Abstract and Keywords

The two dozen or so Kordofanian langages are all endemic to the Sudanese province of South Kordofan (also termed the "Nuba Mountains"). Together they make up the Kordofanian branch, i.e. one of the primary subdivisions of the Niger-Congo phylum. This chapter summarizes the available information about these languages. First, it lists all known Kordofanian languages and the five families or sub-branches (namely Heibanian, Talodian, Lafofa, Rashadian, and Katloid) into which they are distributed. Second, it provides an overview of the field of Kordofanian studies. Third, it examines the most salient linguistic characteristics of Kordofanian languages in the domain of phonology, morphology (noun classes, verb extensions), and the lexicon. Building upon systematic comparisons between the diverse Kordofanian families and languages, it also proposes reconstructed Proto-Kordofanian roots for dozens of items. The conclusion recapitulates the main scientific challenges and questions that Kordofanian studies are expected to address in the future.

Keywords: Kordofanian, Niger-Congo, noun class, Nuba Mountains, Sudanese, verb extension

17.1 Introduction

UNTIL the secession of South Sudan in 2011, Kordofan was the most central state of the Sudan. This vast area located in the very middle of the Sahelian belt has given its name to a peculiar language group, Kordofanian, whose members are all endogenous to Kordofan, more specifically to South Kordofan, a rocky area also called the Nuba Mountains. The Nuba are the indigenous inhabitants of South Kordofan: they belong to many cultural groups and speech communities, and their languages fit into two unrelated language families (Quint 2006a), namely Nilo-Saharan and Kordofanian, itself a branch of Niger-Congo. Basically, Nilo-Saharan languages occupy the Western Nuba Mountains (or Jebels), while Kordofanian languages are mainly spread across the Eastern Jebels.

In this chapter, I shall endeavor to introduce the reader to the Kordofanian languages. First, I will give a brief overview of those tongues. Secondly, I will deal with Kordofanian studies, insisting in particular on the difficulties of the fieldwork and the successive stages of the development of research in that area. Thirdly, I will present some salient features of Kordofanian languages and discuss the available hypotheses about the phylogenetic relationships between the different Kordofanian sub-branches and between Kordofanian and other Niger-Congo languages. Finally, I will conclude with the challenges that await the scholarly community regarding Kordofanian languages.
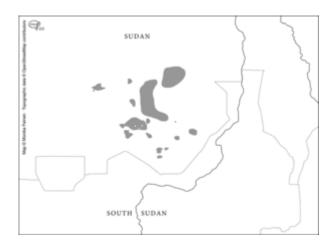
17.2 Kordofanian languages: a brief overview

There are roughly two dozen Kordofanian languages, split into five main families (see Map 17.1):

(a) Heibanian (ten languages): Heiban, Ko, Koalib, Laro, Lukha (= Logol), Moro, Otoro, Shwai (= Shirumba), Tira, and Werni (= Warnang). Those languages are spoken in the northern and central parts of the Eastern Jebels and get their name from the city of Heiban, which is situated among these mountains. The area occupied by the (p. 240) Heibanian languages is mostly continuous[1] and, on the ground, the linguistic boundaries between the main recognized linguistic communities are far from being precise. For instance, at the boundary between Koalib and Heiban speech areas, some villages have a mixed population and the local varieties of each Koalib and Heiban language display more features in common with the neighboring language.[2] Heibanian languages have many more speakers than any other Kordofanian family: at least two Heibanian languages (Koalib and Moro) have more than 100,000 speakers, while two others (Otoro and Tira) have more than 50,000.

(b) Talodian (nine languages): Acheron, Dagik (Masakin, Dengebu), Lumun, Nding (Eliri), Ngile (Daloka), Tasomi (Jomang, Talodi), Tocho, Tolona, and Tuwal (Norton and Kuku Alaki 2015). All Talodian languages are spoken in the vicinity of the city of Talodi (hence their name), in the southern and southeastern parts of the Nuba Mountains. Their total number of speakers amounts to approximately 100,000.

(c) Lafofa (three languages or variants): El-Amira, Lafofa, and Tegem. The speech communities (numbering between 5,000 and 10,000 speakers) which make up this (p. 241) small group live close to Talodian-speaking communities, with whom they seem to share some linguistic features.

(d) Rashadian (two dialect clusters): Tagoi and Tegali, which are spoken in two mountainous ranges located in the northeastern parts of the Nuba Mountains. Tegali used to be the dominant language of the kingdom of Tegali (Ewald 1990) until the time of the Mahdiya,[3] when the kindgom was devastated by the Mahdists and most of its population taken away to the Nile Valley in slavery (Elles 1935; Ewald 1990). At the end of the Mahdiya, when the Tegalians came back to their mountains, many of them had switched to Arabic as their vernacular. Be that as it may, there are still native speakers of Tegali and Tagoi, although they probably represent only a minority

of today's local population. Note that Tagoi varieties have a noun class system, while closely related Tegali varieties lack this system altogether.

(e) Katla-Tima or Katloid (two languages): these two communities (Katla and Tima) live traditionally in the northwestern part of the Nuba Mountains. They are surrounded by Nilo-Saharan-speaking people and geographically separated from the remaining Kordofanian languages.

Map 17.1 The geographical distribution of Kordofanian languages

Internally, each of these families shows a high degree of similarity which can be compared to the relationships existing between the members of the Romance family or between those of the Germanic family. However, the exact nature of the relationship between these families is a much more controversial issue, always actively discussed by the few specialists of Kordofanian (Schadeberg 1989; Hammarström 2013; Blench 2013, 2018, and forthcoming; Dimmendaal 2014, 2015).

17.3 Kordofanian studies

17.3.1 The challenge of studying Kordofanian languages

Kordofanian languages remain poorly known and described mainly because of the difficulty in accessing the field. As a matter of fact, since the nineteenth century (i.e. the beginning of Kordofanian studies: see section 17.3.2.1 below), the Nuba Mountains have faced various periods of war and civil unrest (Turkish-Sudanese wars, Mahdiya, several local uprisings against British rule, second Sudanese civil war, ongoing conflict between the government and the Sudan People's Liberation Movement-North [SPLM-N] since 2011) which have (p. 242) considerably hindered scholarly research into the languages spoken there (including Kordofanian languages).

17.3.2 The main types of approaches

17.3.2.1 First testimonies: before World War I

There are no data available for Kordofanian languages before the nineteenth century, when some travelers (e.g. Rüppell 1829) began to compile wordlists of the various languages spoken by the people they came across during their journeys. Following these first testimonies come the works of various scholars (e.g. Tutshek 1848, 1850; Meinhof 1910/11 and 1915–19; Seligmann 1910/11) who endeavored to understand the structure of several languages spoken in the Nuba Mountains. Meinhof (1943/4) himself laid stress on the study of a Kordofanian language, Heiban (Heibanian family).

17.3.2.2 The missionaries' linguistic work

At the beginning of the twentieth century, after the Mahdiya, some English-speaking Christian missionaries settled in several localities in the Nuba Mountains and began to produce religious material in the vernacular languages in order to propagate their faith. This resulted in the publication of some portions of the Bible (generally the New Testament) in several Kordofanian languages, namely Koalib, Otoro, Heiban, and Moro. In several cases, those missionaries also produced some teaching material, including textbooks (e.g. Anonymous-1 and -2 for Koalib) and grammars (Black and Black 1971 on Moro). Among those missionaries, Stevenson occupies a special place: he devoted a considerable amount of time to the scientific study of the Nuba languages, wrote grammars of at least two Kordofanian languages (Otoro (1943) and Tira (1942), both re-edited by Schadeberg in 2009), and produced and published a monumental Ph.D. thesis about the Nuba Mountain languages (1956/7) in which almost all of these languages are mentioned and partially documented (through wordlists and paradigms). Until today, the missionaries' works and publications constitute indeed the main available source for many a language spoken in South Kordofan, including various Kordofanian tongues. However, the missionaries' approach to Nuba languages suffered from a solid bias: in general this approach was quite logically guided by religious considerations, which led the missionaries to study in priority the languages of those people who had been less touched by the spread of Islam and who were liable to be more easily converted to Christianity. This is why several Heibanian languages were studied and written down by the missionaries, as most Heibanian-speaking people at that time were mainly animists and as the relatively large number of speakers of several communities (see section 17.2 above) justified the effort in translating the Bible into their languages. Smaller communities (such as the Talodian people) or Muslim groups (such as the Rashadians), whose conversion to Christianity was probably deemed harder to achieve, were therefore generally neglected, and their languages left undocumented by the missionaries.

17.3.2.3 The surveys

Some scholars endeavored to classify the dozens of tongues spoken in the Nuba Mountains, including the Kordofanian groupings. Several surveys were launched in order to check (p. 243) exactly (or approximately) how many languages were spoken in the region and how many groups they could fit into. In 1930/1, the MacDiarmids (a missionary couple) conducted such a survey (published in 1931) and, collecting the translation of the same wordlist in diverse local languages, were able to identify several language families,

including the main families of Kordofanian ("Kawalib", i.e. Heibanian; "Katla"; "Lafofa"; "Talodi-Masakin", i.e. Talodian; and "Tegali", i.e. Rashadian): basically, the genetic groupings proposed by the MacDiarmids still remain valid today. The second significant survey was carried out by Schadeberg, a trained linguist, in the 1970s. Schadeberg had his informants translating Swadesh's 100-word list plus the numbers from 1 to 10 and he focused on Kordofanian and Kadu[4] languages. Schadeberg's lists and analyses have been published for Heibanian (1981a), and Talodian (1981b), and they remain to date the most authoritative comparative work on those languages.[5] Schadeberg published at a later date (2013) his Rashadian raw lexical data, together with some short grammatical observations. In an unpublished work (*c*.1980), he had also elaborated some reconstructed forms and sounds for Proto-Rashadian: these reconstructions are mentioned in the present chapter.

17.3.2.4 The study of individual languages

More recently, some trained linguists have undertaken the description of several individual languages belonging to the Kordofanian grouping. This scholarly enterprise began in 2000 and is now fully developing due to two different trends:

> **(i)** the growing interest on the part of the scientific community and civil society in documenting and describing understudied languages (in order to preserve linguistic diversity), which helps researchers secure funding for such studies;
> **(ii)** a growing commitment of Sudanese scholars and speakers of Kordofanian languages to the study of those languages.

This new dynamics has notably resulted in

> **(i)** the recent publication of a sizable number of volumes and papers dedicated to several Kordofanian languages from diverse families: (a) Heibanian: Heiban (Schadeberg and Kossmann 2010), Koalib (e.g. Quint 2006b, 2009, 2010a, 2010b, 2013, forthcoming), Moro (e.g. Jenks and Rose 2011; Rose *et al.* 2014); (b) Katloid: Katla (e.g. Hellwig 2013), and Tima (e.g. Alamin 2012a, 2012b; Schneider-Blum 2013; Dimmendaal 2014; Bashir 2015); (c) Talodian: Dagik (e.g. Vanderelst 2016), Lumun (e.g. Smits 2013); (d) Rashadian: Tagoi (e.g. Bashir 2018);
> **(ii)** the organization of a Nuba Mountain Languages Conference every three years since 2011 in which several dozen scholars (among whom many specialists in Kordofanian languages) participate on a regular basis.

(p. 244) Thus, Kordofanian studies, after two decades of near interruption (between Schadeberg's comparative publications in the early 1980s and the beginning of the twenty-first century), are now developing at an ever accelerating pace, and it is probable that the coming years will see many more publications devoted to Kordofanian languages than have been hitherto published.

17.4 Some salient features of Kordofanian languages

17.4.1 Phonology

Three features at least are worth mentioning about Kordofanian languages:

(i) probably all Kordofanian languages are tone languages (with generally two tone levels, high (H) and low (L)). In general, tone seems to have a higher functional load in morphology (1) than in contrasting lexical pairs (2).

(1)

Morphological tone contrasts

Koalib	kwìcì	LL	vs.	kwícì	HL
	human.being:s			human.being:o	
Koalib	kwèny-ɛ̀ɛcɛ́.	LLH	vs.	kwény-ɛ̀ɛcɛ́.	HLH
	'I will see him/her.'			'We will see him/her.'	
vs.	kwény-ɛ́ɛcɛ́	HHH			
	'S/he will see me.'				

(2)

Lexical tone contrasts

Tima	kòdá	LH	vs.	kòdà	LL	vs.	kúdà	HL	
	'tree sp.'			'shoe'			'python'	(Schneider-Blum 2013:2)	
Koalib	ŋwɔ́ny	H	vs.	ŋwɔ̀ny	L				
	'saliva'			'eggs'					

(ii) most (if not all) Kordofanian languages also display phenomena of vowel harmony, i.e., the vowels are distributed into two sets, and all the vowels of a given word may belong to only one of these sets. The parameter commanding the sets is typically [±ATR] (e.g. Dagik; see Vanderelst 2016: 11–14), while in some cases, it seems to be height (e.g. Koalib opposes a high set /i, ɐ, u/ to a low set /e, ɛ, a, ɔ, o/ (see Quint 2006b: 34–42, 2009: 33–40);[6]

(p. 245) **(iii)** a majority of Kordofanian languages have five places of articulation for their consonants, i.e. basically: (A1) labial, (A2) dental/interdental, (A3) alveolar/retroflex, (A4) palatal, and (A5) velar. The contrast dental vs. alveolar (already mentioned by Williamson and Blench (2000: 37) as a Kordofanian trait) is quite widespread among Kordofanian languages and it has a high functional load:

(3)

Koalib	(Heibanian)	òtté [òt̪t̪é]		vs.	ọ̀ṭṭé [ọ̀ṭṭé]
		'make rough (a grindstone)'			'gather (sorghum)'

(4)

Dagik	(Talodi)	(m)əṇɔ	vs.	(k)ən:ɔ	
		'swim' (v.)		'taste' (v.)	(Vanderelst 2016: 22)

(5)

Tima	(Katloid)	t̪úh	vs.	ṭúh	
		'uproot' (v.)		'hang' (v.)	(Bashir 2010: 69)

Only Rashadian languages do not seem to have the contrast (A2) dental/interdental vs. (A3) alveolar/retroflex (Stevenson 1956/7 [41]: 47; Schadeberg *c.*1980: 23, 32, 41;) However, recent research by Bashir (2016, p.c.) seems to show that this contrast also exists at least in some Tagoi varieties.

Be that as it may, many non-Kordofanian languages spoken in the Nuba Mountains also have tones, vowel harmony, and five places of articulation. Although they are shared by most Kordofanian languages, these three phonological features may therefore be areal and not inherited.

17.4.2 Morphology

17.4.2.1 Noun classes

They are considered the most typical characteristic of Kordofanian languages and the main criterion which justifies the inclusion by Greenberg (1966 [1963]: 149–60) of these languages in the Niger-Congo phylum. As a matter of fact, in most Kordofanian languages, each noun belongs to a noun class characterized by a prefix generally borne by the noun and which commands agreement on several modifiers of the noun and the verb.

(6)

Koalib (Heibanian; Quint 2013: 117)
a. kw-ór kw-ínyí kw-òppá.
   NC_{kw}-man NC_{kw}-POSS:1SG NC_{kw}-be.big:PFV
   'My husband is big.' (*kw-* agreement of the possessive and verbal prefixes with the noun *kwór*.)
b. l-ə̀pə́ntì l-ínyí l-òppá.
   NC^1-teacher NC^1-POSS:1SG NC^1-be.big:PFV
   'My teacher is big.' (*l-* agreement of the possessive and verbal prefixes with the noun *lə̀pə́ntì*.)

(p. 246)

(7)

Dagik (Talodi; Vanderelst 2016: 59)

p-aṭːɪ   i-b-ige   b-asɔ.

NC$_p$-man   ATTR-NC$_p$-sick   NC$_p$-come:PFV

'The sick man came.'

(8)

Tagoi (Rashadian; Stevenson 1956/7 [41]: 51)

a. f-aran   f-irmo

    NC$_f$-cow   NC$_f$-black

    'black cow'

b. y-ɛrŋan   y-irmo

    NC$_y$-stone   NC$_y$-black

    'black stone'

In addition to the presence of noun classes in many Kordofanian languages, several of these noun classes are quite similar across families (see Table 17.1).

Table 17.1 Some similarities between noun class markers of various semantic classes across Kordofanian families

Semantic core of the class	Noun class marker[1]				
	Heibanian	**Lafofa**	**Rashadian**	**Talodian**	**Proto-form**
(a) |HUMAN.BEING:SG|	(a_H) /kw/	(a_L) /b~p/	(a_R) /w/	(a_T) /p/	*/kw/
(b) |LIQUID|	(b_H) /ŋ/	(b_L) /ŋ~ɲ/	(b_R) /ŋ/	(b_T) /ŋ/	*/ŋ/
(c) |LONG.OBJECT:SG|	(c_H) /t̪/	(c_L) /t̪/ ?	(c_R) /t~t̪/ ?	(c_T) /t̪/	*/t̪/
(d) |ABSTRAC-TS|	(d_H) /ŋ~t̪/	(d_L) ?	(d_R) /ŋ/	(d_T) /t̪~ŋ/	*/ŋ~t̪/
(e) |LANGUAGE NAMES|	(e_H) /ŋ~t̪/	(e_L) ?	(e_R) /ŋ/	(e_T) /k~t̪/[2]	*/ŋ~t̪/
(f) |DIMINUTIVE:PL|	(f_H) /ɲ/	(f_H) ?	(f_H) /ɲ/	(f_H) /ɲ~ŋ/[3]	*/ɲ/

([1]) References: Heibanian: Schadeberg (1981a); Lafofa: Schadeberg (1981b); Rashadian: Schadeberg (2013, *c*. 1980); Talodian: Norton (2015: 108); Vanderelst (2016: 51); Schadeberg (1981b); proto-forms: Schadeberg (1989). Some proto-forms in Table 17.1 differ slightly from the ones proposed by Schadeberg; I am responsible for these differences.

([2]) Norton and Kuku Alaki (2015) give only /k/ as a reconstructed form for LANGUAGE NAME noun class markers in Talodian. However, at least three Talodian languages exhibit LANGUAGE NAMES with a noun class marker akin to Proto-Talodian /ṯ/: Dagik, Daloka, and Tuwal, which makes quite reasonable to postulate the existence of a /ṯ/ variant in Proto-Talodian, all the more so as /ṯ/ is frequently used as an ABSTRACT noun class marker in Talodian and the categories of LANGUAGE NAME and ABSTRACT are semantically interrelated in many Kordofanian languages (see the discussion of (9e) in section 17.4.2.1).

([3]) At least two Talodian languages (Norton and Alaki 2015: 108), namely Dagik and Tuwal, have a noun class marker /ŋ/ for the |DIMINUTIVE:PLURAL|, e.g. Dagik ***ŋ****ura* 'little/tiny calf' (VE:56). However, within a comparative perspective, we have only retained the Talodian /ɲ/ marker, whose form obviously coincides with its homologues in Heibanian and Tegalian.

(9)

a. (a_H) Koalib *kwór* 'man', (a_L) *biḍɛgém* 'Tegem [=Lafofa] person' (TSd [7]:15), *bəlibwere* 'blacksmith' (TSd:167), *p-uma b-owi* 'woman' (SV[41]:121), (a_R) *wàrórək* 'thief' (MS:20), Orig *wóoríg* 'person from J[ebel] Turjuk' (MS:20), (a_T) Dagik *p-ʊɾa* 'thief' (VE:43)

7

Phonetically, the correspondence between the four families seems quite plausible: (i) conservation of Proto-Kordofanian */kw/ in Heibanian; (ii) passage /kw/ > /p/ in Talodian, an evolution path widely attested in other languages such as Indo-European, e.g. Latin (Italic) *quinque* /**kw**in**kw**e/ 'five' vs. Breton (Celtic) *pem**p*** or Latin *quis* /**kw**is/ 'who.M.SG:NOM' vs. Oscan (Italic) *pis*; (iii) loss of the plosive element /k/ of Proto-Kordofanian in Rashadian; (iv) Lafofa /b~p/ variation is finally in line with Talodian /p/, as there is fluctuation within Talodian itself as to the voiced/unvoiced realization of Proto-Talodian /p/ (see results of Schadeberg's survey (1981b) for the words 'husband' (p. 31), 'man' (p. 33) and 'person' (p. 35)).

b. (b_H) Koalib *ŋâo* 'water', *ŋèelà* 'oil, fat', (b_L) Lafofa *ŋ-ɛi* 'urine' (TSd:170), *ŋo* 'milk' (TSd:169), *ɲie~ɲee* 'blood' (TSd:167), *ɲ-íí* 'water' (TSd:42), (b_R) Orig *ŋàì* 'water' (MS:94), *ŋoc* 'urine' (MS:93), (b_T) Dagik *ŋa* 'oil' (VE:51), *ŋeru* 'blood' (VE:51), Lumun *ŋaák* 'fat' (n.) (HS), *ŋʊccʊk* 'blood' (HS)

Here the correspondence between the four families is nearly perfect. Regarding Lafofa, we can note that all known items having both an initial /ɲ/ and a |LIQUID| meaning have a palatal vowel as the first element of their root (*ɲie~ɲee*, *ɲ-íí*). This palatal vowel could account for the shift to /ɲ/ (palatal nasal) of an original class marker */ŋ/.

c. (c_H) Koalib *tée* [ṱée] 'arm, upper limb', *tél* [ṱél] 'horn', *téɾàny* [ṱéɾàɲ] 'boundary', (c_L) *ṱ-ówáa-áy* 'arm', *ṱ-û-í* 'horn', (c_R) Tagoi *ṱ-əwan* 'rope' (ST 1957[H3]:133), *túúr (iŋ)* 'horn' (TS:5), *téŋlàk* 'tongue' (TS:28), (c_T) Dengebu *ṱ-úlúŋê* 'tongue' (TSd:41), Tocho *ṱ-úúβɛ* 'horn' (TSd:30)

d. (d_H) Koalib *ŋémà* 'strength', *ŋèpèetáŋ* 'whiteness' (< *pèeté* 'be white'), *ŋètèny* 'fear', *táakà* [ṱáagà] 'marriage' (< *àaké* 'marry'), Tira *ŋáòð* 'work', *ðbɾá* 'strength', (d_R) Orig *ŋírís* 'fear' (MS:34), *ŋúmán* 'shame' (MS:34), (d_T) Dagik *ŋərɛ* 'work' (VE:51), *ŋəma* 'strength' (VE:51)

e. (e_H) Koalib *ŋètkù* 'Arabic', Werni *ṱèrðà* 'Arabic', Tira *ðiccùl* 'Arabic', (e_R) Orig *ŋɔɔríg* 'Turjuk [= Orig] language' (MS:34), *ŋɛ́gdìráá* 'Arabic' (MS:34), (e_T) Dagik *ð-əl:amɛ* 'Arabic' (VE:58)

What is striking is the general hesitation in the three Kordofanian groups for which this semantic class is documented between /ŋ/ and /ṱ/ markers, which are also used to mark abstract nouns. The reason for the parallelism between |ABSTRACTS| and |LANGUAGE NAMES| is probably the fact that a |LANGUAGE NAME| can be conceived of as the ab-

straction par excellence of a given cultural community (e.g. "Arabic" is the emblematic |ABSTRACT| associated with Arab people, etc.).

f. (f_H) Koalib *nyór* 'children, *nyàkró* [nàgró] 'chicks' (< *yàkró* 'hen'), Werni ***ɲ*ákóró** 'chicks' (< *kákóró* 'hen'), Tira ***ɲ*ìmná** 'kids', (f_R) Orig***ɲ*ímnàn** 'kids' (MS:39), ***ɲ*ìrŋán** 'small stones' (< *yìrŋán* 'stone', MS:40), Tagoi ***ɲ*íŋ** 'children' (TSb:334), (f_T) Joo-mang ***ɲ*áanûŋ** 'children' (TSd:22), Lumun ***ɲ*ʊkʊl** 'children' (Smits 2016)

(p. 248) However, despite their widespread use in Kordofanian and the striking similarities they display through different families of this grouping, noun classes are not a consensual criterion to justify that Kordofanian regroups languages belonging to the same phylogenetic stock and therefore makes up a particular branch of Niger-Congo.

(i) Some Kordofanian languages have no noun classes. This scenario is represented by Tegali (Eastern Rashadian) languages[8] as opposed to Tagoi (Western Rashadian) languages which have noun classes. Regarding Rashadian, the core of the debate is to choose between two hypotheses: (1) either all Rashadian languages used to have noun classes and these were lost at a given period by Tegali languages only, whereas Tagoi languages kept them to this day (see Schadeberg 1989, *c*.1980), or (2) all Rashadian languages used to have non noun classes and Tagoi languages acquired those classes due to the influence of the neighboring Kordofanian noun class languages, in particular Heibanian (see Stevenson 1956/7 [40]: 102; Blench 2013: 575–6). Although I personally support (1) (due to the many resemblances shared by Rashadian and other Kordofanian languages), I think that no decisive evidence has been adduced in favor of either of these hypotheses.

(ii) Other Kordofanian languages only have a reduced system thereof. This scenario corresponds to Katloid languages which have very few distinct noun classes; for example, in Tima (Alamin 2012b: 23–38), there are two morphologically marked general singular noun classes (characterized by prefixes /kV/- and /t/- respectively), and two locative classes plus an abstract noun class (prefix /dV/-), the latter being used in particular to derive language names (see Table 17.2). However, reduced as it may be, some features of Tima class morphology are clearly reminiscent of typical Kordofanian class languages.

Table 17.2 Tima (Katloid) and Koalib (Heibanian, noun class language) language names nominal derivation

Language	Form	Meaning	Form	Meaning
Tima (Katloid)	**kɜ̀**mààdáŋ	'Katla person'	**dɜ̀**mààdáŋ	'Katla language'
Koalib (Heibanian)	**kwè**jɛ̀ŋkɛ́	'Dinka person'	**ŋè**jɛ̀ŋkɛ́	'Dinka language

As shown in Table 17.2, the class derivation |PEOPLE| > |LANGUAGE NAME| is realized both in Tima and Koalib through prefixal alternation.

(p. 249)

(iii) Some non-Kordofanian languages spoken in the Nuba Mountains also have noun classes. This is in particular the case of Kadu languages, traditionally included in Nilo-Saharan (Schadeberg 1981c, 1994) and spoken in the southwestern part of the Nuba Mountains, in the vicinity of Talodian and Heibanian languages. The existence of noun classes in Kadu is unquestionable:

(10)

a. miɖɛ   y-adagbo   y-ɔ
    man NC_M-big NC_M-DEM
    'this big man'

b. ka   m-adagbo   m-ɔ
    woman NC_F-big NC_F-DEM
    'this big woman'

However, the central semantic distinction in the Kadu class system is between MALE/MASCULINE and FEMALE/FEMININE (see (10a) and (10b), taken from Stevenson 1956/7 [41]: 55–6), whereas in most Kordofanian (and more generally Niger-Congo) languages, the basic contrast is usually between HUMAN and NON-HUMAN (Creissels 1991: 91–2; 2000: 243). This strongly suggests that Kadu languages might have borrowed (or copied) the morphological structure (prefixal concord markers) of Kordofanian noun classes while maintaining the essentials of their own semantic organization, which is clearly at variance with Kordofanian as a whole.

17.4.2.2 Verb extensions

All Kordofanian families have numerous verbal extensions and suffixes conveying various meanings, such as those exemplified by Koalib (Quint 2010a) (see Table 17.3).

Kordofanian

Table 17.3 Some verb extensions attested in Koalib (Heibanian)

Verb extension	Form of the extension		Example
	Segmental	**Tonal[1]**	
Applicative 1 (benefactive)	-ccE[2]	$H(L)_nH$	*àé* 'die' > *ʋìccí* 'die for s.o.'
Applicative 2 (malefactive)	-(a)tA	$H(L)_n$	*nyììmí* 'steal sth.' > *nyíimʋ̀tʋ̀* 'steal sth. from s.o.'
Associative	-VtE	$(L)_nH$	*àppé* 'carry' > *àppàté* 'carry together'
Causative	-i + HVHS[3]		*ájlè* 'be weak' > *ʋ̀jlí* 'weaken'
Excessive	-AttE		*óblὲ* 'be short' > *òblàtté* 'be too short'
Immediate	-(t)AnnE		*ììɗí* 'fall' > *ììɗʋ̀nní* 'fall suddenly', *ʈùú* 'go out' > *ʈùutʋ̀nní* 'go out at once'
Locative/transitive	-AcE		*ɽùuní* 'bring s.o. up' > *ɽùunʋ̀cí* 'bring s.o. up somewhere'
Passive	-(t)VnnE		*ìppí* 'beat' > *ìppìnní* 'be beaten', *yὲέ* 'eat (tr)' > *yὲɛtὲnnέ* 'be eaten'
Reciprocal	-AtEcE		*ὲɽnyέ* 'kill' > *èɽnyàtècé* 'kill each other'
Reflexive/middle	-VnnE/ -VtnE		*ìppí* 'beat' > *ìppʋ̀nní* 'beat oneself', *yὲέ* 'eat (tr)' > *ὲtnέ* 'eat (intr = for oneself)'

(^{1}) H = high tone; L = low tone; n = number of syllables with n≥1.

(^{2}) Except for causative (see next note), the vowels of the verb extensions are indicated in uppercase as their actual realization depends on the Vowel Harmonic Set of the lexical root they attach to: /i, ɐ, u/ belong to the high set, and /e, ɛ, a, ɔ, o/ belong to the low set. A Koalib phonological word can only contain vowels belonging to one and the same set (i.e. both sets cannot co-occur in a given Koalib lexical item). For more details about vowel harmony rules in Koalib, see Quint (2009:33-40, 2006b:34–42).

(^{3}) HVHS = High Vowel Harmonic Set. The causative extension generally triggers the use of vowels belonging to the high set in the lexical root itself.

Similar verb extensions are found in all other Kordofanian languages for which sufficient data are available:

• In Tima (Katloid), we find (Alamin 2012b: 103–18; Alamin *et al.* 2012) an antipassive, two applicatives (benefactive/recipient and instrumental), a causative, a middle voice (with both reflexive and reciprocal values), a separative ("movement out of some original position"; see Alamin 2012b: 114), a reversive, and a ventive.

• In Dagik (Talodian), we find two applicatives (benefactive and locative), a causative, an associative, an inchoative-stative, a middle voice, and an iterative (Vanderelst 2016: 89–105).

• In Tumale (Rashadian), we find at least a benefactive and possibly a transitive (Stevenson 1956/7 [41]: 49).

(p. 250) Note that, except for the Rashadian transitive, all these Kordofanian extensions behave according to the same morphologic pattern, as they are produced through suffixes which attach to the verb root.

In spite of the fact that semantically related verbal extensions are found in many African languages (Hyman forthcoming), for a linguist who has worked in-depth on a Kordofanian language (i.e. Koalib for the author), it is obvious that:

(i) the verb extensions described by other linguists for other Kordofanian languages do share many common points between themselves.

(p. 251) **(ii)** these same verb extensions also present striking similarities with other Niger-Congo languages, such as those belonging to the Atlantic stock (as I have been able to discover myself while working on a member of this grouping, namely the Nyun variety of the village of Djifanghor, Senegal; see Quint forthcoming) or the Bantu family (e.g. the surprising resemblance of some specific uses of applicative derivations in both Zulu (Bantu) and Koalib (Kordofanian) described in Quint 2010a: 310–12).

17.4.3 Lexicon

Kordofanian languages also present similarities regarding lexicon. However, systematic lexical comparisons remain difficult, as, for a majority of Kordofanian languages, we still only have at our disposal meager wordlists (generally adapted from Swadesh) comprising at best 100 or 200 items, and this scant material does not allow much more than impressionistic judgments and intuitions.

At least two important lexical collections are now available: a Tima dictionary (Schneider-Blum 2013; *c*.5,000 entries) and a Koalib dictionary (Ali Karmal Kokko and Quint forthcoming; *c*.6,500 entries). One can also mention the nearly 1,000 entries of the lexicon recently produced by Vanderelst (2016: 247–57) for Dagik and several other recent publications (e.g. Bashir 2010, 2015; Alamin 2012b) which mention many lexical items in their analyses. I will show how the existence of these new resources allows us to find many more cognates than had been noticed until now between the various Kordofanian families.

17.4.3.1 Heibanian and Katloid

A rapid examination of the available documentation for Tima yields around twenty plausible cognates with Proto-Heibanian (as reconstructed by Schadeberg 1981a) or Koalib (see Appendix 1).

17.4.3.2 Heibanian and Rashadian

Here too, the available material allows one to recognize dozens of convincing cognates. Actually the number of specific lexical coincidences with Koalib (see Appendix 2) is striking (e.g. 'lower leg' or 'six'). One may attribute some of these lexical similarities to the fact that the Koalib linguistic area is in direct contact with the Rashadian (Tagoi) languages. Note, however, that (i) the Koalib data presented here come from Rere (Quint 2009), which is spoken in the very center of the Koalib country (and therefore not in direct contact with Rashadian), and (ii) the lexical resources available for Rashadian languages are quite limited, which renders all the more significant this relatively high number of lexical similarities that I have been able to identify between the two families.

17.4.3.3 Heibanian and Talodian

Some clear cognates can be identified (see Appendix 3). Note that, despite the comparative work produced by both Schadeberg (1981a) and Norton and Kuku Alaki (2015), it is harder to find cognates between Heibanian and Talodian than between Heibanian and (p. 252) Rashadian. This result is contrary to several recent publications, such as Blench (2013)[9] and Dimmendaal (2015: 26), which tend to advocate the existence of a stronger link between Heibanian and Talodian in contrast to the remaining Kordofanian families.

17.4.3.4 Heibanian and Lafofa

There are indeed some convincing cognates between those two families (see Appendix 4). However, their number is quite limited (fewer than twenty for the moment). Two remarks are in order about this scarcity of cognates: (i) the result of these comparisons illustrates

once more (Schadeberg 1981b; Hammarström 2013; Norton and Kuku Alaki 2015) the specific status of Lafofa inside Kordofanian. Indeed, it seems more reasonable to consider Lafofa as an independent Kordofanian family and not as a branch of Talodian; (ii) be that as it may, the relatively reduced number of cognates available for Lafofa is also due to the lack of available data for this Kordofanian family, which is probably now the least studied of the whole Kordofanian branch.

17.4.3.5 Other comparisons between Kordofanian families: Katloid−Rashadian and Talodian

Many more pairs (or triplets…) of the five Kordofanian families could be compared in the same way as I have done in sections 17.4.3.1–17.4.3.4 above for Heibanian and each of the other four Kordofanian families. A comparison involving Katloid, Rashadian, and Talodian has in particular been undertaken, suggested, or discussed by several scholars. Stevenson (1956/7 [41]: 51) already noticed some lexical similarities primarily between Katloid and Rashadian languages and secondarily between these and Talodian. These shared items (which do not seem to be chance correspondences) are one of the main arguments used by some contemporary scholars to postulate a common origin for Katloid and Rashadian (Blench 2013: 581; Dimmendaal 2015: 26), which would make up together one of the primary sub-branches of Kordofanian. In Appendix 5, I present a list of these potential cognates (excluding cases for which a plausible cognate can also be found in Heibanian). Note that (i) although these items clearly belong to the core lexicon of the languages at stake and display striking semantic and segmental similarities, their actual number is quite low; (ii) Stevenson based his comparative list (which represents the majority of known potential cognates) on individual languages and not reconstructed forms of proto-families (which remain to be proposed for Katloid). However, in most cases, the now available reconstructed forms do not seem to invalidate Stevenson's observations.

Within the perspective advocated in this chapter (namely that the five Kordofanian families probably are genetically related), I will consider that, when Katloid, Rashadian, and Talodian forms display a cognate unattested in Heibanian or Lafofa, this cognate can plausibly be traced back to Proto-Kordofanian. Indeed, as Heibanian is geographically (p. 253) situated *between* Talodian, Rashadian, and Katloid, it is more likely to suppose that items shared by the three later families represent retentions from a common ancestor.[10]

17.4.3.6 Proto-Kordofanian roots

The comparisons produced in this chapter allow one to propose Proto-Kordofanian roots for items which are attested in similar forms in at least three of the five Kordofanian families (see Table 17.4).

Table 17.4 Some plausible Proto-Kordofanian roots

	Family					Proto-Kordo-fanian
Meaning	**Heibanian**	**Katloid (Tima)**	**Lafofa**	**Rashadian**	**Talodian**	
bark 1 (n.)	Koalib *kìmù ukùl* [kìmùugùl]	UN	UN	Orig *kìmbàkɔ́l*	*t-ə-**mək**	*-mVk-
bark 2 (n.)[1]	UN	*kúúr*	*c-**iír**i*	*g-ware	UN	*k(V)VrE∼ c(V)VrE
beat/hit	*-**bi**ḓ-	UN	*… **bi**ŋ*	Orig *bí(r)/ pù(ró)*	*-go**b**-/ *kə-**bɔ**	*-bV-
belly	*g-+-**aar**e	*kúɽúún*	*ṱ-**úur**-i*	UN	*j-+-**ara**g / *ca-rə**k**	*-VrVk∼ *-VɽVk
bite/eat	*-i**y**-	UN	*… **jiɛ***	*y**ɛk**	*-gV**jog**/ *kə-ɟɔ	*-CVk
blood	UN	Katla *ija∼iya*	UN	Rashad *w**iya***	*ŋ-+ -**itts**ug / *ŋ-**ɪcc**ʊk	*(C)iC_pV
breast	UN	Tima *kɨ**mínd**ì*	UN	*d-**miɲ**	*j-+ -**intsi**g / *c-ə-m**mi**k	*CVmiC

clothes	*g-+-ere**d̪**	UN	UN	Tagoi *kɛr(ɛ́)w*	*k-ɛrɛ**t̪**	*kErEC
dry	*-un**D**o	UN	UN	*-u**d**di	*-an **d̪**o	*-OndV
ear	*g-/n-+ -aa**ni**	*kɔ́.**nɔ̀***	UN	Tagoi *finin*, Tegali *(a)nuu(n)*	*g-+ -**eenu** / *k-ɛ**nu**	*kVnV
elephant	*d-+-o**ŋor**	UN	*yu:ŋi*	*(f**V)ŋVn**	NA	*-VŋV(C)
eye	UN	Katla *gɨ**göt̪***	UN	*y-n**gid**	*j-+-**igg** / *c-**it**	*?+-*git*
foot/leg	Koalib *káakà* [k**áagà**]	UN	*l-i**a-ga***	*d-**ɛgɛ**n	*ts-+ -**aga**g	*-AkA(C)
goat	UN	Tima *cí**mìð***	*ɛɛ**mi***	*m**bɨ**t	*w-+ -e**mi**g / *u-**mit**	*Em(b)iT
green/wet	*-**iigl**a	UN	*b-ʊ́ɲji-lli*	Tagoi -***ijilú***, Tegali -***rígɛ̂l***	UN	*-iklV~ ijlV
hair	UN	Tima ***káàm***	UN	*g-**aam**	*d-+ -ʊ**gaŋ** / *NC-**ŋən̪**	*kaam~ *gaam
head	UN	Katla ***gas***	UN	*g-**a**j	*j-+-**ats**, *c-**ac**	*gaC_{DP}~ C_{P}a C_{DP}

left (side)	*-a**wur**	UN	*kúl*ɪ	*-**awwir**	*-**gul**e / *-**gul**ɛ	*-C_Vul-~ *-C_Vur-
mud	Koalib k*èlòo*	Tima k-*ʌ́ʌlu*	UN	Orig **ŋį̃ló**	UN	*-ElO
near	Koalib **kɛ́ttɔ̀k** [kɛ́t̪t̪ɔ̀k]	Tima m*ɛ̀t̪ɛ́n*	UN	Tagoi **gatt**ɔ**ŋ** /**t**ɔ**g**ɔt	*-**iddu** / *-**t̪t̪**o-t̪	*-Et̪t̪OC
one	*-**aDDe**	Tima **àt**íín	UN	Orig **wàtt**á	UN	*attV ~ *ad-dV
rain	*g-+-**aw**	UN	*k-ál*ló-y	*(y)**au**	*k-**ab**ɪk	*kaw ~ *kal
red	*-**UUre**	Tima -*rdí* (SB:260)	UN	*-**ara**w	*-**oode** (TSd) / *-**ḍɛ** (NK:147)	*-OrdE
sheep	Koalib **káaŋàl**	*(k)áŋàl*	ßa:ŋi	Orig **kàg**óy	*t̪ʊ-**ŋga**t̪	*kAC_VAC
smoke (n.)	*g-+-**ulu**	*kɔ̀ɔ̀ɽ**ón**	c-**oor**-í	Tagoi **k(ə)r**ək, Tegali **tul**ɛ́	UN	*-uC_LVBV
sun	ø-+-***aŋin**	*kínèè*	UN	*-**aane**	*j-+-**iŋgi**, *c-ə-**ŋgi**	*-VC_NV

tongue	*ḓ̩-+*-**ŋel**a*	*kìlíŋîì*	*l-íáŋ-i*	***d-aŋil**(-ag)	***ḓ̩-+ - (V)lVŋe** / ***ṱʊ -ləŋɛ**	*-ḓVŋl(V) ~ -ḓ̩VlVŋ(V)
vomit	*-**we**y-	*-húwʌ̀*	*lwâ-ḓaŋ,...lwa*	***VdV**k	-**VddV** / ***u**k-**d**ɛ	*-UdA ~ *-UwA

([1]) For the existence of two Proto-Kordofanian roots for 'bark', see Appendix 5 and the footnote referring to this item therein.

(p. 254) (p. 255) Some of the above items, relating in particular to body parts (e.g. 'belly', 'ear', 'foot/leg', 'tongue'), qualifiers (e.g. 'dry', 'green/wet', 'red'), common verbs (e.g. 'beat/hit', 'vomit') or other basic notions (e.g. 'left', 'rain') are clearly part of the core vocabulary of any language and the similarities attested between the different Kordofanian families may plausibly be linked to a common origin (i.e. a Proto-Kordofanian stage).

For some other items, more caution is in order. This is the case for words such as (i) 'clothes': until the twentieth century, a significant proportion of Kordofanian-speaking communities did not wear any clothes and therefore the notion of clothing was probably not as lexically central as body parts or the 'rain'; (ii) 'sheep': although sheep-breeding seems to have been practiced for several millennia in East Africa (Blench and MacDonald 2000), the degree of similarity between Koalib (Heibanian) and Tima (Katloid) forms is too high not to be suspicious if one thinks that these groupings, admitting that they both derive from one and the same "Ur-Kordofanian" ancestor, must have been separated for at least 2,000 to 3,000 years, judging from the many divergences they display. The similarity between Katla and Koalib might as well be due to borrowing either (a) at a time when Proto-Katloid and Proto-Heibanian speakers lived side by side or (b), if we take into account the fact that all Kordofanian branches exhibit convincing cognates for 'sheep', at a relatively recent time, when a specific variety of sheep expanded through the Nuba Mountains and the name of this new variety accompanied this expansion. Scenario (b) is supported by the fact that other widespread lexical roots in the Nuba Mountains, i.e. /mVrtV/ 'horse' or /ʃVrtV/ 'iron', have convincingly been shown to be the result of lexical diffusion through borrowing, the ultimate source of these wandering words being generally the Nile Valley (see Quint 2013: 121–3 and references therein).

As summary as it may be, the results of the small lexical comparison undertaken in this chapter clearly show that all Kordofanian branches do share some common lexical roots in their core vocabulary. This result strengthens the hypothesis of the existence of a Proto-Kordofanian stage from which Heibanian, Katloid, Lafofa, Rashadian, and Talodian would all be derived.

17.5 Conclusion and prospects

Much more research should be done and much more data should be gathered in order to develop sound comparisons between the different branches of Kordofanian and between Kordofanian and the other families which make up the Niger-Congo (or Niger-Kordofanian) phylum. At any rate, the grammatical and lexical commonalities shared by many Kordofanian languages seem to support the hypothesis of a common origin for these languages. It is to be hoped that the increasing knowledge assembled by the new generations working in this field will enable us to solve one of the most interesting puzzles for Niger-Congo linguists by providing more detailed answers to the three following questions: (i) What really are the precise linguistic characteristics of Kordofanian languages? (ii) What is the exact relationship between Kordofanian languages and how can we account for the divergences observed in the attested varieties? (iii) How does Kordofanian

fit into Niger-Congo and what historical processes can be adduced to explain the existence of this (p. 256) isolated pocket separated (both by a large distance and different communities) from the rest of its Niger-Congo sister-languages?

17.6 Appendices: Wordlists of cognates between various Kordofanian families

	17.6.1 Appendix 1: Plausible lexical cognates between Heibanian and Katloid		
	Katloid[1]	Heibanian	
Meaning	Tima	Proto-Heibanian	Koalib
belly	*kúɾúún* (SB: 258)	*g-+-aa**re**	*káaré*
buy	*əəl-/éèl* (AL: 68, BSb:34)	NA	*èelá*
cough (n.)	*kwàòr.lə́l* (BSa: 79)	NA	*kwàrlé*
ear	*kɔ́.**nɔ̀*** (AL:29, BSa:94, SB: 235)	*g-/n-+-aa**ni**	*kɵ́ɵnì*
fish	*(ku)-**m**òŋ* (SB: 192)	*gu-+-**Um**	*kwôm*
food	*ʈ̪ʊ̀rì* (SB:288)	NA	*tûl* [ʈ̪ûl] (O: *tùlì*) 'sorghum porridge'
hammer	*d̪ɔr* (BSa:30–1)	NA	*ʈɔ̀r* [ʈɔ̀r]
lungs	*pàʈpàʈ* (BSb: 38)	NA	*kè**pɔ́tpɔ̀t*** [kèvɔ́ðvɔ̀ʈ̪]
male	*ø-kɔ́ŋkɔ́r* (BSa: 258, SB:235)	*-**oŋor**	*kwóoŋòr*
mud	*k-ʎʎlu* (AL:37)	NA	*kèlòo* 'salty mud'
navel	*kɨ̀-lʎlù* (AL:27)	NA	*kwúllɵ̀*

near	*mèṱén* (SB: 187)	NA	*kɛ́ttɔ̀k* [kɛ́ṱṱɔ̀k]
one(RN)	*àtíín* (SB:269)	***-aDDe**	*kwɛ́ttɛ́*
red	*-rdí* (SB:260)	*-UU**re**	*óorè*
scar	*yuulʌ* (SB:323)	NA	*lóolè* 'scarification'
sew	*kúrúú*↓ (BSa: 238)	**kVɽ-/kVr-** (majority of Heibanian)	*òkwɽé*
sheep	*(k)áŋàl* (SB:37)	NA	*káaŋàl*
smoke (n.)	*kʋ̀ʋ̀ɽʋ́n* (BSa: 69)	*g-+-**ulu**	*kwʋ̀uulú*
snake	*kɨ̀-mɨ́nʌ* (BSa: 162)	UN	*kímʋ̀u*
sun	*kínèè* (BSa:86)	*ø-+-a**ŋin**	*àaŋwòn*
thirst	*yeedi* (SB:323)	NA	*ʋ́ʋtʋ̀*
tongue	*kìlíŋîi* (AL:26, BSa:112)	*ḓ-/d-+-**ŋel**a	*téŋlà*
uncle	*mʌ́múŋ* (BSb: 41)	NA	*mʋ́m* 'mother's brother'
vomit	*-húwʌ̀* (SB:136)	*-**we**y-	*ùʋ́*
waterbag	*tùlkù* (SB: 281)	NA	*kwúlkùŋ* [kwúlgùŋ] 'goatskin'
white(ness)	*bɨ̀tʌk* (BSa:86)	*-**biiḓ**o	*pèeté* [f/vèeðé]

(¹) After each Tima item, I give the initials of the authors consulted (see "Abbreviated references" above) followed by the page number where the item has been found. For Proto-Heibanian, all data come from Schadeberg (1981a). For Koalib, the data are mine. The segments in bold letters are those that present most similarities between Katloid and Heibanian items. Whenever an English meaning is followed by (RN), it means that Russell Norton suggested to me the comparison for the item in question.

17.6.2 Appendix 2: Plausible lexical cognates between Rashadian and Heibanian					
	Rashadian[1]			Heibanian	
Meaning	Orig/Tagoi (Tagoi)	Gom (Tegali)	Proto-Rashadian	Proto-Heibanian	Koalib (Heibanian)
Achilles' tendon	*kiric* (MS:95)	NA	NA	NA	*kìrìi* 'tendon'
back of head	*yìndɔ́ŋ* (MS:31)	NA	NA	NA	*lèɗɔ̀ŋ*
baobab	*wɔr* (MS:92)	NA	NA	NA	*kwòkwɔ̀r*
bark	*kìmbàkɔ́l* (MS: 36)	UN	UN	UN	*kìmùukùl*
beard	*kábú* (MS:35)	NA	NA	NA	*kʊ́ʋbú*
beat/hit	*bí(r)/pù(ró)* (MS:50)	NA	UN	*-biḏ-*	*ìppí*
brain	*yáràɲ* (MS:31)	NA	NA	NA	*ŋàɽény*
canine tooth	*tèrèm* (MS:16, 28)	NA	NA	NA	*téeɽám*
cave	*kùbáŋ* (MS:37)	NA	NA	NA	*kèbàŋ*

cheek	*yìnèènè* (MS: 31)	NA	NA	NA	*lènέεnὲ*
cloth, dress	*kóbàŋ* (MS:37)	UN	NA	NA	*kwópàn* [kwóvàn]
clothing	*kεrέ(ε)w* (TSb: 334)	UN	NA	*g-+-ere*ḍ	*kèrέt*
doum (tree)	*wàndɔ́k*, fruit: *yàmdɔ́k* (MS: 92)	NA	NA	NA	*àmtó*
dry	*-uttá/-ottó* (TSb:334)	*-údî* (TSb:334)	*-uddi* (TSc:42)	*-unDo*	*ònté* [ònḍé] (PF V: *òntò*)
dust	*túláŋ* (MS:30), *kólólóŋ* (TSb: 334)	*tólóŋ* (TSb:334)	NA	NA	*kúulʋ́* (O: *kùulʋ́ŋí*)
ear	*fɪnɪn* (MS:12)	*nu/nũ̃/ núun/ anuun* (TSb: 334)	NA	*g- + -aani*	*kʋ́ʋnì*
eat	*yεk* (TSb:334)	*yεk* (TSb:334)	*yεk* (Q)	*-iy-*	*yὲέ*

eight	tùppá (MS:42)	tuppá (TSb: 338)	*tuppá (TSc:42)	*-uuba(ŋ)	ɗòpɔ̀kkwóppà [ɗòvɔ̀kkwóppà]
elbow	tulu (MS:9, 27)	NA	NA	NA	tóolóŋ
elephant	ƒàŋán (MS:72), ƒu-ŋin/ƒə-ŋin (SV-41:46)	ŋin(ε)/ŋεni (SV-41:46)	*(ƒV)ŋVn (Q)	*d-+-oŋor	tóoŋwór [ṭóoŋwór]
fat	ŋaarəf (TSb: 334)	iri 'oil' (TSb: 334)	*-aarif (TSc:45)	*ŋ-+-eeLa	ŋèelà
flower	kàbláɲ (MS: 36), kabalíɲ (TSb:334)	oofənjεlak (TSb:334)	NA	*-biraŋ?	ópɽény [óvɽéɲ]
foot/leg	tὲgàn (MS:28), tέgεn (TSb:335)	εgέn (TSb:335)	*d-εgεn (TSc: 48)	UN	káakà [káagà]
go	ndé (MS:50), έέ-dέ/έ-ndε (TSb:335)	ε-ndεk (TSb: 335)	*ε-ndε(k) (Q)	*-nD-	ὲεlέ (IMP: ntu~nti [ndu~n di])
green	-ijilú (TSb:335)	-rígêl (TSb:335)	NA	*-iigla	-íklì [íglì]
guest	w-εrìn (SV-41:121)	NA	NA	NA	kwìirìn

hare	*cín* (MS:39)	NA	NA	NA	*ŋìinì*
kid	*címnàŋ* (MS: 39)	NA	NA	NA	*ṭémnà* [ṭémnà] 'young goat'
left (side)	*ŋáwwúr* (TSb: 335)	*áwə́r* (TSb:335)	**-awwir* (TSc: 47)	**-awur*	*ŋʋ̀ʋkùr* [ŋèègù r]
lower leg	*téndèny* (MS: 16, 28)	NA	NA	NA	*ténṭény* [ṭéndɛ́ŋ] 'front of the lower leg'
many	*-ə́tta* (TSb:336)	UN	NA	**-uDDu*n	*-éṭṭàcér*
milk	*ŋáṇ* (MS:81), *ŋan* (SV-41:146)	NA	NA	NA	*ŋáṇ*
mud	*ŋílɔ́* (MS:82)				*kèlòo* 'salty mud'
near	*gattɔŋ* (TSb: 336), *tɔgɔt* (TSb:336)	UN?	NA	UN	*kɛ́ttɔ̀k*
night	*kìrìm* (MS:15, 37), *kərəm* (TSb:336)	*úgri* (TSb:336)	NA	UN	*kìrìm* 'darkness'

old (≠ new)	*-ɒrów* (TSb: 336)	*aró* (TSb:336)	*-VrV (Q)	*-ooɽan	*-óoɽón*
one	*wàttá* (MS:10, 42), *-ɛndá* (TSb: 338)	*w-uttá* (TSb: 338)	NA	*-aDDe	*kwɛ́t̪t̪ɛ́*
porcupine	*wor* (MS:84)	NA	NA	NA	*kwôn*
python?	*wàm* (MS:88)	NA	NA	NA	*kwâm*
rain	*yàʊ̀* (MS:33), *yau/ yaaw* (TSb: 336)	*áú* (TSb:336)	*(y)au (Q)	*g-+-aw	*kâo* 'rain', *yâo* 'much water'
red	*-àráó* (MS:41), *-a aráw* (TSb:336)	*-aryáu* (TSb: 336)	*-araw (TSc:45)	*-UUre	*-óorè*
salt	*mɔ́do/mɘ́ndu* (TSb:336)	*mude* (TSb: 336)	*mVdV (Q)	*ø-+-muda	*kwúmtʊ̀* [kwúmðè]
scorpion	*w-udeny* (SV-41:121)	NA	NA	NA	*lɛ̀bɗɛny*
sheep	*kàgóy* (MS:87)	NA	NA	NA	*káaŋàl*
shoulder	*killi* (MS:8, 35)	NA	NA	NA	*kéllè*

six	*ɲérér* (MS:42), *ɲɛ́ɛ́réɣ/ɲɛɛɽɛɽ* (TSb:338)	*ɲɛ́ɛ́rɛ́r* (TSb: 338)	**ɲɛɛrɛ*C (Q)	**ɲ*-d-**ɛɽil**	*nyérlél*
smoke (n.)	*kɪrë̈k* (MS:88), *k(ə)rə̈k* (TSb: 337)	*tulɛ́* (TSb:337)	NA	*g-+-**ulu**	*kwùulú*
soul, shade	*tàglám* (MS:27)	NA	NA	NA	*tíkɽìm* [tígɽìm]
sun	*yàn* (MS:90), *yáán* (TSb:337)	*áánɛ́* (TSb:337)	*-**aan**e (TSc:49)	*ø-+-**aŋ**in	*àaŋwòn*
tail	*teyək/tii*k (TSb: 337)	*(e)yə*k (TSb: 337)	NA	**d̪*-+-**ia**	*têa*
taste (v.)	*-daŋal* (MS:90)	NA	NA	NA	*nyèŋlɛ́*
tongue	*téŋlà*k (MS:27, 28), *táŋə́la*k/ *taŋəl*k (TSb: 337)	*aŋa* (TSb:337)	***d-aŋil** (-ag) (TSc:45)	**d̪*- + -**ŋel**a	*téŋlà*
vomit	*(w)o*dək (TSb: 338)	*u*dak (TSb:338)	***VdV**k (Q)	*-**we**y-	*ùʋ́* (PFV: *uʋtu* [*ùɐðù*])

| water | *ŋa(a)y* (TSb: 338) | UN | NA | **ŋ-+-a*w | *ŋâo* |
| yam | *kìrár* (MS:36) | NA | NA | NA | *kíɽɒ̀r* 'edible tuber sp.' |

([1]) See preceding note 1 to Appendix 1 for the reference system and for Proto-Heibanian and Koalib data. In some cases, when all Rashadian forms present a high degree of similarity, I have myself proposed a Proto-Rashadian form (indicated by Q). The remaining Proto-Rashadian forms all come from Schadeberg (*c*.1980).

17.6.3 Appendix 3: Plausible lexical cognates between Talodian and Heibanian

	Talodian[1]		Heibanian	
Meaning	Languages	Proto-Talodian	Proto-Heibanian	Koalib or other
bad	Jomang -*ʊ́kki* (TSd: 19), Tocho *pɔ-**gi**-ḓak* (NK:148)	*-V**ggi** (TSd), *-**gi** (NK:148)	*-**gge**	-*kɛ̂ɛ* (PFV: -***kèe***)
bark (n.)	Lumun *təm**mə̂k*** (HS), Tuwal *x-ə**mək*** (NK:130)	*t-ə-**mək** (NK:130)	UN	*kìmùukùl* [kìmùugùl]
beat/hit	-*ɔ**ppí**/kɔ**bɔ*** (TSd: 30), Tocho *ɔ**ppɔ*** (NK:144)	*-go**b**- (TSd), *kə-**bɔ** (NK:143)	*-**biḓ**-	-***ìppí***
belly	*car**ə́**k* (HS), Tasomi *j-**áár**ə̣̂k* (TSd:20)	*j-+-**ara**g (TSd), *****ca-rə**k (NK:130)	*g-+-**aar**e	*káaré*
bite/eat	Tasomi *ḓá-g**íj**ɔk* (TSd:20)	*-g**Vjo**g (TSd), *kə-**ɟ**ɔ (NK:142)	*-i**y**-	***y**ɛ̀ɛ́*
black	-***oṇi*** (VE: 142), -*ɔɲî* (HS)	*-**uɲi** (TSd)	*-**uŋ**una	-***úŋnì***
butter	***pəði*** (VE:50)	NA	NA	***púutì*** [fúuðì]

claw/nail	Tasomi **g-áárɛ̧li** (TSd:22)	***g**-+-**aareli** (TSd), ***k**-adə**li** (NK:131)	UN	*kèɽèllè*
cloth(es)	Lumun **k-ɛrɛt** (NK: 131), **k-ərɛ́t** (HS)	***k**-ɛrɛ̧**t** (NK:131)	***g**-+-**ereḓ**	*kèrét* [**kèrɛ́t̪**]
cold	*-it̪:i* (VE:141, 142)	*-i**ḏḏi**ŋ (TSd), *-i**t̪t̪i**ŋ (NK:151)	UN	*-têɛ* [t̪êɛ] (PFV: *-tèe*)
drum	Dagik *p-**amba*** (NK: 132), Acheron *b-**amba**ŋ* (NK: 132)	*p-**amba**ŋ (NK:132)	NA	*ámpà* [**ámbà**]
dry	*-a**ṉḏ**ɔma* (VE:143), *-ɔ **nt̪**ómat* (HS)	*-**anḓo** (TSd)	*-**unD**o	*-ònté* [òṉḏé] (PFV: *-**òntò***)
dust	Torona *k-ʊɽʊ-**baŋ*** (NK: 132), Tocho *t-uru-**bâŋ***	*t-ə-ḏʊ(-**ban**) (NK: 132)	NA	*kèpɽá* [kèvɽá] (O: *kèpɽáŋé*)
ear	**kenu** (VE:250)	***g**-+-**eenu** (TSd), ***k**-ɛ**nu** (NK:132)	*g-+-aa**ni**	**kʊ́ʋnì**
fire	Lumun *t̪-**ík*** (NK: 133), Acheron *ḏ-**ɪk*** (NK:133)	*ḏ-+-**ig** (TSd), t̪-**ɪk** (NK:133)	*ø-+-**iig**a	**ìik**ʊ́ [**ìig**é]

food	Lumun *ṯ-òɽít* (NK: 133)	**ṯʊ-l*ɪ (NK:133)	NA	*tûl* [**ṯûl**] (O: *tùlì*) 'sorghum porridge'
foot/leg	*səgə*k (VE:254), Tasodi *s-ágâ*k (TSd: 28)	**ts-+-**aga**g	UN	*káakà* [k**áagà**] 'foot'
forehead	*su*ð*u* (VE:29), Torona **k-úðu**-t/ *n-**uðu-l** (NK:134)	*c-ə-**ḏu**C (NK:134)	NA	*kìtùl* [**kìðùl**]
fowl	ð*ak:ərʊ* (VE:247)	NA	NA	*kàkró* [kàgró] 'hen'
hard	-*ɔṇḏɔ* (VE:142), -*ɔn* *ṯ*ómat (HS)	NA	NA	**-ònt**é [**òṇḏ**é] (PFV: **-òntò**)
hole	ð*u* (VE:41), *c-**ɪbʊ́** (NK:135)	**ḏ-?+-**ubu** (TSd), **NC-**bʊ** (NK:135)	**li-+-**bug**ul	*túu* [**ṯúu**] 'hole', *lìbùŋ* 'hole (dug into ground)'
human/person	*pʊr* (VE:253)	****b**-+-**ur** (TSd), ****p**-ʊ̣ʊ (NK:138)	****gu**-+-**ur** 'man'	**kwór** 'man'
left (side)	Tuwal *ŋɔ-kʊrɛ* (NK: 147), Torona *ṯɔ-χʊrɛ* (NK:147)	**-**gul**e (TSd), ****gul**ɛ (NK:147)	**-a**wur**	*ŋʊ̀ʊ**kùr*** 'left side' (*t ʊ́ʊ**kúr*** [ṯ*ée***gúr**] 'left-handed person')

lyre	Tuwal *p-ɛrɛ-**mb-ɛrɛ*** (NK:137)	*p-ɛrɛ**n-p-ɛrɛn** (NK: 137)	NA	*kwúm**pòrò** [kwú**mb èrè**]
narrow	***-ómmo*** (TSd: 34), Torona *p**əmmə**ŋ* (NK:150)	*-**ʊmmʊn̪** (NK:150)	*-**muma**?	***ùmmòtt**í*
near	***gaṯṯî**/ɔ́nɔ́**gʊ̪tuk̪*** (TSd:34), ***kə-ṯṯ**u* (NK:150)	*-**iddu** (TSd), *-**ṯṯʊ**-ṯ̪ (NK:150)	NA	***kɛ́ttɔ̀k*** [kɛ́ṯṯɔ̀k]
pig	Nding *t-**údur**u* (NK: 138), Lumun *t-**úṯṯr**úk* (NK:138)	*t-ə-**ṯṯər**uk (RN: 138)	NA	Ko *kùṯ̪ɾ̀*, Tira ***úuṯ̪ṯúr***, Werni ***(ù)uṯúr***
porcupine	*am**umu*** (VE:34)	NA	NA	*lùmù* 'hedgehog'
rain	Torona ***kaβ**ɪk* (NK: 138), Acheron ***gab**ɪk* (NK:138)	*k-**ab**ɪk (NK:138)	*g-+-**aw**	***kâo***
red	*-**ɔɾɛ*** (VE:143, 151)	*-**oode** (TSd), *-**ḍɛ** (NK:147)	*-**UUr**e	*-**óorè***
rope	***ðɔr*** (VE:248)	*ḍ̪-+-**oor**ag (TSd), *ṯ̪-**ɔḷ**ək (RN:139)	*ḍ̪-+-**ar**	*lár*

sheep	*ðuŋga* (VE: 31), Tocho *ʈʊ-ŋgak* (NK: 139)	*ʈʊ-ŋgaʈ (NK:139)	NA	*káaŋàl*
strength	**ŋəma** (VE:147)	NA	NA	**ŋémà**
sun	*j-íŋgi/c-íŋgi* (TSd: 40)	*j-+-**iŋgi** (TSd), *c-**ə-ŋgi** (NK:140)	*ø-+-**aŋin**	*àaŋwòn*
thief	***pʊɽa*** (VE:43, 253)	NA	NA	***kwòoɽàm***
thorn	***túgi*** (Ngile, TSd: 151)	*d̪-+-a**(g)i**	*d-+-**ugi**	*túukí* [ʈ̪úugí]
throat	ð̪ə**guru** (VE:15, 248)	NA	NA	t̪ókwɽɔ̀ [ʈ̪ógwɽɔ̀]
tongue	***ðuləŋɛ*** (VE:248)	*d̪-+-**(V)lVŋe** (TSd), *ʈʊ-ləŋɛ (NK:140)	*d̪-+-**ŋel**a	***téŋlà***
tree	***b-ííɽâ/p-ííɽâ*** (TSd: 42)	*b-/g-+-**ɪɪd**a (TSd), *p-**ɪda** (NK:140)	*gu-+-**aaɽ**e	***kwáaɽé***
two	Dengebu -***ɛ́ɛɽá***, Torona *m-ɛɽa* (NK: 151)	*-**eeda**g (TSd), *C-**ɛd̪a**c (NK:150)	NA	-*iɽʋn*

| vomit | *uttɛ* (HS) | *-**VddV** (TSd), ***u**k-**dɛ** (NK:146) | *-**we**y- (TSa) | *ùʋ́* (PFV: *uʋtu* [**ùɐðù**]) |

(¹) See note to Appendix 1 for the reference system and for Proto-Heibanian and Koalib data. When a Heibanian language other than Koalib is mentioned, its name is explicitly mentioned and the data are mine. For Proto-Talodian, data come from Schadeberg (1981b) and Norton and Kuku Alaki (2015).

	17.6.4 Appendix 4: Plausible lexical cognates between Lafofa and Heibanian		
	Lafofa[1]	Heibanian	
Mean-ing		Proto-Heibanian	Koalib
belly	*t̲-úur-i* (TSd: 20)	*g-+-**aar**e	*káaré*
bite	...*jiɛ* (TSd: 20)	*-i**y**-	*yɛ̀ɛ́*
bone	*t-ʋ́ám-i* (TSd:21)	*li-+-**u**ya	*lèá*
ele-phant	*yuːŋi* (TSd: 168)	*d-+-**oŋ**or	*tóoŋwór* [t̲óoŋwór]
fly	*βai* [β~b] (TSd:168)	NA	*kwáeó* [kw**áaj**ó]
foot	*l-ia-ga* (TSd: 32)	UN	*káakà* [káagà] 'foot'
hit	...*biŋ* (TSd: 37)	*-**bi**d̲-	*ìppí*
left (side)	*kúlɪ* (TSd: 31)	*-a**wur**	*ŋʋ̀ʋkùr* 'left side' (*tʋ́ʋkúr* [t̲éeɡúr] 'left-handed per-son')
rain	*k-áll*ɔ́-y (TSd:35)	*g-+-**aw**	*kâo*
seed	*t-ʋ́ʋl-ɪ* (TSd: 37)	*li-+-**UUl**a	*lòolà*
sheep	*ßaːŋi* (TSd: 168)	NA	*káaŋàl* (Koalib)

sky	*l-ʊ́ʊr-í* (TSd: 38)	NA	*lɛ́ɛrɛ́*
smoke (n.)	*c-ʊʊr-í* (TSd: 27)	*g-+-**ul**u	*kwùulú*
star	*t-ɽɔ́ɔ́* (TSd: 39)	*li-+-**UDa**m	*ʈòoròm*
tongue	*l-íáŋ-i* (TSd: 41)	*d̪-+-**ŋela**	*ʈ̪éŋlà*
tooth	*ʈ̪-ɛ́ɛŋ-í* (TSd: 41)	*li-+-**ŋa**d̪	*lèŋàʈ̪*
vomit	*lwâ-d̪aŋ,… lwa* (TSd:42)	*-**we**y-	*ùʋ́*
wet	*b-ʊ́ʋji-lli* (TSd:42)	*-**iigl**a	*íklì* [íglì]
woods	*t-ɔ́ɔ́ɽɔ́* (TSd: 44)	NA	*lúuɽí* (DIM: *ʈúuɽí*) 'piece of wood'
worm	*kʊ-dʊŋ-í* (TSd:44)	*gu**-+-ɔnd̪ɔ	*kwɔ̀nʈ̪ɔ́* [kwɔ̀nd̪ɔ́] (O: *kwɔ̀nʈ̪ɔ́ŋé*)

([1]) See note to Appendix 1 for the reference system and for Proto-Heibanian and Koalib data.

Kordofanian

	Katloid[1]	Rashadian		Talodian	
Meaning		**Languages**	**Proto-Rasha-dian**	**Languages**	**Proto-Talodian**
bark(RN)[2]	Katla **kúúr**	Tagoi **kówár**, Tagom **warɛ** (TSb:333)	***g-war**e (TSc: 46)	UN	UN
blood	Katla **ija~iya** (SV-41:51)	Rashad **wiya** (SV-41:51), o**yá** (TSb:333)	*ŋ-o**ya** (TSc:46)	Tocho ŋ-**íccɔk** (TSd:21)	*ŋ-+-**itts**ug (TSd:132), *ŋ-**ɪc cʊ**k (NK:130)
bone	Tima **kuh** (SV-41:191)	Tagoi **kuh** (TSb: 333)	***g-us**ru (TSc: 45)	UN	UN
breast	Katla **munji** (SV-41:51), Tima kɨ̀**míndì** (SB:190)	Orig tɘ́**miɲ** (TSb:333), Rashad **min** (SV-41:51)	*d-**miɲ** (TSc:45)	Talodi j-**inji**k (SV-41:51)	*j-+-**intsi**g (TSd:133),[3] *c-ə-m**mi**k (NK: 130)
eye	Katla gɨ**göt̪** (SV-41:51)	Tagoi yí**gət** (TSb:334), Rashad (ŋ)**gət** (SV-41:51)	*y-n**gid** (TSc: 43)	Lumun **cít** (HS), Ngile s-í**gi** (TSd: 25)	*j-+-**iig** (TSd: 136), *c-**it** (NK: 132)

four(RN)	Tima *ìhálə̀m* (SB:137)	Tagoi *-arəm*, Tagom *áarám* (TSb:338), Tegali *harom* (TSc:22)	*(h)**aram** (Q)	UN	UN
goat[4]	Tima *címìð* (SB: 190)	Orig *m̀bə́t*, Tagoi/Rashad *mbɨt* (SV-41:147)	*****mbɨt** (Q)	Lumun *imit* (SV-41:147)	*w-+-e**mig** (TSd:138), *u-**mit** (NK:134)
good(RN)	Tima *-àmmɔ̀l*, *-màl* (SB:34, 183)	Tagoi *-dɔ́mbɔ́r*, Turjok *-ambalɔ́*, Tagom *kamɔr*	*****-am**(b)**ɔr** (Q)	UN	UN
hair	Katla *ga**gam*** (PL: *a**gam***) (SV-41:51), Tima *ká**àm*** (SB: 25)	Tagoi/Orig *ka(a)**m*** (TSb: 334), Rashad *a**m*** (SV-41:51)	*****g-aam** (TSc: 45)	Tocho *k-ʊ́ʊ́**gaŋ*** (TSd:28)	*d-+-ʊ**gaŋ** (TSd: 140), *NC-**ŋə̪n̪** (NK:135)
head	Katla *****gas*** (SV-41:51)	Tagoi/Orig *ká**y***, Rashad *a**s*** (SV-41:51)	*****g-a**j (TSc:44)	Talodi *j-**as*** (SV-41:51)	*****j-+-ats** (TSd: 140), *c-**ac** (NK: 135)
tortoise	Tima *k-ɔ̀rʊ̀l* (AL: 24)	NA	NA	Dagik *ké̪ʈ͡ɔ́* (VE: 47)	NA

(^{1}) See note to Appendix 1 for the reference system and for the sources of the data (including proto-languages).

(^{2}) This root for 'bark' may well be shared with Lafofa *c-iíri* (TSd:19). However, it is distinct from another root attested in Heibanian, Talodian, and also Orig, a Rashadian language (see Table 17.4). The existence of two roots for 'bark' might be the reflexion of a lexical doublet already present in Proto-Kordofanian. It could also be the case that these two roots refer to two different kinds of 'bark' which we are not able to distinguish, due to the lack of fine-grained lexicographic studies devoted to Kordofanian languages.

(^{3}) TSd (133) has *j-+-instig* but, according to the collected forms for 'breast' (TSd: 21) and the comment on the form ("NG: mm < *n**ts** ?", p. 133), *in**st**ig* is most probably a typographical error for *j-+-in**ts**ig.*

(^{4}) Note that for this item, Lafofa also displays a related form, *εε**mi*** 'goat' (TSd:139).

Acknowledgments

List of abbreviations

A = central vowel; ATTR = attributive marker; C_{DP} = dental or palatal consonant; C_{LVB} = liquid or vibrant consonant belonging to the set /l, r, ɽ/; C_N = nasal consonant; C_P = palatal consonant; C_V = velar consonant; DEM = demonstrative; DIM = diminutive; E = front vowel; F = feminine; IMP = imperative; M = masculine; N = noun class marker; O = back vowel / object; PFV = perfective; POSS = possessive; Q = reconstructed form proposed by Quint; $_{(RN)}$ = suggested by Russell Norton; T = dental/interdental or alveolar obstruent

Abbreviated references

AL = Alamin (2012b); BSa = Bashir (2010); BSb = Bashir (2015); HS = Smits (2016); MS = Schadeberg and Elias (1979); NK = Norton and Kuku Alaki (2015); N = suggested by Russell Norton; SB = Schneider-Blum (2013); SV = Stevenson (1956/7); TSa = Schadeberg (1981a); TSb = Schadeberg (2013); TSc = Schadeberg (ca. 1980); TSd = Schadeberg (1981b); VE = Vanderelst (2016)

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Notes:

(^{1}) With the exception of the easternmost members of the family, namely Ko and Werni, which are clearly outliers.

(^{2}) As a matter of fact, in the present state of knowledge about Kordofanian languages, their exact number cannot be stated. In large linguistic areas (like Koalib or Moro) with dialectal continuums, it is not always easy to decide on linguistic grounds only whether we are faced with closely related languages or varieties of one and the same language.

(^{3}) The Mahdiya (1881–98) was a crucial period in the recent history of Sudan. After several decades of Turkish-Egyptian rule over Sudanese territory, the Sudanese rose against their foreign occupiers under the leadership of Muhammad Ahmad, a Dongolawi from northern Sudan, who proclaimed himself the Mahdi, i.e. the ultimate Prophet of Islam. The upheaval gained momentum and soon the Mahdist rebels were able to overcome large Egyptian forces until they finally took Khartoum in January 1885. Afterwards, a Mahdist state was established which would wage almost permanent war against foreign powers and local disobedient communities (such as the Tegalians and many other Nuba tribes). The Mahdist state was finally destroyed by a British expedition in 1898.

(^{4}) The Kadu (or Kaduglian) languages seem to belong to the Nilo-Saharan phylum. However, they have a noun class system, which might have been borrowed through contact from the neighboring Kordofanian communities (see below and also Quint 2009: 7–8; 2006b: 10; Schadeberg 1981c, 1994).

(^{5}) Regarding Talodian, mention should also be made of Norton and Kuku Alaki's recent study (2015).

(^{6}) Dimmendaal (2015: 35) proposes that [±ATR] and non-[±ATR] systems occupy different geographical zones in the Nuba Mountains, but the delimitations of such zones are at least partially based on Stevenson's material (1956/7), which is not fully reliable as regards vowel harmony in Kordofanian languages.

(^{7}) For abbreviated references, see key preceding the "References" section. Unreferenced data were collected by the author.

(^{8}) In fact, Schadeberg (*c.*1980: 37) signals the existence in Tegali of at least two productive prefixes *ŋV-* and *t-*, used to derive language- and place-names respectively, and Tucker and Bryan (1966: 292) also mention (citing Stevenson but without the exact reference) the use of *ŋV-* to derive abstract nouns. Although these prefixes do not command class agreement on nominal dependents, one cannot but notice their evident formal proximity to noun class markers attested in other Kordofanian languages: (a) *ŋ-* is widely used with nouns belonging to the |ABSTRACT| and |LANGUAGE-NAME| semantic classes in many (see Table 17.1) and (b) a *t(V)-/ð(V)-* marker used to produce locative nouns exists both in Tagoi (e.g. *t·oorig* 'the village of Jebel Turjuk' (where Orig is spoken, MS:29) and at least in some Talodian varieties (e.g. Dagik *tɔ̀-sɔ́* 'Lumun/Tocho/Asheron area', VE:58).

(^{9}) However, in a more recent paper (Blench 2018), the same author also questions the existence of a specific Heibanian—Talodi grouping, in view of the relative paucity of cognates and other similar characteristics between the two families.

(^{10}) The other possibility would be that Katloid, Rashadian, and Talodian speakers came in contact with each other during their migration to the Nuba Mountains or at a time when the speakers of the Proto-Kordofanian families (i.e. Proto-Heibanian, Proto-Talodian, etc.) occupied locations different from the ones they occupy now in the Nuba Mountains. As there is no reliable source documenting the linguistic geography of the region before the nineteenth century, a lot of different scenarios can theoretically be envisaged. However, (i) the important linguistic differentiation observed between the various languages of each Kordofanian family and (ii) the dialect continuums observed in several places (e.g. between Koalib and Heiban; see also note 2) seem to support the fact that the various Kordofanian communities have been residing in their present-day areas (or in nearby places) for a considerable period of time (Quint 2006b: 11–12, 2009: 8–9).

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