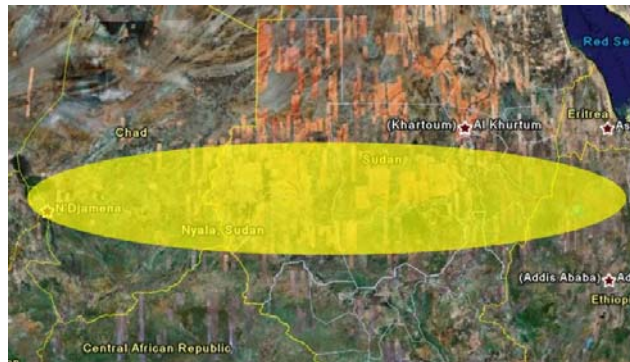


# Links between Cushitic, Omotic, Chadic and the position of Kujarge



## 5<sup>th</sup> International Conference of Cushitic and Omotic languages

[DRAFT CIRCULATED FOR COMMENT]

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## 1. Introduction

It has long been claimed that Cushitic languages show a special link with Chadic; in an extreme case, it has been claimed some East Chadic languages *are* Cushitic (e.g. Whitehouse 2005 on Kujarge). This seems reasonable in terms of geography but inadequate data has meant that the issue is far from resolved. In recent years there has been a significant expansion of data available on East Chadic languages and it is an appropriate time to revisit this question. The paper examines the lexical and morphological evidence linking Cushitic and Chadic and also considers specific similarities between Central Chadic languages and Cushitic, particularly in the area of verbal morphology. It asks what model of genesis can be developed to account for these similarities and how these might be linked to recent developments in the palaeoclimatology of the south-central Sahara.

## 2. Lexical evidence

The primary author to compile evidence for links between Cushitic/Omotic and Chadic was Mukarovsky (1987). While much new data has become available since this was published, many of his observations are still valid. Not all of the connections he proposes hold up, but many are worth further consideration. The sections below compile a number of apparent cognates between Chadic and Cushitic/Omotic. Not all of these will hold up; some may be chance resemblances, some may be simply part of a larger Afroasiatic lexical fund. Nonetheless, it is striking how many are not part of common Afroasiatic.

One possible reason for the lexical links between the Cushitic/Omotic languages and Chadic is that the Eastern Sudanic languages, which now occupy much of the intermediate region between these branches of Afroasiatic, acted as either a source or channel through which items were borrowed. For example, the numeral ‘one’, #tok, is also attested in several branches of East Sudanic (§2.1). Various possible scenarios can be imagined;

- a) the root was originally Cushitic, was borrowed into East Sudanic and thence into Chadic
- b) the root was originally East Sudanic and was borrowed into both Chadic and Cushitic
- c) the root was originally Cushitic, its Chadic attestations are genetically connected, but it was subsequently borrowed into East Sudanic

Our understanding of the comparative phonology of these languages and their historical reconstruction is not such that these options can be decided on purely linguistic grounds. As a result, linguistic geography may be the best option; the main attestations of #tok are in West-Central Chadic and certainly not in languages with any direct contact with East Sudanic. Similarly, the #tok roots in Cushitic are not spread across the Cushitic/Omotic area in an arbitrary way, as might be expected on a loanword. This suggests in this case, #tok *is* an old Afroasiatic root and its presence evidence of a genetic connection. However, it also shows that each lexeme must be argued on a case-by-case basis and loaning of even fundamental vocabulary cannot be excluded.

### 2.1 Numerals

	<b>AA subgroup</b>	<b>Language</b>	<b>Form</b>
One	Cushitic	Arbore	toko'da
		Oromo	tokko
		Gawwada	toko
		Tsamakko	doko
	Chadic	Tangale	dok
		Pero	ɗok
		Daba	tàkan
		Zime	ɗaw

	AA branch	subgroup	Language	Form
One	Cushitic		Soomali	mid
			*PHEC	*mitto
	Omotic		Burji	micca
			Ghimira	metʼ
Chadic			Kafa	mitto <i>allein</i>
			Bole	modí
			Ngamo	modí
			Kwang	min
			Somrai	mén

Item	AA branch	subgroup	Language	Form
three	Cushitic		Beja	mahay
	Omotic	Aroid	Dime	mikkim
			Karo	makkəm
	Chadic	West	Dot	magen
			Geji	mekan
		Central	Tera	makin
			Gude	maka
			Daba	màkad

Item	AA branch	subgroup	Language	Form	Gloss
four	Cushitic	North	Beja	fadig	
			Saho	afaar	
		HEC	Burji	foola	
	Omotic		Moca	aʼwuddo	
			Ari	ʔuddu	
Chadic			Hausa	fúdù	
			Ngizim	fúdù	
			Marghi	fòdù	
			Zime	fudí	
			Musgu	púdu	
			Birgid	fòòdì	

Item	AA branch	subgroup	Language	Form	Gloss
ten	Cushitic		Oromo	kudʼa	
		HEC	Gedeo	kuʼrani	count form
			Gawwada	xúdʼdʼa	
	Omotic		Sezo	kúúd(ú)	
Chadic		West	Geji	kuł	
			Central	Glavda	kə̀la
			Mafa	kúlà	
		Masa	Zime	gu	
		East	Mubi	kúruk	

**Commentary:** Discussed in Appleyard (2006: 133) who speculated that the Agaw root (\*cəka) might be related to East Cushitic roots via metathesis.

Item	AA branch	subgroup	Language	Form
thousand	Cushitic	East	Oromo	kúúmaa
			*PHEC	kuma
	Omotic		Welamo	kumaa
ten	Chadic	West	Janjero	kumaa
			Hausa	góómàà
		West	Dera	gûm
		Central	Marghi	kùmù
		Central	Musgum	gum
		Masa	Zime	gu
East	Mokilko	kòómá		

**Commentary:** The comparison between ‘ten’ in Chadic and ‘thousand’ in Cushitic/Omotic was first made by Mukarovsky (1987).

## 2.2 Body parts

Item	AA branch	subgroup	Language	Form
ear	Cushitic		Gawwada	kamte
			Tsamay	k’ante
	Omotic	Aroid	Dime	k’am(o)
			Karo	k’ami
	Chadic	West	Hausa	kûnnéé
			Bole	kumo
		Central	Yedina	homú
		Masa	Zime	húm

**Commentary:** Mukarovsky (1987:44) adduces further cognate forms with the meaning ‘to hear’. Orel & Stolbova (1995) point to a much more common Afroasiatic root \**sum* or similar and it may be that some Chadic forms reflect interference between two distinct roots. East Chadic Kwang exceptionally has *túgū* for ‘ear’ which resembles various Cushitic forms, but this is probably coincidence.

Item	AA branch	subgroup	Language	Form	Gloss
tongue	Cushitic	Agaw	Xamtanga	laaq	
			PNA	*lanq	
		E Cushitic	Arbore	laeke	
	Chadic	West	Dera	daak	
			Pero	dàk	
		Central	Glavda	árə̀xà	

**Commentary:** Discussed in Appleyard (2006: 139) who speculated that this root might be related to East Cushitic roots for ‘swallow, taste’. Borrowed into Amharic as *lank’a*, ‘palate’.

Item	AA branch	subgroup	Language	Form	Gloss
skin	Omotic		Cara	faata	
			Ghimira	beet	
			Galila	footi	
	Chadic	West	Hausa	fáátàà	
			Zaranda	bati	
		Central	Mafa	húted’	
		Kamwe	pta		

Item	AA subgroup	Language	Form	Gloss
liver	Cushitic	PHEC	*afale	
	Chadic	Goemai	fele	
		Gude	faren	

Item	AA branch	subgroup	Language	Form	Gloss	
blood	Cushitic	Agaw	Proto-Agaw	*bər	blood	
			North	Beja	boy	blood
			East	Saho	bíílo	blood
		Omotic	Arbore	burri	red	
			Kafa	buroo	blood-price	
			Shinasha	birá	red	
	Chadic	West	Proto-Chadic	*bar	blood	
			Miya	páràm		
			Tule	vúràni		
			Masa	vùrzù		
		East	Birgid	bàrà		
			Dangla	báári		
			Kujarge	ibirí	blood	

**Commentary:** Discussed in Newman (1977:22) and Appleyard (2006: 34).

### 2.3 Natural world

Item	AA subgroup	Language	Form	Gloss
world	Cushitic	Beja	terig	world
		Arbore	awa tera	sun
	Omotic	Maji	darsu	stars
	Chadic	Miya	tir	world
		Daba	tira	world
		Mubi	tiri	world

Item	AA branch	subgroup	Language	Form	Gloss
ashes	Cushitic	Agaw	Bilin	bəta	dust
			PHEC	*bukó	dust
	Omotic		Basketo	buda	
			Dime	bindo	
			Mwaghavul	fwat	
	Chadic	West	Diri	butu	
			Ngizim	bibit	
		Central	Yedina	budén	
		Masa	Zime	bùt	
		East	Dangla	bùtù	
	Birgid		bùti		

Item	AA branch	subgroup	Language	Form	Gloss
earth	Omotic		PHEC	*ulla	
			Haruro	alla'	
			Maji	yellu	
			Dime	yillu	
	Chadic	West	Mwaghavul	yil	
			Gurduŋ	yil	
			Ngamo	'eli	
Zar			yaɫ		

Item	AA subgroup	Language	Form	Gloss
mountain	Cushitic	Derasa	kooba	
		Harso	guubo	
	Omotic	Kafa	gubbo	
	Chadic	Guduf	guɓa	

Item	AA subgroup	Language	Form	Gloss
snake	Cushitic			
	Omotic	Dime	gunno	
		Karo	guni	
	Chadic	Ngas	ŋgwoŋ	
		Masa	gwina	
		Daba	wun	

Item	AA branch	subgroup	Language	Form	
egg	Cushitic		Burji	bul bulee	
			Omotic	Maale	ḡúúllà
			Ari	buula	
	Chadic	West	Ghimira	mul	
			Zar	mbúɫ	

Item	AA branch	subgroup	Language	Form	Gloss	
name	Cushitic	Agaw North	Proto-Agaw	*ʃəŋ <sup>w</sup>		
			Beja	sim		
			PHEC	*sumʔa		
	Omotic		Janjero	suuna		
			Basketo	sumsa		
			Hausa	súúnáá		
	Chadic	West	Bole	sun		
			Central	Marghi	lóm	
			Masa	Zime	sám	
			East	Mokilko	sùmá	
			East	Kera	sám	
	Semitic		Amharic	sim		

## 2.4 Livestock

Livestock terms in Afroasiatic are of particular interest, since it is extremely likely that herding and rearing animals was the principal means of subsistence of early speakers and the engine of their expansion in the pre-agricultural period. There are a number of striking lexemes that appear in almost all branches of Afroasiatic. This section expands and re-interprets some of the material in Blench (1999, forthcoming).

#la. cow, cattle

West and Central Chadic attest a form something like la- with likely cognates in East Chadic (Jungraithmayr and Ibrizimow 1994, I:43). Southern Cushitic also has a voiceless lateral, #l-, in the same C1 slot (Ehret, 1987:80).

Item	AA branch	subgroup	Language	Attestation	Gloss
cow, cattle	Cushitic	Agaw	Bilin	ləwi	cow
		East	Gedeo	lali	cattle
			Oromo	loon	cattle
	Chadic	West Rift	Iraqw	lee	cow
		West	Ngizim	là	cow
			Central	Ga'anda	là
		Semitic	Central	Akkadian	luʔum
				luu	bull
	Arabic			laʔan	bull
			Jibbāli (=Shahri)	léʔ/lhóti	cow

Related terms seem to be found in Semitic but not in Berber or Egyptian, if the l/l correspondence holds. Cohen (1947:182) presents an #l- series for Semitic, including Akkadian *lu* and Soqotri *leʔe*, which may form a cognate set. These may, however, refer to the wild bull, still present in the Middle East and Arabia in the 5th millennium BC. Leslau (1938:61) points out that the Hebrew personal name 'Leah' is almost certainly cognate with these forms. The common Ethiosemitic #lam for cow is something of a puzzle (Appleyard, 1977:26). Semitic scholars seem generally unwilling to connect this with the lateral fricative roots in Cushitic. As a result it has been suggested that the *l-h-m* roots meaning 'food' in Arabic and 'shark' in Soqotri (*lehem*) are cognate. A semantic correspondence between 'shark' and 'cow' has a certain Greenbergian charm, but Akkadian *lu'um* 'wild bull' is surely more likely. Leslau (1979,III:379) also notes a comparison with Arabic *lihm*, 'aged ox'.



#k-l-m. bull

The Chadic #k-m- (bull) resembles closely the common Agaw term for ‘cattle’, something like #kəm- (Appleyard, 1984:39). Jungraithmayr and Ibriszimow 1994, I:43 consider this to connected with more widespread Chadic roots for ‘meat’. Cushitic forms usually have #k-r-m so Agaw may have shortened this. Cohen (1947:112) noted a common Afroasiatic k- for ‘bull’ though he speculated that it was possibly a widespread loan. Although this word occurs throughout West Rift it so closely resembles the Ethiopian forms that it is probably a recent loan rather than an old retention, since the practice of using pack-oxen is probably not as old as domestication.

Item	AA branch	subgroup	Language	Attestation	Gloss
bull	Cushitic	Agaw	Proto-Agaw	*kəm	cattle
		East	Gedeo	korma	bull
			Arbore	ḳoll	cattle
	Omotic	Southern	Iraqw	karama+	steer
		N. Omoto	Maale	k’ólmo	cattle
		S. Omoto	Koyra	kéymo	cattle
	Chadic	West	Kulere	kyáál	cattle
			Karekare	kwàm	bull
		Central	Hwana	kwél	bull
		East	Lele	kòl-bé	cattle
Ancient Egyptian		Mubi	kìyà	cattle	
			ḳmĭ	bull	

+This root also occurs in a number of Bantu languages in Tanzania and I assume these are loans from West Rift languages.

#gor ‘calf’

Item	AA branch	subgrou	Language	Attestation	Gloss	
calf	Cushitic	Agaw	Bilin	gār	calf	
			Beja	tagar		
			East	Burji		gáree
		Omotic	S. Omoto	Arbore	goran	heifer
				Somali	agor	bull calf
				Zayse-Zergula	galó	
	Chadic	West	Mburku	yérwá	cow	
			Zaar	gàál	cow	
		Central	Guduf	dayale	bull	
		Vulum	gàrî	bull		
	Semitic	West	Ugaritic	‘-g-l	calf	
			Hebrew	‘eegel	calf	
	Egyptian		Coptic	‘gol	calf	

The Zayse-Zergula citation may be a single loanword, since this is not a common form for calf in Omotic. The Chadic forms are almost certainly cognate with each other, but less certainly cognate with the Cushitic forms.

#b-g-r. male ruminant

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Item	AA branch	subgroup	Language	Attestation	Gloss	
male ruminant	Cushitic	Agaw (=Central)	Bilin	bāga	sheep	
			Moca	bāgo	sheep	
			Shinasha	baggoo	sheep	
	Chadic	West	Karekare	bùgùrè	sheep	
			Kwaami	mbòkirá	sheep	
			Bacama	bògùré	sheep	
		Central	Musgu	béngere	he-goat	
			East	Mokilko	bû-ṅgàrí	cattle
			Kera	ku-púrki	he-goat	
	Semitic	Central	Shuwa Arabic	bagar	cattle	
		South	Ḥarsūsi	bəkərət	cattle	
	Berber	Tamachek	Niger	á-beggug	sheep	

Jungraithmayr and Ibriszimow (1994, I:81) cite this as #b-k-r, a pan-Chadic root and describe this as a *Wanderwort*. Given its widespread distribution in Afroasiatic and the antiquity of goat domestication, there is no reasons why this should be so. However, they also (op. cit. 148) give #baga for ‘sheep’ in Central Chadic and these roots must almost certainly be combined. The Berber citation (from Behrens, 1985:167 ex Heinrich Barth) is unusual and not otherwise attested in Berber; may therefore be a loanword. Bechhaus-Gerst (1989) also argues that the West Rift forms such as Iraqw be’i are also related, although this involves vowel changes and the assumption that the deleted consonant is /g/. The -ri consonant common to Semitic and Chadic is curious, suggesting a source in Ethiopic not synchronically attested.

#kol- goat

Item	AA branch	subgroup	Language	Attestation	Gloss
goat	Cushitic	East	Burji	k’al-óo	goat
			Yaaku	kòll-Eh	castrate goat
			Rendille	kelex	castrate goat
	Omotic	N. Ometo	Maale	kóle	goat
			South	Karo	k’olí
	Chadic	West	Kofyar	koor	large castrate goat
			Bade	akûn	goat
			Central	Dera	kwáarà°
		Uroovin	xwun	goat	
		Yedina	kàani°	goat	

°These may be loans from Kanuri kanyî and thus indirectly or unconnected.

#t-m-k. sheep

The base form #t-m-k occurs in Afroasiatic, Saharan, and Niger-Congo (not cited in the table) and is definitely a *Wanderwort*. Newman (1977:31) proposes \*təmki for sheep in proto-Chadic and Jungraithmayr and Ibriszimow (1994, I:148) note its presence in all branches of Chadic, but they do not consider the external Afroasiatic lookalikes to be cognate. The word for a two-year old sheep in Teda-Daza, *duma*, is cognate with the Kanuri term *dími* and lamb *táma* as with the Berti *tami*. The borrowings into Niger-Congo would have come from multiple introductions in the West African Sahel at the termini of trans-Saharan routes.

Item	AA branch	subgroup	Language	Attestation	Gloss
sheep	Cushitic	East	Oromo	tumaamaa	castrate
		Chadic	West	Hausa	túnkíyáá pl. túmáákíí
	Central		Bade	taaman, tɔmakun	sheep
			Higi of Kiria	timbəkə	sheep
	Masa	East	Tpala	təmāk	sheep
		East	Masa	dímíina	sheep
	Berber	East	Mubi	túmák	sheep
			Kera	taaməgá	sheep
			Wargla	adəmmam	hair sheep

The third literal, -k-, only occurs in Chadic and is presumably an early affix or compound. As the Oromo citation seems to be isolated, without further evidence the provenance of this root as Erythraic must remain doubtful. However, the Nilo-Saharan citations look convincing, providing some evidence for the base form further east in Central Africa. The Berber citation is interesting, since this word explicitly applies to hair sheep that have been brought from Mali and Niger (Delheure, 1987:53). It is likely that all such forms in Berber are loanwords from Chadic or even Saharan.

#ʔaare. small ruminants

Item	AA branch	subgroup	Language	Attestation	Gloss
small ruminants	Omotic		Koyra	ʔáare	flock of sheep
		Cushitic	Beja	Beja	ano, annee
	East		Burji	aráy	
			Rendille	‘aḍi	s/r
	Chadic	South	Gorwaa	‘aaraa	goats
		West	Hausa	árà-árà	long-legged s/r
	East		Lele	ore	goats
		Semitic	Gurage	Muher	äräz
	Berber		Guanche	ara	goat

The Guanche citation is curious and may well be just coincidence. Perhaps related is a root that floats between sheep and goat, onä, which appears as a word for ewe in Beja but surfaces in Gurage as ‘goat’. These could be a subset of Proto-Semitic #n-z.

#xorge he-goat

Ehret (1987:22) reconstructs Proto-Cushitic \*ʔorg- for ‘small ruminant’ but this is most likely to be ‘he-goat’ to judge by the predominant gloss. This particular root has both Omotic and even Ongota cognates, although these could well be loans.

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<b>Item</b>	<b>AA branch</b>	<b>subgroup</b>	<b>Language</b>	<b>Attestation</b>	<b>Gloss</b>
he-goat	Ongota		Ongota	orgai-ko	goat
	Omotic Cushitic	Ometo East	Wolaitta	ʔorggé	he-goat
			Harso	orkakkó	he-goat
			Saho	xarge	he-goat
			Borana	orge	heifer camel (!)
		South	Asax	‘a’aku	sheep
	*Proto-Cushitic°			*ʔorg-	small ruminant
	Chadic	West	Hausa	àwàakii	she-goat
			Ngizim	áakù	goat
		Central	Ndreme	àwák	goat
		East	Dangla	àwkò	goat
					*a(w)ku

°Ehret (1987:22) +Newman (1977)

Newman (1977) gives #a(w)ku as a proto-Chadic reconstruction, but there seem to be sufficient attestations of a lateral in C2 position in Cushitic to add this to the reconstruction. Jungraithmayr and Ibriszimow (1994, I:43) give the root as \*wk- and similarly attest its presence in all branches of Chadic. These are almost certainly cognate with the Cushitic kor- roots. Indeed it is possible to speculate that kor- and org- are in fact the same root with metathesis.

#m-r-k. castrated small ruminant

<b>Item</b>	<b>AA branch</b>	<b>subgroup</b>	<b>Language</b>	<b>Attestation</b>	<b>Gloss</b>
Castrated ruminant	Omotic	N. Ometo	Wolaitta	mára	lamb
			Koyra	mará	ram
	Chadic	West	Polci	maar	goat
			Tangale	mara	castrate goat
			Masa	mərak	castrate goat
		East	Birgid	mar	bull

This root is so widely attested that is surprising to find no evidence for Cushitic.

Donkey

The historical and archaeological evidence for the wild ass or donkey does not appear to suggest either early domestication or transmission to West Africa. The linguistic evidence, however, is clear. The #k-r root is spread from Omotic to West Chadic, with intervening Nilo-Saharan attestations and is also largely apparently absent in BES which has a series of quite distinct roots.

<b>Item</b>	<b>AA branch</b>	<b>subgroup</b>	<b>Language</b>	<b>Attestation</b>
donkey	Omotic	Gimira	Benc Non	kur2-3
		Mao	Hozo	kuuri
		Southern	Karo	uk’ulí
		Agaw	Bilin	dəx <sup>w</sup> ara
		Eastern	Saho	okáalo
	Chadic	West Rift	Iraqw	daqwaay
		West	Karekare	kóoróo
		Central	Vulum	kùré
		Masa	Peve	koro
		East	Nancere	kurá

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The most likely history of this root is that it originally developed as a word applied to ‘wild ass’, probably in Ethiopia. Bender (1988:152) reconstructs proto-Omotic *\*kur* for ass. Skinner cites *\*dAnkwaAr* for proto-Cushitic based on forms such as Bilin *dax<sup>w</sup>ara*. The dV- prefix strikingly links Southern Cushitic and Agaw and is apparently not attested in Eastern Cushitic at all. The Mabaan form is only cognate if initial t-corresponds to k-. Although the West Chadic forms closely resemble those of Masa and East Chadic, they may be loanwords from Kanuri.

### Dog

Arguing historically from terms for ‘dog’ presents a special problem; these words have an astonishing similarity across much of Eurasia. For example, proto-Omotic for dog is *\*kan* (Bender 1988:145) closely resembling Proto-Indo-European *\*kwon-* (Rabin 1982:27). Similar forms are also found in proto-Austronesian and Chinese. Newman (1977) proposes *#kər-* for the original proto-Chadic, forms of which also show up in Nilo-Saharan and is identical to English ‘cur’. Jungraithmayr and Ibrizimow (1994, I:49) note the widespread reflexes of this root across Chadic and consider it may reflect a ‘Central Saharan areal lexeme’. Linguistically, therefore, probably the only useful evidence comes from compounded or affixed forms.

Item	AA branch	subgroup	Language	Attestation	Gloss
dog	Omotic		Proto-Omotic	<i>*kana</i>	
		Cushitic	Beja	Beja	keluus
	Agaw		Bilin	gədəŋ	
	East		Saho	kare	
			Gawwada	xar-o	
			Konso	kuta	
	Chadic	South	Asax	kite	
		West	Hausa	kàree	
			Central	Bata	kəde
		Kaɗa		kəra	
		East		Mokilko	gédè
	Semitic	Central	Sokoro	kúyo	
			Ugaritic	k-l-b	
	Berber	South	Soqotri	kalb	
			Kabyle	akelbun	puppy

If, as Bender (1975:159) and Skinner (1977:187) suggest, this root is common Afroasiatic, then Akkadian k-l-b, Arabic kalb and Kabylé akelbun all form part of a cognate set. The k-l-b root is also applied to wolves in Eurasia (e.g. South Arabian languages) but this is probably a secondary meaning as wolves are absent in Africa. The South Semitic languages, such as Mehri and Soqotri, explicitly apply the same word kalb to both ‘dog’ and ‘wolf’. The third radical, -b, is now generally considered to be an affix marking wild animals and would not necessarily travel with the remainder of the word. Rabin (1982:27) notes that forms such as Latin *canis* may be direct loans from Afroasiatic. Historically speaking, given the Middle Eastern origins of the dog, this is not improbable. Agaw terms for dog, such as Bilin *gədəŋ*, seem to resemble Central Chadic forms very closely, although this may be accidental similarity.

### Guinea-fowl

The most common root in Chadic is *#sVb~vVn* which Skinner (1977:192-3) shows is spread throughout the family. Skinner argues from this that the word has spread recently, but this seems unlikely as the guinea-fowl is indigenous to the region. Newman (1977) also notes this root and proposes *#zaban* for proto-Chadic while Jungraithmayr and Ibrizimow (1994, I:84) propose *#z-b-l*. Strikingly, the forms in Cushitic are very similar. The common Ethiopic root appears to be *#z-g-r*, widespread in Cushitic and Ethio-Semitic; whether its witnesses in Omotic are more than sporadic loans remains to be seen. This root also means ‘spotted’ in

many languages. Ehret (1987:54) suggests \*zagr- for proto-Cushitic, but Agaw forms have -n- in the C<sub>3</sub> slot and centralised vowels in V<sub>1</sub> and V<sub>2</sub>.

## 2.5 Adjectives

Item	AA subgroup	Language	Form	Gloss
large	Cushitic	Rendille	abur	
	Omotic	Haruro	bera	
	Chadic	Buli	beri	
		Gudu	burem	
		Nzanyi	bir	

Item	AA subgroup	Language	Form	Gloss
large	Cushitic	Dasenec	guddo	
		Oromo	guuda	
	Omotic	Sezo	ogote	
		Oyda	gita	
	Chadic	Tangale	kudɛ	
		Gude	ŋgulʒə	

## 3. Kujarge and its classification

The Kujarge language is spoken on the Chad-Sudan border by a small and scattered group of hunter-gatherers. The only published information on this language was published by Doornbos & Bender (1981). On the basis of 100 words they concluded that the language was East Chadic, although its cognacy rate with other East Chadic languages is very low. Recently, an unpublished manuscript containing additional words collected by Doornbos has been circulated, together with some etymological commentary. Nonetheless, the sample remains small and the transcription and reliability of some forms can be questioned. Kujarge is clearly an important language, however, and the exiguous dataset is to be regretted. The fate of the Kujarge people, whose homeland is exactly in the centre of recent conflict, is unknown, but prognostications cannot be good.

The present author has listed Kujarge as an isolate in various publications (e.g. Blench 2006) based on its low cognacy counts with its neighbours. Whitehouse (2005) in an unpublished manuscript on African isolates, points to its particular lexical links with Cushitic and Chadic. Some of these are quite surprising, and it seems conceivable that Kujarge represents a very conservative language that formed part of a chain of languages linking these two regions of Africa.

Item	AA branch	subgroup	Language	Form	Gloss
	Cushitic	North	Kujarge	buso	ashes
			Beja	bus	dirt
			Soomaali	bus	dust
	Omotic		proto-Mao	*puus	ashes

Language	Form	Gloss
Kujarge	ardi	jump
Beja	arid	jump, play, dance

Language	Form	Gloss
Proto-Agaw	*bətt-	louse
Kujarge	biità	louse

Language	Form	Gloss
Kujarge	áke, akaje	head
PN Agaw	ʔax <sup>w</sup> är	head

Language	Form	Gloss
Bilin	ʔáb	mouth
Proto-Cushitic	*ʔaf-	mouth
Kujarge	apa	mouth

Language	Form	Gloss
Kujarge	gùlá	river
Gawada	kolle	river
Xamta	quorä	<i>acqua corrente</i>
Proto-Chadic (Stolbova)	*guru	pond, river

Language	Form	Gloss
Barein	bune	rain
Bilin	bug	water
Kujarge	bu	rain

Language	Form	Gloss
Kujarge	gur	arm
Qemant	kurza	upper arm

Group	Language	Form	Gloss
Central Cushitic	Kujarge	kirna	to smell s.t.
	Xamtanga	xara	smell n.
	Bilin	kʔira	smell n.

Group	Language	Form	Gloss
Central Cushitic	Kujarge	indi	there
	Xamtanga	ədəl	there
	Awngi	anda	there

Group	Language	Form	Gloss
Agaw	Kujarge	malaguma	tomorrow
	Proto-Agaw	*ʔämär-	tomorrow

#### 4. Vowels, radicals and verbal extensions: Central Chadic

An aspect of Chadic that has always troubled Afroasiatic scholars is its general formal dissimilarity with other branches. It seems to conserve neither the system of literals nor the elusive vowels of Semitic or

Berber. In this way it is parallel to Omotic, although it does not otherwise resemble it. Chadic is also highly diverse lexically, and has clearly undergone massive restructuring.

However, part of the problem is also the way Chadic phonology has been presented. Chadic scholars often start from Hausa, which is highly atypical, as it has lost many typical features of Afroasiatic in contact with Benue-Congo languages. But Central Chadic languages tend to have ‘elusive’ vowels. Some scholars have argued that languages such as Laamang or Kamwe could be treated as having just three vowels, a back, front and a central vowel with all surface occurrences accounted for by labialisation and palatalisation (e.g. Mohrlang 1972). This in turn is related to a conservation of something like a literal system, which has certainly disappeared in all other branches of Chadic.

Another intriguing aspect of the conservatism of Central Chadic is the system of verbal extensions, which resemble those in Cushitic. Cushitic verbal derivation is described by, among others, Savà (2005 for Ts’amakko), Crass (2005 for K’abeena), Amha (2001 for Maale), Schneider-Blum (2004) for Alaaba and Mous (2007 for Konso). Reinisch (1909) may have been the first author to draw attention to these systems.

Similar and extensive verbal derivations exist in Central Chadic. No other branch of Chadic has verbal extensions which can be affixed to verbs in ordered series. Verbal derivations are described in Hoffmann (1963) for Marghi, Lukas (1970) for Gisiga, Löhr (2002) for Malgwa, Frajzyngier (2008) for Gidar. The perplexing aspect of these extension, is that while the meaning is often very similar across languages, the actual morphemes are often not cognate.

To give some idea of the range of derivations, Table 1 shows the verbal extensions of Bura, a language of NE Nigeria.

**Table 1. Bura verbal extensions**

<b>Extension</b>	<b>Meaning</b>
-ta	Completed action
-nta	Causative
-mta	Completed action (destructive)
-tsa	Partially inclusive from standpoint of subject
-r	Partial or tentative action from standpoint of subject
-mya	Completely inclusive (from standpoint of *)
-bila	Thorough action on the part of subject or object
	Verbal plurality
-wa	a) Prepositional suffix ‘into’ (object of preposition implied) b) Substitutive
-nkir	a) Adverbial suffix ‘onto’ b) Repetitive
-dzi	Passive and middle voice



Table 2 shows the array of surface forms in Bura derived from **bar**, 'to adhere to';

**Table 2. Derivatives of bar, 'to adhere to'**

<b>Bura</b>	<b>Gloss</b>
<b>bar-</b>	To cling to, or adhere to; to embrace
<b>barbila</b>	To twine about
<b>barbiladzi</b>	To be twined about
<b>bardza</b>	To adhere to the side or body of an object
<b>bardzi</b>	Middle voice of <b>bar</b>
<b>barha</b>	To cling tightly to an object
<b>barhadzi</b>	Middle voice of <b>barha</b>
<b>barmta</b>	Transitive of <b>bar</b>
<b>barmtadzi</b>	Passive of <b>barmta</b>
<b>barta</b>	Alternative transitive
<b>bartadzi</b>	Passive of <b>barta</b>
<b>bartsa</b>	To wrap part of the objects and leave others
<b>bartsadzi</b>	Passive of <b>bartsa</b>
<b>barwa</b>	To wrap an object inside something

None of this creates an argument for a special link between Chadic and Cushitic that could not equally be argued for, say, Semitic. However, the conservatism of Central Chadic does show that there is no reason for excluding it from comparisons, that 'typical' Afroasiatic features are retained in Chadic.

## 5. Conclusion: links between Omotic, Cushitic and Chadic

### 5.1 Tentative Historical implications

This study highlights a number of common lexical items shared between Cushitic and Chadic. This tends to confirm the studies of Mukarovsky (1987) on numerals and body parts. If this is correct, then Cushitic and Chadic may share a special relationship and be opposed to Berber-Egyptian-Semitic or 'North Afroasiatic' (Ehret 1995). The links between Cushitic and Chadic would then be the result of a migration of Cushitic speakers westward. This is a considerable distance and might be explained by the gradual migration of pastoralist peoples. The example of the Fulbe pastoralists who have expanded from Senegambia to the borders of Sudan in the last millennium show that such a migration can occur (Blench, 1995). The animals accompanying this migration would have been three species of ruminant; cattle, goats and sheep. Speakers migrated from the Nile Valley to Lake Chad, as would the Shuwa Arabs, millennia later. Languages related to present-day Chadic were presumably once spoken in a strip across present-day Sudan but were later eliminated by movements of Nilo-Saharan speakers (Map I).

### 5.2 Archaeological correlations

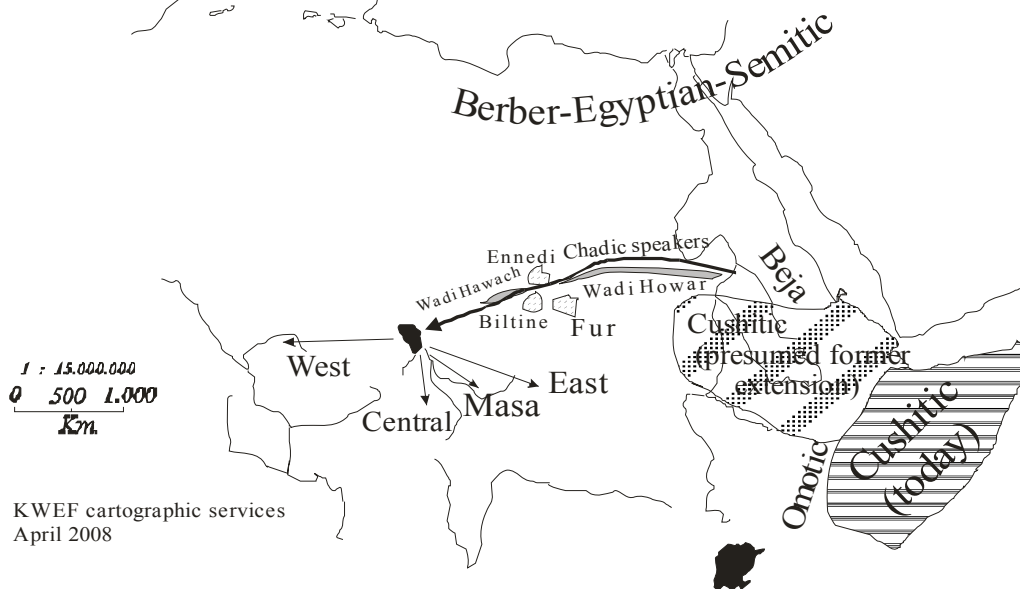
Such a significant long-distance movement of actual population as implied by this model should have archaeological correlates. One of the distinct problems in relating linguistic to archaeological evidence is the patchy nature of excavation. Sudan is relatively well covered, but data for Chad and the relevant regions of Ethiopia and Nigeria remain sparse indeed. To seek sites or traditions that might provide material evidence for such a movement certain parameters must be established. The linguistic data provides no internal evidence for dating although the model has to allow sufficient time for the internal diversity of Chadic languages to develop. Such a movement of pastoral peoples must also lie within the known parameters of ruminant domestication.

A likely candidate for the wandering Cushites is the *Leiterband* pottery tradition that has been identified in the Eastern Sahara, most specifically in the Wadi Howar, which is a now dry river system that stretches over

1000 km between Eastern Chad and the Nile Valley<sup>1</sup>. The Howar ends just beyond the Sudanese border and the proposed migrating pastoralists would then have faced a substantial obstacle in the shape of the Ennedi and Biltine mountainous regions which run North-South. However, there is a gap between these two outcrops which would permit pastoral migration, and the herds would then pick up the Wadi Hawach and thence a series of smaller wadis, running towards Lake Chad.

*Leiterband* traditions were first identified by Kuper (1981) as distinct from Nubian C-group pottery. They have been subsequently studied in more detail by Keding (1993) who argues that this tradition shows its strongest links with the Khartoum Neolithic, out of which it may develop. Keding shows that the pottery traditions are strongly associated with cattle-keeping and indeed complete cattle skeletons have been found in pits on *Leiterband* sites. From this she argues that the makers of the pottery were pastoralists who also supplemented their diet with fish, at that period widely available on the rivers. This pastoral/fishing economy is extremely familiar today from the Nilotic-speakers in the region, such as the Dinka. Map 1 shows the projected route of the speakers of proto-Chadic as well as the approximate locations of the Wadis referred to above.

**Map 1. Proposed migrations of Chadic-speakers**



*Leiterband* traditions have yet to be convincingly dated directly, but if the chronological sequence linking it with the Khartoum Neolithic is correct, then it would begin to develop approximately 4000 BP. This would suit the present hypothesis extremely well; if the Cushites began their westward movement from Ethiopia some 6-5000 years BP they may have been responsible for the Khartoum Neolithic (beginning 5700 BP) and then gradually spread westwards along the Wadi Howar some 4000 years ago. The increasing aridity after this period severed the links with the Nile Valley allowing an independent evolution of decorative styles. In the meantime, the continuing westward drift reaches Lake Chad ca. 3000 BP. This would then link with the earliest dates for cattle in this region at about this period (Breunig et al, 1994).

<sup>1</sup> I am grateful to Jean-Pierre Claret, who encouraged me to examine the geography of this region more closely.

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