1997b, 2001] for similar phenomena in Gur languages), may be the diagnostic for further genealogical subgrouping, because it is less likely that the same element was recruited multiple times in already separate lineages.

A final phenomenon is recorded in Table 44 in connection with the human gender of the noun ‘person’, for which it has been proposed, albeit without uni-

versal agreement (see section U6.A), that in traditional Bantu and its assumed immediate Bantoid relatives the noun prefix of class *1 (and a few other classes) has been expanded by an initial nasal.

Bringing these various changes together in an evolutionary scenario for Niger-Congo, they partly correlate but also amend some previous subclassification hypotheses. The areally mediated and hence irrelevant root reduction aside, the innovative form of ‘five’ (and the less diagnostic change $m > B$ in the pronoun) would define according to the present data a subfamily comprising Benue-Kwa and Dakoid, under the possible exclusion of some Kwa groups, for example, Ga-Dangme. A further subgroup within this clade is potentially established by the lineages having the numeral ‘two’ with a prefix BV-. Finally, one possible hypothesis about nasal prefix innovation would define Bantu. It goes without saying that all such discussion here is not meant to propose any robust hypothesis but rather to outline a possible methodological frame that may advance historical-comparative work within one of the largest linguistic lineages on the globe.

The second category of basic classificatory units within Niger-Kordofanian, namely promising members, subsumes on account of the above data the core of Kru (i. e., excluding Siamou), Pere, the Dogon family, Bangime, and the Ubangi pool (with seven subgroups). For none of these units is there a published, convincing demonstration of their Niger-Congo membership nor do the data employed here make a stronger case in this direction. At the same time, their typological profile and/or some of the paradigmatic lexical data are quite compatible with the idea that they could be heavily restructured (or less evolved?) Niger-Congo families. As opposed to Dimmendaal (2011: 319–320), I consider the Ubangi lineages to be in fact the strongest candidates within this list. Although they largely lack the expected morphological traces of Niger-Congo, in terms of paradigmatic lexical elements they fare much better than a number of other promising groups.

This is opposed to the Kordofanian pool (with four lineages) and Katlaic, which I see as being in between the categories of promising and weak members. Some of their morphological traits look typologically quite like those in Niger-Congo, notably the recurrent gender systems, but the weak signal of internal coherence regarding both typological structure and lexical elements complicate the picture considerably.

The third and last category of Niger-Kordofanian units, termed weak members, comprises Ijoid, Siamou of the Kru pool, and Mande. These display hardly any individual-identifying evidence that points specifically to a genealogical affiliation to Niger-Congo. It appears to be just as possible that any potential isoglosses, if they exist, are coincidental, or equally likely, contact-induced due to their geographical position close to secure Niger-Congo lineages.

2.6 The Nilo-Saharan domain

2.6.1. Classification history and lineage inventory

Greenberg, as the founder of the Nilo-Saharan hypothesis, only developed it in several steps, which shows the complexity of the general linguistic picture in this domain. This is recapitulated briefly with reference to the groups as presented and labeled here. Revolving around the genealogical assessment of Nilotic, which had always attracted scholarly attention (cf., e. g., Murray 1920; Conti Rossini 1926; Verri 1950), Greenberg (1950b, 1950d) first advanced his proposal for an East Sudanic family, then comprising Taman, Nara, Nubian, Dajuic, Nilotic, Surmic, and Jebel, which he still separated from many other groups that he would later join to it. Greenberg (1954) expanded this East Sudanic by Central Sudanic, Kunama, and Berta (which then subsumed the Non-Gaam Jebel languages) to form the yet larger Macro-Sudanic family. The final Nilo-Saharan concept only took full shape with Greenberg (1963a), which involved two separate changes. First, he integrated Kuliak, Temeinic, and Nyimang (apparently entering the discussion without any previous mention) in the East Sudanic branch of Maco-Sudanic, renaming this Chari-Nile. Second, he expanded the new Chari-Nile with the addition of Songhay, Furan, Saharan, Maban, and “Coman” (then comprising Koman proper and Baga aka Gumuz) to form Nilo-Saharan in its final form. Three units came to be associated with this macro-unit only later, namely the extinct Meroitic, the newly discovered Ethiopian remnant language Shabo, and the Kadu family of the Nuba Mountains that Greenberg had classified as Kordofanian.

Most of the later genealogical research with a scope over Nilo-Saharan as a whole became the enterprise of two scholars, namely Bender (e. g., 1981b, 1989b, 1991b, 1996b, 1996c, 1996d, 2000b) and Ehret (e. g., 1983, 1989, 2001). The first author also has the merit of providing the first more extensive data on a number of languages and small families in the Sudan-Ethiopia area that were still virtually unknown at Greenberg’s time. Looking at the research of the two scholars, a peculiar picture emerges. For one thing, both frameworks seem to have been developed largely in parallel to one another with little fruitful interaction, although they emerged at the same time with the same range of data. This goes far beyond idiosyncratic terminological conventions, which hamper scientific communication and, for non-specialists, make it difficult to appreciate the similarities and differences of the hypotheses. An illustration of this situation is the appearance of Bender (2000b) and Ehret (2000b) side by side in a single volume with little reference to one another, let alone a discussion of the major controversial issues. Since Bender (e. g., 1996c, 1996d) devotes extensive discussion to Ehret’s different research results, the failure to engage with contrary scholarship applies especially to Ehret’s approach. For example, while the reference list of his major 2001 study on Nilo-Saharan classification and reconstruction does contain 15 of Bender’s works, these are mostly

sources of language data; he hardly deals with Bender's comparative works that would serve as the starting point of a critical discussion of competing proposals.

Figures 20 and 21 present the later versions of Ehret's and Bender's subgrouping proposals; their terms are maintained but are keyed to the classificatory units to be discussed in section 2.6.3.

NILO-SAHARAN

	Koman
U41	Gumuz
U40	Western Koman
	Sudanic
U22	Central Sudanic
	Northern Sudanic
U24	Kunama
	Saharo-Sahelian
U27	Saharan
	Sahelian
U26	For
	Trans-Sahel
	Western Sahelian
U23	Songay
U28	Maban
	Eastern Sahelian (~ East Sudanic)
	Astaboran
U31	Nara
	Western
U33	Nubian
U29	Taman
	Kir-Abbaian
	Jebel
U38	West Jebel
U39	Bertha
	Kir
	Nuba-Mountains
U35	Temein
U30	Nyima
U34	Daju
	Surma-Nilotic
U37	Surmic
U36	Nilotic
U21	Rub

Figure 20: Nilo-Saharan classification after Ehret (2001: 70–71, 88–89)

NILO-SAHARAN

- U23 A Songay
- U27 B Saharan
- U21 K Kuliak
- Satellite-Core
- U28 C Maban
- U26 D Fur
- U22 F Central Sudanic
- U39 G Berta
- U24 H Kunama
- Core
- E Eastern Sudanic
- Ek
- U33 E1 Nubian
- U31 E3 Nera
- U30 E5 Nyima
- U29 E7 Tama
- En
- U37 E2 Surmic
- U38 E4 Jebel
- U35 E6 Temein
- U34 E8 Daju
- U36 E9 Nilotic
- U40 I Koman
- U41 J Gumuz
- U20 L Kadu

Figure 21: Nilo-Saharan classification after Bender (2000b: 55)

Comparing the two schemes, the second noteworthy point concerning their work becomes apparent, namely how little agreement there is regarding the group's internal composition. While a first difference is Ehret's articulated tree structure as opposed to Bender's far more vague conceptualization of his subgroups and their relative position, this may merely reflect a different degree of confidence in the results of their proposals. Far more serious for an assessment of the current status of Nilo-Saharan is the fact that a number of lineages are accorded very different positions in the family structure, as shown in Table 45 for six important units. Since Bender and Ehret have based their proposals on empirical details drawn from effectively the same database, this is surprising – if one tree structure depicts the situation accurately, then the other structure must be wholly incorrect.

Table 45: Major divergences between the Nilo-Saharan classifications by Bender and Ehret in relation to Greenberg (1963a)

Lineage	Bender (2000b)	Greenberg (1963a)	Ehret (2001)
Kadu	“Core”	not Nilo-Saharan	not Nilo-Saharan
Koman	“Core”	1st-order outlier	1st-order outlier
Baga	“Core”	1st-order outlier	1st-order outlier
Songhay	1st-order outlier	1st-order outlier	in 5th-order “West. Sahelian”
Berta	2nd-order satellite	in “Chari-Nile”	in 5th-order “East. Sahelian”
Kuliak	1st-order outlier	in “East Sudanic” core	in 5th-order “East. Sahelian”

This problem carries over to yet another major classification proposal advanced by Dimmendaal; his Nilo-Saharan subgrouping is shown in Figure 22.

NILO-SAHARAN

	Northeastern
U28	Maban
	Clade without name
U27	Saharan
U26	Fur and Amdang
U24	Kunama
	Eastern Sudanic
	Northern
U29	Taman
U32	Meroitic
U33	Nubian
U31	Nara
U30	Nyimang
	Southeastern
U38	Jebel
	Southern
U34	Daju
U35	Temeinian
U37	Surmic
U36	Nilotic
U39	Berta
U21	Rub
U22	Central Sudanic

Figure 22: Nilo-Saharan classification after Dimmendaal (2014b: 592–593)

Table 46: Basic classificatory units in the Nilo-Saharan domain

No.	Lineage	1	2	3	4	Geographic location
U20	Kadu	6				Nuba Mountains
U21	Kuliak	3	X			Northeast Uganda
U22	Central Sudanic	65				from northeastern DRC to southern Chad
U23	Songhay	10				Niger bend into Sahara
U24	Kunama	1		X	X	Ethiopian escarpment
U25	Shabo	1	X	X		Ethiopian escarpment
U26	Furan	2	X			Western Nile watershed
U27	Saharan	10				Central Sahara
U28	Maban	10		X		Western Nile watershed
U29	Taman	4		X	X	Western Nile watershed
U30	Nyimang	2		X	X	Nuba Mountains
U31	Nara	1		X	X	Ethiopian escarpment
U32	Meroitic	1	X	X	X	Middle Nile (extinct)
U33	Nubian	13				Western Nile w., Nuba M., Middle Nile
U34	Dajuic	7		X		Western Nile watershed, Nuba Mountains
U35	Temeinic	2	X	X	X	Nuba Mountains
U36	Nilotic	51				South Sudan, Uganda, Kenya, Tanzania
U37	Surmic	10				Ethiopian escarpment
U38	Jebel (2)	4	X	X		Ethiopian escarpment
U39	Berta	1		X	X	Ethiopian escarpment
U40	Koman (2)	4		X		Ethiopian escarpment
U41	Baga	?3	X	X		Ethiopian escarpment
	Total	~200				

Note: (n) = Number of potentially separate subgroups; 1 = Number of languages; 2 = No grammar sketch before 1965; No comprehensive modern published description: 3 = before 2000; 4 = today

Dimmendaal, as the currently most active scholar with a Nilo-Saharan scope, has dealt with various structural features across the domain and has presented his view on genealogical classification in passing (cf., e. g., 2010a: 18, 2014a: 3, 2014b: 592–593). He goes furthest in altering Greenberg’s original and later proposals by excluding four lineages from the family – Kadu, Songhay, Koman, and Baga~Gumuz – albeit without any empirical justification. These are all listed in Table 45 as groups that are also highly controversial between Bender and Ehret. However, Dimmendaal’s change does not seem to lead to a more consensual family tree but just to a third one. In general, beyond the recognition of Central Sudanic and a similar East Sudanic core as well as the unanimous exclusion of Shabo, there is little that the three classifications converge on. This enormous disagreement alone must cast doubt on the validity of Nilo-Saharan as it is currently conceived.

This suspicion is confirmed by another noteworthy fact. A Nilo-Saharan membership has met with considerable skepticism if not outright rejection in virtually all lineages that specialist linguists have subjected to a more detailed historical evaluation. As will be shown below, this holds for Songhay, Kuliak, Central Sudanic, and Saharan, whereby the specialist opinion on the latter three families collides with all versions of Nilo-Saharan. The fact that such a situation only concerns four units does not imply agreement on the remaining ones but is merely an artifact of the absence or scarcity of historical-comparative research on most of them. Hence, Heine’s (1992: 32) assessment is still adequate today: “The Nilo-Saharan family, in particular, must be regarded as a tentative grouping, the genetic unity of which remains to be established.” Accordingly, the following discussion recognizes first of all 22 basic classificatory units, as listed in Table 46.

2.6.2. Diagnostic evidence

2.6.2.1. Morphology

Due to the gradual development of Greenberg’s Nilo-Saharan, it is not easy to get a transparent picture about the purported grammatical evidence supporting the group and how it is actually distributed across its member lineages. Table 47 attempts to give such an overview, also taking the different classificatory levels into account. A cross in a cell merely records that at least one language of a lineage displays a purported reflex of a feature but by no means that there is anything in the way of a normal reconstruction of such an element for the relevant proto-language. Since East Sudanic is a relatively stable entity across all Nilo-Saharan classifications, its detailed treatment is deferred to section 2.6.4.2. Suffice it to say at this point that the picture within East Sudanic is not qualitatively different from that in Nilo-Saharan seen in Table 47 and discussed in the following.

Here is not the place to discuss all the evidence in Table 47 in detail. Overall, while a list of 47 morphological traits looks impressive at first glance, Green-

berg's data are not acceptable within standard historical linguistics. The necessary criticism against interpreting them in terms of genealogical inheritance is almost identical to that raised, for example, by Güldemann (2008b: 145–146) against Greenberg's evidence for "Khoisan". That is, the superficially promising case for Nilo-Saharan results from a composite of problematic practices, including the overhasty interpretation of partly fragmentary and poorly understood data, a disregard of standards in historical-comparative reconstruction and diachronic typology, the admission of insufficient representation of language groups and probably coincidental resemblances, and a failure to consider the effects of possible language contact.

As Table 47 reveals, the diagnostic value of the grammatical material is already challenged by its highly irregular distribution with regard to both the general feature frequency in the hypothetical family and the number of features within individual lineages. Thus, a robust representation across the whole range of features is only attained by the East Sudanic core itself with attestations in 43 of 47 traits, followed with a wide margin by Central Sudanic, which is claimed by Greenberg to display 27 traits. As mentioned already, the satisfactory picture in East Sudanic is in fact only apparent, which is discussed in more detail in section 2.6.4.2 below but is already indicated in Table 47 by the non-conforming behavior of the three lineages Greenberg added later, Temeinic, Nyimang, and Kuliak.

An equally ambiguous picture emerges in Table 47 when evaluating the status of individual features vis-à-vis the different language groups. Since Nilo-Saharan subgroupings are highly controversial, it is adequate to evaluate feature representation across all lineages rather than only according to nested tree structures proposed by Greenberg or anyone else. Before this background, only two of the 47 features appear to be attested fairly regularly across Nilo-Saharan, namely the first-person singular pronominal *a* and the second-person singular pronominal *i~e*. A third-person singular pronominal, *n*, is the next best candidate feature. As Greenberg (1963a: 109–111) and later authors (e. g., Bender 1989b, 2000d) have argued, the purported vocalic isoglosses in pronominal elements, which are recurrently independent of number, may count as a case of paradigmatic and thus stronger evidence. However, this idea disregards findings of cross-linguistic research concerning pronouns (Gordon 1995; Nichols and Peterson 1996; Rhodes 1997; Nichols 2001). That is, these elements tend to recruit unmarked speech sounds and display closed-set phonosymbolism in their restricted paradigms, which in turn highly facilitates chance resemblances. Moreover, closed-set phonosymbolism between unmarked speech sounds has been argued to be a possible result of macro-areal convergence (cf. Nichols and Peterson [1996, 2005] and Nichols [2001, 2012] for two cases in Eurasia and the Americas, and Güldemann [2017] for one in central Africa). Looking at the Nilo-Saharan case, both observations provide an equally good non-genealogical explanation for the invoked pronominal affinities.

Table 47: Greenberg's (1954, 1963a) grammatical evidence for Nilo-Saharan

Feature	No. in Greenberg (1950b, 1954)	No. in Greenberg (1963a)	East Sudanic				Chari-Nile or Macro-Sudanic			Nilo-Saharan					
			Original 7 groups	Added: Temeinic	Added: Nyimang	Added: Kuliak	Central Sudanic	Kunama	Berta and/or Non-Gaam Jebel	Songhay	Saharan	Maban and/or Mimi	Furan	Koman	Baga (aka Gumuz)
1S in <i>a</i>	1	1	X	X	X		X	X	X	X	X	X	X	X	
2S.SBJ in <i>i~e</i>	2	2	X	X	X		X	X		X	X	X	X	X	
2S/P.POSS in <i>u</i>	3	3	X	X			X								
3S in <i>e</i>	–	4	X												
3 DEM in <i>T</i>	4	5	X								X				
3S in <i>n</i>	–	6	X		X		X	X	X		X		X		
3 SBJ in <i>K(V)-</i>	–	7	X				X								
2P in <i>w</i>	–	8	X							X	X				
2P in <i>t</i>	–	9	X						X						
3P in <i>i</i>	–	10	X				X								
REL~ADJ in <i>m</i>	6	12	X				X	X		X	X			X	
PR.DEM~REL in <i>T</i>	7	11	X												
REL~ADJ in <i>K</i>	8	13	X							X		X			
F in <i>N</i>	9	14	X				X								
M in <i>m</i>	–	15													
S in <i>a~o</i>	–	48	X									X			
S/ABSTR in <i>T</i>	10	23	X	X	X			X			X	X			
Units in <i>tVt</i>	–	24	X	X											
S/P in <i>n/K</i>	5	32	X				X					X			
S/P in <i>T/k</i>	–	33	X										X		

P in <i>K</i>	11	25	X	X	X		X					X			
P in <i>T</i>	12	26	X						X			X			
P in <i>N</i>	13	27	X							X		X			
P in <i>V^{front}</i>	14	28	X	X			X	X	X			X			
Special P on nouns	15	29	X												
A.P in <i>r</i>	–	30	X							X					
‘name’ as P	–	31	X				X							X	
NOM.S in <i>i</i>	16	16	X												
GEN.S in <i>a~o</i>	17	17	X				X								
GEN in <i>n~ŋ</i>	–	18			X		X	X				X	X		
LOC.S in <i>T</i>	18	20	X				X	X							
LOC in <i>l</i>	19	21	X		X		X	X				X			
ACC in <i>K</i>	20	19	X				X					X	X		
LOC.P in <i>n</i>	21	22	X												
NOMZ in <i>a-</i>	–	34	X		X		X	X							
NOMZ in <i>k-</i>	–	35	X				X					X			
Moveable <i>k-</i>	–	36	X				X	X	X			X			
Verb class prefix	–	–					X	X							
COP~tense in <i>a</i>	22	–	X				X								
FUT in <i>P</i>	24	43	X												
PST in <i>K</i>	–	42	X				X	X				X			
NEG in <i>m~b</i>	25	46	X									X	X		
NEG in <i>k</i>	–	45	X				X								
INCH in <i>N</i>	26	39	X												
DAT on verb in <i>k</i>	27	38	X	X								X			
CAUS in <i>T</i>	–	40	X					X				X			
PASS/ITR in <i>a~o</i>	–	41	X							X					
REFL in <i>r</i>	–	47	X				X					X	X		
P on verb in <i>K</i>	23	37	X				X					X	X	X	
P on verb in <i>l</i>	–	44					X	X							

The unspecific characterization and thus unmarked nature of the phonetic material involved and its shortness are in fact a problem throughout the feature list in Table 47, which is compounded by loose semantic and morphosyntactic matching between the elements compared.

An ambivalent interpretation also remains in the rare case where Greenberg tries to explain the assumed historical background of a purported isogloss in more detail, notably in his treatment (1981) of the mysterious “moveable *k*” on nouns of Proto-Nilo-Saharan. Stevenson (1981), a contemporary work dealing with the variable presence vs. absence of initial elements on Nyimang adjectives, is telling in this respect. For one thing, the relevance of the phenomenon for adjectives goes against Greenberg’s generalization regarding the expected hosts of his *k(V)*-prefix. More important is the fact that Stevenson gives prefixed Nyimang adjectives and their presumed cognates in other Nilo-Saharan languages without such prefixes, whereby their forms are also *a-* and *t(V)-*, as shown in (7) (potential prefix in boldface).

(7)	Family	Subbranch	Language	Form
a.	‘boiling~to boil’			
	Nyimang	–	Dinik	<i>gúgulàl</i>
			Ama	(a) <i>walài</i>
	Nubian	Nile	Mahas	<i>wal</i>
	Nilotic	West	Shilluk	<i>w(a)al(o)</i>
			(Dho)Luo	<i>walɔ</i>
		East	Bari	<i>walala</i>
			Teso	(ai) <i>waliwal</i>
	Surmic	Southwest	Murle	<i>malac</i>
b.	‘(to be) blind’			
	Nyimang	–	Ama	<i>to.ɲodù</i>
			Dinik	<i>tɔ.ndɔ</i>
	Nubian	Kordofan	Kadaru	<i>tu.ɲdu</i>
			Midob	<i>tu.ɲɲur</i>
		Nile	Dongolese	<i>du.ɲgur</i>
	Central Sudanic	Bongo-Bagirmi	Bongo	<i>ngu’du</i>
	Nilotic	East	Bari	<i>mo’do.ke</i>
			Teso	<i>mudu.kaka</i>
				(or <i>mudu.ana</i>)
			Maasai	<i>modoo.k</i>
				(or <i>modoo.ni</i>)

Stevenson (1981: 158, 163)

According to Greenberg’s logic, one would be tempted to posit the existence of yet other proto-affixes – an idea that Bender and Ehret have indeed entertained excessively in their search for Nilo-Saharan cognates. Alternatively, however, one

may just conclude that there is a considerable likelihood of finding a lexical root in one language whose shape and meaning happens to be similar to a form in another language that displays an additional initial or final segment. Thus, coincidental (partial) likeness seem to account for Murle *malac* in (7a) and for the forms of Bongo and East Nilotic in (7b). Thus, there may be no prefix involved in (7b) after all but simply a lexeme of the approximately reconstructed form *TUDUD(U) (cf. Rilly 2010: 424).

The above caveat is, of course, not to say that frozen lexicalized morphology of the type described does not exist in some of the lineages at issue nor that all cross-lineage comparisons proposed in relation to such a phenomenon are invalid. After all, some families are indeed likely to be related genealogically, like Nyimang and Nubian (see section 2.6.4.2.), and some (may) have been in contact, for example, certainly Nyimang and Kordofan Nubian. What is in doubt here is that the evidence given so far allows the secure reconstruction of such “moveable” segments to an all-comprising Proto-Nilo-Saharan. Greenberg’s data are also compatible with another hypothesis, namely that the linguistic affinities across otherwise diverse lineages are the result of a composite of partly unrelated factors, namely some genuinely genealogical relations on a lower level, a considerable amount of multiple and long-standing language contact, and simply coincidental similarity of compared grammatical material that is phonetically reduced and hence unmarked.

Such an explanation can also be applied to subsequent morphological comparisons, which often focus on the central geographically compact area of the Nilo-Saharan domain. A case in point are the three articles by Bryan dealing with what she calls “syndromes” in number and person marking (cf. also Tucker’s [1975: 35–43] discussion with respect to two of the three features); they all take up or independently replicate comparisons contained in Greenberg (1963a). Thus, Bryan assembles extensive data on a *T/K* distinction rendering singular vs. plural on predominantly nominal elements (1959), on an *N/K* distinction expressing singular vs. plural on predominantly pronominal and verbal elements (1968), and on an *I/U* “coloration” on pronominal items referring in particular to a high-vowel feature in the second person, as opposed to an open vowel in the first person, with a variable tendency toward either *i* or *u* according to different grammatical factors and in different languages (1975). The distribution Bryan reports for these abstract features across lineages in northeastern Africa is summarized in Table 48.

While Bryan explicitly stated that the syndromes must at least partly involve language contact, she did expect that her contributions would also inform genealogical classification (1975: 75):

It is hoped that this exercise in morphotypology will contribute to the verification of at least some previous classifications and provide material towards sub-classification within established language groups; contribute towards a greater understanding of some of the sound changes that take place in the languages under discussion, and so eventually towards the establishment of philologically reliable starred forms.

Table 48: Bryan's (1959, 1968, 1975) areal "syndromes" of number and person marking

No.	Classificatory unit	Bryan (1959)	Bryan (1968)	Bryan (1975)
NIGER-KORDOFANIAN				
U18	Kordofanian			
A	Heibanic	T/- ?	-/K	-
B	Talodic	-	-/K	-
D	Rashadic	-	-/K	-
NILO-SAHARAN				
U20	Kadu	T/K	N/K	(I/U)
U21	Kuliak	-/K ?	-	-
U22	Central Sudanic			
A	Bongo-Bagirmi	-/K ?	N/K ?	I/U ?
C	Kresh	-	N/K ?	I/U ?
F-I	Moru-Mangbetu	-	N/K	I/U ?
U23	Songhay	-	-	(I/U)
U24	Kunama	-	-	(I/U)
U26	Furan	T/K ?	N/K ?	(I/U)
U27	Saharan	T/- ?	-	(I/U)
U28	Maban	T/- ?	N/K ?	(I/U)
U29	Taman	T/K	N/K	I/U ?
U30	Nyimang	T/- ?	-/K	I/U ?
U31	Nara	-	-/K	(I/U)
U33	Nubian	T/- ?	-/K ?	I/U
U34	Dajuic	T/K	N/K	I/U ?
U35	Temeinic	T/K	N/K ?	I/U ?
U36	Nilotic	T/K	N/K	I/U
U37	Surmic	T/K	N/K	I/U
U38	Jebel	-	-/K	I/U
U40	Koman	-	-	I/U
AFROASIATIC				
U45	Cushitic	T/K	-	-

Notes: Presence of feature is: partial = -/X or X/-, questionable = ?, unlikely = (...); - = unit not mentioned

Unfortunately, no proto-forms have been reconstructed since then for any of the secure low-level lineages, let alone for larger ones. Instead, the later comparisons remain as abstract as Bryan’s and Greenberg’s and continue to target the highest possible classificatory level of Nilo-Saharan – this in spite of the fact that Niger-Kordofanian and Afroasiatic languages are involved already in Bryan’s data, which implies that some similarities must be due to contact or coincidence.

Such insufficient methodological rigor carries over to studies on a smaller scale. An exemplary case is Edgar’s (1991a: 121–122) comparison of number suffixes (or their absence) between the two neighboring families Taman and Maban. Table 49 gives the distribution of abstract thematic elements according to their number value, whereby those that cannot be securely reconstructed are given in parentheses.

Table 49: Suffixal number morphology in Taman and Maban (after Edgar 1991a: 122)

Suffix forms		∅	<i>V</i>	<i>N</i>	<i>T</i>	<i>K</i>	<i>S</i>	<i>R</i>
S	Taman	X	X	(X)	X	(X)	–	–
	Maban	X	X	(X)	(X)	X	–	(X)
P	Taman	(X)	X	X	(X)	X	–	–
	Maban	(X)	X	X	X	(X)	(X)	(X)

Note: Frame = full form-meaning correspondence

My partly different arrangement of Edgar’s information shows that full form-meaning “matches” only emerge in the first three columns, which are those with hardly any historically diagnostic value, viz. the absence of any marking and unspecified vocalic and nasal segments. None of the somewhat more specific consonantal exponents, *T*, *K*, *S*, and *R*, show a complete congruence between Proto-Maban and Proto-Taman. In addition, even in the case of a “full match” between compared markers of the above type, their real cognacy is still far from certain, as they all abstract from different language-specific features regarding exact consonant characteristics, additional vowels, suprasegmentals, possible allomorphy, etc. In unspecific comparisons lacking solidly reconstructed proto-forms the possibility of being confronted with chance resemblances in elaborate morphological paradigms that commonly display unmarked segments is simply as likely as finding remnants of shared inherited grams.

This can also be shown by means of an inverse exercise, namely the inspection of complex and partly irregular synchronic morphology that can accumulate within a language group that definitely goes back to a single ancestor. For example, Storch (2005: 380–395) summarizes the large range of nominal affixation across West Nilotic languages. Without going into detail, a look just at her tables of singular

and plural suffixes reveals that the notorious thematic elements of Nilo-Saharan number marking, *N*, *T*, and *K*, indeed occur but in fact in both number values. The author unfortunately does not advance specific proto-forms that could reveal any bias of a number value toward a thematic element; at the face of it, one can only diagnose that the search for synchronic *N*-, *T*-, or *K*-like segments in a relatively small group like West Nilotic secures success in any number value, apart from yet other elements. In the large set of diverse languages and families subsumed under Nilo-Saharan, many of them known to display complex morphology and its historical layering, a similar search for a somewhat more specific pattern, say singular *N* vs. plural *K*, is thus bound to be successful also across possibly unrelated lineages.

Coincidental similarity is yet more likely for single markers that so far lack any paradigmatic aspect. Dimmendaal (2010a), for example, surveys differential object marking in Nilo-Saharan and entertains the hypothesis that one can reconstruct an accusative marker for the assumed proto-language, albeit without other case markers within a larger paradigm. Table 50 repeats Dimmendaal's data, supplemented with some cases that he did not include.

Table 50: (Differential) object marking in Nilo-Saharan after Dimmendaal (2010a)

No.	Lineage: language	OBJ1	OBJ2	OBJ3	Comment
U21	Kuliak	-ka			
U24	<i>Kunama</i>	<i>(-k-)</i>		<i>-si</i>	
U25	<i>Shabo</i>	-k(a)			Kibebe (2015: 146–153)
U26	Furan: <i>Fur</i>		<i>(-gi)</i>	<i>-si</i>	
U27	Saharan: several	<i>ga, a</i>			
U28	Maban: several		<i>-ko, -gu</i>		
U29	Taman: <i>Tama</i>		<i>-ij, -koj</i>		cf. Rilly (2010: 390–391) vs. comitative-instrumental <i>-gi</i>
U30	Nyimang: <i>Ama</i>		<i>-oj</i>		cf. Rilly (2010: 391–392)
U31	<i>Nara</i>	<i>-ga ?</i>			cf. Rilly (2010: 287, 391)
U32	<i>Meroitic</i>	<i>-ya ?</i>			cf. Rilly (2010: 393–398)
U33	Nubian: several	<i>-ga, -ka</i>	<i>-gi</i>		cf. Rilly (2010: 390)

Note: boldface = obligatory rather than differential object marking

This data survey shows again a synchronic picture that may well reflect a mixture of a promising genealogical signal, namely a potentially inherited object marker in a group of northern East Sudanic languages subsuming U29–U33 (see section

2.6.4.2), besides other elements that are partly similar by chance. The range of languages affected is also significant from a geographical perspective in that all groups but Kuliak pertain to a non-genealogical macro-area, Chad-Ethiopia, that is characterized among other things by elaborate case systems (see, e. g., Güldemann 2010).

Isolated comparisons of grams between individual lineages suffer from the same problems, although here reconstructions are expected to be easier. For example, Griscorn (2015) has recently discussed some kind of historical relation between Koman and (West) Nilotic, because both groups possess a preposition of the form *KV^{front}* that shares a similar polyfunctionality pattern. Being confident that the two units are genealogically related at some level, the author attributes this isogloss to some Nilo-Saharan proto-stage. But this disregards the real possibility that independent proto-languages are involved that, by mere coincidence, had a preposition with a similar shape and an appropriate semantic profile to undergo similar grammaticalization processes. Moreover, the author admits that grammaticalization may have involved areal contact.

2.6.2.2. Lexicon

The situation regarding diagnostic lexical evidence for Nilo-Saharan parallels that for the morphological domain. The early critics aside (e. g., Tucker and Bryan, as cited in section 2.2.2, and Goodman 1970), Greenberg's (1963a) lexical data has been assessed more systematically from a statistical perspective by Mikkola (1998, 1999). Although his procedure of working with superficially similar forms of individual languages may itself not find acceptance among many historical linguists, he points out the significant problem of coincidence and concludes (1998: 83):

The results are in good accordance with the hypothetical status of Nilo-Saharan as a genetic unit, being something like an African counterpart for 'Eurasian' ...

Until someone is capable to confirm the (partial?) validity of Nilo-Saharan, at least the 'outliers' might more cautiously be regarded as independent families. After the vigorous and unsound criticism expressed by Bantuists and Nilo-Hamiticists against Greenberg, accepting the Nilo-Saharan status of some 'marginal' languages as a part of his whole African classification might have been too easy.

Bender and Ehret are the most prolific later authors on lexical comparison in Nilo-Saharan. Their oeuvre, culminating in two monographs with extensive lexical data, Bender (1996d) and Ehret (2001), is not only extensive but unfortunately also difficult if not impossible to evaluate in detail for various reasons, alluded to already in section 2.6.1. One first practical but major barrier is that a detailed assessment of the empirical facts would require one to do most of the research anew, because the innumerable pieces of data belonging to a great number of languages from a yet larger number of sources are not referenced transparently. For

this and other reasons, I must follow here another strategy in the form of an indirect and summary critique, notably by looking at the public reception of their work by other scholars and/or by putting into perspective some early studies that are more restricted in genealogical and thus empirical scale, implying that if already low-level hypotheses are doubtful, then their full Nilo-Saharan hypotheses are likely even more so.

The review of Ehret (2001) by Blench (2000c, published in 2001) is particularly relevant in this regard, because it compares both works cited above. What emerges is an overall negative picture of the methodological approaches of both authors and hence the resulting state of Nilo-Saharan historical work in general – drawn by a scholar who himself is a strong proponent of the hypothesis. While I refrain from repeating Blench’s numerous queries or, at this stage, adding additional ones from my perspective, one point deserves to be mentioned at the outset. Blench (2000c: 302–303) observes that both works are unlikely to have been subject to “normal review procedures”, which should be surprising, given the evident impact of such works even outside linguistics. Looking at other relevant studies it becomes clear that their entire Nilo-Saharan oeuvre emerged under their own steam without having been confronted with any serious scrutiny by fellow historical linguists: most works were published in conference proceedings and/or under their own editorship rather than by journals or publishers known for a reliable peer review. According to Blench, however, there seems to be an overall positive tradeoff effect between the disadvantages of unrefereed publications, lax editing included, and the fact that the studies sidestepped the peer assessment of potentially overly critical non-specialists. Consequently, when engaging with these texts, all readers, especially those who are interested in and knowledgeable about historical-comparative questions, need to determine for themselves whether (or to what extent) any potential dissatisfaction with the two major Nilo-Saharan reconstructions and related works is due to their own personal biases (theoretical or otherwise), to editorial problems, or to other, more substantial deficiencies in the studies themselves.

It is, however, instructive to have a closer look at the cases in which other historical linguists have inspected and evaluated the works of the authors in more detail, which is possible for some of Ehret’s early works. With respect to the usefulness of his concrete linguistic results, Voßen’s (1983: 182) evaluation of the East Nilotic reconstructions in Ehret (1974) and Ehret et al. (1974) is representative and reiterates points made above: “... a serious problem with Ehret’s reconstructions is his failure to provide proofs for them. Neither were attestations regularly provided, nor did the author find it necessary to explain the linguistic facts the reconstructions were based on. It is understandable, therefore, that these contributions are judged with reservation.” The reviews of two of Ehret’s historical monographs, namely Newman (1974) on Ehret (1971) dealing with South Nilotic history and Hetzron and Tálos (1982) on Ehret (1980) reconstructing South

Cushitic of Afroasiatic, amount to harsh critiques with respect to the author's handling of data and methodology as a whole. While Newman does not go into any empirical details, his summary assessment (Newman 1974: 648) speaks about the book in a benevolent but certainly not flattering fashion as a "triumph of art over science, of intuition over empiricism, of imagination over methodology. In the final analysis, it is the triumph of the talented chef who turns out a remarkable meal, but whose cookbook is not to be recommended at any price."

Being more familiar with the languages at issue, Hetzron and Tálós (1982: 244–245) comment somewhat similarly:

Assuming that all the rules work properly (which would require a great deal of time and energy to check) and even making allowance for the excessively complicated format ..., the deductive system used by Ehret, starting out of an artificial construct which through rules constructed to do just that lead to a real situation, arouses some suspicion. We are not blaming the author for the fact that his rules do work, but suspect that they may fail some requirements of naturalness. ... In summary, Ehret may be entirely right and his reconstructions perfect. Yet the unrealistic perfection of his derivations, his teleological method, the lack of adequate treatment of minor details and of some explanation of how he reached each one of his deductions, make one hesitate to decide whether this is a brilliant intellectual game or serious linguistics. As we said before, the second possibility is by no means excluded, but some malaise always remains.

An inspection of the later historical-comparative studies on the reconstruction and classification of South Cushitic, especially Kießling (2002) and Kießling and Mous (2003), reveals that the reviewers' malaise was justified: today, South Cushitic in Ehret's terms is not even recognized as a genuine family (see section U45).

These two early studies by Ehret still have the merit of providing some new data the author had collected on South Nilotic and South Cushitic languages. His later work draws almost exclusively on secondary sources, and Blench (2000c) and Dimmendaal (2011: 314–318), both supporters of Nilo-Saharan, make it abundantly clear that the type of criticism raised in early reviews unfortunately carries over to this. Hence, with Ehret's enterprise as a whole, despite the possibility of containing many interesting ideas and details of analysis, there only remains the widespread skepticism against his general approach and the gnawing question about the validity of his bold and far-reaching hypotheses. That this does not only concern the higher genealogical levels becomes clear from the repeated weakness of his evidence for low-scale proposals, to be mentioned partly in section 2.6.4.1.

Bender undertook primary field work on a number of Nilo-Saharan languages and thus had a greater first-hand exposure to empirical data, and he has also engaged more with the work of other scholars. However, his way of arriving at probative evidence and his consideration for the reader's chance to evaluate it does not differ considerably from Ehret's approach. Since I have not come across more detailed reviews of his Nilo-Saharan work, I present a few examples of lexicon reconstruction from one of his early studies.

Table 51: Comparative series for ‘dog’ (after Bender 1981b: 258-7, 266)

Language group	Language	Root 1	Root 2
NILO-SAHARAN			
U21 Kuliak	Ik	<i>nok^a</i>	
U22 Central Sudanic			
A Bongo-Bagirmi	Sara		<i>bísī</i>
	Baka		<i>isī</i>
G Lenduic	Baledha		<i>tsée</i>
I Mangbetu-Asua	Mangbetu		<i>nesi</i>
U26 Furan	Fur		<i>asa</i>
U28 Maban	Maba	<i>nok</i>	
U29 Taman	Tama		<i>wi</i>
	Mararit		<i>wīš</i>
U31 Nara	Nara		<i>wəs</i>
U34 Dajuic	Shatt		<i>iis</i>
U36 Nilotic			
West	Burun	<i>gok</i>	
West	Naath	<i>jioK</i>	
South	Nandi		<i>sese</i>
AFROASIATIC			
U42 Semitic	Amharic		<i>wīšša</i>
U45 Cushitic	Sidamo		<i>wəšš-ico</i>
U46 Omotic: C Ari-Banna	Ari		<i>aksi</i>
NIGER-KORDOFANIAN			
U18 Kordofanian: D Rashadic	Orig (aka Tagoi)		<i>wùsù</i>
U17 Ubangi: B Zandic	Zande	<i>ango</i>	

Note: see Bender’s footnote 4 for the data from Amharic and Sidamo

Table 51 presents his data on Nilo-Saharan words for ‘dog’. His overall approach to lexical comparison becomes clear when he (Bender 1981b: 258) writes about these two and other similar series:

What is the explanation of these form-meaning similarities? Two possibilities can be dismissed at once: chance convergences or separate roots in most cases. The similarities are too widespread and pervasive (beyond the examples given, of course) to give any credibility to these. Two other possibilities are more attractive: the items are essentially all roots and show phonological correspondence of root consonants, or the initial and final elements are more often affixes.

Bender unfortunately only refers to additional probative data and also leaves it to the reader to determine the exact “form–meaning similarities” observed by him. For the sake of the argument, regarding his comparisons for ‘dog’ I take them to be something like *OK~KO* for root 1 and some sibilant in the alveo-palatal region for root 2, which can even fade away entirely, as in Tama *wi*. Pace Bender, “chance convergences”, whatever this means precisely, *are* produced in widespread distribution across compared lexemes and lineages by exactly this type of vague similarity. According to Blasi et al. (2016), root 2 even turns out to be within the realm of global biases in sound–meaning associations and is thus a poor diagnostic for any historical hypothesis on an African scale.

The example in Table 51 illustrates another recurrent problem, namely that more than one proto-form for a single meaning is entertained without bothering to consider their very existence and plausible scenarios as to how these reflexes ended up in their modern disparate distributions, even within one and the same family, as in Nilotic. What makes the argumentation even more difficult to comprehend is that the author regularly throws in purported reflexes of the relevant root from languages that are by his own assumption unrelated, like Zande from Niger-Kordofanian for root 1, and Amharic, Sidamo, and Ari from Afroasiatic as well as Orig from Niger-Kordofanian for root 2. By excluding chance similarity, he is forced to admit potential borrowing, which he in fact assumes for the Amharic-Sidamo isogloss. One is then left to wonder why language contact cannot also explain some identified similarities between purported members of Nilo-Saharan.

- (8)
- | | | | | |
|----|--------|------------------|--------|----------------------------------|
| a. | ‘foot’ | <i>ʒll-òk</i> | Tese | (Temeinic) |
| | | <i>g-ʒl</i> | Sara | (Bongo-Bagirmi, Central Sudanic) |
| b. | ‘red’ | <i>k-arey</i> | ? | (Songhay) |
| | | <i>aro</i> | Kenzi | (Nubian) |
| | | <i>ə'reɛ-ŋku</i> | Nara | |
| c. | ‘warm’ | <i>k-onna</i> | ? | (Songhay) |
| | | <i>on-ok</i> | Lotuho | (Nilotic) |
- (Bender 1981b: 258)

What Bender means by his idea that “the initial and final elements are more often affixes” can be seen from the examples in (8). Greenberg’s (1981) “moveable k”, which was briefly discussed already in section 2.6.2.1., does not only oscillate in terms of presence vs. absence but also morphotactic position. Apparently inspired by the variable position of cognate class affixes in Niger-Kordofanian, Bender (1981b: 262–263) seems to expect the reader to view it as a virtue of the hypothesis to allow for the association of an initial element in one language with a final one in another. While possible in principle, here hardly any constraints exist for linking any “prefixal” segment in a single word of a single language with a similar “suffixal” segment in another single word of another single language.

A few authors have dealt with lexical comparisons across Nilo-Saharan with a focus on a lexical subdomain, for example, Zelealem (2004) and Blažek (2009a) on numerals. In terms of tangible reconstructions, their success is not different from that of Greenberg, Bender, and Ehret, first and foremost because they have followed the same unreliable methods.

2.6.2.3. Typology

Nilo-Saharan languages are typologically very diverse, and it is hard to find traits that either are synchronically shared across the entire spectrum of the group and/or can be easily argued to be historically related to each other by principles of diachronic typology. Moreover, as soon as a feature has a wider distribution in the Nilo-Saharan domain, it often has an areal component in that neighboring lineages outside Nilo-Saharan share it.

One of the first domains that brought this to light was word order. Nilo-Saharan languages are distributed according to Heine’s (1976a) continental survey across all his four major types. There is a geographically compact block of head-final languages (= Heine’s type “D”), namely U24–33, which he argues belongs to a linguistic macro-area called “Chad-Ethiopia” (cf. Güldemann, this volume, chapter 3.2, see also Dimmendaal 2008a). About the same number of Nilo-Saharan units are overall head-initial (= Heine’s types “A” and “C”), including several groups with verb-initial languages like Nilotic (U36), Surmic (U37), Kadu (U20), and Kuliak (U21). Finally, there are some languages allocated to type “B” because they combine syntactically head-initial and head-final characteristics, notably in the west in eastern Songhay (U23) and in the east in parts of Central Sudanic, for example, Moru-Madi (U22.F). These basic distinctions in word order partly serve to structure my survey of basic classificatory units in section 2.6.3.

Another domain displaying notable typological diversity across Nilo-Saharan is grammatical relations in terms of case marking, alignment type, etc. Iggesen’s (2005) global survey of languages with peripheral case marking provided a first instructive picture on case marking in Africa with a prominent role of languages assigned to Nilo-Saharan. The relevant African languages in his sample are Kanuri,

Fur, Maba, Kunama, Dongolese (Andaandi), Krongo, Turkana, and Murle, all subsumed under Nilo-Saharan, but also three additional cases outside it, namely Gimira from the Omotic family Ta-Ne, and Oromo and Somali from Cushitic. Quite a few languages from other African lineages can be added, for example, Ik (König 2002), Shabo (Kibebe 2015), Tama (Dimmendaal 2009b), Ama (Stevenson 1938), Nara (Reinisch 1874), and in a less typical form also Gaam (Stirtz 2011) and Berta (Andersen 1995) from Nilo-Saharan as well as Dime (Mulugeta 2008) and Sheko (Hellenthal 2010) from Afroasiatic. What is important beyond the involvement of not only the Nilo-Saharan but also the Afroasiatic domain is that all the languages cluster in a large zone comprising the Chad-Ethiopia area already mentioned above and the neighboring region along the African Rift Valley. Nilo-Saharan languages outside this sphere, to the extent known, do not have the feature. Looking at the alignment patterns for case-marked arguments, a wide variety of types is attested in Nilo-Saharan, including ones that are cross-linguistically rare (see König 2008 for a general survey of core case in Africa). That is, cases of unremarkable plain nominative-accusative systems aside, all the following less common types are recurrently reported, too: differential object marking as a subcase of nominative-accusative (Dimmendaal 2010a), marked nominative (König 2006; Dimmendaal 2014a), and even ergative-absolutive (König 2012). Overall, the diversity and distribution of different systems of case marking and alignment in Nilo-Saharan does not invite a genealogical explanation but seems to reflect rich cross-linguistic variation with certain areal and typological biases.

Another linguistic feature that has been entertained to be particularly typical for Nilo-Saharan and thus an arguably old trait, suggesting its possible reconstruction for the proto-language, is the tripartite system of nominal number marking. It is a feature known for quite some time to be typical in the geographical domain (cf., e. g., Tucker 1975: 23) but was only documented and discussed on a larger scale by Dimmendaal (2000). The system typically comprises the three marking patterns singulative (i. e., overt morpheme for singular but zero for plural), plulative (i. e., overt morpheme for plural but zero for singular), and replative (i. e., overt morphemes for both singular and plural). While indeed recurrent in Nilo-Saharan, its interpretation as a genealogical signal is questionable. First, a language can in principle develop this kind of semantically based number-marking on its own, because it is cognitively based and hence a universal option, as acknowledged by Dimmendaal himself and foreshadowed already by Westermann (1947). Geographically isolated cases are indeed found elsewhere in Africa (cf., e. g., Willms [1972: 171–172] for such phenomena in the Berber language Tamazight, and Schreiber [2010] for the discussion of entrenched general number in Mande languages as the basis of marked singular and plural forms). Yet more important is the fact that the distribution in Nilo-Saharan is only partial but that the attestations cluster again in an areal fashion, involving similar cases outside the purported family, notably in Kadu languages (cf. Reh 1985a), which are no longer viewed

as Nilo-Saharan by Dimmendaal himself, and in languages subsumed under the Afroasiatic domain like Aari of Ari-Banna (Hayward 1990: 442–444) and Cushitic in general (Appleyard 2011: 46; Mous 2012: 361–362). This overall picture makes tripartite number marking a good candidate for a feature with a universal linguistic basis that in Africa is an areal (rather than genealogical) diagnostic.

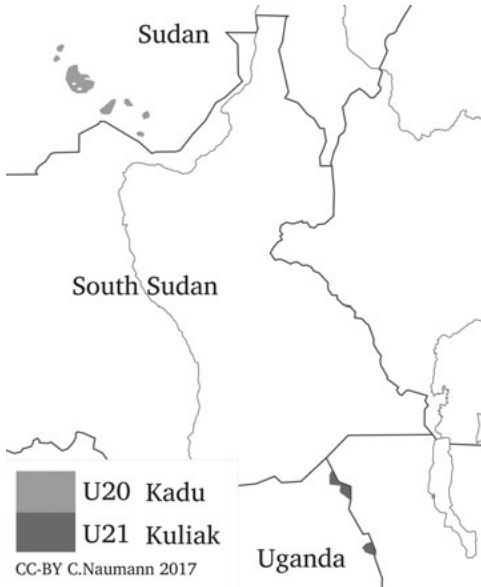
Table 52 provides a summary of the structural traits discussed above; it shows that the diversity within Nilo-Saharan is enormous and as such not different from that in a random sample of unrelated lineages – a picture that could be replicated by discussing other linguistic features. While this does not exclude the possibility that Nilo-Saharan groups are nevertheless all related genealogically, it certainly does not support such an idea. This fact is corroborated by the observation that even clusters within this domain with a unitary profile seem to have diverse causes. That is, besides the possibility of inheritance within genuine smaller families other relevant scenarios are contact-induced convergence (notably in the Chad-Ethiopia area) and universal correlation (e. g., between head-finality and dependent marking). Last but not least, under the genealogical hypothesis for Nilo-Saharan as a whole, its modern heterogeneity should be explained ultimately by processes of historically plausible and empirically well-grounded changes from earlier to later language states within the appropriate phylogenetic structure of the assumed lineage. While some attempts in this direction have been made, it has not been done in any sufficient and convincing way. For example, Dimmendaal (2007: 56–65) purports to trace a trend in parts of Nilo-Saharan from head-final syntax with dependent-marking and elaborate case inventories toward head-initial syntax with head-marking and restricted case systems. However, this scenario disregards half of the assumed lineages in concerning only what is assumed to be the East Sudanic branch, which itself has not been proven yet (see section 2.6.4.2).

In general, the above discussion should have made clear that previous scholarship on Nilo-Saharan has not yet identified paradigmatic morphology nor a sufficient body of robust lexical proto-forms comparable to that in the Niger-Kordofanian domain against which the likelihood of an individual unit's membership in such a large family can be evaluated. Accordingly, the discussion in section 2.6.3. below has to proceed differently: it reports the status of the internal coherence of a classificatory unit according to the literature but only briefly mentions its proposed more specific genealogical associations; these are discussed in more detail in section 2.6.4.2.

Table 52: Typological features viewed as common across the Nilo-Saharan domain

No.	Lineage	Word order	Peripheral case	Attested alignment by case marking	Tripartite number
U25	<i>Shabo</i> ¹	HF	<i>Shabo</i>	NOM	–
U23	Songhay ¹	HI	–	–	–
U20	Kadu ¹	HI	<i>Krongo</i>	–	X
U21	Kuliak	HI	<i>Ik</i>	NOM	X
U22	Central Sudanic	HI	–	–	–
U24	<i>Kunama</i>	HF	<i>Kunama</i>	NOM	–
U26	Furan	HF	<i>Fur</i>	NOM	X
U27	Saharan	HF	<i>Kanuri</i>	NOM ERG	–
U28	Maban	HF	<i>Maba</i>	NOM	X
U29	Taman	HF	<i>Tama</i>	NOM	X
U30	Nyimang	HF	<i>Ama</i>	NOM	–
U31	<i>Nara</i>	HF	<i>Nara</i>	NOM	–
U32	<i>Meroitic</i>	HF	?	NOM	–
U33	Nubian	HF	<i>Dongolese</i>	NOM	X
U34	Dajuic	HI	–	–	X
U35	Temeinic	HI	?	?	X
U36	Nilotic	HI	<i>Turkana</i>	NOM M.NOM ERG	X
U37	Surmic	HI	<i>Murle</i>	NOM M.NOM	X
U38	Jebel	HI	(<i>Gaam</i>)	–	(X)
U39	<i>Berta</i>	HI	(<i>Berta</i>)	M.NOM	–
U40	Koman ¹	HI	–	(NOM) (ERG)	–
U41	Baga~Gumuz ¹	HI	–	(M.NOM)	–
U46.C	Ari-Banna (Omotic) ²	HF	<i>Dime</i>	NOM	(X)
U46.A	Ta-Ne (Omotic) ²	HF	<i>Gimira</i>	NOM M.NOM	–
U46.B	Maji (Omotic) ²	HF	<i>Sheko</i>	NOM	–
U45	Cushitic ²	HF	<i>Oromo</i>	NOM M.NOM	X

Note: ERG = ergative-absolutive, HF = head-final, HI = head-initial, M.NOM = marked nominative, NOM = nominative-accusative (**with differential object marking**), (...) = non-canonical, – = feature(s) absent, ? = no information
 Frame = Non-Nilo-Saharan: ¹ according to Dimmendaal (2014b); ² Afroasiatic



Map 12: Geographical location of Kadu (U20) and Kuliak (U21)

2.6.3. Basic classificatory units

U20 Kadu

The family, called here Kadu after Schadeberg's (1994) proposal, comprises close to ten languages spoken west and north of the town Kadugli in the south(west)ern part of the Nuba Mountains in Sudan (see Map 12). Since Reh's (1985a) study on Krongo is the only comprehensive published grammar, it is still incompletely documented, like many other languages in this area.

Early scholars studying languages of the Nuba Mountains did not have great difficulty in recognizing the unity of Kadu, because it is obvious through relatively superficial inspection. This can be verified with the comparative lexical and phonological data presented, for example, by Schadeberg (1994), Hall and Hall (2004), and Dafalla (2006), although none of these studies have attempted to reconstruct parts of the proto-language.

Where Kadu belongs, in terms of a wider genealogical perspective, is an unresolved question. Greenberg (1950d, 1963a) considered, in addition to lexical material, the salient number-marking prefixes that partly interact with a (sex-based) gender system to be sufficient evidence for an affiliation with Kordofanian, and by extension Niger-Kordofanian. This was convincingly refuted by Schadeberg (1981f: 301–304), as already mentioned in section 2.5.2.1.3., and Reh (1983:

45–47). The nominal prefix system pertains in fact to the tripartite number-marking pattern, which Dimmendaal (2000) has shown to be recurrent in the geographical region and which is found in many other Nilo-Saharan as well as some Afroasiatic lineages, where it is paired with sex-based genders (see Neuhaus [2008] for a recent transparent analysis of the Krongo system).

Schadeberg (1981f: 304) concluded his study with “recommend[ing] that Kadugli [aka Kadu] may be included in the search for substantial Nilo-Saharan comparison”. Several scholars like Dimmendaal (1987b), Bender (e. g., 1989b, 2000b), and Stevenson (1991) followed this line of thinking, and a Nilo-Saharan affiliation of Krongo has indeed been the mainstream belief for some time. Ehret (1995a, 2000a) opposed this hypothesis on the basis of a restricted comparison between 100+ lexical and a few grammatical items specific to Krongo and alleged proto-forms of various African supergroups, and fell back on proposing a closer Niger-Kordofanian connection, with the possible proviso of the occasionally entertained higher-order link to Nilo-Saharan. There is, thus, extensive flux if not arbitrariness of opinion, and it comes as no surprise that Blench’s (2006b: 102) latest, empirically broad approach, which ropes in lexical, morphological, and typological considerations, entertains every genealogical relationship that is possible within and beyond Greenberg’s four-way scheme for African languages, except for a link to the Khoisan domain. The hypothesis that until recently has been least popular in African historical linguistics, namely the possibility of genealogically isolated entities, has finally found an explicit voice for Kadu with Dimmendaal (2010a, 2014b).

U21 Kuliak

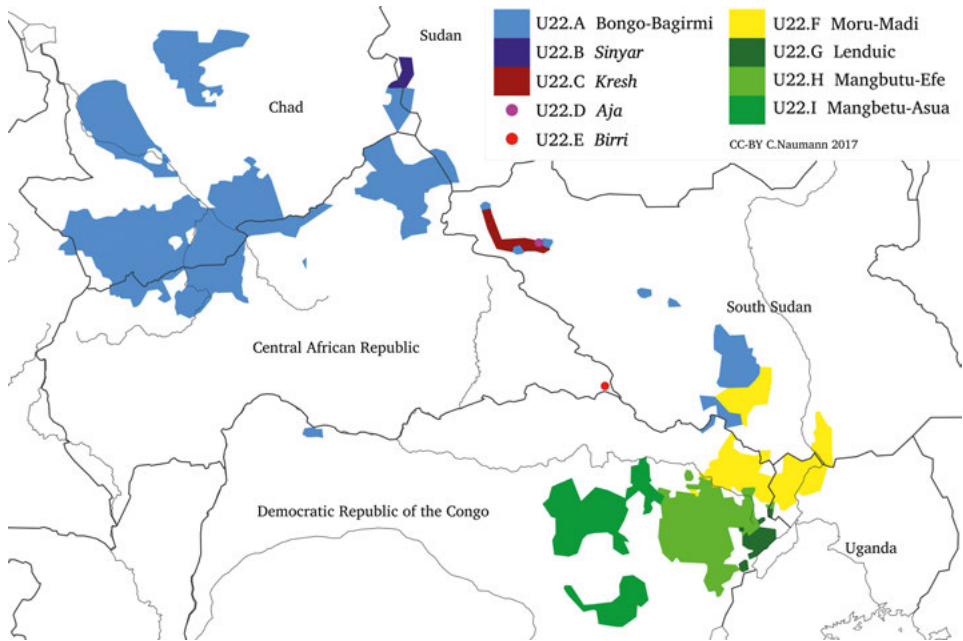
Three remnant languages, Ik, So, and Nyang’i, form a language family in north-eastern Uganda (see Map 12) commonly called Kuliak since Heine’s (1976b) comparative study. An assumed fourth language, Dorobo, dealt with in the earlier literature, has been argued by Schrock (2015) to be (a dialect of) Ik. During the earliest research, Nyang’i was already close to extinction so that only two languages are decently known and described. Since several monographs, most recently Schrock (2014), and additional articles are dedicated to the major member Ik, this language even counts today as one of the best documented ones in Africa.

The internal coherence of Kuliak is demonstrated by Heine’s (1976b) study, which compares phonology, lexicon, and grammar, identifies regular sound correspondences, and reconstructs around 200 lexical proto-forms. Ehret (1981a), who calls the family “Rub” in later publications, proposed refining Heine’s phonological and lexical reconstructions. Serzisko’s (1989) structural survey provides additional typological evidence for the unity of Kuliak languages but does not propose any concrete morphological proto-forms. Being engulfed by Nilotic languages of different subbranches, it comes as no surprise that lexical and other affinities

between the two families are considerable; a particularly strong link between early stages of Kuliak and South Nilotic is discussed by Heine (1976b: 69–72) and Rottland (1983, see also 1996).

Similar to Kadu, the external relationship of Kuliak has been an intensively debated issue. Greenberg (1963a) promoted it from an isolated unit to a member of his East Sudanic but remarked hesitantly “The position of Nyangiya [aka Kuliak] remains somewhat uncertain and its assignment here is to be considered tentative” (Greenberg 1963a: 128). Tucker (1967a) in turn suggested a possible genealogical relation to Afroasiatic (aka “Erythraic”) (see also Zaborski 1975: 61–62). Laughlin (1975) is a lexicostatistic study comparing Kuliak languages among themselves and with a wide variety of languages in (north)eastern Africa (without, however, presenting the comparative data). His results support the coherence of Kuliak as opposed to all other comparanda but fails to find diagnostic evidence for any relation beyond the group (see in particular his reservation [Laughlin 1975: 328] against the diagnostic value of isolated lexical isoglosses). Heine’s (1976b) historical-comparative study as well as Sasse’s (1981c: 152–160) methodological exercise end with the same cautious assessment by pointing out that both Greenberg’s and Tucker’s hypotheses are not supported by regular correspondences and lack convincing paradigmatic morphological evidence.

A number of scholars reviewed (parts of) the growing database on Kuliak and kept entertaining the above two links. Most treatments uphold Greenberg’s hypothesis, either in the form of an East Sudanic affiliation of Kuliak (Bender 1981b; Ehret 1981b; Fleming 1983b) or its more peripheral position in a Nilo-Saharan family tree (Bender e. g. 1991b; Dimmendaal, e. g., 2014b). Lamberti (1988) undertook a dedicated study of Kuliak’s affinities with Afroasiatic languages with a focus on Cushitic and Omotic (see already Sasse’s [1981c: 152–160] discussion). However, due to Lamberti’s (1988: 127–130) unorthodox conception of historical language relationships, it remains unclear whether one should infer a genealogical or contact hypothesis from his exposition. In general, to the extent that scholars linking Kuliak with other families discuss concrete data, they only provide unsystematic and almost exclusively lexical similarities, rather than evidence according to historical-comparative standards, and they also include isoglosses potentially induced by contact. Before this background, Laughlin’s (1975: 333) conclusion remains as relevant today as at his time, namely that “the So complex languages [aka Kuliak] will remain a thorn in the empirical side of theories of East African ethnolinguistic relations”, or at least of classificatory approaches that are “blemished” by genealogically isolated entities.



Map 13: Geographical location of Central Sudanic (U22)

U22 Central Sudanic

With more than 60 languages Central Sudanic is the largest subgroup within the Nilo-Saharan domain with a far-flung distribution in central Africa (see Map 13).

It arguably displays the most robust evidence in favor of a genealogical interpretation. Its classificatory history is given in Table 53. The idea of a family with the approximate extent of the current Central Sudanic took first shape in particular with Tucker (1935: 865–876; 1940: viii, 3–21), who recognized a likely genealogical group comprising at least Bongo-Bagirmi (in a wider concept than today), Moru-Madi, and Mangbutu-Efe within his purely geographically intended “Eastern Sudanic”. Greenberg (1949a: 87) extended this unit by a few more groups, albeit without any subclassification; he also introduced the new term “Central Sudanic”, reusing the term “Eastern Sudanic” for a very different genealogically intended group (see section 2.6.4.2. below). Tucker and Bryan (1956: 141–143, 1966) are less committed to a Central Sudanic unit but insist on the dichotomy of Bongo-Bagirmi vs. Moru-Mangbetu.

This bipartite structure is taken up in much of the later research. It is often recast as an opposition of a western vs. an eastern branch, which also corresponds to syntactic differences involving in particular word order distinctions according to Heine’s (1976a) opposition of type A vs. B. In accordance with such an assumed

Table 53: The history of subclassification of Central Sudanic

Greenberg (1949a: 87)	Tucker and Bryan (1956: 1–19, 141–143)	Greenberg (1963a: 109)	Bender (1992)	Boyeldieu (2010)
not treated	Sinyar	not treated	5 Sinyar	Sinyar*
Bongo, Baka	Bongo	1 Bongo, ...	6 Bongoid	Bongo-Bagirmi
Sara	Sara		4 Bagirmi-Sar,	
Bagirmi	Bagirmi		Fongoro,	
Kara	Kara		Yulu-Binga	
Yula	Yulu-Binga		3 Binga, ...	
Kredj	Kresh proper	2 Kreish	7 Kresh	Kresh*
not treated	Aja	not treated	Aja	Aja*
unknown	unknown	unknown	not treated	Birri*
Logbara, ...	Moru-Madi	4 Moru, ...	1 Moru-Madi	Moru-Madi
Lendu	Lendu	7 Lendu	8 Baadha	Lenduic
Momvu-Balese	Mangbutu-Efe	6 Mangbutu, ...	2 Mangbutu	Mangbutu-Efe
Mangbetu	Mangbetu	5 Mangbetu, ...	3 Mangbetu	Mangbetu-Asua

Note: * without comprehensive published description

genealogical configuration, some studies have focused on evaluating Bongo-Bagirmi and Moru-Mangbetu on their own. Thus, after Tucker and Bryan (1956, 1966) and Larochette (1958b) had presented some scattered data in support of Moru-Mangbetu as a unit, this set of languages was the subject of various types of comparative research. Demolin (1988) and Bokula (1991) focus on lexical data and the first identification of phonological change and cross-family correspondences. Another relevant study is Ernst (2006), which addresses the widespread existence across Moru-Mangbetu of such verb-prefixal elements as *k- and/or *ɔ/o- in nominalized verb forms, a vowel of a predominantly open-front quality with centripetal function, a front vowel with causative function, and an alveolar consonant and/or a mostly close vowel with pluractional function. Although the results of all these studies certainly seem to suggest a Moru-Mangbetu family, the individual groups are still treated here separately, because the authors do not commit to conclusively demonstrating the group's status as a family by means of a systematic establishment of proto-forms under exclusion of other possible relatives (cf. Greenberg [1971: 433–435] for a similar treatment). Bongo-Bagirmi has received far more attention in this regard; it is dealt with in section U22.A.

Other works have addressed the reconstruction of Central Sudanic as a whole. Bender (1989b, 1991b) deals with grammatical elements of the assumed proto-language within his general assessment of Nilo-Saharan, and Bender (1992) attempts to reconstruct its lexicon. While these studies point out suggestive commonalities across Central Sudanic, specialists do not accept these as reliable reconstructions (cf., e. g., Boyeldieu 2006: 151, fn. 1). In Bender’s approach, where Central Sudanic is referred to idiosyncratically as “Family F”, Bongo-Bagirmi is viewed as the core “Fc (= central)” in opposition to a non-genealogical set “Fp (= peripheral)” that comprises the four Moru-Mangbetu groups as well as Kresh and Aja.

Boyeldieu (2006), Ernst (2006), and Anderson (2015) are more recent comparative works with a Central Sudanic scope. The first study identifies a number of lexical matches that show regular sound correspondences regarding initial labial-velar consonants across Central Sudanic, whereby 19 of 35 comparative series also bridge the divide between Bongo-Bagirmi and Moru-Mangbetu. The second work, already referred to above, argues that shared verb prefixes in Moru-Mangbetu also have apparent historically related counterparts in Bongo-Bagirmi. The third study attempts to reconstruct morphosyntactic patterns of predicates of Proto-Central Sudanic: one type in the perfective domain has cross-reference verb prefixes, while the other type in the imperfective domain has so-called STAMP morphs (portmanteau morphemes encoding subject, tense, aspect, modality and polarity) resulting from the fusion between pronouns and auxiliaries. Boyeldieu and Nougayrol (2008: 15–16) and Boyeldieu (2010) are good summaries of the present discussion, the last work speaking of “if not (yet) decisive, strong indices in favour of the genetic unity of C[entral] S[u]D[anic] (except Kresh?).”

Here, Central Sudanic is represented as a family based on these optimistic specialist assessments and on substantiating data that had not yet been assembled in this form. It concerns two paradigmatic domains that have also been used in section 2.5.2. to evaluate relations among assumed members of Niger-Kordofanian, namely pronouns and lower numerals.

Regarding pronouns, Boyeldieu (2010) still speaks merely about “similarities in the S1-S2 [first- and second-person singular] forms of the independent pronouns”. Güldemann (2017), to which the reader is referred for more details, argues that the data justify the reconstruction of a full unitary pronoun paradigm for speech-act participants, as shown in Table 54.

Table 54: Speech-act participant pronouns in an early stage of Central Sudanic

Person	Singular	Plural
1	*V.ma	*V.mV ^{high}
2	*`V.ma	*`V.mV ^{high}

Table 55: Lower numerals across Central Sudanic lineages

Lineage	'one'	'two'	'three'	'four'	'five'	Source
A Bongo-Bagirmi	*kV.DV		*djiyo	*(-)so	*m(u)i	Boyeldieu, Nougayrol, and Palayer (2015)
B Sinyar	<i>ka.lla</i> <i>a.lla</i>		<i>roo</i> <i>ou.rié</i>	– <i>o.ssa</i>	– <i>moi</i>	Doombos and Bender (1983: 74); Grossard (1925: 329)
C Kresh	*ba.l(a)	'biir/ *rɔ.m(V)	*tO.t(V)	*sO.s(O)	*sal(a)	Santandrea (1976: 78)
D Aja	<i>kpa(a)</i>	'bira	<i>bu.to</i>	<i>ba'di</i>	<i>nieɾu</i>	Santandrea (1976: 78)
E Birri	<i>i.lá</i>	<i>úkw.áá.ri</i>	<i>ókó.tró</i>	<i>úká.wódi</i>	<i>imɿ-g.ílá</i>	Santandrea (1966: 198)
F Moru-Madi	*-lo	*(-)ri	*(-)na	*(-)su	*nji/*tou	Boone and Watson (1996: A88–90)
G Lenduic	*(-)di	*R(y)ɔ	?	*(-)θo	*(-)mbU	Bokula and Irumu (1994: 240)
H Mangbutu-Efe	*-di	*-Ue	*-na/*-mu	*-to	*-mbo	Bokula and Irumu (1994: 231–232)
I Mangbetu-Asua	*ka.na		*-ta	*-so.wa	*-zerena	Demolin (1992: 49, 15, 48, 40, 10)
Proto-Central S.	? *(kV).DV	*-RiO	? *tV	*-thO	? *-mbu	

Note: probable cognates right-aligned

Since a pronoun pattern as in Table 54 is not evident in Proto-Bongo-Bagirmi including Sinyar (though not excluded for a yet earlier stage), the question whether this group belongs to a larger Central Sudanic unit hinges on the existence of other probative evidence. In addition to some suggestive lexical data (cf., e. g., Tucker and Bryan 1956: 141) and the promising grammatical elements referred to above, some more supporting evidence comes from the lexical paradigms of lower numerals. These are presented across the whole group in Table 55. While all five numerals display affinities that can be argued to bridge the divide between Bongo-Bagirmi and Moru-Mangbetu (the relevant forms are given on the right side of each column), the data are more conclusive for ‘two’ and ‘four’, whose forms allow for robust approximate reconstructions across the entire Central Sudanic domain. Regarding the considerable diversity seen in the table it should be taken into consideration that some languages are extremely poorly documented and understood, and some additional information available indicates that a greater amount of homogeneity can be expected after a deeper analysis. This holds, for example, for Birri when taking a couple of additional sources into account. Thus, its form for ‘five’ cannot be inherited, because it is literally ‘one hand’ and the numerals from ‘six’ to ‘nine’ follow a quinary system whereby the base in Seligman’s (1918: 56) vocabulary is not ‘hand’ itself but *i.saR*, which is quite likely the same as Kresh *ṣal(a)* ‘five’. Given that Junker (1888/89: 87) gives *ila* not as ‘one’ but as ‘alone’, it is then questionable whether all forms reported are really even canonical cardinal numerals.

U22.A Bongo-Bagirmi

The approximately 30 languages subsumed under Bongo-Bagirmi are distributed in a large east–west belt spanning southern Chad, the northern Central African Republic, and the adjacent southwestern South Sudan border area, and also transgressing the border with the Democratic Republic of Congo and Sudan and having outliers much further west on both sides of the Ubangi River. The group tends to be viewed as the core unit of Central Sudanic (cf. Bender’s classification referred to above) – this for at least two reasons: it is the largest unit in terms of geographical size and number of languages, and it has received the greatest attention regarding historical-comparative research.

Its genealogical unity was recognized relatively early on, although the first more systematic attempts at historical reconstruction were only made in such studies as Thayer (1974) and Saxon (1980). These early works have been superseded by the extensive descriptive and comparative research by French linguists, who call the family Sara-Bongo-Bagirmi (see, e. g., Boyeldieu 1995, 2000, forthcoming; Boyeldieu and Nougayrol 2004, 2008; Boyeldieu, Nougayrol, and Palayer 2015). Due to the hundreds of lexical as well as grammatical proto-forms related by regular segmental and even tonal correspondences, Bongo-Bagirmi counts

as one of the continent's families with the best state of historical reconstruction. In addition to providing a sound basis for comparison with other likely relatives within Central Sudanic, this work has also identified various languages that used to be affiliated with Bongo-Bagirmi but are more problematic as members of the core group, notably Sinyar, Kresh, and Aja, to be discussed below.

Based on the linguistic findings, some important conclusions have also been proposed regarding the prehistory of the Bongo-Bagirmi family. First, its geographical origin is viewed to lie in its eastern domain around the border region between the Central African Republic and South Sudan, from which it expanded to its modern distribution area in southern Chad and along the Chad–Central African Republic frontier (cf., e. g., Boyeldieu 2016, forthcoming). This westward expansion is associated with a considerable amount of linguistic innovation in the relevant languages, which suggests that the eastern Bongo-Bagirmi languages are closer to their Central Sudanic relatives not only in geographical but also in linguistic structural terms. Second, languages of or closely related to Bongo-Bagirmi are likely to have had a wider distribution in the past, in particular in areas toward the southwest, due to the fact that Bandaic languages of Ubangi (U17.F) arguably display a strong linguistic Bongo-Bagirmi substrate suggesting widespread language shift from the latter to the former (see Boyd 1978; Cloarec-Heiss 1995, 1998).

Its external genealogical link to other members of Central Sudanic, although assumed for a long time, has been more difficult to establish. However, as discussed above, even scholars like Boyeldieu and Nougayrol, who require the same methodological rigor for this question as applied in the internal evaluation, appear to favor a positive answer.

This problem is intimately related to the overall conceptualization of the relation between Bongo-Bagirmi and Moru-Mangbetu, which may turn out to be addressed better by shifting the research perspective. Bongo-Bagirmi is the largest group and can be projected back in time due to firm reconstructions so that other Central Sudanic groups tend to be measured against this established historical “yardstick”. Indeed, this situation seems to have led Bender (e. g., 1989b, 1991b, 1992) to view Bongo-Bagirmi as the Central Sudanic “core” and the individual Moru-Mangbetu groups as the “periphery”. However, instead of asking how this periphery is similar to the Bongo-Bagirmi core, one could conceive of these groups as the Central-Sudanic core pool from which Bongo-Bagirmi branched off as a peripheral clade, which is likely to have involved also contact influence from unrelated languages. Some of its unique characteristics would thus have arisen later, and this new profile was brought into its modern territory due to a not-so-ancient expansion. Such a scenario is compatible with two major findings: first, the considerable pronominal homogeneity of Moru-Mangbetu, which would reflect the original state in the family but was lost in Bongo-Bagirmi (see above), and second, the relative homogeneity of Bongo-Bagirmi despite its large geographical

expansion, which would mimic the situation that holds for Bantu within the Niger-Congo panorama. Under this hypothesis, it would only be the features Bongo-Bagirmi shares with the rest that are more diagnostic for early Central Sudanic.

U22.B Sinyar

Sinyar is spoken in Sudan a little north of its border triangle with Chad and the Central African Republic. It used to be subsumed conventionally under Bongo-Bagirmi, in spite of the extreme scarcity of relevant data and thus without hardly any empirical substantiation. The word list in Doornbos and Bender (1983) aside, Boyeldieu (2013, 2015) presents the bulk of the modern empirical material. With his sound background of comparative Bongo-Bagirmi this author remains undecided about the genealogical affiliation of Sinyar.

Table 56: Sinyar features and genealogical classification (after Boyeldieu 2013)

Typical for Bongo-Bagirmi	Specific to Sinyar
– part of the lexicon (including ‘basic’)	– part of the lexicon (including ‘basic’)
– part of the personal pronouns	– noun plurals in <i>-ɲà</i> , some animates in <i>-àar</i>
– number marking of subject for second and third person with verb suffixes	– double case-marking system
– infinitive in <i>t-</i> with vowel-initial verbs	– verb root alternation according to TAM
– adjectives in <i>k-</i> with vowel-initial verbs	– intensive/frequentative verbs in <i>-r-</i>
– subject focalizer in <i>k(V)-</i>	– “factive”/causative verbs in <i>-oo/-uu</i>
	– no tonal alternation on verbs

Table 56 shows features that point to the membership of Sinyar in the Bongo-Bagirmi family (left column) as well as others that are unique to it (right column). On this basis, Boyeldieu deems the two opposite historical scenarios to be equally possible (both imply the existence of some unidentified non-Bongo-Bagirmi contact language): either pre-Sinyar was Bongo-Bagirmi but underwent heavy restructuring, involving at least partly intensive language contact, or it was a non-Bongo-Bagirmi language that borrowed a substantial amount of features from some Bongo-Bagirmi language(s).

Table 57: Speech-act participant pronouns in Proto-Bongo-Bagirmi and Sinyar

Lineage	1S	2S	1P	2P	Source
Bongo-Bagirmi	*má	*(?)i	*jE	*SE	Boyeldieu and Nougayrol (2004: 35)
<i>Sinyar</i>	<i>maa(-)</i>	<i>ì-</i>	<i>cE-</i>	<i>sE-</i>	Boyeldieu (2013)

Table 57 shows the closeness of the shared speech-act participant pronouns, involving the complete paradigm, which also interact with the equally shared number marking of subjects on the verb. According to Table 55 above, the lower numerals represent another small lexical paradigm common to both units. I assume that these two sets of elements are unlikely to have been borrowed by a non-Bongo-Bagirmi language. This observation and the overall profile of the feature survey in Table 56 suggest that Boyeldieu's first hypothesis of a genealogical relation between Sinyar and the Bongo-Bagirmi family is more plausible. Pre-Sinyar may well have lost inherited traits, such as the verbal tone contrast and parts of the lexicon, and innovated the features listed in the right column of Table 56. The geographical location of Sinyar in the northern periphery of the Bongo-Bagirmi family certainly does not contradict such a hypothesis.

U22.C Kresh

Kresh (aka Gbaya), spoken in the western Bahr El Ghazal in South Sudan, is a set of closely related speech varieties that are probably best characterized as a language complex; such peripheral varieties as Dongo and Woro are sometimes presented as languages (cf. Santandrea 1948, 1950, 1976). Although older linguistic material in works such as Gaudefroy-Demombynes (1907: 302–314), Meinhof (1917/18), Struck (1930), and Santandrea (1976) has been supplemented by Brown (e. g., 1991a, 1991b, 1994) with more up-to-date data on individual structural topics, there is no comprehensive description of any variety as yet.

In terms of historical-comparative research on Kresh it is again Boyeldieu (notably 2000: 155–160, 305–310) who has addressed the question of its widely assumed relation to Bongo-Bagirmi in some detail. Since he points out a number of specific features that Kresh shares with the reconstructed core of Bongo-Bagirmi (including clear grammatical parallels and close to 100 suggestive lexical comparisons) it is more than plausible that the two are genealogically related. At the same time, other features of Kresh, notably its pronoun system, which deviates partly from that in Table 54 (see Güldemann (2017) for more details), represent evidence that builds a genealogical bridge between Bongo-Bagirmi and the remainder of Central Sudanic, which is a crucial reason for adopting here this wider hypothesis. The geographical and genealogical affinity of Kresh to the two following languages, Aja and Birri, is of particular relevance in this respect.

U22.D Aja

Aja, which is spoken in the immediate geographical vicinity of Kresh, is commonly considered to be its closest genealogical relative. This idea goes back to Santandrea (1948, 1976) who is the only scholar presenting more substantial linguistic data on Aja and considers it to be “midway between Kresh and [the gene-

alogically unrelated Ubangi language] Banda” (Santandrea 1948: 98). However, a more detailed inspection of Santandrea’s (1976) comparison makes clear that he only provides a crude assessment of synchronic proximity that does not distinguish between similarities due to inheritance and those arising through contact. This observation is echoed by the pronominal comparison in Güldemann (2017) in that Aja displays the system in Table 54 above but aligns with Kresh at best on a higher level that may include the equally isolated language Birri, to be treated in the following section. A more conclusive assessment depends on a systematic study using all available linguistic data on Aja and roping in all other languages that are candidates for having a closer genealogical relationship with it.

U22.E Birri

Birri (not to be confused with Belanda [B]viri of Ndogoic [U17.G]) is yet another isolated and little-known language within Central Sudanic, spoken in the southeasternmost corner of the Central African Republic. The only substantial data on this little-known people, whose language is endangered according to Sommer (1992: 316–317), are provided again by Santandrea (1950 on ethnography, 1966 on linguistics).

Suggestive lexical affinities in Santandrea’s (1966: 101–105) superficial comparison of Birri data concern predominantly Kresh and Aja as well as languages of Moru-Madi (U22.F) further southeast. Vorbichler (1969, 1979b: 433–434) takes up an earlier suggestion by Calonne-Beaufaicts, also mentioned but doubted by Santandrea (1966: 82–83), and argues for another, even closer relationship of Birri to another southern family, Mangbutu-Efe (U22.H). That is, 170 out of a total of 400 available Birri words are said to be shared with these languages and to involve also regular sound correspondences; his argument looks promising in displaying considerable and detailed resemblances but is unfortunately not laid out exhaustively. Birri also possesses syntactic features that can count as an affinity with geographically distant Moru-Mangbetu languages in the south, notably word order features of Heine’s (1976a) type B like head-final genitives, postpositions, and the marked preverbal position of object pronouns in certain auxiliary constructions (cf. Santandrea [1966: 201, 211–214, 233] for relevant data). The pronominal data suggest that the closest affiliation of Birri is with Kresh and Aja (see Güldemann 2017). The overall picture would suggest that within this central group Birri may establish a genealogical bridge to Moru-Mangbetu in the south(east) as does Kresh to Bongo-Bagirmi in the north(west).

U22.F Moru-Madi

Moru-Madi consists of not more than 10 partly internally divergent languages, which are spoken around the border triangle of South Sudan, the Democratic

Republic of Congo, and Uganda. After Tucker's (1940) first substantial comparative treatment, such later works as Bokula and Irumu (1994: 208–216) and Boone and Watson (1996) provided more complete data across the entire family that include word lists of more than 200 items as well as lexical and phonological distance matrices and show the very close genealogical relationship between all speech varieties. Kilpatrick (2006) is a more recent comparative treatment of pronouns.

Moru-Madi is the first of four Central Sudanic families that are commonly subsumed under the larger Moru-Mangbetu grouping. After the earlier sketchy studies by Tucker (1940), Tucker and Bryan (1956, 1966), and Larochette (1958b), more recent treatments like Demolin (1988), Bokula (1991), and Ernszt (2006) have substantiated this hypothesis with both lexical and grammatical material. The pronominal data discussed in more detail by Güldemann (2017) strongly point in the same direction. A more convincing assessment is hampered by partly incomplete documentation and the persistent lack of robust reconstructions, which would be possible to achieve without much effort at least regarding the available comparative word lists.

U22.G Lenduic

Lenduic comprises the languages Lendu and Ngiti, spoken in the northeast of the Democratic Republic of Congo close to the border with Uganda. While only the second one is described by Kutsch Lojenga (1994) comprehensively, the close relation between the two can be discerned clearly from the comparison of 120 lexical items provided by Bokula and Irumu (1994: 235–242). While it was thought in the beginning to be closely allied to Moru-Madi (Tucker 1935, 1940), it is now treated as a separate unit. However, no systematic extensive data collation let alone an attempt to reconstruct parts of Proto-Lenduic exist as yet, so that its exact position within Moru-Mangbetu and Central Sudanic remains to be worked out in detail.

U22.H Mangbutu-Efe

A family of a little more than half a dozen languages in the northeastern Democratic Republic of Congo west of Lenduic is called Mangbutu-Efe. Efe refers to one member language spoken by Pygmy foragers that is most closely related to Lese but today is also in contact with other languages of the Mangbutu-Efe group and beyond. The unity of the family can be deduced by superficial inspection, for which Bokula and Irumu (1994: 226–234) provide again the most systematically presented data. The languages were studied intensively by Vorbichler, who also dealt with historical-comparative issues and the linguistic relation between pygmy foragers and farmers (e. g., 1965, 1967/68, 1971, 1974a, 1974b, 1979a, 1986). Given the fact that only half of the languages are properly documented and a com-

prehensive historical study of Mangbutu-Efe beyond isolated comparisons does not yet exist, its wider genealogical assessment faces the same problems as the two preceding families.

U22.I Mangbetu-Asua

A fourth small family, with three languages, is spoken in the northeast of the Democratic Republic of Congo west of Mangbutu-Efe. It comprises another language specific to pygmy foragers, Asoa, which is also aptly referred to in the group name. After earlier works touching on comparative aspects, notably Vekens (1928) and Larochette (1958a), Demolin's (1992) phonetic-phonological study includes an extensive lexical family survey with more than 250 reconstructions (see also Bokula and Irumu [1994: 217–225] for additional lexical material). These data as well as the comparative discussions by Demolin (1988) can serve as a sound starting point for advancing with the reconstruction work on the level of Moru-Mangbetu and beyond.

U23 Songhay

The geographically most isolated language family subsumed under the Nilo-Saharan domain is Songhay, spoken along and around the Niger bend and northwards in widely dispersed locations of the Sahara, the extreme outlier being Tabelbala in Algeria (see Map 14). Similar to the case of Dogon and its French research tradition, Songhay had been perceived for a long time to be a dialect cluster. With the extensive documentation and description of different varieties undertaken by Jeffrey Heath in the 1990s, it became clear that Songhay is in fact a diverse family of around ten distinct, albeit closely related, languages.

A first full survey of the family and a proposal of subclassification of the “dialects” was provided by Nicolaï (cf., e. g., 1981, 1983). Based on much better documentation, this has been superseded by the recent classification efforts of Souag (e. g., 2012) dedicated to the historical-comparative framework, whereby also loanword research at different time depths plays an important role. Souag proposes a historical scenario for the development of the family that involves widespread language shift, whereby its modern geographical and genealogical profile emerged from a first expansion starting in a southeastern location on the Niger and a second dispersal from its western realm into areas north of the river.

Such a history can readily explain why early Songhay seems to have been influenced heavily by contact with Mande, especially its Soninke-Bozo branch (see below), and why a second contact phase in the northwest was characterized by a strong impact from Berber not restricted to Tuareg (cf., e. g., Christiansen and Christiansen 2007; Kossmann 2007, 2008/09; Souag 2010a, 2010b, 2015a, 2015b). The extent of the contact with Tuareg in the Sahara has gained the rele-



Map 14: Geographical location of Songhay (U23)

vant languages the questionable fame of “mixed” varieties (Nicolai 1990b; Wolff and Alidou 2001). The important role of external language interference is responsible for an enormous typological diversity within the family that is partly tied to a northern or a southern areal alliance of the languages.

In view of these contact signals it comes as no surprise that the external classification of Songhay has been and still is controversial. While Westermann (1920/21: 202–213) and Delafosse (1924: 542–548) had recognized affinities to Gur and Mande within the “Western Sudanic” framework, Greenberg (1963a) transferred the group to his Nilo-Saharan. Evidence continued to be presented for both affiliations. Nicolai (1984: 7–58) argues for considerable lexical similarities with Saharan, subsumed under Nilo-Saharan. For Mande, aligned with Niger-Kordofanian, similarities do not only exist in the lexicon but more strikingly in the

domain of morphology, as outlined by Mukarovsky (e. g., 1965, 1966d), Nicolai (1977, 1984: 59–144, 2006), and Creissels (1981); unfortunately, inheritance and contact have never been disentangled. One idea entertained for interpreting this apparent ambivalence of Songhay (and Mande) is that it provides a genealogical bridge between the two macro-groups. The indeterminacy of such ideas and the real problem of contact-induced data signals are indicated by Zima's (1988, 1990, 1995) research on Songhay's lexical links in a third direction, namely Chadic belonging to Afroasiatic. Moreover, Greenberg's and other scholars' evidence for Songhay's commonly accepted Nilo-Saharan membership has been rejected as insufficient and shown to be riddled with errors by family specialists like Lacroix (1971), Nicolai (1990a, 2003), and Zima (2007).

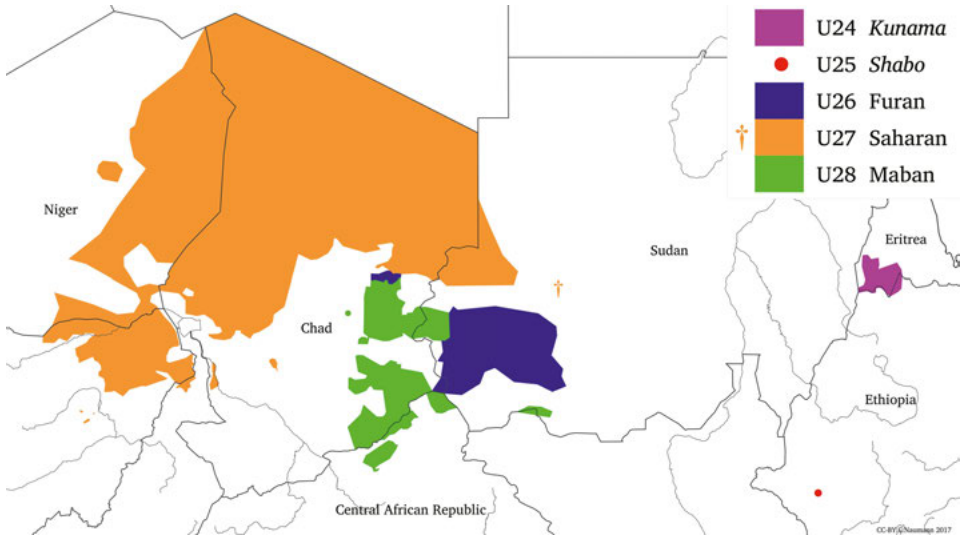
Nicolai not only opposed the Nilo-Saharan hypothesis but tried to replace it with an alternative historical scenario related to the undeniably strong signals of language contact in various modern Songhay languages, and presumably in Proto-Songhay, too. Nicolai's (1984: 145–159, 1987) first proposal of a creole origin was replaced by his (1990a, 1995) idea that Songhay started out as a mixed language with, roughly speaking, a morphosyntactic Mande base and a lexicon of unknown origin. Nicolai (2003, 2006, 2009) eventually hypothesized that this incoming lexical contribution stems predominantly from an "Arabic-Berber" vehicular language. These ideas were not received very favorably (cf., e. g., Dimmendaal 1992; Kossmann 2005b), although this critique did not strengthen the widely accepted Nilo-Saharan link either. One major problem of Nicolai's approach is that it cannot account for the existing Songhay-specific features that exist in both lexicon and morphosyntax. A natural consequence is the conjecture that Songhay is an isolate lineage, as expressed by Kossmann (2005b: 102):

But what if the lexifier language of Songhay cannot be identified, not because our methods are insufficient, but because the language was a real language isolate, the last member of an otherwise extinguished phylum not connected genetically to any other language family in the traceable linguistic past? [...] And why could this isolated language not have had a Mande-like syntax and morphological structure? Would one still need the mixed language hypothesis?

This view has finally found its way into African language classification in that Dimmendaal (e. g., 2008b) has excluded Songhay from Nilo-Saharan.

U24 Kunama

Kunama is an isolated group of dialects spoken in southwestern Eritrea (see Map 15). Differences between varieties can be considerable (cf. Thompson 1983: 282–283), whereby it has not been determined conclusively whether more peripheral ones are better viewed as separate languages (see, e. g., Bender [1971: 202] on the considerable lexicostatistic distance of Ilit). This open question contrasts



Map 15: Geographical location of *Kunama* (U24), *Shabo* (U25), *Furan* (U26), *Saharan* (U27), and *Maban* (U28)

with the relatively extensive descriptive literature on the central Marda and Barka varieties. It comprises a fuller early documentation by Reinisch (1881–1890), a number of works in Italian produced in missionary contexts, and more recent linguistically oriented studies like Thompson (1983, 1989), Idris (1987), Bender (1996b, 2001), and Connell, Hayward, and Ashkaba (2000).

A first attempt to classify Kunama was made by Reinisch (1881: 99) in proposing an affiliation with Nubian languages. Conti Rossini (1926) and Verri (1950) entertained a connection to Nilotic – a term, however, not used then in the narrow sense of today. In this context, Greenberg (1954) started to subsume Kunama under Nilo-Saharan. Only before this background can it be understood that Bender (1971: 202–203) concludes in a wider lexicostatistic study on languages of north-eastern Africa that “Kunama [together with Ilit] remains as isolated within Nilo-Saharan as before” although both word lists score in fact higher with those from close-by languages of Afroasiatic (other than neighboring Semitic) rather than with Nilo-Saharan ones. Mukarovsky (1987d) takes up this apparent contradiction and adduces lexical similarities to Omotic and Cushitic to conclude that such a connection is the better hypothesis, without, however, attempting to establish any regular correspondences.

In the present treatment of Nilo-Saharan lineages, Kunama is listed as the first unit of a block of ten typologically similar and geographically largely coherent units (U24–U33) that display many head-final syntactic traits.

U25 Shabo

Shabo, formerly also called Mikeyir, is an isolated and endangered language that was not known to Greenberg (1963a). Bender (1977: 13–14, 1983b: 349–354) seems to have been the first to identify it as a distinct linguistic entity. The language is spoken by a forager group of not more than 1,000 speakers in western Ethiopia (see Map 15) that is embedded in the agricultural Majang, who speak a Surmic language (U37). For a long time Anbessa (1991, 1995) and Fleming (1991) provided the only material beyond earlier word lists. A full description of the language only appeared with Kibebe (2015), where the language is referred to as Chabu.

This recent study promises to also set the classification issue on a stronger footing. In the past, the literature discussing the possible genealogical relationship of Shabo exceeded that dealing with its actual documentation and description, as has often been the case with newly discovered African languages that are not obviously related to any established lineage. In a first assessment, Bender (1977: 18) reported a lexicostatistic similarity between Shabo and neighboring Majang of more than 20%, while the value is maximally 11% with any other Surmic language, drawing the plausible conclusion that high lexical similarity to Majang is contact-induced. He (1983b: 349–354) nevertheless proposed a Nilo-Saharan affiliation because of more generic lexical affinities. Later studies like Anbessa and Unseth (1989) and Fleming (1991, 2002b) followed this evaluation. Ehret (1995a), in his far-flung, essentially lexical-comparative enterprise, is the first to separate Shabo from Nilo-Saharan – a view shared by all later versions of Nilo-Saharan classifications (see section 2.6.1.).

However, Kibebe (2015: 11) shows that, whatever conclusion is drawn in this and similar cases, short word lists from little-known languages are unlikely to yield anything in the way of reliable results. Thus, Bender's (1983b) material only contained 92 appropriate words (with 17 still having minor errors) of a total of 134, and Ehret's vocabulary was reasonably adequate in only 111 of 144 items. Given the generally superficial nature of their approaches, it is clear how this problem alone increases the likelihood of faulty as well as interesting but missed comparisons.

A more systematic attempt of classifying Shabo based on a phylogenetic assessment of comparative typological data and qualitative evaluation of some specific morphological features was pursued recently by Schnoebelen (2009). He concludes that at present Shabo should be treated as an isolate and propagates a new trend toward a more reliable standard approach to genealogical language classification in Africa (Schnoebelen 2009: 283):

To classify Shabo alongside other languages will require an explanation for the uniqueness of Shabo's pronoun system, cases, and verbal morphology. Most likely this will require the use of the comparative method since archeology and genetic profiling are

unlikely to be available. Application of the comparative method would be a significant advance, not just for classifying Shabo, but for understanding the pre-history of Nilo-Saharan and other Central/East African peoples.

U26 Furan

Fur, the sociolinguistically central language of the earlier Darfur Sultanate, is still today a major language in the west of Sudan (see Map 15). Three monographs (Beaton 1968; Jakobi 1990; Waag 2010) give a good though still incomplete picture of its overall grammatical structure.

For a long time, Fur was considered to be an isolated language. After Tucker and Bryan (1956: 53) reported on a third “Mimi” language spoken in central-eastern Chad (cf. section 2.3.3 above and section U28 for the other two Mimis) and Jungrauthmayr (1971a) published some lexical data on this language, Greenberg (1972b) proposed its relation to Fur on the basis of both morphological and lexical matches. This genealogical assessment is confirmed by additional information despite the still restricted documentation (cf., e. g., Doornbos and Bender [1983: 54, 65] for further lexical comparisons and Jungrauthmayr [1981: 269] for a diagnostic pronominal paradigm). This second language, called today Amdang (cf. Wolf 2010), is still hardly known, though, and a reconstruction of the Furan proto-language is a desideratum for historical-comparative work.

This is also one reason for the fact that the exact place of Furan in Nilo-Saharan is indeterminate apart from the common view that it is an isolated and purportedly early offshoot from the bulk of the group.

U27 Saharan

The Saharan family straddles the northern half of Chad, northeastern Nigeria, eastern Niger, southern Libya, and western Sudan, having thus one of the largest geographical extensions in Africa (see Map 15). However, due to the overall low population density in the Sahara, it comprises just a handful of languages or dialect clusters. The group is classified either into three branches, namely north-(central) (= Tedaga-Dazaga complex) vs. (south)western (= Kanembu-Kanuri complex with a central role in the Kanem and Bornu Empires around Lake Chad) vs. (south) eastern Zaghawa and Berti, or more commonly into two branches, namely western Teda-Daza and Kanembu-Kanuri vs. eastern Zaghawa and Berti.

Prefigured already by Nachtigal (1881: 194–212), the family was more firmly established through the work by Lukas (cf., e. g., 1934, 1936b: 333–341, 1939, 1951/52, 1978), who dedicated a considerable part of his research career to what he called initially the “Kanuri group”. Later labels like “Central Saharan” (Greenberg 1949a, 1950d, 1954) or “East Saharan” (Lukas 1951/52) were finally replaced by the simpler modern term. A more systematic application of historical-compar-

ative techniques to concrete and fuller empirical data from all relevant languages and the demonstration of the unity of the entire family are contained in a number of works by Petráček (1967, 1970, 1975, 1978) and Cyffer (1981a, 1981b, 1983, 1991, 1995, 2000a, 2000b, 2006b). The second author in particular has reconstructed central components of the complex morphological proto-system, notably concerning the marking of person and number, tense–aspect–modality, and verbal derivation.

A very low lexical coherence across the family, as observed by Petráček (1971) and Cyffer (1995, 2000b), is partly responsible for the hitherto existing lack of systematic lexical reconstructions and regular sound correspondences (cf. Awagana [2011] for a first still rudimentary attempt). This diversity seems to be partly a function of the large geographical spread of the family. The languages that expanded more recently into the southeast (Zaghawa, Berti) and southwest (Kanembu-Kanuri) are thought to have been subject to a considerable amount of external contact influence. The linguistic interaction of the historically and demographically most important language Kanuri in its areal context west of Lake Chad involving languages of the Chadic family has been investigated in more detail by Cyffer (1995, 1996, 2000a, 2002, 2006a, 2006b). An even earlier areal relationship between Saharan and Chadic is assumed by Jungraithmayr (1989).

The external relationship of the family remains unresolved in view of the fact that specialists have not issued any new empirical support for Greenberg's Nilo-Saharan hypothesis or have even contradicted it. Cyffer did not take a clear position but repeatedly entertained language contact as a likely alternative explanation for isoglosses of Saharan with other nearby languages. Petráček (1985, 1989) went further and explicitly opposed the received Nilo-Saharan affiliation by offering a detailed critique of lexical and morphological isoglosses proposed by Greenberg, Ehret, and Bender. One major problem he identifies is that these scholars had all pursued a data selection oriented toward Kanuri, which is known to often possess forms that are not representative for a realistic Saharan proto-language. Petráček investigated instead external genealogical links of Saharan to Afroasiatic – an idea already entertained previously, for example, by Mukarovsky (1981); unfortunately, his discussion of those data that may count as promising genealogical signals is so telegraphic and abstract that a transparent (re)evaluation remains a future task for specialists of the two lineages concerned. It should be taken into account, too, that contact is at this stage an equally attractive explanation, as acknowledged by Petráček himself.

U28 Maban

Maban designates a group of fewer than ten languages spoken in two large pockets in the southeastern corner of Chad, encroaching on both Sudan and the Central African Republic (see Map 15). The earliest research on its largest member,

Maba, the major language of the former Wadai Empire (not to be confused with the Nilotic language Mabaan), was followed by descriptive work on Aiki (aka Runga) by Nougayrol (1989) and on Masalit by Edgar (1989). A comprehensive and modern grammar of Maba is Weiss (2009).

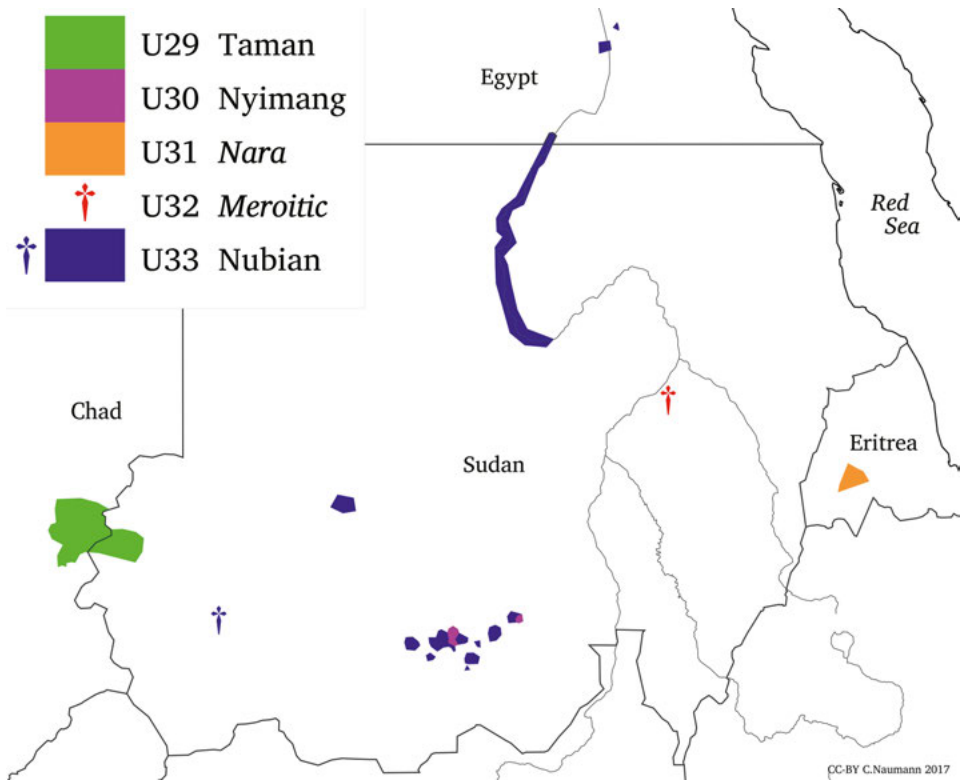
The family took concrete shape in the first half of the 20th century, notably through the work of Lukas (e. g., 1934, 1936b: 341–344), although he did not yet recognize its separation from the Taman language Mararit (see section U29). A conclusive delineation of the family based on extensive lexical data is due to Edgar (1991a, 1991c). The author assembled close to 250 comparative lexical series, without, however, reconstructing lexical proto-forms, and started to establish regular sound correspondences. Clear evidence for a genealogical entity can also be identified in the morphological domain (cf. Tucker and Bryan 1966: 193–205). A particularly diagnostic feature is a full paradigm of person markers that are reflected in both independent pronouns and subject prefixes in the complex domain of verb inflection; the latter includes a quirky allomorphy of the second-person singular form, as discussed by Tucker and Bryan (1966: 195, 200–202), Schadeberg (1981e: 313), Wolff (1989), and Edgar (1991a: 114–115).

Greenberg (1950d: 388, 1963a: 130) claimed that the Maban family had external links with the two extinct “Mimi” languages, a proposal that was widely accepted by later scholars. But since both were encountered in the political realm of the Wadai Empire, they would have been in intensive contact with at least Maba, if not other members of Maban. The two languages are attested only by old word lists collected by Decorse (see Gaudefroy-Demombynes 1907) and Nachtigal (see Lukas and Völckers 1938), so that they are effectively unclassifiable and were thus dealt with already in section 2.3.3. Starostin (2011) gives a detailed critical discussion of Greenberg’s hypothesis concerning the Mimi connections. He concludes that, if anything, Nachtigal’s lect might be a distant sister of Proto-Maban. However, given that the limited lexical comparisons are mostly ambivalent between a possible explanation in terms of contact and inheritance, even this must remain a working hypothesis. Starostin’s study is also important for narrow Maban, because it is based on a detailed discussion of probable lexical reconstructions of its proto-language that partially goes beyond Edgar (1991a, 1991c).

Within the Nilo-Saharan domain, Maban is one of the families that is given quite different positions: according to Bender (2000b) and Dimmendaal (2014b) it is peripheral and isolated, while Ehret (2001) views it as close to Songhay and more deeply integrated in the assumed family tree.

U29 Taman

Less than a handful languages or dialect clusters, none of which is comprehensively described, form the small Taman family (= Greenberg’s “Merarit” group). It is named after its major member Tama (the term Taman distinguishes the family



Map 16: Geographical location of Taman (U29), Nyimang (U30), *Nara* (U31), *Meroitic* (U32), and Nubian (U33)

from the single language; Tamanic is an unsuitable term, because there is already an Austronesian language group of this name). Spoken in a compact area in western Chad and eastern Sudan north of the Maban languages (see Map 16), Taman was also under the historical influence of the Wadai and Darfur Empires (cf. Doornbos and Kapteijns [1984] for a historical and ethnographic survey).

The research history of Taman is also very similar to that of Maban. Lukas (1933, 1938) gave a first outline of the family, starting out from Nachtigal's pioneering research. The problem of distinguishing Taman and Maban languages was reiterated by erroneously classifying Kibet with Taman (cf., e. g., Tucker and Bryan 1956: 56). Similar to his two comparative Maban studies, Edgar (1991b, 1991d) subsequently defined the extent of Taman conclusively and assembled more comprehensive data. These bear witness to the unity of the group in the form of shared morphological patterns in pronouns, nominal number marking, and verb structure as well as close to 230 comparative lexical sets linked by regular sound correspondences; unfortunately, proto-forms are lacking (see Rilly [2010:

208–210] for some comments on this issue from a recent perspective). Owing to the problematic language-dialect distinction, the number of linguistic entities and their classification differs between Edgar’s account and that in *Bombay* (2007) and is thus not yet conclusive.

Edgar’s (1991b: 111–112) observation that Taman’s verb morphology is quite distinct in its narrower areal context appears in a different perspective when considering Bryan’s (1955) detailed comparison with the geographically distant Surmic languages and her historical evaluation of it. This is compatible with Greenberg’s (1963a) hypothesis about Taman being a member of his East Sudanic – an issue discussed in more detail in section 2.6.4.2. In the present listing of basic classificatory units, Taman is the first group in a coherent block of ten that are currently viewed as members of East Sudanic, whereby the five families with a head-final profile (U29–U33) precede the five with a head-initial one (U34–U38).

U30 Nyimang

Nyimang is a small family in the northern part of the Nuba Mountains in Sudan (see Map 16) comprising the two languages Ama (aka Nyima) and Dinik (with the two varieties Afitti and Ditti). Their relationship had been recognized early (cf. Kauczor 1923; Kauczor and Drexel 1930/31) despite the small amount of documentation at this time. Most of the lexical and grammatical material available today, the majority being on Ama, goes back to Roland Stevenson’s work, which was either still published by himself (1938, 1956/7, vol. 41: 171–183, 1981) or by colleagues (Stevenson, Rottland, and Jakobi 1992; Bender 2000c). More recent research has been done, for example, by Voogt (2009, 2011) on Dinik and Fiedler (2013) and Norton (2015) on Ama. However, both languages still await a full documentation.

Bender (2000c) and Rilly (2010: 291–295) contain first preliminary attempts to reconstruct parts of the phonology and lexicon of Proto-Nyimang. Rilly provides ca. 125 proto-forms out of a 200-word list, which appears to be in conflict with Bender’s (2000c: 118) observation that the cognation rate between the two languages is not higher than around 50%. Another historically relevant point is made by Rottland and Jakobi (1991), who discuss a considerable amount of lexical borrowing on the part of the two Nyimang languages from Kordofan Nubian (cf. section U33), including, for example, the numerals ‘six’ to ‘nine’ and ‘twenty’.

The East Sudanic affiliation within Nilo-Saharan aside, the exact position assumed for Nyimang varies. Ehret (e. g., 1989, 2001) aligns it closely with another small family, Temeinic (U35), that is spoken close by in the Nuba Mountains and subsumed under the southern East Sudanic cluster. Most other authors, notably Bender (1989b) and Rilly (2005), join Nyimang with Taman and other northern East Sudanic groups, which Map 16 shows to be mostly geographically distant.

U31 Nara

Nara (also Nera and pejoratively Barya~Barea) designates a group of four dialects spoken around Barentu in western Eritrea (see Map 16). An early but partly outdated description was produced by Reinisch (1874), based on the notes by Werner Munzinger. Since then, little work has been invested in the documentation of this language. The few later studies (Bender 1968; Thompson 1976; Hayward 2000b; Abushush and Hayward 2002) are short and deal with specific topics, except for Thompson's sketch. Hence, the language is too insufficiently known to be evaluated properly in generalological terms, which is compounded by the possible existence of potentially considerable dialect differences.

Reinisch (1874) assumed Nara to be related to Cushitic languages. Apart from Greenberg (1963a), all later Nilo-Saharan classifications reiterated Lang's (1926) impression of a lexical affinity to Nubian by closely joining Nara with Nubian and Taman within East Sudanic. Mukarovsky (1987b) raised doubts about this idea and repeated the hypothesis that Nara is related to Afroasiatic languages. This in turn was countered by Rilly's (2005) recent and so far empirically richest discussion of the East Sudanic hypothesis (see section 2.6.4.2), which for the first time tries to apply historical-comparative techniques rather than referring merely to superficial similarities.

U32 Meroitic

Meroitic, the language of the Meroe civilisation (300 BC–400 AD) along the Middle Nile in northwestern Sudan (see Map 16), is an extinct language attested by a script deciphered in the early 20th century by Griffith (see, e. g., 1911). Due to the nature of the data, the language is attested very incompletely, so that its description can only be fragmentary. Rilly (2007a) and Rilly and Voogt (2012) document the considerable progress made in the recent past and, among other things, give an up-to-date survey of its known linguistic structure, including further support for its assumed head-final syntactic organization and grammatical elements pertaining in particular to the nominal domain. Nevertheless, a large portion of Meroitic words, phrases and sentences remain elusive.

In terms of lexicon, Rilly and Voogt (2012: 183–185) present 64 words that are not loans or names of deities and places and that have a relatively robust interpretation in both meaning and form; only few of them belong to the stable vocabulary. This represents little material to work with for the purpose of lexical comparison.

The limited linguistic understanding of Meroitic has led some scholars to refrain from classifying it genealogically, notably Greenberg (1963a, 1971) and Hintze (1973, 1989) – the latter also cautioning against the rash acceptance of such genealogical concepts as East Sudanic or the yet larger Nilo-Saharan, with which Meroitic tends to be compared. Nevertheless, the literature dealing with

the classification of Meroitic is considerable. The two major competing hypotheses affiliate the language with either Afroasiatic or Nilo-Saharan. Zyhlarz (1930), inspired by Meinhof (1921/22), argued for Meroitic being a Cushitic language but Hintze (1955) convincingly refuted his evidence. With the background of Greenberg's new African classification and taking up an earlier idea by Griffith about some relation between Meroitic and Nubian, Trigger (1966) proposed an East Sudanic membership; his arguments were in turn rejected by Bender (1981a). Both opposing hypotheses have recent reissues. Rilly (e. g., 2004, 2007a, 2007b, 2010: 351–410) has argued extensively for the East Sudanic hypothesis. His ideas have gained particular momentum because he combines a contextualized philological and historical approach to Meroitic with detailed linguistic research on the African languages that are its potential relatives, and he is thus able to propose numerous isoglosses in basic syntax, morphology, and lexicon with Nubian, Nara, Taman, and Nyimang, to be discussed in more detail in section 2.6.4.2. Nevertheless, possible Afroasiatic links of Meroitic are still defended, for example, in Lipiński's (2011) review of Rilly (2010) as well as by Rowan (2006), who invokes a typological argument concerning phonotactics.

U33 Nubian

Nubian, the last family in the block of head-final and northern East Sudanic lineages, is attested in five geographically widely dispersed pockets (see Map 16), whereby two of them, Haraza and Birked, no longer exist as vital languages. The remaining units are Midob in southern Darfur, the two Kordofan or Hill Nubian dialect clusters of the Nuba Mountains, and the complex of Nile Nubian varieties comprising not only two modern dialect clusters but also Old Nubian of the medieval Christian kingdoms of Sudan, which is attested in written documents from the eighth century on. A fuller comparison across the family has become possible only recently with the ongoing, detailed documentation of the partly endangered Kordofan Nubian varieties.

Recognizing the relatedness between Nubian languages as such was not a problem, and this facilitated early historical-comparative work, for example, by Murray (1923) and Zyhlarz (1949/50), the latter dealing in particular with sound correspondences of root-initial consonants. A phase of lexicostatistic investigation (e. g., Thelwall 1982b) was followed again by the more detailed comparative analysis of lexicon and some morphology by Bechhaus-Gerst (1985, 1989, 1996, 2011), resulting among other things in close to 100 proto-forms. The author focused on the internal diversity of the Nile Nubian languages and challenged the previously common assumption that these form a node in the family tree, advancing instead the idea that the two languages immigrated into the Nile Valley at different times. In his comparative evaluation of Meroitic, Rilly (2010: 211–288, 420–529) also embarked on historical-comparative research on Proto-Nubian, coming to differ-

ent results with respect to both the reconstructions, comprising around 200 lexical proto-forms, and the derived family history. Given the disagreement between these two major strands of research, the internal classification of Nubian remains unclear. Other recent comparative studies, refraining from historical conclusions, are Jakobi (2000, 2006, 2013) and Alamin (2014).

On account of the widespread distribution of the modern Nubian languages, and archaeological evidence showing that the large desert area between them was still populated in the first millennium BC, the former territory of the family is assumed to have been more compact. Accordingly, the homeland would probably have been located in a more central area, *pace* Thelwall (1982a). The same observation also leads Rilly (2010: 186–201) to entertain Nubian lexical influence on various other languages of this wider zone, concerning in particular languages belonging to Nyimang and Taman, distinguishing these isoglosses from the affinities that stem from their assumed genealogical relationship (cf. also Rottland and Jakobi 1991).

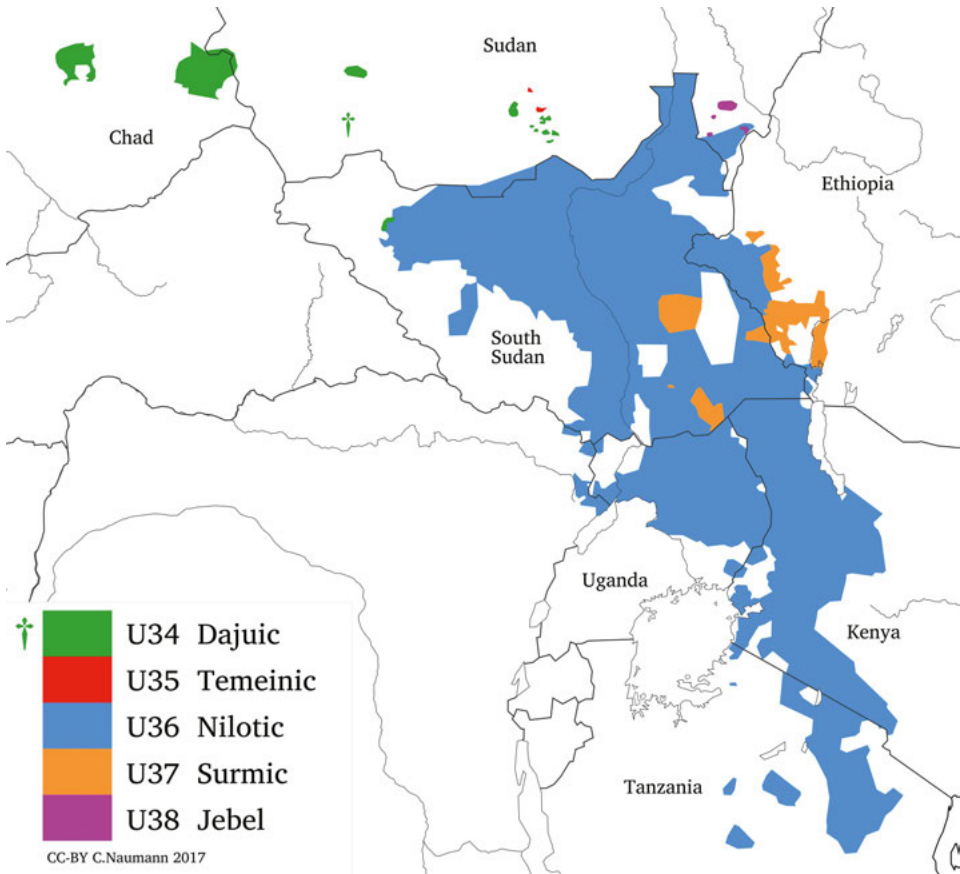
As for external genealogical relations, Nubian is one of the key families within the East Sudanic hypothesis, which will be discussed in section 2.6.4.2. However, similar to Meroitic, links have also been proposed to Afroasiatic (cf., e. g., Mukarovsky 1996).

U34 Dajuic

Dajuic comprises fewer than ten languages spoken in Sudan, South Sudan and southeastern Chad (see Map 17). Similarly to Nubian, these languages are dispersed over a large geographical area. This appears to be the partial result of migration after the breakdown of their polity, which was presumably centered in the first half of the 2nd millennium in the area south of Jebel Marra in southern Darfur.

Although widely separated today, the languages are still so close that the recognition of their unity was relatively unproblematic (cf. Santandrea [1948: 99–105] for one early comparative collation of data). The full extent of the family was outlined by Tucker and Bryan (1956: 59–61, 1966: 231–242), who also determined the internal classification into a western and a smaller eastern branch formed by Logorik and Shatt in the Nuba Mountains. However, the first more comprehensive description of a Dajuic language only appeared recently with Palayer's (2011) treatment of the Eref variety of the Dar Daju language. This also means that serious comparative work, especially on non-lexical features, is hampered by the limited amount of documentation.

More extensive lexical comparisons appeared in the late 1970s by Jungrathmayr (1978a) and Thelwall (1978). Thelwall (1981a, 1981b) subsequently carried out a more systematic historical-comparative study with close to 300 comparative lexical series for which concrete reconstructions are proposed. A morphological domain, viz. the nominal system concerning number and attributive modification,



Map 17: Geographical location of Dajuic (U34), Temeinic (U35), Nilotic (U36), Surmic (U37), and Jebel (U38)

has also been investigated from a comparative perspective. It differs between the eastern and western branches, whereby the former remains in a more conservative stage according to Tucker and Bryan (1966: 235–236, 238–239) and Thelwall (1981b: 61–89). Eastern Daju possesses a complex tripartite system for nominal number as well as a set of attributive markers (initially called “determinatives”) whose singular forms justify the identification of a gender system. Western Daju has simplified nominal plural marking to a suffix *-ke* in opposition to multiple inherited singular suffixes, and has incorporated the variable attributive elements into basic noun forms. Boyeldieu (2011) elucidates the historical dynamics of this domain in detail, and among other things argues convincingly for several layers of number marking in the modern languages. His conclusions throw an important perspective on the complexity of this domain in Daju and its assumed genealogical

relatives within Nilo-Saharan in particular and in the geographical area in general, warning against the common practice of directly taking modern surface forms as the basis for historical comparison.

Lexicostatistic investigation has been employed by Thelwall (1978) in order to compare Dajuic with other language groups, which is discussed in more detail in section 2.6.4.2. in connection with the East Sudanic hypothesis. In this respect, Dajuic is the first of five lineages treated here consecutively (U34–U38) that prominently display head-initial syntactic traits and are classified under its southern branch.

U35 Temeinic

Parallel to the terms for other similar language families, Temeinic is used here for a small language group in the Nuba Mountains (see Map 17), instead of just Temein – the name of its major member. Blench (2013a) is a recent survey of this virtually unknown family for which it is even still unclear whether it comprises three languages, Temein, Keiga Jirru, and Tese (as per Blench), or just two (as per Glottolog and Ethnologue). Blench's recent survey and the older one by Tucker and Bryan (1966: 253–261) rely exclusively on Stevenson's data (notably 1956/7, vol. 41: 183–190 and 1976–86, the unpublished lexical lists being digitized in Blench n.d.). There is only one additional short phonological study on Tese by Yip (2004).

While the internal coherence of Temeinic is obvious, its external classification is controversial. The assignment to Nilo-Saharan and East Sudanic aside, its concrete position differs in that Ehret (e. g., 1989) sees a close connection to Nyimang while most other scholars (e. g., Bender 1989b) align it with Dajuic, Nilotic, and Surmic. The second hypothesis is more compatible with its greater typological affinity to these three groups.

U36 Nilotic

Nilotic comprises approximately 50 languages centered on South Sudan, Uganda, western Kenya, and northern Tanzania with some crossing-over into Sudan, Ethiopia, and the Democratic Republic of Congo (see Map 17). After Central Sudanic, it is thus the second-largest family in the Nilo-Saharan domain and also a geographically widely distributed one, even on a continental scale.

Nilotic is one of the African language families that were particularly controversial in the early research period in connection with the Hamitic theory. While structural and lexical affinities across Nilotic in the present concept were recognized early on (see, e. g., Müller 1877: 181), scholarly dogma resulting from classifying languages according to typological and nonlinguistic criteria had entrenched the conventional separation between narrow “Nilotic” (= modern West Nilotic)

and “Nilo-Hamitic” (= modern East and South Nilotic). It was only in the middle of the last century that the family received its modern layout. Thus, its unity was posited against the Hamitic canon by Conti Rossini (1926) and Wölfel (1944: 199) and finally advanced in detail by Köhler (1948, 1950, see also 1955), including its modern classification into three branches. Embedded in his East Sudanic hypothesis, Greenberg (1950b: 143–153) finally provided the decisive argumentation for the family as a whole. Calling it then “Southern” and recognizing only the two branches “Nilotic” and “Great Lakes” (= earlier Nilo-Hamitic), Greenberg (1956) later took over Köhler’s proposal.

In the meantime, Nilotic languages have been subject to an immense amount of historically oriented work. First, there are a number of studies that deal with comparative phonology, lexicon, and selected morphology within the three sub-branches and reconstruct proto-forms, notably Reh (1985b), Heusing (2004), and Storch (2005) on West Nilotic; Ehret (1971) and Rottland (1981, 1982, 1989) on South Nilotic; and Voßen (1981, 1982, 1983) and Heine and Voßen (1983) on East Nilotic. A scope over the entire family is taken by Köhler (1948), Hall et al. (1975), Hieda (1983, 2009), Dimmendaal (1983, 1988), Reh (1985b), Denning (1989), Hall and Hall (1996), and Rottland (1997). Thus, there is a body of lexical comparative series and reconstructions, for example, approximately 70 by Köhler (1948), 200 by Dimmendaal (1988), 80 by Denning (1989), and 100 by Hieda (2009) with a scope over Nilotic as a whole, and many more on the level of subgroups. Nevertheless, it is difficult for various reasons to utilize these results, especially for comparisons beyond Nilotic. Thus, the only available synopsis of lexical research by Rottland (1997) is no longer up-to-date and lists competing proposals without any discussion. More problematic is that the last point also applies to most of the reconstruction studies themselves in that they have little if any critical engagement with alternative proto-forms, as is noted briefly in section 2.6.4.2 with respect to the oft-cited word for ‘cow/cattle’. The difficulties involved in Nilotic lexical reconstruction are demonstrated by Hall and Hall (1996), who discuss the intricacy of multiple and complex morphology, often becoming lexicalized and layered over time, and of complicated phonological processes concerning vowel quality, phonation type, articulation place, nasal-oral distinction, etc. A final problem is that there has been no attempt yet to trace larger parts of the rich paradigmatic morphology to the Proto-Nilotic stage, as its diagnostic value is crucial for higher genealogical levels.

Another fruitful but still restricted strain of research is the study of comparative Nilotic syntax as soon as it goes beyond particular linguistic theories (e. g., Creider 1989) but is oriented toward historical dynamics (e. g., Hieda 1991; Dimmendaal 2005, 2008c; Schröder 2006). The research approach spearheaded by Dimmendaal is especially promising because it combines diachronic typology with language contact.

That most Nilotic language groups have in fact been in multiple, partly intensive contact situations with each other as well as with languages of such diverse

groups as Surmic, Cushitic, Kuliak, Central Sudanic, Ubangi, and Bantu has been acknowledged for a long time. It is treated, for example, by Heine (1976b: 69–72), Heine, Rottland, and Voßen (1979), Dimmendaal (1982, 2001b, 2005, 2008c), Rottland (1983), Adhiambo (1991), Mutahi (1991), Reh (2000), Kuteva (2000), Rottland and Mous (2001), and Storch (2003, 2007). In the course of various historical expansions (see Köhler 1950), this contact also included shift-induced substrate interference. For example, Heine, Rottland, and Voßen (1979) invoke a Cushitic Proto-Baz substrate layer in South Nilotic as an alternative hypothesis to the “mixed-language” origin of the earlier “Nilo-Hamitic”.

Since Nilotic is such an important family in geographic, demographic, and historical terms, it has attracted comparisons with a range of other languages early on and thus became crucial for the development of language classification in the wider area. Two major themes will be taken up in more detail in section 2.6.4.2, namely its proposed closest relationship to the Surmic family (U37) and its central role in the emergence of the concept of East Sudanic and eventually even Nilo-Saharan.

U37 Surmic

The Surmic family subsumes about ten languages in the border region of South Sudan and Ethiopia (see Map 17). While linguistic knowledge on them remained quite restricted for a long time, there has been a good understanding of the structural profile and diversity of the group since the late 1990s, facilitated in particular by the appearance of Dimmendaal and Last (1998).

The full extent of the family and its internal classification took shape with Bender (1976, 1977), Fleming (1983c), and Unseth (1988b). A considerable advance in the comparative study of Surmic is due to Unseth (1986, 1987, 1988a, 1989a, 1991a, 1991b, 1998), who dealt with the comparison and partial reconstruction of morphosyntax, notably regarding word order, negation, case, number marking, and other morphological elements. Based on this progress and including yet more extensive data, Dimmendaal (1998a, 1998b) gives a state-of-the-art report about the historical and typological profile of the family. In particular, this author discusses first hypotheses about the diachronic dynamics of basic grammatical structures in Surmic within its specific geographical context between related Nilotic and unrelated Omotic languages. The strong typological distinction between the latter two groups and Surmic’s intermediate position can explain a number of typological features, particularly in Southeast Surmic, which sometimes contradict cross-linguistic expectations about “harmonic” systems. Another major step forward was Moges’s (2001) phonetic-phonologically oriented comparative study of the lexicon. It provides more than 300 comparative series across the entire family and proposes reconstructed forms for the two subgroups of the major southern branch, namely more than 250 for Southwest Surmic and 160 for

Southeast Surmic. Unfortunately, the study does not deal with the elaborate morphology of Surmic nor does it advance lexical proto-forms for deeper levels like the southern branch or Surmic as a whole. In fact, due to the extreme divergence of Majang – a single language forming the northern branch – from the rest, Moges explicitly excludes it entirely from the reconstruction.

This fact alone reveals the problematic status of this language with respect to the Surmic core. Greenberg (1963a: 113, 117, 168) had set the classificatory standard by silently joining it under the term Masongo with other Surmic languages. This was based on Cerulli (1948), who made a number of noncommittal comparisons of his data with Didinga and other Surmic languages as well as with Nilotic and beyond. Subsequent studies follow Greenberg but also fail to make a convincing case that Majang is related specifically to the Surmic core (e. g., Bender 1976: 467–472). While Majang’s status as Surmic is taken for granted, the lack of more concrete and extensive evidence makes one wonder whether it may not be a more isolated unit that is as close (or distant) to Surmic as it is to, say, Nilotic.

Similar to the case of Nilotic, a fruitful historical research domain for Surmic has been language contact. On the one hand, there is family-internal contact, some of it so intensive that it may blur genealogical relationships, for example, in the form of a distorted lexicostatistic picture. This is the case with Baale (aka Kacipo-Balesi), which belongs genealogically to Southwest Surmic but has undergone heavy convergence to neighboring languages of Southeast Surmic (see Moges and Dimmendaal 1998; Moges 2005a). On the other hand, Surmic languages are influenced by contact with Nilotic in the (south)west and Omotic in the east, which also involves cases of language shift to these often dominant non-Surmic languages (Dimmendaal 1982, 1998b).

Beyond Greenberg’s assignment of Surmic to East Sudanic, there are a couple of more concrete hypotheses on its external genealogical relation. While a specific connection with Taman (U29) remains an isolated proposal, made by Bryan (1955), there is wide agreement about the close link between Surmic and Nilotic. Both proposals are embedded in the East Sudanic hypothesis and are dealt with in section 2.6.4.2.

U38 Jebel

Gaam, referred to in the past as Tabi or Ingassana (including in Greenberg 1963a), was viewed for a long time as a single language. It was only Bender (1983c) who advanced the idea that three other languages in the southeastern corner of Sudan were related to it, forming what came to be known as the (Eastern) Jebel family (see Map 17). These other languages are Aka (aka Sillok), Molo (aka Tornasi), and Kelo (aka Malkan), reported for the first time by Evans-Pritchard (1932) as languages akin to Berta (U39). They were only investigated again in the late 1970s by Bender (1983c, 1989c, 1997a, 1998), who also added Beni Sheko, another variety

close to Kelo. Bender's new data, consisting primarily of a comparative 300-word list of the Non-Gaam languages (1997a: 204–215), are unfortunately not presented and analyzed for the sake of primary documentation and description but exclusively for immediate historically oriented comparison. This bias, together with the limited amount of data, is responsible for the fact that the entire group was all but unknown until recently. This situation changed partly with Stirtz's (2006, 2011, 2014a, 2014b) detailed documentation of Gaam or "Gaahmg" – the largest but isolated member of the group. Since all other languages were already reported at Bender's time to have speaker totals of just a few hundred, these are of high research priority.

The proper assessment of the internal coherence of the family is a very difficult task that is not only due to the restricted data. The major problem is that Bender, although preoccupied primarily with classification, merely presents the data in tabular form without much discussion on what concrete material is viewed to be shared. Moreover, as soon as there is some discussion, it is confined to telegraphic sentences and intertwined with external comparisons concerning Berta as well as abstract features assumed to be inherited from the higher-order lineage East Sudanic, which the reader is not only expected to be familiar with but also to accept. Moreover, Bender does not make the lexical comparisons and assumed sound correspondences transparent by means of concrete examples but merely lists them according to phoneme classes, whereby he presents the Non-Gaam data in Appendix A of the 1997a article separately from his list of 100 proposed Proto-Jebel forms in Appendix B of the 1998 study. The latter are in fact not meant as reconstructions in the first place but, on his own account (Bender 1998: 51), as a "demonstration of the East Sudanic affinity of Eastern Jebel lexicon by comparisons to East Sudanic and units at higher levels of Nilo-Saharan, including Berta".

It is clear that a thorough (re)analysis of all available data is necessary, also because the recent fuller description of Gaam shows that at least this language has complex morphology, which is a strong argument against taking all recorded word forms directly as a basis of etymological comparison. Pending such necessary detailed research, the following can be said based on a superficial inspection of the published material: the Non-Gaam languages appear to be a relatively coherent group with respect to the available lexicon, while their relation to Gaam is far from obvious, although some good matches do exist. Some of the limited grammatical data, too, suggest the existence of this family, but they also require a systematic treatment.

Given the uncertainty about the family and its reconstruction, the external relation is equally problematic. Following Evans-Pritchard's (1932) idea, Greenberg (1963a) subsumed all languages but Gaam under Berta. Bender (1971: 203–205) joined this "wider" Berta and Gaam on lexicostatistic grounds. Ehret also advances such an extended family; since he calls this "Jebel" the narrow concept

dealt with here confusingly receives yet other and even variable geographical labels like “Northern Jebel” (1989: 36) and “West Jebel” (2001: 70). Arguing that the lexical affinities between Jebel and Berta are contact-mediated, Bender’s later work eventually separates the two units and includes narrow Jebel in his East Sudanic – a view that is shared by the majority of Nilo-Saharan comparativists. However, Bremer (2015) has reopened the discussion by resurrecting the Jebel-Berta connection, to be discussed in section 2.6.4.1.



Map 18: Geographical location of *Berta* (U39), *Koman* (U40), and *Baga* (U41)

U39 Berta

Berta is located on both sides of the southern stretch of the Ethiopia-Sudan border mostly southwest of the middle course of the Blue Nile and its Dabus tributary (see Map 18). It is viewed as a cluster of speech varieties that are closely related to each other, although referred to by a number of different names. They are, however, more diverse than commonly assumed, as was already suspected by Greenberg (1971: 435) and has been confirmed recently by Bremer’s (2015) dedicated study, which also surveys the research history and the currently available sources. Since comparative morphosyntactic data on these phonologically and lexically diverse varieties is almost completely lacking, it is even possible that *Berta* will have to be broken down into several languages.

The collection of the first *Berta* vocabularies in the 19th century was followed by works like Evans-Pritchard (1932), Cerulli (1947), Triulzi, Dafallah, and Bender

(1976), and Bender (1989a). These data have been further complemented by substantial and systematically collected lexical data (Siebert, Siebert, and Wedekind 2002; Neudorf and Neudorf 2007; Krell 2011; Bremer's so far unpublished field notes) and up-to-date articles on selected linguistic topics (e. g., Andersen 1993a, 1993b, 1995; Neudorf 2015). However, all this material still provides only a fragmentary documentation of Berta as a whole. Moreover, what there is in terms of comparative data has not yet been compiled in a transparent way, so that the establishment of reliable proto-forms is currently not in sight.

This insufficient state of knowledge about Berta also hampers the assessment of its genealogical status. Accordingly, its classification, largely based on lexical data, has been controversial apart from its generic assignment to Nilo-Saharan. As mentioned above, Evans-Pritchard (1932) proposed its relationship to the Non-Gaam languages of the Jebel family. The inclusion of Jebel into East Sudanic implies that Berta is also a part of it, which is the position in Ehret's (1989, 2001) framework. Bender (1971: 203–205) first followed this idea but finally rejected it and assigned Berta to a more peripheral position within Nilo-Saharan. He (1983c: 56) wrote:

The above presentation of data should serve to end the riddle of the “second group of Berta languages” [aka Non-Gaam Jebel] ... The languages are not Berta varieties after all. Thus Berta, with its relatively minor dialect variation (see Atieb and Bender [= Triulzi, Dafallah and Bender] 1976: 513 ff, 520), remains an isolate, but Gaam (the former Tabi or Ingessana) loses the status of isolate ...

Bender's hope to have solved the “riddle” was not fulfilled, however, because the most recent treatment of the problem by Bremer (2015) returns to the hypothesis of Berta's relationship to Jebel (see section 2.6.4.1.). Since Berta is internally quite diverse, *pace* Bender, it is necessary to document it comprehensively and then reconstruct its proto-language, just as with the Jebel family, so that the problem can be settled conclusively.

U40 Koman

Koman in the narrow sense used here refers to a family of a handful of languages spoken around the border triangle of Ethiopia, Sudan, and South Sudan (see Map 18); they are Komo, Uduk (aka Twampa), Op(u)o (aka T'apo/Shita), Kwama, and possibly Gule (aka Anej). Apart from relatively inaccessible missionary studies on Komo (Burns 1947; Burns and Guth 1960), none of the languages were described even rudimentarily until recently. This situation has changed considerably through modern documentation projects. There are grammar sketches of Kwama (Zealelem 2005; Kievit and Robertson 2012) and Opuo (Lemi 2010) as well as a fuller description of Uduk (Killian 2015). Moreover, modern lexical data are contained in recent sociolinguistic surveys like Siebert, Siebert, and Wedekind (2002) on

Kwama, Wedekind and Wedekind (2002) on Kwama and Komo,¹⁸ Krell (2011) on Komo, and Küspert (2015) on all Ethiopian varieties.

Till recently, most of the data available were furnished by Bender (1983a) based on his fieldwork during the late 1970s and early 1980s. His comparative study proposes around 100 proto-lexemes from 300-item word lists, although with hardly any justifying discussion. According to his internal classification, the more distant languages are Kwama, whose considerable difference to Komo in spite of apparent ethnic associations is also supported by lexicostatistic work by Jordan, Mohammed, and Davis (2011: 16, 19), and the even more divergent Gule. In view of the growing grammatical data on most languages, there are good prospects for reconstructing parts of the grammatical system, as evidenced by Otero's (2016) recent attempt of establishing the pronominal proto-system for the Koman core comprising Komo, Uduk, Opuo, and Kwama.

While there can be no doubt about the unity of this core, a note is in order on Gule, which was formerly spoken near a mountain of the same name in the southeast of Sudan. The language has become extinct through language shift to Sudanese Arabic and is only poorly attested in a few word lists in Lejean (1865), Marno (1874: 482–495), Zöpplitz (1877: 47), Seligman (1911/12), and Evans-Pritchard (1932: 51–52) as well as some grammatical information in Seligman (1911/12). Greenberg (1950d: 390–391) and after him Bender (1983a), who calls the language Anej, have proposed that it is related to the Koman core referring to both lexical and grammatical traits. Thus, there is a promising recurrent sound correspondence between /ʃ/ in Koman and /f/ in Gule (cf. the series for 'meat', 'nose', 'stone', 'salt' in Bender 1983a) as well as a gender opposition in third-person singular pronouns conveyed by the thematic consonants feminine *b* vs. masculine *r~d*. Although the little data on Gule makes it almost impossible to classify, the hypothesis that it is a divergent member of Koman is promising.

The term Koman as a genealogical concept has been used ambiguously, which is due to a complex ethnohistory involving both Koman speakers and their eastern neighbors and, as a result, a confusing terminology in the area (see section U46.D for more details and sources), compounded by loose linguistic classification criteria. This concerns in particular Greenberg (1963a: 130), who subsumed under his "Coman" also languages from two other classificatory units, namely Baga aka Gumuz, dealt with subsequently in section U41, and Mao, treated in section U46.D under the Omotic pool within the Afroasiatic domain. While the lumping-in of Mao was soon abandoned with the availability of more extensive data, the other genealogical link persists until today. It is part of several classificatory versions of Nilo-Saharan by Bender and Ehret, and it is associated with some rather idio-

¹⁸ Jordan, Mohammed, and Davis (2011: 19) show that the "Begi Mao" list in this study is in fact also Kwama rather than a variety of the Omotic language group Mao (U46.D).

syncretic and confusing terminology. Ehret (2001) continued Greenberg in calling the higher-order group Koman, referring to the narrow concept with “Western Koman”. Bender (e. g., 1990c, 1994b) used the artificial term “Komuz”, coined from the narrow family term and “Gumuz”, which stood for Baga until recently. He proposed lexical evidence and also argued for reconstructable morphemes in his “comparative grammar”, also roping in Shabo (U25). Bender (1996c: 53, 2007) eventually discarded the idea of such a family, thereby falling back on his first hunch expressed in early studies (1976: 475–479, 1979: 40). However, the family resurfaced recently in Ahland (2010, 2013).

Even when disregarding the controversial link to Baga, the views on the position of narrow Koman in Nilo-Saharan are very diverse. For Bender (e. g., 2000b) it is a core unit besides, for example, East Sudanic; Ehret’s (2001) family tree has it as a first-order outlier; and Dimmendaal (2014b) even excludes it from Nilo-Saharan altogether.

U41 Baga

The last classificatory unit to be presented within the Nilo-Saharan domain is a small family spoken on both sides of the Ethiopia-Sudan border predominantly along and north of the middle course of the Blue Nile and its local tributaries (see Map 18). Localized groups and their speech varieties are referred to by a myriad of different names (cf. James 1981). The linguistic unit has been known under the term Gumuz and has been viewed for a long time as a single if complex dialect cluster. This perception has now changed radically, even without more detailed knowledge about the situation in Sudan. That is, Ethiopia alone hosts a) two dialect clusters within narrow Gumuz that are not mutually intelligible, b) the Kadallu variety (not to be confused with the Kordofan Nubian language Kadaru) that needs to be distinguished from the Gumuz core, and c) the previously hidden language Daats’iin (C. Ahland 2012: 4–8, 2016a, 2016b; see also Unseth 1985). The emerging small language family is called here Baga, based on a shared word *baga* ‘person, people’ that some speakers even use themselves in glossonyms. This new linguistic label follows a proposal by C. Ahland and earlier ideas that other scholars had already voiced for narrow Gumuz (cf. Wallmark 1981, James 1981: 18).

Until recently, linguistic information was very restricted, consisting of Gumuz material collected largely for comparative purposes by Bender (1979, 1994b) and some descriptively oriented data by Unseth (1989b) and Uzar (1989). A recent full description by C. Ahland (2012) has changed this situation considerably. While the genealogical coherence of all Baga varieties is obvious, narrow Gumuz alone is so diverse, including intricate sound correspondences, that internal comparison is already complicated. Accordingly, external genealogical comparisons require first a careful reconstruction of Proto-Baga.

Very similar to (and intertwined with) the case of Koman, the external classification of Baga has been highly variable. Its ambiguous link to Koman has been dealt with in the previous section and is briefly discussed again in section 2.6.4.1. Equally uncertain is its status vis-à-vis Nilo-Saharan. Bender (e. g., 2000b) has once presented it as a core unit, once as a deviant or even questionable member of Nilo-Saharan (1976: 477–479; 1979: 40; 2005a). This ambivalence also holds across all other relevant scholars. Ehret (2001) assigns to Gumuz (and Koman) a peripheral position in Nilo-Saharan, while Dimmendaal (2014b) excludes it altogether. Ahland (2010, 2013), in turn, summarizes her optimistic genealogical evaluation of Baga~Gumuz regarding both the Koman link and the Nilo-Saharan affiliation as follows: “Gumuz is not an isolate. Despite apparent low cognate counts with other N[ilo]-S[aharan] languages (which should likely be re-evaluated), Gumuz exhibits regular sound correspondences with at least one Koman language (Gwama) and has a classifier/class term that shows a regular sound correspondence with that of Fur.”

2.6.4. Higher-order hypotheses and summary

2.6.4.1. Low-level links

I have referred above to various proposals for joining certain Nilo-Saharan units more closely with each other, the evidence for which differs, however, considerably. Most of them involve pairs of lineages that are geographical neighbors, so that it is necessary to exclude the possibility that lexical and/or structural isoglosses are contact-mediated, which unfortunately is hardly ever done by the relevant scholars.

The strongest and so far uncontroversial proposal is the relationship between Nilotic and Surmic entertained at least since Ehret (1983). The author only provided scanty lexical data alongside the certainly possible but ultimately nonlinguistic hypothesis that both units were supposedly part of the same prehistorical expansion of peoples with a strong focus on pastoralism (cf. also Dimmendaal 1998b: 17–20). In the meantime, however, the linguistic hypothesis has been supported by more substantial and varied evidence.

Thus, both families share synchronically the same basic typological profile, as pointed out by Dimmendaal (1998a), including a similar word order variation within a generally head-initial syntactic organization. In particular, transitive sentence structure oscillates across languages of both families between a) VSO, b) general verb-second order subsuming SVO, OVS, etc., and c) consistent SVO. The last two types can be viewed as variants of or derivations from a single structure TOP–V–FOC, which in turn has its likely origin in the first verb-initial structure by means of leftward topicalization (see, e. g., Dik [1980: 152–177] for a general typological perspective and Hieda [1991] for the specific case of West Nilotic).

Such a similar family-internal diversity appears to be better explained as emerging from a single proto-structure rather than just through language contact, which is also relevant for the relation between languages of the two families, as mentioned in section U36 and section U37.

Specific lexical affinities between the two units have also been adduced; their presentation, however, manifests a lack of rigid methodology for outsiders. For example, Dimmendaal (1988) entertains cognacy with some Surmic forms in 16 of his 204 Proto-Nilotic forms (cf. the series 9, 16, 21, 37, 38, 58, 63, 71, 110, 120, 157, 176, 185, 193, 197, 202). The latter are, however, not reconstructions but almost exclusively words from a single language, Murle, for which borrowing needs to be excluded, because it is known to (have) be(en) in intensive contact with languages of both West and East Nilotic (Arensen n.d., Dimmendaal 1982). This problem also applies to Denning's (1989: 104–111, fn. 17, Tables 5.17 and 5.18) lexical comparisons, even though they are quite detailed by partly involving more specific vowel features. In general, the obviously promising case still needs to be made with reference to Surmic reconstructions (e. g., those now available in Moges 2001).

The most convincing evidence for the family is the shared morphology reconstructed for both proto-languages. This involves in particular nominal case, including a marked nominative suffix for postverbal subjects (Unseth 1986; Dimmendaal 1998a: 41–43, 2005: 76–77), as well as verbal derivation with a suffixal dative~applicative (Dimmendaal 1998a: 50) and at least a prefixal, if not also a suffixal, causative (Dimmendaal 1983; Unseth 1998). Nevertheless, even here, the problem remains that the phonological material involved is normally so short that isolated similarities may also arise with families that are quite unlikely to be related (cf. Ernst [2006: 54–56] on a front-vowel causative prefix in Central Sudanic similar to that in Nilotic-Surmic). The focus should thus shift from isolated elements to structured morphological paradigms, for which Nilotic and Surmic in fact provide good candidates, for example, complex and historically dynamic systems of verbal cross-reference (see, e. g., Bryan 1955; Dimmendaal 1987a, 1991; Jong 2006) or number marking involving nominal classification (see, e. g., Unseth 1988a; Arensen 1998; Storch 2005).

In sum, a Nilotic-Surmic family looks close to be proven according to canonical standards but still lacks a full and transparent exposition of the evidence. This will not only serve to convince non-specialists but is bound to advance the historical evaluation itself, for example, regarding the possible refinement of the available reconstructions, the status of the peripheral Surmic language Majang, and the plausibility of extending the family through the addition of other lineages like Temeinic and Dajuic.

The possible confidence in all other explicit proposals of pairwise genealogical relationships in Nilo-Saharan is quite different. A first such study by Bryan (1955) is noteworthy, because it deals with morphological evidence and concerns the typo-

logical divide between the southern head-initial and the northern head-final languages within East Sudanic. The author compares the verb structure of three languages each from Surmic (Murle, Didinga, Me'en) and Taman (Tama, Sungor aka Assangori, Merarit) and concludes that both families share a characteristic morphological template involving similar markers. While Bryan was generally reluctant to entertain non-obvious genealogical relationships, in this case she (Bryan 1955: 313) did favor an interpretation of the data in terms of common inheritance. Her characterization of the purported shared pattern (Bryan 1955: 330–332) is a complex set of features involving overall three prefix and four suffix positions, as schematized in (9).

- (9) a. Taman: *First person-Vowel-Aspect-“Stem”-Plural-Vowel -Non.person
 b. Surmic: *First person-Vowel-Aspect-“Stem”-Plural-Ø -Person -Non.person

Nevertheless, there are major problems in evaluating the purported similarities as reflexes of a shared proto-structure. First, only the first, third, and fifth affix positions – that is, just three of seven – are semantically specific. Second, Bryan's data do not in fact allow one to infer the above template to be a likely reconstruction in either of the two families, let alone a common ancestor. The verb paradigms she gives are so diverse that an outsider cannot appreciate what is really shared across a family and what is incidental, depending on such numerous and diverse factors as the verb lexeme itself, its type of being V- or C-initial, and different morphological categories like aspect, number, person, etc. For Taman, there is just a single verb that is given for all three languages in the same “indefinite” aspect paradigm, namely ‘kill, die’, having to assume in addition that it is adequate to disregard the diverse valency. For Surmic, Bryan gives two verbs, ‘sleep’ and ‘weep’, for both Murle and Didinga in comparable aspects; these actually do not corroborate the generalized pattern in (9). Finally, the comparability between the templates has numerous exceptions and/or restrictions in virtually all affix positions. While this is already clear in (b) from the fact that two positions are not shared at all, the diversity is actually far more extensive on account of Bryan's own information.

Bryan (1955: 332) draws special attention to the examples given in Table 58; the similarities are in the imperative a (singular) suffix *-k* and in finite forms the restriction of prefix marking to first person, the plural suffix *-k*, and a suffix *-i* in the singular. However, while these facts may look suspicious, one has to bear in mind that this extent of shared features is far from recurrent but restricted to these three specific paradigms. Across the entire data set, the affinities between the two families boil down to partly similar verb morphotactics and markers that occasionally share both form and function. However, the similar morphemes either consist of unmarked segments whose similarity could also be due to chance or they hardly ever give the impression of reconstructibility. The morphological templates are equally unspecific and can be explained at least partly by universal (and possibly areal) tendencies. For example, the fact that aspect is encoded close to the verb

Table 58: Similar verb paradigms of Tama, Sungor aka Assangori and Murle after Bryan (1955: 314 example 5, 318 example 5, 328 example 11)

	Tama 'wash'				Sungor 'do, make'				Murle 'beat'				
IMP.S	<i>aise</i>	<i>-k</i>			<i>ene</i>	<i>-k</i>			<i>ru</i>	<i>-k</i>			
IMP.P	–				<i>k</i>	<i>-ene</i>	<i>-k</i>	<i>-a</i>	<i>u</i>	<i>-ru</i>	<i>-it</i>		
	FIRST PERSON ROOT	PLURAL	NON-PERSON		FIRST PERSON ROOT	PLURAL	NON-PERSON		FIRST PERSON VOWEL PREFIX	ROOT	PLURAL	PERSON	NON-PERSON
1S	<i>n</i>	<i>-aise</i>	<i>-i</i>		<i>n</i>	<i>-ane</i>	<i>-i</i>		<i>k</i>	<i>-a</i>	<i>-ru</i>		<i>-i</i>
2S		<i>aise</i>	<i>-i</i>			<i>ane</i>	<i>-i</i>			<i>a</i>	<i>-ru</i>		<i>-i</i>
3S		<i>aise</i>	<i>-i</i>			<i>ane</i>	<i>-i</i>			<i>a</i>	<i>-ru</i>		<i>-i</i>
1P.I									<i>k</i>	<i>-a</i>	<i>-ru</i>	<i>-k</i>	
1P.(E)	<i>n</i>	<i>-aise</i>	<i>-k</i>	<i>-e</i>	<i>n</i>	<i>-ane</i>	<i>-k</i>	<i>-e</i>	<i>k</i>	<i>-a</i>	<i>-ru</i>	<i>-k</i>	<i>-a</i>
2P		<i>aise</i>	<i>-k</i>	<i>-e</i>		<i>ane</i>	<i>-k</i>	<i>-e</i>		<i>a</i>	<i>-ru</i>	<i>-k</i>	<i>-u</i>
3P		<i>aise</i>	<i>-k</i>	<i>-e</i>		<i>ane</i>	<i>-k</i>	<i>-e</i>		<i>a</i>	<i>-ru</i>	<i>-k</i>	

lexeme and that person markers do not occur in a single affix slot is motivated readily by cross-linguistic tendencies in the grammaticalization of bound morphology, as discussed, for example, by Bybee (1985) and Mithun (1991).

Bryan's genealogical interpretation is also questionable in other respects. For one thing, not a single obvious verb cognate between the two families emerges in the data. Also, Taman and Surmic cannot be assumed to be close East Sudanic relatives. If the inherited template is real, it must hence be old and one would expect that at least remnants of it exist in other purportedly related lineages, for example in Surmic's closest relative Nilotic. To my knowledge, this has not been reported so far. In general, Bryan's proposal, although looking promising at first glance, is not good evidence for the specific link, let alone for East Sudanic. Her idea can only be investigated through arduous reconstruction work in both families involved. This is more realistic today, because detailed morphological analyses of the verb structure of some languages have become available in the meantime (see, e. g., Dimmendaal [2009b: 315–317] on Tama, and Odden [1983] and Jong [2006] on Didinga).

The evidence for other pairwise family links in Nilo-Saharan is yet more prob-

lematic. A set of such hypotheses is embedded in Ehret's (2001) highly structured family tree and concerns, in addition to Nilotic-Surmic, the following: Koman-Baga aka "Koman", Songhay-Maban aka "Western Sahelian", Jebel-Berta aka "Jebel", Taman-Nubian aka "Western Astaboran", and Nyimang-Temeinic aka "Nuba Mountains", the last of which would also bridge the typological separation of northern and southern East Sudanic lineages. Since the type of argument is similar for all these proposals, they can be discussed in a summary fashion. That is, a search in Ehret (2001) for explicit evidence in terms of group-specific innovations turns out to be fruitless; the reader is expected to be satisfied with a few laconic statements, if any, and occasional references to earlier "demonstrations" of these groups (Ehret 2001: 68–72). The first source is his own study that claims the existence of "unique lexical sharings and innovations" said to define various families (Ehret 1983: 378–380). Since Table 1 of this work merely lists 36 comparative lexical series without transparent reference to such diagnostic items, and a reader is unlikely to spot more than a handful, the evidence must be sought elsewhere. The second source for some of his pairwise proposals are said to be lexicostatistic studies by Bender (1971) and Thelwall (1981a: 168–172, 1982b: 51–52), whose empirical basis is not even given in the works themselves but whose figures Ehret interprets intuitively, however low and hence non-diagnostic a particular value may be. For example, in addition to purported lexical "innovations" (Ehret 2001: 69), the Jebel-Berta unit is justified as follows: "The tables of cognation there [i. e. Bender 1971] give Wetawit (Berta) and Ingassana (Gaam) a score of 12% whereas the highest score of either language with any other Nilo-Saharan language is only 6% (except for an isolated 9% between Gaam and a single Surma [aka Surmic] language)." In general, Ehret's evidence for low-level groupings in Nilo-Saharan is weak at best and never outlined transparently, even if one or the other hypothesis may in fact turn out to be correct, as is the case with Nilotic-Surmic.

Two of Ehret's above proposals are not restricted to his classificatory framework but have other supporters, and have in fact been revived recently with reference to new data. One recent study, Ahland (2010, 2013), deals with the controversial Koman-Baga link. While she primarily discusses the status of Baga (still restricted to narrow Gumuz) as a member of Nilo-Saharan, which is not discussed here, she also touches on its specific relationship to Koman. Here, her diagnostic evidence so far boils down to a single and inconclusive sound correspondence between Gumuz and the single Koman language Gwama, as shown in Table 59 (relevant corresponding segments in boldface).

While the comparative lexical sets in Table 59 as well as more data in Ahland (2013, 2015) look promising and may at least partly reflect some historical connection, this finding can not yet justify the acceptance of a Koman-Baga family. Full-scale reconstruction of both proto-languages are necessary in order to see whether this picture is an isolated lexical phenomenon or is replicated by more data that also include grammatical aspects of the two families.

Table 59: Assumed sound correspondence between Gumuz (Baga) and Gwama (Koman) (Ahland 2010: Table 6)

Meaning	Gumuz (Baga)			Gwama (Koman)
	Southern	Northern	Yaso	
‘clothes’	<i>aywa</i>	<i>axwa</i>	<i>oa</i>	<i>óýð</i>
‘sweep’	<i>kant-íl</i>	<i>kaxat-íl</i>	<i>kaat-íl</i>	<i>keyâ-ké</i>
‘shell’	<i>páyk’a</i>	<i>páyák’a</i>	<i>páák’á</i>	<i>páyàk’</i>
3S pronoun	<i>áya</i>	<i>áxó</i>	<i>á (ámé)</i>	<i>ùhây~ùyáà</i>
‘spider’	<i>jántá tóhwá</i>	<i>jantóxwa</i>	<i>jantoa</i>	<i>t’útóýð</i> ‘flea’
‘to fly’	<i>pwəŋ</i>	<i>póx</i>	<i>po</i>	<i>pàyni-pày</i>
Correspondence	ŋ	χ	Ø	y

Finally, Bremer (2015) has discussed most recently the Jebel-Berta link, which would add another family to the conventional East Sudanic grouping. The author makes a good case for Berta being a highly diverse language complex if not a small family, which also opens new perspectives for external comparison. This situation is matched by a similar heterogeneity within the Jebel family (U38). Before the background of our persisting lack of knowledge on all relevant languages other than Gaam, Bremer has unfortunately roped in this parallel family-internal diversity for immediately resuscitating the old genealogical hypothesis rather than advancing first the historical study of either family separately. While Bremer (2015: 341–349) provides comparative data on both units together with assumed internal sound correspondences, he does not assemble the linguistic material that would enable him to reconstruct at least some secure Proto-Berta and/or Proto-Jebel forms to be compared with each other. He also fails to engage with previous work, for example, by testing Ehret’s (2001: 69) claim about a set of purported lexical Jebel-Berta innovations. He instead uses the recurrent multiplicity of lexical and grammatical forms that can be mustered from the diverse varieties in each group to invoke new etymological associations that are overall random, often doubtful regarding form and/or meaning, and susceptible to alternative explanations, for example, in terms of language contact. Thus, in spite of enlarging the database on the Berta side, his contribution leaves the historical problem as inconclusive as before.

2.6.4.2. East(ern) Sudanic

After reporting on the status of several proposals about low-level families in Nilo-Saharan I discuss the more far-reaching but widely accepted East Sudanic hypothesis. This group is located in the eastern realm of Nilo-Saharan, hosting the great majority of its many lineages. Here the hypotheses about intermediate

genealogical relations have been revolving in particular around one major family, namely Nilotic. Since this is a geographically and demographically prominent language group, even on the continental level, the question about its possible genealogical relation to other African languages is an old one. It is no exaggeration to state that it has been a center of gravity for wider genealogical associations and still today assumes the role of a starting point for Nilo-Saharan comparisons, as evident, for example, in Bender (2000d) and Blažek (2009a). Even before the acceptance of the unity of Nilotic, assumed links of some of its members involved languages that are viewed today as East Sudanic or at least as Nilo-Saharan. For example, Westermann (1912: 36–44), starting out from West Nilotic languages, entertained a specific historical relation to Nile Nubian on the basis of lexical isoglosses. The assumed connection between Nilotic and Nubian was reiterated and also extended to other languages like Kunama and Nara, invoking both shared lexical and grammatical features (cf., e. g., Murray 1920; Conti Rossini 1926; Verri 1950). All these links cross the typological divide between head-initial families in the south, including Nilotic, and head-final ones in the north, including Nubian.

Nubian is another family that has been attracting comparison and, potentially, genealogical extension, which is due to its important historical role along the Nile and the philological attention it received in the past. Hence, the early “marriage” between Nubian and Nilotic was arguably a crucial background for Greenberg (1950b), who formulated his first East(ern) Sudanic hypothesis, thereby “hijacking” Tucker’s (1940) term that had been coined for a geographically and historically entirely different concept (cf. Tucker and Bryan 1956: 143–144). Besides arguing convincingly for the unity of his “Southern” aka Nilotic family, Greenberg postulated its genealogical relationship to Surmic, Jebel, Dajuic, Nubian, Nara, and Taman within a single group that would soon become the core of his yet larger family proposal.

Table 60 lists Greenberg’s complete grammatical material supporting his East Sudanic family according to the present classificatory units as opposed to his, mostly single, sample languages (given in italics). As mentioned in section 2.6.2.1. in connection with his argument for Nilo-Saharan as a whole, neither this nor the lexical evidence is convincing – a view voiced early on (see, e. g., Köhler 1955; Heine 1970); the reader is invited to judge for him- or herself. Here, I illustrate the problems with only one prominent example, namely the status of feature 15, number-sensitive stem suppletion on nouns, which in principle could be a good genealogical marker. The case of the lexeme ‘cow/cattle’ has been accorded a particularly decisive role, for which the irregular singular-plural alternation is defined by Greenberg (1950b: 145, 153, 156–157; 1963a: 88) as “involving final consonant replacements combined with internal change”. The feature appears to be so attractive that some scholars, for example, Ehret (e. g., 1983: 400) and Dimmendaal (e. g., 2007: 52–53, 2011: 97–98, 2014a: 8), keep using it as a major

Table 60: Greenberg's (1950b: 154–157) grammatical evidence for East Sudanic

Lineage	Nilotic	Surmic	Jebel	Dajuic	Nubian	Nara	Taman
Greenberg's no.	1	3	5	7	2	4	6
Feature	>1 language	<i>Didinga</i>	<i>Tabi</i>	<i>Dagu</i>	>1 language	<i>Barea</i>	<i>Merarit</i>
1 1S.SBJ	*a	<i>a</i>	–	<i>a</i>	<i>ai</i>	–	<i>wa</i>
2 2S.SBJ	*i	<i>i</i>	–	<i>i</i>	*i-	–	<i>i</i>
3 2S/P.POSS	*(-)u(-)	<i>(c)u(ni)</i>	<i>u(n)</i>	–	–	–	<i>onu</i>
4 3 DEM	–	<i>či</i>	–	–	<i>te-r</i>	<i>ti</i>	<i>te</i>
5 S/P on DEM	<i>-n/-k, n-/č-</i>	<i>-n/-gi</i>	–	–	–	–	–
6 REL~ADJ	<i>ma-</i>	–	–	<i>ma-</i>	–	<i>-mo</i>	–
7 PR.DEM~REL	*T	–	–	–	–	<i>-te-</i>	–
8 REL~ADJ	<i>ko-</i>	–	–	–	<i>-go</i>	<i>-go</i>	<i>-k</i>
9 F	*n	–	<i>ñe</i>	–	<i>-en</i>	–	–
10 S on noun	*-Vt	<i>-it</i>	–	–	<i>-(i)d</i>	–	<i>-t</i>
11 P on noun	*K	<i>k</i>	<i>-k</i>	–	<i>-gu</i>	<i>-ka/-gu</i>	$\eta < k$
12 P on noun	*T	<i>-ta</i>	–	–	<i>-du</i>	<i>-ta</i>	–
13 P on noun	*-N	<i>-en/-nV</i>	–	–	<i>-in</i>	–	–
14 P on noun	*-V ^{front}	<i>-i</i>	–	–	<i>-i</i>	–	–
15 Suppletion	see the discussion below						
16 NOM.S	–	<i>-i</i>	–	–	<i>-i</i>	–	–
17 GEN.S	<i>-a</i>	<i>-o</i>	–	–	<i>-u</i>	–	–
18 LOC.S	*-T-	<i>-to/-ti</i>	<i>-te</i>	<i>-ti</i>	<i>-do</i>	<i>-t(V)</i>	<i>ta</i>
19 LOC.S	–	–	<i>-ul</i>	–	<i>-la</i>	<i>-li</i>	–
20 ACC.S	–	–	–	–	*-kV	–	$\eta < k$
21 LOC.P	<i>-nV</i>	<i>-ni</i>	–	–	–	–	–
22 COP~tense	*a	–	–	–	<i>a</i>	–	–
23 P on verb	–	<i>-k</i>	–	<i>(-ka)</i>	–	<i>-K(e)</i>	<i>-key</i>
24 FUT	*-P-	–	–	–	<i>PV</i>	–	–
25 NEG on verb	*B-	<i>(ma)</i>	–	<i>ba</i>	<i>m-</i>	<i>(ma)</i>	<i>m-</i>
26 INCH	*N	<i>-aN</i>	–	–	–	<i>-en</i>	–
27 DAT on verb	*-K(in)	<i>-eki</i>	–	–	–	–	–

 Notes: *X* = language-specific element, **X* = pseudo-reconstruction from several languages

classificatory marker, albeit only for the southern subgroup rather than for East Sudanic as a whole. The first author writes: “So powerful is this piece of evidence that it is almost enough by itself to show that the languages with the innovation form a separate subgroup of Nilo-Saharan excluding Nubian-Tama [belonging to northern East Sudanic], Central Sudanic, and Maban, all of which maintain the simple unmodified root.”

Table 61: Forms for ‘cow/cattle’ across East Sudanic

Family	(Proto)-language	Singular	Plural	(Additional) source
Nyimang	Proto-Nyimang	*(m)bVr	*(m)bVr	Bender (2000c: 107, 118)
Nara	Nara	<i>ar</i>	<i>aré</i>	Reinisch (1874: 105)
Meroitic	Meroitic	? <i>dime</i>	?	Rilly (2010: 120)
Taman	Tama*	<i>tεε</i>	<i>tεεη</i>	–
	Proto-Taman	*tEE	*tE(-)	Edgar (1991d: 218)
Nubian	Proto-Nubian	*tEE	*tE(-)	Rilly (2010: 521–522)
Dajuic	Daju of Lagowa*	<i>tepe</i>	<i>tukke</i>	–
	Proto-Dajuic	* tepe	* təke	Thelwall (1981b: 139)
Temeinic	Temein*	<i>n-t̥ɛ̃ɲ</i>	<i>kɪ-tók</i>	Stevenson (1976–86)
	Keiga Jirru	<i>a-ǰéɲ</i>	<i>kw-ǰok</i>	Blench (nd.)
	Tese	<i>ε-ǰéɲ</i>	<i>kwú-ǰúk</i>	
	Proto-Temeinic	*- T̥ɛ̃ɲ	* kV-T̥Uk	–
Nilotic	Proto-Nilotic*	* ǰɛɲ	* ǰok	Dimmendaal (1988: 36)
Surmic	Majang*	<i>taɲ</i>	<i>təgi</i>	Joswig (2011: 12)
	Proto-Southwest	*taɲ(a)	*tiin	Moges (2001: 318, 327, 364)
	Proto-Southeast	*bi	*bio	Dimmendaal and Last (1998)
	Proto-Surmic	? *taɲ	?	–
Jebel	Gaam*	<i>tɔɔ</i>	<i>təgg</i>	Stirtz (2011: 101)
	Aka	<i>mɔɔ-ɡɔ</i>	<i>mɔɔ</i>	Bender (1997a: 208)
	Molo	<i>mɔ</i>	–	
	Kelo	<i>mɔ</i>	<i>mɔ</i>	
	Beni Sheko	<i>mu</i>	–	
	Proto-Jebel	*mɔ	*mɔ	–

Notes: * = Language presented by Dimmendaal (2007: 52–53, 2011: 97), possible cognates right-aligned, **boldface** = apparently valid reflex of suppletion pattern

Table 61 starts out from the information provided by Dimmendaal (2007: 52–53, 2011: 97–98) but assembles more comprehensive data according to the material available today, including more diagnostic earlier stages of the relevant lineages.

To begin with, Table 61 confirms that Greenberg's original claim that the suppletion holds for East Sudanic as a whole is not supported by the data, because the pattern is not found in the lineages of the northern group. For the families of the southern branch the picture looks superficially more promising. Nevertheless, whether it unambiguously indicates a genealogical link between all five lineages remains unclear, at least for a non-specialist.

The major problem is that specialists fail to provide credible proto-forms for all families concerned, as the feature must have been present in all proto-languages if it is to count as evidence for their assumed common ancestor. A clear case can be made for Proto-Temeinic, and the comparative data for Dajuic in Thelwall (1981b: 139) and Boyeldieu (2011: 43) are also compatible with a reconstructed pattern as defined by Greenberg. However, it is not yet possible to take Dimmendaal's Proto-Nilotic reconstruction for granted, because there are alternative explanations for the stem suppletion in terms of a purely family-internal scenario, which the author does not mention let alone discuss critically. Thus, Hall et al. (1975: 5–8) reconstruct a generic base *dhək, whose suffixed singulative form *dhək-in changed to *dheŋ via vowel fronting and subsequent syncopation. Hieda (2009: 31–33) makes yet another proposal: he gives the singular proto-form as *k^wi-təg, from which the plural stem emerged via suffixation and phonological erosion. Whatever the correct solution, any Nilotic-internal explanation must be disproved conclusively for the suppletion pattern to qualify as a likely candidate feature for a state older than Proto-Nilotic.

Another scenario, namely that the culturally sensitive term 'cow/cattle' is prone to borrowing, also needs to be excluded before entertaining an interpretation in terms of inheritance. A contact explanation may in fact be relevant for the two remaining lineages Jebel and Surmic.¹⁹ Thus, the irregular number pair in Gaam cannot be traced back easily to Proto-Jebel, as Dimmendaal admits himself. Since all other languages have a root *mɔ*, the case of Gaam is isolated. Its suppletion pair, which is morphologically *ʔɔ́ɔ́/ʔɔ́-gg* according to Stirtz (2011: 101), could have originated in the borrowing of the plural/collective form from a Nilotic language and the subsequent back formation of the singular in analogy to other similar nouns like *sáá/sá-gg* 'wine'. Language contact must even be reckoned with

¹⁹ It goes without saying that potential borrowing is equally relevant for the distribution of the basic unchanged root for 'cow', which is commonly assumed to be an inherited item for a yet larger range of Nilo-Saharan language groups beyond East Sudanic, for example, Moru-Madi, for which one can indeed reconstruct a form *ti (Boone and Watson 1996: A68).

within Surmic. All languages of the family merely display the required singular form, except for Majang, which has the relevant suppletion pattern. However, the Majang do not have a tradition of keeping livestock (Stauder 1971: 13–14), so that there is the possibility that stem suppletion arose also here partly via borrowing from Nilotic neighbors like the Anywa (aka Anuak).

In conclusion, what has been presented previously as a purportedly diagnostic trait of East Sudanic, or at least of its southern branch, is so far only robust for a smaller group of two or three families, and even here the historical picture is not yet conclusive for an outside observer. One must assume that Greenberg's (1950b) other grammatical traits in Table 60 are of the same or even lesser quality, particularly in view of the point made in connection with Bryan's (1955) study, namely the recurrent morphological complexity of the languages and the resulting difficulties in making meaningful comparisons.

Another strain of early research tackling the genealogical status of (parts of) East Sudanic is lexicostatistics. For example, Thelwall (1978) undertook such a comparison between six Nubian, five Dajuic, and the two West Nilotic languages Dinka and Shilluk. His results confirm the coherence of the obviously related languages. However, all proximity values crossing a family boundary, although some may arguably warrant a historical link, are not high enough in order to distinguish inheritance from language contact. The latter is, however, a relevant explanation in view of the partial geographical closeness of all three groups involved in the comparison and the extremely scattered distribution of both Dajuic and Nubian today, which indicates that their location in the past is likely to have been different from the modern picture. Thelwall (1981a), which includes additional East Sudanic languages from Taman, Nyimang, Temeinic, and Jebel, yields parallel lexicostatistic results, and thus equally fails to justify the East Sudanic hypothesis.

Later research on East Sudanic was shaped predominantly by Bender's and Ehret's efforts to substantiate and amend Greenberg's Nilo-Saharan as a whole. As opposed to the original East Sudanic proposal, these (and other) scholars assume a substructure entailing mostly two larger branches. The distinction is referred to as Ek vs. En by Bender (e. g., 1989b, 1996a, 2005b), Astaboran vs. Kir-Abbaian by Ehret (e. g., 1989, 2001), and Northern East Sudanic vs. Southern East Sudanic by Rilly (e. g., 2004) and Dimmendaal (e. g., 2007). Except for Ehret's hypothesis, in which the larger group is called "Eastern Sahelian", this assumed split happens to correlate neatly with the typological separation between head-final and head-initial languages. The similarities and differences between the various classification proposals are given in Table 62 (group labels are unified except for Greenberg's way of reference).

Table 62: The history of subclassification of East Sudanic

Greenberg (1963a)	Bender (e. g., 1989b)	Ehret (e. g., 1989)	Rilly (2004, 2005, 2010)	Dimmendaal (2007, 2014b)
–	–	–	Meroitic	Meroitic
1. Nubian	Nubian	Nubian	Nubian	Nubian
3. Barea	Nara	Nara	Nara	Nara
7. Merarit, ...	Taman	Taman	Taman	Taman
5. Nyima, ...	Nyimang	Nyimang	Nyimang	Nyimang
4. Ingassana, ...	Jebel	Jebel	Jebel	Jebel
8. Dagu of Darfur, ...	Dajuic	Dajuic	Dajuic	Dajuic
2. Murle, ...	Surmic	Surmic	Surmic	Surmic
9. Nilotic	Nilotic	Nilotic	Nilotic	Nilotic
6. Temein, ...	Temeinic	Temeinic	Temeinic	Temeinic
10. Nyangiya	–	Kuliak	–	–
–	–	Berta	–	–

Table 62 shows that, poorly known Meroitic aside, Bender, Rilly, and Dimmendaal agree about the extent of East Sudanic, only differing on the sub-branching in its southern domain, while Greenberg and Ehret include one or two additional units, namely Kuliak and Berta. Bender's and Ehret's evidence for East Sudanic is hard to separate from their overall argumentation regarding Nilo-Saharan, which accordingly is dealt with elsewhere. Hence, the following discussion will focus on Rilly's and Dimmendaal's work.

Foreshadowed by Thelwall's (1982b: 51–52) lexicostatistic argument for a closer relationship between Nubian, Taman, and Nyimang, a genealogical core group comprising lineages that have a head-final structural profile and are geographically dispersed throughout modern Sudan crossing into Chad, Egypt, and possibly Eritrea has been accepted by all relevant scholars. However, the only dedicated and extensive empirical justification of such a group is Rilly's (2004, 2005, 2010, 2016) work in connection with his search for possible Meroitic relatives. A strength of his approach, although complicated by the small size of most of the relevant families and the pertaining gaps in the data, is that he aims to compare proto-forms rather than items of randomly recruited individual languages. He also tries to build up a holistic argument in providing evidence from typological features as well as morphology, lexicon, and phonology – this first without the poorly attested Meroitic itself.

Table 63: Morphological similarities across Northern East Sudanic (after Rilly 2005: 7–10)

Element	Nara	Nubian	Taman	Nyimang
1S pronoun	*a	*a-i	*wa	*a-i
1P pronoun	*ag	*a-	*wag	*agV
2S pronoun	*e-n	*e-/en-	*i	*i
2P pronoun	*eŋg/eg-n	*u-	*ig	*igV
3S pronoun	*t-u	*ta-	*an	*an
3P pronoun	*t-ug	*te-	*aŋg	*aŋgi
Object	-go	*-gV	-iŋ (Tama)	-(u)ŋ (Ama)
Singulative	*-t	*-ti	-t (Tama)	–
Plural	*-gu	*-gu	-Koo (Sungor)	-go (Dinik)
Adjectivizer	-ku	?*-ko	*-k	-iŋ (Ama)
Negative	ma	*m(a)-	mɔ (Merarit)	?fa (Ama)

His morphological isoglosses are given in Table 63, based on his summary in an article dealing primarily with Nara (Rilly 2005). The pronoun paradigms in particular display various recurrent features, such as a person distinction between *a* for first person and a front vowel for second person in all groups, a plural suffix with a velar consonant in three groups, and an arguable demonstrative prefix in third person forms in two groups, which, taken together, look promising. However, since the argumentation directly targets the highest genealogical level, the intermediate steps of reconstructing all morphological traits within each lineage remain underexposed, so that it is unclear to what extent the data presented are compatible with all relevant empirical details in single languages and low-level lineages.

Rilly (2010: 184–351, 413–529) is an extensive presentation and discussion of lexical reconstructions of the assumed family based on 200 lemmata and still excluding Meroitic; Rilly and Voogt (2012: 189–230) present the latest summary of this proposed proto-lexicon, which serves as the basis of the following brief assessment. Proto-forms are given for 156 of the 200 meanings, which are, however, not of the same diagnostic value, because many of them are not sufficiently distributed across the four groups. The best series would be those labelled “A” by the author(s), where assumed reflexes of a proto-form are said to be present in all three lineages considered to be relevant, namely Taman, Nyimang and an assumed Nara-Nubian branch. Since Nara and Nubian are claimed to form a subgroup and are thus not required to both provide evidence for a comparison, the A-status in fact signifies only that assumed reflexes are found in Taman, Nyimang, and Nara or in Taman, Nyimang, and Nubian. Excluding the six pronouns of Table 63, 60 series are assigned the A-status, but 20 of them are in fact misassigned

according to the criterion just explained. This leaves 40 comparative series that are relatively robust in terms of cross-family distribution. Nevertheless, it is difficult for the reader to ascertain whether these cases conform systematically to the assumed sound correspondences. The latter are discussed separately from the comparative lexical tables, which themselves present a large amount of data that either entail assumed changes that are far from obvious or must be irrelevant for a particular reconstruction. Overall, the reader sees comparisons that are convincing or at least promising placed side by side with others that appear questionable or even far-fetched. An additional problem is that for 26 meanings more than one proto-form exists, whereby it is often impossible to decide which form is actually the one assumed to represent the highest genealogical level.

In summary, a good portion of Rilly's morphological and lexical evidence for a family comprising Nubian, Nara, Taman, and Nyimang, and even the separately presented associations with the restricted linguistic data on Meroitic, certainly look promising. His work is a great step forward in the substantiation of a strong hypothesis. However, assessing his argument properly is unfortunately too complex a task in the present context, not the least because the material is not laid out in a sufficiently transparent way.

A strong case similar to that for Rilly's northern group has not yet been made for a genealogical unit in the southern realm of East Sudanic, which comprises Nilotic, Surmic, Temeinic, Dajuic, and Jebel. While most authors entertain these five groups, they disagree on the subgrouping, as shown in Table 62, and Rilly (2009: 2, 2010: 202–208) even disfavors such a branch entirely, viewing his northern family as a parallel group to these remaining East Sudanic units. Also, the empirical evidence that is discussed specifically for some form of a southern branch, rather than being enmeshed in Bender's and Ehret's larger Nilo-Saharan frameworks, turns out to be restricted and even equivocal. For example, the relevant discussion in Ehret (1983) invokes not more than 17 lexical comparisons, which not only include Jebel but also Nyimang and Berta, and merely another 9, which still include Nyimang but exclude the other two units. The above discussion of the oft-cited case of number-sensitive stem suppletion with 'cow/cattle', which is part of Ehret's first list but so far does not hold for the entire southern grouping, shows that these few hypothetical isoglosses are not even conclusive. What remains in terms of concrete favorable arguments for a genealogical connection are the typological unity, the observation from Table 48 above that all lineages but Jebel are most consistently implied in the three morphological "syndromes" entertained by Bryan (1959, 1968, 1975), which may be a genealogical signal, and finally the robust case for a Nilotic-Surmic family. Overall, some form of a larger family in the southern domain of East Sudanic is a promising hypothesis but this is still far from having been demonstrated. The current state of documentation would in fact cast doubt on any strong historical claim. Only two lineages, Nilotic and Surmic, are well documented from a morphosyntactic perspective, while the other

three are only known from two sufficient descriptions of Dar Daju (Dajuic) and Gaam (Jebel); the entire Temeinic family as well as the Non-Gaam branch of Jebel are essentially gaps in our knowledge on African languages. It goes without saying that the still indeterminate status of the northern and even more so the southern group of lineages must cast doubt on the validity of East Sudanic as a whole.

The recent research of Rilly (e. g., 2004, 2009, 2016) and Dimmendaal (2007) has intricately combined the genealogical classification of East Sudanic with an extralinguistic historical hypothesis revolving around the population history of a large area in northwestern Sudan that is only sparsely inhabited today. It is home to an old river system, called Wadi Howar, that supported denser human settlement in the past but later gradually desertified, so that its population had to disperse (cf. Pachur and Kröpelin 1987). Both linguists have tied in this archeologically attested process with their historical-comparative hypothesis about East Sudanic, according to which some ancestral speech community is assumed to have been centered originally along the still hospitable Wadi Howar. Their scenarios differ in accordance with their distinct views on language classification. Rilly's proposal revolving around Meroitic and its assumed closest relatives restricts the assumed correlation with the Wadi Howar dispersal to his northern branch of East Sudanic, while Dimmendaal extends it to the hypothetical family as a whole. The latter scenario is associated with Dimmendaal's (2007: 56–65) specific hypothesis about the typological history of East Sudanic. He assumes that early East Sudanic was of the same type as the modern languages of the northern branch while all other languages changed profile during their southward migration, which involved language contact with local groups. Dimmendaal's argument in particular hinges on the very existence of East Sudanic and is thus partly circular. The complex scenario in terms of diachronic typology, whereby lineages like Nilotic, Surmic, etc. must have changed radically, ceases to be necessary as soon as one drops the so far insufficiently proven claim that the two blocks of northern and southern language groups are to be subsumed under one genealogical umbrella. In any case, the Wadi Howar hypothesis certainly has some merits for explaining the modern linguistic ecology in the wider area, and whatever the final outcome of this fascinating linguistic and nonlinguistic investigation, any genealogical language group that can be firmly associated with such a population dispersal may well deserve the label that refers to this ancient riverine settlement area.

2.6.4.3. Summary

Regarding Nilo-Saharan as a whole, I have argued in section 2.6.2. that there is no all-comprising diagnostic evidence for such a family, even a reduced version such as proposed by Dimmendaal, and this after more than 50 years of research following the initial proposal of the hypothesis. Clearly, Nilo-Saharan membership is hard to test. The alternative approach followed by Greenberg himself as well as by

Ehret and Bender, who later undertook the most dedicated and extensive attempts to prove the original hypothesis, has been to establish a web of multiple linguistic affinities of different kinds between modern languages and lineages. If applying standard principles of historical-comparative methodology, the evidence for Nilo-Saharan in this framework does not become more compelling, whatever the final verdict on the hypothesis as such. As has been argued by means of selected examples, the problems observed regarding an evaluation of these works start at the lowest level of linguistic detail; the wider the net is cast, the more one sees contradictions, inconsistencies and sheer carelessness in handling the data, so that the general argument as it is currently presented, collapses like a house of cards. This does not, of course, imply that all associations these authors have made between individual pieces of empirical data or all genealogical language relations they have posited are invalid; the point is rather that regardless of whichever proposal is correct, or will turn out to be correct, the current state of research is not sufficient to prove the Nilo-Saharan hypothesis. Thus, Greenberg's (1971: 438) own more modest summary is as relevant as ever:

While comparative work in the strict sense involving formal reconstruction is thus severely limited, a considerable foundation for future investigations does exist in the form of proposed etymologies involving both lexical and grammatical items incidental to the various attempts to show relationships among some or all of the Nilo-Saharan languages. These will obviously require initial sifting as well as further extension but they constitute at least a working basis for historical research.

2.7 The Afroasiatic domain

2.7.1. Classification history and lineage inventory

Afroasiatic is the second-largest language grouping in Greenberg's African scheme in terms of member languages and geographical spread. It is also similar to the yet larger Niger-Kordofanian in that its establishment can be traced back to the early scholarship on African languages, where it had been recognized for a long time as "Hamito-Semitic" or "Semito-Hamitic" (alternative but equally outdated labels are Erythraic [e. g., Tucker 1967a, 1967b; Köhler 1975; Heine 1979] and Lisramic [Hodge 1972, 1975]). One of the greatest merits of Greenberg's (1949b, 1950a, 1950b, 1950c, 1963a) approach, appearing along with a modern, more appropriate name, is a more precise definition of this family, which had been riddled with various problems regarding its adequate historical-linguistic assessment. His achievement laid to rest the so-called "Hamitic theory," which had been propagated in the linguistic domain especially by Meinhof (1912) (cf. Köhler 1960; Voßen 1991a; Sanders 1993; Rohrbacher 2002).

Greenberg added languages to the group but exempted others. Later, less rig-

orous proposals tried to extend the family, watering down the criteria for a secure lineage. This mostly concerned groups that are weak candidates for the Nilo-Saharan hypothesis like Kuliak, Songhay, Saharan, Kunama, Nara, Meroitic, and Nubian. Greenberg's core argument relied on morphology and established a good framework by means of which most such advances could be dealt with effectively (cf. Sasse's [1981c] rebuttal regarding the inclusion of Hadza and Kuliak).

The inventory of basic classificatory units treated here under Afroasiatic is given in Table 64, containing the original groups and three additional ones, Ongota, Laal-Laabe, and Kujarge, not yet known at Greenberg's time and still little documented today.

Table 64: Basic classificatory units in the Afroasiatic domain

No.	Lineage	1	2	3	4	Geographic location
U42	Semitic	98				North Africa and Arabian peninsula
U43	Egyptian	1				upper and middle Nile Valley
U44	Berber	27				western North Africa
U45	Cushitic (2)	46				from Horn of Africa to Tanzania
U46	OMOTIC (4)	31				southwestern Ethiopia
U47	Ongota	1 X	X	X		southwestern Ethiopia
U48	Chadic	199				central Sahel (Niger to Chad)
U49	Laal-Laabe	2 X	X	X		southern Chad
U50	Kujarge	1 X	X	X		southern Chad
	Total	~400				

Note: (n) = Number of potentially separate subgroups; AREAL POOL; 1 = Number of languages; 2 = No grammar sketch before 1965; No comprehensive modern published description; 3 = before 2000, 4 = today

While such morphological evidence as typical stem formation, verb conjugation, nominal number declension, etc. are good diagnostics for membership in the family, they have so far not been very useful for subgrouping, *pace* Bender's (1997b: 20–22) view. This is because Chadic and Omotic, which are assumed to have undergone major structural changes, are precisely the subgroups that lack many of these inherited traits, so that it cannot be excluded that they were also present in the earlier stages of these languages. Conversely, the presence of such features in Berber, Egyptian, Semitic, and Cushitic cannot be taken simply as subgroup-defining innovations. The stark contrast between some modern languages of, say, Semitic, which have retained the morphological complexity for more than

4,000 years, and Chadic, where only some traces thereof are found, tends to invite the hypothesis about an enormous time depth of Afroasiatic (e. g., Hayward 2000a: 74–75), but this underestimates the possibility of accelerated restructuring under heavy contact interference, which is in fact attested for Chadic and can also be assumed for Omotic.

The earlier name Hamito-Semitic indicates another problem in Afroasiatic research, which again is parallel to Niger-Kordofanian, namely an analytical bias toward a particular subgroup, which then affects historical-comparative approaches. Here it is Semitic, as the lineage with the longest scholarly tradition, from where the early research radiated out and around which the much larger Afroasiatic has been forming. Semitic thus tended, and partly still tends, to be viewed as the yardstick for the other subfamilies. A token of this general approach are extreme positions like Rössler's (1952, 1964, 1971), who considered Egyptian and Berber to *be* in fact Semitic. However, it remains unclear whether, and if at all, which, typical Semitic features should be projected back to Proto-Afroasiatic. From a cross-linguistic perspective, Semitic is certainly quirky regarding its morphological structure, notably its root-and-pattern system, and it is possible that some relevant modern traits derive from less advanced stages in Pre-Semitic, closer to a different Proto-Afroasiatic, and were only later generalized after the separation of Semitic. Thus, there has been an extensive discussion revolving around the original profile of nominal number marking (cf. Ratcliffe 1998) or the generality of triradical verb roots in both Semitic and Afroasiatic in general, and several authors (e. g., Sasse 1981a; Bender 1997b; Zaborski 2013) have criticized the Semitic-centered approach. Nevertheless, it has repercussions still today, also due partly to the sheer predominance of scholars working on this family, for example, in that other Afroasiatic lineages and/or the family as a whole are assessed within a historical-comparative context in relation to Semitic languages and/or with a view to a Semiticist audience (e. g., Kienast 2001; Izre'el 2002; Weninger et al. 2011; Edzard 2012).

Given the spread of Afroasiatic over two continents, another problematic issue concerns the homeland and culture of the implied proto-speech community. One proposal is based predominantly on striking lexical isoglosses with Indo-European languages in West Asia, including the domain of food production, so that the modern Afroasiatic distribution is conceived of as the result of a neolithic expansion starting in the Middle East (e. g., Militarev 2002). The other majority view focuses on linguistic data internal to Afroasiatic as well as the fact that it is simpler to assume movement by the single lineage Semitic into Asia rather than by all others into Africa (see, e. g., Ehret, Keita, and Newman 2004). Under such a scenario, Proto-Afroasiatic is expected to have been spoken by African foragers.

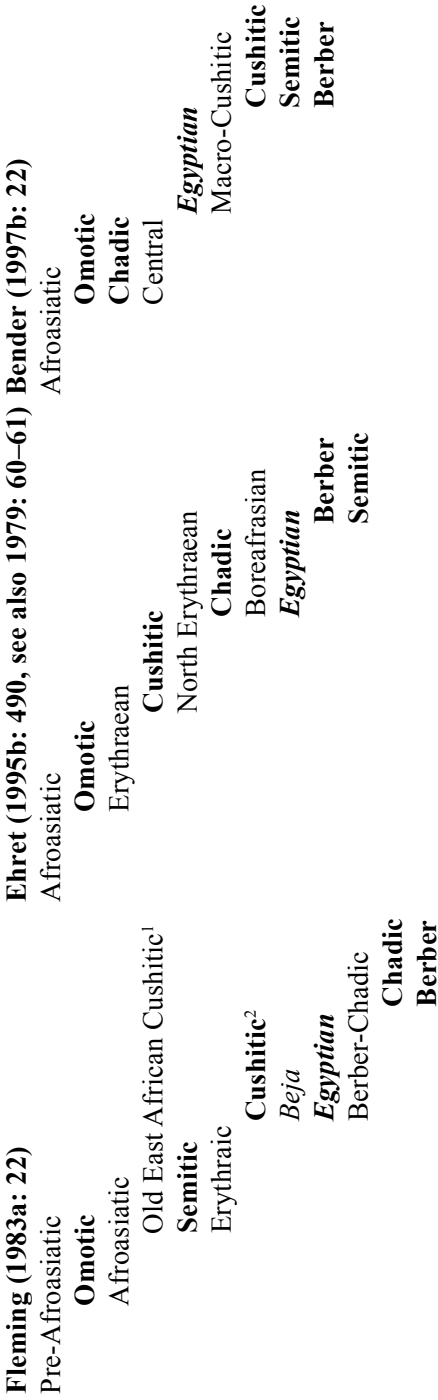
In view of the above controversies it is not too surprising that concrete properties of the family's proto-language are all but clear. Thus, while a number of older and recent edited volumes present surveys of Afroasiatic or at least deal with

its internal comparison and reconstruction, for example, Hodge (1971), Weninger et al. (2011), Edzard (2012), and Frajzyngier and Shay (2012), none of them has a chapter presenting a larger set of detailed reconstructions (but see below on studies addressing this issue). Another consequence of the above problems is the conspicuous disagreement about the internal Afroasiatic classification. Instead of Greenberg's original and simple rake model of five parallel groups, numerous other, more structured family trees have been proposed – according to Peust (2012) at least 27! The following presentation of three such subgrouping proposals is not meant to suggest that any of them presents a realistic model of phylogenetic history but rather to demonstrate the enormous diversity if not arbitrariness of previous approaches. The differences between the selected models are particularly striking in view of the fact that all three authors share two things: an Africanist rather than Semitic-“Orientalist” perspective and a specific expertise in languages and lineages of (north)east Africa. Comparing the trees in Figure 23, there is hardly any overlap except for the peripheral position of Omotic; this, however, need not reflect a robust genealogical generalization but rather the notorious problems in proving its Afroasiatic membership in the first place (see section 2.7.2.1. and section U46).

2.7.2. Diagnostic evidence

2.7.2.1. Morphology

Shared morphology across most of Greenberg's (1963a) Afroasiatic lineages has been recognized for a considerable time and is without doubt the best individual-identifying evidence for the genealogical relatedness of all those groups where relevant elements can be identified, particularly in the form of a paradigm. The central domain where this is the case is the pronominal marking of person, number, and gender. Although there may be later surveys that have a more extensive historical discussion and incorporate more up-to-date reconstructions (see, e. g., Zaborski 1998; Simeone-Senelle 2004), I cite here the synopsis of Sasse (1981a) because it gives a good overview concerning various paradigms and the extent to which the lineages possess them. Not every set is attested in every lineage, but the principle of “transitivity” of relatedness establishes that pronominal series in Cushitic, Semitic, Egyptian, Berber, and, less clearly, Chadic can be traced back to a Proto-Afroasiatic language.



Note: bold = basic classificatory unit, ¹ = South Cushitic and *Yaaku*, ² = except South Cushitic, *Yaaku*, and *Beja*

Figure 23: Three Afroasiatic classifications

Table 65: “Absolute” pronouns across Afroasiatic (after Sasse 1981a: 144)

P	N.G	Chadic	Berber	<i>Egyptian</i>	Semitic	East Cushitic	<i>Beja</i>	Afroasiatic
1	S P	*ni *mu	-i -na, -nəy	-j -n	*ṯ/*ya *nV	*yi/*yu *nV	Ø -n	*I *N
2	S.F S.M P.F P.M	*ki *ka *ku	kəm -k, kai kunəmti kunnə	-t < *ki -k < *kV -tn < *kin	*kī *kV *kin(n)a *kumu	*ki *ku *kunu	-ki -ka -kna	*K
3	S.F S.M P.F P.M	*ta *si *su	-s/t -s/tənt -s/tən	-ś -f -śn	*šā *šū *šin(n)a *šumu	*(i)ši *(u)su *sunu(?)	-s -sna	*S

Note: G = gender; N = number; P = person

Table 66: “Subject” pronouns across Afroasiatic (after Sasse 1981a: 144)

P	N.G	Berber	<i>Egyptian</i>	Semitic	East Cushitic	<i>Beja</i>	Afroasiatic
1	S	nəkki	<i>ink</i> (C. <i>anok</i>)	*’anā(ku)	*’ani	<i>ani</i>	*N
	P	nəkunnə	<i>inn</i> (C. <i>anon</i>)	*naḥna/u	*nV	<i>hanan</i>	
2	S.F			*’antī	*’ati		*T
	S.M			*’anta			
	P.F			*’antin(n)a	*’atin		
	P.M			*’antumū			
3	S.F			*šī	*’išii		*S
	S.M			*šū	*’usuu		
	P.F			*šin(n)a	*’išoo		
	P.M			*šumu			

Note: C. = Coptic; G = gender; N = number; P = person

Tables 65 and 66 present comparative paradigms of two series of pronouns that are thought to differ according to their grammatical relation. Besides other details, the most important isogloss revealed by the two tables is a regularity in the consonant canon that operates across the three person categories largely independent of gender and number values. Table 66 displays a full “block pattern” in terms of Tucker and Bryan (1956: 140), which the same authors in fact partly prefigured for Afroasiatic (1966: 15–16). The common denominators across the two tables that

are of major importance in this context are first-person forms in *N and third-person forms with a sibilant, represented here as abstract *S.

Table 67: Person prefixes on verbs across Afroasiatic (after Sasse 1981a: 138–139)

P	N.G	Berber	Semitic		Cushitic		Afroasiatic
		<i>Tamazight</i>	<i>Akkadian</i>	<i>Arabic</i>	<i>Beja</i>	<i>Somali</i>	
1	S	∅	<i>a-</i>	<i>ʔa-</i>	<i>ʔa-</i>	<i>j-</i>	?
	P	<i>n-</i>	<i>ni-</i>	<i>na-</i>	<i>ni-</i>	<i>nj-</i>	*n-
2	S.F	<i>t-</i>	<i>ta-</i>	<i>ta-</i>	<i>ti-</i>	<i>tj-</i>	*t-
	S.M						
	P.F						
	P.M						
3	S.F	<i>i-</i>	<i>i-</i>	<i>ya-</i>	<i>ʔi-</i>	<i>yi-</i>	*i-
	S.M						
	P.F	∅					
	P.M						

Note: G = gender; N = number; P = person

The above picture is consolidated if paradigms of bound verbal cross-reference are taken into account. I only show here the so-called prefix conjugation in Table 67, because the historical assessment of the suffix or stative conjugation also mentioned by Sasse (1981a: 140) is more complicated (see, e. g., Kammerzell 1999: 257–258). The absence of relevant evidence in Chadic and Omotic has been addressed in terms of reduction and restructuring of the verb system in general (e. g., Sasse 1981c; Hayward 1984; Jungraithmayr 1995, 2006b). Table 67 shows in particular that a thematic element already surfacing in Table 66 for independent subject pronouns is yet another salient feature, namely the consonant *t* marking second person irrespective of number and gender, in this paradigm even including third-person feminine singular. The recurrence of a full or partial “block pattern,” that is, the early existence of thematic segments marking specifically person, is not compatible with Hodge’s (1969: 373) conclusion that “the concept of person is not necessarily basic to the system [of Proto-Afroasiatic]”.

Campbell and Poser (2008: 137) are right in stating that “the Afroasiatic union has relied mainly on morphological agreements in the pronominal paradigms ...” but they do not explain in what sense this “evidence is attractive, but not completely compelling”. Its value as a genealogical diagnostic can only be questioned if coincidence and borrowing are deemed possible alternative explanations. It is

true that both may account for elaborate paradigmatic isoglosses between two languages or families (see Campbell [2003: 276] on a surprising case of sheer coincidence and Appleyard's [2007: 491] report about the likely transfer of a full set of object suffixes from Ethiosemitic Tigre into Cushitic Bilen). The question is then how likely it is that the relevant amount of shared pronominal traits across Afroasiatic can indeed be explained by such non-genealogical phenomena. Given the specific configuration of this group in terms of its circumscribed spatial and temporal scale, I think it is unlikely, and in line with the conceived Afroasiatic scholarship I consider the above data to be highly diagnostic. I argue below that it can in fact serve as a good first yardstick for the genealogical evaluation of Omotic lineages, whose membership in the family remains uncertain.

While the pronominal data have been given primary importance for the Afroasiatic hypothesis, a number of other morphological features have been adduced in support of this family. A compact (albeit no longer up-to-date) survey can already be found in the pioneering research by Diakonoff (1965, 1988); a more recent overview is given by Hayward (2000a: 86–94). Overall, relevant comparative studies still involve considerable controversies and questions but at the same time attest to a mature historical-comparative discussion (see, e. g., Hodge 1971 and Hetzron 1990). In the following, I only mention some further individual-identifying morphological traits that are shared across Afroasiatic but, as an important caveat, are regrettably often lacking, or at least could not (yet) be identified, in Omotic languages as well as in the other three units, Ongota, Laal-Laabe, and Kujarge (see below for a more detailed discussion).

A paradigm of gender-number agreement on a related set of third-person nominal hosts, characterized by a consonant canon *n:t:n* for masculine singular, feminine singular, and plural, respectively, and possibly derived from determiners, can be reconstructed for Semitic, Beja, Egyptian, Berber, and Chadic (cf., e. g., Greenberg 1960; Schuh 1983). This partly relates to the sex-based gender system that is universal in Afroasiatic and displays recurring thematic elements. Only some of these could also be argued to exist in parts of Omotic (see Hayward (1989: 24–25) on the opposition of feminine *t* vs. masculine *k* in copulae of the Ta-Ne family). Another prominent feature that can be tied to concrete linguistic material is the complex system of nominal number inflection that partly interacts with derivational affixation. According to such works as Greenberg (1955a), Zaborski (1986b), Newman (1990), Sasse (1991), and Ratcliffe (1992, 1996), it is attested in Semitic, Berber, Cushitic, and Chadic but is absent in Omotic according to Hayward (2004: 246). Case marking and other types of nominal flagging like adpositions have been subject to historical-comparative research, too. However, merely listing similar surface forms, as in Blažek (2006: 99), is unlikely to lead to a tangible reconstruction of the proto-system. Authors like Sasse (1981c: 151; 1984; 2003), Appleyard (1988a), and Gensler (2000) have followed standard methodology coupled with an argumentation in terms of diachronic typology, proposing

concrete links particularly between Berber, Egyptian, Semitic, Cushitic and even the Ta-Ne group of Omotic (see also Hayward's [2000a: 88–90, 93] summary). The most intriguing result of this research is the hypothesis that Proto-Afroasiatic may have had a so-called marked-nominative system (see, however, Hayward and Tsuge [1998] and Hayward [2004: 245] on nominative-accusative systems in Omotic). Other diagnostic Afroasiatic isoglosses concern the verbal system. In addition to the shared cross-reference marking treated above a fruitful comparison across various member lineages is possible regarding the TAM-related verb stem formation (cf., e. g., Sasse 1980; Cohen 2005) and verbal derivation (cf., e. g. Stauder [2014: 208–222] for a recent discussion of valency-decreasing affixation from an Egyptologist's perspective). With respect to the second trait, the state of reconstruction is similar to the situation in Niger-Kordofanian. The existence of a proto-system of verb affixes marking causative, passive, reflexive, etc. is a robust hypothesis, but comparative research is still dominated by reference to sound–meaning correspondences across individual languages and lineages, here including Omotic (see Sasse 1981c; Hayward 2004), rather than by rigid reconstruction going from subgroups to higher genealogical levels.

2.7.2.2. Lexicon

Cohen (1947) is the first major step in comparative lexical research with a wider Afroasiatic scope. Subsequently Diakonoff's (1965, 1988) work represents another major achievement in the discipline. Numerous studies followed, often with a narrower scope in targeting individual etymologies, lexical subdomains (e. g., Wenger [2002] on numerals), or links between selected lineages, including comparisons excluding the Semitic family (e. g., Rössler [1979a] and Bynon [1984] on Berber-Chadic affinities). Nevertheless, coming up with a substantial body of reliable Afroasiatic proto-lexemes has proven difficult – a fact that is often attributed to the great time depth involved but which also has other causes.

The most comprehensive cross-family studies to date are Ehret (1995b) and Orel and Stolbova (1995), which arose from Diakonoff et al. (1993–97) but considerably diverges from it. While both works contain an impressive quantity of reconstructions, their quality is unfortunately questionable for a number of reasons. One striking observation arising even from a superficial inspection is a suspiciously large amount of non-overlapping results between the two – a point made by various other authors (cf. Hayward 2000a: 95). This is surprising because by definition there was only one proto-language, and good scientific practice should have yielded a comparable data basis by which to arrive at the proto-forms. This more theoretical caveat is fully corroborated by the extensive and diverse criticisms both works have received from other specialists. Without being able to go into details, I only refer here to such relevant reviews as Diakonoff and Kogan (1996), Kammerzell (1996), Peust (1997), Kossmann (1999a), and Satzinger (2007) regarding

the first study; Kaye (1996) and Wolff (2000) regarding the second; and Ratcliffe (2012) regarding both.

It is instructive to read what Hodge (1983: 147) remarked quite a while ago regarding the state of Afroasiatic lexical reconstruction:

At present one has two choices: do only basic work on the internal family level [like Semitic, Cushitic etc.], or endeavor to see what results can be obtained with controlled use of the limited data available. To do the latter is to risk writing material which in a few years will be worse than useless. On the other hand, it is just possible that the data are sufficient to enable one to draw some valid conclusions. Naturally one will not be sure that they are valid until the more basic work is done and proper procedure followed. A number of scholars have opted for the second course of action, including the present writer.

The result of these efforts has been a considerable literature which it is very difficult to assess. Contradictory etymologies abound. As anyone knows who has tried it, one can easily collect sets of words with form-meaning similarities from two or more different language vocabularies. For such etymologies to be accepted by the linguistic community as evidence of genetic relationship is another matter.

This assessment could be read as a kind of forecast for the fate of much later research, in the sense that the methodological approach is arguably the reason behind a rather lukewarm reception of the work, as it can no longer be attributed to “limited data available”. That is, the two major endeavors in the field and other similar research (cf. the extensive Afroasiatic oeuvre by Takács, e. g., 2011b) suffer from the same crucial shortcoming, namely the practice of arriving at Proto-Afroasiatic forms by relying on a direct comparison of words of individual modern languages across the different branches. A better alternative, or in Hodge’s terms a “proper procedure,” however, should be the initial careful inspection or, if necessary, establishment of branch-level proto-forms and only subsequently the consolidation of these toward likely reconstructions at the highest level. This central point has in fact been reiterated in Ratcliffe’s (2012: 270–271) review, focusing particularly on methodology. Insofar as such a procedure has till today hardly played a role, the overall situation has not changed considerably since the 1980s.

An innovative idea regarding the comparative assessment of lexicon embedded in the lineage-specific grammatical structure was proposed by Newman (1980: 17–20) within his discussion of the Afroasiatic membership of Chadic. He claimed that nouns within this family as well as in Afroasiatic as a whole display stable gender assignment, even if they are not related etymologically, illustrating the point by a set of 15 meanings. While the idea looks plausible and was received positively, it was not developed further by the author or any other scholar. Nichols (1996: 61–62) looked at the hypothesis and the concrete data from a general methodological perspective and gave a cautious evaluation to the effect that the evidence needs more extensive and principled substantiation before it can count as

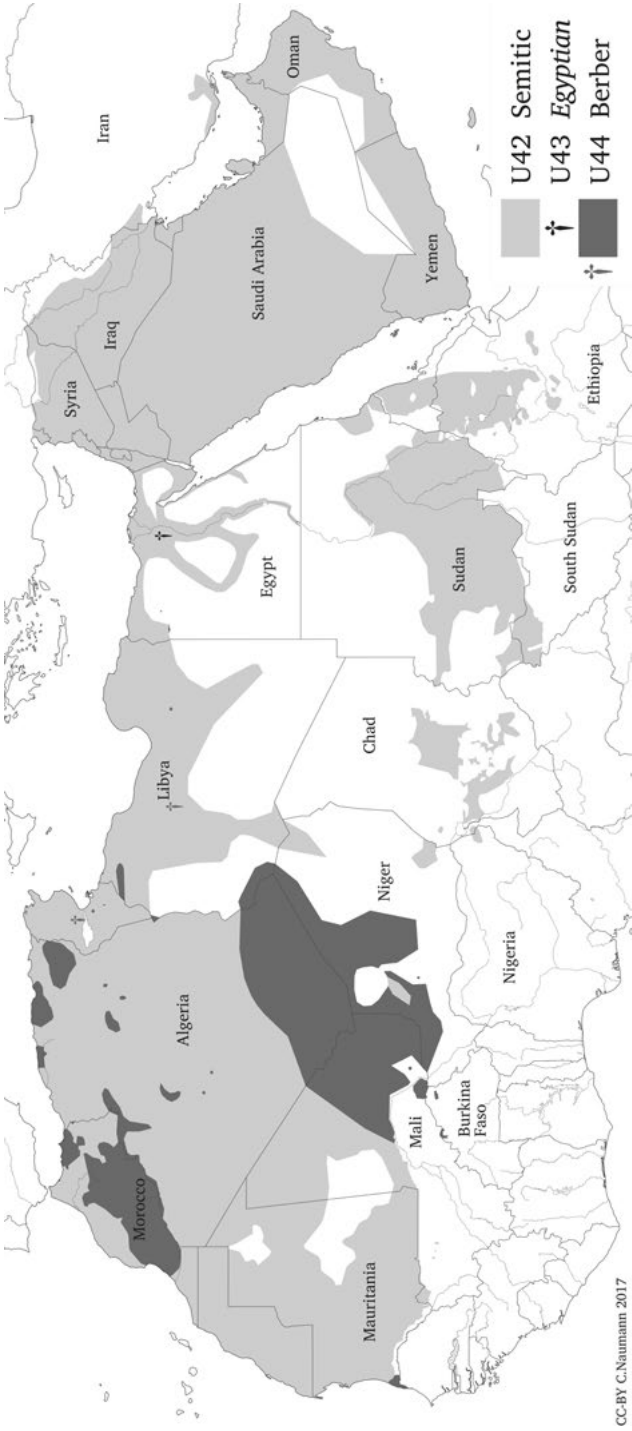
individual-identifying (see also Campbell and Poser [2008: 138–139] for a more negative evaluation).

2.7.2.3. Typology

From a typological point of view, there is considerable diversity across the traditionally assumed members of Afroasiatic (see Frajzyngier [2012] for a recent survey). Given the old age of the family, this does not necessarily pose a problem for the genealogical hypothesis. Historical inferences and macro-areal considerations inform the search for plausible scenarios that can reconcile the differences across the modern languages with a unitary profile to be reconstructed for the proto-language.

With respect to features that have been regularly surveyed in typological studies, there are two major domains of diversity in Afroasiatic, namely constituent order and the presence vs. absence of traits that are associated with the morphology discussed above. Regarding the latter, there exists wide agreement that early stages of Afroasiatic were characterized among other things by core case inflection (possibly of the marked-nominative type), a sex-based gender system, and derivation affixes on verbs. This implies that modern languages and lineages lacking these partly or completely lost them and are thus innovative, which holds in particular for Omotic and Chadic. The major divide in Afroasiatic in terms of word order is between a head-initial profile (possibly with an original transitive VSO order that could also give rise later to SVO) and a predominantly head-final one. The former holds for Chadic, Berber, Egyptian, and the core of Semitic while the latter characterizes Omotic, most of Cushitic, and some Semitic subgroups, notably Ethiosemitic and Akkadian. The last two cases throw some light on the historical dynamics, because their word order profile has been plausibly ascribed to a contact-induced shift away from an inherited head-initial syntax within a new linguistic environment (see section U42). Taking this into account, a more coherent typological split in Afroasiatic emerges, namely between Chadic, Berber, Egyptian, and Semitic on the one hand, and Cushitic and Omotic on the other.

This raises the question of which overall profile is a better model for early Afroasiatic. Two considerations suggest to me that the combination of the relevant morphosyntactic features with head-initial syntax is the more likely candidate. The inherited morphology has a rough modern distribution pattern according to which particularly Chadic and Omotic in the south must have been subject to losing it. Regarding the two word order profiles, head-initial lineages are widely dispersed while the head-final ones are, Akkadian aside, restricted to a single area, namely the Horn of Africa. This zone has witnessed at least one event of contact-induced word order change, namely Ethio-Semitic, and moreover is a subpart of Chad-Ethiopia, the only linguistic macro-area in Africa that is characterized pre-



Map 19: Geographical location of Semitic (U42), Egyptian (U43), and Berber (U44)

cisely by the feature of syntactic head-finality and accompanying features (Heine 1976a; Güldemann 2010). Thus, it is not far-fetched to hypothesize that Cushitic and Omotic are earlier cases of Afroasiatic lineages that entered this areal context and then changed their typological profile (cf. Bender [1997b: 24–25] for a similar idea). Insofar as Omotic languages are Afroasiatic (see section U46), this word order shift would have been accompanied by a tremendous loss of the inherited morphology.

To the extent that something is known about the typological profile of the three small lineages that are not part of the original Afroasiatic concept, they seem to align with their areal environment, including geographically close Afroasiatic lineages, namely Ongota with Omotic, and Laal-Laabe with Chadic (Kujarge remains undescribed).

2.7.3. Basic classificatory units

U42 Semitic

Semitic is a close-knit language family distributed over most of the Arabian Peninsula and large parts of northern Africa, making it a family spoken in Africa and Asia (see Map 19), and motivating the name for the higher-order lineage. It comprises close to 100 languages, which are spoken in the majority in the Asian part and half of which emerged due to the spectacular expansion of Arabic and Islam.

Semitic is by far the best-researched language family of wider Africa. In the last 20 years alone it has been treated by a number of survey articles (e. g., Edzard 2012; Gragg and Hoberman 2012), monographs (e. g., Lipiński 1997; Stempel 1999; Kienast 2001; Haelewyck 2006), and edited volumes (e. g., Hetzron 1997; Izre'el 2002; and most recently Weninger et al. 2011). The last publication, the most extensive handbook thus far, also contains several historically oriented contributions by Gensler, Huehnergard and Rubin, Kogan, Waltisberg, and Weninger. Still indebted to the groundwork laid in the first half of the 20th century by such authors as Brockelmann and Bergsträsser, these later authors give an impressively detailed picture of the phonology, lexicon, and morphosyntax of Proto-Semitic and its later history of divergence.

Semitic has another unique characteristic, namely that a number of languages are attested in the form of very old written documents. The earliest data on a Semitic language are from Akkadian and date back to the first half of the 3rd millennium BC – a time by which the family must already have had its characteristic profile. Despite the considerable age of the family, it is still relatively easy to identify a modern language as belonging to it.

Major structural adjustments have occurred in some new varieties of Arabic and in far earlier periods in the geographically peripheral units Akkadian and Ethiosemitic. Their partly different syntactic structure, notably a parallel independent

innovation of head-final features, is plausibly explained by local language contact and convergence in a new linguistic environment, namely with Sumerian in Mesopotamia in the former case (see Zólyomi 2011) and with Cushitic and Omotic in Ethiopia in the latter (see Greenberg 1995; Crass and Meyer 2011). In this connection, reference should be made to a hypothesis that Semitic originated in Ethiopia; the major argument for this is the considerable diversity of the languages there (see, e. g., Hudson 1977, 2002). However, this proposal is an isolated position that hardly plays a role in the current discourse on Semitic linguistic history (see Gensler (2017) for a recent discussion).

U43 Egyptian

Egyptian is a single language once spoken along the Lower Nile Valley (see Map 19), attested from before 5,000 years ago until the 14th century, when the gradual language shift from Coptic, its last stage, to Arabic was completed. Spoken over a period of more than 4,000 years, which is conventionally divided into five stages with a major break between the first two, subsumed under Earlier Egyptian, and the last three, subsumed under Later Egyptian, it is the longest attested language and thus has an enormous potential for historical linguistic study. However, the fact that its earliest records (and those of other ancient Afroasiatic languages) already attest to a fully articulated differentiation between it and other lineages implies that Old Egyptian, whose first stage was attested between roughly 3,000 BC and 2,000 BC, is of prime importance for the historical-comparative assessment of the larger family. Conversely, linguistic data from later chronolects can only be used for this purpose if they furnish information that cannot be recovered from Old Egyptian records but can be safely assumed to go back in some relevant form to this early stage.

Given that Egyptology is an old and separate discipline, the state of documentation and description of the language is quite favorable, also for comparative research, as evidenced by such modern sources as Loprieno (1995), Loprieno and Müller (2012), Kramer (2012), and Allen (2013). However, the nature of the linguistic material poses considerable problems of interpretation, particularly for non-specialists, including historical linguists with a scope over Afroasiatic as a whole. Hence, a major task is to transfer Egyptian data from their highly conventionalized philological representation and discussion to the conventions holding in general linguistics. Considerable progress has been made in this respect in the recent past. For example, Egyptian phonology has been rendered more transparent to outsiders by such works as Kammerzell (1998) and Peust (1999b), emerging from a more general typology-oriented research project (see Kammerzell, Knigge, and Peust 1996). The contributions to Grossman, Haspelmath, and Richter (2014) also bear witness to the increasing awareness that Egyptology and general linguistics can and must cross-fertilize each other.

Over its long history, Egyptian has encountered a number of other languages, and major chronological breaks in its overall structure have been linked to such contact settings. A lot of research in this respect has been invested concerning languages spoken in West Asia in the (north)eastern neighborhood of Egyptian, notably from Semitic and Indo-European. However, Egyptian experienced equally intensive interaction in the south(west) with African peoples and their languages, for example, Meroitic and Nubian (Peust 1999a), Cushitic Beja (Dahl and Hjortaf-Ornas 2006), and presumably others. Peust (2004) thus argues that the language is squarely embedded areally in the African continent.

One pertinent hypothesis of particular historical-comparative significance with repercussions for Afroasiatic as a whole concerns, however, the very emergence of Egyptian. It has long been observed that the language is untypical for Afroasiatic in certain respects, suggesting to some scholars that this may be due to the creation of the language in a contact setting. This idea remains rather vague in earlier work (cf., e. g., Vycichl [1951] on a pre-Afroasiatic “typhonic” substratum in Egyptian arguably shared with Berber). However, Kammerzell (1999, 2005) has proposed a more concrete hypothesis, namely that the formation of Pre-Old Egyptian involved the presence of a population in the Nile Valley that was linguistically somehow related to Indo-European; this idea has not been rejected explicitly but at the same time has found little recognition in Egyptologist circles let alone in the ongoing discussion on the geographical origins of Indo-European.

This and similar ideas, however, cannot cast doubt on the membership of Egyptian in Afroasiatic. Accordingly, it has been playing, and still plays, a central role in the very establishment of this family. Some recent works concerning both morphology and lexicon are, for example, Kammerzell (1991), Satzinger (2002), Voigt (2002/03), and Takács (2011a). They show a mature historical-comparative dialogue based on the Afroasiatic hypothesis, although some may still take a Semito-centric perspective; Rössler’s (1971) proposal of simply subsuming Egyptian under Semitic is, however, an isolated position.

U44 Berber

Berber is a language group found across a huge area in northern Africa, including large parts of the Sahara (see Map 19). Its modern distribution becomes more compact toward the west reflecting its advanced replacement by Arabic emanating from the east. Chaker (1995), Galand (2010), Elmedlaoui (2012), and Kossmann (2012) provide informative family surveys.

In the French linguistic tradition Berber has been presented merely as a large dialect cluster – a view that today is also inspired by sociolinguistic concerns within Berber language revival (Basset 1952; Chaker 1995). However, works such as Willms (1980), Naït-Zerrad (2001), and Kossmann (2011) show that not only do differences between non-adjacent dialects amount to a distinction typical of that

between languages but that the group also displays some pronounced linguistic breaks between individual members. Hence, Berber is a language family of more than half a dozen language-like units with a diversity comparable to Germanic or Romance.

With respect to historical reconstruction, some specialists entertain the idea that Tuareg is the overall most conservative member (cf. Aikhenvald 1986/87; Zaborski 1993), and it is perhaps no coincidence that Prasse's research on this language complex (e. g., 1972–74) contains extensive references to possible Proto-Berber forms. However, even though Berber is a close-knit unit, an extremely complex picture of isogloss distribution and other problems to be mentioned below have frustrated specialists' attempts to come up with a subclassification and to outline the proto-language (cf. Willms [1980] and Kossmann [2011] for some discussion of the difficulties confronting the historical comparativist). Phonological reconstruction based on lexical comparisons has advanced considerably with Kossmann (1999b) and other specific studies like Prasse (1975, 2003, 2011), Bynon (1978), and Kossmann (2001). Comparative morphosyntax and diachronic typology are dealt with by Prasse (1963, 1965), Aikhenvald (1986/87), Zaborski (1993), Kossmann (2003), Chaker (2004), and Brugnatelli (2014a). However, there is no substantial and easily accessible synopsis of lexical proto-forms and/or reconstructed morphological paradigms, although the available comparative material allows specialists to establish them (see Bynon's [1984] dedicated attempts in his comparison with Chadic). It is hoped that a greater interest in comparative research and access to data with more diagnostic potential (cf. Brugnatelli 2014b) will improve this situation.

Given the wide geographical distribution of Berber and its old age in the area, its languages experienced a diverse range of linguistic contacts. The northern coastal realm of Berber was encroached upon at different historical stages by languages from Romance (Latin, French) and Semitic (Punic, Arabic) (cf. Bynon [1970] for an early summary discussion, and Durand [1993], Souag [2007, 2010a, 2014], Tilmatine [2011], and Kossmann [2013] as just some example studies). The impact of heavy lexical borrowing from Arabic is especially profound and complicates reconstruction, because it is one factor for the leveling of differences within Berber, and old loans are not always identified easily due to the genealogical relationship between the two. The language shift of Berber communities has also left a strong substrate, at least in Maghrebian Arabic (see, e. g., Kossmann 2014). In the southern domain of the family in the Sahara, mutual influences between Berber and Northern Songhay are well studied (e. g., Wolff and Alidou 2001; Kossmann 2004; Christiansen-Bolli 2010; Souag 2015a, 2015b) as is loanword influence on some sub-Saharan languages like Hausa (Kossmann 2005a).

Another problem for reconstruction in the Berber family is succinctly described by Blench (2001: 176–177), including its two major possible interpretations:

- a) Berber shows surprisingly little internal differentiation, as if it represented a recent expansion
- b) Yet is very different from its neighbours in Afroasiatic as if it split away a long time ago.

Sociolinguistically, two alternative explanations for this state of affairs can be put forward. Either;

- a) Berber was indeed once much more diverse and its apparent uniformity is because a powerful cultural force expanded and assimilated speakers of diverse but related languages [...]
- b) Berber expanded some time ago, and sociolinguistic factors have acted to keep groups in contact with one another, reducing the pressure for language diversification [...]

Blench himself opts for the last scenario, while later authors like Louali and Philippson (2004) and Múrcia Sánchez (2010) prefer the first hypothesis that the diversification within Berber arising during its early westward spread and separation from the rest of Afroasiatic was eradicated by later family-internal processes of expansion and koineization. The effect of both scenarios makes it difficult to trace the earliest stage of Berber – the second even more than the first, as observed by Kossmann (2011: 5–6).

There is yet another uncertain issue regarding Berber history, namely the hypothesis that two already extinct language units with an undeniable historical relation to Berber form a larger family with it. The first candidate is the language(s) attested in the early Numidian-Libyan inscriptions (see Pichler 2007; Kerr 2010). While Rössler (1958, 1979b) is confident in a genealogical Berber affiliation, even calling the larger family “Libyan” and Berber “Neo-Libyan” (cf. Rössler 1952), most other authors, for example, Bynon (1970: 67–68), Galand (2010: 15–19), Kerr (2010: 45–46), and Kossmann (2011: 6), remain cautious about the idea. A similar situation holds for Guanche, the language(s) of the Canary Islands that became extinct in the 17th century as the result of Spanish colonization. Wölfel (1953, 1954, 1965) and Vicychl (1987) consider the relation to Berber to be robustly established, while Berber specialists today have raised doubts and consider the data to be compatible with a Berber contact influence as well (Galand 2010: 2–4; Kossmann 2011: 6).

In general, even without the speculations by Mukarovsky (1959, 1963/64) and others about deep lexical relations to extinct languages in the Maghreb and even Europe, the historical picture for the Berber family is complicated – this despite its internal homogeneity. The situation recognized by Willms (1968) and Bynon (1970) is still relevant today, namely that no Proto-Berber can be referred to when trying to analyze its exact genealogical profile and to have it contribute to the assessment of Afroasiatic. What is certainly valid, however, even without the availability of a proto-language, is its Afroasiatic membership. Without having to



Map 20: Geographical location of Cushitic (U45)

go as far as Rössler (1952, 1964), who considers Berber, like Egyptian, to be a part of Semitic, there are clear and detailed correspondences in grammar and lexicon with all safe lineages of the family (cf., e. g., Prasse 1963; Chaker 1990, 2004; Appleyard 2003; and Brugnatelli 2011).

U45 Cushitic

Cushitic is a language group of up to 50 languages that are concentrated in Ethiopia but also have a wider distribution across eastern Africa, from southern Egypt to northern Tanzania (see Map 20). Some useful surveys of the group are Sasse (1981b), Tosco (2000), Mous (2012), and Appleyard (2012). Greenberg (1963a) proposed the following subclassification into five subgroups: a) North aka Beja as its only language, b) Central aka Agaw or Awngi, c) East, which is by far the largest group, d) West, to be reconceptualized later as Omotic, and d) South, which is dispersed over northern Tanzania and possibly Kenya. This structure prevails as the mainstream opinion, except for the current exclusion of Omotic.

The concept and name Cushitic had been established already by the end of the 19th century, then comprising languages of the first three subgroups listed above. Since the internal diversity of Cushitic is considerably higher than in Semitic, Egyptian, and Berber, there are still problems of its delimitation and subclassification, to the extent that doubts about its very unity have been raised. The classification problems revolved, and partly still revolve, around three issues: a) the relationship between Cushitic and Omotic – a question deferred to section U46; b) the membership of Beja; and c) the status of South Cushitic as a separate branch, including the position of the click language Dahalo. The last two issues arose in particular in the early 1980s with Hetzron (1980) and, to a lesser extent, Fleming (1983a). Tosco (2000) and Bechhaus-Gerst (2008) review and discuss the ensuing controversies, whereby the latter surprisingly ignores the former.

Hetzron's (1980) influential study of defining the "limits of Cushitic" rejected the proposal of enlarging it (and Afroasiatic) through the addition of the Kuliak family – an idea not raised again apart from Lamberti's (1988) ambiguous contribution (see section U21). Hetzron used historical-comparative arguments concerning concrete morphological features for also arguing that Beja is an Afroasiatic lineage outside Cushitic, taking up earlier ideas (e. g., Wölfel 1944: 199). The language complex Beja, as the single member of North Cushitic, is spoken between the Nile and the Red Sea coast from southern Egypt to Eritrea with a long history in this area, involving among other things its common association with the Blemmyes of antiquity (see, e. g., Dahl and Hjørt-af-Ornas [2006] for a detailed discussion). Such a profile does not make it an unlikely candidate to be a more independent lineage within Afroasiatic. However, this hypothesis has met with almost unanimous rejection from other scholars like Zaborski (1984,

1987b, 1989b, 1991, 1997), Vycichl (1988), Voigt (1998), Tosco (2000: 91–93), Appleyard (2004), and Blažek (2007a). The central idea of most of these authors is epitomized in Zaborski's (1984: 128) remark that “the existence of the old suffix conjugation in Beja [based on an old prefix-conjugated auxiliary] would alone be enough for Beja to be considered a Cushitic language”, because it is a shared innovation against other Afroasiatic families (Zaborski 1975, 1991; Hetzron 1980). It should be understood, though, that this argument only holds on the condition that the paradigms of the auxiliary itself and the new person suffixes developing from it are cognate. The collocation of content words with a generic verb, often with an additional quotative function, to form complex predicates, and this structure's possible grammaticalization toward a new conjugation type can as such not serve as a genealogical diagnostic, because this is a recurrent feature of the Chad-Ethiopia macro-area affecting families in and outside Afroasiatic (cf., e. g., Güldemann 2005a).

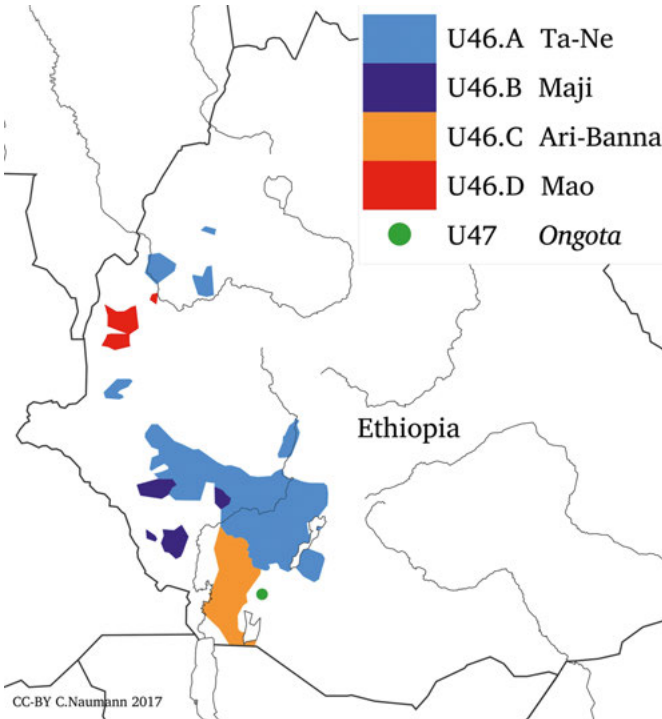
The other classification problem concerns South Cushitic languages, which are predominantly isolated today in Tanzania but appear to have had a much wider northward distribution in the past (Nurse 1988) and are also spoken by various forager peoples such as Aasax, Dahalo, etc. (cf. Fleming 1969a; Tosco 1992). Added since Greenberg (1950a) to the larger group, these languages subsequently received quite a diverse genealogical evaluation. Ehret's (1980) attempt to reconstruct a Proto-South Cushitic language followed Greenberg in maintaining them as an independent Cushitic branch; Hetzron (1980) proposed subsuming them under East Cushitic; and Fleming (1983a: 22), as another extreme, saw them as representing a peripheral branch of Afroasiatic. The present discussion has to start out from Ehret's (1980) reconstruction, which is widely cited but was in fact heavily criticized by other specialists, casting doubt on the very unity of his South Cushitic (cf. in particular Hetzron and Tálós [1982] but also Rowe [2000] and Tosco [2000]). The later discussions tend toward separating Dahalo in Kenya from the Rift languages in Tanzania but placing them all within East Cushitic (Rowe 2000; Tosco 2000; Kießling 2001).

A central problem behind these controversies, and the comparative evaluation of Cushitic in general, is the scarcity of cross-family studies that present, if only for a subdomain, concrete Proto-Cushitic reconstructions in a compact and transparent form. This is somewhat surprising in view of the extensive amount of reconstructions on the level of more secure subgroups. Thus, see Hetzron (1976) and Appleyard (1984, 1988b, 1996, 2006) on Agaw aka Central Cushitic; Hudson (1976, 1981, 1989) on Highland East Cushitic; Black (1974), Sasse (1974: 624–628), Heine (1979), and Dawit (2013) on Lowland East Cushitic; Sasse (1979), Arvanites (1991), and Tosco (1994) on East Cushitic as a whole; and Ehret (1980), Kießling (2002), and Kießling and Mous (2003) on the Rift group of South Cushitic. There exist, of course, also a number of cross-family studies. Zaborski in particular has provided important contributions (e. g., 1975, 1984 on

verbal conjugation, 1986b on nominal number marking, 1987a on numerals, and 1989a on independent pronouns). Unfortunately, these are difficult to use, not only for non-specialists, because they often do not provide (a transparent synopsis of) assumed proto-forms and/or are no longer up-to-date in terms of empirical data. Another cross-Cushitic contribution is Ehret's (1987) lexical reconstruction. Here, the circumstance of an incomplete and partly outdated database is compounded by the problems associated with the general approach of the author. To mention just one major issue referred to also in other contexts: the above list of studies on subgroup research contains seven works by other authors he could have consulted but only three are given in his reference list, and only Appleyard (1984) and Sasse (1979) are occasionally cited, albeit without any detailed engagement with their results. Given that at the time Ehret's (1980) Proto-South Cushitic had to be taken already with caution, his Proto-Cushitic lexicon is unlikely to be a reliable basis for modern historical research.

A substantial problem hampering the historical-comparative analysis of Cushitic languages is their multiple contact-induced links. These concern a) unrelated languages (cf. Greenberg [1963b] on a case of extreme convergence of the Cushitic Yaaku with Nilotic Maa); b) other members of Afroasiatic, especially in Ethiopia from Semitic (and potentially Omotic); and c) relatives within the family (cf. Sasse [1986] on the Sagan language area in southwestern Ethiopia). Convergence with other Afroasiatic languages may have covered up genuine genealogical signals.

Despite all such caveats, there is certainty about the membership of Cushitic in Afroasiatic. The strongest evidence here is of a morphological paradigmatic nature and has been documented in many different survey works (see a recent summary by Appleyard [2011]). Especially the diagnostic pronoun and conjugation paradigms of Cushitic suggest a strong retention of traits also found in such canonical Afroasiatic groups as Semitic, Berber, and Egyptian (cf. Zaborski 1975, 1989a, 2010; Appleyard 1986; Banti 1987; and section 2.7.2.1. above).



Map 21: Geographical location of Omotic (U46) and *Ongota* (U47)

U46 OMOTIC

The Omotic group as it is typically perceived comprises about 30 languages that are almost exclusively spoken in the southwest and west of Ethiopia (see Map 21) and are classified into four secure families. Recent Omotic surveys are Hayward (1995), Azeb (2012), and Theil (2012). Table 68 presents the four units and their variable terminology and subclassification.

Table 68: The history of subclassification of Omotic

Greenberg (1963a: 49)	Bender (1987: 29)	Hayward (2004: 242)	Present name
Ganza, Mao > section U40	O8 Mao	Mao	Mao
Western Cushitic	O1–6 no label	Ta-Ne	Ta-Ne
	O7 Dizoid	Dizoid	Maji
	O9 Aroid ~ South Omotic	South Omotic	Ari-Banna

As commonly acknowledged (see, e. g., Azeb 2012), the genealogical status of Omotic is problematic in a number of respects, and according to Bechhaus-Gerst's (2008) summary the controversial discourse is characterized by a considerable amount of "arbitrariness" irrespective of the particular position. This is the major reason for treating the group as an areal pool rather than a proven family. Its most reliable common denominator is still of an areal-typological nature in that the languages are robustly head-final, which aligns them with their Cushitic neighbors in the east in opposition to head-initial languages in the west, which are conventionally subsumed under Nilo-Saharan.

The first problem with Omotic relates to its status as a genuine genealogical unit. The current concept is relatively new, only taking full shape after the western subgroup of Cushitic was enlarged by Ari-Banna (Fleming and Lewis 1961, 1963; Greenberg 1963a) and Mao (Bender 1975b). Since then a number of studies have attempted to prove such a family, albeit with quite limited success. The more widely recognized deviant nature of Ari-Banna, which led Fleming to contrast it as "South Omotic" against all the "North Omotic" groups, tends to obscure the fact that, according to the currently available data, Mao also differs considerably from the core.

Especially Bender (1987, 1988, 1990a, 1990b, 1990c, 2000a, 2003) purports to provide extensive evidence in favor of such a family. However, his enterprise has not met basic requirements in terms of data presentation and methodological standards. The language material is mostly just presented, often in abstract tabular form, leaving it up to the reader to judge to what extent the elements are related to one another. If reconstructed forms are given, they are predominantly proposed with little or no supporting arguments and are apparently motivated just as much by a presupposed classification as by the compared data themselves. The absence of a detailed qualitative discussion of data and particularly of a rigorous subgroup-oriented reconstruction also applies to other Pan-Omotic studies (see, e. g., Fleming 1969b, 1974, 1976b; Zaborski 1988; Blažek 2008).

Nevertheless, not only the abovementioned word order profile but a number of other typological features *are* shared in some form across Omotic languages, as surveyed by Hayward (2004). For example, Wedekind (1985), Hayward (1988), Breeze (1988), and Aklilu (1994) describe extensive phonological similarities; and Hayward (1989) and Bender (1990b) compare the sex-based gender systems. However, the general picture is that isoglosses fall into one of two categories: either they are areal-typological in that they lack concrete and shared linguistic matter, or, when such material is present, then it is only found in incomplete and diverse language sets across the various features. The most prolific author trying to substantiate diagnostic morphological links across Omotic has been Hayward (e. g., 1984, 1989, 1998, 1998 [with Tsuge], 2009), dealing with such diverse domains as auxiliary verbs, verb inflection, gender, case, and person marking.

Table 69: Pronominal vowel canons in Gamo (Ta-Ne) and Aari (Ari-Banna) (after Hayward (1998: 107) in comparison with Proto-Ari-Banna pronouns

PN.G	Gamo “perfect” endings	Aari “imperfect” endings	Aari pronouns	Proto-Ari-Banna pronouns	
				Moges (2005b: 125)	Fleming (1976b: 314–316)
1S	<i>-d-i-s</i>	<i>-d-i-t</i>	<i>ʔi</i>	*ʔi	*inta
1P	<i>-d-o-s</i>	<i>-d-ɔ-t</i>	<i>wɔ (o)</i>	*wo	*wAt
2S	<i>-d-a-s-(a)</i>	<i>-d-a-y</i>	<i>ʔʔ</i>	*ha	*ya
2P	<i>-d-eta</i>	<i>-d-e-t</i>	<i>ye</i>	*yA	*yεs
3S.M	<i>-d-e-s</i>	<i>-d-e</i>	<i>ki (k-i)</i>	*ki	*no
3S.F	<i>-d-u-s</i>		<i>ko (k-o)</i>	*ko	*na
3P	<i>-d-a</i>	<i>-d-e-k</i>	<i>ke</i>	*kε	*kεt

Note: G = gender; N = number; P = person

One example of such possible evidence is given in Table 69. It represents Hayward’s (1998, 2009: 96–101) proposal of the existence of a shared vowel canon in the pronominal paradigms for speech-act participants in one pronoun set of Ari-Banna and in the “outer verb agreement” for subject cross-reference found in some languages, like Gamo, that belong to the North Omoto group of Ta-Ne. As promising as it looks, there are considerable problems with this hypothesis. For one thing, since the pronominal series in Ari-Banna is primarily relevant in *independent* paradigms, any similar canon elsewhere, such as in the Omoto verb suffixes, should ultimately have the same origin. However, an old Proto-Omotoc independent set with such a vocalic pattern is hard to reconcile with data on other independent pronouns in Ta-Ne (and Maji), discussed below, that involve an entirely different canon based on thematic consonants. Its reconstruction is robust and, what is more, establishes the link to Afroasiatic. In other words, accepting one pronoun reconstruction seems to exclude the other, and thus one of two common hypotheses: “Pan-Omotoc” and Afroasiatic membership. This general observation is compounded by more concrete problems, for example, that the relevant vowel canon in Gamo’s “outer agreement” is not the only existing one, and that its assumed historical significance remains to be established convincingly for Proto-Ta-Ne.

That the evidence provided for a certain pattern is inconclusive as to whether it qualifies as a plausible reconstruction for an entire Omotic subgroup is not only a problem in this case but in fact for virtually all such features invoked for Proto-Omotoc. Hayward (1995: 14) admits himself that despite the serious efforts to find convincing scenarios that can reconcile the morphologies of Omotic lan-

guages with each other (and/or to the rest of Afroasiatic), “the natural common sense of the [non-Omotocist] layman may well leave him skeptical”. Today, given the enormously expanded database, an alternative procedure is possible: instead of lining up forms from individual languages guided by prefigured classificatory concepts, one could start out from robust intermediate proto-forms that are grounded in subgroup-internal data only and then compare these systematically. The lack of such a procedure and thus of more convincing results is the major reason that some authors deny the existence of the family (see Theil [2012] for the most recent critique and other references mentioned below).

A second issue, namely the status of Omotic within Afroasiatic, turns out to be just as controversial. Greenberg (1963a) had followed the Italian school in considering the Ta-Ne and Maji languages as West Cushitic, partly on account of morphological arguments. This picture changed radically with the proposal by Fleming (1969b, 1974, 1992, 1993 etc.) and Bender (1975a, etc.) according to which Omotic is a separate family and comprises also Ari-Banna and Mao. The fact that their opinion has become the current mainstream, however, does not imply agreement on the genealogical position of Omotic. For one thing, the earlier West Cushitic hypothesis has been defended vigorously by other specialists like Zaborski (1986a, 2004) and Lamberti (1991, 1993a, 1999); unfortunately, the discussion not always sharpened the focus but involved a good amount of polemic. But even the Omotic idea itself gave rise to yet other views besides the group simply being a sister to the other Afroasiatic branches. Bender’s (1975a) proposal that Omotic and Cushitic form “Cushomotic” as a primary Afroasiatic branch looks like a compromise between the two principal positions. Finally, Ehret (1979) considers Omotic to be so distinct as to merit a phylogenetic status opposed to the entire rest of Afroasiatic.

Ehret’s proposal leads to the third uncertainty about Omotic, namely its very membership in Afroasiatic, which was entertained since the earliest work on some of the languages and finally canonized in Greenberg’s (1963a) framework. Skepticism regarding this view, or even outright rejection, is evident in several works, for example, Sasse (1974), Newman (1980), albeit without any justification, and most recently Theil (n.d., 2012). After his initial skepticism, Sasse (1981a: 145–146, 1981c: 148–152) did entertain morphological traits and a few lexical items (with potential sound correspondences) as a possible inheritance from Proto-Afroasiatic and accepted Omotic as a promising candidate for membership – a conclusion also reached by Hetzron (1988). However, the best evidence both authors report comes from Ta-Ne and Maji languages, in line with many later research results by Hayward. This picture directly relates to another variant of a partly Afroasiatic-critical position, namely Zaborski’s (2004) view, echoing Moreno (1938, 1940) and Greenberg (1950a), that only these two families are members of Cushitic while Ari-Banna and Mao should be aligned with Nilo-Saharan – the latter being an obviously very vague proposal, given the current status of this concept.

Whatever the hypotheses about Omotic, they apparently suffer from one recurrent dogma, namely that there is some kind of virtue in not considering the possibility that (parts of) Omotic may currently not find a plausible genealogical affiliation. Thus, Hayward (1995: 11) sees even in the weak evidence for an Afroasiatic link a “relief not to have Omotic as an isolate”. The ingrained aversion against “a whole family of ‘Basques’ on [one’s] hands” even leads him (1995: 15–16) to ponder a creole origin of Omotic, quite reminiscent of the discourse revolving around similarly controversial cases like, for example, Songhay (U23): “Some early Afroasiatic variety ... comes to be used in a radically simplified way as a pidgin. Subsequently creolization [toward early Omotic] occurs together with the disuse of the original language.” Notice that this last-resort hypothesis needs two “original” language profiles – the Afroasiatic Pre-Omotic and another one that was its contact partner. The second is simply unknown under Hayward’s assumptions, presumably extinct since long ago. One wonders, however, why (some) Omotic languages could not themselves be (part of) this Ethiopian substrate that caused so much change in the languages of such colonizing lineages as Cushitic, Semitic, Surmic, and Nilotic. This idea arises especially in view of the observation by Hayward (1995: 5–10) himself and many other scholars that Omotic peoples have a clear indigenous profile vis-à-vis most other groups. As long as the Afroasiatic affiliation is not proven for all four Omotic subgroups, either individually or as a convincing unitary family, it is still open season to reckon with genealogical independence, accompanied by the hypothesis that specific similarities with Cushitic and other languages are the result of substrate interference in an old contact area. Such a historical relationship could even hold *between* Omotic groups, somewhat in line with Zaborski’s approach that some parts of Omotic go with Afroasiatic and some do not. At this stage each of the four Omotic units is best assessed first on its own merit. The following review of the group-specific information partly takes up the above controversies.

U46.A Ta-Ne

The Ta-Ne unit of Omotic is the largest in terms of member languages and geographical spread, comprising about 20 languages distributed across southwestern Ethiopia (see Map 21). It is also the Omotic subgroup with the overall best state of documentation.

Due to its size, the family displays considerable genealogical substructure with four branches, called here Ometo-C’ara, Gimira, Gongga, and Yemsa (a single language), but its unity is nevertheless obvious. It is recognizable in such lexical surveys as Bender (2003: 8–201) and Blažek (2008). Although the first study proposes lexical reconstruction for Ta-Ne and its constituent groups, the second is actually more transparent for a comparative inspection. Most of the canonical historical research only deals with the subgroups, including some sophisticated treat-

ments of diachronic typological change that explains the considerable morphosyntactic diversity of the modern languages. Historically relevant works with such a subgroup focus are, for example, Azeb (1994), Hayward (1984, 1998, 1999), and Girard (2002) on Ometo; Fleming (1976a, 1987), Lamberti (1992/93), and Tesfay and Wedekind (1994) on Gonga; and Rapold (2007) on Gimira.

Table 70: Thematic consonants in pronouns of Ta-Ne and Proto-Afroasiatic

P	N.G	Yemsa	Gonga	Gimira	Ometo-C'ara	Proto-Ta-Ne	Afroasiatic
1	S	<i>ta</i>	*ta(-)	*ta(na)	*ta(nV)	*ta(nV) *T	*N
	P	<i>inno</i>	*no(-)	*nu(na)	*nu(nV)	*nu(nV) *N	
2	S	<i>ne</i>	*ne(-)	*ne(na)	*ne(nV)	*ne(nV) *N	*T
	P	<i>nitto</i>	*i(n)t(-)	*int(-)	*inte(nV)	*i(n)t(-) *T	
3	S.M	<i>bár</i>	*bí	*(y)isi	*izV	*bV/*iS	*S
	S.F	<i>bàr</i>	*bì	?	*izV	*bV/*iS	*S
	P	<i>bassó</i>	*-bo-	<i>ic</i>	*usu/*V(C)tV	*bV/*VS	*S

Note: G = gender; N = number; P = person

The best evidence for the Ta-Ne family as a whole is arguably still the feature that led to its original establishment Moreno (cf. 1940), namely diagnostic pronoun isoglosses. In Table 70 I present my approximate reconstructions of independent forms for the four constituent groups and their assumed common ancestor, derived from the available data in Blažek (2008: 77–78, 87–93) for speech-act participants and Bender (2000a: 77, 102) for third persons. Since Moreno, the forms for the first- and second-person singular have been of particular significance and inspired the family name, because they display a counterposed pair of thematic consonants *t:n* that is opposed to the *n:t* pattern in what then was, and partly still is, assumed to be their closest relative, namely Cushitic in the above sense.

The fact aside that pronouns, especially those for speech-act participants, indeed define it as a unit, the data in Table 70 allow one to make a major observation leading to the issue of the external genealogical link of Ta-Ne. The difference to one of the consonant canons of Proto-Afroasiatic, *n:t:S*, repeated in the rightmost column (cf. Table 66 above), is relatively small and can be captured in just two points. First, the reconstruction of an alveopalatal obstruent in the third person forms is possible but can only be backed up in the synchronic data by two of the four Ta-Ne subgroups. However, Hayward (2009: 92–96) outlines a plausible scenario according to which the sibilant forms are old and those in *b* innovative (see also Hirut 2007, Azeb 2012: 471–472). Second and more conspicuously, the Ta-Ne system becomes virtually identical to the Afroasiatic one as soon as the first- and second-person singular are interchanged. Most such observations have

been made previously, for example, by Sasse (1981c: 150), Diakonoff (1988: 91), Hetzron (1988: 109–113), Zaborski (1998: 71–73), Lamberti (1999), and Bender (2000a: 196–198). The data there also show that the required *n:t* singular pattern can actually be found in bound pronominals of some Ta-Ne languages, notably in Yemsa aka Janjero, and thus may be argued to have indeed existed in earlier stages of the family. Before the background of all these empirical details, the pronominal evidence does support the Afroasiatic hypothesis. The case made here is arguably stronger, because it is based on intermediate reconstructions within the family, independent of any presupposed higher-order lineage like Omotic, Cushitic, etc. It goes without saying, however, that the exact scenario of the major changes in Ta-Ne remain to be worked out, and the general hypothesis is far from being fully established and thus requires conclusive proof on a broader empirical basis.

U46.B Maji

A second, far smaller family subsumed under Omotic is Maji, also called Majoid or Dizoid. It consists of the three languages Dizi(n), Nayi (also Nao), and Sheko, which are all spoken around Maji town in southwestern Ethiopia between the Omo River and the national border with South Sudan (see Map 21). Sufficient linguistic sources now exist on all three languages, notably Allan (1976), Aklilu (2000), and Beachy (2005) on Dizin; Aklilu (1997) and Takele (2001) on Nayi; and Hellenenthal's (2010) comprehensive grammar of Sheko.

Maji languages are very closely related, and Aklilu (2003) provides a reconstruction of the phonology and some lexical items of the proto-language, and derives regular sound correspondences. However, this canonical type of historical-comparative data is limited and has not yet informed the assessment of the position of Maji within Omotic and beyond.

One problem in this respect was the initial difficulty of separating Maji from the Gimira subgroup of Ta-Ne, which is immediately adjacent and shares with it a considerable amount of linguistic traits (cf., e. g., Wedekind [1985], Breeze [1988], and Aklilu [1994] on phonological affinities). Since such a close genealogical association has been rejected since Straube (1963), Maji's specific linguistic proximity to Gimira is more likely contact-induced. This does not affect the possibility of a relationship between Maji and Ta-Ne on a higher genealogical level. This idea emerges especially from the discussion on Omotic as a whole, because, as mentioned above, most of the diagnostic evidence for the larger group is in fact restricted to these two families.

Table 71: Thematic consonants in pronouns of Proto-Maji and Proto-Afroasiatic

P	N.G	Nayi	Sheko	S. Guraferda	Dizin	Proto-Maji	Afro-Asiatic
		Aklilu (2001: 8–10)	Hellenthal (2010: 187, 190)		Beachy (2005: 53)		
1	S	<i>na</i>	<i>na(ta)-</i>	<i>yín-</i>	<i>(yi)n-</i>	*-n-	*N
	P	<i>ná</i>	<i>ńa(ta)-</i>	<i>yín-</i>	<i>(i)n'-</i>	*-n'-	
2	S	<i>jet-</i>	<i>ye(ta)-</i>	<i>yet-</i>	<i>(j)Et-</i>	*yet-	*T
	P	<i>it-</i>	<i>ítí(-)</i>	<i>ítí(-)</i>	<i>it-</i>	*it(i)	
3	S.M	<i>is-</i>	<i>aS-, há-</i>	<i>ás-, á-</i>	<i>iz-, a-</i>	*is-	*S
	S.F	<i>if-</i>	<i>if-, yí-</i>	<i>íf-, í-</i>	<i>iz-, í-</i>	*if-	
	P	<i>ʔuf-</i>	<i>ífi(-)</i>	<i>ini(-)</i>	<i>if-</i>	*if-	

Note: G = gender; N = number; P = person

This observation is linked intimately to the assumed Afroasiatic membership and the issue can again be demonstrated by means of pronouns. Table 71 gives my approximate reconstruction of the Proto-Maji system, showing that its pattern of thematic consonants establishes a yet stronger link to the relevant Afroasiatic *n:t:S* canon in Table 66 than is the case for Ta-Ne. This result is in line with previous studies, already referred to above, which had pointed out some of these and other features, and strengthens Zaborski's (2004) position that Maji, together with Ta-Ne, is the most promising Omotic candidate to be a member of Afroasiatic.

U46.C Ari-Banna

The Ari-Banna family, also referred to in the literature by such terms as Bako, Aroid, and South Omotic, is located in southwestern Ethiopia right east of the lower course of the Omo River (see Map 21) and comprises the following members: Aari-Gayil, Hamar-Banna-Kara, and Dime. The current state of documentation does not yet cover the full dialectal diversity within the group but provides basic information on all three major units, among other things with various grammar sketches (Lydall 1976; Fleming 1990; Hayward 1990) and one fuller grammar of Dime (Mulugeta 2008). The internal coherence of the family is obvious and has been documented in such studies as Fleming (1988b), Bender (1991a, 1994a), Tsuge (1996, 1997) and Moges (2005b, 2015). Some of the studies provide substantial comparative data, for example, Tsuge (1996) with 240 lexical series across the family, but reconstructions are restricted so far to pronouns (cf. Table 69 above).

The external genealogical relation of Ari-Banna has been and still is disputed. One proposal has it that the family should be linked with Nilo-Saharan languages.

This was entertained as early as Cerulli (1942: 272), who then still referred to a rather vague concept of “Nilotic”. Later authors like Haberland (1962), Zaborski (2004), and Moges (2015) reiterate this idea, whereby the last study focuses on a more concrete comparison with neighboring Surmic languages.

The other hypothesis is that Ari-Banna is related in some form to the geographically close Afroasiatic languages. Based primarily on lexical data (cf. Fleming and Lewis 1961, 1963), Greenberg (1963a) subsumed the group under West Cushitic, which Fleming (1969b) and many later authors reclassified as Omotic. Lamberti (1993b), who rejects this analysis, treats Ari-Banna as a sister branch to all other Cushitic subgroups including West Cushitic. The evidence for the various Afroasiatic links was never compelling in terms of lexicon (determined mostly by superficial lexicostatistics) nor grammar (cf., e. g., Lydall’s [1988] discussion of the gender system in Hamar which is sex-based but nevertheless distinct from the Afroasiatic pattern). Hence, Ari-Banna assumed some sort of peripheral position right from the beginning, also motivating one of its alternative terms, “South Omotic” as opposed to the “North Omotic” remainder. Promising evidence proposed by Hayward (1998) and Hayward and Tsuge (1998) has been mentioned above but the persisting problem is nicely put in a nutshell by Hetzron’s (1988: 115) assessment that “... it seems that South-Omotic [aka Ari-Banna] may gain [Afroasiatic] membership only by being shown to be related to North-Omotic”.

The major problem is that all authors concede the possibility of strong contact interference in Ari-Banna from neighboring languages belonging to Surmic and Nilotic, from Nilo-Saharan, as well as from Ta-Ne, Maji, and Cushitic from Afroasiatic. However, they mostly fail to justify why an isogloss is interpreted in their hypotheses as a genealogical rather than an areal signal, and vice versa, to say nothing of justifying the plausibility of any borrowing hypothesis (cf., e. g., Bender’s [e. g., 2000a: 199] claim that many pronominal proto-forms were borrowed from some Nilotic donor). Unless an alternative more canonical approach is pursued, there can be no conclusive evaluation of the classificatory position of this areally deeply entrenched but possibly isolated family. In view of the above discussion on Ta-Ne and Maji, it seems to be significant that the only Ari-Banna reconstructions available, namely for pronouns (cf. Table 69), make the proto-language more dissimilar from both its purported Omotic relatives as well as Afroasiatic.

U46.D Mao

Less than a handful of endangered languages spoken on both sides of the southernmost border region of Ethiopia and Sudan (see Map 21) are subsumed today under the Mao family: Hozo, Seze (sometimes referred to together as Begi Mao), Māwés Aas’è (also earlier called Northern Mao or Bambassi-Diddesa), and Ganza (also

spoken in Sudan). Mao as a term has been highly problematic, not least because it is an autonym meaning ‘person’ in the Mao languages themselves. Especially the locally dominant Oromo use it for a network of historically related but linguistically heterogeneous indigenous peoples comprising not only the Mao proper but also peoples encountered further south and west, namely nearby Koman-speaking groups and the “Southern Mao,” who used to speak the extinct Ta-Ne language Anfillo. James (1981: 28–29), Bender (1975b), Smidt (2007), and most recently Küspert (2015) give insightful information on the complex problem, the historical and linguistic underpinnings of which are still incompletely understood. Early ethnographic and linguistic works like Grottanelli (1940) and Reidhead (1947) on some of these groups and their languages did not clarify this problem sufficiently. Hence, it was only in the 1970s after more detailed linguistic survey work by Bender (cf. 1975b, 1975c, 1983b) that the separate status of narrow Mao was recognized and the family started to take its modern shape.

Especially in the recent past the general state of description has improved. There are grammatical studies like Baye (2006), M. Ahland (2012), and Getachew (2014), the second work, on Mâwés Aas’è, being a first comprehensive description. Recent research, often in the context of sociolinguistic surveys, also provides some modern lexical data, notably Siebert, Siebert, and Wedekind (2002) on Mâwés Aas’è; Siebert, Wedekind, and Wedekind (2002) on Hozo and Seze; Krell (2011) and Smolders (2015) on Ganza; and Küspert (2015) on all varieties but Mâwés Aas’è.

Fleming (1988a) attempts to reconstruct the phonological proto-system but unfortunately fails to establish lexical proto-forms and, on this basis, the regular sound correspondences. The internal coherence of the family has thus not yet been shown systematically. It is in fact not obvious, as demonstrated by such lexicostatic comparisons as Bender (1975b) and Jordan, Mohammed, and Davis (2011) as well as by Bender’s (1975b: 130–132) and M. Ahland’s (2012: 237–257) discussion of the unexpected diversity of pronouns across the member languages.

With respect to the external classification, Mao’s status partly parallels that of Ari-Banna, not least because the comparison of the family with other lineages has never been based on real Proto-Mao forms. Greenberg (1963a: 131) subsumed what was then known of the family still under his Coman (= Koman + Baga~Gumuz) within Nilo-Saharan, partly due to the ambiguous ethnic term. Bender (1971: 205–208) acknowledged strong lexical links to other Omotic languages but still claimed without any further explanation that it “takes only a glance at the phonology and grammar to see that Northern Mao is a Nilot-Saharan language”. Only later did Fleming (1976b: 311–313, 1984) and more decisively Bender (1975b, 1983b, 1985, 1990c) revert to the interpretation of the ambiguous lexical picture in viewing Mao as an Omotic group with a strong contact influence from Koman, although there is hardly any qualitative discussion of concrete data. Due to the lack of material in the past, Mao is hardly ever represented in the cross-Omotic gram-

matical comparisons mentioned above. The genealogical position of the family thus still awaits a systematic and hence more conclusive treatment.

U47 Ongota

The Ongota, also known by the exonym Birale, are a small group on the Woito River in southernmost Ethiopia (see Map 21). Since the language itself was recognized only in the second half of the 20th century (cf. Bender 1983b: 338–341; Fleming et al. 1992), Greenberg (1963a) did not consider it. The people are reported to have engaged in foraging and definitely have an ethnically marginalized status, surrounded by groups speaking languages belonging to Cushitic, Ari-Banna, and Ta-Ne. Ongota is moribund due to a language shift toward Ts’amakko of the Cushitic Dullay cluster (Savà 2003).

After the first survey research, the language has been subject to more systematic documentation, the main results of which are published in a grammar sketch by Savà and Tosco (2000) and a lexicon by Fleming (2002a). However, the fascination with the fact that Ongota has no obvious relative has led to the situation whereby the literature on its linguistic description is less extensive than that dealing with its history and classification. Thus, various studies have treated real and/or assumed contact influences in Ongota, for example, Savà (2002) on borrowed morphology from Ts’amakko and Cushitic in general, and Blažek (2005) on lexical loans from all three neighboring families. The result of Savà and Thubauville’s (2010: 228) dedicated and linguistically stricter search for lexical affinities with neighboring languages is that in the corpus surveyed, 400 items are without a robust match, 200 are similar or identical to forms in the target of shift Ts’amakko, and 40 are akin to words in other local languages.

Table 72: Pronouns in Ongota (after Fleming et al. 1992: 195–196; Savà and Tosco 2000: 77) and Proto-Ari-Banna (after Moges 2005b: 125)

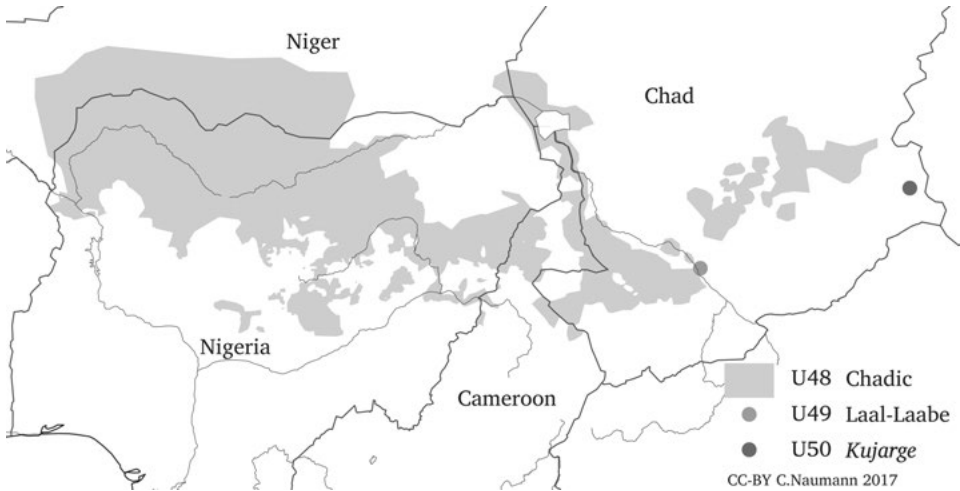
PN.G	Superessive	Possessor	Indirect object	“Default”	Proto-Ari-Banna
1S	<i>uku=ni</i>	<i>si-nni</i>	<i>naa</i>	<i>ka-</i>	*ʔi
1P	<i>uku=šijja</i>	<i>si-jju</i>	juu	<i>ju-</i>	*wo
2S	<i>ugu=du</i>	<i>sii-du</i>	jata	<i>i-, jan-, jamV</i>	*ha
2P	<i>uku=gida</i>	<i>si-gida</i>	gida	<i>gida-</i>	*yΛ
3S.F	<i>uku='u/wi</i>	<i>suu-'u</i>	<i>waata</i>	<i>ku-</i>	*ko
3S.M	<i>eke=na</i>	<i>see-na</i>	<i>waana</i>	<i>ki-</i>	*ki
3P	<i>uku=waya</i>	<i>su-waya</i>	woya	<i>ki'i-</i>	*ke

Note: **boldface** = only recorded in one of the two sources, PN.G = person number.gender

The complexity of the picture can be illustrated by one comparison between Ongota and Ari-Banna, which are geographically close but thought by all scholars except Ehret not to share a particularly intimate historical relationship. The two last columns of Table 72 show that all third-person pronouns in the default paradigm of Ongota, found as subject proclitics, in “emphatic” forms, and with most postpositions, are very close in both the consonant and the vowel canon to one pronominal series in Proto-Ari-Banna, as reconstructed by Moges (2005b). Thus, Blažek’s (2007b: 3–4) comparison to disparate *k*-initial pronominals in far-off Nilo-Saharan languages turns out to be quite implausible. While the three items can be reconstructed as a coherent subparadigm in Ari-Banna, in Ongota they compete with other forms given in the first three columns of Table 72, which makes it plausible that the *k*-series is an innovation. Thus, unless one entertains simple coincidence, the most likely historical hypothesis is the borrowing of this set on the part of Ongota. The expected sociolinguistic situation would not contradict such a scenario, although we lack secure information on close contact between Ongota and an Ari-Banna language.

In addition to such evident contact signals, which, however, are not always easy to trace, there are other factors complicating the genealogical classification of Ongota, notably signs of language obsolescence and, compared to many other languages in the area, a lack of extensive morphology that could help in a robust historical comparison. According to Savà and Thubauville (2010: 227–228), what there is in terms of “Ongota morphology is fairly described, but does not show any evident relation with other languages in the area. Connections can be found after a deep comparative analysis. However, we do not have all the description of neighboring languages, while there is more availability of wordlists.” The envisaged “deep comparative analysis” of morphology is still outstanding, though.

In view of the overall picture it comes as no surprise that there are quite divergent hypotheses on Ongota’s genealogical status. Two opinions were only raised as personal communication, namely Ehret’s view that Ongota is in fact a relative of Ari-Banna and Aklilu’s hypothesis that it is a creole-like language. The conclusion of Bender’s (1994c) “new” but unfortunately overly concise lexicostatic test is that Ongota defies the establishment of any link. There are two more hypotheses that predominantly entertain lexical (and some pronominal) evidence. Blažek’s (2005, 2007b, 2009b) evaluation ultimately leads to some poorly specified Nilo-Saharan affiliation, which is criticized by Savà and Tosco (2003, 2007a). Fleming’s (2006) study sees in Ongota a separate branch of Afroasiatic, which is in turn rejected by Savà and Tosco (2007a, 2007b) and Blažek (2009b). Finally, the two scholars who most intensively studied the language tend toward the idea that Ongota is a simplified form of Dullay resulting from a history of heavy language contact (see Savà and Tosco [2000, 2003, 2007a, 2007b, 2015], Savà and Thubauville [2010], and Tosco [2010]), which is reminiscent of Aklilu’s scenario (or Hayward’s for Omotic). Tosco (2010: 22) writes: “If anything, on the basis of



Map 22: Geographical location of Chadic (U48), Laal-Laabe (U49), and *Kujarge* (U50)

a (admittedly simplistic) look at the available evidence, Ongota is certainly Afroasiatic, possibly an East Cushitic language. As to the ancestors of the present-day Ongota, they may well have spoken a (South?) Omotic [aka Ari-Banna] language.”

In summary, half of the hypotheses align Ongota with Afroasiatic, albeit all in a different way; none of them, however, provide extensive and convincing empirical evidence. One wonders whether this association has partly to do with the fact that Ongota is surrounded by Cushitic and Omotic languages, as opposed, say, to Shabo (U25), another late discovery in Ethiopia, that happens to be an enclave in the territory of the Surmic language Majang and is usually dealt with under Nilo-Saharan.

All hypotheses on classifying Ongota fail to engage seriously with the fact that, according to the available information, it does possess a good amount of grammatical and lexical elements that are so far unique to it. In the same vein, its areally unusual typology can but need not (only) be the result of simplification in language contact but alternatively might be another sign of its uniqueness vis-à-vis other linguistic lineages in the vicinity. Thus, Ongota remains effectively unclassified, *pace* Sands (2009: 570), and even though this is entertained only grudgingly, there is the real possibility that it started out as an isolated language.

U48 Chadic

The Chadic family is a large and widespread group of close to 200 languages in central Africa directly south of the Sahara distributed over Niger, Nigeria, Cameroon, and Chad (see Map 22). Its language inventory is thus as big as that of

all other Afroasiatic groups together. However, with the exception of Hausa, the languages are typically only of local importance and are often not or only insufficiently described, with some even being endangered. Recent surveys of the family are Newman (2006), Frajzyngier and Shay (2012), and Jungraithmayr (2012). Chadic as a family started to form around the demographically important and thus early-known Hausa language, particularly with Lukas's (1934, 1936a, 1936b: 344–346, 1937/38) linguistic work on the wider Lake Chad region. While this author still separated some neighboring languages from his “Chado-Hamitic”, mostly on the typological argument of lacking a sex-based gender system, Greenberg (1950a: 50–55, 1963a) added them to the family and thus gave it its modern extension. P. Newman (1977a, 1978) established a subclassification into four subgroups, which is still the received wisdom (see in particular Shryock [1997] regarding the small Masa group, but Wolff [2001] for a different proposal). Newman's framework served as the background for extensive historical-comparative work on the level of subgroups and the family as a whole.

Older studies on lexical Proto-Chadic reconstruction like Newman and Ma (1966), Newman (1977a), and Jungraithmayr and Shimizu (1981) have been superseded in terms of the number of languages and lexical roots dealt with by Jungraithmayr and Ibrizimow's (1993, 1994, 1997) work. This has assembled multiple comparative series for almost 180 lemmata across the family. However, the data are still problematic when used in comparisons beyond Chadic: the reconstructions are often only abstract consonantal skeletons, they are not established transparently in a bottom-up procedure within a clear phylogenetic structure, and only a limited number of them involve the level of the proto-language. Moreover, the lexical research in general has been accompanied only partly by the study of phonological change in Chadic languages, although its synchronic and diachronic complexity is well known (cf., e. g., Newman 1977c; Wolff 1983; Jungraithmayr 1992/93).

There is also a considerable amount of literature regarding the comparison and reconstruction of Chadic morphology and syntax. Thus, Newman (1977b) deals with verbal extensions; Schuh (1983) and Wolff (1995) with the determiner system; Frajzyngier (1983, 1984, 1987b), Williams (1989), and Heusing (1995) with word order and grammatical relations; Frajzyngier (1987a) with relative clauses; and Newman (1990) and Wolff (1995, 2001) with plural marking on both nominal and verbal constituents. Unfortunately, hardly any domain has received such a depth of research as to produce a concrete set of morphological proto-forms that are based either on subgroup reconstructions or, given the size of the family, at least on a representative language sample. The few cross-family comparisons that involve comprehensive data unfortunately make do with generalizations on typological diversity and their dynamics instead of reconstructing a full proto-system (cf., e. g., Burquest [1986]; Dittmer, Ibrizimow, and Brunk [2004]; and Jungraithmayr [2006a] regarding pronouns). Last but not least, some domains that have

been subject to reconstruction remain controversial. A particularly notorious topic is the reconstruction of the verbal conjugation system (see, e. g., Jungraithmayr [1968, 1971b, 1977, 1983, 1987b, 2005, 2006b], Newman [1975, 1977d, 1984], Schuh [1976], Wolff [1977, 1979, 1982, 1984, 2001], and Voigt [1989]), where proposals differ in particular in the degree to which potentially inherited Afroasiatic patterns serve as a model for Proto-Chadic. Overall, the historical-comparative picture in Chadic is in a way the reverse of that in Cushitic, in that the traits assumed for the proto-language still need to be confirmed by tracing them through a plausible phylogenetic history to explain the actual distribution of their reflexes in the modern languages.

One major reason for the diversity within Chadic is that the languages have been subject to an enormous degree of contact both with unrelated languages and among themselves, including recurrent events of language shift (Newman 1969/70; Wolff 1975/76). External contact influences are diverse because of the large extension of Chadic and can be differentiated at least according to geography, time depth, and, related to this, its empirical foundation. Chadic in the northeast has been subject to the encroachment of such colonizing languages as Kanuri-Kanembu from Saharan and Arabic from Semitic (cf., e. g., Cyffer 2006a and Baldi 1999). In the (north)western sphere, contact primarily involves the expansive Hausa language on the part of Chadic and Tuareg (Berber) and eastern Songhay, although the last family is thought to also have had an earlier impact on Chadic (cf. Zima 1988, 1990, 1995; Kossmann 2005a). Within Mukarovsky's (1989, 1995) approach of far-flung lexical comparison, old historical connections of Chadic along the Sahel belt would even extend to Mande. The contact of Chadic along its entire southern flank has been treated most intensively. The relatively recent immigration of Fula aside, this sphere involves in particular contact with languages of the Niger-Congo pools Benue-Kwa (see, e. g., Hoffmann 1970; Wolff and Gerhardt 1977) and Adamawa (see, e. g., Jungraithmayr 1980; Kleinewillinghöfer 1990a; Jungraithmayr and Leger 1993) as well as of the Bongo-Bagirmi branch from Central Sudanic. It is the contact interference observed in this geographical zone that brought Jungraithmayr (e. g., 1978b, 1987a, 1989, 1995, 2012: 311–313) to develop a plausible historical model of heavy restructuring of Chadic languages toward the local profile of the Macro-Sudan belt, which can reconcile some of the most conspicuous differences to its assumed closest relatives of Afroasiatic.

This leads to the question of the external genealogical status of Chadic. Comparing “canonical” Afroasiatic languages with Hausa and some closer relatives has a long history starting already in the 19th century (cf. Lepsius 1880: XV–XVIII) and continuing later within the mould of the Hamitic theory (see, e. g., Meinhof 1912; Vycichl 1934; and Lukas 1936b). Greenberg (1950a) endorsed this hypothesis by replacing Hamitic with his innovative Afroasiatic framework, substantiating and extending it more systematically. A second decisive contribution in this direction is Newman (1980) who forcefully, if not even, according to Cohen

(1984), polemically, reiterates Greenberg's position. Newman basically extends the argument by two new pieces of evidence (1980: 18–22), namely that Chadic shares with other Afroasiatic lineages a specific profile of gender assignment (see section 2.7.2.2. above) and a similar root suppletion pattern between neutral and imperative forms of the verb 'to come'. Unfortunately, these data still remain only "extremely promising", because they have not been extended and conclusively shown to indeed qualify as individual-identifying (see Cohen [1984: 340–345] for a critical discussion). Nevertheless, the Afroasiatic membership of the family as such is not in doubt today so that Chadicists have been more successful than scholars working on Omotic languages, in particular because they have managed to substantiate and enlarge the evidence put forward initially by Greenberg (see Wolff [2011] for the most recent survey) and to propose concrete diachronic scenarios that explain the disparities between modern Chadic and reconstructed Afroasiatic patterns.

U49 Laal-Laabe

Two remnant languages spoken in southern Chad on the Shari River (see Map 22) and without any obvious relatives were discovered only in the 1970s, so that they were not treated by Greenberg (1963a). They are Laal, described in several contributions by Boyeldieu (e. g., 1977, 1982a), and Laabe, which was then already moribund (cf. Boyeldieu 1977: 190). Laal is currently the focus of a full documentation project that also takes into account its wider linguistic environment.

Laal-Laabe could have been treated here with the same justification under the Niger-Kordofanian domain. This is because properties unique to Laal aside, the features it shares with other languages point to a similar extent to neighboring languages from both the Buai family in the Adamawa pool of Niger-Kordofanian and the Chadic family of Afroasiatic, so that the language initially received the rare fame of a potentially mixed language (Boyeldieu 1982b). With the greater acceptance in African linguistics of the concept of isolate or at least unclassified languages, its unique assessment has changed toward this status, which has been proposed and justified in detail by Lionnet (2010).

U50 Kujarge

Kujarge is a language spoken by a predominantly foraging population of around 1,000 people who live in several villages near Jebel Mirra or are scattered among speakers of Fur and Sinyar in the Wadi Azum valley in Chad (see Map 22). The only data available were collected by Paul Doornbos (1981) after the appearance of Greenberg (1963a). They are partly published in Doornbos and Bender (1983: 76–78), merely comprising a 200-item word list and the sets of lower numerals and pronouns.

The authors of the published study recognize obvious resemblances of Kujarge to neighboring languages of the Mubi subgroup of East Chadic as well as a considerable amount of independent lexical stock, and conclude regarding its genealogical classification:

All three ([Chadic languages] Mubi, Minjile, Kajakse) show only about one quarter in common with [the available] Kujarke [vocabulary] ... Thus Kujarke remains an outsider. It may be a Chadic variety heavily influenced by other languages, or a non-Chadic language with influence from Chadic neighbors, or a hybrid. The latter possibility must be taken seriously, since such cases of despised local groups having unclassified languages are common in northern Africa ... (Doornbos and Bender 1983: 76).

The most recent evaluation of Kujarge in term of a specific Chadic affiliation is Lovstrand (2013), who subjected the restricted lexical data to an automated similarity search with relevant languages using the WordSurv program. Again, Kujarge is the most deviant language in the overall comparison, and the words that were considered to be similar to Chadic items (Lovstrand 2013: 123–126) are not even all obviously related historically, let alone plausible cognates. Other authors (e. g., Blažek 2013; Blench 2013b) have entertained a more generic Afroasiatic affiliation on the basis of yet wider and thus more speculative lexical comparisons. However, it cannot be excluded that the concrete Chadic parallels are loans and the wider Afroasiatic look-alikes are chance resemblances (see also Hammarström 2010: 184). Currently, Kujarge is thus better viewed as unclassifiable. The documentation of non-lexical evidence, which is hopefully still possible, is the only promising strategy to clarify whether the language can be reliably related to any established family or whether it is an isolate.

2.7.4. Summary

The overall picture in the Afroasiatic domain is similar to that in Niger-Kordofanian and thus can be assessed in a parallel fashion. A set of diagnostic morphological traits has been established to define a concrete Afroasiatic proto-language that allows one to evaluate whether modern languages and lineages can be derived from it. On this basis one can identify the following robust member lineages: Semitic, Egyptian, Berber, Cushitic, and Chadic. With the caveat that a more extensive and systematic analysis is still outstanding, the two Omotic lineages Ta-Ne and Maji can be added to this list.

The considerable problems scholars have encountered with respect to a more refined subclassification of Afroasiatic have been addressed briefly in section 2.7.1. The limited discussion presented here does not provide any new information, except for possibly reiterating that it will remain difficult to identify diagnostic evidence without more in-depth group-level reconstructions.

Table 73: *n:t:S* pronoun paradigms across Afroasiatic

P	N.G	Ta-Ne	Maji	East Cushitic	Semitic	Afroasiatic
1	S	<i>*ta(nV)</i>	<i>*-n-</i>	<i>*'ani</i>	<i>*'anā(ku)</i>	*N
	P	<i>*nu(nV)</i>	<i>*-n'-</i>	<i>*nV</i>	<i>*naḥna/u</i>	
2	S.F	<i>*ne(nV)</i>	<i>*yet-</i>	<i>*'ati</i>	<i>*'antī</i>	*T
	S.M				<i>*'anta</i>	
	P.F	<i>*i(n)t(-)</i>	<i>*it(i)</i>	<i>*'atin</i>	<i>*'antin(n)a</i>	
	P.M				<i>*'antumū</i>	
3	S.F	<i>*iS</i>	<i>*iʃ-</i>	<i>*'išii</i>	<i>*šī</i>	*S
	P.F	<i>*VS</i>	<i>*iʃ-</i>	<i>*'išoo</i>	<i>*šin(n)a</i>	
	P.M				<i>*šumu</i>	
	S.M	<i>*iS</i>	<i>*is-</i>	<i>*'usuu</i>	<i>*šū</i>	

Note: G = gender; N = number; P = person

An illustration of the persisting historical ambiguity of data can be given with reference to the pronoun paradigm that displays the *n:t:S* consonant canon and supports the likely affiliation of two Omotic lineages to Afroasiatic. Table 73 summarizes the relevant data from the above Tables 66, 70, and 71. For Afroasiatic as a whole, the pattern seems to be restricted, according to the information available at present, to Semitic, Cushitic, Maji, and, assuming the change between first- and second-person singular (see the italic forms in the table), also Ta-Ne. There are two possible interpretations of this synchronic picture. On the one hand, this family-in-

ternal distribution of the feature could reflect that it is an innovation on the part of the four lineages and thus serves as an argument for subgrouping, in this case arguably supported by their parallel geographical location in the eastern realm of Afroasiatic. On the other hand, the feature could have once existed in the family and then was later simply lost in the Chadic, Berber, and Egyptian branches. Both scenarios are equally possible, and thus this evidence does not allow any sound hypothesis but can only inform future paths of investigation.

For all the remaining lineages treated here under the Afroasiatic domain, namely Ari-Banna and Mao from the Omotic pool as well as the isolated languages Ongota, Kujarge, and Laal, the present genealogical evaluation looks different. That is, there is so far no convincing evidence, let alone proof, according to standard classification criteria that they are related genealogically to any other family, including Afroasiatic. In some cases, there is still insufficient relevant information on the lineage, notably Mao and Kujarge, so that any evaluation seems premature. In other cases, the adduced evidence can be interpreted in an alternative way and it appears that previous classification attempts seem to have been influenced by an apparent aversion in the discipline to allowing for genealogically isolated units – a dispreference so strong that even highly marked historical scenarios like mixed-language or creole origins have been preferred up to now. As with the three previous domains, Table 75 in section 2.9 gives a summary statement on the genealogical position of all nine basic classificatory units dealt with in this section.

2.8 Higher-order hypotheses beyond Greenberg

Greenberg (1963a) is, of course, not the only study with proposals on non-obvious genealogical relations among African languages. Some works arose out of dissatisfaction with some of Greenberg's hypotheses, while others even went beyond his four super-groups by advancing yet wider connections. What all these proposals have in common is that they have not gained any appreciable recognition, let alone acceptance, among both the Africanist and general linguistic public. A few selected cases are dealt with here in order to give a more comprehensive picture of genealogical language classification in Africa.

Mukarovsky's research, in particular, envisaged quite a different situation in the Sahel region, entertaining the in principle plausible idea that some lineages ended up south of the Sahara through having been pushed there by desertification and population pressure from other groups. He even associates a former more northerly location of such families with the hypothesis that they might have genealogical links to Pre-Indo-European populations in Europe, notably Basque.

The entire framework started to unfold with Mukarovsky (1959, 1963, 1963/64, 1967), where an assumed web of lexical and structural affinities are explored that spans Fula (and some other "Senegalian" relatives in Atlantic), Berber, Cush-

itic, and Basque. The resulting proposal is that an extinct “Mauretanian” language, a supposed substrate of Fula, and Basque belong to an ancient lineage “Euro-Saharan”, which in turn finds its closest relative in Berber. Mukarovsky (1965, 1966d) deals in particular with Mande and Songhay and joins them under “Western Sahelian” – a major subgroup of Euro-Saharan. On the basis of far-flung lexical similarity judgements and crude statistical techniques, Euro-Saharan is linked in Mukarovsky (1966b, 1966c) on a yet higher level to Afroasiatic aka “Hamito-Semitic” to form “Macro-Erythraic”. In later works (1981, 1987b, 1987d, 1996) the author advances a considerable extension of Afroasiatic with lineages in the eastern half of northern Africa that are classified by Greenberg under Nilo-Saharan, namely, Saharan, Nara, Kunama, and Nubian. Mukarovsky (1983, 1987c, 1989, 1995) simultaneously renews his research on Senegalian, Mande, and Songhay in comparing them directly with Afroasiatic languages, which blurs his initial concept of a bipartite structure of Macro-Erythraic.

Many of Mukarovsky’s ideas may be deemed unlikely if not “fantastic”, his empirical data are largely eclectic and unsystematic, and his entire framework lacks methodological rigor in that virtually everything is compared with everything, even allowing for an almost vacuous ultimate connection between his Macro-Erythraic and Niger-Congo (e. g., 1966c: 34). Nevertheless, it is worth looking at components of his argument in more detail, because this sheds some light on Greenberg’s (1963a) widely accepted proposals. A first point relates to the groups specifically targeted by Mukarovsky’s reclassification, because they involve various lineages, notably Mande, Songhay, and Saharan, that have a notoriously uncertain status in Greenberg’s framework, partly to the extent that specialists rejected his relevant hypotheses. Thus, some of Mukarovsky’s concerns are not unique to his idiosyncratic approach and hence require more engagement than, for example, Welmers’s (1958: 9) laconic claim about the absence of substantial similarities between Mande and Songhay.

A second point regarding Mukarovsky’s approach is that, irrespective of the validity of any of his genealogical hypotheses, the kind and quality of some data he provides for them are not obviously different from much of the evidence with which Greenberg supports his classification.

Table 74 displays parts of Mukarovsky’s comparison between pronouns in Basque and various languages of the Mande family. Entirely independent of the adequacy of this exercise, the nature and degree of similarity across these data are not qualitatively distinct from, say, the pronominal isoglosses claimed by Greenberg (1950b) for East Sudanic (see Table 60). Mukarovsky’s argument has never found wider recognition, and for good reasons, quite apart from the fact that access to his framework is more restricted by virtue of having been largely published in German. Greenberg’s evidence for his long-range relationships has been accepted, however, and it is hard to answer why this is the case, unless one considers the different extralinguistic circumstances associated with the work of these two scholars.

Table 74: Pronoun comparison between Basque and selected Mande languages (after Mukarovsky 1965: 73–74)

	Basque	Malinke	Susu	Kpelle	Maan
1S	<i>ni</i>	<i>n(i)</i>	<i>ni</i>	<i>ŋo</i>	<i>n</i>
2S	<i>(h)i</i>	<i>i</i>	<i>i</i>	<i>i, e</i>	<i>(b)i</i>
3S	<i>(h)a-u</i>	<i>a</i>	<i>a</i>	<i>ε</i>	<i>a</i>
1P	<i>gu~ku</i>	<i>(a)n</i>	<i>muxu</i>	<i>ku~gu</i>	<i>ko</i>
2P	<i>zu~tzu</i>	<i>a-li</i>	<i>wo</i>	<i>ka</i>	<i>ka</i>
3P	<i>aie-, ei-</i>	<i>i</i>	<i>e</i>	–	<i>o</i>
3P	<i>-te</i>	–	–	<i>di</i>	–

Tucker (1967a, 1967b) also made proposals for genealogical relations that go beyond the obvious but differ from Greenberg's ideas. As opposed to Mukarovsky, Tucker's hypotheses concerned languages in eastern Africa, namely the Kuliak family and Hadza, but they similarly implied an extension of "Erythraic" aka Afroasiatic. This idea had even less impact than Mukarovsky's and was also not seriously upheld by Tucker himself. As mentioned above, Sasse (1981c) is a useful critical discussion of this attempt to enlarge Afroasiatic from both a concrete and general methodological perspective. His skepticism can be transferred to all other proposals to join such lineages as Songhay, Kunama, Saharan, Nara, Meroitic, and Nubian in one way or another to Afroasiatic, as mentioned just above and in the relevant lineage sections.

Gregersen (1972) initiated a different line of research, namely going even further than Greenberg's four-family framework by setting up a yet larger lineage "Kongo-Saharan", which comprises Niger-Kordofanian and Nilo-Saharan. The resulting tripartite classification of African languages looks even more similar to such early Pre-Greenbergian proposals like Adelung and Vater (1812), Müller (1877, 1888), and Westermann (1940). Since the evidence for its composite groups is already questionable or at least is not valid for all assumed subgroups, it comes as no surprise that Gregersen's argument, which consists in purported morpheme resemblances but predominantly lexical look-alikes, is empirically even weaker than Greenberg's. Gregersen (2000) even invokes an Afro-Dravidian lineage comprising Kongo-Saharan and the South Asian Dravidian family, which fully aligns his approach with "megalo-comparitivism" rather than mainstream historical linguistics.

The Kongo-Saharan hypothesis, however, did find support among some linguists with less hesitance about long-distance genealogical relations. Some concrete data assumed to support the idea are presented in Boyd (1978, 1996), Bender (1981b: 262–263; 1996c: 66, 119), Blench (1995, 2000a, 2007a), and Dimmendaal

(2001c). Williamson (1989b: 8–9) and Ehret (2000a: 236) at least commented favorably on the hypothesis. This list of scholars unites in fact all those who have been actively involved in the substantiation of the two already problematic composite groups.

The evidence for Kongo-Saharan consists of superficial lexical and grammatical comparisons and of typological similarities. Regarding the lexical data, Blench (2008) eventually had to acknowledge that some of the very abstract forms can be encountered so recurrently, even outside Africa, that they cannot be genealogically diagnostic unless one claims that “African language phyla really ARE all related” (2008: 190). Blasi et al.’s (2016) finding that some basic words have biased sound–meaning associations on a global scale adds yet another perspective on the old demand that superficial data trawling requires a far more sophisticated sifting of the material before it may serve as evidence for genealogical relationships. Blench (1995) simply integrates Niger-Kordofanian as a lower-order branch in a group that is called “Niger-Saharan” but in fact would merely be an enlarged version of Nilo-Saharan. This is because he argues for a special link between Niger-Kordofanian and Central Sudanic, referring especially to such quirky typological traits shared by the two units as ATR vowel harmony and labial-velar consonants. These similarities can be extended to a larger set of features but are interpreted alternatively as evidence for the Macro-Sudan belt – a non-genealogical convergence area (Güldemann 2003b, 2008d; Clements and Rialland 2008; cf. also Güldemann this volume, chapter 3.2). Dimmendaal (2001c) and Güldemann (2017) advance more concrete form–meaning similarities concerning the pronoun systems of the two units but even these are compatible with explanations other than shared inheritance. Overall, the Kongo-Saharan hypothesis has so far little evidence in its favor, and the wider Africanist public has not embraced it.

It can be noted that these realms of historical reconstruction fade inconceivably into the domain of mere speculations, and many more ideas on generally unexpected genealogical relationships of certain African languages could be cited. A complete list of such proposals is not provided here, though, because it is questionable that it still serves the purpose of historical linguistics, not least because the sparser the adduced data and the more vague the actual outline of such hypotheses become, the harder they are to falsify empirically. Just to mention one example, this holds for the idea about some genealogical relationship between “Khoisan” languages in the Kalahari Basin and the Bantu family, a notion that keeps turning up in the literature. Stopa (e. g., 1977) voiced this thought repeatedly in Greenberg’s time, and Argyle (1997) entertained it again later. Most recently it has been invoked by Plessis (2009: 329), albeit vaguely and, strangely enough, without any reference to her predecessors:

Although there is some evidence that might indeed be construed to suggest an actual link between the S[outhern] A[frican] K[hoisan] languages and the Bantu languages, this is plainly a controversial topic, and the point is not pressed here.

However strong her hedging, starting out from her unconvincing reconstruction of “Southern African Khoisan”, the author keeps returning to this idea by trying to sketch a “model of click emergence” (2009: 331–342) and citing throughout her Table VI “Bantu-like affinities of some of the C(C)-initial forms” in Khoisan languages. She apparently would like to interpret both observations as part of a historical scenario whereby Bantu words without clicks were transformed by Khoisan speakers into words with clicks as the major innovation of these languages vis-à-vis Bantu. Given the genealogical position of the latter group, the logic of canonical historical linguistics would make “Southern African Khoisan” a low-level subgroup of Niger-Kordofanian, yet lower than Bantu itself.

2.9 Summary

In the sections 2.4–8 I have presented an exhaustive survey of the indigenous African languages in terms of their genealogical classification. This is summarized in Table 75, which presents a combined assessment of the entire continent encompassing the most widely known genealogical hypotheses evaluated in terms of the different types of linguistic evidence outlined in section 2.3.1 (see also the map at the end of this book for a geographical synthesis). The starting point is the basic classificatory units and, in the case of genealogical and areal pools, their subunits, as listed in the second table column.

A few remarks are in order on the Niger-Kordofanian domain, as treated in Table 75. First, the subgrouping reflects the approximate state of classification in Bendor-Samuel (1989) except for treating Benue-Kwa as a joined unit, Adamawa and Ubangi as separate ones, and adding a few other separate units like Dakoid, Pere, etc. Second, the assignment of type-D evidence (scattered resemblances in vocabulary and/or morphology) to genealogical pools does not mean that their membership in Niger-Congo is questioned but rather that they are not proven clades within this larger lineage. Finally, given the insufficient documentation and reconstruction of some subgroups of these pools and the lack of robust Niger-Congo proto-forms, it cannot yet be excluded that some pools still harbor individual units that are not even demonstrable members of the larger lineage.

I should reiterate that any genealogical classification for the entire continent depends on the personal benchmark individual readers have for going with a given hypothesis. This survey tries to enable linguists to comprehensively apply their own benchmark but, as mentioned in section 2.3.1, my evaluations of the types of evidence for individual genealogical hypotheses are likely to be looked upon critically – this by different scholars for different reasons. For those accustomed to rigid historical-comparative standards of, say, Indo-European studies, my assignment of As and Bs may well be judged as being too generous, while for those not insisting on these standards my questioning of genealogical proposals that have

Table 75: African language groups and evidence for genealogical relationships

No.	Classificatory unit	Internal	External		
01	Tuu	A, C	Tuu-Kx'a: D, F	South African Khoisan: D, F	Khoisan (domain): D, F
02	Kx'a	B			
03	Khoe-Kwadi	A, C	Khoe-Kwadi- Sandawe: D, F		
04	<i>Sandawe</i>	n.a.			
05	<i>Hadza</i>	n.a.			
06.A	BANTOID	D	BENUE- KWA: D	Niger-Congo: A, C	Niger- Kordofanian (domain): D
06.B	CROSS-RIVER	D			
06.C	KAINJI-PLATOID	D			
06.D	Igboid	C, E			
06.E	Idomoid	C, E			
06.F	Nupoid	C, E			
06.G	Edoid	A, B			
06.H	Akpes	C, E			
06.I	<i>Ukaan</i>	n.a.			
06.J	<i>Oko</i>	n.a.			
06.K	Owon-Arigidi	C, E			
06.L	Ayere-Ahan	C			
06.M	Yoruboid	B			
06.N	Gbe	B			
06.O	GHANA-TOGO M.	D			
06.P	Potou-Akanic	B			
06.Q	Ga-Dangme	B			
06.R	LAGOON	D			
06.S	<i>Ega</i>	n.a.			
07	DAKOID	D			

No.	Classificatory unit	Internal	External		
11.A	(CORE) ATLANTIC	D	ATLANTIC: D, F	Niger-Congo: A, C	Niger- Kordofanian (domain): D
11.B	Mel	A, B			
11.C	<i>Gola</i>	n.a.			
11.D	<i>Limba</i>	n.a.			
11.E	<i>Sua</i>	n.a.			
11.F	<i>Nalu</i>	n.a.			
11.G	Rio Nunez	C, E			
15.A	(Central) Gur	A, B	GUR: D, F		
15.B	Kulangoic	C			
15.C	<i>Miyobe</i>	n.a.			
15.D	Tiefo	C			
15.E	<i>Viemo</i>	n.a.			
15.F	Tusian	C			
15.G	Samuic	C			
15.H	Senufo	C, F			
16.A	Tula-Waja	C	ADAMAWA: D		
16.B	<i>Longuda</i>	n.a.			
16.C	Bena-Mboi	C			
16.D	Bikwin-Jen	C			
16.E	Samba-Duru	C			
16.F	Mumuyic	B			
16.G	Maya	C			
16.H	Kebi-Benue	C			
16.I	Kimic	C			
16.J	Buaic	A, C			
16.K	<i>Day</i>	n.a.			
16.L	<i>Baa~Kwa</i>	n.a.			
16.M	<i>Nyingwom~Kam</i>	n.a.			
16.N	<i>Fali</i>	n.a.			

No.	Classificatory unit	Internal	External		
17.A	Gbayaic	A, B	UBANGI: D	?	
17.B	Zandic	C, E			
17.C	Mbaic	A, B			
17.D	Mundu-Baka	A, B			
17.E	Ngbandic	C, E			
17.F	Bandaic	C, E			
17.G	NDOGOIC	D			
09.A	(Narrow) Kru	A, C			Niger-Kordofanian (domain): D
10	<i>Pere</i>	n.a.			
13	Dogon	C, E			
14	<i>Bangime</i>	n.a.			
18.A	Heibanic	A, B	KORDO-FANIAN: D		
18.B	Talodic	A, B			
18.C	<i>Lafofa</i>	n.a.			
18.D	Rashadic	C			
19	Katlaic	C			
08	Ijoid	A, B			
09.B	<i>Siamou</i>	n.a.			
12	Mande	C, E			
20	Kadu	C, F			Nilo-Saharan (domain): D
21	Kuliak	B			
22	Central Sudanic	A, B			
23	Songhay	C			
24	<i>Kunama</i>	n.a.			
25	<i>Shabo</i>	n.a.			
26	Furan	C			
27	Saharan	A, C			
28	Maban	A, B			

No.	Classificatory unit	Internal	External		
29	Taman	A, B	Northern East Sudanic ~ “Wadi Howar”: D, E, F	East Sudanic: D	Nilo-Saharan (domain): D
30	Nyimang	C			
31	<i>Nara</i>	n.a.			
32	<i>Meroitic</i>	n.a.			
33	Nubian	A, B			
34	Dajuic	A, B			
35	Temeinic	C			
36	Nilotic	A, B	Nilotic- Surmic: C, F		
37	Surmic	A, B			
38	Jebel	(C), F	Jebel-Berta: D, F		
39	<i>Berta</i>	C			
40	Koman	B	Koman-Baga: D, F		
41	Baga	C			
48	Chadic	A, B	Afroasiatic: A, C	Afroasiatic domain: D	
42	Semitic	A, B			
43	<i>Egyptian</i>	n.a.			
44	Berber	A, B			
45	Cushitic	A, C			
46.A	Ta-Ne	B, C			OMOTIC: D, F
46.B	Maji	B, C			
46.C	Ari-Banna	A, C			
46.D	Mao	C			
47	<i>Ongota</i>	n.a.			
49	Laal-Laabe	C			
50	<i>Kujarge</i>	n.a.			

Notes: GENEALOGICAL/AREAL POOL; *Single language (complex)*; n.a. = not applicable; A = Reconstructed morpheme paradigms; B = Regularly reconstructed lexicon; C = Strong resemblances of bona fide reconstructibility; D = Scattered resemblances; E = Lexicostatistic calculations; F = Structural similarities.

been accepted for decades as “proven,” both within and outside African linguistics, may simply be met with incomprehension. For the second case, I have tried to lay out the reason in the previous sections, namely that for most of these non-obvious but commonly assumed genealogical relationships one looks in vain for any appreciable justification. So the present survey already achieves one of its aims if it convinces language specialists having a say on such issues to make their full evidence public and thus better assessable by interested historical linguists.

For my part, I strive to follow mainstream standards of the general discipline while drawing on a background of greater familiarity with the data compared to a non-Africanist. Bearing in mind my above caveat – that I may be too liberal in some cases – application of these principles puts the number of African lineages between 40 and 50, based on the evidence that is presently available. Concretely, when accepting Niger-Congo, Nilotic-Surmic and Afroasiatic, marked by gray shading in the table, the lineage number is 45 (when additionally accepting the promising family called here preliminarily Wadi Howar, the number would be 41). Although two large families, Niger-Congo and Afroasiatic, occupy more than two-thirds of the continent’s territory and represent 80% of its languages, Africa, according to the current state of knowledge, must be viewed as far more diverse than widely assumed – this not only in comparison to the four-family model of Greenberg (1963a) but also to such a later, more splitting-oriented proposal as Dimmendaal (2008b, 2011: 407–408), who most recently recognized 21 lineages, including seven isolates unknown to Greenberg. Both classificatory schemes display a degree of syntheticity that remains to be backed up by evidence according to traditional linguistic standards. They also repeatedly sidestep the explicitly adverse opinion of historically oriented lineage specialists. To take only Dimmendaal’s far more moderate scheme, this concerns Saharan, Central Sudanic, Sandawe, and partly Omotic.

From a history-of-science perspective, the perpetuated reliance on premature synthetic genealogies goes back to a long-standing but misguided approach that sees some virtue in having a simple classificatory picture with few constituent groups. This entails an explicit or implicit aversion against small isolated units, which in Africa has even led repeatedly to entertaining a mixed or “creole” language origin for some classificatory units, notably for Songhay, Omotic, Ongota, and Laal as the most salient cases – a historical scenario invoked normally with reference to far more concrete linguistic and nonlinguistic information. In general, an approach striving by default for classificatory synthesis contradicts current generalizations about global linguistic distributions that in line with Nichols (1992) call for a principled model accomodating both homogeneity and diversity as facts of linguistic reality. This idea is certainly not a recent discovery. For the topic at issue, it was ironically expressed by Greenberg (1950d: 393–394) himself in connection with his first cross-African classification with 16 lineages, which he had to defend against the highly synthetic schemes current up to his work; the case could not be made better than in the following words:

Some may consider the relatively large number of families, compared to previous analyses, an unwelcome result of the present investigation. The number is moderate when contrasted with the American Indian situation, or even that of Eurasia. That there should be sixteen language families in Africa is, I should think, not really surprising in view of the admitted antiquity of Africa as a place of human habitation. Previous investigations have shied away from admitting the existence of language families of small membership. No doubt large and equally balanced areas on a map and vast syntheses which include languages whose relationship cannot be demonstrated have a certain esthetic appeal, but I do not see that such considerations can play a part in scientific analysis. The results arrived at here for Africa are quite similar to those for North and South America and for Oceania in this respect, that vast areas are occupied by a small number of widely extended families while in other regions numbers of small isolated groups are found. The present results therefore tend to make Africa, in this respect, much more like other areas of the world than has previously appeared to be the case.

All the above is by no means to say that a picture with many independent families is in itself a virtue. The above survey should have made it clear that particularly in Africa, where canonical historical research has not yet been implemented across the board, it is still open season for further genealogical “consolidation”. Some such candidate cases have been mentioned or even counted in above, notably additional members of Niger-Congo (among which Ubangi seems to be a rather likely one, *pace* Dimmendaal 2011), a geographically dispersed family à la Rilly (2005, 2009, 2010, 2016) in the wider Wadi Howar region, and the extension of Nilotic-Surmic by Temeinic and possibly even other small lineages.

In any case, the persistent uncritical use of Greenberg’s (1963a) genealogical classification of African languages, many hypotheses of which were premature at the time and have until today not been substantiated by appropriate methodology, has been detrimental in several respects, which will be addressed in the following (see also Sands 2009 for a parallel discussion). In justifying his first, more conservative classificatory scheme, Greenberg (1949a: 83) himself said about the risks of such a practice:

I feel that far greater harm is done by a premature acceptance of a possibility [of a genealogical link] than by a provisional rejection coupled with an allusion to its existence. This is particularly true in African languages where the primary evidence is not likely to be checked for long periods and where anyone who sets forth a general scheme assumes a greater burden of scientific responsibility than in areas where there is a more active scholarly interest.

These words predicted quite closely what in fact subsequently happened with his own highly fusional classification of 1963. And this development within African linguistics would indeed come to stand in stark contrast to all his lumping classifications in other areas of the globe. As he himself anticipated, these tend(ed) to recruit far more intensive scholarly engagement, so that his ideas there met with a scientifically sound and sustained opposition in the case of his Amerind and Eur-

asiatic hypotheses, and even widespread disregard in the case of his Indo-Pacific hypothesis.

One problem with accepting the classification concerns typological sampling. Obviously, the fewer the number of assumed lineages in an area, the greater the tendency to make do with a small sample, irrespective of the real diversity. Both cross-linguistic and continental sampling requires a genealogical (and areal) balance, but this is hard to come by in Africa with Greenberg's four-family model. The real problem of systematic language sampling in Africa is reflected, for example, by Creissels et al. (2008: 86):

We do not proceed by systematically testing the features we consider on the basis of a language sample pre-established on the basis of statistical methods that would ensure its representativity. ... the set of African languages documented in a sufficient way to be systematically used in such a study is so limited that it is simply impossible to extract from it a sample representative of the diversity of African languages.

The quote provides a neat transition to a second detrimental effect of the premature synthetic classification for Africa: a hindrance to developing a science-based strategy for prioritizing language documentation. That is, the multitude of still un- or underdocumented African languages and the restricted resources in this domain necessitate some amount of prioritization, among other things, according to genealogical considerations. An adequate picture of genealogical relations on the continent that informs an appropriate documentation strategy is crucial for developing "a sample representative of the diversity of African languages". One may even wonder in this connection whether the four-family model contributed to the currently low general state of description in Africa. For example, considering the enormous efforts of the last decades to document the world's dwindling linguistic heritage, Africa has received comparatively low levels of attention. Is it possible that this sparse coverage has been partly justified, if implicitly, by a misguided outsider perception that the amount of genealogical, and by possible implication, structural, diversity on the continent is so much lower than that in other areas of the globe, like the Americas and New Guinea?

If the assessment in Table 75 is even only partly correct, the picture about languages and language groups that are documentation priorities for typological and historical reasons changes dramatically. Hammarström (2010), who follows a similar approach to genealogical classification as the present survey, only lists one African case, Kujarge (U50), among his global list of "least documented language families" (or better lineages, which includes isolates), because he only counts cases with no more than a wordlist for any of its languages. He mentions a few more borderline cases like Bangime (U14), Lafofa (U18.C), Shabo (U25), Taman (U29), Dajuic (U34), Temeinic (U35), Jebel (U38), and Mao (U46.D) as well as Kresh (U22.C) and Birri (U22.E), both assumed here to be first-order members of Central Sudanic; only five of these ten units have in the meantime become better

known through at least one longer grammatical description. If adding a few more potential isolates and changing Hammarström's criteria for "least documented" toward requiring a *comprehensive* and *modern* description, the number of units known or at least assumed to have a language still spoken and are in need of documentation increases further, notably by Hadza (U5), Ijoid (U8), Siamou (U9.B), Pere (U10), Rashadic (U18.D), Kunama (U24), Nyimang (U30), Nara (U31), Berta (U39), and Ongota (U47). This picture brings Africa closer to such high-priority areas as South America, which quite justifiably has seen an above-average share of the past efforts toward worldwide language documentation.

A third undesirable result of Greenberg's and similar synthetic classification models observed by Güldemann (2008d, 2010; see also chapter 3.2 this volume) is a bias in the research on language contact in Africa, namely toward cases going *across* the four Greenberg domains. That is, at least in the early period, there was a lack of attention to language contact between languages within the four major groups, some of which may involve lineages that are in fact unrelated (cf. the areal Kalahari-Basin hypothesis proposed instead of Greenberg's South African Khoisan family).

Last but not least the reliance on Greenberg-like genealogical language classifications in Africa has had and still has important negative repercussions outside linguistics, especially in the disciplines concerned with human history like archaeology, genetics, etc. Flight (1981: 52) once wrote: "From a different point of view – for historians and prehistorians – the significance of Greenberg's classification is no less obvious. The historical implications are immediate. A genetic classification of African languages is an outline plan for African history." It comes as no surprise that broad strokes of early African population history, for example, by Heine (1979), MacDonald (1998), Ehret (1998, 2002), Blench (1999b, 2006a), etc. rely to a considerable extent on Greenberg's classification, arguably misleading basic assumptions about the history of Africa and its peoples. An inspection of the literature makes clear that such a perception of Africa is even influential on the global level. To mention just an extreme example, Manning (2006: 139–141) speculates about the origin of most tropical language families in the Old World by practically deriving them from the equivocal Nilo-Saharan grouping in Africa.

The problem is not only that non-linguists are attracted by the family-tree model as such, as observed by Dixon (1997: 43): "Archaeologists, geneticists and anthropologists like to be given a clear-cut linguistic hypothesis, about where and when a proto-language was spoken and exactly how it split and spread. They happily accept any family tree that is produced, without stopping to ask whether it is soundly based, and whether it is accepted by the majority of linguists." In addition, non-linguistics appear to prefer simple phylogenetic models, which obviously makes them favor classificatory schemes like that of Greenberg. It cannot be overstated that they are well advised to strive for a better understanding of the linguistic debates in order to be able to judge which hypotheses are robust according

to widely accepted linguistic standards and which hypotheses do not yet meet such criteria and hence may well turn out to be wrong. A good understanding of such differences can often already be achieved by simply inspecting the publication outlet where a certain proposal was/is made.

Looking back at the history of the genealogical classification of African languages after Greenberg (1963a), it should be clear that the crucial problem in the discipline is not the existence of far-ranging hypotheses as such but rather the failure of the scientific community to bother replicating them within a methodologically accepted framework. That it was not the insufficient state of knowledge but rather the failure to put it into practice becomes clear from an early statement by Welmers (1973: 19), calling before the background of Greenberg's maximal scheme for a subsequent bottom-up approach: "It is time to expand our efforts to work out comparative studies of the most obviously closely-related groups of languages, then to compare group with group, and thus work from the bottom to the top of genetic phyla with more detailed evidence and more thorough investigation." Unfortunately, this has hardly happened, particularly on the level of higher-order genealogical relationships. Instead, African linguistics on the continental level has been stagnating in a long phase of methodologically crude and too much lexical surveying. This to such an extent that outside observers like Dixon (1997) and Campbell and Poser (2008) have come to even question the existence of the Niger-Congo family whose genealogical validity is more than graspable, provided one looks at the full range of relevant publications and not just at the evidence presented by Greenberg's (1963a) necessarily brief overview.

Both African and globally oriented linguistics need a genealogical classification for the continent that is ambitious but at the same time conforms to the relevant research standards, which are safeguarded first and foremost by regular peer assessment. To this end, hypotheses have to be coherent within the relevant historical model and should be scaled to the amount of evidence presented, and the empirical data need to be complete, transparent, and recoverable from the relevant sources in order to make proposals verifiable. Under these conditions the apparent contradiction between African and general historical linguistics is bound to vanish.

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