

NILO – SAHARAN
Linguistic Analyses and Documentation

Edited by M. Lionel Bender, Franz Rottland and Norbert Cyffer

ISSN 0932 - 1993

Volume

23



RÜDIGER KÖPPE VERLAG KÖLN

Insights into Nilo-Saharan Language,
History and Culture

Proceedings of the 9th Nilo-Saharan Linguistics Colloquium,
Institute of African and Asian Studies, University of Khartoum
16–19 February 2004

Edited by

Al-Amin Abu-Manga
Leoma Gilley
Anne Storch



RÜDIGER KÖPPE VERLAG KÖLN

Bibliographic information published by the Deutsche Nationalbibliothek

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at <http://dnb.ddb.de>.

ISBN-10: 3-89645-660-1

ISBN-13: 978-3-89645-660-1

ISSN 0932-1993

© 2006

RÜDIGER KÖPPE VERLAG

P.O. Box 45 06 43

D - 50881 Cologne

www.koeppe.de

All rights reserved.

Production: DIP-Digital-Print, Witten / Germany

Published with financial support from the Institute of African and Asian Studies, University of Khartoum, Sudan

Gedruckt auf säurefreiem und alterungsbeständigem Papier.

Printed on acid-free paper which falls within the guidelines of the ANSI to ensure permanence and durability.

CONTENTS

Preface	7
Suzan ALAMIN MUBARAK An Initial Description of Laggori Noun Morphology and Noun Phrase	9
Adelino AMARGIRA Derivational Forms and the Nature of Modifiers in Tennet	25
Abeer BASHIR Morphophonemic Alternations in Jumjum Number Formation	33
Sergio BALDI Arabic Loanwords Entered in African Languages through Kanuri	51
Herman BELL Birgid Nubian: Recording a Nearly Extinct Language	75
Ali Obeid BIREMA The Deviation of the Nubian Language of Kadero into Sudanese Colloquial Arabic	85
Roger BLENCH The Kadu Languages and their Affiliation: Between Nilo-Saharan, Niger-Congo and Afro-Asiatic	101
Pascal BOYELDIEU Reflexes of a Labiovelar Series in Central Sudanic	129
Rihab Yahia DAFALLA A Phonological Comparison in the Katcha-Kadugli Language Group of the Nuba Mountains	153
Edward HALL The Tonal Behaviour of One Class of Singular-forming Nouns in the Kamda Language	173
Khaliifa JABR EL-DAR Towards a General Orthography of the Ajang Languages	183
Marcus JAEGER Discovering Linguistic Differences between Kenuzi and Dongolawi using Computational Linguistics and Lexicographical Methods	199

THE KADU LANGUAGES AND THEIR AFFILIATION: BETWEEN NILO-SAHARAN, NIGER-CONGO AND AFRO-ASIATIC

Roger Blench

1 INTRODUCTION

1.1 Background

The Kadu, or Kadugli-Krongo, languages spoken in the Nuba mountains, are now usually held to be Nilo-Saharan. However, they were previously grouped with the other, Kordofanian, languages of the Nuba area, creating a misleading association with West African languages. The Kadu languages were first described by MEINHOF (1915-19), and then by MCDIARMID & MCDIARMID (1931) who named the group 'Talodi-Kadugli' and in more detail by STEVENSON (1956-7), who first used the term 'Kadugli-Krongo'. GREENBERG (1950, 1963) (under the soubriquet 'Tumtum') classified them as Niger-Congo (Niger-Kordofanian in his terminology), but noted that they were distinct from the other Kordofanian languages. TUCKER & BRYAN (1956:72-74; 1966:300-312), whose data all came from Stevenson, maintained an agnostic view typical for languages of this region, treating them as isolates. SCHADEBERG (1981a), while far from reaching a definitive conclusion, proposed that many features of Kadu are better aligned with Nilo-Saharan. This view has subsequently been accepted by scholars of the phylum such as DIMMENDAAL (1987), STEVENSON¹ (1991), and later BENDER (1996, 2000), with only EHRET (1995, 2000, 2001) remaining a significant objector.

Nonetheless, the question of the affiliation of the Kadu languages is not quite so simply resolved; one problem is the presence of well-established Niger-Congo roots in Kadu, including some that appear to be absent in the

Kordofanian languages proper. In addition, Kadu has features that might align it more with Afro-Asiatic, particularly its case systems and gender marking. EHRET (2000) has argued that Kadu is *not* Nilo-Saharan on the grounds that it does not show the common features posited in his own reconstruction of Nilo-Saharan (EHRET 2001). This argument has a certain circularity, and given the lack of wide acceptance of EHRET's reconstructed Nilo-Saharan this may possibly not be the best basis for classification. EHRET assigns Kadu to Niger-Congo by comparing a Swadesh list of Krongo with hypothetical proto-Niger-Congo forms, apparently drawn from WESTERMANN (1927). This procedure inevitably has problems; taking one language in isolation may produce resemblances that are not typical of the Kadu group as a whole. For example, the Kadu word for 'ash' is broadly *#fudo*, but in Krongo it is *ʔʕʕʕ*, which certainly is a Niger-Congo root, but is atypical for Kadu and probably a loan. In addition, in the light of the lack of agreement on Niger-Congo reconstructions, the comparison with an individual language becomes a somewhat subjective matter.

The gradual accessibility of new data, a recent reanalysis of Kadu phonology (HALL & HALL 2004), and the broader context of a re-evaluation of Nilo-Saharan suggest that the time is right for a new look at the classification of the Kadu group. The core of the paper is a tabulation of roots shared either with Niger-Congo, or with Niger-Congo and other Nilo-Saharan languages, as well as a consideration of the gender-marking in Kadu and its possible external parallels. There are five alternative hypotheses as to the classification of Kadu;

- a. Kadu is Niger-Congo
- b. Niger-Saharan² is a reality and Niger-Congo and Nilo-Saharan cognates are to be expected
- c. Kadu is an isolate influenced by various African language phyla
- d. Kadu is Afro-Asiatic
- e. Kadu is Nilo-Saharan

Whatever the decision on classification, resemblances between Kadu and Niger-Congo can have three explanations;

- a. Apparent cognates (between Kadu and Niger-Congo) are chance resemblances

- b. Kadu came under the influence of now-disappeared Kordofanian languages from which the lexical items were borrowed
- c. The cognates reflect the genetic unity of Niger-Congo and Nilo-Saharan.

This contribution sets out some of this evidence and then asks how, and indeed whether, we can decide between various classificatory hypotheses. No immediate result can be expected; Kadu is clearly quite remote from any of its progenitors and has also borrowed extensively from present and former neighbours. Nonetheless, it is important to try and reconsider accepted wisdom, and in particular the possibility that Kadu languages are isolates, like Laal or Hadza. Traditions of classification in African languages have sometimes been over-anxious to ensure all the languages of the continent fit into a small number of boxes, which is rather at variance with our overall perception of the antiquity of the languages of the continent.

1.2 What data is available?

Considering the generally poor state of our knowledge of the languages of the Nuba hills, documentation on the Kadu group is fair, although most of the data is now rather venerable. The pioneer in the area was Carl MEINHOF, who in addition to his work on the Kordofanian languages published a series of articles on Talasa, Miri, Kadugli, Krongo and Deiga (MEINHOF 1915-1919). SCHADEBERG (1994) gives a fairly comprehensive bibliography of the published material available up to the early 1990s, which is reprised in the present references. A significant addition is the comparative Kadu wordlists of Roland STEVENSON³, who collected extensive data on these languages but published little of it. During the 1990s, considerable new work has gone into the phonology of Kadu languages, with a view to the creation of orthographies, the results of which are found in manuscripts in Khartoum. None of this has been published, although the results are summarised in HALL & HALL (2004). Table 1 lists the major sources of data drawn on in this paper;

Table 1: Major data sources on Kadu languages

Language	References and sources
General	MEINHOF (1915-1919), MCDIARMID & MCDIARMID (1931), STEVENSON (1956-57), SCHADEBERG (1994), DAFALLA (2000), STEVENSON mss.
Kadu	ABDALLA (1973), MATSUSHITA (1984, 1986), BLANDIA & BLANDIA (1995), ANON. (2002)

Kamda	BARSHAM ET AL. (1996), HALL (2004)
Kanga	KUWA (n.d.)
Katcha	STEVENSON (ined.)
Keiga (Deiga, Yegang)	REH (1994), BLENCH & FRAJALLA (ined.)
Krongo	REH (1983, 1985)
Kufo	BLENCH & MONGASH (ined.)
Miri	ELYAS ET AL. (1996)
Tamba	YOUNIS (1995)
Tulishi	KUKU ET AL. (1997)

Additional materials are to be found in the references.

2 WHAT LANGUAGES CONSTITUTE THE KADU GROUP?

All the Kadu languages are quite close to one another; SCHADEBERG (1994) conducted lexicostatistical counts and found that the remotest languages showed 60% cognacy. DAFALLA (2000) indicates percentages that go as low as 30%, but this may be an artefact of the cultural vocabulary included in her 179-word list. STEVENSON classified Kadu lects into three branches, Western, Central and Eastern, which broadly matches the lexicostatistical results. Table 2 shows the names that STEVENSON (mss.) uses in comparison with SCHADEBERG (1994) and DAFALLA (2000);

Table 2. Reference names of Kadu lects

Western			Central		Eastern	
RCS	Schadeberg	Other	RCS	Schadeberg	RCS	Schadeberg
Tulishi	Mudo	Kutuli-shi	Miri	Miri	Krongo	Krongo-[Tabanya]
Kamdang			Kadugli	Talla	Fama	
Keiga	Yegang		Katcha	Tolibi	Tumtum	Talasa
Demik			Krongo		Kurondi	
			Abdulla			
Kanga	Kufo		Tumma	Sangali		
				[Tuna]		
Abu				Damba=Ta		
Sinun				mba		
Chiroro	[Shororo]					

Kursi

Names in italics are lects not mentioned in STEVENSON or SCHADEBERG. Names in square brackets are more recent orthographic versions of the names given by STEVENSON and SCHADEBERG.

SCHADEBERG (1994) gives the names of the languages and peoples in the particular lects and notes where REH (1985, 1994) offers a variant form. Orthographic forms developed in the context of literacy programmes can look somewhat different from more conventional versions; for example, Kamda is now written Tuxmux'daxh.

3 THE PHONEMIC INVENTORY OF COMMON KADU

The function of this paper is not to propose a proto-Kadu; the quality of the data remains a problem. SCHADEBERG (1994) proposed the following consonant inventory (excluding the prenasalised stops);

	Labial	Dental	Alveolar	Retroflex	Palatal	Velar	Glottal
Plosive		ɖ		ɖ̠	j	g	
Implosive	ɓ		ɗ				
Nasal	m		n		ɲ	ŋ	
Fricative	f		s				
Approximant					y	w	
Liquids			l, r				
Glottal							ʔ

This inventory is similar to those of many of the neighbouring languages. HALL & HALL (2004) give more details as to the phonemes recognised for each lect, noting that an implosive /ɓ/ must be recognised as a phoneme for some lects. Kadu languages permit a series of prenasalised stops and a variable range of geminate consonants. /ff/ and /ʒʒ/ occur in some phonologies, notably Kanga and Kufo, but may not be contrastive. Kadu languages have a complex morphophonology that involves the voicing of dentals, retroflex, fricatives and velars in intervocalic position. The orthographies have tended to write the voiceless form; thus intervocalic -k- is pronounced 'g' but written 'k'.

The vowels are worthy of comment. SCHADEBERG (1994) proposes a 'basic seven vowel system', a symmetrical system lacking the close-mid vowels, and REH (1985, 1994) proposes a similar system for Krongo and Keiga. However, more recent analyses have proposed nine- or ten-vowel ±ATR sets (e.g. KUWA 1994; BLANDIA & BLANDIA 1995; ANON. 2002; HALL & HALL 2004). This would not be unlikely, given the prevalence of such systems in this region (neighbouring Kordofanian languages, Nubian

etc., as well as more distant Nilo-Saharan languages such as Fur and most East Sudanic). So proto-Kadu may have had ten phonemic vowels as in Table 3;

Table 3. Kadu vowels

	Front	Central	Back
Close	i		u
	ɪ		ʊ
Mid	e		o
	ɛ	ə*	ɔ
Open		a	

[*open rather than mid?]

It is the case that minimal pairs are not always forthcoming, especially for the mid vowels, which could be used to argue for an eight-vowel system. Only Kamda and Keiga have clear minimal pairs for the +ATR central vowel [versus *a*?] (HALL & HALL 2004), but speakers who have been taught to write their language and to distinguish ±ATR sets through orthographic conventions appear to consistently distinguish mid vowels even in monomorphemic words. This argues that these distinctions are underlyingly present throughout. Kadu languages appear to be quite strict in only permitting one harmony set in the stem, but harmony may not necessarily apply to number affixes and any stem can have up to three such affixes. As a consequence, harmony is less than pervasive.

a) Tones

Kadu language are certainly tonal; SCHADEBERG (1994) and REH (1994) assume two tones, but MATSUSHITA (1984) posits three for Kadu(gli) and this is also given for Kanga by KUWA (1994). The most common system, though, appears to be two tones plus downstep, which is also common in many non-Kadu languages in the region.

b) Orthographic conventions

Orthographic conventions, especially for vowels, have been the subject of some controversy. The orthography of Kanga, Kadu, Kamda, Miri and Kufo use a convention whereby the +ATR vowels are followed by *-x*. Thus in Kufo:

IPA	Orthography	Example	IPA	Gloss
ɛ	e	eeze	ɛɛzɛ	fish trap (pl.)
e	ex	`bexlix	beli	farming tool (pl.)

This has the disadvantage of making long written forms, but speakers seem to accept it, and it has the advantage of being easily handwritten. Keiga and Katcha use a dieresis to mark +ATR vowels. Consonants use common Sudanese conventions;

IPA	Orthographic	Geminated
ɸ	th	thth
ɸ̣	dh	dhdh
ɸ̥	`d	

The dental plosives /*d̥*/ and /*t̥*/ use unmarked forms in the orthographies. No orthographies mark tone, although this is under consideration (HALL 2004).

4 EXTERNAL COMPARISON OF KADU

4.1 Morphosyntax

In the field of morphosyntax, Kadu shows features that seem to differentiate it from the main African language phyla, notably gender and case-marking. Table 4 tabulates these features and compares them with the on a simple presence/absence basis;

Table 4. Features of Kadu compared with other African phyla

Feature	Kadu	Niger-Congo	Nilo-Saharan	Afroasiatic
Nominal affixes	Yes	Yes	Fragmentary	No
Verbal extensions	Yes	Yes	Yes	Yes
Case-marking	Yes	No	Fragmentary	Yes
Gender affixes	Yes	No ⁴	No	Yes

Strangely, this tabulation makes Kadu look more like Afroasiatic than the phyla with which it has lexical cognates. Features such as gender and case-marking are also associated with Khoesanoid languages such as Hadza. Representatives of neither of these phyla are found close to where Kadu is spoken today, which rules out the effect of recent contact.

4.1.1 Nominal affixes and concord

Although he seems never to have assumed there was a genetic connection, part of MEINHOF's fascination with the Kordofanian languages was the parallels between their morphology and that of Bantu, especially the alternating nominal affixes and concord. When WESTERMANN (1935) finally argued for a genetic link between Bantu and the rest of Niger-Congo ('Western Sudanic') he referred to Kordofanian, but never brought evidence from these languages into his argument. STEVENSON (1956-57) was strongly influenced by the classificatory aspect of affixes in Kordofanian and organised his materials as a Bantu-like nominal concord system with semantic associations. Whether his classes of 'long, thin things', 'dangerous things' apply to the Niger-Congo Kordofanian languages may be debated but the exercise becomes distinctly Procrustean when it is imposed on the Kadu languages.

GREENBERG's (1963:149-160) assignation of the Kadu languages to Niger-Congo cites two main criteria, the apparent presence of an operating system of alternating nominal prefixes and correspondences in the personal pronouns. In the case of nominal prefixes, GREENBERG compares the prefix used to form abstract nouns in Katla with the Bantu prefix *bu-*. The bilabial prefix *b-* (in Keiga and Katla) is also said to characterise a class of large animals, comparable to the *ba-* class in Fulfulde. SCHADEBERG (1981a:299 ff.) has evaluated these arguments and shows that they arise from a limited knowledge of comparative material.

The first challenge to the view of STEVENSON and GREENBERG is by SCHADEBERG (1981a:301), who argued from then-unpublished data on Krongo that Kadu languages had an underlying three-term system, where the unmarked form was 'inherently' singular or plural (semantically unspecified might be a better way to name this). Affixes were then used to create singulatives and pluratives (DIMMENDAAL calls pluratives the '*replacement pattern*'). REH (1994) argues that the affixes in Kadu identified by STEVENSON and GREENBERG are in fact productive or fossil morphemes of this tripartite number system. REH gives examples for Krongo (1985:101) and Keiga (1994:219) of the working of these oppositions. Kadu languages have a widespread singulative prefix *tV-* and a plurative prefix *nV-*. MATSUSHITA (1984) does not explicitly set out such a system for Kadu, but his lexical data provide numerous examples of affixes showing this pattern. Kufo also has either *tu-* or *ti-* for the singulative and *na-* for the plural. SCHADEBERG (1981a:302) noted the similarities with GREENBERG's characterisation of Nilo-Saharan, in particular the 'abstract and singular' suffix in *-t* and the plurals in *-n*. DIMMENDAAL (2000a) has now shown that such a tripartite system is typical of several other branches of Nilo-Saharan.

The analytic problem arose from the way STEVENSON presented his data; the number systems of Kadu languages are *not* best treated as alternating singular/plural affixes.

Another problem for the comparison with Bantu-like systems is the absence of concord in Kadu. The neighbouring Kordofanian languages all have at least some trace of concord where their nominal affixes remain. This is not conclusive, because concord systems can also become lost in Niger-Congo. But this usually goes hand in hand with the loss of affixes; where there is still a trace of affixing, fossil remnants of the concord are likely to persist. I conclude that Kadu has no concord today because it never did have concord.

An aspect of Kadu that does bear some comparison with Niger-Congo is the semantic clustering around specific affixes. The *d-ta-/ga-* opposition in Keiga always refers to humans (REH 1994:221), and Kufo has an almost exactly cognate set of forms with *ta-/ka-* prefixes. MATSUSHITA (1984:21) notes that the *s-/aʃ-* prefixes in Kadu generally include containers and STEVENSON (1957:136) adds to this household objects such as 'broom' and 'knife'. The Keiga *s-f-/ay-* class includes almost exactly the same set of objects (REH 1994:221). Kadu also has a striking *BVC-/elli-* opposition that includes diminutive objects or young things (MATSUSHITA 1984:21), which recalls the *bi-* class of Niger-Congo. MATSUSHITA (1984:21) identifies still more class unities, but to discern common features among the items they include definitely requires the eye of faith. Nilo-Saharan languages are known for their diverse plural formations and developing anything like consistent affix/meaning associations is problematic (see DIMMENDAAL 2000b for comment on Baale). But Nilotic/Surmic languages do occasionally show traces of suffixes with identifiable semantic coherence; the singular suffix *-ic* in Mayak, a Western Nilotic language, includes long thin objects such as stick and snakes, and circular objects such as hats and granaries (ANDERSEN 2000; STORCH p.c.). Nilo-Saharan typically has trace systems with elusive semantics and low levels of cross-language cognacy, very remote from the characteristic classes of Niger-Congo. A feature of Niger-Congo noun-classes is that the membership of classes is well-defined and often very conservative, regardless of the morphophonemic changes the affixes may undergo. SCHADEBERG (1981b:112) shows that in Talodi, the assignation of nouns to affix pairings unifies the group, despite the lack of obvious logic for membership. WESTERMANN (1935) was the first to demonstrate these associations for a wide sample of Niger-Congo languages.

This situation in Kadu is hardly accidental and yet the absence of direct parallels with the semantic clustering of Niger-Congo argues that this is not evidence for a genetic connection. There is no evidence for clusters highly

typical of Niger-Congo such as liquids, large animals and trees. Even the human classes, usually highly conservative, show no cognacy with Niger-Congo. I suggest an appeal to metatypy, the transfer of typological or conceptual structures without lexical borrowing. This may have arisen from bilingualism in perhaps disappeared Niger-Congo languages, allowing the crossover of the concept of the association between a semantic cluster and affix pairing, but not the particular clusters themselves⁵.

4.1.2 Verbal extensions

Another very typical feature of Niger-Congo languages is their system of verbal extensions (WILLIAMSON & BLENCH 2000). Almost all branches of Niger-Congo have at least traces of extensions, although there is strong correlation between rich systems, elaborated noun-classes and SVO word order. Kadu languages have derivational affixes which have related meanings although there is limited cognacy even with Kadu. Table 5 shows some Kadu verbal affixes common to three documented languages.

Table 5. Kadu verbal affixes

Extension	Kadu	Keiga	Krongo
Frequentative	-aana	I-	tVV- (where V harmonises with the stem vowel)
Passive	-adinye	-díyé	-Vtíjní (where V harmonises with the stem vowel)
Dative/benefactive	-aada	marked on noun	-Àŋ, -(À)kÀ

Several other affixes are reported (Kadu has a reciprocal suffix, for example), but the table makes clear that only the passive suffix is comparable across the Kadu group. The data does not suggest that strings of verbal affixes can be seriated, Bantu fashion, which may reflect the other complexities of verbal inflection in Kadu. Comparing these affixes with other branches of Nilo-Saharan is problematic both because of its diversity and the different terminologies in use. For example, Anywa seems to have derivational affixes performing extension-like functions which are now incorporated in stems (REH 1996:217 ff.). Surmic and Nilotic both seem to have an old causative prefix *I-* (UNSETH 1998) which looks somewhat like the Keiga frequentative. But all the Nilo-Saharan systems have a tendency to be fugitive and to be 'single-slot' systems. The long strings of affixes that regularly occur in Moro (BLACK & BLACK 1971), a neighbouring

Kordofanian language, occur neither in Kadu nor in any neighbouring Nilo-Saharan languages.

4.1.3 Gender-marking

A feature of Kadu languages that has attracted the attention of researchers is the system of gender-marking, highly atypical for a Nilo-Saharan language. Although absent in Keiga (REH 1994), it is present in most other Kadu languages. Although other Nilo-Saharan languages mark gender on pronouns or demonstratives (BENDER 2000) rather like Ijò, the Kadu bound affixes seem to be exceptional. The Krongo system, described by REH (1985: 126 ff.), is as follows;

Table 6. Krongo gender-marking

Gender	Verbal		Demonstrative
	Predicate	Attributive	
Masculine	∅	ŋ-	y-
Feminine	m-	m-	m-
Neuter	n-	n-	n-
Plural	k-	nk-	y-

Source: adapted from REH (1985:127)

Kufo is virtually identical to Krongo, with zero, *ma-*, *na-* and *ka-* prefixes on verbs (BLENCH and MONGASH ined.). The system in Kadu(gli) proper seems to be more elaborated (MATSUSHITA 1984:23 ff.), since there is some correspondence with the singular/plural affixes. Nonetheless the system is evidently underlyingly the same, with a distinction between attributive and demonstrative, zero marking for masculine, *m-* predominant in feminines, and a *gV-* affix corresponding to the *(n)k-* in Krongo. The common demonstrative *yV-* affix that MATSUSHITA lists as corresponding to many singular classes is surely cognate with the *y-* of Krongo, although MATSUSHITA does not specifically assign it to the masculine gender. MATSUSHITA does not list a neuter gender, but his wordlist contains the unexplained notation '*mf*', masculine-feminine, which may be the same thing. Given that Kadu, Kufo and Krongo are relatively remote from one another on the Kadu 'tree', it seems reasonable to assume that this system is uniform and derives from a single source within Kadu.

Given that gender systems are not typical of this region, an important question is whether Keiga lost the gender system retained in the other branches of Kadu, or did the other languages build their system after the initial diversification of the family? REH (1994:234) argues that Keiga lost

gender; one interesting piece of evidence for this is the 3rd person possessive pronoun *mí*, which is irregularly formed within Keiga but which looks like the extension of a typical feminine pronoun with *m-* to a generalised pronoun.

4.1.4 Case

Another feature of Kadu languages that calls for comment is the presence of case systems. Although Afroasiatic languages have case (HAYWARD 2000:88), it is not regarded as typical for African languages, and is virtually completely absent in Niger-Congo. Kadu languages typically show subject/direct object relations only through word order, but mark other cases through prefixes on nouns. Table 7 shows the case markers recorded for Keiga and Krongo, although all Kadu languages apparently have similar forms.

Table 7. Case markers in Keiga and Krongo

Case	Keiga	Krongo
Dative/benefactive	à-	à-
Comitative	àgíní-	yÁ-
Locative	gà-	kt-, kA-
Source	àni gà-	
Instrumental	à-	Án-
Genitive	mà-	mÁ-
Ablative		nkt-, nkA-
Possessive	—	kA-

Keiga and Krongo are relatively distant within Kadu, yet the similarities of their case-markers show that the system must be reconstructed to proto-Kadu. Case-marking is recorded for a number of Nilo-Saharan languages, particularly in Eastern Sudanic. In general, Nilotic and Surmic have nominative systems and other Nilo-Saharan branches, such as Ik, Fur, Maba, Nubian, Nyimang and Tama have accusative systems (KÖNIG 2001). Comparison with systems described in detail such as the suffixes of Ik (KÖNIG 2002:93) and Anywa prepositions (REH 1996:272) do not yield any obvious comparisons. The nominative-absolutive systems in Afroasiatic are typically marked by vowel suffixes and do not obviously resemble Kadu. Overall, it seems that although case-marking is fundamental to Kadu, it is built of idiosyncratic elements within the languages themselves and reflects

its wider Nilo-Saharan context typologically but not through cognate morphemes.

4.2 Lexicon

The major attempts to examine the lexicon of Kadu languages for external comparisons are GREENBERG (1963), SCHADEBERG (1981a), and EHRET (2000). All three note cognates with Niger-Congo languages, and GREENBERG and EHRET concluded that Kadu languages *were* Niger-Congo. SCHADEBERG (1981a) and EHRET (2000) also mention the possibility of an Afroasiatic connection, but neither the lexicon nor the morphosyntax produce any convincing correspondences. Many lexical items known from Niger-Congo turn out to also have Nilo-Saharan cognates. Appendix 1 lists forms that are reconstructible to proto-Kadu and have Niger-Congo cognates. The Kadu forms are listed first, then other Nilo-Saharan attestations and then the Niger-Congo forms.

Various explanations can be canvassed for these widespread forms, but it is clear that many are part of a lexical fund that is common to both phyla and which may constitute evidence that they should be conjoined into a single macrophyllum. More surprising are glosses such as 'head' and 'mouse' that seem to be confined to Kadu and Niger-Congo. Borrowing may be the best explanation for these cases.

5 CONCLUSIONS

The classification of Kadu languages is not susceptible of an easy solution. Despite their apparent closeness to one another, Kadu languages present a 'bundle' of features that does not necessarily align them with the larger African phyla;

Table 8 shows the results of the more detailed comparison undertaken here.

Table 8. Features of Kadu compared with other African phyla

Feature	Kadu
Nominal affixes	Kadu nominal affixes reflect a three-term number system with a singulative prefix <i>tV-</i> , typical of Nilo-Saharan and not Niger-Congo. The resemblances of some Kadu affix alternations to Niger-Congo may not be entirely fortuitous, but could result from re-analysis in Kadu. Kadu has no concord, but does have semantic

clustering around affix pairings with a typological resemblance to Niger-Congo.

Verbal extensions Kadu has some identifiable derivational affixes, but does not permit the seriation typical of Niger-Congo

Case-marking Kadu case marking resembles some branches of Nilo-Saharan typologically but presents no formal similarities

Gender Kadu gender marking resembles Afroasiatic typologically but presents no formal similarities

Lexicon Kadu has some lexicon that resembles Niger-Congo and which is not found in Kordofanian languages.

Although Table 4 shows that Kadu languages have typological similarities with Afroasiatic, closer examination shows no resemblances in detail and these are probably convergent features. Nonetheless, it is likely that Afroasiatic languages were once spoken in this region (BLENCH 1999), so perhaps metatypy following bilingualism was responsible for some of the more exotic features of Kadu.

Much of the Kadu lexicon appears to be innovative, but Kadu languages share many roots with broader Nilo-Saharan (SCHADEBERG 1981a:297; STEVENSON 1991). However, Kadu *also* shares roots with Niger-Congo, including some, like 'head', not attested in Kordofanian. A possible explanation for these is contact with now-disappeared Niger-Congo languages. This is difficult to prove, but it is reasonable to suggest that Kordofanian languages were once connected to other Niger-Congo zones by a chain of vanished languages. In most cases, however, shared roots with Niger-Congo attestations are not confined to Kadu, but have a broader distribution within Nilo-Saharan. This is taken as additional evidence for the existence of a Niger-Saharan macrophylum although sceptics would presumably explain these roots through early contact between Niger-Congo and Nilo-Saharan.

Issues of the lexicon are somewhat separate from the overall classification of the Kadu languages, and structural evidence appears to favour Nilo-Saharan strongly. The three-term number system, affixes with idiosyncratic semantic clustering, case-marking, and absence of concord point to the immediate neighbours of Kadu and away from Niger-Congo or Afroasiatic. The level of embeddedness of these features also suggests that Kadu is not an isolate. Given the general divergence of the branches of Nilo-Saharan,

Kadu's individuality is to be expected. Nonetheless, the convergence of its Nilo-Saharan origins and borrowing, both lexical and through metatypy from Niger-Congo and perhaps Afroasiatic, has combined to create a group of languages that are both highly unusual and of considerable theoretical interest in comparative terms.

NOTES

¹ STEVENSON (1991) himself changed his opinion, following the publication of REH's Krongo grammar.

² This refers to the hypothesis that Nilo-Saharan and Niger-Congo are genetically related. The Niger-Saharan hypothesis, originating with GREGERSEN (1972) and given strong lexical support in BLENCH (1995, in press a, b) is adduced by EHRET (2000) as the explanation for the ambiguous position of Kadu.

³ After STEVENSON died in 1992, his papers were boxed and summarily catalogued (BLENCH 1997.) They were first lodged in the Oxford Phonetics Laboratory and then later given to UCLA, where they remain, uncatalogued and unconsulted. This is unfortunate, as they remain a major source for many languages of the Sudan, not just Kadu.

⁴ The Ijoid languages do have gender-marking but the evidence is that this is a local innovation, not something to be reconstructed to proto-Niger-Congo (WILLIAMSON p.c.).

⁵ Kay WILLIAMSON (p.c.) notes that Nembe, an Ijoid language has created semantic cluster with the masculine gender, including humans, spirits, animals, containers, knives, palm trees. This is rather more global than Kadu; whether this is evidence for a universal propensity to classify objects can be debated.

6 REFERENCES

- ABDALLA, I.A. (1973) *Kadugli language and language use*. Khartoum: Institute of African and Asian Studies.
- ABRAHAM, R.C. (1940) *A dictionary of the Tiv language*. London: Crown Agents.
- AGHEYISI, R.N. (1986) *An Edo-English dictionary*. Benin City: Ethiope Publishing Corporation.
- ANDERSEN, T.M. (2000) Number inflection in Mayak (Northern Burun). In: "Mehr als nur Worte ...". *Afrikanistische Beiträge zum 65. Geburtstag von Franz Rottland*. R. VOBEN, A. MIETZNER & A. MEIBNER (eds.) 29-43. Köln, Rüdiger Köppe Verlag.
- ANON. (2002) *Second Kadugli phonology sketch*. ms. Khartoum.
- BANFIELD, A.W. (1914) *Dictionary of the Nupe Language*. Shonga: The Niger Press.
- BARSHAM, S.G. *et al.* (1996) *Phonology write-up of Kamda*. ms. Khartoum.

- BENDER, M.L. (1996) *The Nilo-Saharan languages: a comparative essay*. Munich: Lincom Europa.
- _____ (2000) Nilo-Saharan. In: *African languages: an introduction*. B. HEINE & D. NURSE eds. 43-73. Cambridge: Cambridge University Press.
- BLACK, P. & K. BLACK (1971) *The Moro language: grammar and dictionary*. Khartoum: Sudan Research Unit.
- BLACKINGS, M.J. (2000) *Ma'di English – English Ma'di Dictionary*. München: Lincom Europa.
- BLANDIA, Z.M. & H.M. BLANDIA (1995) *Phonology write-up of Kadugli*. Khartoum, ms.
- BLENCH, R.M. (1997) The papers of Roland Stevenson. *Nilo-Saharan Newsletter, N.S.*, 1:3-16.
- BOONE, D. and R. L. WATSON (eds.) (1996) *Moru - Ma'di Survey Report*. ms. Nairobi: Summer Institute of Linguistics. Available at: <http://www.sil.org/silesr/1999/001/srveyrep.html>
- DAFALLA, R.Y. (2000) *A phonological comparison of the Katcha-Kadugli language groups in the Nuba Mountains*. M.A. Dissertation, University of Khartoum.
- DIMMENDAAL, G.J. (1987) Krongo: Between Universal, Areal and Genetic Norms. *Journal of African Languages and Linguistics*, 9:161-177.
- _____ (2000a) Number marking and noun categorization in Nilo-Saharan languages. *Anthropological Linguistics* 42(2): 214-261.
- _____ (2000b) Noun classification in Baale. In: *"Mehr als nur Worte ..."*. *Afrikanistische Beiträge zum 65. Geburtstag von Franz Rottland*. R. VOßEN, A. MIETZNER & A. MEIBNER (eds.) 183-203. Köln: Rüdiger Köppe Verlag.
- EDGAR, J.T. (1991) *Maba-group lexicon*. Berlin: Reimer.
- EHRET, C. (1995) Do Krongo and Shabo belong in Nilo-Saharan? In: *Proceedings of the Fifth Nilo-Saharan Linguistics Colloquium, Nice, 1992*. ed. R. NICOLAI and F. ROTTLAND. 169-193. Köln: Rüdiger Köppe Verlag.
- _____ (2000) Is Krongo after all a Niger-Congo language? In: *Mehr als nur Worte ... Afrikanistische Beiträge zum 65. Geburtstag von Franz Rottland*. R. VOßEN, A. MIETZNER & A. MEIBNER (eds.) 225-237. Köln: Rüdiger Köppe Verlag.
- _____ (2001) *A historical-comparative reconstruction of Nilo-Saharan*. Köln: Rüdiger Köppe Verlag.
- ELIAS, PH. LEROY, J. & J. VOORHOEVE (1984) Mbam-Nkam or Eastern Grassfields. *Afrika und Übersee*, 67:31-107.

- ELUGBE, B.O. (1989) *Comparative Edoid: phonology and lexicon*. (Delta Series No. 6.) University of Port Harcourt Press.
- ELYAS, E. et al. (1996) *Phonology write-up of Miri*. ms. Khartoum.
- GREENBERG, J.H. (1950) Studies in African linguistic classification: VII. Smaller families: index of languages. *South-western Journal of Anthropology*, 6:388-398.
- _____ (1955) *Studies in African linguistic classification*. New Haven: Compass Publishing Company.
- _____ (1963) *The Languages of Africa*. Published for Indiana University by Mouton, the Hague.
- _____ (1971) Nilo-Saharan and Meroitic. In: *Current Trends in Linguistics Vol. 7, Sub-Saharan Africa*. BERRY, J. & GREENBERG, J.H. (eds.) The Hague: Mouton.
- HALL, E. (2004) *The tonal behaviour of one class of singular-forming nouns in the Kamda language*. Paper given at the 9th Nilo-Saharan Linguistics Colloquium, Khartoum, 2004.
- HALL, E. AND M. HALL (2004) Kadugli-Krongo. *Occasional Papers in the Study of Sudanese Languages*, No. 9. Khartoum.
- HAYWARD, R. (2000) Afroasiatic. In: *African languages: an introduction*. B. HEINE & D. NURSE eds. 74-98. Cambridge: Cambridge University Press.
- HEDINGER, R. (1987) *The Manenguba languages (Bantu A.15, Mbo cluster) of Cameroon*. London: School of Oriental and African Studies.
- HEINE, B. (1999) *A dictionary of Ik*. Köln: Rüdiger Köppe Verlag.
- HERAULT, G. (1983) *Atlas des Langues Kwa de Côte d'Ivoire, Tôme 2*. Abidjan: ACCT and ILA.
- HOCHSTETLER, J. LEE, DURIEUX, J.A. & E.I.K. DURIEUX-BOON (2004) *Sociolinguistic Survey of the Dogon Language Area*. SIL International. Available at: <http://www.sil.org/silesr/2004/silesr2004-004.pdf>
- KÖNIG, C. (2001) *Case for case: the African problem. No case before the verb*. Paper presented at the 8th Nilo-Saharan Linguistic Colloquium, Hamburg 2001.
- _____ (2002) *Kasus im Ik*. Köln: Rüdiger Köppe Verlag.
- KUKU, M.A. et al. 1997. *Phonology write-up of Kuntulisi*. ms. Khartoum.
- KUWA, KH.M. (1994) *Phonology write-up of Kanga*. ms. Khartoum.
- MARCHESE, L. (1983) *Atlas Linguistique Kru*, Abidjan: ACCT and ILA.
- MATSUSHITA, Sh. (1984) A preliminary sketch of Kadugli vocabulary: 1) nouns, numerals and adjectives. In: *Sudan Sahel Studies I*. Morichi Tomikawa ed. 15-73. Tokyo: ILCAA.
- _____ (1986) A preliminary sketch of Kadugli vocabulary: 2) verbs and verbal sentences. In: *Sudan Sahel Studies II*. MORICHI TOMIKAWA ed. 111-138. Tokyo: ILCAA.

- MCDIARMID, P.A. AND D.N. MCDIARMID (1931) The languages of the Nuba Mountains. *Sudan Notes and Records*, 14:149-162.
- MEINHOF, C. (1915-1919) Sprachstudien im ägyptischen Sudan. *Zeitschrift für Kolonialsprachen*, 6:161-205, 264-284, 7:36-80, 105-133, 212-250; 326-335, 8: 46-74, 110-139, 170-196; 9:43-64, 89-117, 226-255.
- MUKAROVSKY, H. (1976-1977) *A study of Western Nigritic*. 2 vols. Wien: Institut für Ägyptologie und Afrikanistik, Universität Wien.
- N'DIAYE-CORREARD, G., (1970) *Études sénégalaises (dialecte ganja)*. Bibliothèque de la SELAF, 17. Paris : SELAF.
- REH, M. (1983) Krongo: a VSO language with postpositions. *Journal of African languages and linguistics*, 5:45-55.
- _____ (1985) *Die Krongo-Sprache (niino mó-di) : Beschreibung der Sprache, Texte, Wörterverzeichnis*. Kölner Beiträge zur Afrikanistik, 12. Berlin: Dietrich Reimer.
- _____ (1994) A grammatical sketch of Deiga. *Afrika und Übersee* 77:197-261.
- _____ (1996) *Anywa language: description and internal reconstructions*. Köln: Rüdiger Köppe.
- RONGIER, J. (1995) *Dictionnaire français-éwé*. Paris: ACCT-Karthala.
- SCHADEBERG, T.C. (1981a) The classification of the Kadugli language group. In: *Nilo-Saharan*. SCHADEBERG, T.C. and M.L. BENDER eds. 291-306. Holland: Foris Publications.
- _____ (1981b) *A Survey of Kordofanian. Volume 2: The Talodi Group*. Hamburg: Helmut Buske.
- _____ (1994) Comparative Kadu wordlists. *Afrikanische Arbeitspapiere*, 40: 11-48.
- SHIMIZU, K. (1980) *Comparative Jukunoid*. (3 vols) (Veröffentlichungen der Afrikanistik und Ägyptologie der Universität Wien. Vienna: Afro-Pub.
- STEVENSON, R.C. (1956-57) A survey of the phonetics and grammatical structures of the Nuba Mountain languages, with particular reference to Otoro, Katcha and Nyimang. *Afrika und Übersee*, 40:73-84, 93-115; 41:27-65, 117-153, 171-196.
- _____ (1991) Relationship of Kadugli-Krongo to Nilo-Saharan: Morphology and lexis. In: *Proceedings of the Fourth Nilo-Saharan Conference. Bayreuth, 1989*. BENDER, M L. (ed.) 347-369. Hamburg: Buske.
- _____ (ined.) *Katcha dictionary*. ms. among STEVENSON's papers. Now word-processed and available at http://homepage.ntlworld.com/roger_blench/Unpublished%20papers%20Languages.htm#Nilosaharan

- _____ mss. *Stevenson papers*. Now mostly in the library in UCLA. For catalogue see BLENCH (1997).
- TUCKER, A.N. & M.A. BRYAN (1956) *The non-Bantu languages of North-Eastern Africa*. Oxford: Oxford University Press for the International African Institute.
- _____ (1966) *Linguistic Analyses: The non-Bantu languages of North-Eastern Africa*. Oxford: Oxford University Press for the International African Institute.
- UNSETH, P. (1998) Two old causative affixes in Surmic languages. In: *Surmic languages and cultures*. G.J. DIMMENDAAL & M. LAST eds. 113-126. Köln: Rüdiger Köppe.
- WESTERMANN, D. (1927) *Die westlichen Sudansprachen und ihre Beziehungen zum Bantu*. Berlin: De Gruyter.
- _____ (1935) Nominalklassen in westafrikanischen Klassensprachen und in Bantusprachen. *MSOS*, 38:1-53.
- WILLIAMSON, K. (1972) *Benue-Congo comparative wordlist: Vol.2*. Ibadan: West African Linguistic Society.
- _____ and K. SHIMIZU. (1968) *Benue-Congo comparative wordlist, Vol. 1*. Ibadan: West African Linguistic Society.
- _____ and R.M. BLENCH (2000) Niger-Congo. In: *African languages: an introduction*. B. HEINE & D. NURSE eds. 11-42. Cambridge: Cambridge University Press.
- YOUNIS, A. (1995) *Phonology write-up of Tamba*. ms. Khartoum.

Unpublished data

Kufo wordlist	BLENCH & MONGASH (ined.)
Keiga	BLENCH & FRAJALLA (ined.)

APPENDIX. KADU LEXICAL ITEMS WITH APPARENT NIGER-CONGO COGNATES

#-kub-	bone	Branch	Language	Attestation	Source
NS	Kadu	Tulishi		<i>gúba/gubúúni</i>	Sch94
		Kamdang		<i>ku'ba/ku'boni</i>	RCS
		Keiga		<i>thoŋu'ba/ku'ba</i>	RCS
		Kanga		<i>kubok</i>	RCS
		Chiroro		<i>cigoboni/kuboni</i>	RCS
		Miri		<i>thoŋgoba/kuboni</i>	RCS
		Kadu		<i>thoŋo'ba/ku'boni</i>	RCS
		Katcha		<i>gùbà/gùbùùní</i>	Mt84
				<i>ku'ba/ku'boni/</i>	
				<i>naagu'ba</i>	RCS
		Krongo Abdullah		<i>kubini</i>	RCS
		Tumma		<i>cigubini/kubini</i>	RCS
		Krongo		<i>kubóóni/no-</i>	R85
		Fama		<i>kuboni/nu-</i>	RCS
		Kurondi		<i>koboni</i>	RCS
NS	ES	*PN		<i>*kāw</i>	Dimmen- daal (1988)
NS	CS	Moru-Kadiro		<i>kuwa</i>	BW
NS	CS	Kresh		<i>kpɔkpɔ</i>	ST76
NC	Kru	Wobe		<i>kpa</i>	ALKrCI
NC	Gur	Dagbane		<i>kob-li/-a</i>	RMB
NC	Ubangian	Ngbaka		<i>kúà-</i>	Mo88
NC	Kwa	Ega		<i>ìkù</i>	ALKwCI
NC	Kwa	Adele		<i>dì-nànkòbá/à-</i>	RMB
NC	Igboid	Ogbakiri		<i>ókúókú</i>	KW
NC	Jukunoid	PJ		<i>*kup</i>	Sh80
NC	Mambiloid	Kwanja Ndung		<i>kfê</i>	Co
NC	Eastern				
	Grassfields	PEG		<i>*-gób`</i>	ELV
NC		#PWN		<i>-ku, kup, -kua</i>	M
NC	Bantu	PB		<i>*-kúpà</i>	BLR3

Commentary: WESTERMANN (1927:238) identified this as a Niger-Congo root and MUKAROVSKY (1976:239) provides extensive additional

cognates. The reconstruction of bone in Nilotic is discussed in DIMMENDAAL (1988:33) who notes that an alternative Proto-Nilotic reconstruction was proposed as **kyɔgɔ*. BENDER (1992:47) reconstructs bone for his Central Sudanic 'Core' group as *#kpa*, though some of his examples, such as Lokai, above, are very close to Nilotic. STEVENSON (1991:363) also discusses this root and gives more examples of cognates in Nilo-Saharan.

#deŋ-	to cut, split	Phylum	Group	Language	Attestation	Comment	Source
NS	Kadu	Mudo			<i>eŋe</i>	cut	Sch94
		Deiga			<i>áték</i>	cut	Sch94
		Miri			<i>aaték</i>	cut	Sch94
		Talla			<i>aadek</i>	cut	Sch94
		Kadugli			<i>dèŋe</i>	cut	Mt86
		Talasa			<i>aŋe</i>	cut	Sch94
		Proto-Kadu			<i>*deŋ</i>	cut	Sch81a
NS	ES	Maasai			<i>a-dúnŋ</i>	cut	RCS
NS	ES	Nuer			<i>daäk</i>	split	RCS
NS	CS	Yulu			<i>-tíiy</i>	<i>couper</i>	Bo2000
NS	Maban	Aiki			<i>dèm</i>	cut	E
NS	Saharan	Kanuri			<i>ré-</i>	split	Cy
NC	PWS				<i>#tèn</i>		W
NC	Kru	Koyo			<i>dè</i>	<i>couper</i>	ALKrCI
NC	Gur	Deg			<i>téŋó</i>	<i>couper</i>	ALGCI
NC	Ubangian	Ngbaka			<i>dě</i>	with axe	Mo
NC	Benue-Congo	Cara			<i>tem</i>	cut down	RMB
NC	PB				<i>tín</i>	cut	BLR3

Commentary: GREENBERG (1963:155) gives this as evidence for the membership of Kadu in Niger-Congo, although no cognates in other Kordofanian languages are cited. MUKAROVSKY (1976:523) provides extensive additional Niger-Congo cognates and SCHADEBERG (1981:296) notes this as a possible Kadu-Niger-Congo link. However, the widespread Nilo-Saharan cognates of this root show that Kadu is part of a more extensive pattern. A likely original velar nasal in C₂ position presumably explains the velar reflexes in some languages and nasals elsewhere, especially in Niger-Congo.

#bila	to dance, sing, play	Phylum	Group	Language	Attestation	Comment	Source
NS			Kadu	Talasa	aḃála	dance	Sch94
				Kadugli	(d)àbàlà	play	Mt86
				Krongo	ábalà/á-	dance, play	R85
NS			Gumuz	Keiga	abəlá	to play	Sch94
NS			ES	Sese	ḃeŋ	to dance	B79
NS			ES	Lotuxo	bal-a	to play	RCS
NS			CS	Tese	bílá	to play, dance	RCS
				Mangbetu	nḃ-ḃè	pl. kò-. dance	Demolin (p.c.)
NS		Saharan	Teda		abi	pl. abea . dance	Le Cœur (1950)
NC		Mande	Beng		bèé	to dance	VV
NC		Atlantic	Bedik		ḃulú	song	Ferry (1991)
NC		Kru	Neyo		ḃlī	sing	ALKrCI
NC		Senufo	Nabaj		vele	dance	ALGCI
NC		Ubangian	Zande		do gbéré	dance a dance	Mo88
NC		Kwa	Baule		âblê	dance	ALKCI
NC		West	Degema		ḃene	dance, play	Elugbe (1989)
NC		Benue-Congo	Mambila		bene	dance	Co
NC		Mambiloid	Mambila		#bín	dance	BLR3
NC		Bantu	PB				

Commentary: A root not identified by WESTERMANN and GREENBERG, *#bin* was originally proposed as an innovation by BENNETT & STERK (1977) to distinguish the non-Mambiloid Bantu languages. However, WILLIAMSON (1989b:258) noted a series of forms suggesting a wider distribution in Benue-Congo. EHRET (2001:259) proposes *#be*, 'dance', as a Nilo-Saharan root and the additional forms given here suggest a Niger-Saharan root.

#-pa	give	Group	Language	Attestation	Source
NS		Kadu	Tulishi	anyâ	RCS
			Kamdang	nya	RCS
			Keiga	na	RCS
			Miri	nani	RCS
			Katcha	(a)'danga/ag-	RCS
			Krongo	dǎŋà/a-	R85
			Kurondi	nana	RCS 'I gave'
		Fur	Fur	aní	RCS
		Maba	Masalit	ju	RCS
		Songhay	Zarma	nó	BERNARD & WHITE-KABA (1994)
NC		Mande	PSM	*nɔ̄	VV
NC		Atlantic	Balanta	-paá	NC
NC		Kru	Tepo	ɲè	ALKrCI
NC		Adamawa	Yungur	na	RMB
NC		Kwa	Ewe	ná	Ro
NC		Kwa	Avikam	nã	ALKwCI
NC		WBC	proto-Edoid	*na	E89
NC		EBC	Kambari	nèkè	BCCW
NC		Bantoid	Tiv	na	Ab40
NC		Bantu	PB	#nínk	BLR3

Commentary: This root was first identified for Niger-Congo by WESTERMANN (1927) and reprised by GREENBERG (1963:18). One of the most widespread roots in both Nilo-Saharan and Niger-Congo.

#-tu	head			
Phylum	Group	Language	Attestation	Source
NS		Tulishi	koɔu/kiɛɔu	RCS
NS		Kamdang	adhu/nigg-	RCS
NS		Keiga	amdho/n-	RCS
NS		Kanga	ɲudhu	RCS
NS		Chiroro	ɲödhu/naga-	RCS
NS		Miri	ödhu	RCS
NS		Kadugli	ððdù/náɲààdù	Mt84
NS		Katcha	oɔu/nangɔu	RCS
NS		Tumma	ɲgadhu	RCS
NS		Krongo	óóɔù/nig-	R85
NS		Fama	ɔdhu	RCS
NS		Kurondi	udhu	RCS
NC	PWS		#-t(w)i	W
NC	Mande	Yaure	wùlò	ALMSCI
NC	Atlantic	Gola	èdī	M
NC	Kru	Tepo	lú	ALKrCI
NC	Ubangian	Sango	ñ	Mo88
NC	Kwa	Baule	tì	ALKwCI
NC	Kwa	Abure	ètè	ALKwCI
NC	WBC	Nupe	etí	Ba
NC	EBC	Ninzo	itu	RMB
NC	PB		-tùè	BLR3

Commentary: WESTERMANN (1927) and GREENBERG (1963:19) identified this as a Niger-Congo root and MUKAROVSKY (1976:523) provides extensive additional cognates. SCHADEBERG (1981:296) observed the further link with Kadu and its absence in neighbouring Kordofanian languages.

#-fɛ	rat, mouse			
Phylum	Group	Language	Attestation	Source
NS	Kadu	Tulishi	kipe	RCS
		Kamdang	kimpɛ	RCS
		Keiga	nyifɛ/kifɛ	RCS
		Kanga	mife	RCS
		Miri	fife	RCS
		Kadu	diifɛ	RCS
		Katcha	fifɛ/kifɛ	RCS
		Krongo	nifɛ	R85
		Kurondi	nifa	RCS
NC	Atlantic	Kisi	bɛl-ðs	Childs (2000)
NC	Kru	Tepo	ple	ALKrCI
NC	Gur	Mampruli	pɔlo	Naden (p.c.)
NC	Kwa	Krobu	prɔ	ALKwCI
NC	Kwa	Avatime	ó-vè /bé	ALKwCI
NC	WBC	Yoruba	ð-fɔ	A58
NC	WBC	Edo	ð-fé	Ag
NC	EBC	Kente	i-pyi	Sh
NC	EBC	Len	vil	Co
NC	EBC	Batu Afi	fyɔo /fyɔ̀	K
NC	PB	Bantu	bèbà	BLR3

Commentary: GREENBERG (1963:156) first identified this root and MUKAROVSKY (1976:407) gives some additional Niger-Congo material.

#turu	five				
Phylum	Group	Language	Attestation	Comment	Source
NS	Shabo	Shabo	tuul	? < Surmic	Fleming (1991)
NS	Kuliak	Ik	tud-on	to be five	Heine (1999)
NS	ES	Tama	tɔr	six ?C	Edgar (1991b)
NS	CS	Ma'di	tòú		Blackings (2000)
NS	Maba	Masalit	tóor		Edgar (1991a)
NS	Kadu	Mudo	túmmu		Sch94
NC	Dogon	Tengu Kan	nune		Ho04
NC	Bangi	Me Bangi Me	kendundi		Ho04
NC	Ijoid	Defaka	túúno		KW
NC	Mande	Jalkuna	sɔɔ		VV
NC	Atlantic	Temne	tamath		Segerer (ined.)
NC	Gur	Lorhon	tɔ'		ALGCI
NC	Kwa	Avatime	ò-tú		Heine (1968)
NC	WBC	Nupe	gutsū		Banfield (1914)
NC	EBC	Idun	etón		BCCW
NC	Bantoid	Meta'	tán		BCCW
NC	Bantu	PB	-táànò		BLR3

Commentary: MUKAROVSKY (1976:562) recognised this root in Niger-Congo and it is also widespread in Nilo-Saharan.

ACRONYMS AND TERMINOLOGY

Acronym	Expansion or source	Reference or language
A58	Abraham (1958)	Yoruba
Ab40	Abrahams (1940)	Tiv
Ab58	Abrahams (1958)	Yoruba
Ag	Agheyisi (1986)	Edo
ALGCI	Mensah & Tchagbale (1983)	Gur
ALKrCI	Marchese (1983)	Kru
ALKwCI	Hérault (1983)	Kwa
ALMSCI	Halaoui, Tera and Trabi (1983)	Mande
Ba	Banfield (1914)	Nupe
BC	Benue-Congo	
BLR3	Bantu Lexical Reconstructions III	Bantu

	(RMCA Website)	
BW	Boone & Watson (1996)	BW
C	Consonant	
CB	Common Bantu	Guthrie (1967-71)
Co	Connell (ined)	Mambiloid
Co91	Connell (1991)	Lower Cross
E89	Elugbe (1989)	Edoid
EBC	East Benue-Congo	Proto-Eastern Grassfields
ELV	Elias, Leroy, Voorhoeve (1984)	Manenguba
He87	Hedinger (1987)	Salka Kambari
Ho65	Hoffmann (1965)	Dogon
Ho04	Hochstetler (2004)	Ijoid/Igboid
KW	Williamson (ined.)	Proto-Western Nigritic
M	Mukarovsky (1976/7)	Oti-Volta
Ma75	Manessy (1975)	
NC	Niger-Congo	
NS	Nilo-Saharan	
PB	Proto-Bantu	Williamson in prep
PI	Proto-I,jo..	Shimizu 1980
PJ	Proto-Jukunoid	Mukarovsky 1976/77
PWN	Proto-Western Nigritic	Westermann 1927
PWS	Proto-West Sudanic	Krongo
R85	Reh (1985)	Sudanese languages
RCS	Ronald Stevenson mss.	Ewe
Ro	Rongier (1995)	
RMB	Author's fieldwork	Jukunoid
Sh80	Shimizu (1980)	Kadu
Sch81a	Schadeberg (1981a)	Heiban Kordofanian
Sch81b	Schadeberg (1981b)	Kadu
Sch94	Schadeberg (1994)	
V	Vowel	
VV	Valentin Vydrine (ms.)	comparative Mande
W	Westermann (1927)	Western Sudanic
WBC	West Benue-Congo	