

THE NILO-SAHARAN BACKGROUND OF CHADIC

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An important focus of Russell Schuh's varied work has been Chadic languages spoken on the frontiers of Chadic with the Nilo-Saharan family. In his Ngizim lexicon (Schuh 1981), in particular, this topography of contact reveals itself in a number of loanwords from Kanuri of the Saharan subgroup of Nilo-Saharan. But as many scholars are aware, the linguistic encounter of Chadic with Nilo-Saharan languages must have had a much more venerable history. The comparative reconstruction of Nilo-Saharan is now sufficiently advanced (Ehret 2001, 2003) that we can sketch out a preliminary plot of that story, and that is what the present article aims to do.

1. Early Nilo-Saharan History

From the distribution of the deepest branches of Nilo-Saharan, it is clear that the first two eras of divergence in the family took place entirely in the Middle Nile Basin, in the easternmost parts of the Sudan belt of Africa (Ehret 1993, 2001). At the third stage in the differentiation of the family, a striking new semantic domain emerged in the lexicon of subsistence in the proto-language of the Northern Sudanic sub-branch of the family: namely, a set of roots specifically and diagnostically referring to the raising of livestock and to cattle in particular. This trend of vocabulary development expanded further in the proto-Sahelo-Sahelian daughter of proto-Northern Sudanic, with the addition of lexicon for the first time diagnostic of cultivation and also of lexicon descriptive of complex homesteads with thornbush cattle pens, substantial round houses, and granaries. Finally, in the proto-Saharan and proto-Sahelian languages, into which proto-Saharo-Sahelian then diverged, there emerged breeding terminologies for goats and sheep (Ehret 1993, 1999).

This sequence of developments—first, cattle raising; then settlements with large homesteads and granaries and *prima facie* indications of cultivation; and finally the addition of goats and sheep—is precisely paralleled in the archaeology of the northern parts of the eastern Sudan, in what is now the southeastern Sahara. There the archaeology reveals the presence of the first tending of cattle by transhumant pastoralists between 8500 and 7500 BCE; a second era, beginning before 7200 BCE, in which round houses, granaries, and other indications of large, semi-permanent homestead settlement patterns become the norm; and a third era, dating to the 6000s BCE in which ovicaprids (i.e., sheep and/or goats) turn up for the first time (Wendorf & Schild 1998; Wendorf et al., 2003). The detailed fit of the linguistic and the archaeological sequences allow us, with an unusual degree of confidence, to correlate the early Northern Sudanic speech communities and their proto-Saharo-Sahelian descendant communities with this history of a Sudanic development of food-producing ways of life and to locate these communities in time and space.

For the first 2000 years of the new subsistence developments, these particular Nilo-Saharan groups apparently remained limited to portions of the eastern Sahara. Another much more widely spread set of peoples, practicing an intensive aquatic based food-collecting economy occupied the rest of the Sahara as far west as the Hoggar Mountains and the Bend of the Niger River. The Aquatic societies appear to have been very closely related culturally to the Northern Sudanians, however, and so in all probability would also have been Nilo-Saharan in language (Ehret 1999). In that case, since they did not participate in the Northern Sudanic development of cattle raising, their languages most likely belonged not to Northern Sudanic proper, but to a closely related sister branch of family.

During the mid-Holocene Arid Phase, ca. 6700-5500 BCE, the environmental advantage shifted away from Aquatic peoples, with their dependence on aquatic resources, and toward the cattle-raising Nilo-Saharans of the Northern Sudanic branch of the family. The result evident in the archaeology is that between 6000 and 5000 BCE cattle-raising spread far west across the Sahara and Sahel belts, in most areas replacing and/or incorporating the Aquatic peoples. From the linguistic geographical evidence, one must argue that the major correlative consequence was the spread of the Sahelian sub-branch of the Northern Sudanic languages across the major part of the southern Sahara, eventually as far west as the Niger Bend. The Saharan sub-branch of Northern Sudanic (called “Central Saharan” in Greenberg 1963 and elsewhere) apparently remained restricted to more limited areas around and to the south and southeast of Tibesti (Ehret 1999). The peoples of the Eastern branch of Sahelian expanded widely within the Middle

Nile Basin, giving rise to such later well-known groups as Nubian and Nilotic. The communities of the Western branch of Sahelian are directly relevant to Chadic history because they carried the expansion westward, apparently through the areas around Lake Megachad and as far west eventually as the great northern bend of the Niger River. The two extant members of the Western Sahelian languages are Songay, today found around and eastward from the bend of the Niger, and the Maban group of languages, of eastern Chad.

2. Early Chadic History

How do we fit the early Chadic speakers into this history? Paul Newman (1980) has hypothesized that the closest relationships of the Chadic and Berber divisions of Afroasiatic may well be with each other. From as yet unpublished work I have undertaken recently, I have come round to the view that Newman was right in this respect as he has been in many others. The probable early archaeological correlations for the mutual ancestors in language of the Chadic and Berber language groups are with the Capsian tradition of the northern half of the Sahara. Initially a food-collecting culture with a particular emphasis on wild grain collection, Capsian became established across most of these regions in the ninth millennium BCE. The raising of cattle, sheep, and goats diffused from the east to the Capsian peoples between 6500 and 5000 BCE, during the same period that the Saharo-Sahelian agripastoralists spread across the southern half of the Sahara. The cultivation of grain crops reached the Capsian groups in the same manner in still later periods, from 5000 BCE onward. The key point here is that, differently from the southern Sahara, new populations did not spread across the northern Sahara introducing agriculture. Rather domestic animals and, later, crops diffused to Capsian peoples from the east, over the long term transforming subsistence, but without disrupting the older cultural continuities (Rahman 2003).

In light of the distribution of the primary branches of Chadic—along an east-west axis from northern Nigeria to central Chad—we must place proto-Chadic somewhere in that region, most probably around southern sides of the former Lake Megachad. But the proto-Chadic language itself would have had to derive from the language of a still earlier pre-*proto-Chadic* society. The *proto-Chadic* speakers would have been a daughter community of *pre-*proto-Chadic** that moved south to the Chad Basin from an earlier location in the central Sahara.

Two features of Chadic lexical history, taken together with the evidence of Capsian archaeology, favor a particular dating range for this initial move. The first feature is *proto-Chadic's* possession of lexicon diagnostic of livestock

raising, including terminology for cattle, sheep, goats, and donkeys—none of it borrowed from Nilo-Saharan. There are apparent loans the other way, however: Kanuri *tam* ‘sheep’ is such a word. This evidence would place the pre-proto-Chadic movement southward into the Chad Basin after the diffusion of livestock-raising to the Capsian peoples, hence since 6500-6000 BCE (Rahmani 2003).

The second element is the proto-Chadic lexicon of cultivation, which reveals their possession of Sudanic-type farming with, for example, sorghum as a key crop (Saxon 1979; also table 1 below). This fact indicates that the southward dispersal of the pre-proto-Chadic speakers into the Chad Basin took place after or during the period of the spread of Sudanic cultivation across the Sahel zone (Ehret 1999). It also suggests that the pre-proto-Chadic movement south began before the full diffusion of Middle Eastern staples, wheat and barley, across the Capsian cultural regions of the northern Sahara. The reason is that those crops depend on cold-season rainfall. A people who already had developed even a partial dependence on wheat and barley would have had to give up this part of their subsistence in the hot-season rainfall regimes that characterized the southern Sahara in those particular eras. It is not impossible to imagine circumstances that might have led to their moving south anyway, but it would nevertheless have been an unlikely scenario.

Together the archaeological dating of these two features make a plausible case that the initial movement of pre-proto-Chadic speakers southward from the central Sahara took place after 6000 years ago but no later than the early fifth millennium BCE. An arrival of proto-Chadic speakers in the Chad Basin between 6000 BCE and the early fifth millennium BCE would have brought them into extensive interactions with incoming or already established Nilo-Saharan speakers. The Nilo-Saharan groups in and around the Basin by the close of the sixth millennium can be expected to have included member communities of the early Saharan sub-branch of Northern Sudanic. It is possible also that some remaining Aquatic communities would have been neighbors of the proto-Chadic society. But, if our arguments about Nilo-Saharan expansions are on target, much of the Chad Basin proper would have been a region of Western Sahelian settlement. The primary routes of early Chadic intrusion into the Chad Basin in that case would have cut across the probable earlier lines of Western Sahelian expansion. This pattern in turn predicts that any Nilo-Saharan loanwords in early Chadic are most likely to be from a Western Sahelian language.

3. Nilo-Saharan Loanwords in Early Chadic

The materials available to us are sufficient for a first, exploratory investigation of the loanword evidence. We have extensive and detailed phonological reconstructions for a good part of Nilo-Saharan (Ehret 2001). For Chadic we often have to rely, at this point in time, on partial reconstructions of roots, in many cases consisting of the consonants of a root but not of the intervening vowel(s) or the tones. Surely as a result, some of the postulations in this article will eventually have to be discarded. Despite these limitations, though, I would expect that a majority of the cases presented here should probably stand the test of time wholly or in part. The two families involved are very different in lexicon and basic phonological structures, and the consonant sound change histories of different Nilo-Saharan groups are sufficiently striking that the Chadic borrowings not uncommonly preserve features allowing us to pin down the particular Nilo-Saharan sources of the loanwords, at least at the branch level.

The interim criterion applied here in attributing a Chadic root to proto-Chadic is its presence in two or more of the primary branches of Chadic, as identified by either Jungraithmayr or Newman. Jungraithmayr divides the group into three branches, West, Central, and East. His subclassification differs from Newman's by incorporating one of Newman's four branches, Masa, into the Central Chadic branch. With respect to Jungraithmayr's classification, the notation W identifies the presence of a root in West Chadic; C, the presence of the root in Central Chadic; and E, the presence of the root in East Chadic. A root from Jungraithmayr & Shimizu (1981) or Jungraithmayr & Ibriszimov (1994) is marked with '(J)' following the meaning; roots not so marked come from Newman (1977) or, in one case, from the author's proposed reconstruction.

In the tables that follow, the Nilo-Saharan roots are from Ehret 2001. The root numbers are those used in the etymological dictionary of that work, and the sound changes rules of the particular Nilo-Saharan languages and subgroups are laid out in detail in Chapters 2 and 3.

These lists of putative Nilo-Saharan loanwords by no means exhaust the possibilities even in the current state of the overall information for Chadic. Other possible loans in early Chadic have been set aside for future consideration. In addition, there must be numerous instances, for future investigation, of significant Nilo-Saharan loanword sets limited to particular Chadic subgroups and even particular languages.

Table 1. NILO-SAHARAN LOANWORDS IN PROTO-CHADIC

A. Items showing Western Sahelian (Maban and Songay) sound shifts or shapes

Chadic root	Nilo-Saharan root	Commentary
* <i>bs</i> 'small' (J)	579. * <i>pis</i> 'little, slight'	PNS * <i>p</i> > proto-Western Sahelian (PWS) * <i>b</i>
* <i>g'əwən</i> 'elephant'	992. * <i>kə:wən</i> 'elephant'	PNS * <i>k</i> > <i>g</i> is a specifically PWS sound change
* <i>isi</i> 'excrement'	963. * <i>it'</i> 'filth, dirt'	* <i>it'</i> > <i>s</i> /V_ in PWS
* <i>f-f</i> 'breast' (modified from J)	Songay <i>fōfē</i> 'breast' (redup. form of 672. * <i>áp'óh</i> 'upper torso' with regular Songay sound changes)	J has * <i>p-b</i> , but this seems a protean shape for accommodating two or three distinct roots; the following can be argued, however, to reflect a valid root: W: Ron * <i>fof</i> ~ * <i>fuf</i> , Bade <i>fufa</i> "; E: Dangla <i>pòðpiy</i> , Migama <i>pú:pú</i>

B. Items showing specifically Maban (but not Songay) sound shifts

Chadic root	Nilo-Saharan root	Commentary
* <i>d'əŋk(ar)-</i> 'louse' (W/C/ E)	746. * <i>t'əŋkw</i> 'louse'	* <i>t'</i> > * <i>d'</i> (> modern Maba <i>d</i>) only in Maban of all of NSah; shape with *-ar n. suff. is known so far, however, only in proto-Daju (Eastern Sahelian subgroup) * <i>tingar-</i>
* <i>pm</i> 'to beat' (C/E) (J)	687. * <i>p'im</i> 'to thump'	* <i>p'</i> > proto-Maban * <i>p</i> (> Maba / <i>f</i> /), but > Songay / <i>b</i> /

C. Items non-diagnostic as to particular Nilo-Saharan source language

Chadic root	Nilo-Saharan root	Commentary
* <i>kyn</i> 'small' (J) (W/C/E)	1018. * <i>kʰayn</i> 'to be little, small'	
* <i>w-</i> 'sorghum' (WCh: BT, SB * <i>wa</i> ; Masa <i>wa-na</i>)	1451. * <i>Wa:y</i> 'edible grain'	
* <i>min</i> 'small' (J) (C/E)	129. * <i>min</i> 'to be small'	Age-distribution criteria favor NSah source for this root: it is ancient in Nilo-Saharan, but appears limited to Chadic within Afroasiatic
* <i>zəm</i> 'skin (of person)' (W/C/E)	1225. * <i>zim</i> or * <i>zi:m</i> 'torso, body' (revises meaning 'stomach' suggested in Ehret 2001); 1227. * <i>zìməh</i> 'joint (of body)'	PNS * <i>z</i> > Songay, Maba / <i>s</i> /, but devoicing is likely to have been a separate change in each; so the shift is not diagnostic in this instance

4. Source Language of Nilo-Saharan Loanwords in Proto-Chadic

The cumulative indications of this evidence conform to the expectation that the proto-Chadic settlers moving into the Chad Basin ca. the sixth or early fifth millennium BCE would have encountered an established Nilo-Saharan population speaking a Western Sahelian language. Six borrowings of probable Western Sahelian origin appear here (Table 1, Sections A and B). Four of the roots (listed in Section A) could have come, on phonological grounds, from either the Songay or the Maban branch of Western Sahelian. None of the six borrowings show sound changes specifically diagnostic of Songay, but two of them (listed in

Section B) do reveal changes diagnostic of the Maban group. Four further proposed loanwords (Section C) lack sound shift evidence diagnostic of their particular source. The most parsimonious explanation of this evidence is that all ten proposed Nilo-Saharan loanwords derive from a single source language and that this source language was related most closely to the Maban branch of Western Sahelian. None of the loanwords show specific features attributing them to a Saharan language or indicating that they might have come from a more distantly related Nilo-Saharan language spoken by communities of the Aquatic culture.

One aspect of this conclusion—that the source language of the Nilo-Saharan loanword set in proto-Chadic was related closest to the Maban branch of Western Sahelian, today located east of Lake Chad, rather than to the westerly, Songay-related branch—raises a further interesting question. We often tacitly assume that proto-Chadic speakers spread into the Chad Basin via the areas west of Lake Megachad. But if the loanwords in proto-Chadic came from a language of the eastern subgroup of Western Sahelian, might not the original southward route of proto-Chadic settlement instead have passed to the east side of the lake?

5. Nilo-Saharan Loanwords in the Chadic Branches

As the proto-Chadic speakers spread out east and west in the Chad Basin and their language began its divergence into the ancestral languages of the primary branches of Chadic, we can expect that the descendant societies came into further encounters with other Nilo-Saharan-speaking populations. This is a proposal that scholars will be able to evaluate in more detailed ways in the future as Chadic reconstruction progresses. Here are two examples of Nilo-Saharan loanwords from West Chadic subgroups, indicative of contacts of much more recent periods than proto-Chadic.

Table 2. TWO PROPOSED NILO-SAHARAN LOANWORDS IN WEST CHADIC

<p><i>*təŋ</i> (or <i>*təŋg</i>) ‘to sit’ (SG: Sura <i>təŋ</i>, etc.; BT: Karekare <i>təŋg-</i>) (J)</p>	<p>891. <i>*təŋkw</i> ‘to sit, stay, stop’</p>	<p>J includes Ron cases that do not belong with this root</p>
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<p>*bənak- 'fish' Ngizim-Bade [-k anim. suff.]</p>	<p>703. *pu:n or *p'u:n 'fish'</p>	<p>PNS *p > *bin Maba, Songay (same sound change occurs in several other NSah languages, however); PNS *p' > Songay /b/ > proto-Maban *p (> Maba /f/)</p>
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6. The Historical Implications of Loanwords in Early Chadic

The overall historical picture suggested by the loanword sets in early Chadic conforms to the broad historical patterns already reconstructed for the early Nilo-Saharan and Chadic histories on the basis of linguistic geographical arguments and reconstructed histories of subsistence vocabularies.

The proposed Nilo-Saharan loanwords in proto-Chadic indicate that the earliest Chadic speakers, as they settled in the southern Chad Basin sometime around the sixth millennium BCE, encountered Western Sahelian peoples, whose language most likely belonged to the Maban sub-branch of Western Sahelian. The fact that this loanword set included some basic words (i.e., words with meanings on the Swadesh 100-word list, including 'skin,' 'louse,' 'small'), implies that the proto-Chadic society developed out of the incorporation a large majority element of former Western Sahelian speakers into a minority immigrant community of Chadic speakers (see Ehret 2000 for a tabling of borrowing types and their associated social and demographic histories).

The two proposed loanwords in West Chadic (table 2), each limited to a different subgroup of West Chadic, also bear basic vocabulary meanings. This feature suggests that the Chadic interactions with Nilo-Saharans in several later eras may have repeated the pattern implied by the proto-Chadic borrowings, in which Chadic expansion came through incorporation of existing majority Nilo-Saharan populations into intrusive, originally minority communities of Chadic speakers.

In addition to the deeper investigation of these particular histories, numerous other possibilities for exploring the encounters of Chadic speakers with Nilo-Saharans lie ahead of us. Scholars who have studied particular Chadic languages or narrow subgroups know of loanwords from Nilo-Saharan limited to those particular languages and groups (e.g., Schuh 1981, among others). As students of Chadic build up the intermediate stages in Chadic reconstruction, they will surely also discover many more loanwords from Nilo-Saharan that occur limited to particular primary branches as well as to particular sub-branches. Separating out

these borrowed roots from the inherited roots that trace back to the Afroasiatic origins of Chadic will be a challenging and interesting and very long-term task.

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