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On the position of Kujarke within Chadic

Dedicated to the memory of Professor Andrzej Zaborski

Abstract

In the article the affiliation of Kujarke in genealogical classification is discussed. The Kujarke language is an isolate from Chad-Sudan neighborhood, described by the anthropologist Doornbos in 1981 (partially published in 1983). The present study operates with all *c.* 200 lexemes collected by Doornbos and evaluates their affinities in neighboring languages classified as Chadic and Nilo-Saharan. It is possible to conclude that Kujarke probably represents an independent group of East Chadic branch. From the neighboring Nilo-Saharan languages the strongest influence was identified from the Fur family.

Keywords

Afroasiatic phylum, Chadic family, East Chadic branch, genealogical classification, lexicostatistics.

Kujarke (or Kujarge) was a language spoken by *c.* 1000 speakers in seven villages near Jebel Mirra in eastern Chad and also in several Sudanese villages along the lower Wadi Salih and Wadi Azum in 1981, i.e. in the time when it was described by Paul Doornbos (Doornbos & Bender 1983, 59). The language was classified as East Chadic by Paul Newman who connected it with the Mubi group (p.c. 1979 apud Doornbos & Bender 1983, 76). According to Bender, the glottonym Birgit used by Newman (1977, 6) is in reality Kujarke. In the present study the lexical data of Kujarke collected and published by Doornbos, 86 lexemes, plus his unpublished data, together *c.* 200 lexical units, mediated to the present authors by the chain consisting of Paul Whitehouse, Roger Blench and Harald Hammarström, were compared with all well-described East Chadic languages and occasionally with other Chadic or Afroasiatic languages. There

are specific isoglosses connecting Kujarke with all East Chadic groups. This result does not confirm the affiliation of Kujarke into the Mubi group, although the easternmost member of the Mubi group, Kajakse, is geographically closest from Kujarke (c. 120 km). Bender offered the following scenarios: Kujarke may be (i) a Chadic variety heavily influenced by other languages, (ii) a non-Chadic language with influence from Chadic neighbours, (iii) a hybrid (Doornbos & Bender 1983, 76). With respect to a minorite share of Nilo-Saharan parallels in comparison with the dominant share of East Chadic parallels which apparently do not reflect any recent loans, it is possible to conclude the solution (i) is most promising. Kujarke probably represents an independent group of East Chadic branch, perhaps with a closer relation, genetic or areal, to the Dangla-Mubi super-group (the same conclusion was formulated by Lovstrand 2012). Remarkable, although sporadic, links to Omotic, Cushitic or Berber, confirm an archaic character of the Chadic stratum of the Kujarke lexicon. In regard of the position of the easternmost Chadic language it is not so surprising (cf. Blench 2008). From the neighboring non-Chadic languages the strongest influence may be ascribed to Fur or better to some of its relatives, because the Fur-like words in Kujarke are rather different from their Fur counterparts.

Comparative Wordlists

A. Core wordlist

1. “ashes” *buso*: Jegu *bút*, Birgit *bùti*, Toram *bùuti*; Dangla *bùtù*, Migama *bítí*, Bidiya *bùtò* id.; ?Mubi *fidàadò*, Minjile *fidaadò*, Kajakse *fitatò* id. < Chadic **buwuɬ*- “ashes” (Stolbova 1996, 21–22; JI₂ 4–5).
2. “bark” *kuránu*: Mubi *kuroro*, Zirenkel *kororo* id. (Lovenstrand 2012, 49), ?Toram *urumta* id.
3. “belly” *dio* < Fur *dìò* “belly” (Jakobi 1990, 58).
4. “big” *ulul*: ?Mokilko *góolé* id. or Kera *bòbló*; Dangla *bbáli* id. The loss of the expected *g-* and *b-* before *u* is perhaps regular in Kujarke, cf. *uɸu* “full” vs. Dangla *góóbé*, or *uso* “seed” vs. Kajakse *búsùn*.
5. “bite” *kaɖambida*: ?Mubi *áad* = ’*éwit* (J), Minjile *awiid*, Kajakse *adwa* id., and / or Mokilko *áàdí* “eat”; Kabalai *yədó*, Sumray *yīdē*, Ndam *gədləl*, Tumak *gəd* id. (JI₂ 24–25).
6. “black” *kálámàdu*: Sokoro *kílmio*, Tamki *kilime*, Saba *kílmì*, Ubi *cìlmij*, Mawa *cilim* id. < **kil[e]m-* (Stolbova 1996, 60; JI₂ 29; Lovstrand 2012, 50).
7. “blood” *ibiri*: Mubi *óbòr*, Minjile *òbòr*, Kajakse *abar*, Masmaje *ábár*, Zirenkel *ubari*, Toram *bár*, Jegu *bar*, Birgit *bàrà* id.; Dangla *bààr*, Migama *báará*; Kwang *kúwá:r*, Kera *kor*, Kabalai *kàbàrə*, Lele *kùbàrò*, Sumray *bàrē*, Ndam *bā:r*, Tumak *bār* id. < Chadic **bar* (Newman 1977, 22) = *(*ha-*)*pura-* “blood” (Stolbova 1996, 19; JI₁ 14: √*b-r*; JI₂ 30–31; Lovstrand 2012, 50).

8. “bone” *kàyéyà*: ?Mubi *kúnóonù*, Minjile *kunono*, Kajakse *kùnún*; ?Sumray *gùsálly*, Ndam *gūsé*, Tumak *gũy* id. < Chadic **kasi* “bone” (Stolbova 1996, 66; JI₂ 36-37).
9. “breast” *fěfě*: Mubi *fáábó*, Minjile *faabò*, Kajakse *fáfò*, Masmaje *fáfó*, Zirenkel *papo*, Birgit *fífó*; Toram *fúfú*, Dangla *pòòpìy*, Migama *pú:pú*, Birgit *púupà* id. < Chadic $\sqrt{p-b}$ “breast” (JI₁ 20; JI₂ 46-47; Lovstrand 2012, 50).
10. “burn” *jɔralna*.
11. “claw” *kuranu* ~ *kirwini*: Mubi *káárúmō*, Minjile *karəmò*, Kajakse *kurufi* id.; Birgit *kòrnì* “finger”, Toram *korome* “finger”; Dangla *kòrmó* “claw”; ? Kwang *kinjirgi*, Sumray *górinyé* “claw” || (West) Bole *kurum* “fingernail” < Chadic $\sqrt{k-r-m}$ “fingernail” (JI₁ 122; JI₂ 246-47).
12. “cloud” *aŋgirima*: cf. Kera *kamrá* id.?
13. “cold” *agakilla*: Kwang *ká:l*, *kàlə*, Kabalai *kàlə* id., Lele *kàlō* “cold wind”, Sumray *gàlè*, Ndam *gā:l*, Tumak *gà:l* id. < East Chadic $\sqrt{k-l}$ (JI₁ 37; JI₂ 80-81).
14. “come” *jíà*: Kabalai *gìyə*, Lele *èjə* id. Cf. #90 *iji* “walk”.
15. “die” *maat* (if not Arabic!): Mubi *maat*, Minjile *muut*, Masmaje *màtì*, Kajakse *mata*, Jegu *maat*, Birgit *mààtì*, Toram *mùt* id.; Barain *mótó*, Sokoro *míita*, Mawa *midij*, Dangla *màtè*, Migama *máató*, Bidiya *máat-*, Mokilko *’úntó* < **úmùtó* (Lukas); Kwang *māyé*, Kera *mé*, Kabalai *muwə*, Lele *mā*, Sumray *mār* = *made* (GD), Ndam *míyá* = *mara* (GD), Tumak *ma* id. < **mut-/muwat-* “to die” (Stolbova 1996, 106; Lovstrand 2012, 50).
16. “dog” *ḥ^wa* ~ *ḥuha*: Mubi *fúgá*, Minjile *fugà*, Kajakse *fúká* id.
17. “drink” *gomi*: ? Sokoro *áymó* (Sx), Migama *’áymó*, Mokilko *’óòmi* “eat”; Kera *hàmè*, Sumray *kwám* “eat” < Chadic **h[a]m-* “to eat” (Stolbova 1996, 76).
18. “dry” *fájá*: cf. Mubi *fògóny* “to burn” || ?(Central) Yedina *fèù*, Logone *fiyù* id. (JI₂, 55).
19. “ear” *kumayo* ~ *kime*: Kajakse *kɔymi*, pl. *kuyòm*; Mokilko *kùudé*, pl. *kùwwá* < **kuum-*; cf. also Mubi *súmáamù*, Minjile *sumaamo*; Kera *kósón*, Kwang *sèmdí*, Kabalai *sàmi*, Lele *sùmá*, Sumray *súmí*, Ndam *hām*, Tumak *him* id. < Chadic **kum-* “to hear, smell” vs. *(*ku-*)/*sim-* “ear” (Stolbova 1996, 56).
20. “earth” (and “soil”) *kiye/a*: Mubi *kiđi*, Masmaje *ki’i*; Mogum *kit*, Birgit *kiđó*; Jegu *kito*, Toram *kít*, Bidiya *kiđa*; Dangla *kiđa*; Migama *kiđa*; Mabire *kit*; Mawa *ko*; Barain *kiđá*; Kwang *cəđó* id. || (West) Diri *kéđà*, *kyáđá* id. (JI₂ 116-17; Lovstrand 2012, 51).
21. “eat (soft things)” *tuye*: Mubi *tíwà*, Minjile *tūk*, Kajakse *tu*, Jegu *t-*, Birgit *táyà*, Toram *ta*; Bidiya *tia*; Barain *tí*; Ubi *to*; Kabalai *dùwə*, Lele *dì* id. < Chadic $\sqrt{t-w-y}$ “to eat” (JI₁ 56; JI₂ 120-21; Lovstrand 2012, 49-50).
22. “egg” *kilijè*: ?Mokilko *kùmìl-só* id.; or Kabalai *kəsərəy*, Lele *kàsìrà* id. with metathesis?

23. “eye” *kunju*: Lele *kīn-/kūn-* id. (WP). Interesting are Nilo-Saharan parallels: Amdang/Biltine *ñi*, pl. *kuñi*, Fur *n-uji*, pl. *k-uji* “eye” (Doornbos & Bender 1983, 67).
24. “fat” *kuno*: ?Mubi *siwín*, Minjile *sīwín*, Kajakse *sibin* = *sawni* (A) id.; Sokoro *sinē* “fat” (adj.), Ubi *suunē* “oil”, Mawa *suun* “oil”, Dangla *sèwè* “fat”, Migama *sèwén kà táltà*, lit. “hard oil”, *súúná* “fat” (adj.), Bidiya *suun* (v.), *sewèŋ* “oil”; Kwang *siwānē*, Kera *son*, Kabalai *sùwàngá*, Lele *sóngò* (WP), Tumak *hɔ:ɔ:n* id. < Chadic **samin-/siman-* “fat” (Stolbova 1996, 135).
25. “feather” *týè* – cf. “hair”.
26. “fire” *tawe*: Kwang *tòwaa*, Kera *cáwá*, Kabalai *tùwà*, Lele *tùwà*, Sumray *duuwaa*, Ndam *dów*, Tumak *dəw* id. < $\sqrt{t-w}$ “fire” (JI₁ 66; JI₂ 139).
27. “fish” *bùjá*: Mubi *bəgəsó*, Minjile *bɔ:gəsò*, Kajakse *búngəsí*, Masmaje *bògòs*, Zirenkel *boksi*; Jegu *bishó*, Birgit *bisó*, Toram *bihò*; Sokoro *búsii*, Ubi *búuze*, Mawa *bùs*, Barain *bū:sí*, East Dangla *bōosō*, Migama *bú:sú*, Bidiya *bóosà*, Tamki *búsé*, Mabire *bis* id. < Chadic $\sqrt{b-g-s}$ “fish” (JI₁ 67; JI₂ 140–41; Lovstrand 2012, 50).
28. “five” *biya* ~ *bija*: Mubi *bídyà*, Kajakse *fídyà*, Toram *bèedya*, Birgit *bèèdyà*, Jegu *bei*; Mokilko *páát*; Bidiya *bèe’eh*, Migama *béèdyá*, Dangla *bèèdy*; Sokoro *bíiya*, Mawa *bi*; Lele *báy*, Kabalai *bàyi*; Kera *wi:díw*, Kwang *wídyím* ~ *’ùdyí:m*, Sumray *jì*, Ndam *wishī*, Tumak *ùsəñ* id. || (Central) Masa *vàtl* || (West) Bade *bađ*, Ngizim *vàađ*; Siri *bietle*, Jimbin *vààtl*, Warji *βwá-tli*, Bole *bađi*, Kirfi *bòòđ/bool*, Karekare *baađ*; Sura *páát*, Yiwom *p’át*; Hausa *biyár/t* id. (JI₂, 142–43; JI₁, 68: $\sqrt{b-d’-t}$).
29. “fly” (n.) *kibiya*: Kwang *kò:kó*, Kera *kákáw* id., or to Kajakse *tiwíyò* id.?
30. “foot” *kàré*: Lele *gàrmà*, Sumray *šiangaram* (GD) id.
31. “four” *fada*: Mubi *fáđà*, Kajakse *faat*, Zirenkel *pađa*, Toram *fòođa*, Birgit *fòòđi*, Jegu *food*; Mokilko *piđé*; Migama *pó:dí*, Dangla *pòòđ*, Mabire *pot*; Sokoro *pááda*, *fáda*, Ubi *pođa*, Mawa *pat*, Bidiya *paađan*; Kwang *wùđāy* ~ *’ùđāy*, Kera *wa:de*; Kabalai *pərí*, Lele *pōrīŋ*, Sumray *wá:dē*, Ndam *wè:tī*, Tumak *wəri* etc. < Chadic **faridu* “4” (JI₂, 152–53; JI₁, 73: $\sqrt{-p-g}$).
32. “full” *ubu*: Mokilko *bòò*; Dangla *góóhé* id. || (Central) Masa *hòb(i)yà* id.; Musgu *avu* id.
33. “give” *bure*: Mubi *báará*, Kajakse *faaro*; Jegu *bir*, Birgit *birì* id.; Ubi *birin*, Dangla *bérè*, Migama *biráw*, Bidiya *bèr* id.; Kwang *wúr*, Kabalai *bí*, Lele *bè*, Sumray *wúr* id. < Chadic **bari* id. (Stolbova 1996, 25–26; JI₂, 158–59; JI₁, 76: $\sqrt{b-r}$; Lovstrand 2012, 49).
34. “good” *tiliya*: probably borrowed from a source of the type Fur *tülle* “good” (Jakobi 1990, 119), while the East Chadic counterparts stand too far: Sumray *ladi* (GD), Ndam *gundiele* (GD), Tumak *ele* (GD) id.; Jegu *rál* id.
35. “green” (and “wet”) *karaandi*: perhaps borrowed from a source of the type Fur *kírro* “green” (Jakobi 1990, 52).

36. “hair” *tiye*: (West) Yiwom *twɔ:tʰɔkʰ*; Tala *ták*, Buli *ták* id. (JI₂ 176). Interesting are parallels in Maban (Nilo-Saharan): Runga *tuwúui*, Kibet *tɔwi* “hair” (Doornbos & Bender 1983, 64).
37. “hand” *ɸɔ*: Mubi *f̂sɔ́*, Minjile *f̂so*, Kajakse *fuso*; Jegu *fòtó* id.; Sokoro *pít-um*; Dangla *pìsè*, Migama *píssi*, Bidiya *pèsè*; ? Mokilko *béy*; ? Sumray *bàsáy*, ? Ndam *betam* (GD) id. < $\sqrt{p-s}$ (JI₁, 87; JI₂, 179).
38. “head” *ákè* ~ *akaje*: Mubi *kàc*, pl. *kò'íc*, Minjile *kac*, Kajakse *kaɕ*, pl. *kaɖyúk* (A), Masmaje *káč*, Zirenkel *kəj*; Jegu *kàatà*, pl. *kinàu*, Birgit *kádyà*, Toram *kàata* id.; Sokoro *góndu* = *gon* (Sx), Ubi *goonà*, Mawa *gwan*; Dangla *káá* = *kāh* (L), Migama *kàyà*, Bidiya *kaa-te*, Barain *kè*, Mabire *kayat*; Mokilko *'éégó*, pl. *'áw'i* id.; with the dental prefix Sumray *dí*: = *d-um* (L), Ndam *díc* = *dijim* (GD), Tumak *dəg(ə)* = *deg-um* (GD) “head” < Chadic **'eg-* “head” (Stolbova 1996, 31; Lovstrand 2012, 51).
39. “hear” *ajigala* ~ *ajugona*: Mubi *jìgè*, Minjile *jígéwò*, Kajakse *dugiye*, Zirenkel (*ar-*)*jigiya*; Jegu *ɖoy-*, Birgit *ɖòyí* id.; Kabalai *tiyəgá*, Lele *dēŋlí*, Sumray *dòy*, Ndam *ɖùlì*, Tumak *ɖo* id. < Chadic $\sqrt{d_2-g-w}$ or $\sqrt{d-l}$ “to hear” (JI₁ 90; JI₂ 184–85; Lovstrand 2012, 49).
40. “heart” *karla*: Mubi *kòrlò*, Minjile *kòrlò*, Kajakse *karlo* id.; East Dangla *kòrlò*, Migama *kórlá*, Bidiya *kogilo* id.; Ubi *'oŋilà*; Lele *mú-gúlú* id. < Chadic $\sqrt{g-l}$ “heart” (Jungrauthmayr & Shimizu 1981, 134).
41. “horn” *gaffa* ~ *gapfè*: Mubi *géebí*, pl. *gáabàb*, Minjile *gēbí*, Zirenkel *gapi*; Jegu *gééfó*, Birgit *gééfó*, Toram *géffò*; Sokoro *gebel* = *gəpán* (Sx), Ubi *gàpà*, Mawa *gap*; Dangla *gèèpì*, Migama *gá:pè*, Bidiya *geepinò*, Barain *gáppiniy*; Mokilko *'òpì-só*, pl. *'òmbá*; Kera *gàw*, Lele *kēbēndí* id. < Chadic $\sqrt{g-b-n}$ “horn” (JI₁ 94; JI₂ 192–93; Lovstrand 2012, 49).
42. “I” *annu*: Mubi *nde*, Minjile *ndé*, Kajakse *inti*, obj. *'in*; Jegu *nòo* id.; Sokoro *na*, Ubi *naa*, Mawa *nó*; Dangla *noon(o)*, Migama *náà*, Bidiya *noo*; Mokilko *nùunó*; Kwang *'ní*, Kera *ten*, Lele *dàng*, Sumray *əndí*, Tumak *nə* (subj.) id.
43. “kill” *duda*: Mubi *d-*, Minjile *daáyà*, Zirenkel (*ar-*)*dí*, Kajakse *dúwà*, Masmaje *dégú*; Jegu *dii*, Birgit *dúuk*, Toram *diwa* id.; Sokoro *da*, Ubi *dəyin*, Mawa *dean*; Dangla *déè*, Migama *díyáw*, Bidiya *daa*, Barain *dí*; Mokilko *tóww-*, pf. *-iid* (L); Sumray *'yá*, Ndam *'əjá*, Tumak *áj* id. < Chadic $\sqrt{d-w(-k)}$ “to kill” (JI₁ 105; JI₂ 212–13; Lovstrand 2012, 51).
44. “knee” *gife* ~ *gufe*: Mubi *gip*, pl. *gòobúb*, Minjile *gīb*, Kajakse *giif*, Zirenkel *gibi*; Jegu *gifo*, Birgit *gífi*, Toram *gífítu* id.; Dangla *gipì*, Migama *gippi*, Bidiya *gèpe*; Mokilko *ziibé*; Kwang *kibígí*, Lele *gùbà* (WP), Sumray *gùbé*, Ndam *gùb*, Tumak *gun gùbò* id. < Chadic **gufi* “knee” (Stolbova 1996, 104; Lovstrand 2012, 49).
45. “know” *kawanawe*: Bidiya *'isàn*, Mokilko *sùuné*; Kwang *àsìnē*, Kera *ásé*, Lele *sèn*, Ndam *hānā*, Tumak *hàn* id. < Chadic **sVwɣVn-* “to know” (Stolbova 2009, 93–94, #293; JI₁ 107: $\sqrt{s-n}$ “to know”; JI₂ 216–17). Lovstrand (2012, 50) compares only Kujarke and Barain *wōnnó* id.

46. “leaf” *gulum-bayo*: Kajakse *fiyayò*, ?Mubi *hériyò*, Minjile *berrío* id.; ?Ubi *kabila*; Sumray *bàje* id.
47. “liver” *kulma karle* (*karla* = “heart”): ? Birgit *’ókóló* “liver” or better connected with Fur *kilma* “heart” (Jakobi 1990, 41)?
48. “long” *kañire*: Mubi *sàgár*, Minjile *-sagar*, Kajakse *sugor* = *sigàr* (A) id.; ?Migama *siddýá*; Mokilko *sò’úrú*, pl. *sòñirtí*; Lele *siny* (v.), Sumray *syar* (v.) id. < Chadic **é(y)VrV* “long” (Stolbova 2009, 104).
49. “louse” *bíità*: Cushitic: (Central) **bətt-* “louse” (Appleyard 2006, 95) || ?(North) Beja *b’uut* “wood-boring beetle” (Roper).
50. “man” *nigi* ~ *noga*: (West) Sura *ñgó* “man”; Karekare *ngáá* “person” || (Central) Logone *ngwen* id. || ?(East) Mubi *njóó* id., Jegu *gé* “people”; Tumak *gùn*, Sumray *gūn* “person” (JI₂, 230, 266–67)
51. “many” *waášà*: ?Sokoro *ása* id.
52. “meat/animal” *kwé*: Mubi *kómé*, Minjile *kómé*, Kajakse *kumayo*, Masmaje *k’óméí*, Zirenkel *kume* id. (Lovestrand 2012, 49); East Dangla *kūmà* id. < Chadic **komu* “meat, cow” (Stolbova 1996, 59), or with the substitution of *s* > *k*: Mawa *sit*, Migama *súuđú*, Bidiya *sūuđò*; Mokilko *séy*; Kera *kúsúkí*, Lele *sii* (WP) id. < Chadic **sV(w)-* “meat” (Stolbova 1996, 38, #22). Cf. also Fur pl. *kū*, sg. *ū* “cow” (MacMichael 1920, 203).
53. “moon” *tiré*: Mubi *tírí*, Minjile *tírí*, Kajakse *tiri*, Masmaje *tírí*; Jegu *téré*, Birgit *tèrè* id.; Mokilko *tèrè*; Kwang *kidīr*, Kera *kitír*, Kabalai *kàdàrè*, Lele *gidìrì*, Barain *túru*, Sumray *dúru*, Ndam *dár*, Tumak *dár* id. < Chadic **tariy-/*tiray-/*tayir-* “moon” (Stolbova 1996, 32; Lovestrand 2012, 49).
54. “mountain” *nañaru*: cf. Formona¹ (Bongo-Bagirmi → Central Sudanic) *nañar* id., and perhaps Merarit (→ Tama) *ñòrga* “stone” (Doornbos & Bender 1983, 69)?
55. “mouth” *aña*: ?(Central) Margi *ñà* (but cf. Bade *mnya* id.); Sukur *ùñú* id. (JI₂ 244-45) or *apa* (Doornbos, ms. 1981)
56. “name” *rúwà*: Cf. Fur *keriu* “name” (MacMichael 1920, 203; Greenberg 1963, 142; Fur *kario*).
57. “neck” *kiida*: ?Ndam *kwàd* = *kurum* (GD), ?Kwang *kàrí*, ?Kera *kur*, ?Lele *kòrgà* id.
58. “new” *kalike*.
59. “night” *gurumba*: cf. Mokilko *gámmilí* “black” and / or Mubi *rám*, Jegu *ráámân* id. (JI₂ 29), West Chadic **rumi* id. (Stolbova 1996, 134).
60. “nose” *kaata*: Mubi *ídaánù*, pl. *átán*, Minjile *idanò*, Kajakse *atan*; Jegu *’ètèntò*, Birgit *’ètèñ*, Toram *’eteñ* id.; Dangla *ètè* = *éttinjiñ* (L), Migama *’ítín*, Bidiya *’ètèna*; Mokilko *’òndé* (L); ?Kwang *kìné:ní*, Kera *niinà*, Kabalai *hì:ndí*, Lele *hìndà*, Sumray *shèndé*, Ndam *tàn* = *handam* (GD), Tumak *hùn* id. < Chadic **’aten-* “nose” (Stolbova 1996, 135).

¹ <<http://asjp.clld.org/languages/FORMONA>>

61. “one” *kirre* ~ *kurwo*: Jegu *kee*, Birgit *káydò*, Toram *kétàŋ*; Dangla *kiḏá*, Migama *káḏyì*, Bidiya *ke’yeŋ*, Mabire *ke*, Tamki *kiiti*, Sokoro *kétti* id. < Chadic $\sqrt{k-d-n}$ “one” (JI₁131; JI₂ 262–63; Lovstrand 2012, 51). Interesting are parallels in the Nilo-Saharan group Tama: Tama *kwur*, Erenga *kuur*, Merarit *kárre* “1” (Doornbos & Bender 1983, 69), Sungor *kor* id. (Lukas).
62. “person” *wulu*: Kwang *hùlùm*, Kera *hùlùm* id.
63. “rain” (n.) *bu* ~ *bu*: Mubi *ḥok* (v.); Jegu *bóŋ* (v.) id. Cf. Omotic: Wolayta *bukk-*, Dawro *buk-*, Dache *bukk-*, Kachama *boq-*, Gamu *buqq-* “to rain” (Lamberti & Sottile 1997, 316) ||| Cushitic: (Central) **bəkʷ-an/-än-* “cloud” (Appleyard 2006, 46) || (East) Oromo of Wellega *bokkaa* “rain”, Somali of Hawiya *bokkod* id. || Beja (Seetzen) *bayúk* “snow” ||| Berber: (North) Shilha *abukku* “snow” and / or Snus *tbika* & *tbica*, Figig *tbica* “rain” (Naït-Zerrad 1998, 49, 10).
64. “red” *kàände*: Kajakse *ki-rinḏe* = *ránnyà* (A), Mubi *rèñét*, Minjile *-reñet* id.; ?Sokoro *ráyo* id.
65. “road” *buka(ru)*: Ghat *abreqqa*, pl. *ibreqqaten*, Ahaggar *ābārāqqa*, pl. *ibārāqqātān*, Ayr-East Awlemmiden *abārāqqa*, pl. *ibārāqqan* < South Berber **ā-baraqqaH*, pl. **ī-baraqqaṭ-an* “road” (Prasse 1974, 238; Naït-Zerrad 1998, 117: $\sqrt{b-r-q_4}$).
66. “root” *gadarra*: ?Kajakse *cara*; Jegu *kyaaru*, Birgit *cááró*, Toram *šaari* id.; Sokoro *sàḏú* (Sx), Ubi *cèrù*, Mawa *sedu*; Dangla *tyààrò*, Migama *cà:rú*, Bidiya *cáàrà*; Mokilko *sòttó*, pl. *sòndàyi*; Kwang *kàsár*, Kera *kàsár*, Kabalai *hàrà*, Lele *sārā*, Sumray *sárbā*, Ndam *sírwé*, Tumak *hārāw* id. < Chadic **čo/uHar-* “root” (Stolbova 1996, 54; JI₂ 276–77); alternatively, but less probably with Kera *gùd*, Kabalai *gún do* (Lukas) “root”.
67. “sand” *alala*: probably borrowed from a source of the type Daju Sila *alaali* “sand; wadi”, Daju of Darfur *alalei* “wadi, khor” (MacMichael 1920, 203, 205); Any connection with Chadic counterparts of the type Ubi *yoolè* “sand” is less promising.
68. “say” *debe*.
69. “see” *wunida*: ?Sokoro *géna-gō* id.
70. “seed” *uso*: Minjile *busün*, Kajakse *bùsùn*, Zirenkel *busunu*, Jegu *busum*, Toram *bóhàm*; Dangla *búsàm*, Migama *búsini*, Bidiya *búsáana*; Mokilko *búzú*; Barain *wássì* id. < Chadic **(bu-)sVm-* “seed, corn” (Stolbova 2009, 90, #280; Lovstrand 2012, 50).
71. “sit” *garñe*: ?Kwang *nōr* (Lukas) id. Or related with Kujarke *garñi* “down”?
72. “skin” *mardi/e*: probably of NS origin, cf. Maban: Kibet *madda*, Aiki *màḏà* “skin” (Nougayrol 1986, 54).
73. “sleep” *gatalo*: Jegu *gaalo* id.
74. “small” *kañi*: Jegu *kóyân* id.; ?Kera *koncé* / *cəncə*, Kabalai *kongo*, ?Sumray *hnye* id. < Chadic $\sqrt{k-y-n}$ “small” (Jungrauthmayr & Shimizu 1981, 238).

75. “smoke” (n.) *kajié*: Minjile *ija* id.; perhaps also Kwang *kisé* (v.), Kera *késé*, Lele *kúsá*, Sokoro *sī*, Ubi *siyò*, Mawa *si*, Mokilko *sáa* id.
76. “stand” *wusi*: ?Mubi *wàjàgé*, Kajakse *wàḍuku*, Zirenkel (*ara*-)*wajiga*, Masmaje *wájágá*; ?Jegu *wor-*; Mabire *wače*, Bidiya *ucu*; Migama *wácáw*; Mokilko *’òozigá*; Sokoro *wúsà*, Ubi *weje* id. < Chadic $\sqrt{w-l-k}$ (JI₁ 157–58; JI₂ 304–05; Lovstrand 2012, 50).
77. “star” *dèréré*: Cf. Omotic: Shako *dertn* “star”?
78. “stone” *tegegà*: ?Tumak *dàāy* id., Ndam *doī* “stone, mountain”; further cf. South Berber **ā-ḍiHāy*, pl. **ī-ḍiHāy-an* “mountain” (Prasse 1974, 185; Nait-Zerrad 1999, 358 & 360: $\sqrt{d-\gamma_{17} \& 20}$) ||| Cushitic: (East) **ḍagh-* “stone” (Sasse 1982, 61) ||| Omotic: (North) Male *ḍuka* “stone”; Kafa B *ṭaaqo* “stone” || (South) Hamar *ḍuqa*, Banna *ḍuka* “mountain”.
79. “sun” *afar*: Mubi *fāt*, Minjile *fāat*, Kajakse *fāti*, Zirenkel *pati*; Jegu *fóot*, Birgit *fòotó*, Toram *fòo*; Sokoro *piō*, Ubi *puḍiyò*, Mawa *pidi*, Saba *pidò*, Dangla *pàtò*, Migama *pá:tó*, Bidiya *páató*, Mabire *pat*, Mokilko *pèedó* id. < Chadic **fati/a* “sun” (Stolbova 1996, 28; JI₁ 161: $\sqrt{p-t}$; JI₂ 312–13; Lovstrand 2012, 51).
80. “swim” *omni* < Arabic.
81. “tail” *kayé*: Jegu *’ayo*, Birgit *ááyó* id.; East Dangla *àyē*, Migama *àyà*, Bidiya *’eya* id.; cf. also perhaps Mubi *’inyéwii* (J), Minjile *inēwī*, Kajakse *ināwi* id. || (West) Dera *yíwà* id. (JI₂ 316–17).
82. “that” *átá*: cf. Mubi *gátta* m. vs. *dátta* f. “that”.
83. “this” *agu*: Kajakse *aka*, cf. Mubi *gàṅ/dàṅ* m./f., Minjile *gaṅinne*; Jegu *kôo/tôo*; Sokoro *kánē*, Migama *kaanè/taanè*, Bidiya *kaanè*, Mokilko *gēṅ/géttè*; Sumray *ka* id.
84. “thou” *nigi* ~ *niki*: ?Mubi *kám/kín*, Minjile *kam*, Kajakse *kamte*; Jegu *kee/kánēe*; Sokoro *ca*; -*gi* “dich”, Ubi *ci / ke*, Mawa *ci / ko*, Dangla *kín/kán*, Migama *kû/kânj*, Bidiya *kinda /kanda*, Mokilko *kèe/kòn*; Kwang *gi/kìn*, Lele *ḍigi/dàmè*, Sumray *à(n)jám* id. Alternatively, the Nilo-Saharan origin cannot also be excluded, cf. Saharan: Berti *negei*, Zaghawa *na*, Kanuri *nyi* “thou” (Doornbos & Bender 1983, 61), proto-Daju **ini(ṅga)* “thou” (Ehret 2001, 320, #280).
85. “three” *ubo*: Mubi *súbà*, Minjile *subà*, Masmaje *sób*, Kajakse *soop*, Zirenkel *subba*; Jegu *sup/b*, Birgit *súúbù*, Toram *suuba*; Sokoro *sùbbá* (Sx), Ubi *sùba*, Mawa *súp*, Dangla *sùbbà*, Migama *sùbbà*, Bidiya *subay*; Kwang *sūpáy* ~ *sàbày*, Kera *soope*, Kabalai *sàp*, Lele *sùbù*, Sumray *sùbù*, Ndam *súp*, Tumak *suùb* id. < East Chadic $\sqrt{s-b}$ “three” (JI₁ 168; JI₂ 327; Lovstrand 2012, 51).
86. “tongue” *alinati*: Mubi *lísí*, Minjile *’lísí*, Kajakse *liisi*, pl. *liyàs* (A); Jegu *léesó*, Birgit *liisì*, Toram *liho*; Sokoro *sélèñ* (Sx), Ubi *silínyò*, Mawa *siliny*, Dangla *léésé*, Migama *liit* = *liic-um* (J), Bidiya *līsē*, Mokilko *’ilzé*; Kwang *kilísí*, Kera *kəsəl*, Kabalai *kálà-*, Lele *kīlā-*, Sumray *dilèsé*, Ndam *dàs*, Tumak *dùj* id. < Chadic **(ha-)lesi-um* “tongue” (Stolbova 1996, 88).

87. “tooth” *kiya*: ?Mubi *siṅàṅù*, Minjile *siṅáaṅò*, Kajakse *sin*; Jegu *sàṅó*, Birgit *sàṅó*; Sokoro *sónd-im* = *sən* (Sx), Ubi *siinà*, Mawa *siínó*, Dangla *sàṅò*, Migama *sá:nú*, Bidiya *séeyo*, Mokilko *sintá*, pl. *siná*; Kera *kásáḡ*, Kabalai *kásànda*, Lele *kāsīngá*, Sumray *sándē*, Ndam *hân* = *hindam* (GD), Tumak *hiin* id. < Chadic **sin-* “tooth” (Stolbova 1996, 57, 135–36). Alternatively, it may be connected with Fur pl. *k-àgì*, sg. *d-agí* “tooth” (Jakobi 1990, 47).
88. “tree” *kašìè*: ?Sokoro *tsui* = *sáune* (AF), Ubi *cùwà*, Mawa *səw* id.
89. “two” *kurro* ~ *giriya*: Mubi *siir*, Minjile *sir*, Kajakse *sir*; Jegu *shee*, Birgit *siiri*, Toram *see*; Dangla *séér(ó)*, Migama *sē:rà*, Bidiya *sīdī*, Mokilko *siré*; Kabalai *súwà*, Lele *sò*, Sumray *sór*, Ndam *sá*, Tumak *heè* id. < Chadic **cVr-* (Stolbova 2009, 158, #630) = **cir-oḏ-* “2” (Stolbova 1996, 40), perhaps also Kwang *rāy*, *ráy*, Ndam *reje* (Decorse), if they are not related to Mawa *rap* “2”?
90. “walk” *iji*: Mubi *njaa/njau*, Minjile *njú*, Kajakse *jauw* = *njàw* (A); Jegu *jawo* id. < Chadic **ži-*/ **žaw-* “to go” (Stolbova 1996, 48).
91. “warm” *kawe*: Kera *bè cówá*, Kabalai *kove il* (Lukas) id. – cf. Chadic **kaw[a]y-* “to burn” (Stolbova 1996, 59); or with substitution *r* > *w* to Mubi *kèrì*, Minjile *-kerit*, Kajakse *kàrì* id.
92. “water” *šia*: (West) Dott *ša* “water” || (Central) Fali *só* id.; probably related to Kera *sé* “drink”; Kabalai *sùwə*; Sumrai *shl*; Sokoro *sa*; ?Mokilko *sibé*; Birgid *sáyà*, Mubi *súwà* & *siyá* etc. < Chadic **sV(H^v)* (Stolbova 2009, 58–59, #132) = **sa/i-* “to drink” (Stolbova 1996, 58; JI₂ 110–11). Cf. also Berber $\sqrt{s-w-H}$ “to drink” (Prasse 1973, 109; Militarev 1991, 256, 19.1.), and further maybe Cushitic: Beja *šiḡ* “well that is very shallow, water-hole dug in khor” (Hudson by Blench) || (South) Maa *-síwa* “to be wet”, *-sí* “to rain” (Ehret) || Omotic: She (Montadon) *so* = She-Bench (Bender) *so* “water” (Blažek 2006, 421–22).
93. “we” *kəne*: Mokilko incl. *kìné*, Migama *kée* id.
94. “what?” *ḡgayna*: ?Minjile *ḡtatu* “who?”; Sokoro *kaṅkema* “what?”; Sumray *kāna* “what?”.
95. “white” *kábuur*: Kajakse *ki-fire*, Mubi *fērét*, Minjile *-fèrèt*; Jegu *pórórân*, Birgit *fóróórà*; ?Sokoro *úriō*, ?Ubi *uro*, Dangla *pórtà*, Migama *púrtà*, ?Mokilko *tùwàré*; Kwang *bārētín*, Kera *gì-bìrwí*, Kabalai *bùrùwa*, Lele *bòré*, Sumray *būrāgé* id. < Chadic $\sqrt{p-r}$ “white” (JI₁ 178; JI₂ 344–45).
96. “who?” *ye*: ?Kajakse *kaye* id.; Sokoro *ye*, Ubi (*’ay*) *yé*; ?Lele *wéy* id.
97. “woman” *ka* ~ *kamma*: ?Sokoro *máa*, Ubi *meyè*, Mawa *mii*; Lele *tāmá*, pl. *kāmdā* (WP), Kabalai *tamā*, Sumray *démé*, pl. *námde*, cf. Kwang *nòmtō*, further Ndam *dehem* (GD), Tumak *dèēm* id. < *(*ta-*)’*am-* “woman” (Stolbova 1996, 31). Cf. also a Nilo-Saharan parallel in Mimi (Nachtigal) *kam* “woman”, classified as a Maban language (Doornbos & Bender 1983, 64, 66).
98. “ye” *kəniḡ*: Jegu *kúnéè*, Mubi *kéné*, Minjile *kante*, Kajakse obj. *kann*; Sokoro *kúnunḡ*, Ubi *kunàḡ*, Mawa *kəḡ*, Dangla *kún*, Migama *kūḡ*, Bidiya *kunda*, Mokilko *kùnè*; Kwang *kàn*.

Statistics

Secure East Chadic etymologies: 1. ash, 3. bark, 7. blood, 11. claw, 15. die, 19. ear, 20. earth, 21. eat, 26. fire, 27. fish, 28. five, 31. four, 32. full, 33. give, 39. hear, 40. heart, 41. horn, 42. I, 43. kill, 44. knee, 53. moon, 63. rain, 74. small, 79. sun, 81. tail, 82. that, 83. this, 85. three, 86. tongue, 93. we, 95. white, 96. who, 98. ye.

Probable (East) Chadic etymologies: 5. big, 7. bite, 6. black, 14. come, 16. dog, 23. eye, 30. foot, 37. hand, 38. head, 46. leaf, 50. man, 60. nose, 61. one, 62. person, 70. seed, 76. stand, 90. walk.

k-prefix: 60. nose, 64. red, 81. tail, 95. white, 97. woman.

k-prefix or substitute of *s*-: 19. ear, 24. fat, 45. know, 48. long, ?52. meat, 87. tooth, 88. tree, 89. two.

Total number of probable, promising and hypothetical Kujarge-East Chadic cognates: 62.

Hypothetical Afroasiatic cognates outsides Chadic: 49. “louse”; 65. *buka(ru)* “road”; 77. *dèréré* “star”.

Probable loans: 3. *dio* “belly” < Fur; 34. *tiliya* “good” < Fur; 35. *karaandi* “green” (and “wet”) < Fur; 47. *kulma* “liver” < Fur; 54. *ḡaḡaru* “mountain” < Formona; 56. *rúwà* “name” < ?NS, cf. Fur *keriu*; 67. *alala* “sand” < Daju Sila; 72. *mardi* “skin” < Aiki; 80. *oomni* “swim” < Arabic.

Isolated forms: 10. *jɔralina* “burn”; 18. *fàjà* “dry”; 58. *kalike* “new”; 68. *dɛbe* “say”.

List B

“back” (body) *karwe*: Kera *kerko* id. || (Central) Yedina *kááyá* id. || (West) Warji *kéráy*, Karya *kyár*, Pa’a *kar*, Jimbin *kyâr* id.; Zaar *ka:r* id.; Ngizim *àkáu* id. < $\sqrt{k-r}$ (JI₂, 6-7; JI₁, 3).

“bad” (not good), also “dirty” *tiliyawé*

“bed” *angereeb* < Arabic

“blow” vb. *mebe* imp. sg. : *mo* imp. pl.

“boy” *jurdi* ~ *jira:ndi*

“breathe” vb. *wardide*

“bring here” *buruno* imp. sg. : *birini* imp. pl.

“buttock” *giffeba/e*

“catch” vb. tr. *andedi*

“clean” *tiliya* = “good”, perhaps of Fur origin

“cow” *keja* ~ *kújò*: Kajakse *kʰiyà*, Masmaje *kih*, Mubi *kí* “cow”, Zerenkel *ki* id. (JI₂, 93; Lovstrand 2012, 51). Cf. also Fur pl. *kū*, sg. *ū* “cow” (MacMichael 1920, 203).

“crooked” *ardoda* ~ *ardona*

“cut” vb. *anjərli*

“dig” vb. *afure* < Arabic.

“down” *garñi*

“eight” *bebene*: enigmatic form; it resembles Sokoro *bébēnī* (Nachtigal), *bèèfiini* (Lukas) “6”, easy analyzable as a compound of the numerals “5” & “1”, cf. Ubi *piina* “1” & *bεεja* “5”, Sokoro *bííya* id., although the value does not agree.

“elbow” *guruwo* ~ *guro*

“enter, go in” vb. *jiya* – cf. “come”.

“exit, go out” vb. *guru*

“face” *wɔjiye* < Arabic

“faeces” *wato*: Mubi *wádǎ*, Jegu *wáđi* “to defecate” (see Stolbova); Tumak *wád*, Ndam *wūdā* id. || (Central) Higi Nkafa *wađiwade* “faeces” || (West) Karya *wádǎ*, Miya *wádǎ*, Pa’a & Siri *wùđi*, Jimbin *wáđi* id.; Zaar *yid* “to defecate” (JI₂, 128–29) < **wáđi* (Stolbova 1996, 90; JI₁, 81: √*w-đ*)

“fall” vb. *apañe*.

“far” *afañga*.

“fat, thick” adj. *kabaru*.

“fear” vb. *karla kubaru* = “swollen heart”

“goat” *kéwè*: Tumak *gəúí*, Ndam *gōw*, Sumray *gwà* “he-goat” (JI₂, 169)

“gourd” *əšíè*.

“granary” *turdi*.

“grass” *kaña*: Dangla *gányó/gànyò*; Mokilko *’ú(n)yùmú*, pl. *’innýá*.

“hard” *kirla*.

“heavy” *kugola*.

“here” *ibi*.

“hat” *uwo*; *ditəŋ*.

“he/she” *ere*, *nili?*: Mubi *ar*, Kajakse *ʔakàr*; Ubi *ʔàarà* “he”.

“honey” *adwiye*.

“house” *kuro* ~ *kire*: cf. Masmaje *kìrì*, Mubi *gìr*, Zirenkel *giri*, Toram *gér*, Jegu *gээр*; Bidiya *gero*, Migama *ger* “house/hut” (Lovenstrand 2012, 49) and/or (West) Karekare *kwàrò*; ʔBoghom *kwàl*, Buli *kalàrr* id. || (Central) Gidar *gelá* id. (JI₂, 202–03).

“how?” *ŋgəŋgə dega*.

“how many?” *ŋgaynaŋ ŋgaynaŋ*.

“inside” *mdidi*.

“jump” vb. *ardi*.

“left” *idiyo*.

“live, dwell” vb. *kurodi*.

“love, want” vb. *nindɔga*.

“milk” *keba*: Berber: (South) Ahaggar *ikfai* “to be fresh (on milk)” : *sekkefkef* “to foam” (Foucauld), Tamasheq of Udalan *ikfay* “to be fresh”, *tākuffe*, pl. *tikuffawān* “foam (on milk)” (Sudlow); Semlal *akʷfāi*; (East) Sokna *ašfai* “milk”

(Sarnelli) ||| Semitic: Modern South Arabian: Mehri *kēfa*, Harsusi *kéfa/káfáwwəʿ*, Jibbali *kéfe* ‘boiled beestings’, Soqotri *káfa* (Johnstone 1987, 204) = *kéfe* ‘le lait de la brebis qui vient de mettre bas’ (Leslau 1938, 223). See Militarev 1991, 153, fn. 5.

“near” *nigila*.

“nine” *tissa* < Arabic.

“now” *kitɔgula*.

“old” *kitɔbɔnu*.

“open” vb. *febene*.

“other” *kurbiya*: cf. *kirre* ~ *kurwo* ‘one’.

“outside” *kigi*.

“penis” *ɔgur*: (West) Dera *gwâre* ‘penis’ (Kraft).

“pull” vb. *jillidi*.

“push” vb. *ajeri*

“rainy season” *ɓu ɔgɔ* = ‘rain came’.

“rat” *afuñe* ~ *afaña*: Sumray *bápiní* ‘sp. of a small mouse’ || (Central) Gude *póoyàñə* ‘type of mouse’ ||| Egyptian (Old Kingdom) *pnw* ‘mouse’ (Takács 2001, 441).

“right” *idiye* ~ *idey* (cf. ‘left!’).

“river” *gùlá*: (West) Hausa *gulbi*, pl. *gulabe* ‘river, water reservoir’; ?Tangale *teŋgùl* ‘lake’ (the first component perhaps correspond to Sura *tùuŋ/dùŋ* ‘river’, Chip *dùŋkoŋ* ‘lake’ : *koŋ* ‘river’) || (Central) Fali Jilbu *gèli* ‘river’; Wadi *góló* ‘river’; ?Dghwede *gulagwà* ‘river’; Mbara *gòlòŋáy* ‘lake’; Masa *gòloŋ* ‘mare résiduelle; riviére’.

“rope” *bɔñe/a*: Mokilko *bónné* id. (Lovestrand 2012, 49).

“rotten” vb. *afaña*.

“rub” vb. *fèbèjé*.

“run” vb. *ŋgúrí*: Mubi *giru*; Barain *gòró*; Bidiya *gadu*, Mabire *gadu*, Migama *gadɔ* id. (Lovenstrand 2012, 49).

“salt” *karkade* < Daju.

“scratch” vb. *garñile*.

“seven” *ɲgofadagɔbo* ~ *gafadagubo*: cf. *fada* ‘4’ + *ubo* ‘3’. The same pattern is known in other Chadic languages: (West) Angas-Ankwe: Gerka (Migeod) *praukum* ‘7’ = *prau* ‘4’ & *kun* ‘3’; Ron: Fyer (Jungraitmayr) *púríwon* ‘7’ = *pít* ‘4’ & *yoón* ‘3’; South Bauchi: Seya = Zaar of Gambar Leere (Shimizu) *wutstse mààì* ‘7’ vs. *wùpsə* ‘4’ & *mààì* ‘3’; (East) Ndam (Decorse) *wo subo* ‘7’ = *woro* ‘4’ & *supu* ‘3’; besides some Central Sudanic languages: Gulei (Decorse) *so jì muto* ‘7’ = *so* ‘4’ & *muto* ‘3’, Mbai (Bruehl) *sa do muta* ‘7’ = *so* ‘3’ & *muta* ‘3’.

“sew” vb. *gañire*.

“sharp” *mungasime*.

“short” *kamori*.

“shoulder” *gurso* ~ *gursoma*.

“shut” vb. *gumure*.

“sky” *diña* < Arabic “world”.

“six” *angogɔbo* ~ *gamgubo*: perhaps “3 + 3”, cf. *ubo* “3”. It is probable that this numeral and the numeral *angofadagɔbo* ~ *gafadagubo* “7” preserve the original form **gubo* of the numeral “3” with the initial velar substituting the common East Chadic **s*-. Similarly in Central Sudanic: Gulei (Decorse) *muto muto* “6” vs. *muto* “3”, Mbai (Bruel) *mutu muta* “6” vs. *muta* “3”. It is possible that the Chadic numeral “6” is also formed from the numeral “3”: (West) Ron: Daffo-Butura *makôŋ* “6” vs. *yuhún*, Sha *kún* “3” (Jungrauthmayr); South Bauchi (Shimizu): Baraza = Dikshi *makkà* “6” vs. *mààgi* “3”, Mbaaruu *moon* “6” vs. *meyan* “3”; (Central) Wandala (Migeod) *unkohe* “6” vs. *keye* “3”; Fali Wuba (Lukas) *nkwanj* “6” vs. *makin* “3”; cf. also the numeral “6” in East Chadic: Jegu *mik*, Birgit *mekke* (both Jungrauthmayr).

“smell” vb. *kirna*.

“snake” *ñtida* ~ *ñtina*.

“spear” *kuwe* ~ *kuweyo*.

“stick” *ndoro*.

“straight” *ija*.

“take away” vb. *mædegi*.

“ten” *karup*: Kajakse *kúryi* ~ *kúrwi*; Kwang *ruko*^p, Nancere *gùwàrà* “10” etc. (cf. Lovstrand 2012, 49); (Central) Mofu (Seignobos & Tourneux) *kúráw*, Mofu-Gudur (Barreteau) *kúrɔw*, Gisiga (Lukas) *kúru*, Baldamu (Seignobos & Tourneux) *kúru* “10”.

“there” *mdi*.

“they” *ere*: cf. *era* “he/she”.

“throw” vb. *tàgi*.

“tie” vb. *adodena*.

“tomorrow” *malaguma*.

“turtle” *fege*.

“up” *nigi*.

“urine” *fidijr*: Birgit *fidyi*, Mubi *fàràdyé*, Kajakse *fidic* (Alio 2004, 242), Toram *fič*, Jegu *pii*; Migama *pidyi*, Dangla *pidyi* “urine” || (West) Hausa *fitsáárii* id.; Zaar *ɓizha* (JL₂, 334–35; Lovstrand 2012, 51; Stolbova 1996, 117: **pučari*).

“vulva” *ñeraw*: (West) Angas *nyir* “vagina”, Sura *néer*, Chip *ner*, Ankwe *nèyir* id. (Kraft).

“wind” n. *usmala*: Birgit *’òsi*, Dangla *usu*, Migaama *ussu*, Mogum *os*, Saba: *ósò*; Sokoro *ós*; Ubi *aso*; Zerenkel *usuki* id. (Lovstrand 2012, 51).

“woods” *kulla*.

“work” vb. *keñeni*: Sokoro *gin-* “to make” || (Central) Logone *ɣán* id. || (West) Mburku *gán-* id. and / or Bokkos *kin* (JL₂, 228–29).

“yesterday” *bebene*.

Appendix 1: The fate of Kujarke after 1981

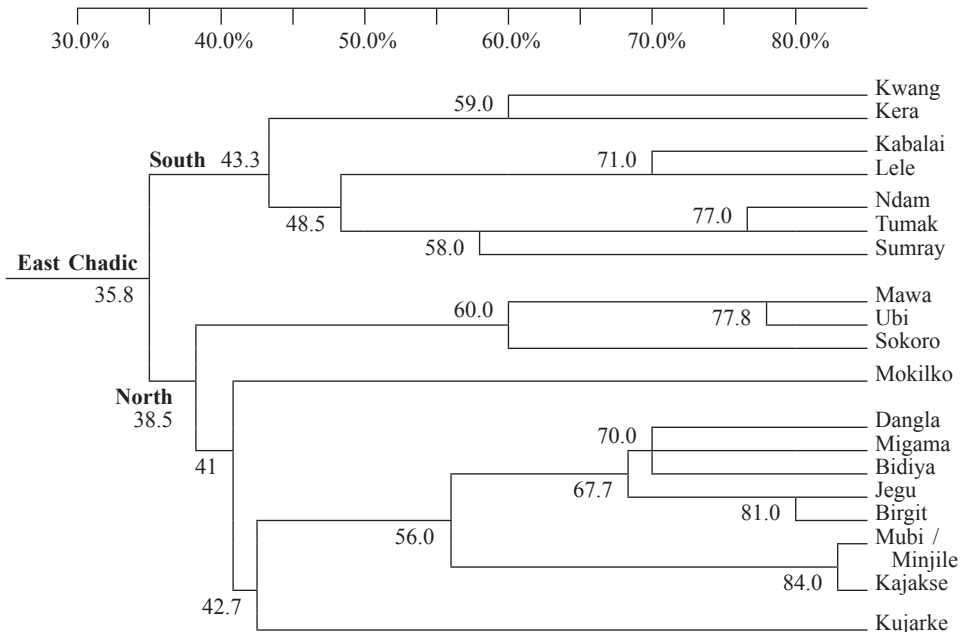
Paul Doornbos devoted a lot of time to studying the Kujarke people; however, it was hard to find out what religion they practiced. Doornbos states that they are not Muslims, but as they kept their religious practices secret and led every visitor to their hamlets in Dar Fongoro to a ‘circle’ outside its perimeter when they wanted to say their prayers, their religion remains undescribed.

In Chad, Dar Fongoro is a ‘sous-prefecture’ with the village of Tissi as regional centre and part of the province of Dar Sila. In Sudan, Dar Fongoro is part of S. Darfur State, and Umm Dukhun is the main centre. Tissi and Umm Dukhun are 20 kms from each other and both have large populations of refugees and displaced Arabs and Fur clashed bloodily in the 1980s, Arabs and Masalit in the 1990s. It prompted many Masalit and Fur at the time to move to Dar Fongoro. When the Sudan government was challenged in 2003 by rebel movements composed of Fur, Masalit (and Zaghawa), it armed and inspired pastoral Arab tribes to a campaign of ethnic cleaning in Darfur, and later Dar Sila. The ethnic composition of Dar Fongoro has changed since then: there are far more Chadian Arab tribes, far less Fur and Masalit. There were more killings to come, one fierce on 31st of March 2007 targeted mostly Daju villages. Trierio and Marena were burned to the ground along with other villages by Janjaweed. One Kujarke village might have been also destroyed during this attack, or earlier or later. Their burnt village was located a few walking days NW of their hilly biotope. If all Kujarke fled, they would have chosen the same route. Thus, their present venue is the wider Goz Beida area. However, there their exact location, if there is one, is almost impossible to determine, as all the information can only be found through hearsay and small rewards offered. The news about the burning down of the Kujarke village comes from a French anthropologist Jerome Tubiana, who reports about his discussion with a village chief in Tiero, situated East of Goz Beida on the Wadi Azum, telling him that Arab Janjaweed destroyed, burned down a Kujarke village nearby. This news was the first confirmation in more than 25 years about Kujarke existing.

In 2012, the EU is supporting the return of refugees and IDP to Dar Fongoro; however, in their reports there is no word to be found about Kujarke or Fongoro.

Appendix 2: Classification of East Chadic languages (modified after Blažek 2008, 135)

	Lele	Sumray	Tumak	Sokoro	Dangla	Migama	Bidiya	Jegu	Mubi	Mokilko	Kujarke
Kera	47	42	41	37	39	32	31	34	32	34	26.4
Lele		52	45	42	44	42	41	41	45	39	36.0
Sumray			58	40	40	44	39	41	43	39	35.2
Tumak				40	42	35	35	41	38	36	30.2
Sokoro					48	41	42	49	44	39	29.4
Dangla						70	70	70	58	42	42.0
Migama							70	70	53	42	38.5
Bidiya								63	53	41	37.2
Jegu									60	40	44.5
Mubi										40	47.2
Mokilko											33.7



Lovestrand (2012, 17) compares 18 East Chadic languages of Guera with Kujjarke

Kujjarke

26 Zerenkel

28 66 Mubi

24 51 62 Masmaje

30 53 56 60 Kajakse

25 37 39 40 41 Birgit (Abgué)

26 35 38 35 37 55 Mogum (Jegu)

20 31 31 31 32 57 57 Toram

27 38 38 37 38 50 52 42 Dangla (East)

23 33 35 35 37 45 45 42 57 Bidiya (Toukoul)

24 38 40 36 36 46 50 44 56 56 Migaama (Baro)

19 27 30 31 31 45 48 42 41 42 44 Mabire

16 26 27 24 24 22 26 21 27 26 27 29 Ubi

14 24 23 23 25 20 24 24 24 23 23 26 47 Sokoro

15 27 26 24 28 23 28 26 26 25 25 28 45 70 Tamki

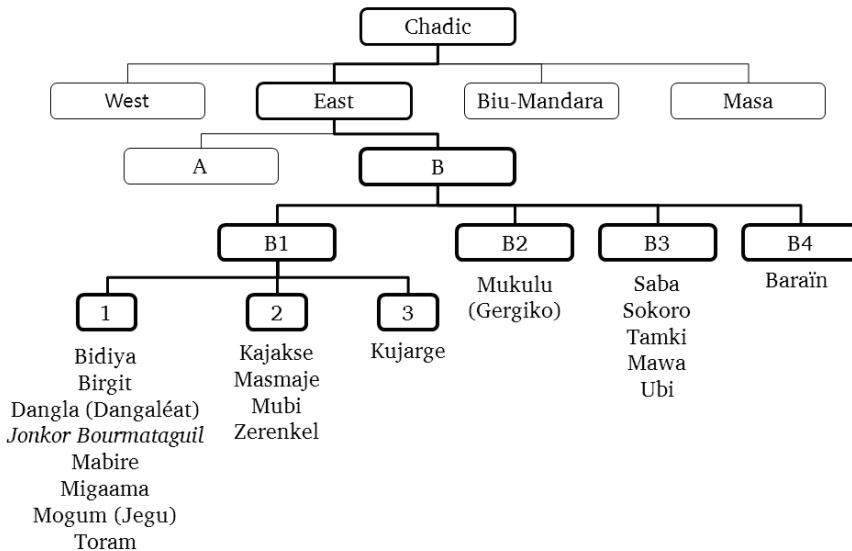
12 26 24 24 28 24 26 27 23 25 25 26 46 61 67 Saba

11 25 27 28 28 22 29 22 25 24 28 26 46 41 44 48 Mawa

20 27 26 27 31 27 30 29 28 31 31 28 27 31 28 33 29 Baraïn (Jalkiya)

9 16 16 14 16 13 15 11 16 16 14 12 14 15 14 17 15 15 Mukulu

On the basis of his results Lovestrand (2012, 21) offers the classification scheme:



Appendix 3: Personal Pronouns of Kujarke vs. East Chadic

	1 sg.	2 sg. m.	2 sg. f.	3 sg. m.	3 sg. f.	1 pl. in./ex.	2 pl.	3 pl.
Kujarke	<i>annu</i>	<i>nigi ~ niki</i>		<i>era, ?nili</i>		<i>kone</i>	<i>koniŋ</i>	<i>ere</i>
Mubi	<i>nde</i>	<i>kám</i>	<i>kín</i>	<i>ar</i>	<i>tír</i>	<i>éné</i>	<i>kéné</i>	<i>kér</i>
Kajakse obj.	<i>?intè ?in</i>	<i>kamtè kam</i>	<i>kintè kin</i>	<i>?akàr</i>	<i>tirte</i>	<i>?antè ana</i>	<i>?eetè kann</i>	<i>?ayar ?èè</i>
Jegu	<i>nôo</i>	<i>kee</i>	<i>kánêe</i>	<i>ŋaa</i>	<i>taa</i>	<i>ninee</i>	<i>kúnèè</i>	<i>ŋúu, ŋôo</i>
Bidiya	<i>no(-ora)</i>	<i>ki(-nda)</i>	<i>ka(-nda)</i>	<i>ŋa(-nda)</i>	<i>na(-nda)</i>	<i>ni(-nda)</i>	<i>ku(-nda)</i>	<i>ŋu(-nda)</i>
Migama	<i>náà(-tà)</i>	<i>kii(-tà)</i>	<i>kân/ kân-ta</i>	<i>gà(-tà)</i>	<i>gi(-tà)</i>	<i>kéè-tà/ ni-tà</i>	<i>kûŋ/ kûn-ta</i>	<i>gù(-tà)</i>
E.Dangla	<i>nō</i>	<i>kí</i>	<i>ká</i>	<i>ŋà</i>	<i>tyà</i>	<i>nì / ní</i>	<i>kú</i>	<i>ŋò</i>
Mokilko	<i>nùunó</i>	<i>kèe</i>	<i>kòn</i>	<i>yòdè</i>	<i>tòdè</i>	<i>kiné/kayè</i>	<i>kùnè</i>	<i>kànè</i>
Ubi	<i>naara</i>	<i>cira</i>	<i>kerke</i>	<i>?àarà</i>	<i>?ààarà</i>	<i>?inani</i>	<i>kunàŋ</i>	<i>?anàŋ</i>
Mawa	<i>no</i>	<i>ci / ki^g</i>	<i>ko</i>	<i>a, edi</i>	<i>aka, eter</i>	<i>ea / ne</i>	<i>kəŋ</i>	<i>aŋ</i>
Sokoro obj.	<i>na -no</i>	<i>ca -gi</i>		<i>bokaŋ -ga</i>		<i>ónoŋ -gene</i>	<i>kúnuŋ -guŋ</i>	<i>ániŋ -giŋ</i>
Barain	<i>unu / inu</i>	<i>kii</i>	<i>kee</i>	<i>kaa</i>	<i>tii</i>	<i>aye / ane</i>	<i>kakuu</i>	<i>kuu</i>
Sumray	<i>indī</i>	<i>injim</i>		<i>anju</i>		<i>a/indī-ge</i>	<i>injim-ge</i>	<i>anji-ge</i>
Lele	<i>dàng</i>	<i>digi</i>	<i>dàmè</i>	<i>dài</i>	<i>dàdù</i>	<i>dàngà/ dàni</i>	<i>dàngù</i>	<i>dàgè</i>
Kera	<i>ten</i>	<i>tam</i>	<i>te</i>	<i>wə, tó</i>	<i>a, tá</i>	<i>ány / áré</i>	<i>aŋ</i>	<i>ye, té</i>

Appendix 4: Personal pronouns in chosen Nilo-Saharan languages from the Chad-Sudan borderland

	1 sg.	2 sg.	3 sg.	1 pl.	2 pl.	3 pl.
Fur: subj.	<i>ka</i>	<i>ji</i>	<i>ie</i>	<i>ki</i>	<i>bi</i>	<i>iè-èŋ</i>
poss. sg.	<i>d-u-i-ŋ</i>	<i>d-i-i-ŋ</i>	<i>d-e-e-ŋ</i>	<i>d-a-i-ŋ</i>	<i>d-(w)i-è-ŋ</i>	<i>d-i-è-ŋ</i>
poss. pl.	<i>k-u-i-ŋ</i>	<i>k-i-i-ŋ</i>	<i>k-e-e-ŋ</i>	<i>k-a-i-ŋ</i>	<i>k-(w)i-è-ŋ</i>	<i>k-i-è-ŋ</i>
Biltine	<i>kaí</i>	<i>dzidzai</i>	<i>dze</i>	<i>kí</i>	<i>wí</i>	<i>dzo</i>
Sinyar	<i>maa-ɛ</i>	<i>ii-le</i>	<i>naa-ɛ</i>	<i>cii-ŋge</i>	<i>sii-ŋge</i>	<i>nii-ŋge</i>
Fongoro	<i>ma(ki)</i>	<i>yi(ki)</i>	<i>-?</i>	<i>zey</i>	<i>iyɛge</i>	<i>-?</i>
Sungor	<i>wa, wo</i>	<i>ī</i>	<i>ési, ísē</i>	<i>wē, wui</i>	<i>ai</i>	<i>ésiŋ</i>
Aiki (Runga)	<i>ámɔ</i>	<i>mɔ</i>	<i>tì</i>	<i>mì</i>	<i>kì</i>	<i>wì</i>
Daju Sila	<i>anaŋ(-ga)</i>	<i>iniŋ(-ga)</i>	<i>ma m.n. /če f.</i>	<i>kona /koska</i>	<i>iwe/uwe</i>	<i>sa ~ ha</i>
Berti	<i>su</i>	<i>negei</i>	<i>korei</i>	<i>sinan-</i>	<i>negan-</i>	<i>kuran-</i>
Zaghawa	<i>aái</i>	<i>na</i>	<i>bér</i>	<i>tṣgṑi</i>	<i>nōw</i>	<i>bər</i>
Teda	<i>tɔbre</i>	<i>nubre</i>	<i>(ta)mure</i>	<i>tɔbra</i>	<i>nubra</i>	<i>mura</i>
Kanuri	<i>wu</i>	<i>ŋi</i>	<i>ši</i>	<i>andi</i>	<i>nandi</i>	<i>sandi</i>

Note: Fur & Amdang (= Biltine) ∈ Fur family; Aiki (Runga) ∈ Maba family; Sungor ∈ Tama family; Daju Sila ∈ Daju family; Berti, Zaghawa, Teda, Kanuri ∈ Saharan family.

Appendix 5: Numerals of Kujarke vs. East Chadic

language	1	2	3	4	5
Kujarke	<i>kirre ~ kurwo</i>	<i>kurro ~ giriya</i>	<i>ubo</i>	<i>fada</i>	<i>biya ~ bija</i>
Mubi	<i>finét / fin^{1g}</i>	<i>sìir / sìr^{1g}</i>	<i>sùbà / sùbà^{1g}</i>	<i>fàdà / fàdà^{1g}</i>	<i>bíʔà / bídya^{1g}</i>
Zirenkel	<i>pinne</i>	<i>seri</i>	<i>subba</i>	<i>paɗa</i>	<i>bitja</i>
Kajakse	<i>fìnè</i>	<i>sir</i>	<i>sóòp</i>	<i>faat</i>	<i>fíɗɗà</i>
Toram	<i>kétàŋ</i>	<i>see</i>	<i>suub</i>	<i>fòoɗa</i>	<i>bèeɗya</i>
Birgit	<i>káyɗò</i>	<i>sìiri</i>	<i>súúbù</i>	<i>fòòdì</i>	<i>bèèɗyà</i>
Jegu	<i>kee</i>	<i>shee</i>	<i>sup/b</i>	<i>fòod</i>	<i>bei</i>
Mogum	<i>kè m., kà f.</i>	<i>sè</i>	<i>sup</i>	<i>poot</i>	<i>bey</i>
Mabire	<i>ke</i>	<i>ser</i>	<i>sup</i>	<i>pot</i>	<i>betdaŋ</i>
Bidiya (m./f.)	<i>keʔeŋ / kaɗya</i>	<i>sīdī</i>	<i>subaŋ</i>	<i>paada</i>	<i>bèeʔeŋ</i>
Migama	<i>káɗyì</i>	<i>sê.rà</i>	<i>súbbà</i>	<i>pó:ɗi</i>	<i>bééɗyá</i>
Dangla	<i>kìdà</i>	<i>séér(ó)</i>	<i>súbbà</i>	<i>pòòɗ</i>	<i>bèèɗy</i>
Mokilko	<i>sòo</i>	<i>sìré</i>	<i>'áɗó</i>	<i>piɗé</i>	<i>páát</i>
Sokoro Nacht. SIL	<i>kéɾī ~ kéɾī</i> <i>kétti / keɾi</i>	<i>mōru</i> <i>móɗù</i>	<i>súba / sùbbá^{1k}</i> <i>sùbà</i>	<i>páada / fāda^{Barth}</i> <i>paʔáɗà/pàaɗá^{1k}</i>	<i>bíiya / biìʔá^{1k}</i> <i>biʔà</i>
Ubi	<i>piina</i>	<i>muɗu</i>	<i>suɓa</i>	<i>poɗa</i>	<i>beeja</i>
Mawa	<i>pwənni / pəni</i>	<i>rap / rap</i>	<i>súp / sup</i>	<i>pat / pa.t</i>	<i>bi / bij</i>
Barain SIL L	<i>paniŋ</i> <i>fani</i>	<i>sidi</i> <i>siidi</i>	<i>subu</i> <i>subu</i>	<i>pudu</i> <i>fudu</i>	<i>dawsu</i> <i>dausu</i>
Sumray	<i>mān</i>	<i>sár</i>	<i>sùbù</i>	<i>wōdā</i>	<i>jì</i>
Miltu	<i>man</i>	<i>sa</i>	<i>sobo</i>	<i>wedi</i>	<i>iši</i>
Ndam GD	<i>mán</i> <i>minei</i>	<i>sá</i> <i>reje</i>	<i>súp</i> <i>supu</i>	<i>wè:tī</i> <i>woro</i>	<i>wīshī</i> <i>usi</i>
Gulei	<i>mūn</i>	<i>hē</i>	<i>cuba</i>	<i>uori</i>	<i>using</i>
Tumak	<i>māñ</i> <i>mān</i>	<i>heè</i> <i>hè</i>	<i>sūūb</i> <i>sùb</i>	<i>wārī</i> <i>wōrī</i>	<i>ūsāñ</i> <i>ūsī</i>
Sarwa	<i>muni</i>	<i>rei</i>	<i>sup</i>	<i>we</i>	<i>uʃu</i>
Lele	<i>pinà</i>	<i>sò</i>	<i>sùbù</i>	<i>pōrīŋ</i>	<i>bàɣ</i>
Nancere	<i>pənà</i>	<i>sùwə</i>	<i>sàb</i>	<i>pəri</i>	<i>bàɣ</i>
Gabri / Dormo	<i>pən / penā</i>	<i>wō / saa</i>	<i>sùbū / subu</i>	<i>pórbu / porin</i>	<i>bàɣ / bai</i>
Kimre / Chire	<i>pən / pon</i>	<i>wɔ / wō</i>	<i>subu / sōbu</i>	<i>pɔrbu / pórbu</i>	<i>bai</i>
Kabalai	<i>pənà</i>	<i>sùwə</i>	<i>sàp</i>	<i>pəɾi</i>	<i>bàɣi</i>
Kera	<i>mānà('i)</i> <i>māná</i>	<i>ɓasi</i> <i>ɓási</i>	<i>soope</i> <i>sóope</i>	<i>wa:ɗe</i> <i>wááɗe</i>	<i>wi:ɗiw</i> <i>wíúɗiw /</i> <i>suŋku māná</i>
Kwang	<i>mīn, mìn</i> <i>kàlák mìn</i>	<i>rāy, ráy, ra'</i>	<i>sūpáy ~ sàbáy</i> <i>sɪpa'</i>	<i>wúɗáy ~ 'úɗáy</i> <i>wuɗa'</i>	<i>wíɗyim ~</i> <i>'úɗyi:m</i> <i>wiʔyim</i>

Numerals in neighboring Nilo-Saharan languages and their close relatives

	1	2	3	4	5	6	7	8	9	10
Fur (< Arabic)	<i>dīik</i>	<i>òù</i>	<i>ìis</i>	<i>òḡàl</i>	<i>òòs</i>	<i>òsàndik</i> or <i>sitta</i>	<i>osan weu</i> <i>sààbè</i>	<i>osan is</i> <i>tàmàn</i>	<i>osanoḡal</i> <i>tiisè</i>	<i>wèyè</i>
Amdang	<i>wòk</i>	<i>jónḡ</i>	<i>ít</i>	<i>òḡól</i>	<i>wát</i>	<i>ḡa:</i>	<i>òkké:l</i>	<i>íffé:l</i>	<i>bòrbòr</i>	<i>bók</i>
Runga	<i>kʰan'da</i>	<i>mba</i>	<i>kʰazanga</i>	<i>attei</i>	<i>tur</i>	<i>izei</i>	<i>mn'dirsi</i>	<i>mbakadelii</i>	<i>kʰaddel</i>	<i>jtuk̄</i>
Kibet	<i>do'wai</i>	<i>mbar</i>	<i>kʰasan'gal</i>	<i>ḡa:tal</i>	<i>tor</i>	<i>ḡi'sal</i>	<i>mmdir'siḡ</i>	<i>mba:kʰl</i>	<i>kʰa'deijə</i>	<i>ju'ok̄</i>
Sungor	<i>kur</i>	<i>wári</i>	<i>écà</i>	<i>kús</i>	<i>mási</i>	<i>tòr</i>	<i>kál</i>	<i>kíbís</i>	<i>úkù</i>	<i>mèr</i>
Daju Sila	<i>òḡón</i>	<i>bídák</i>	<i>kòḡòs</i>	<i>ḡi'è:θ</i>	<i>múḡuk</i>	<i>áràḡ</i>	<i>fáθiḡdí</i>	<i>kóáḡḡa</i>	<i>bisθáḡḡa</i>	<i>ás:ḡ</i>

Note: Fur & Amdang (Biltine) ⊂ Fur family; Runga & Kibet ⊂ Maba family; Sungor ⊂ Tama family; Daju Sila ⊂ Daju family. The original Fur numerals “7”, “8”, “9” are quoted after Meinhof in his ‘Kondjara’.

Post scriptum: Final words of Paul Doornbos

(1) Near the end of his stay in Darfur in 1981, Paul Doornbos spent four or five hours with a father-and-son pair of Kujarké informants. Eliciting the Swadesh 100-list was hard because of poor hearing, poor Arabic and disagreements between father and son. The 101–200 Swadesh list was later volunteered by the inebriated son. Already then, the data looked suspect to his amateur eye.

(2) In 1981, their core area was seven hamlets on J. Mirra, located in the NW part of Chad’s Dar Fongoro region. They had outliers in Sudan at 2–3 days’ walking distance in multi-ethnic villages along the Wadi Saleh populated by non-Arab groups such as Sinyar, Runga, Fur, Daju and others.

(3) In 1981, the Sinyar had 18 clans/sections, one of which named Kijaar. On home-made maps their territory was much closer to J. Mirra than the other 17, suggesting intermarriage between Sinyar men and Kujarké women. Kujarké-speaking women may be found among other ethnic groups in that area at that time.

(4) A few details about Dar Fongoro in the 19th century can be found in R.S. O’Fahey, *State and Society in Dar Fur* (London, 1980). In the early 1920s, Dar Fongoro was bisected into French and Anglo-Egyptian colonial entities by an Anglo-French border commission described in 1925 in Lt.-Col. Grossard’s, *Mission de Délimitation de l’Afrique Equatoriale Française et du Soudan Anglo-Egyptien* (Paris, 1925). But it is poor on ethnographic or linguistic details.

(5) The Kujarké are not mentioned anywhere: neither in academic histories of Darfur or Dar Sila, nor in ongoing efforts by NGOs seeking EU-funding to resettle IDPs from Dar Fongoro now living in the Dar Sila/Goza Beida region in Chad.

(6) Dar Fongoro has long been associated with a climate hostile to farming and animal husbandry, with six months of too much water and six months without

any water at all. Instead, hunting and gathering (honey, the fruits and fronds of the doum-palm, hides and skins, live guinea fowl, etc.) offered whoever lived there a precarious existence. According to local lore in Foro Boranga, Sudan in 1981, anyone who moved there recently must have been on the run from the police. In the 1980s and 1990s, a combination of land hunger, ethnic conflict and climate change further north in Darfur led to the establishment in the Sudanese part of Dar Fongoro to new settlements of Fur, Masalit, Zaghawa and other ethnic groups.

(7) Ethnic conflict in Darfur exploded in 2003 and 2004 and has since then deeply affected the ethnic composition of the Chadian and Sudanese halves of Dar Fongoro. Members of ethnic groups seen by Arab tribes and the Sudan government to support the 2003 uprising (Fur, Masalit, Zaghawa) were ethnically cleansed from Sudanese Dar Fongoro. The indigenous population of Chadian Dar Fongoro saw an increase in Arab settlement and suffered from harassment by Chadian anti-government rebel groups.

(8) Today, the Kujarké most probably do no longer live along the Wadi Saleh or on their ancestral hill, but in Chad's Dar Sila/Goza Beida region in IDP or refugee camps, presenting themselves as Fur or Daju. French anthropologist Jérôme Tubiana met a village sheikh in the Tiero area, who told him spontaneously that during a major massacre in 2007 by Arab Janjawid warriors against his Daju people, that a Kujarké village had also been burnt to the ground. This was the first confirmation in > 25 years of their existence.

(9) It is unlikely that Kujarké had a bright future as a living language even in 1981:

- (a) Their numbers may have been higher than the 1,000 suggested then, but the quarrels between father and son during the recording of the Swadesh-100 list, suggest that perhaps they already talked with each other and others in Fur, not Kujarké. The 101-200 list, weeks later elicited from the son, looked suspicious, even while recording it.
- (b) Inter-marriage with larger language groups puts a tiny language at a disadvantage.
- (c) Kujarké loanwords: some occur in many other regional languages, such as *angereeb* for rope bed, a 19th century innovation from British India. *Maat* for 'die' is probably Chadic, not a loan. But other Arabic and Fur loanwords are rather central to any people's worldview. List them and ask yourselves why such key words were forgotten and had to be borrowed. My amateur conclusion is that this is/was a rapidly decaying language with very few speakers in 1981.

(10) How to proceed? If I had had more time in 1981, I would have looked for other speakers. Alas. Today only a clever, well-connected person can find the last Kujarké speakers. But what should he / she ask them?

Paul Doornbos
 Oct 28, 2012

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Acknowledgement:

The present study was prepared thanks to the grants of the The Czech Science Foundation (GAČR), P406/12/0655 & GA15-12215S. The first presentation of results was made possible at the 42nd Colloquium on African Languages and Linguistics in Leiden 2012. I am grateful to Zuzana Maláškova for revision of English. My deepest thanks belong to Harald Hammarström and to Paul Doornbos for mediation of unpublished lexical data. Finally Paul Doornbos has written a sad *Post Scriptum*.