Desert and the Nile.

Prehistory of the Nile Basin and the Sahara.

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Archaeology of the *Images* and the *Words* of the Ancient Egyptian World: from Pools of Gone Saharan Cultures to Current Sociological Parallels

Short introduction to the archaeology of Northeastern African cultures in the context of climatic and demographic co-evolution

The Eastern Sahara (the Western Desert of Egypt and the Nubian Western Desert notably) was populated during the Holocene Humid Phase, between 9000 and 5000 BC (Riemer *et al.* 2013: 159).

After 7000 BC, the bumpy decrease of the Humid Phase provided the time-span context for the emergence of cattle African lifeway from hunting-gathering worlds. In the midst of the sixth millennium BC, "retreating monsoonal rains caused the onset of desiccation of the Egyptian Sahara" (Kuper and Kröpelin 2006: 806, fig. 3, c-d), "impacted a dramatic depopulation of most territories in the Egyptian Western Desert" and a lesser dropout in the now Nubian Western Desert because of the lower recoil of the summer rain belts to the south (Riemer et al. 2013). First half of the fourth millennia BC, in henceforth "full desert conditions all over Egypt", the populations left the Western Egyptian Desert for the Nile Valley – a move coinciding "with the initial stages of pharaonic civilization" on its banks (Fig. 1). And later still, for a Sudanese today fossil hydrographic network, a hub to a wide hinterland stretching towards the past Mega-Chad zone and the present Omo river region (Kuper and Kröpelin 2006).

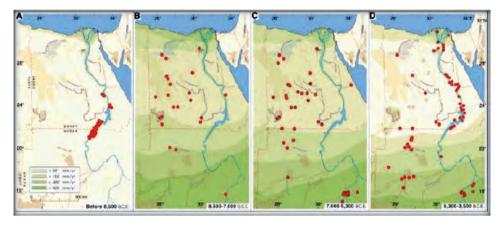


Fig. 1. Map of the archaeological sites from arid periods to humid phases (Kuper and Kröpelin 2006)

The cultures of this wide Northeastern African space-time of past have left a mass of archaeological data provided by the contents (*bestiary, tools, weapons, clothing, adornment, hair style*) of the communication systems (*rock art, iconographies, writings, languages*), methodically considered in their elements, associations and syntax. They may be from a one major sociological fruitfulness by their comparison with African modern cultures and their linguistic data.

In this view, we take into consideration four points:

- the iconographies are today the visible part of vanished institutions and their cultural programs, and their archaeological sites were the cultic places of *ritual oralitures* (as *mdw ntr* were literally);
- the words of the languages are so many lexical and semantic artifacts;
- the lack of epigraphic data excepted for Ancient Egypt, between the past languages without writing of the dumb iconographies and the modern ones of the comparandum;
- the sociological parallels of (yet) contemporary cultures according to lexical and semantic cognates of the past and modern attested languages, the former iconography and the ancient epigraphy of the whole area.

1. The rock art and the bestiary zoonyms of two African animals

In this global context where the climate provides the scene and the human societies write the plays, the earlier Holocene Saharan rock art is characterized by a signifi-

cant over-representation of a bestiary of, notably, giraffes and ostriches. The rock art of the earliest sites of the Karkur Talh in the Gebel Uweynat, wild fauna documents ostriches, giraffes, wild bovids (*bos primigenius*), antelopes, oryx, dogs, archers (Zboray 2005) (Fig. 2), the Gebel Arkenu, hunter and tethered ostrich (Menardi-Noguera and Zboray 2012) and farther – Akukas. This over-representation fits well the sociological parallels provided by the founding myths of the cultures of the Hadza and the San, who were *hunters-gatherers* and *never herders*. The *Hadza* down from the *sky* along the neck of the *giraffe* (Marlowe 2010). The God of the San, *Piisi!koagu*, robs the *fire* under the wings of the *ostrich*, *!gero!koagu* (Tanaka 1996:17).

Lack and existence of cognates. The Hadza and San zoonyms are not related to Egyptian names of the ostrich and the giraffe. There is a solution of continuity from the Khoe-San language phylum and the other African linguistic families that provides cognates to the two Egyptian zoonyms.

A second zoonym is attested from the New Kingdom: , zr, sr, and corresponds with the Nilo-Saharan, Nilotic: Nuer, Turkana, *k-r, Lotuko: nako-ri, Bari: kurit; Cushitic: Somali, Rendille: geri according to K. Peust who noted a prior single correspondence of Cushitic Somali and Rendille: geri, giraffe, with an Eastern Nilotic root: *kr, e.g. Turkana: e-kori, bari, kurit, base *zr: Geez: zärat, and observed, after Reinisch in 1896, a connection between the Somali and geez





Fig. 2. Saharan rock art: the bestiary of the Gebel Uweynat. South Uweynat SU 17 – Karkur Talh KT 42/B (Zboray 2005)

forms, and the Arabic *zarafa(h)* (with a suffix -f of unknown origin)— which replaces the original local form in Saho: *zerraaf* (Vergari and Vergari 2007)."The Semitic words appear to have been borrowed from a form such as *geri or *keri after it had been palatalized into something like *žeri or * šeri in the hypothetical African donor language." (Peust 2008: 257-261). Phonetically suitable, if the source language is Cushitic: the Eastern Cushitic root *gir, to live, exist, is realized žira in Rendille (Takacs 2001: 267)¹.

The Egyptian word for **ostrich**, in whas lexical cognates in Berber languages: *nil, tamacheq, anil, a-nohil, a-nhêl, literally a-nohol, the stout and in Omotic, Dizi: noy (Beachy 2005). The Berber, Libyan Nefusi: asil, Sus and Mzab: asil, share another root, *sid-, lacking in Egyptian, with the Nilotic language of Maasai: e-sidáí, ostrich, where sidáí means good (Payne and Ole-Kotikash 2008), that provides a perfect pair of semantic cognates with the Egyptian metaphoric concept of goodness carried by feather (see below).

From a god to another. Completed by the feminine marker -t, the hieroglyph H6 of the ostrich feather, names the feather itself, $\begin{bmatrix} \ddots & \ddots & \ddots \\ - & & & \end{bmatrix}$ (Gardiner 1988: 474) This ostrich feather, $\dot{s}w.t$, is the attribute of $\begin{bmatrix} \ddots & \ddots & \ddots \\ - & & & \end{bmatrix}$, $\dot{s}w$, the Air-god, and of the Goddess of the Truth, $\dot{\dot{s}}$, $\dot{\dot{s}}$, $\dot{\dot{s}}$ (Omotic): \dot{s} aw.i, \dot{s} iw.i, wind, air, provides the best cognate. The Berber languages give \dot{i} - \dot{z} uwu, for wind in Zenaga, \dot{t} a- \dot{z} awa.t, in Mzab, and \dot{t} a- \dot{z} e \dot{z} \dot{z} wi.t, that names the fan in Ghat (Takacs 1999: 205).

The Arabic name, *nacam*, differs, and later, enters the Berber vocabularies (Zenaga, Sus, Mzab: *alnem, anneam*), and the Sudanic (Ibiri). In Arabia, some toponyms of Hadramawt, *wadi nacam* (*Ostrich River*) and the Yemeni rock art attesting that the ostrich was in demand for its feathers, seem to be an extension of the Saharan African cultures. In addition, the food taboo which still affected the bird in a Surah of Quran may indicate a previous divine status (Potts 2001: 182-190).

The place in the social practices and in the culture. The bird and the mammal had a place in the Egyptian culture that differs from the last hunters-gatherers of Africa. But the Egyptian hunters, the nw.w, are often depicted in the same desert environment as the archers of Saharan rock art. The New shapes of their culture carry the Ancient ones, if it rules: since the Predynastic palettes, the nw.w are led by a royal leader, and from the Old Kingdom on, they are subordinated to the

¹ The other Maasai word for giraffe, *al-ɔsira*, is a tantalizing cognate, but its meaning declines a property: *al-ɔsira* the doted, similar to *e-mara*, giraffe, the spotted one (Payne and Ole-Kotikash 2008).

pharaonic State by high officials, <code>jmy-r nw.w n hm.f</code>, director of the hunters of his Majesty, <code>hrp nw.w</code>, controller of the hunters. In a Middle Kingdom painting, the leader of the <code>nw.w</code> presents ostrich feathers to the <code>jmy-r nw.w h3s.wt</code> (director of the hunters of the deserts) and his team brings ostrich eggs and feathers, roped up ostrich, hare, oryx (Gandonnière 2014). The key concepts of giraffe and ostrich were thereby re-arranged into new cultural uses in the cultivation and granary society of the Nile valley (see below).

2. From hunting to herding: artifacts, questions and sociological parallels

This earlier rock art iconography presents some elements of the materiality of *first human-animal linkage*, like weapons of hunting (clubs, spears, bows, arrows – and *archers' wrist-guards* (Le Quellec 2011: 201-220), and binding artifacts (ropes, lasso, traps) linked to aurochs, antelopes, ostriches and giraffes (Zboray 2005: KT44; Houlihan 1986: 1-5; Osborn and Osbornova 1988: 148-150). It infers a particular ritualized relationship to the animals, perhaps documented by a Karkur Talh rock art site (Zboray 2005: KT61) engraving horny hunters likely identified to the game (bovines), and may result in a categorization of wild fauna into linguistic classes like among the Hadza (Blench 2013). The sociality of the rock art underlies the choice of the elements of the fauna elaborated into a bestiary as well as the development of hunting practices into conservative attempts possibly a man lassoing hartebeest on a rock drawing near Gebel Silsila documents it (Osborn and Osbornova 1988: 171, 13-130). Such a panorama suggests that the development of herding did not mean the abandon of the hunting and gathering and their culture and values, but their mutualization. In this view, we can deduce from the presence or the lack of domesticated elements, and the associations, a period of dating – the archaeological horizons of the rock art associating giraffes, ostriches, and humpless longhorn bovines in Karkur Talh sites (Zboray 2005: KTN23) appear to be more recent than engraved scenes involving only giraffes and ostriches. In comparison with rituals still performed in contemporary caves, for eg., the masculine cult in a boomorphic fiber costume performed in the rock shelter of the painted mask of Ngombe by the Chewa, a farming sedentary society of Zambia (Smith 2014: 1448-1452), we can infer that the northeastern rock art sites were similar cultic places characterized by mutualized features of hunters-gatherers, herders, or/and farmers – and that the iconographies were programs to be read, sung and/or danced, with a syntax, as an act of communication

ritually subordinating the society to collective representation, values and relation patterns it engages -hunting, eating, *subjecting*, *binding* (Tambiah 1981:140-141).

Sociological parallels: the trap and the lasso, metaphor of the binding of fauna species

The Nilotic pastoralist cultures provide modern sociological parallels of the use of such artifacts in this pooling of life ways. In the mid twentieth century, Sudanese herders, the Dinka, continue to use a *dang*, a bow-trap similar to those of the hunters of the Gebel Arkenu and Gebel Uweynat rock art. In Ancient Egypt, a type of snare made hieroglyph, the T27, , a *bird trap*, *sht* (Gardiner 1988: 515), used by the shty, fowler (Wb IV 262,3-263,5).

Attested from forty thousand millennia, used in manufacturing a lot of artifacts, the rope is one of the oldest ones in the history of mankind. It is present in Saharan rock art of long-lasting tethering practices (Menardi-Noguera and Zboray 2012) and Naqadan iconography – as far as the Naqada IIA-B at Nekhen (Veldmeyer 2008: 35) (Fig. 3). The rope is no lack of words. Those of earlier ancient Egyptian were contemporaneous of those of the last authors of the rock art.



Fig. 3. Saharan rock art: tethered ostrich (Gebel Arkenu AR/55D); tethered giraffe (Karkur Talh KT 26) (Zboray 2005); Sudan: a Dinka deploying a dang (hunting bow trap) (Menardi-Noguera and Zboray 2012)

Three hieroglyphs share a drawing of the lassos and slipknots of the former Saharan rock art:

The first is the hieroglyph V4, &, w3, lasso, w3.t, w3w3t, cord (Gardiner 1998: 523). Southern Cushitic: *wēl, rope, Iraqw, Alagwa: wēli, Burungi: wela; Western Chadic: Galambu, Gera: wula, rope (Takacs 1999: 100). In addition, Ngamo: wàla, hemp rope (Janga-Dole et al. 2009). A less common word, , wn.t, Art Schnur (Wb I 314:18) has Nilotic cognates: Mabaan: wyen-, rope, wiendo, tie with rope (Blench 2006b: 185) and Dinka: wien, rope, win, rope made of leather straps

used to tie down cattle; **wi** ϵl , fiber, wire, giraffe tail (Blench 2006a: 184-185). In Ancient Egyptian, l/ is written 3 or \mathbf{n} : may $\mathbf{wn.t}$ be related with $\mathbf{ws.t}$?

The second sign for the cord, V12, , *flax rope* (Wb I 211,18-23), with phonetic value, *rk*, carries the oath metaphor.

A third rope hieroglyph is related to the cattle binding, V16, *2888*, is OK z3, s3, looping cord serving as hobble for cattle (Gardiner 1988: 523). The word multiplies the cognates: Western Chadic: *zVr, Hausa: záárárà, long cord attached to the neck of animals, záári, rope passed into the nose of groups of oxen, Bole-Tangale: *zōri, rope, Karekare, Ngamo: zòori, Gera: zùra (Takacs 1999: 178-179). In addition: Ron-Fyer: Karfa: zir, Richa: zàr, and South Bauchi: *sVr, rope, Polchi: siyir, Buli: sir. Cushitic: Saho: soro, rope (to tie goods on animals). Gidole: sur, rope. The last not the least, the names of the back rope of the saddle, i-ž(w)iwr-en, in ayr (Berber), and the girdle, mizrana, in Syriac, derived from the same basic root.

In the same way many sites of the Gebel Uweynat gather engravings and paintings of giraffes, ostriches, cattle, the rope words tie both game and cattle in hieroglyphic writing.

The semantic fields of the vocabularies of the rope point as well the earlier times of the giraffe hunting as those of the cattle binding, which suppose another *intentions* and *food strategies*. The rope of the rock art is less the representation of the instrumental bond used in the domestication than a pictorial metaphor that declines both two cognitive schemas, the subjugation one or *force schema* and the conjunction one or *link schema*, which will contribute to feed the discourse of power.

Then cattle came, by original ways

African cattle were domesticated in the eastern Sahara during the Early Holocene, and its African sheep and goats entered Africa slightly later and before crops were cultivated (Marshall and Hildebrand 2002; Wendorf and Schild 1998; 2002; 2004)². So, a "distinctive African pathway toward food production" emerged, "where animals were domesticated before plants, herding populations became more mobile than their forager ancestors" (Marshall and Weissbrood, quoted by McDonald 2015: 274).

The interpretation of the current data may be nuanced by recent works updating the field. At the earlier Holocene, the wadis deposits sedimented into gezirahs in the Egyptian Nile valley. In increasing aridification context of the eastern Sahara (Kuper and Kröpelin 2006), the wadis opening out to the valley were

gradually covered by Nilotic alluvia over the late Holocene. In the midst of the sixth millennium, the small eminences of gezirahs formed at the mouth of the tributary wadis, protected from annual flooding of the river the installation of the first inhabitants coming from the eastern Sahara (Ghilardi *et al.* 2012: 7-22). Wadis and Nile flood gave the landscape of their country to the first Egyptians, and the flood modeled their life way. So, Ancient Egypt was both gift of Desert and Nile.

Farther south, Middle Holocene northern and central Sudan people exploited both savannah millets they gathered, and a flooding Nile cultivation of Near East domestic cereals ca. 5000 BC. These new data of the Sudanese sites near Sedeinga, and most southern, near Kadada, predate those of Merimde and Fayum, ca. 4500 BC, and Kadruka, ca. 4500-4000 BC (Madella et al. 2014). It supposes an earlier spread north-south not yet documented of the cereal growing in the valley, and the adoption of the "new" plants in the context of the foods strategies of the Holocene Sudanese peoples under the constraint of the climate variations. The Merimde people (not correlated to anthropological data) practiced a raining cultivation linked to the Mediterranean climate of the time at this place. With the climatic change, the increasing aridity reduced the rains and the fecundity of the northern model, whereas the rising flooding fed by southern monsoon drew to the valley the human populations pushed by the dryness. In this context, the Sudanese Nile model of flooding cultivation (both practicing gathering of millets, tubers and cultivation of the new domesticated Eastern plants, wheat and barley), appears also as an earlier antecedent of the reverse south-north spread ridden later by the Naqadan Upper-Egyptian new elites along the valley of the flooding Nile river after original acculturation of new plants and animals (see Fuller et al. 2011 on this dynamics). The same way, shepherds of Nubia (ca. 6000-3500 BC) and Central Sudan (ca. 5000-3500 BC) carry many material and social features of Saharan herding-centered cultures (Usai 2005:103-115) in their pastoral economy arrived and arose on the attractive wet banks of the Nile, or its affluents, as the Wadi Howar. The two events reinforced the original cultural complex of African use of ox and corn from which first African polities emerged.

All the data suggest the concept of diffusion as irrelevant if not considering the worldwide processes of acculturation of new *elements* as well the endogenous elaboration of new *forms*, and the food strategies motivating of both practicing the innovation and the acculturation. As well as the pastoralism, "cultivation was not a rare discovery but a strategic and systematic shift in economies. The question

then becomes **why** it was developed in the particular regions and periods where it appeared" (Marom and Bar-Oz 2009: 3) – not who or which core².

Be it the domestication of animals or that of plants, any diffusion goes by the ways of interculturality and through the door of acculturation, and is necessarily a cultural re-invention in original contexts, sometimes galloping, sometimes abandoned.

So, as Dorian Fuller insists, the *multi-focal agricultural origins is a worldwide pattern* as well as the variable single-centered cereal which integrate a whole system, rooted in gathering practices, grinding tubers and seeds, use of pottery, that predate most of the cultivations.

What is true for the domestication of plants is for that of animals. "Traditionally, it is accepted that cattle domestication occurred independently in at least two regions: the Levant and the Indian subcontinent from where, respectively, the modern so-called taurine (humpless) and zebu (humped) cattle types are derived" (Van Neer 2010: 8). But an independent domestication may also occurred in northeastern Africa – in a hunting context rather, in a competition with earliest forms of farming like in the Orient. In the Western Desert of Egypt, excavations at Nabta Playa and Bir Kiseiba yielded remains of large cattle dating from around 8000 BC, without any possibility to identify if they were domesticated or wild. It was

Archaeology suggests for the sole Middle East environment dispersed groups of parallel processes and variable patterns characterized by competition between the sedentary farming and wild bovids that could cause depression leading to very early conservatory domestication of game in terms of food strategy (Fuller et al. 2011:628-652; Marom and Bar-Oz 2009). Always in the context of co-evolutions of the human, animal and vegetal species, wider scenarios of multiple centers of "domestication" rather than core areas, and parallel asynchronous cultural processes, with change of animal or vegetal source, are well known and identified. Further north, the horse of the "Magdalenian" rock art, ca. 15000 BC, victim of climate events and systematic hunting, was reduced to relict populations in France and Spain, and more larger flocks in Central Asia. Y. Lignereux inventoried possible focal areas between Volga and Ural, where Neolithic sites testify the domestic character of the horse and its cultural originality (inhumation of a stallion within two dogs under a row of stones ca 3500 BC). Whatever the species, the lands and the cultures, what a striking sociological parallel! Between 4300 and 3800 BC, sheep and cattle of the region badly resisted the colder climatic episode called *Piora oscillation*, that seems motivate the new precautionary domestication of the horse - a food reserve better adapted to severe climatic conditions, and of more advantageous conveyance (Lignereux 2001). It is also the case of the African wild rice unrelated to the domesticated rice of Asia studied by Fuller (Fuller 2011: 78-92). Its seasonal selective harvesting of wild rice spikelets beforehand bound by the women in the plains of the Chad lake area -still practiced (Dupuy 2014: 4) – predates some millennia its current cultivation as far the paddies of the Casamance (Hiss 1992: 203).

"postulated that these animals were under human control, as they would have been unable to survive in the harsh desert environment without human care. DNA from ancient and modern African cattle is currently being investigated in order to shed further light on the domestication history of the species". And later in Egypt, the bos primigenius impacts always Naqadan iconographies (Hendrickx 2002: 309; Navajas 2012: 171-180).

The expansion of cattle in the Nile Valley distinguishes the "unequivocal evidence of domestic cattle is known from at least the fifth millennium BC on sites such as Merimde and Maadi" – that consists in food refuse (bones heavily fragmented). As it can be opposed, the elite cemetery HK6 of Nekhen in Upper Egypt, yielded burials of 18 domestic cattle at the beginning of the fourth millennium BC, 3800-3650 BC, compared to prior Nabta Playa and later Saqqara ones (Van Neer 2010). It is uneasy to decide between a parallel invention, a re-invention, and an original acculturation.

In our current state of knowledge and considering the lack of genetic studies from the available bone materials (Merimde food refuse, Nekhen skeletons) that may shed further light on links and processes, we can just already observe there were two different models of domestication: Merimde was an expansion of the Eastern cultural pattern in a context of borderline Mediterranean climate, a then raining land; Nabta Playa, Gebel Ramlah and Nekhen generalized an original African model that starts from the Western Desert and the Upper Egypt then ends into political and (inter-) cultural thrust sheet ruled by the kings of the *flooding country* to the Delta sites (Friedman 2002; Midant-Reynes 2014) and was determined by the increasing aridity and the monsoon rainfall that alimented the Nile flood underlying a new model of cultivation.

...and spread along the centuries, the waters and the meadows – or the seasonal mobility as key concept of generative chaînes opératoires

Domestication, from where? So, under the sixth-fifth millennia BC, cattle-herding and ultimately original forms of pastoralism emerged across the North-eastern Africa. Artifacts as well as hunted and domesticated animals and gathered plants involve *chaînes opératoires* that shape or modifies the social structure. In the more and more arid climatic context, the same ways, more and more narrow, followed by hunters-gatherers, of seasonal mobility closely linked to the existence of water supply points, *generate* the *operating chain* of the African domestication of the ox. In a parallel concept, under many different versions, Fulbe, Shilluk,

Anuak, Nupe, Nyangatom myths link the first cattle to a lake or a river – as echo of an original history: "The myth of an aquatic origin of cattle is exclusively known in Africa" (Le Quellec 2002).

Considering the herders were driving their cattle in Saharan heights, or in to-day Western Desert, the pastoral way of life was shared between alternating seasonal occupations of sandy savannas during the wet season -when the inter-dune depressions are covered with lakes and pastures, and mountainous areas, near the sources, in the dry season, like D. Chorin and A. Holl (2013) point out – or near the oasis or the banks of the Nile, as developed by H. Riemer and K. Kinderman (2008). Placed in perspective, the archaeological data suggest that the pastoralist seasonal occupations continue the seasonal cycles of hunting-gathering where "people had continuously to adapt to low or high rainfall years, and to the changing localities where rainfall took place. These are the major constraints which definitely caused highly mobile and flexible strategies in order to cope with the unpredictable environment" (Riemer and Kindermann 2008: 607-631).

Most marked seasons of the end of Holocene Humid Phase may have provided context to possible over-hunting of the game as well as support of rapid development of herding and could result in linkage mode with fauna reduced to few new animal species (oxen, then goats and sheep). Everywhere, between plateaus or hills and lakes, oasis, rivers, there was a sort of parallel seasonal movements from the cultural context of the former hunting-gathering ways to the herding way of life, that does not emerge from vacuum, but results from change of food strategies – perhaps under the constraint of a progressive game depression linked to climatic changes (Zeder 2015). Everywhere in the Saharan spaces, there was a minimal continuity of the occupation of the areas where "the herders socialize their space, invest it of a living culture whose engravings and paintings of rock shelters are now silent remains" (Chorin and Holl 2013).

The places and the seasonal mobility are common to the two life ways and suggest an internal herding-centered change within spread next to next by the door of the acculturation. In this view, any acculturation is necessarily an endogenous process, consistent with the ritual practices of prior forms of culture that used a sophisticated collecting of plants, required high knowledge of the paths of wildlife and the characteristics of mobility and values of linkage to the fauna species of the culture whose it renews the framework – where for eg., the hunted animals became *dead souls*, like among the Hadza – who never became pastoralists (Blench 2009). The herdsmen did not replace the societies of hunter-gatherers from which they emerged such as pastoralists, the two ways of life might shape

each other in a same temporality. Some rock art engravings show the presence of both animals of the earliest wild bestiary and domesticated cattle in the new way of life (Zboray 2005). Until the twentieth century, the sociological parallel points the mutualization of the life ways and cultural expressions: the Nilotic herders refer to the former bestiary, ostriches, when, like Dinka, they name *wuut*, the pawns of their *manqala* game, or to the new cattle when they identify "the game table to the enclosure of livestock, or its original river" (Le Quellec 2002) – and, like the Nyangatom, call with a single name, *ngiladoy*, sg. *lado*, the animal tails (*giraffe* for men, *cows* for women), adorning the arms of the dancers (Tornay 2001: 350).

The seasonal mobility in the same life world appears to be the key of the generative operating chain along which the herding arises – without eliminating artifacts and know-how of prior ways of life (ropes, baskets, ceramics, weapons). Once herding centered, the societies institute it into tradition, as a corpus of defined operating chains within its tools and skills henceforth more expressive of a transmittable culture. That may explain that they printed their stamp on the same broader net of paths of a wider seasonal mobility, as suggested by a diachronic study of the rock art sites of the Wadi Takarkori in the Libyan Tadrart Akukas (di Lernia et al. 2015: 1-25) – and by similar data provided by the site of El Kab, where, ca. 8000-7000 BC, people fished on reed boats on the Nile, and gathered in the dunes at the time of the flood From the ninth to the fifth millennium BC, as S. di Lernia et al. (2015) show, the hunter-gatherers used the grindstones not only in milling the gathered seeds, but also to manufacture pigments with rock scrapers -from hematite, animal glue, egg -and at last, casein when herding came. They laid it on the rock faces of cultic shelters as well as bodies and their adornments in a sophisticated artwork prior to the renewing of the art of iconography by the pastoralists cultures from the cradle of the hunter-gatherers societies. Furthermore, both the hunting-gathering and herding life ways shaping a millenary context of step by step long-distance contacts favorable to pooling cultural paradigms and features, and the increasing aridity of the next millennia, may have foster the expansion of a regional model of seasonal mobile cattle-centered societies.

Domestication, how? The Sahara of the end of the Humid period provides many rock art areas outlining the African meeting between the Ox and the Man. Paintings of iconographic social and cultural programs distinguishing the gender and associating oxen, cows, men and women in their dwelling, characterized the emergence of a new conceptual framework inferring a second type of human-animal linkage, that of a narrow control of fauna, in an ox-centered relation not ruled

by a close property concept, but a metaphoric solidarity or commensality where the animal may be the double of the man.

Life ways are unpredictable: they appear the same way they disappear: the herding can be deserted in the event of epizooties or prolonged droughts. In the survival strategy of the pastoralist societies, the fishing, hunting and gathering groups in whose midst they live acted as refuge for destitute herdsmen. For the twentieth century, N. Sobiana gives a sociological parallel of such processes bringing together the people of the oxen and that of the lakes and rivers in the same shortage on the shores of the Lake Turkana: Elmolo fishermen, cattle-herders Nilotic speaking peoples: Samburu and Turkana, Cushitic speaking ones: Dasenech, and camel-herders Rendille. The Elmolo were in fact former pastoralists who became fishermen after a long famine, and by extension, hunters (hippo, crocodile, turtle). The Dasenech do not fight them: "We are brothers. They live by the lake, we have animals." (Sobania 1988:41-56)

This type of redistribution of lifestyles may have occurred on the Nile, and reactivate paradigms of power based on hunting wild fauna, this time around the swamps and a flooding river. However, the parallel finds its limits in the different co-evolution of animal and human populations in wider terrestrial and aquatic spaces (a huge lake), and a lesser demographic pressure not leading to identical strategies. And the two cultures are operative into very different socio-economic contexts: the harpooners of hippos of the Lake Turkana operate in and from a context more oriented to the herding, the royal harpooners of the Nile Valley where men and hippos were competing from the very beginning (Droux 2011: 372) in a situation of farming right from the Badarian and soon equipped with granaries and brasseries in Upper Egypt, since the Naqada IC-IIB period 3762-3537 cal BC (Takamiya 2011: 20-21).

The spread of a model? So, as well the Elmolo history as the Upper-Egyptian one show that the spread of herding was anything but linear and linked to local contexts of co-evolution of all the species. It ran anyway from the key areas of Nabta Playa (before the sixth millennium) and the Gilf Kebir (middle of fifth millennium BC), and the Nile-Wadi Howar confluence (4200-2200 BC) following the reduction of the regional rainfalls of African Humid Phase. One of the characteristics of the site of Nabta Playa, ca. 4500-4200 BC is the presence of covered tumuli of bull burials in the ceremonial centre (Wendorf and Schild 2004). Owing to asynchronous dryer conditions, the herders gave up wide more wet regions – first for northern oasis and the linear one of the Nile valley, where they buried also their bulls (Van Neer 2010: 8). Then they stopped long time in the today fossil Wadi Howar area, where the pastoralism predominates in rock art, the site Djabarona 84/13, give cattle carcasses (from 4000 to 3000 BC), and later, the site

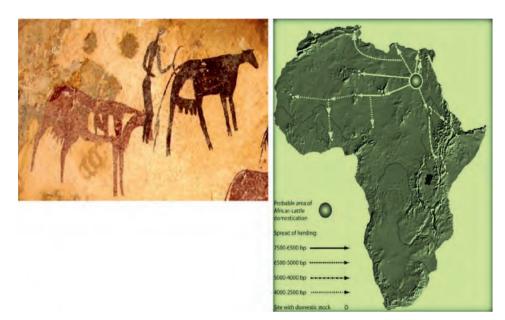


Fig. 4. A Saharan painting (Zboray 2005) and the map of the spread of the herding and the cattle-centered way of life in Africa (Hildebrand and Grillo 2012)

Abu Tabari 02/28, cattle burials (ca. 3000 BC). Later and beyond the Wadi Howar, in the Ennedi, the site of Chéïré I painted shelter pictures feathered warriors and cattle. (Menardi-Noguera and Bonomo 2016). Then, the model spread with the cattle and the herders to the far western seasonal or more permanent stretches of water, and from the Sudanese Nile to the Omo river and the Turkana Lake along a grassland corridor (de Menocal and Tierney 2012) (Fig. 4).

At the southeastern terminus, the Pillar sites on the west of Lake Turkana, ca. 3000-2000 BC occurred under different circumstances: among non-sedentary people who were either adopting domestic stock or moving herds into unfamiliar terrain. Were cultural activities a continuation of original ones? or reflect a co-opting of pillar sites for new social purposes? (Hildebrand and Grillo 2012).

An original culture of the domestication of the ox

So there are never predictable or definitive answers to the questions, only their history roughed out the emergence of an original form of pastoralist culture: the African one.

Funerals. The Saharan Holocene was the crucible of a peculiar form of cattle domestication (di Lernia 2006; 2013). Archaeological materials and sociological parallels sketch original cultural frameworks -from the domesticated cow ritually buried in the Tumulus E-94-1N of the Late Neolithic Nabta Playa Ceremonial Complex in the mid of the sixth millennium BC to the funeral of the Sacred Bull of the Nigerian Fulbe which Hampate Ba witnessed in 1929 – passing by the domestic Longhorn Bull of the tomb 43 and the Cow of the tomb 36 of the Elite cemetery HK6 at Nekhen (Naqada IC-IIA, in the first half of the fourth millennium, 3800-3650 BC), and, later, the burials of Apis at Saqqara (Van Neer 2010: 8). In contrast with earlier Merimde where domesticated bovines, attested only by food refuse, had no tomb.

Gods and myths. From its first Naqadan times, the Egyptian culture multiplied the zoomorphic deities, notably boomorphic ones, like *B3t*, prior to Hathor with her ears of cow, whose earlier name may have cognates in Afar and Oromo: *bor-a*, *white faced animal* (Takacs 2001b:14-15).

Divine figures like Apis, *ħ*^c*py*, the Bull of the Nile, or the Primordial Cow, *3ħt*, *die Hathorkuh* (Wb I 17:3-4), later known as *Mħt Wrt*, litt. *the Great Flood*, may appear to be echoes of the mythical times of "an aquatic origin of cattle – exclusively known in Africa" like Fulbe or Nyangatom document it (Le Quellec 2002). (Fig. 5).

Artifacts. Ancient Egypt and the last today pastoralists cultures share many artifacts expressing a cognate sociality. The Nyangatom headrest, ekicolong, is the material double of his owner – the favourite ox is his living double (Tornay 2001:348). The artifact has counterparts in Ancient Egypt as well in contemporary African cultures (Beja, Oromo, Turkana, Luba, Zande, Dogon) (Fig. 6).

A cattle "hornstyle" -the *dissymetric horns*-, is common to rock art of Gebel Uweynat as of the Fifth Cataract (Abu Sideir, Sudan), Kerma (cemetery of Faras, Nubia), and Ancient Egypt (Old Kingdom bas-reliefs), and today *Nilotic* pastoralists who call it *komar* in Turkana (Otha 1989), *kamar* in Pokot (Crazzolara 1978). Cultures are dynamic. *Omotic*-speaker pastoralists who share the same cultural framework of shaping horns, the Hamar recently adopt the up-down one from their Nilotic neighbors (Honegger *et al.* 2009: 8). In the same way, the Mursi practice a circular shaping of the horns of their oxen (Insoll *et al.* 2015: 99).

Evans-Pritchard gave a relevant explanation of the dissymmetric feature as expression of a dualistic view of the world: the Nuer people always turned the left horn down, and the right up, representing what is *good*, *right* and *up* (Drzewiecki and Stępnik 2014: 115; Evans-Pritchard 1940 : 294-295). Like the ostrich feather among Maasai, Oromo, Pokot and other pastoralists (Fig. 7).

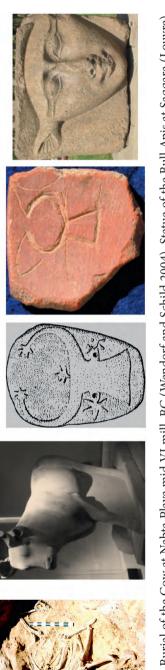


Fig. 5. Burial of the Cow at Nabta Playa mid VI mill. BC (Wendorf and Schild 2004). Statue of the Bull Apis at Saqqara (Louvre), and B3t became Hathor: palette of Gerzeh, Ostracon of Nekhen Hk 29 (Hendrickx and Friedman 2003). Bas-relief of Cairo Museum (photo: of the author 2014)



Fig. 6. Headrests: Nyangatom (Tornay 2001), Hamar (S.O.R.C), Egyptian (Lam 2003), and the hieroglyph Q3

Right to the *Egyptian script* mirrors the strong stamp of pastoralist cognitive way and embodies *dead zoomorphic metaphors* of ancient cultural models, by the graph of the name of human bodyparts with the glyphs of cattle ones, the image of the tongue of *ox*, F20, ¬, writing the *tongue*, *ns*, and that of the ear of ox or *cow*, F21, , the *hear* and the *hearing*, *sdm* (see Gardiner 1988).

3. The Words of the Herding and the Milking: some lexical cognates

In terms of domestication practices, the oldest attestation of *milking* dated from 5200 BC (Dunne *et al.* 2012), predates seven centuries the settled down cultivation of the Sudanese Nile valley. The well-attested dispersion of the further abandoned practice of the milking insufflations draws the wide map of the first times milking practice, inconsistent with "the hypothesis of milk consumption as "secondary revolution" in Africa" (Le Quellec 2010: 204-246).

The **artifacts of the words** shared by past and present languages of human cultures are the asynchronous disperse *echoes* of the *images* from a Saharan macro-epicenter area.

The words the pastoralists are slamming in their games and those of the herd and the milk used in the Egyptian Nile Valley, sketch the map of the Saharo-Nubian pastoral complexes crystallized during the Mid Holocene, then distributed by a later expansion, from the Wadi Howar – a fossilized affluent of the Nile, to the south west of today Chadic languages people, the south east of Cushitic and Nilotic ones and the south-eastern Sudanese area.

Without pretending to exhaust the way, we just consider four words marking this long expansion.





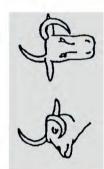




Fig. 7. Disssymetric horns: Sudanese rock art, Abu Sideir, V cataract of the Nile (Drzewiecki and Stępnik 2014). Komar Turkana Evans-Pritchard 1940). Kerma, bucrane (Chaix 2006). Egyptian iws ox (Montet 1954)

First two names of milk: \(\sigma_{\infty}^{\infty}\) Pyris.t milk goddess (Wb I 26:16-17-27:1-4), OK js.t.t, milk or cream (Wb I 27:1), Pyrjr.tj, milky (Wb I 116:6), XXIII jrj.t, milk-cow (Wb I 114:18), OK \(\sigma_{\infty}^{\infty}\) jr-č.t, milk (Wb I 117), \(\sigma_{\infty}^{\infty}\) irt, milk (WbI 117:1-6). Cushitic: *ore, cream; Nilo-Saharan: Teda: yoar, to milk, Daza: yor; milk, Didinga: iro, Nyima: elo; Teso: ak.ile, Maasai: k.ule (Takacs 1995: 123-131).

The determinative of the Egyptian word, mr, $\overset{\bullet}{\searrow}$, of the *milk jug* (Gardiner 1988: 529), and the skin and vegetal containers (gourds, calabashes) of the iconography of the rock art of the Saharan dwellers stand comparison with the artifacts of last modern pastoralists (Fig. 8).

The hieroglyph W19 &, is used to write the preposition: &, mj (Wb II 36,9), whose graphical variants of the Old Kingdom document the phonetic commutability of the hoe U6, , and the jug W19, &: pyr &, M=, mr (Wb I 36:9). The etymological study by G. Takacs sheds light on the comparandum: Egyptian: mr, milk jug, Chadic: Masa: miira, to milk, Gizey: mir, milk (Takacs 2008: 403). In addition: Cushitic: Proto-Sam: *māl, to milk, Somali: māl-ayya, to milk, māl, milk (Heine 1978). Nilotic: Dinka: miel, milk off (Blench 2006a: 115), Maasai: e-mála, milk container (Payne and Ole-Kotikash 2008).

Then, two of the many Egyptian words for the oxen, and their cognates in the basins of languages of their African hinterland. First, Mr mr, bull (Wb II 106:8-109), mr wr, the great bull (Wb II 106:4), would seem very familiar to the speakers of Eastern Cushitic languages: *mor-a, ox, to these of Northern Omotic ones: mārā, young bull, Janjero: omora and Central Chadic ones: Matakam, Mafa: maray, bull sacrificed during the Taureau festival, Mofu-gudur: maray, fattened bull in the stable (see also Müller-Kosack 1999); and to another dead language like Egyptian is: the Akkadian: mīru, young bull (Takacs 2008: 392-394) as well the speakers of the Nilotic languages: Dinka: miɔr, bullock (Blench 2006a: 116).



Fig. 8. The Saharan rock art (Gebel Uweynat) (Zboray 2005). Milk jug of the Daseneč (Elfmann 2005), the Hamar (South Omo Research Center) and the Egyptian hieroglyph

The word travelled with the herds and the shepherds as far as the (Niger-Congo> Mande>) sooninke speaking country: *mere*, *humpless bullock* – continually used in this language after the later arrival of the Sanga during the mid second millennium BC in Africa.

At last, "MK mnmn.t, herd, cattle (Wb II 81:18), a word linked with social status and economic wealth as its semantic expansions shows, has lexical cognates in the same phyla: Northern Omotic: *mēn, buffalo, Male: meni, Zayso: meno, Gangule: mēno, Southern Omotic: Gimurra: men, Dizi, Seko: mīn; Eastern Nilotic: Ongamo, Maa: o-monyi; Eastern Chadic: Mokilko: mâal, herd, Dangaleat: mallē, cattle; Cushitic: Agaw, Bilin: mal, cattle, Afar: māl, wealth; and on the southern shore of the Arabian peninsula, Mehri: mōl, livestock (Takacs 2008: 293-294).

4. How did the Egyptians see and name their neighbors?

Toponyms, ethnonyms, anthroponyms of the Old Kingdom ca 2500-2200 BC

The durable civilization of the grain and the granaries crystallized in the long linear oasis of the Nile, at the east of the last narrowing wet basins, bears a strong stamp of the original pastoralists cultures which came on the banks of the Nile from its Saharan hinterland and provided men, words, arts to Ancient Egypt. The country went in reverse the way of a history merged with that of the vast Northeastern Africa. With new cultural tools, including writing, ancient Egypt soon left the narratives of its contacts with its lifelong neighbors on the support of stone, bone, clay, leather and papyrus.

The Old Kingdom is contemporary with polities located in the Lower Nubia and the Wadi Howar-Nile confluence area. For instance, the biography of Weni gives the origins of the Egyptian army waging war against the Asiatics: Egyptians, Tehenou, Nubians (Sethe 1933: 101) and maps a past constellation of the peoples and their countries neighboring the Ancient Egypt (Fig. 9).

Their toponyms of own, wswst, wswst,



Fig. 9. Feathered warriors and rulers: Tehenou ~Libyans, Nilotic pastoralists on Egyptian painting of New Kingdom and in the Upper Nile, XX century (Robbins 2010). Predynastic Egyptians and Nehesou~Nubians (Sethe 1933), Nyangatom (Tornay 2001, from Musée de l'Homme)

Toponyms and anthroponyms shape sets of languages as pointed by three few examples:

- wbsspt may be a [mds] toponym: Beja: bur, land, safit, northern (El-Sayed 2011) Saho: buure, soil (Vergari and Vergari 2007).
- VI° k33w, with a channel determinative, may be a [md3] Cushitic place name: Agaw: kurā (El-Sayed 2011) and a [nhsw] Nilo-Saharan one: Teda: karkur, wadi (Lecoeur 1955), Dinka: kuer, river (Blench 2006a; Anselin 2015b: 47-52; 2015a: 9-11).
- ^{V°} ws3, w- šr, son of the h3tj-^c m thnw, a Libyan (Berber) anthroponym: wsr, wosor (El-Sayed 2011: 182).

After 2000 BC, the feathered warriors of Saharo-Nubian pastoralist populations began to move down more and more to the southern areas. In terms of lexical comparanda, it may be interesting to notice that the closely points of lexical reference for Nilo-Saharan and Cushitic languages are provided by the nearest neighbors the Teda and the Beja were and are always. The Beja are goat and camel herders, who name their country Atbai, a *good land* of wadi-centric topography, populated by perennial trees with wide umbrage and deep roots, notably the *acacia tortilis*. Their pastoralism is subject to the traditional *silif* law (pruning, *ewak*, the branches for the goats³) -a practice known in Egypt and elsewhere, as a painting of a NKTheban tomb shows (Hendrickx *et al.* 2010:189-244), and the marginal cultivation of durra (sorghum) by the Islamic rule (Krzywinski and Pierce 2001: 28, 40, 52, 55, 57-58).

5. The feather as fossile directeur in pastoralist cultures

The Ancient Egyptians identified their neighbors, Nubians and Libyans, as feathered peoples whose rulers were two feathers. The same, they crowned with a pair of ostrich feathers few royal and divine figures, such as Hathor (Goebs 2008). They also share with other pastoral cultures the feather as a conceptual metaphor of rightness, justice, truth.

But, comparanda with nowadays Saharan societies of ancient pastoralists are uneasy because of cultural changes occurred during the two late millennia. Touareg and Tubu are no longer feathered. Most of the actors replaced *the feather of justice and truth* by *the justice and the peace of holly books* from later next Asian cultures – even if their cultures continue to convey past shapes and contents.

More easy is the parallel with the last pastoralist dynamic cultures who came down to the Omo river and Turkana Lake by the *corridor of grasslands* – now joined by all other more recent forms of human cultures in a clash way (see below *the Pokot Tale*) (Fig. 4).

³ Suggesting the motivation of the phytonym *leggal mbaali*, sheep tree in Fulfulde (Seydou 1998).

In the Nilotic and Cushitic pastoralist cultures, the ostrich feather is closely linked to conceptual metaphors of the conjunctive socialization of cattle (headrest double, favourite ox, twisted horns), and its parallels artifacts of the words. So we'll take the ostrich feather as the *type fossil* of a sociological comparandum (Fig. 9).

6. Contemporary sociological comparanda seen from the Egyptian culture

How did the Egyptians see the ostrich feathers and the giraffe, in their own culture? What do the texts say?

Present within the iconography of the palettes, ivories, combs, potteries from Naqada I to III, the ostrich and the giraffe soon disappear from the hieroglyphic repertoire (Regulski 2010), and appear again under Old Kingdom with the value of Ammy, ostrich (Wb III 202:13) and Middle Kingdom with the value of MKmmy, giraffe (Wb II 56:14).

Some texts and data show the feature of the *ostrich* dancing with the *sun* shared by Nubians, Libyans and Egyptians: *niw hr ib3 m in.wt*, the ostrich dances in the valleys, *mi tm m i3b.t pt*, like Atoum to the east of the sky (Dautheville 1922: 225-229; Kuentz 1924: 86).

The site HK64 of Nekhen delivered a Nubian deposit of ostrich feathers dedicated to Hathor during the Second Intermediate Period. Comparable to a stance of pap-Ritual of Mwt: «Let us take for her feathers off the back of ostriches which the Libyans slay for you and let the Libyans dance for you». In both cases, Friedman adds "the inhabitants of the desert back when the sun is hottest and flooding occurs: the Nubians become symbols of the return of Hathor and play a role in its celebration" (Friedman 1996: 4-5).

Some passages of the *Pyramid Texts*, *Coffin Texts* and *Book of the Dead* highlight the perception of the historical depth of the Egyptian bestiary that the ritualists were still able to have: "Hail to thee, says Horus 21st Portal of the Weary-hearted One. The God who guards thee his name is Giraffe. He came into being before pines grew, before acacias were born, before copper ore was formed in the desert (Allen 1974: 132, Spell 145).

During the New Kingdom, the *giraffe* reappears in the Egyptian culture like a vehicle of thought of the future which the zoonym was a paronym of word used for *prediction*: \(\bigcirc\), \(\bigcirc\), sr, has lexical cognates in Chadic, bideyat: \(\cdot\) caar (Takacs 2009:120), and Nilotic, Dinka: \(\cdot\) caar, prophecy, \(\cdot\) car, to divine, \(\cdot\) c\(\cdot\) ir, to see with a magical sight (Blench 2005: 33).

The Nilotic language of the Nuer provides a semantic cognate: the name of the prophecy is based on those of giraffe, *gweec*, and god, *kwoth*: *gweec kwoth*, *prophecy*

(Huffman 1929:18, 27). Like in earlier Saharan rock art, ca. 1550 BC, the *giraffe* and the (new) *sanga* cattle were co-textual in the valley royal paintings of Kerma (Emberling 2014:129) (Fig. 10).

7. Complex sociological parallels: commutables metaphors

When the ostrich and the ox were commutables. Like the herders of the Saharan rock art, the pastoralists of Eastern Africa associate the ostrich and the cattle in their ritual games. Most of them play



Fig. 10. Mortuary Chapel KXI, Kerma, ca. 1550 BC (Emberling 2014)

a manqala game in which the pawns, pebbles or seeds, placed in four lines of little hole, figure the oxen, and the party a cattle razzia, as in Erythrea (Le Quellec 2002).

The Dinka (Nilotic) name the game *aweet*, the cranes, or *wuut* (sg *wut*), the ostriches, a paronym of *wut*, pl.wuot, cattle camp, familial section (Blench 2006a).

The second version of the same game is founded on the myth of the first bovine, not on the birds, ostrich or crane. It is called fingers, *ayit*, *a game with two rows of nine holes, where groups of four pions are called wong «cow», while those of five are named <i>thon* «bull». The Nuer – who call the ostrich *wud* – practice the same game «call(ing) the pions *yung* «cow», and *tut* «taureau». It is the same for Nyangatom, and their neighbors, the Mursi, for whom *«play a game is said "lead a cow", and win "I have driven a bull». Thus, parts of this game are regularly considered representative of cattle», the gaming table is the enclosure, even the river where the man won the first bovine from the aquatic genie (Le Quellec 2002).*

When the ostrich was the ox of the herders and the headrest their double. The Pokot story-tellers (Southern Nilotic) use the metaphor of the ox as a prototype of the favourite animals class of Teso and Pokot pastoralists: Oh, the ostrich is the 'ox' of a Teso named Arimo (see below A Modern Pokot Tale). May it be that current practices and ancient rock art associations underlied by a relational pattern where ostrich and ox are switchable as animal double of man?

8. Complex sociological parallels: Age classes, War feathers, Goodness and Justice Feathers

The feather headdresses of the Predynastic slates, Saharan rock art and Egyptian iconography of *md³w* and *thnw* find modern sociological parallels and lexical mir-

rors throughout the Northeastern Africa. In Cushitic, Bayso: baal, Oromo: baala, means feather. The Omotic languages abound in cognates: Ometo, Wolayta: ball-iya, Gofa: balla, Gamo, Dorze: balle, feather (Blazek 2008:73). In the Cushitic speaking cultures of the Afar and the Oromo, the word is inseparable from a precise social context. In Afar, baàla names the feather worn by one who killed a man, in Borana, the ostrich feather, in Ormo and Waata, the ostrich itself. The feather of the bird that does not fly is the prototypical feather of the conceptual metaphor of key institutions like the Oromo *baali*, which provides *elected leaders*, *abba(s)*, *fathers*, to the *gadaa*, a socio-political structure of age classes (Stroomer 1976: 268, 308). At the term of his mandate, the *abba* celebrates the exchange of the scepter *bokkuu*, also called transfer of ostrich feathers (Birbiso 2013: 1-18). The highest leadership is exerted eight years by the holder of the **bokkuu** scepter. To the term of his mandate, the **abba bok**kuu celebrates the bokkuu walira fuud'a, characterized by the "the event of power "take over ceremony", i.e. the symbolic act of "the incoming class" and "the event of power "handover ceremony", i.e. the symbolic act of "the outgoing class". This ceremonial is also called baalli walira fud'a, transfer of the ostrich feathers (Legesse 1973: 81; 2006: 125) – two symmetrical acts/concepts (..) enfolded "as a single act [or word] of "exchange" performed by exchanging the **Bokkuu** scepter during **Baalli** ceremony (Birbirso 2013). Ostrich feather, ostrich and leadership based on the war and the age classes are there one and the same thing in the discourse of power. The ostrich feather is clearly a metaphorical emblem of power. Documented by the semantic of *baalli* in borana going from 'ostrich feather' to 'power, authority, responsibility' (Stegman 2011: 5, 68), an ultimate logical shift may find a conceptual parallel in the feathered $M3^ct$ of Egyptian thought.

The words of the feather and of the fighting belong to a same sociological universe in the past Egyptian society and in the pastoral ones of the Northeastern Africa. The Egyptian [, 'h3, is attested from Predynastic times, as name, the Fighter, of a king, and as semantic value in the iconography of feathered hunters in ritual hunting palettes. The word, [, 'h3, to fight (Wb I 215-216) <* 'h1, has an army of cognates in the languages who offer semantic ones to the pharaonic metaphor of the ostrich feather: Eastern Cushitic: * 'ol, war (Sasse 1979:21), Northeastern Omotic: * ol, to fight: Gofa, Gamo, Dorze: ?ola (Takacs 2005:88). Such retention of similar social facts and words by the ancient Egyptian from the first times and by modern languages is that they will continue to make sense in their societies.

The regulation of complementary antagonisms is the keystone of the fighting ethics of the culture: in addition to its scepters and ostrich feathers, the *Abba*

Gadaa, political leader, and the the *Qaallu* high priest of the Borana, wear for attributes the *qallačča*, a frontal ornament in meteoric iron, emblem of social and religious mediation «which is able to bundle positive and negative "cosmic" energies» for want of a better world (Birbiso 2013). Comparable with the rule stick of the Hamar, an Omotic-speaking people, the *woko "also extended to the realm* of ritual where the fork of the staff is used to ward off what is unwanted (disease, drought, war) and the hook is used to draw close what is wanted (health, abundance, peace) (Thubauville 2009: 1-2). From this perspective, the ancient Egyptian Goddess of what is true, right, just, *m3^c.t*, wearing an ostrich feather appears a window on a pastoralists cradle where it has drawn materials and paradigms available for new developments in its culture of strongly hierarchical rural society: the pastoral violence (razzias), whose purpose was the prosperity of the group and the marital circulation (beneficial actions to society and its reproduction), a way of life "wisely" ritualized. It may seem paradoxical that the feather of blood which flows is also the emblem of wisdom, and what motivates violence is searching for its opposite, a code of the Good (Saho cognates of m3°.t: me'e, good, ma'ani, goodness, righteouness (Vergari and Vergari 2007: 56, 60).

It should be remembered that no society is never a copy of another one, on the pretext that they are playing same cultural sheet music. In this case, the pharaonic power is not elective, and cumulates all the emblems of power. In the new context of the pharaonic state, shifting the conflicts and their modes of resolution along the stratification of a tributary rural society, the *M3^{ct}* became synonym of *Order*, *peace*, *justice*, *goodness*, an armed Harmony fighting and repelling the *izf.t*, the *Chaos*.

9. Cultures of Pastoralists, War feathers, Goodness and Justice Feathers

Semantic cognates of sociological parallels

The Nilotic languages provides the same schemes than the Cushitic, not the lexical cognates, but the semantic ones. So, the Maasai: *e-sídáí*, names the *ostrich*, and *sidáí* means *good*, *well*. So, *ke átà ɔlmurraní inkiaasîn sidaîn* means: *A warrior has* (by nature) *good deeds* (Payne and Ole-Kotikash 2008). After hunts and battles, a ceremony installs the young warriors as elders, and opens to them ways of marriage and cattle, after a *milk* ritual, *aók kule*.

Both practices of hunting, herding and fighting shaped a complex cradle to pastoralists cultures. The shepherds sport ornaments from hunting pristine times,

like the *ostrich feather* headdress, into the rituals of social reproduction giving access to cows and women – to the marriage.

Everything happens under the control of the higher ritualist of the Maasai, the *ol-oibónì*, who counseled and blessed when they went to fight. One of the elected leaders, the *ol-aigúe nànì*, embodies speech, *arbitrations*, chairs meetings and ceremonies.

Thus, the Karomojong and the Dongori, whose the last point of departure was Dongiro in the southern Sudan. The founding fathers of the Nyangatom are a fraction of the Dongori, ca. 1700 AC. Then, the Lycaons, *ngi piey*, succeeded them ca. 1730. Two centuries later, the generation of the Elephants, *ngitome*, is that of the Fathers of the Country (1930-1980) and the *ngikaleeso*, the Ostriches, the Sons of the Country and future Fathers. The Nyangatom generations cycle through like the rows of animals in narratives of Predynastic Egyptian slates and ivories.

Among the Nyangatom, the *oryx horn*, *a-tom*, carried accross the shoulder, like holster of the ostrich feathers, became by metaphor, the name of the gun they use today (Tornay 2001: 24-25, 35, 290-291). And the Ostriches, later called *Nyam e-tom*, *Elephant Eaters*, turned their name in *nyang a-tom* [*yellows* (*fauves*) – (*horns of oryx*) *guns*], the Yellow Guns. Their pastoralist culture was according with hunt and war patterns who traditionally associates two elements of the Desert bestiary, the oryx (horns) and the ostrich (feathers).

At last for examples of sociological parallels, a *Pokot Song* registered in the twentieth century stands comparison with the Egyptian texts seen *above*:

Sun, good, pretty thing
My father holds a certain bird
Ostrich, very good, pretty thing
My mother holds another plume
Ostrich, very good, very pretty thing
Ostrich (akalis) of my ancestral father
Ostrich, white feathers, mm
Its mother lays eggs in the sun (Robbins 2010: 191).

10. The Ban of Ostriches and the End of a Culture: how the Ostrich flied out the Pokot culture.

But the cultures fit or disappear: the same way the Nyangatom replaced *in a classical process of acculturation* their ostrich feathers holster by the gun in their cul-

ture, the same way the Pokot abandoned the law of the ostrich feather under the constraint of new forms of power imposed by new rulers. Traditionally, the Pokot decline their temporality in oral *annals* characterized by events: *The Year the Lizard Cried* (1890), *The Year the Sun Died* (solar eclipse of 1896), *The Year of the Great Rains* (1930), *The Year of the War Recruitment* -a kind of tribute to the benefit of the new ruler (1939-1940), and so on.

The year of Kenyatta trial (1953), a Pokot, Chepusepa, tells:

"The son of Arimo, a Teso, headman of the local *road crew*, found an ostrich's nest, and took back the baby ostriches. Arimo took care of them, they grew quite large, and Arimo harvested its feathers twice.

A colonial official saw the ostrich and asked the people, "Where did this come from?"

"Oh, the **ostrich** is the 'ox' of a man named Arimo," they told him.

The official demanded: "Do you have a license to keep an ostrich?"

"Of course not!" Arimo replied: "This ostrich doesn't belong to anyone else -it's mine.

So why would I need a license?"

The official decreed: "From this day on, you must not keep this ostrich without a license.

If you do, you will go to jail for stealing from the government!"

That was only the beginning!

The officials have been seizing our pet ostriches ever since!

When other people heard about the event, they killed their ostriches".

Now there are no ostriches left in the Pokot country.

The Pokot can get feathers only by trading.

However, they still sing frequently about these splendid birds.

During one song, learned from the *Karamojong*, they join hands, raising and lowering their arms,

like an ostrich flapping its wings in the rain (after Robbins 2010: 190).

REFERENCES

ALLEN, T. G.1974. The Book of the Dead or Going Forth by Day. Ideas of the Ancient Egyptians concerning the Hereafter as expressed in their own terms. Chicago.

- ANSELIN, A. 2015a. Aegyptio-Geographica I. Sur la route de & W3w3t. Un mot qui prend la route, un mot qui prend l'eau ou les interférences des langues en contact. i-Medjat 12: 9a-11b
- ANSELIN, A. 2015b. Review of El-Sayed Rafed Afrikanischstämmiger Lehnwortschartz im älteren Ägyptisch. Untersuchugen zur ägyptisch-afrikanischen Interferenz im dritten und zweiten Jahrtausend v.Chr, Orientalia Lovanensia Analecta 211. *Bibliotheca Orientalis* LXXII (1-2), januariapril: 47-52.
- BEACHY, M, D. 2005. *An overview of Central Dizin Phonology and Morphology*. University of Arlington.
- BIRBIRSO, T. D. 2013. Quallu Institution: A theme in the ancient rock-paintings of Hararqee-implications for social semiosis and history of Ethiopia. *International Journal of Archaeology and Human Cultures* 1 (1): 001-018.
- BLAZEK, V. 2008. A lexicostatistical comparison of Omotic languages. In: J. D. Bengtson (ed.) *In Hot Pursuit of Language in Prehistory Essays in the four fields of anthropology In honor of Harold Crane Fleming*: 57-148. Amsterdam/Philadelphia.
- BLENCH, R.. 2001. Types of Language Spread and their Archaeological correlates: the example of Berber, *Origini . Preistoria et protostoria delle Civiltà Antiche* XXIII: 169-189.
- BLENCH, R. 2005. Dictionary of Dinka.
- BLENCH, R. 2006a. English to Dinka Glossary.
- BLENCH, R. 2006b. Maaban-English dictionary.
- BLENCH, R. 2013. Linguistic aspects of Hadza interactions with animals. In: A. Witzlack (ed.) Proceedings of the Third International Conference on Khoisan Languages:101-110. Köln.
- CHAIX, L. 2006. Bœufs à cornes déformées et béliers à sphéroïde : de l'art rupestre à l'archéozoologie. *Cahiers de l'AARS* 10 : 49-54.
- CHORIN, D. and A. F. C. HOLL. 2013. Les processus de néolithisation: socialiser la nature et naturaliser la société. *European Journal of Sociology* 54: 157-185.
- CRAZZOLARA, J-P. 1978. A study of the Pokot (Suk) language. Bologna.
- DAUTHEVILLE, L. 1922. Danse d'autruche en l'honneur du Pharaon. Bulletin de l'Institut Français d'Archéologie Orientale 20: 225-229.
- DE MENOCAL, P. and J. TIERNEY. 2013. Green Sahara: African Humid Periods Paced by Earth's Orbital Changes. *Nature Education Knowledge* 3(12): 1-9.
- DI LERNIA, S. 2006. Building monuments, creating identity: Cattle cult as a social response to rapid environmental changes in the Holocene Sahara. *Quaternary International* 151:50-62.

- DI LERNIA, S. 2013. A Cover Story for a Nature cover: milking in the prehistoric 'Green Sahara. *Journal of Anthropological Sciences* 91: 7-11.
- DI LERNIA, S., BRUNI, S., CISLAGHI, I., CREMASCHI, M., GALLINARO, M., GUGLIELMI, V., MERCURI, A-M., POGGI, G., and A. ZERBONI. 2015. Colour in context. Pigments and other coloured residues from the Early-Middle Holocene site of Takarkori (SW Libya). *Archaeological and Anthropological Sciences* 8: 1-25.
- DROUX, X. 2011. Twinned hippopotamus figurines of the Predynastic period. In: R.F. Friedman AND P.N. Fiske (eds.), Egypt at its Origins 3. Proceedings of the Third International Conference "Origin of the State. Predynastic and Early Dynastic Egypt", London, 27th July 1st August 2008 (= Orientalia Lovaniensia Analecta 205):349-378. Leuven/Paris/Walpole.
- DRZEWIECKI, M. and T. STĘPNIK, T. 2014. Fortified sites at the mouth of wadis. Case study of Abu Sideir and Abu Mereikh in the Fifth Cataract region. *Etudes et Travaux* XXVII: 95-120.
- DUNNE, J., EVERSHED, R., SALQUE, M., CRAMP, L., BRUNI, S., RYAN, K., BIAG-ETTI, S. AND S. DILERNIA. 2012. First Dairying in 'Green' Saharan Africa in the 5th Millennium BC. *Nature* 486: 390-394.
- DUPUY, Ch. 2014. Des céréales et du lait au Sahara et au Sahel, de l'épipaléolithique à l'âge des métaux. *Afrique* [*En ligne*] : 1-25.
- ELFMANN, P. 2005. Women's Worlds in Dassanetch, Southern Ethiopia. Working Papers 53. Mainz.
- EL-SAYED, R. 2011. Afrikanischstämmiger Lehnwortschartz im älteren Ägyptisch. Untersuchugen zur ägyptisch-afrikanischen Interferenz im dritten und zweiten Jahrtausend v.Chr. *OLA* 211. Leuven/Paris/Walpole.
- EMBERLING, G. 2014. Pastoral States: Toward a Comparative Archaeology of Early Kush. *Origini* XXXVI:125-156.
- EVANS-PRITCHARD, E. 1940. The Nuer. A Description of the Modes of Livelihood and Political Systems. London.
- ERMAN, A. and H. GRAPOW (eds.) 1926-1953 (1982). Worterbuch der aegyptischen Sprache im Auftrage der deutschen Akademien. 13 vols. (quoted with the mention [Wb]). Berlin.
- FRIEDMAN, R. 1996. New secrets from Hk 64. Nekhen News 8: 4-5.
- FRIEDMAN, R. (ed.) 2002. Egypt and Nubia. Gifts of the Desert. London.
- FULLER, D. Q. 2011. Pathways to Asian Civilizations: Tracing the Origins and Spread of Rice and Rice Cultures. *Rice* 4: 78–92.

- FULLER, D. Q., WILLCOX, G. and R. G. ALLABY. 2011. Cultivation and domestication had multiple origins: arguments against the core area hypothesis for the origins of agriculture in the Near East. *World Archaeology* 43(4): 628-652.
- GANDONNIÈRE, C. 2014. Chasseurs et équipes de chasseurs de l'Ancien au Nouvel Empire. *NeHet* 1: 47-69.
- GARDINER, A. 1988. Egyptian Grammar. Oxford.
- GHILARDI, M., TRISTANT, Y. and M. BORAIK. 2012. Nile River evolution in Upper Egypt during the Holocene: palaeoenvironmental implications for the Pharaonic sites of Karnak and Coptos. In: M. Ghilardi and Y. Tristant (eds.) Charting Holocene landscape changes in the Mediterranean using the geoarchaeological approach, Géomorphologie: relief, processus, environnement, 1: 7-22. Paris.
- GOEBS, K. 2008. Crowns in early Egyptian Funerary Literature: Royalty, Rebirth, and Destruction. Oxford.
- HEATH, J. 2006. Dictionnaire tamachek-anglais-français. cite page15. Paris.
- HEINE, B. 1978. The Sam Languages. A History of Rendille, Boni and Somali. *Afroasiatic Linguistics* 6(2): 23-115.
- HENDRICKX, S. 2002. Bovines in Egyptian Predynastic and Early Dynastic iconography. In: F. Hassan (ed.), *Droughts, Food and Culture. European Research Workshop on Ecological Change and Food Security in Africa's Later Prehistory:* 275-318, New York.
- HENDRICKX, S. and R. FRIEDMAN. 2003. Chaos and Order: A Predynastic "Ostracon from HK29A. *Nekhen News* 15: 8-9.
- HENDRICKX, S., RIEMER, H., FÖRSTER, F. and J.C. DARNELL. 2010. Late Predynastic/early Dynastic rock art scenes of Barbary sheep hunting in Egypt's Western Desert. From capturing wild animals to the women of the 'Acacia House'. In: H. Riemer, F. Foster, M. Herb and N. Pöllath (eds.) Desert Animals in the Eastern Sahara: Status, Economic Significance and Cultural Reflection in Antiquity. Proceedings of an Interdisciplinary ACACIA Workshop Held at the University of Cologne (= Colloquium Africanum 4):189-244. Cologne.
- HILDEBRAND, E., A. and K. M. GRILLO. 2012. Earl herders and monumental sites in eastern Africa: dating and interpretation. *Antiquity* 86: 338–352
- HISS, K., 1992. *The Carolina Rice Kitchen: the African Connection*, University of South Carolina Press, Columbia.
- HONEGGER, M. with contributions of C. BONNET, C., L. CHAIX and J. DU-BOSSON, J. 2009. Kerma (Soudan) origine et développement du premier royaume d'Afrique noire. *Archäologie Schweiz* 32 : 2-13.

- HOULIHAN, P., F. with the coll. of S. M. GOODMAN. 1986. *The Birds of Ancient Egypt*. Warminster.
- HUFFMAN, R. 1929. Nuer-English Dictionary. Reimer, Berlin.
- INSOLL, T., CLACK T., and R. OLIREGE. 2015. Mursi ox modification in the Lower Omo Valley and the interpretation of cattle rock art in Ethiopia. *Antiquity* 89 (343): 91-105. DOI: 10.15184/aqy.2014.31.
- JANGA-DOLE, J.A, GOGE, U.M. and I. A. GASHINGE. 2009. Ngamo-English-Hausa Dictionary (Gudi and Yaya Dialects), Yobe Languages Research Project. In: R. SCHUH (ed.). Ajami Press, Postikum, Yobe State, Nigeria.
- KRZYWINSKI, K. and R.H. PIERCE. 2001. Deserting the Desert, a Threatened Cultural Landscape between the Nile and the Sea. University of Bergen.
- KUENTZ, C. 1924. La danse des autruches. Bulletin de l'Institut Français d'Archéologie Orientale 23: 85-88.
- KUPER, R. and S. KRÖPELIN. 2006. Climate-Controlled Holocene Occupation in the Sahara: Motor of Africa's Evolution. *Science* 313: 803-807.
- LAM, A., M. 2003. L'unité culturelle égypto-africaine à travers les formes et les fonctions de l'appui-tête. Dakar.
- LECOEUR, Ch. and M. 1955. Grammaire et Textes Teda-Daza. IFAN. Dakar.
- LEGESSE, A. 1973. Gada: Three Approaches to the study of African Society. New York.
- LEGESSE, A. 2006. A Oromo Democracy: An Indigenous African Political System. Asmara.
- LE QUELLEC, J-L. 2002. A propos d'un mythe Nyangatom d'origine du bétail. *Cahiers Caribéens d'Egyptologie* 3-4 : 179-200.
- LE QUELLEC, J-L. 2010. Traite et insufflation sur les images rupestres du Sahara contredisent l'hypothèse de la consommation du lait comme «révolution secondaire» en Afrique. *Cahiers de l'AARS*, 14 : 204-246.
- LE QUELLEC, J-L. 2011. Arcs et bracelets d'archers au Sahara et en Égypte, avec une nouvelle proposition de lecture des "nasses" sahariennes. *Cahiers de l'AARS* 15 : 201-220.
- LIGNEREUX, Y. 2001. La domestication du cheval. Données de l'Archéozoologie. In: J-F. Chary (ed.) *Encyclopédie du cheval*. Paris.
- MADELLA, M., GARCIA-GRANERO, J. J., OUT WELMOED, A., RYAN, P. and D. USAI. 2014. Microbotanical Evidence of Domestic Cereals in Africa 7000 Years Ago. *PLoS ONE* 9. doi:10.1371/journal.pone.0110177.
- MARLOWE, F. 2010. *The Hadza, Hunter-Gatherers of Tanzania*. Berkeley. University of California Press.

- MAROM, N. and G. BAR-OZ. 2009. Man made oases: Neolithic patterns of wild ungulate exploitation & their consequences for the domestication of pigs & cattle. *Before Farming* 1/2: 1-12
- MARSHALL, F. and E. HILDEBRAND. 2002. Cattle before crops: The beginnings of food production in Africa. *Journal of World Prehistory* 16 (2): 99-143.
- McDONALD M.A. 2015. Sedentism and the advent of food production in and around Dakhleh Oasis in the Western Desert of Egypt: a distinctively African phenomenon. In: J. Kabacinski, M. Chlodnicki, M. Kobusiewicz (eds.) *Hunter-Gatherers and Early Food Producing Societies in Northeastern Africa*, (= Studies in African Archaeology 14): 273-286. Poznań.
- MENARDI-NOGUERA, A. and A. BONOMO. 2016. The Chéïré-1 painted shelter (Ennedi, Chad). Bergamo, AARS meeting, 31/05/2014, https://independent.academia.edu/alessandromenardinoguera
- MENARDI-NOGUERA, A. and A. ZBORAY. 2012. Elongated human figures, large cows and tethered wild animals from the northern Jebel Arkenu (Libya). *Sahara* 23: 133-146.
- MIDANT-REYNES, B. 2014. Prehistoric Regional Cultures. In: W. Grajetzki and W. Wendrich (eds.), *UCLA Encyclopedia of Egyptology.* Los Angeles. http://digital2.library.ucla.edu/viewItem.do?ark=21198/zz002hkz51
- MONTET, P. 1954. Les Boeufs égyptiens. Kêmi I: 43-58.
- MÜLLER-KOSACK, G. 1999. The Metaphysics of Mafa and Dughwede bull festivals. London. Cité p.1.3
- NAVAJAS, A., I. 2012. Some New Hunting Scenes in Pre-Dynastic C-Wares. *Zeitschrift für Ägyptische Sprache und Altertumskunde* 139, 171-180.
- OSBORN, D.J. and J. OSBORNOVA.1998. *The Mammals of Ancient Egypt.* Warminster.
- OTHA, I.1989. A Classified Vocabulary of the Turkana in the Northwestern Kenya, African Study Monographs 10.
- PAYNE, D. and L. OLE-KOTIKASH.2008. *Maa Dictionary, Maasai (IlKee konyokie, IlPurko, IlWuasinkishu) and Samburu [en ligne]*. University of Oregon.
- PEUST, C. 2008. Some Cushitic Etymologies. In: G. Takacs (ed.), Semito-Hamitic Festschrift for A. B. Dolgopolsky and H. Jungraythmayr. Reimer: 257-261.
- POTTS, D.T. 2001. Ostrich distribution and exploitation in the Arabian peninsula. *Antiquity* 76:182-190.
- REGULSKI, I., 2010. A Palaeographic Study of Early Writing in Egypt (= Orientalia Lovaniensia Analecta 195). Leuven.
- RIEMER, H., LANGE, M. and K. KINDERMANN. 2013. When the desert dried up: Late prehistoric cultures and contacts in Egypt and Northern Sudan. In:

- D. Raue, S. Seidlmayer and P. Speiser (eds.) *The First Cataract of the Nile: One region diverse perspectives* (= Sonderschriften des Deutschen Archäologischen Instituts): 157-183. Kairo. Berlin.
- RIEMER, H. and K. KINDERMANN. 2008. Contacts between the Oasis and the Nile: a résumé of the Abu Muhariq Plateau Survey 1995-2002. In: B. Midant– Reynes, B. and Y. Tristant (eds.) with the coll. of J. Rowland and S. Hendrickx, *Predynastic and Early Dynastic Egypt. Origin of the State 2* (= Orientalia Lovaniensia Analecta 172): 851-886. Leuven.
- ROBBINS, P. 2010. The Red-Spotted Ox. A Pokot Life. Copenhagen.
- SASSE, H.-J. 1979. The Consonant System of Proto-East Cushictic (PEC). *Afroasiatic Linguistics*, Vol. 7:1, Malibu.
- SETHE, K. 1933. Urkunden des Alten Reichs I, Urkunden des aegyptischen Altertums. Leipzig.
- SEYDOU, C. 1998. Dictionnaire plurilectal des racines verbales du peul. Peul-françaisanglais. Paris.
- SMITH, B. 2014. Chongoni Rock Art Area. In: C. Smith (ed.), *Encyclopedia of Global Archaeology*: 1448-1452.New York.
- SOBANIA, N. 1988. Fishermen herders: subsistence, survival and cultural change in Northern Kenya. *Journal of African History* 29: 41-56.
- STEGMAN, V. R.P. 2011. English-Borana Word List, Spiritan Collection. Duquesne University.
- STROOMER, H.1978. A comparative study of three southern Oromo dialects in Kenya. Hambourg.
- TAMBIAH, S.J. 1981. A Performative Approach to Ritual. *Proceedings of the British Academy* 65:140-141. Oxford.
- TAKACS, G. 1995. Aegyptio-Afroasiatica II. Discussions in Egyptology 33: 123-131.
- TAKACS, G. 1999. Etymological Dictionary of Egyptian. Volume One. A Phonological Introduction. Leiden.
- TAKACS, G.. 2001. *Etymological Dictionary of Egyptian. Volume Two, b-, p-, f-.* Leiden, Boston.
- TAKACS, G. 2005. Aaron Ember and the establishment of Egypto-Semitic phonological and lexical comparison I. *Acta Orientalia Vilnensia* 6(2):78-101.
- TAKACS, G. 2008. Etymological Dictionary of Egyptian. Volume Three, m-. Leiden, Boston.
- TAKACS, G., 2009. Dangla-Miagama and Afro-Asiatic II. Bidiya č and *3. Lingua Posnaniensis* LI: 119-124.

- TAKAMIYA, I. 2011. The Inside Story: The Installation and Granary at HK24B. *Nekhen News* 23: 20-21. TANAKA, J. 1996. The World of Animals viewed by San Hunter-Gatherers in Kalahari. *African Study Monographs Supplement* 22: 11-28.
- THUBAUVILLE, S. (ed). 2009. Handing Over Ceremony at SORC. *News from South Omo Research Center and Museum* 5:1-2.
- TORNAY, S. 2001. Les Fusils jaunes. Générations et politique en pays Nyangatom (Ethiopie). Nanterre.
- USAI, D. 2005. Early Holocene seasonal movements between the desert and the Nile Valley: details from the lithic industry of some Khartoum Variant and some Nabta-Kiseiba sites. *Journal of African Archaeology* 3: 103-115.
- VAN NEER, W. 2010. Egyptian Longhorn Cattle from the Elite Cemetery at HK6: Not Just a Load of Old Bull. *Nekhen News* 22: 8.
- VELDMEYER, A. 2008. A Lot of Old Rope Cordage at HK43. *Nekhen News* 18: 25. VERGARI M. and R. VERGARI. 2007. *A basic Saho-English-Italian Dictionary.* Asmara.
- WENDORF, F. and R. SCHILD. 1998. Nabta Playa and its role in northeastern Africa history. *Anthropological Archaeology* 20: 97-123
- WENDORF, F. and R. SCHILD. 2002. Implications of Incipient Social Complexity in the Late Neolithic in the Egyptian Sahara. In: R. Friedman (ed.) *Egypt and Nubia. Gifts of the Desert*.13-20. London. WENDORF, F. and R. SCHILD. 2004. The Megaliths of Nabta Playa. *Focus on Archaeology Academia* 1(1): 11-15.
- ZBORAY, A. 2005. Rock Art of the Libyan Desert. Newbury, Fliegel Jezerniczky Expeditions Ltd. DVD.
- ZEDER, M. A. 2015. Core questions in domestication research. *PNAS* Early Edition, 2–01 2015: 1-8.