The Wadi Howar Diaspora and its role in the spread of East Sudanic languages from the fourth to the first millenia BCE

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The quest for water, and hence for food supply, is a key issue in the appearance and diffusion of languages in the Sahelian regions of Africa. Climate changes, such as those which occurred from the end of Neolithic period down to the second millennium BCE, played a major role in the redistribution of populations along the Nile River and its tributaries, and can explain the appearance of a recently defined linguistic family, namely Northern East Sudanic (NES). This paper should be considered a synthesis of several recent publications I have written on the subject, so that I shall frequently have to refer the reader to these earlier studies.

1. THE NORTHERN EAST SUDANIC LANGUAGE GROUP

In his seminal study published in 1963, J. H. Greenberg divided the languages of Africa into four major phyla or superfamilies, namely Afroasiatic, Niger-Congo, Khoisan, and Nilo-Saharan. If the three first phyla were more or less obvious, Nilo-Saharan was not so easily established, requiring a lot of work from Greenberg to merge twelve different families into one phylum. Even today, many linguists have doubts about the validity of this particular family. However, the core of this phylum, namely the East Sudanic group, is generally considered secure. It was already established in Diedrich Westermann’s classification of African languages, in the first half of the 20th century. Greenberg did not attempt any sub-classification, and presented East Sudanic as a simple rake-shaped genealogical tree, comprising nine branches: Nara (formerly called Barya), Nubian, Taman (Tama + Mararit), Nyima (Nyimang + Afitti), Surmic, Jebel (Inessana + related languages), Temein, Daju, and Nilotic. Most of these languages are spoken in an area which extends from Western Chad (Taman) to Southern Ethiopia (Surmic), and, in the case of the huge Nilotic family, further south to Uganda, Kenya, and Tanzania.

A last language was left aside, namely Meroitic, the language of the inscriptions of the ancient kingdom of Meroe, in Sudan (300 BCE – 350 AD) [Pl. 1]. Very little was known about this language, since most of the texts still resisted translation. The scattered elements of lexicon and grammar worked out

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by the decipherer of the script, Francis Llewelyn Griffith (1911) were just enough to dismiss a direct filiation with the Nubian languages that superseded Meroitic in the Middle Nile valley in the Middle Ages. In 1964, Bruce G. Trigger, a young Canadian archaeologist, published a short paper in which he tentatively linked Meroitic with East Sudanic languages, principally Nubian and Nara. However, the data he used for Meroitic were partially erroneous, and his theory was rejected by the main specialist of Meroitic, Fritz Hintze. According to Hintze, in spite of several common points (chiefly typological) between Nubian and Meroitic, no positive conclusion for an actual genetic link could be drawn without morphological and lexical reconstruction of Proto-East Sudanic and subsequent comparison with Meroitic (Hinze 1989).

Coming to this issue some forty years after Trigger, I was able to rely on further progress in the understanding of Meroitic on the one hand, and on new descriptions of East Sudanic languages on the other. The results of this work have been partially published in several papers (for instance in Rilly 2008a), and are presented in detail in Rilly 2010 and Rilly – De Voogt 2012. They provide cogent evidence, both lexical and morphological, for including Meroitic in a subgroup of East Sudanic which I have termed “Northern East Sudanic” (NES), after a suggestion of the Nilo-Saharanist M. L. Bender. This assumption has met with general agreement among the specialists of Nilo-Saharan (Blench 2006, p. 97, 100-101; Dimmendaal 2011, p. 313). The NES family comprises four of the East Sudanic groups: Nara, Nubian, Taman and Nyima, plus Meroitic. All these languages display the same typological features (word-order for instance), although they are geographically separated by typologically different languages. Moreover, I have reconstructed some 170 lexical proto-forms and several morphological elements such as an article, the copula, case endings, plural markers, and a negative particle. All of these fit closely with their Meroitic counterparts, and it has been possible to work out an overall classification of NES in which Meroitic can be precisely located.
The other East Sudanic languages are not as closely related. Contrary to Bender’s assumption (Bender 1996), I do not think they constitute a single family, “Southern East Sudanic”, or, according to Bender’s terminology, “En” (whereas NES was “Ek”). Nilotic and Surmic are closer to NES and to each other than Jebel, Daju and Temein. A tentative genealogical tree would be as follows:

![Genealogical Tree of East Sudanic Languages]

The Proto-NES lexicon, although resulting from a strictly linguistic reconstruction, was obviously used by a homogeneous community restricted to a continuous territory. It includes several cultural items such as “spear”, “shield”, “build / plait”, “house / hut”, “door”. Even the name of the Creator God [Pl. 2] can be reconstructed as *Aberdi (Nara ḫbaṣraw, Proto-Nubian *ḥbeḥ, Nyimang ḣbrw, Meroitic ḏepu). The economic structure of this original population can also be determined. The proto-lexicon includes several items connected with cattle and livestock raising: “goat”, “sheep”, “mil’k”, and, on a more restricted scale, “cow” and “bull”; but almost no words connected with agriculture, except for a common term for “millet”, which has various meanings in the daughter languages, so that the original meaning might have been just “grain” or “cereal”. No common term can be reconstructed for “field”, “to weed”, “to irrigate”. It is therefore highly probable that the proto-NES speakers were pastoralists, using wild cereal processing as an additional mean of subsistence. It might be significant that in Meroitic and Proto-Nubian, the word for “slave” (resp. *nob [nuba] and *nogu) was derived from the Proto-NES word for “earth”, “silt” (*log-).

2. THE ORIGINAL CRADLE OF PROTO-NES: LEXICAL AND STATISTICAL ISSUES

If the Proto-NES community lived in a restricted area, the question arises of where this area was located, and why the daughter languages are presently spread across such a wide space, from Chad to Eritrea, though no historical evidence can be found in favor of a diffusion of an imperial type. The answer can partly be found in the Proto-NES lexicon. Meroitic is the earliest known NES language, and since it was spoken along the Middle Nile, one could tentatively assume that there lay the cradle of Proto-NES. However, no common words can be reconstructed for the specific fauna or flora of the banks of the Nile. For instance, the word for “crocodile” in Nile Nubian (elum / ulum) and in Nara...
is adapted from the Proto-NES word for “hyena” (*alam, cf. Nyimang Slam, Nubian Midob arml “jackal”): when settling along the rivers (Nile or Atbara/Gash), Nubians and Nara have implemented a semantic shift from the hyena to the crocodile, both animals having dangerous jaws. Similarly, no common root can be found for “hippo” or “fish”. It could be assumed that populations living in semi-arid areas have just lost these proto-words. However, it is more likely that these animals were absent from the Proto-NES lexicon. Evidence can be found in Nile Nubian (Kenuzi / Dongolawi and Nobin) erit ~ eritr “hippo”. A more recent term is essi-n-iti in KD and aman-iti in Nobini, both compounds meaning “river-cow”. Reinisch already assumed that these compounds were just updated forms of erit. The old word erit is derived from Proto-Nubian *iwer + *n + *iti “cow of the river” and have been updated in both languages as the old word for “river” has been superseded by the word for “water”, essi in KD, amän in Nobin. The Old Nubian word is not attested, but it must have been close to the compound *iwer-n-iti, since it is obviously from the Old Nubian word that the Sudanese Arabic girinti “hippo” was borrowed, instead of standard Arabic hisaan al-bahr “river horse”, which was literally translated from Greek hippopotamos. Metaphorical designations such as “river cow” or “river horse”, created by Nubians as well as by Greeks or Arabs, are typical of populations encountering a new animal.

As for “fish”, most NES languages have borrowed the word from other languages (in Nara from Tigre, in Nyimang from Temein or Arabic, in Tama from Chadic Arabic). The word is different in each Nile Nubian language (KD karre, Nobin ajassit), so that it is doubtful whether a common proto-word ever existed in Proto-Nubian, not to mention Proto-NES. It is significant that the elite of the kingdom of Kush at the time of King Piankhy (ca. 730 BCE), although settled along the Nile for centuries, considered fish-eaters impure and unworthy to enter the Amun Temple. However, Neolithic populations settled along the Nile lived at least partially on fish, as attested by archaeological remains. Thus it is unlikely that either the Kushites (ancestors of the Meroites) or the Nubians originated on the banks of the Nile.

The Proto-NES lexicon for plants exhibits similar features. Names of trees such as “dum palm” (Hyphaene thebaica) or “jujube tree” (Zizyphus spin-achristi) can be reconstructed as *ambi(-ti) and *kusir(-ti). These trees are typical of semi-arid areas such as Kordofan, whence most of the dried jujubes sold on Sudanese markets come today. By contrast, no Proto-NES root can be reconstructed for “date palm”, although this tree has been known since at least 2000 BCE in the Middle Nile Valley. All the designations of this tree in Mararit, Western Nubian and Nyima were borrowed from the Nile Nubian word (KD beni, Nobin jént, itself a loanword from Ancient Egyptian bnr / bny (with Nubian singulative suffix -ti), which probably passed into Nile Nubian through Meroitic.

All these lexical elements tend to indicate that the original cradle of the NES languages must be sought in the Sahelian regions rather than along the Nile. The “principle of least movement”, used mainly in genetic studies for the diffusion of species – but also relevant for historical linguistics –, can help to locate this
original cradle more precisely. According to this principle, when a species spreads over a large territory, the greatest genetic variety is statistically observed near the original center of diffusion. Among the three main branches of NES, two (Taman and Nyima) are located in the Sahelian zones of Darfur and Kordofan. In the remaining branch (the Eastern branch), the same applies to Proto-Nubian.

3. THE ORIGINAL CRADLE OF PROTO-NES: CHRONOLOGICAL AND PALAEOCLIMATIC ISSUES

Another issue is chronology: when did Proto-NES split into different groups? By far the earliest attested daughter language is Meroitic. Early scholars thought it appeared in the Nile Valley at the time of the first rulers of Napata, around 850 BCE. However, elsewhere (Rilly 2007b) I have presented evidence that traces of Proto-Meroitic personal names could be found in Egyptian texts dated to the end of the Kingdom of Kerma, ca. 1600 BCE [Pl. 3]. In addition, strong evidence in favour of the presence of names consistent with Proto-Meroitic phonology can be found in the Egyptian lists of bewitched enemies from Kerma as early as the 12th Dynasty (ca. 2000 BCE). Therefore, a date around the second half of the third millennium BCE for the splitting of the NES group is by no means exaggerated. The question is now to find what event caused this splitting.

In the last decades the University of Cologne have conducted an ambitious archaeological project (BOS, later ACACIA, cf. Kuper & Kröpelin 2006, Jesse 2004) in the region of the Wadi Howar [Pl. 4]. This wadi – also called the “Yellow Nile” – is a former tributary of the Nile running from the Ennedi range, in Chad, through Darfur and Kordofan, and joining the Nile at el-Debb, north of the great bend of the Nile, 100 km south of Kerma, where the first Kushite state was founded around 2500 BCE. As the Eastern Sahara underwent desertification, between 5000 and 3500 BCE, the Wadi Howar attracted a sizable population, especially from the North, until its flow became disrupted, and ultimately only seasonal, around the middle of the 2nd millennium BCE. Nowadays, only the Upper Wadi Howar, in Darfur, retains some water at the time of the seasonal rains. The Wadi Howar was densely populated for three millennia, as can be deduced from the 1700 archaeological sites of various sizes located by the Cologne team. The banks of the wadi are surrounded by additional archaeological sites such as Gebel Tageru in the south, Erg Ennedi in the north, and the Ennedi range in the west.

Three phases of settlement have been determined in the Wadi Howar. From 5000 to 4000 (phase 1), the river is continuously full and its banks harbor settlements of hunter-gatherers, who also eat fish and mollusks. From 4000 to 2200 (phase 2), the Lower Wadi Howar, close to the Nile, dries up. New settlers, coming from the neighboring regions where desertification is gaining ground, are now living mainly by cattle-raising. Goats and sheep are introduced at the end of this period. Contacts with the Nile valley are indicated by imported ceramics of the “herringbone” type. From 2200 to 1100 BCE (phase 3), the whole wadi is dry most of the time, with some wet areas during the rainy season in the Upper
and Middle Wadi Howar. Settlements are still numerous, but more scattered. The main diet now consists of sheep and goats, as cattle are too demanding for an increasingly arid environment. Donkeys, introduced to Sudan by at least 2500 BCE, play a major role in the nomadic way of life of the last settlers. After 1100 BCE, the region becomes almost uninhabitable, except for the Upper Wadi Howar.

What can be deduced from the history of Proto-NES fits perfectly with these archaeological and palaeoclimatic data. The emergence of the proto-language possibly occurred when cattle-raisers settled together along the Wadi Howar around 4000 BCE, while the split into different linguistic groups could result from the gradual drying-up of the river.

4. SPLITTING AND MIGRATIONS OF THE NES GROUPS

The original split into three main branches (Eastern, Taman, Nyima) might have occurred at the beginning of the third millennium BCE. The Eastern branch was probably settled in the eastern parts of the riverbed that were still habitable at this time, namely the Middle Wadi Howar. As aridity increased, this branch split into three groups: the Kushites, the Proto-Nara, and the Proto-Nubians. The Kushites (the ancestors of the Meroites) headed to the banks of the Nile, where they took part in the founding of the Kingdom of Kerma (2500 – 1500 BCE). It seems that the first settlement on this site, called Pre-Kerma (3500 – 2500 BCE), was too early to have included the Kushites, as they might still have been living in the Wadi Howar at the time. By contrast, the anthropologist Christian Simon (in Bonnet 1990, p. 103-106) has demonstrated that the population of the Kingdom of Kerma was genetically heterogeneous. Three main clusters (A, B, C) can be determined. Cluster A is close to a sample of modern Kenyan skeletons. Cluster C is very similar to a sample of Middle Empire skeletons from the region of Aswan, whereas Cluster B, although distinct from Cluster C, shares many common features with it. Cluster C is mainly present in the first period of Kerma (Kerma ancien, 2500 – 2050 BCE), and possibly represents the descendants of the Pre-Kerma population who founded Kerma 4 km away from the original settlement, when the Nile riverbed shrunk because of increasing aridity. However, the fact that their cemetery remained on the ancestral site might indicate cultural and ethnic continuity between Pre-Kerma and the new city. Clusters A and B were already present in Kerma ancien, but become dominant in the following period (Kerma moyen, 2050 – 1750 BCE). The early Kushites were probably one these two groups (presumably B). Nonetheless, their importance grew rapidly in the population of the city, and their language, Proto-Meroitic, became the language of the elite, and possibly of a great part of the population, as is obvious from the Egyptian sources.

The Proto-Kushite migration from the Wadi Howar to the Nile took place roughly at the same time as the migration of the Proto-Nara. It seems the Proto-Nara later split into three groups. A first group, the ancestors of the modern Nara, went upstream along the Nile and its tributary, the Atbara River, to Western Eritrea, where they settled, probably during the second millennium
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BCE, and where they still live today. The second group settled in Lower Nubia. This population of semi-nomadic cattle-herders was labelled C-group by early archaeologists. They were rapidly incorporated into the successive kingdoms of Kush (Kerma, Napata, Meroe), and later into the early Nubian kingdoms. Cultural links between the C-group and the early population of Eritrea have been demonstrated by Fattovich (1990) with evidence from ceramic analyses. A third group merged in historic times with a Nubian tribe, speakers of a mixed language which included specific non-Nubian basic words that are close to Nara, which was to become medieval Old Nubian and today’s Nobiin (Rilly 2014).

The movements of the Proto-Nubians, the third group of the Eastern branch of NES, are more mysterious. The Nubians certainly did not invade the Nile Valley before the last period of the Kingdom of Meroe (see Rilly 2008c). On the other hand, it seems that the spectacular phonological changes that affected the Western Nubian languages (especially Midob and Kordofan Nubian) took place only recently, so that the split between the Nubian groups might not be so old, at any rate not earlier than the end of Antiquity. Finally, the general proximity between Meroitic and Proto-Nubian, and the conservative aspects of Proto-Nubian phonology and lexicon (faithfully reflecting Proto-NES) tend to show that it remained for a long time isolated and untouched by exogenous influences. The Proto-Nubians might have remained in regions that were still habitable, such as some parts of the Middle Wadi Howar or the Gebel Tageru, until the first millennium BCE. They progressively gained influence over a great territory. In the middle of the 3rd century BCE, Eratosthenes describes them as “a great people living west of the Nile”. The conflicts with the Meroites became more and more frequent, as attested in the Meroitic texts mentioning military campaigns against the “Nuba”. The increasing desertification of the region pushed them towards the green banks of the Nile, and they finally invaded the Kingdom of Meroe around 350 BC, putting an end to the last pharaonic power on the Nile.

As for the Proto-Taman, whose language constituted the second branch of the NES linguistic group, they probably went upstream to the Upper Wadi Howar, which still has some seasonal water, not far from the region where they live today. If they arrived there by different routes, there is no way of knowing, because historical data for them are available only for the last four centuries.

Finally, the Proto-Nyima, the third branch of NES, obviously went to the south, just north of the Nuba mountains, where they had contacts with the Nubian Christian kingdoms, as attested by the names of some days of the week (e.g. Nyimang kiràgë “Sunday” < Old Nubian κυριάκη / κυριακή < Greek κυριακή, see Rilly 2010, p. 188-190). They were pushed into the Nuba Mountains by the slave-raiding “Arabic” tribes of Kordofan, not earlier than the 14th century.

5. THE WADI HOWAR DIASPORA AND THE CRADLE OF EAST SUDANIC (ES)

This hypothesis, namely the Wadi Howar diaspora, was issued independently by the present author and Prof. G. Dimmendaal, professor at the Institut für
Afrikanistik of Cologne University, on the same basis, i.e. converging linguistic, archaeological, and palaeoclimatic data. As we reconstructed this scenario in 2003, Prof Dimmendaal presented a first paper in Lyon on the subject. He later published a first cursory article in an edited book (Dimmendaal 2007), summarized in his volume on historical linguistics in Africa (Dimmendaal 2011, p. 340-343) and has a more detailed paper in press for the next issue of SUGIA. It is obviously significant for the validity of this hypothesis that it was issued at the same moment by two scholars working on East Sudanic languages.

Although roughly similar, Dimmendaal’s theory and the author’s differ in the identification of the original population of the Wadi Howar. In his opinion, they were Proto-East Sudanic speakers and not merely Proto-Northern East Sudanic, although he admits our classification of NES as a consistent group. He assumes that the Proto-ES speakers split into three groups: Nilotic and Surmic in the Lower Wadi Howar, NES in the Middle Wadi Howar, and Temein and Daju in the Upper Wadi Howar.

I think the key issue for this question is a matter of chronology. Dimmendaal followed the outdated theories of our predecessors, and therefore placed the appearance of Merotic on the Middle Nile around 800 BCE. This late date leaves a sufficient span of time (more than two millennia) between the emergence of Proto-ES around 4000 BCE and the dispersion of the groups for the daughter languages to acquire the linguistic differentiation that exists between them. However, Merotic is attested much earlier, at the end of the second millennium, as stated above in this article. So the migration of a part of the Eastern branch of the NES group did not occur much later than 2500 BCE, and accordingly, the splitting of the NES languages into three branches could hardly have occurred before 3000 BCE, because the three branches, Eastern, Taman, and Nyima, display considerable divergences, whereas the Eastern group is very coherent. This leaves no more than one millennium for the crystallisation of Proto-ES, its splitting into three groups along the wadi, and for the Proto-NES community to gain a cultural homogeneity which can be deduced from the common lexicon. This span of time seems too small, especially considering the large differences that exist between the East Sudanic language groups, in terms of typology as well as vocabulary and morphology.

Another solution must therefore been found to explain the appearance of Proto-ES and its articulation with NES. At this point, domestication of cattle gives a clue. The ES languages exhibit common roots for cattle-raising terms, here the word for “cow”:

Nubian:
Old Nubian: ŏỵṛ - cow, ťyṛ- cattle
Kenuzi-Dongolawi: ŕíí
Nobiin: ŕíí
Kordofan Nubian / kadaro, ghulfan: ťé, tagle, dair, dilling: ŕíí
Birgid: ŕíí
Midob: ŕíí
Taman / Tama: ţe, Erenga : ţé, Mararit: ţe
Surmic / Didinga: ţàna, Murle: ţà (pl. tiin), Baale: ţàŋ, Majang: ţàŋ
We might therefore suppose that the speakers of Proto-ES were already cattle-raisers. As domestication is not attested in the Wadi Howar before 4000 BCE, one must suppose either that Proto-ES appeared at this time and in this place, which is Dimmendaal’s opinion, or that Proto-ES is earlier and appeared somewhere else, which is my opinion.

The first traces of domesticated cattle in Africa are known on the southern sites of the Libyan deserts, not far from the Sudanese border: Nabta Playa, Bir Kiseiba and Gilf Kebir, the latter being famous for its wonderful rock-paintings. For Nabta Playa, domesticated cattle remains have been dated to 8000 BCE. This early date has recently been confirmed by the discovery in El-Barga, a site close to Kerma, of similar remains dated by radiocarbon to 7000 BCE. The analyses of the Cologne team (see Kuper – Kröpelin 2006) have shown that the population of the region of Nabta Playa and Gilf Kebir, where desertification occurred as early as the end of the 6th millennium, went south to the Wadi Howar and some other Northern Sudanese sites in search of more hospitable pastures for their cattle.

In my opinion, the emergence of Proto-East Sudanic probably took place in the south of Egypt, where animal husbandry appeared much earlier than in Wadi Howar. The dessication of the Egyptian desert caused an initial diaspora between the ES groups. One of these groups went further south, to the Wadi Howar region, developing a specific culture during the course of several centuries, before increasing aridity caused a second diaspora that drove them to different regions. This scenario of a double diaspora explains the common lexicon for cattle in ES groups and leaves enough time for these groups to acquire the considerable linguistic differences that exist between them.

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Plate 1. Meroitic funerary stela from Karanog, in Egyptian Nubia (REM 0261, photo Fonds Leclant)
Plate 2. Meroitic Creator-God Apedemak, relief from his temple in Naga (Sudan)
Plate 3. Excerpt from the Egyptian List of Crocodilopolis (photo Fonds Leclant / Puschkin Museum)

Plate 4. Archaeological sites in the Wadi Howar Reach (Kuper & Kröpelin 2003)