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NOTES ON CHADIC LEXICAL COMPARISONS - SELECTED ISSUES

The aim of the present paper is to present and discuss some formal and semantic problems connected with Chadic lexical comparisons on the basis of selected examples of common Chadic items. This paper is, in a sense, a continuation of my work, the results of which were partially presented in I b r i s z i m o w 1988, in press a, in press b. The principal methodological approach that I have been applying is the strict distinction between a first synchronic stage, whose underlying purpose is to elucidate from the individual language forms common Chadic ones, and a subsequent second diachronic stage, i.e. reconstruction. As I have been dealing for the present moment only with the first stage, I suggested common forms comprising sound resemblance series. On the basis of these series future regular sound correspondences among the Chadic languages may be established. Due to the fact that not all material sources are enough reliable regarding the vowel notation (phonemic value, tone and length), I took under consideration only consonants. Further, I tried to find out one common form (where possible) for each item, utilizing the well-known common Chadic linguistic factors operating both on form - metathesis, root-thinning and on meaning - semantic shifts, extensions and reductions. This helped me in many cases to find a tentative explanation for the uncognate individual language forms and/or to suggest in the same place cognate ones.

Below I shall compare some of my suggestions with the existing reconstructions on Proto-Chadic and/or higher level. These reconstructions will be cited with an asterisk. Methodologically such

comparison is, in this case, possible due to three facts: all reconstructions are based on present-day linguistic material; there is no diachronic stratification of the Chadic languages; the already suggested sound correspondences and laws work among individual languages in selected items, being therefore at least imperfect (cf. I b r i s z i m o w, in press a: passim).

'ear' - 'name'

The item 'ear' seems to have two well documented common roots, i.e. k u, o m and t l i m. J u n g r a i t h m a y r and S h i m i z u (1981:90) reconstructed 'ear' as *s₃m- with two possibilities - *t l i m where *t l < *s₃? and *k m where *k < *t l < *s₃?. Formally, these suggestions seem to be confirmed by my material (also the distribution of the roots). The change t l > k may be interpreted through such forms as Kilba h i m i. Hildi and Wamdiu x i m i, and Glavda h y i m i a. In the first three languages the palatalization-spirantization-weakening process (i.e. t l, t > h, x) seems regular (found also in such items as 'ear', 'tooth', 'bone', 'egg'; cf. I b r i s z i m o w, in press a). Moreover, the t : k y correspondence is found also in some Central Chadic forms of 'moon' (e.g. West Chadic t-r, Central Chadic: Glavda k y i l a, Gisiga, Mofu-Gudur k i y a, Margi, Kilba h y a, Hildi, Wamdiu x y a). Still a problem remains with the West Chadic forms in which the vowels seem stable (u, o) witnessing a labialization rather than a palatalization process (as is the case with the item 'moon'), e.g. Pero 'ear' k u m o, Angas k w o m.

Formally 'ear' may be compared with the item 'name'. N e w m a n and M a (1966:237) presented 'name' and 'ear' under one entry, but N e w m a n (1977:26) rejected this comparison - "As suggested by H o f f m a n n (1970), these words were distinct, though phonologically similar, in PC. In the WST branch, this PC form was replaced very early by a *k-m- root...". I do not know the reason for Hoffmann's suggestion (H o f f m a n n, 1970 did not consider 'ear' and 'name' at all!), but L u k a s (1970:20*-21*) dealt with the problem on the basis of the Gisiga and Matakam forms suggesting that they were homonymic. 'Ear' and 'name' have exactly the same forms (i.e. the same consonants and vowels; I do not know whether also the same length and tone!) in Tera, Bura, Cibak, West Margi, Ngwaxi, Fali Mucella, Njanye, Matakam, Gisiga, Mofu-Gudur,

Daba, Gidar (all are Central Chadic) and very similar in the majority of the remaining Central Chadic languages. The problem is that in Bacama we have an uncognate for 'name' k w a k e y form (meaning both 'ear' and 'name'). Beside that in Gude there exists a morphologically distinct set of the so called "inherently possessed nouns" to which the word for 'name' belongs, being the only noun which is not an external body part term (!) or kinship term (H o s k i - s o n, 1983:42).

At the same time my material shows that within the Bura-Margi group there seems to exist a regular correspondence between h, x in Kilba, Hildi and Wamdiu and t l in the other Central Chadic languages (as mentioned above). But this correspondence is not found in 'name'! ('name' in these languages is t l i m, t l e m). In conclusion to what has been mentioned above it may be said, that:

Homonymicity of the items 'ear' and 'name' within Central Chadic may be questioned on the basis of the Bacama form - it is highly improbable that two pairs of homonyms different in form may exist within a group of languages with the same opposition of meanings; and of the case in Gude where the set of "inherently possessed nouns" seems to be connected with a semantic and not with a formal criterion. On the other hand homonymicity cannot be ultimately rejected because both above examples may be due to an actively operating process of analogy to the situation in the neighbouring languages. The "disturbance" of the regular sound correspondence mentioned above in Kilba, Hildi and Wamdiu may be (unfortunately) due to a simple reason - inadequacy in the material notation. Examples of this type may be Bura 'tooth' presented as h y e r by W o l f f (1974/5), as x i r by K r a f t (1981) and as t l i r by N e w m a n and M a (1966); or Mandara 'bone' presented as x y e x y e by K r a f t (1981), as s h e s h e by N e w m a n and M a (1966) and as t l e t l e by L u k a s (1970:32) (these differences are now here explicitly stated to be connected with collecting data from different dialects of the same language!). Still in my opinion 'name' is a "conspicuous" item because of its striking similarity in form (in other words - striking lack of divergency in form) in the majority of Chadic languages (about the uncognate forms cf. my notes below; cf. also I b r i s z i m o w (1988) about 'four' as another "conspicuous" item).

The item 'ear' is also comparable to 'leaf'. As suggested by Jungraithmayr and Shimizu (1981:160), root B 'leaf' may be signified as 'ear of tree'. The terms for 'ear' and 'leaf' are the same in the West Chadic languages Gwandra, Angas, Sura, Cip, in the majority of the Bole-Tangale languages (Schuh (1984:208) reconstructed it as a combined entry), in the Central Chadic languages Tera, Glavda, Gava, Masa and Banana and in the East Chadic Kera, Tumak and Dangla. From the Central and East Chadic languages only Tera and Tumak have one form meaning 'ear', 'name' and 'leaf = ear of tree' (in Tera there is also a separate word for 'leaf'). What semantic mechanisms led to such a situation in Chadic and how the West Chadic form k u, o m for 'ear' had appeared (if it is not the "older" form!) is not clear (there is one more inexplicable problem for me connected with the above mentioned items - the basis on which Jungraithmayr and Shimizu (1981) reconstructed Dangla 'ear' separately from the *s₂m- root as *'dⁿg (p. 90, root B) and Dangla 'leaf' under root B, p. 160 in the meaning of 'ear + of tree' as *s₂m-?).

Several remarks may be made regarding the uncognate forms for 'name'. In the Northern Bauchi languages Miya and Warja we have ngim, gin-ay which was compared by Jungraithmayr and Shimizu (1981) to Proto-West-Sudanic ghina. Stobova (1987:257, no. 136) reconstructed for this group *n-gama without further comparisons. The Bade form 'm'd-in seems to be connected with the form for 'person' m'din in the same language. The Glavda word for 'name' 'daagaa may be connected to another source of signifying, i.e. from the verb 'dag 'to call, to cry aloud' (Rapp and Benzing, 1968). Compare also the situation in Mofu-Gudur (Barreteau, 1988) - tlimay - "l. oreille, ... 4. nom (peu fréquent)"; meziley - "nom" (<-z1- - "(s')appeler"). Probably the reverse process of signifying may be observed in Mbara where the cognate form tlim means 'nom' and 'appeler' (Tourneux et al., 1986).

'eye'

The item 'eye' has been reconstructed up till now as follows: Newman and Ma (1966) presented the form *-d-, Newman (1977) *id₁, Jungraithmayr and Shimizu (1981) *yd(-t) with two sub-roots *yd(-n) and *dt(-n). Stobova (1987:230, no. 784) reconstructed for West Chadic *'ida (also 'eye, to see' *cayan p. 228, no. 762). Mukarovskiy (1984) dealt at length with the lexeme 'eye' suggesting the form *'idàn- (the author reconstructed it taking under consideration also the vowels, their length and tone). The latter study (though the author did not explicitly state it) in my opinion confirms the need for creating a stage of common Chadic on the basis of sound resemblance series rendered for establishing regular sound correspondences. As I am dealing only with consonants, here I shall mention the relevant material presented by Mukarovskiy (1984) with some remarks: C₁ as * was reconstructed on the basis of all forms with initial y or initial vowel as well as on the basis of the forms with initial consonant (e.g. Bura nca, Guduf di) utilizing the above mentioned root-thinning factor; C₂ as *d comprised: besides d also r in some Bole-Tangale languages for which Schuh (1984) also reconstructed 'eye' with *d (note that in Pero (Frantzynier, 1985) we have a glottalized alveolar, i.e. an'do 'eye, face', 'do 'eyes'); the Midjivin dialect of Gisiga (therefore probably it concerns also the Gisiga form re); t; l - in Margi, Kilba, Hildi (but Hoffmann (1988:258 - 259) suggested that the stems li are etymologically unrelated to the Bura and Cibak nca forms!); Buduma and Gulfei (Kotoko languages - for the Kotoko group Porhomovskiy (1972) reconstructed *c-; *c had reflexes c in Buduma and s in the remaining ones); c; s; j; ts. C₃ was reconstructed as *n or *r. *n comprised: n on the basis of the Hausa form (idoo, plural 'idaanuu; Mukarovskiy (1984) reconstructed for Hausa *'idono - the n for the Hausa group is confirmed also by the Gwandara ndani; but cf. Stobova's West Chadic reconstruction above); Bura, Cibak, West Margi, Higi Nkafa, Fali Kiria; Dghwede (for all these languages the metathesis factor was utilized); Masa (!? but irano seems analysable as ira-no i.e. with a suffix often found in the Masa forms; cf. also

Newman (1977:26) who presented the Masa form as ir-nu!); Musey (but Platie 1, 1972:22 presented only ir).

As a whole I assume that the common form of the item 'eye' should be y, ɔ, ø - d, t, r - n, r. The y in C₁ is based on the forms with initial y and with palatalized consonant probably due to metathesis - this may explain the forms like Cibak nca). In Chadic there seems to be also another form d(sh?) - t found rarely, though present both in West and Central Chadic - in Zeem cluster of Southern Bauchi, in Bacama and Mwulyen. Jungraithmayr and Shimizu (1981) put these forms under separate sub-root. If Bacama diito may be analysed as dii + to (feminine suffix mentioned by Hoffman, 1970:17) the form dii would be identical with the one for the rest of the Bata group. Still Mwulyen diti-gi (-gi - a suffix found in the majority of Mwulyen items) and Zeem dwati remain inexplicable. In Ankwe we have the form has-hit and in Bokkos shit which may be either explained through shit < *shyit < *tyi-t < met. *yit-t? or should be compared to the d-t forms. Note that in Daffo 'to see' is shit-ai and seems cognate with Bokkos and Ankwe 'eye'.

'mouth'

For the item 'mouth' it seems that we have two probably different common roots. The first one b(w), p(w), f(w), v, w - k, (n)g covers the West Chadic languages (without the Bade-Ngizim group), the Central Chadic Masa, Laamang, Mandara and probably Kotoko groups (for the latter Porhomovskiy (1972) reconstructed *g-(i) and the East Chadic languages. The second one m(y) covers the West Chadic Bade-Ngizim group, the Central Chadic languages (without the above mentioned and the languages Higi Ghye, Higi Futu, Bacama, Gudu and Njanye). The forms of this item show the opposition labialization vs. palatalization (cf. 'ear' above). Jungraithmayr and Shimizu (1981:187) suggested that both forms may "ultimately be cognate" (i.e. their *b- and *m- roots). I think that cognate forms may be found in the place of the m(y) root, but with a slightly different meaning, i.e. 'hole'. 'Hole' has the form kw, gw or k, g - w in the Central Chadic groups Tera, Bura-Margi, Higi and Bata; vik in Bade and Ngizim; vige'd in Mofu-Gudur; vinj in Mbara. Compare e.g. the following 'mouth'

forms: Bacama kwa, Lame vun, Pa'a vingi. If my assumption is correct, it will mean that the form b(w), p(w), f(w), v, w - k, (n)g may be accepted as common Chadic, being preserved in Central Chadic in the meaning of "hole". Unfortunately, at this point in time, I am not able to analyse semantically the second m(y) form (which ultimately may appear to be a phonetic variant of the "main" root).

'lungs'

The item 'lungs' was not presented in either of the general Chadic reconstructions. Almost all forms are reduplicative, involving the phonemes kw, gw, xw, f, h, p, b. It seems that they have an onomatopoeic origin which suggests a common Chadic signifying process, unless all forms are loan words (for Ngizim fuufu Schuh (1981:58) suggested? < K. (anuri) fufu). The uncognate form in Pero pok is probably connected with another origin: Frajzyngier (1985:46) gives the meanings 'edge, lungs, mouth, language' (cf. 'mouth' above). Stolzova (1987:206, no 564) reconstructed for West Chadic *kufi on the basis of Hausa kuufuu (Abraham (1962) gives kuufuu = kuuhuu = huuhuu (main entry) and Newman and Ma Newman (1985) give only huuhuu), the Northern Bauchi languages (Skinner (1977) suggested also k-f as common root for this group) and Kulere gu-gufi.

'flour'

'Flour' was reconstructed by Jungraithmayr and Shimizu (1981) with three main roots: *pt, *g-d with a sub-root *hs, and *gp. On the basis of my material I suggested the common form x, k, g - p, b, mb, pw, f - t, d. The forms in Sura-Gerka (Angas es, Sura aas, Ankwe has, Kofyar as) and Bole-Tangale (Schuh, 1984:209 reconstructed *ashi considering only the forms in Gera and Kanakuru) seem uncognate with the above suggested common root. I suppose that these forms may be connected with the meaning of 'sand' - Angas gis, Cip es, Ankwe hes, Kofyar ees; for Bole-Tangale Schuh (1984) reconstructed *was(i). Stolzova (1987) reconstructed for West Chadic 'flour' (p. 227, no. 756) as *asA (A = unknown vowel) and 'sand' (p. 231, no. 794) as *8asi (8 = weak consonant) with a sub-root for Sura-Gerka *is.

'6-10' numerals

While analyzing the material for the numerals 6-10 it appeared that in quite a large number of languages these numerals have been formed through a combination of other numerals (1-5 and 10). The possible combinations were briefly summarized by Z a b o r s k i (1983). Here I present some further remarks as well as the detailed illustrative material.

The decoding of the morphemes creating the 6-10 numerals is complicated by the fact that these morphemes formally are not easily comparable to the forms of the present-day simple numerals. Moreover, the combinations differ among the groups of languages (summing, doubling, subtraction) and even within the languages of the single groups. On the other side, the decoded morphemes may be a help in precisising/establishing the modern simple numerals' forms. I am aware that there exists a possibility of borrowings within the groups and among them, not only of simple numerals, but also of combinations - unfortunately at the present stage of my knowledge I cannot determine the exact loan-words (though some of them seem quite obvious).

'Six' = 5 + 1 in the whole Sura-Gerka group - pe/ime/i < paat 5 + me/i 1; in Sha and Kulere - haram < ha'a/haara 5 + ham/ami 1 and in the Bole-Tangale group (without Maha) - b-sh, s, ci m- ('d)- < baa'd/t 5 + mo'di 1. In Pero fadilemundi (K r a f t's 1981 material; F r a j z y n g i e r (1985) did not present 'six' at all!) < ? fwat 5 + mundi 1 which is a cognate form with that of the rest of the group for 'one'; the modern form of 'one' in Pero is 'dok; ile < ? are - the morpheme used in -teens. In Dangla we have bidigety < beety 5 + keety 1, in Barain (L u k a s, 1937:50) dsumaui < dausu 5 (being changed to desum in 6, 7, 8, 9 combinations, cf. below) + fani 1 (having the form fau in 11 and 21; here f probably assimilated to m); Bidiya (A l i o, 1986) penke < bee'en 5 (cf. also 'seven' below) + ke'en 1. Further it seems that also in Mwulyen and Bacama 'six' tukwaldeaka/tukoltaaka could have come from tuhf/tuf 5 (K r a f t's 1981 data) + d/t-k (= 1 ?). Despite this combination it seems that also the 2 x 3 form is present: in Daffo makon < ma + kon 3 (< yuhun, in Sha kun; the morpheme ma appears in Deffo, Sha and Bokkos also in 'eight' probably

with the same meaning - cf. 'eight' below); in Maha - binkunu < bin + kunu 3 (the morpheme bin seems to appear in Maha and in some other Bole-Tangale languages also in 'ten' - cf. below); probably also in Kotoko (Z a b o r s k i (1983) gives 6 = 2 x 3 in Kuseri, Logone, Gulfei, Mandage; cf. also M u k a r o v s k y, 1987:38). The other languages have mainly the form m-k, kw- (N e w m a n and M a (1966) reconstructed 'six' as *m-k-; Bura-Margi and Higi groups (ŋ)kw-. This root could have also come from the 2 x 3 combination preserving only -k- as a "three" morpheme (?). In Hausa, Gwandara, Bade and Ngizim the form of 'six' is sh, z-d-. On the basis of these languages and Ngamo S t o l b o v a (1987:176, no. 288) reconstructed *sidu as West Chadic form.

'Seven' = 5 + 2 in Sura, Cip, Ankwe, Montol, Kofyar - pov-l < paat 5 + yl 2; in the Bole-Tangale group (without Maha) b-cimb-l- < baa'd 5 + mbal 2 (Pero - pattirabelow < puat 5 + ira (cf. 'six' above) + below 2). Tangale and Dera have felo, bwela for 'seven' which looks like a shortened form of 5 + 2 (cf. Ngamo babilo, Bole bawilo), cognate with the other Bole-Tangale languages, though 'two' in Tangale and Dera is rap. According to J u n g r a i t h m a y r (1964:162) Tangale and Bole create 'seven' (and the next numerals) similarly to Gerka (based on 'four', i.e. 4 + 3, see below), but from my material I could not find evidence for that for 'seven' in Tangale and Bole. In Miya it seems that in matsir 'two' tsir is presented as well as in Pa'a tsirkun ('two' cir), Jimbi mansir ('two' shir), Mburku mantsir ('two' tsir), Siri bi-tsirkunu ('two' bi-car - the Northern Bauchi material is taken from S k i n n e r, 1977: 33). Again as in the case of 'six' in Mwulyen and Bacama 'seven' may be 5 + 2: tukwalo'pe/tukolukpe (K r a f t's 1981 data) < tuf/tuhf 5 + kpe 2 (in Baçama; in Mwulyen 'two' is buk). In Daba and Musgoy 'seven' is cesray/cisrey and 'two' - saray/sray. The morpheme ce/ci seems to appear also in 'eight' cufatcufat < fot/fwod 4 (maybe it is a conjunctive morpheme and in 'seven' the "five" morpheme was lost?). Dangla 'seven' peesira consists of beety 5 + seer 2; Barain desmsidi < dausu 5 (cf. 'six' above) + siidi 2; Sokoro bemodu < bia 5 + modu 2; Jegu paise < bei 5 + shee 2; Mubi beesir < bi'ja 5 + siir 2; Birgid basiri < be'ya 5 + siri 2; Bidiya piisit < bee'en 5 (cf. 'six' above) + si'di 2. Another combination for seven is 4 + 3: Gerka bromkun < puro 4 + kun 3. The first part brom appe-

ars also in 'eight' and 'nine' in the same meaning of 'four'; in Fyer it is probable that puruwon < piit 4 + yoön 3 and in Tambas (a dialect of Fyer) we have tswenon < tswit 4 + yoön 3. It seems that the South Baaraawaa sub-group of Southern Bauchi (without Zeem and Chari which have as or from Hausa bakwai) produce 7 in the same way: wusuru-makka < wupse 4 + m-k, gh- 3. The form for 'seven' in the groups: Tera, Bura-Margi and Mandara as well as in the languages Fali Bwagira and Gude is m-'d-f (in Tera m-'d,t) - whether this form is connected with 4 + 3 (or 3 + 4) combination, is not clear. Another possible explanation of this form is the one which concerns Glavda - in that language 'seven' is u'difa and 'index finger' is u'difa'diva ('diva - 'hand, arm, branch'). It is known that when counting on hands (i.e. showing the numbers by fingers), the index finger of the second hand means 'seven'. Therefore it is quite probable that this form for 'seven' (and the cognate ones) is a representative of that old way of counting (cf. also 'ten' below and I b r i s z i m o w, 1988:70). Unfortunately I have not enough material for the fingers' names in the Chad languages. The Kera form is see'da may be soope 3 + waa'de 4, but there is no comparison with other Kera numerals (a similar form of 'seven' is found in Lame and Zime but it cannot be analysed). Somrai and Tumak have the forms dena subu and 'dag-suub from which subu/suub is the form for 'three'. The form dena is found also in 'eight' and 'nine' in Somrai (cf. below) - therefore it is quite possible that those forms are connected with the combination 10 - 3. My material also shows that the Higi group and Fali Jilvu and Fali Mucella have the common form mburufun; while the Laamang group (a)lfan(g)a; and the rest of the South Bauchi languages have (cf. above) ny-ng-.

'Eight' = 5 + 3 in the Sura-Gerka group (except Gerka): pokun < paat 5 + kun 3; in Barain desumsubu < dausu 5 (cf. 'seven', 'six' above) + subu 3 and Sokoro bersup < bia 5 + suba 3. The probable morpheme of 'three' may be found in Bade tlidakwa ('three' kwan), though the first part is inexplicable for me. But 'eight' is mainly produced by reduplication of 'four' (i.e. 4 + 4): Gerka bromburo < puro 4 (cf. also 'seven' for brom), Tambas tshwats(h)wit < tswit; the Bole-Tangale group (without Dera and Maha) fife'du, forfa'du < fee'du, fa'da (Pero pi'dibi'dow < bee'dow 4); the Northern Bauchi

without Warja, Mburku and Tsaga - S k i n n e r (1977) suggested the common root fur/lfu'du (as = 4 + 4); in Southern Bauchi, the Baaraawaa sub-group (without Zeem and Chari which have as or from Hausa takwas) and from the Boghom sub-group Soor and probably Luugu and Sho have 'eight' formed through reduplication of 'four' (in Baaraawaa wusupsu < wupse, in Soor aaso'aasu < wuusu). Further in the Tera group (without Pidlimdi and Tera) we have fwitfwida < fwida; in Njanye, Mwulyen, Bacama, Gudu from the Bata group 'eight' is fwafwad/t < fwad/t; in Daba and Musgoy - cufatcufat < fot (cf. 'seven' above); probably Nancere perpendi < peri 4. One of the forms in Somrai is wodewode and wodi is 'four'; Tumak has wawar and 'four' is wari, Bidiya porpo'd, 'four' paa'dan; Jegu porpide, 'four' food, Mubi farbat 'four' fa'da and Dangala porpot is analysed by F é d r y (1970) as poot + poot 4. The form for 'four' may be found also in other languages, whose form for 'eight' I treat as doubling of 'four' (i.e. 2 x 4), e.g. Daffo mafwarra > mafora < ma + pu 4 (about ma cf. 'six' and also 'eight' in Sha and Bokkos); Sha maa-vur < maa + fu'd 4; Bokkos myaarfu(') < myaar + fu(') (if my analysis is correct, it means that in Bokkos in 'eight' the common Ron form of 'four' is preserved, cf. the modern uncognate 'baras in Bokkos; cf. also 'nine'); in Fyer yaapit < piit 4, but yaa I am unable to analyse. Further Ngizim dandafu'du < fu'du 4, Gisiga and Mofu-Gudur daa(n)gafa'd < fa'd 4 (and probably Matakam tsimika'd <? fa'd 4). In Somrai dunafsr may be analysed as sar 2 and duna as 10, i.e. 10 - 2 (cf. 'seven'). The other forms for 'eight' are: in the groups Hausa, Higi, Bata (without the above mentioned languages), Laamang and Mandara - t-kw, gh, x-s, sh (probably also Musgu mitis, mitwish; for Proto-Mandara-Laamang W o l f f (1983:222) suggested *t(a)gh(a)sa); Bura group has (n)cisu - for Ngwaxi K r a f t (1981) gives ncis midla, and midla means 'nine' - for the present moment I cannot explain this form unless it is a mistake ('nine' does not seem to have a central role in counting in Chadic).

'Nine' = 5 + 4 in the Sura-Gerka group pofar < pat 5 + fer 4 (in Gerka 4 + 5 brompowat < puro 4 + powat 5, cf. for brom 'seven' and 'eight'); Bokkos kaarfu(') < hara 5 + fu 4 (the probable form for 'four', cf. 'eight'); possible combination of 'four' and 'five' may be Southern Bauchi Kiir and Laar ginatoon where toon means

'five', Sho kunamtam where namtam means 'five' (maybe also Soor and Lungu aatanam), Buli anamtam; from the Tera group Gabin fin'dirmin < ? fwi'da 4 + 'dirmin 5; further Sokoro berpat < bia 5 + pada 4; Barain desumfudu < dausu 5 (cf. 'six' above) + fudu 4. The combination 9 = x - 1 (where x should be 'ten', though formally it cannot be always compared with the modern forms for 'ten'; in these cases 'nine' should be probably analysed as meaning "without one") is found in Southern Bauchi Burrum, Barang, Nyamzax (aamsoo-nyem < nyem 1, vunnyem, vunnim < nim, nami 1) and possibly Zul (vwanun < nim 1). In the Ron group we have in Sha gyalam and 'one' is ham, and in Kulera yalaam and 'one' is ami (Daffo has also yalam but 'one' is 'dangat). The morpheme gyal in Sha is quite interesting - the whole form may be a borrowing within the group (or from another source); still I have not yet found another word in which Sha's gy would correspond to Kulera (and Daffo) y. On the other side, if Kulere 'ten' can be analysed as a possible dual form of 'hand' (ri-y-aw > ryey 'ten' Jungraithmayr, 1970:322) is the form gya/gyal not a dual of Sha's 'arm' (gaan - uncognate for the group) or 'hand' (hagaw - cognate with its first consonant and the second one being present only in that language - cf. Jungraithmayr, 1970:386, 396-397)? In the Bole-Tangale group we have: in Dera wan'dumwe (Kraft's (1981) material, 'one' - 'dumwey); in Galambu - baryem muuryu < baar 10 + yem (? possibly a morpheme meaning subtraction) + muuryi 1; in Kirfi - bar ja moo'di < barba'd 10 + ja (a morpheme similar to yem in Galambu?) + moo'di 1 and in Geruma barja < baar 10 + ja (with a loss of the morpheme for 'one'? - cf. Kirfi). In Ga'anda and Boka we have winhih'i'arta /hahirta where 'arta/irta means 'one'. In Mofu-Gudur we have dlaam-letek - tek means 'one', and dlaam - 'five'; maybe this form comes from *dlaam-dlaam-letek, i.e. 10 - 1? In Daba and Musgoy we have dir/faka takan/drefkatakan where takan means 'one' and in Lame and Zime - tefer'dao/terfi deu, where 'dao/deu means 'one' (the first morphemes in these languages seem cognate). In Somrai 'nine' is de-na men < dena 10? (cf. 'seven' and 'eight') + men 1; in Tumak - bisamin < bisa (it is not the same morpheme as in 'seven' 'dag) + min 1. In Jegu we have baarket, where kee is 'one'; Birgid barakaido where kaido is 'one'. The other roots for 'nine' are: Hausa group - tara (probably the forms 'dar of Mbaaru and Guruntum and

(n-)t-r-psi of the South-Baaraawaa sub-group and Southern Bauchi are also cognate with that root); Bole-Tangale group (without the above mentioned languages) 'b-n- (Pero komvoy); Northern Bauchi group - kuts/c- (S k i n n e r, 1977:33); Pidlimdi, Tera, the Bura-Margi group, the Higi group and the Bata group (without Njanye, Mwulyen, Bacama and Gudu) - m-dl,tl- (maybe here also Musgu, Masa and Banana - tlene); Njanye, Mwulyen, Bacama and Laamang group have t-mb-'d,y- (also Dghwede - timbi); and the Mandara group has wasilam'ba'da.

'Ten' = 2 x 5 probably in Sura - kaghapaat < paat 5 (kagha ?). In the Bole-Tangale group (without Dera) we have forms which may be treated either as 2 x 5 or as reduplication of 5 (i.e. 5 + 5). I assume that the following forms are reduplications on the basis of comparing them with the forms for 'eight', which I accepted as being 4 + 4 (cf. above). Thus we have in Gera hur'du 'eight' < fu'du 'four' and bar'di 'ten' < baa'di 'five'; in Kirfi forfa'do < fa'dau and barba'd < boo'd; in Geruma hur'du < fu'du and bara'di < baa'di; in Galambu - horro < parya and bar < booryi. In each of these languages the structure of 'ten' is similar to that of 'eight'. In Maha 'ten' is bemba and 'five' ba - we treat this form as = 2 x 5 (cf. Maha 'six' above, the m < n probably due to the following b consonant), similarly as the forms in Karekare, Bole, Ngamo b-mb-'d- ('five' b-'d-; maybe here also Pero and Tangale 'ten' - kpummo and 'bwimo respectively). The Southern Bauchi languages of the Baaraawaa sub-group Dokshi, Dikshi, Bandas, Wangday and Zari have the forms natntam, nataam, natam which seem to be a reduplication of namtam 'five'. In the Sura-Gerka group (without Sura, cf. above) we have the form s-r for 'ten' - in these languages 'hand, arm' has similar forms - in Angas differing by tone and length, in Cip - by tone, in Angas sir 'ten' and sa 'hand, arm', in Montol - differing by tone, in Gerka - tira 'ten' and taa 'hand', in Kofyar - differing only by tone. Maybe it is this form (meaning "two hands") that is a remnant of the old way of counting whose traces lead through Kulere and Sha (cf. 'nine' above about Jungraithmayr's suggestion for Kulere 'ten' and mine for Sha) and Glavda (cf. above 'seven' and 'index finger'; also I b r i s z i m o w, 1988:69-70). The other roots for 'ten' found in Chadic are: in the groups Hausa,

Bade-Ngizim, Tera, Bura-Margi, Laamang - k, g u m- (maybe also Higgi's muŋ-). In Bata we have the same form gumu in Fali Jilvu and Fali Mucella, in Fali Bwagira pogumu and in the remaining languages of the group (only ?) pu/bu. The origin of the form k, g u m- (similar to the Bantu protoform *-kumi) was examined by Hoffmann (1970) and compared with other items forms, which were treated as Benue-Congo borrowings (e.g. b-1- for 'two'). This form for 'ten' was rejected by the author as a loan (unless treated as a very ancient one) for two reasons (*ibidem*: 14-15): the lack of reflexes of this form in "quite a number of West Chadic languages", and especially from the Sura-Gerka group "which is closest to the Benue-Congo area"; the presence of reflexes of that form in "many languages that are rather remote from those areas where Chadic speaking peoples and Benue-Congo speaking peoples are in close contact with each other, at least in our days". According to my material these reasons may be put under discussion - as I have found out most of the West Chadic languages are rather uniform (and maybe conservative ?) in the method of producing all the 6-10 numerals. The Sura-Gerka, Bole-Tangale, maybe Ron and some Southern Bauchi languages use combinations of simple numerals to produce the forms for 6-10 numerals. And in Sura-Gerka probably an older (ancient ?) form for 'ten' is preserved. These facts seem to explain the absence of the k, g u m- form in most West Chadic languages, though does not still reject it as being of Chadic (Central or East) origin. On the other hand, when comparing the distribution of b-1- form for 'two' (accepted as a loan) and k, g u m- form for 'ten', it appears that both forms are found also in Central and East Chadic languages (though 'ten' with much wider distribution) - cf. Jungraithmayr and Shimizu's (1981) roots B and B₁ for 'two' (*ibidem*: 277) and roots A and A₁ for 'ten' (*ibidem*: 263). Should therefore the k, g u m- form be rejected as a (ancient?) Bantu loan? In the Ron group the form h-r- for 'ten' is found which seems cognate with that in the Mandara and Matakam groups and in East Chadic - k-r, l- (in Dangla, Sokoro, Jegu and Birgid r-k, g - metathesis?; are the forms kutl, kut found in the Geji languages, Zul and some of the Suya languages of Southern Bauchi also cognate here?); in Daba, Musgoy, Lame and Zime we have g-p, b; and in Musgu, Masa and Banana (Musey) dogo - this form is probably also a borrowing (from Chari-

-Nile - for Musgu cf. Tourneux, 1983:457). Another borrowing seems to be the form 'd, z, s, dz, j - 'b, p found in the Northern Bauchi group and in the Southern Bauchi languages not mentioned above (cf. Jungraithmayr and Shimizu, 1981: 263, root C).

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APPENDIX

List of the Chad languages

West Chadic Languages

1. Hausa
 - 1.1. Hausa
 - 1.2. Gwandara
2. Sura-Gerka
 - 2.1. Angas
 - 2.2. Sura
 - 2.3. Cip
 - 2.4. Ankwe
 - 2.5. Montol
 - 2.6. Gerka
 - 2.7. Kofyar
3. Ron
 - 3.1. Daffo
 - 3.2. Sha
 - 3.3. Bokkos
 - 3.4. Kulere
 - 3.5. Fyer
4. Bole-Tangale
 - 4.1. Karekare
 - 4.2. Gera
 - 4.3. Bole
 - 4.4. Ngamo
 - 4.5. Pero
 - 4.6. Tangale
 - 4.7. Dera
 - 4.8. Maha
 - 4.9. Bele
 - 4.10. Galambu
 - 4.11. Geruma
 - 4.12. Kirfi
5. Northern Bauchi
 - 5.1. Miya
 - 5.2. Pa'a
 - 5.3. Warja
 - 5.4. Diri
 - 5.5. Mburku
 - 5.6. Tsaga
 - 5.7. Siri
 - 5.8. Jimbi
6. Southern Bauchi
 7. Bade-Ngizim
 - 7.1. Ngizim
 - 7.2. Bade

Central Chadic Languages

8. Tera
 - 8.1. Pidlimdi
 - 8.2. Hona
 - 8.3. Ga'anda
 - 8.4. Gabin
 - 8.5. Boka
 - 8.6. Tera
9. Bura-Margi
 - 9.1. Bura
 - 9.2. Cibak
 - 9.3. West Margi
 - 9.4. Ngwaxi
 - 9.5. Kilba
 - 9.6. Hildi
 - 9.7. Wamdiu
 - 9.8. Margi
10. Higi
 - 10.1. Higi Nkafa
 - 10.2. Higi Baza
 - 10.3. Kapsiki
 - 10.4. Higi Chye
 - 10.5. Higi Futu
 - 10.6. Fali Kirya
 - 10.7. Fali Gili
11. Bata
 - 11.1. Fali Jilvu
 - 11.2. Fali Mucella
 - 11.3. Fali Bwagira
 - 11.4. Gude
 - 11.5. Njanye
 - 11.6. Mwulyen
 - 11.7. Bacama
 - 11.8. Gudu
12. Laamang
 - 12.1. Laamang
13. Mandara
 - 13.1. Mandara
 - 13.2. Glavda
 - 13.3. Dghwede
 - 13.4. Gava
 - 13.5. Paduko
 - 13.6. Gvoko
 - 13.7. Nakatsa

- 14. Sukur
- 14.1. Sukur
- 15. Matakam
- 15.1. Matakam
- 15.2. Gisiga
- 15.3. Mofu-Gudur
- 16. Daba
- 16.1. Daba
- 16.2. Musgoy
- 17. Gidar
- 17.1. Gidar
- 18. Kotoko
- 19. Musgu
- 19.1. Kaykay
- 19.2. Muzuk
- 19.3. Mbara
- 20. Masa
- 20.1. Masa
- 20.2. Banana
- 20.3. Lame
- 20.4. Zime

East Chadic Languages

- 21. Kwang-Kera
- 21.1. Kera
- 21.2. Modgel
- 22. Lai
- 22.1. Nancere
- 22.2. Tobanga
- 22.3. Kabalai
- 23. Somrai
- 23.1. Somrai
- 23.2. Tumak
- 24. Sokoro
- 24.1. Sokoro
- 24.2. Barain
- 25. Dangla-Migama
- 25.1. Dangla
- 25.2. Migama
- 26. Mokilko
- 26.1. Mokulu
- 27. Mubi-Toram
- 27.1. Jegu
- 27.2. Mubi
- 27.3. Bidiya

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BIBLIOGRAPHY OF NORMAN GOLB'S HYPOTHESIS OF THE JERUSALEM ORIGIN OF THE DEAD SEA SCROLLS

On April 20 of 1979 Norman Golb, professor of Hebrew and Judaeo-Arabic Studies at the Oriental Institute of the University of Chicago, speaking before the American Philosophical Society, presented a new hypothesis concerning the origin and identification of the Dead Sea Scrolls. In his opinion the scrolls are remnants of the Jerusalem Temple library, and stem from the Palestinian Judaism of the 1st century A.D. They are not of Essene origin and the Qumran people should not be identified with that sect.

The main point of Golb's hypothesis must be shocking to anybody who has been following then thirty years of discussion on the Qumran scrolls. It became obvious after "the first battle of the Scrolls" of the early 1950s, that a working hypothesis of their Essene origins was the only one which could be defended and such a consensus has been in existence since the late 1950s. The Essene hypothesis has been repeated both in handbooks and in encyclopaedias all around the world. Norman Golb, who, as is worth remembering wrote his Ph.D. dissertation about the Qumran documents in early 1950s¹, is the first scholar to decide to reevaluate known data and to test the current working hypothesis. For several years his Jerusalem hypothesis was known only from his lectures in the USA (Chicago 1983), in Israel (Jerusalem 1984) and in France (1985). Nobody except J. D. Amusin (1983) and C. Aziza (1985) did noticed his article on the Proceedings of the American Philosophical Society even if it was abstracted in the Old Testament Abstracts and the New Testament Abstracts², or perhaps nobody wanted to be the first to criticize. The publication of the more popular presentation of Golb's hypothesis first in French in the *Annales. Économies, Sociétés, Civilisations* and later in the *Biblical Archaeologist* in 1985³, finally broke the silence concerning the matter. I myself discovered the Jerusalem hypothesis thanks to Dr. C. Ligota from the Warburg Institute in London, who showed me the first publication of Golb in 1980. Unfortunately, I did not realise its implications till I came back to the problem in autumn 1985, after reading Golb's article in the *Biblical Archaeolo-*