

# Kirwan Memorial Lecture

## Nile Valley archaeology and Darfur ethnography: the impact of women on cultural evolution. A personal reflection

*Randi Haaland*

### Introduction

The empirical facts for this article are archaeological material left behind by people inhabiting the following sites excavated in the middle Nile regions: the Neolithic sites of Kadero, Zakiab and Um Direiwa dated to the fifth millennium BC, and the Mesolithic sites of Abu Darbein, ed-Damer and Anebis dated to the eight millennium BC. The fieldwork was undertaken in cooperation with Lech Krzyżaniak and my Sudanese colleagues Anwar Magid and Ali Tigani el-Mahi. I have presented the archaeological data from these sites in several publications. The first most extensive work was my doctorate thesis from 1981, later published as a BAR publication in 1987 (Haaland 1981; 1987).

Over the years, as I worked with the archaeological material, I became increasingly interested in searching for ‘clues’ that indicated what the objects might ‘say’ about women’s life. In this article, I shall try to explore how female identity is manifested in symbolism and activities related to the archaeological remains. In the archaeological inventory, my search for ‘clues’ focused on pottery, while in ethnographic fieldwork from Darfur I focused on women’s activities in food production and nurturing, as well as on ways in which this was taken as a source for a variety of symbolic constructions.

My ethnographic work in Darfur became important since it alerted me to the close symbolic associations the Fur make between pots, women and nurturing. The Fur use terms for parts of the human body to describe parts of pots. They explicitly conceptualize pots as females and particularly associate them with motherhood. The metaphoric association between pots and motherhood is part of a wider set of symbols fostering ideas of solidarity among the Fur. These metaphoric constructions are rooted in the experience of a mother as the nurturer par excellence – first as provider of milk from her breasts and then as provider of the staple foods (porridge, beer) from her cooking pot. It seems reasonable to hypothesize that the metaphoric projections from female body to features of pots are grounded in experiences loaded with meanings anchored in the role of a ‘mother’ as the ‘nurturer’.

We do not have any procedures to find ‘true’ answers to questions regarding the socio-cultural contexts of the archaeological facts. The answers I am trying to establish here are provisional hypotheses that primarily are stimulated by ethnographic observations. I shall try to formulate my conjectural development of these hypotheses in such a way that they can be refuted by confrontation with further empirical evidence, as the philosopher of science, Karl Popper, calls objective knowledge (Popper 1972; 1976).

The connection between sources of subjective conjectures and ‘objective’ hypotheses has been well expressed by the evolutionary biologist Stephen Jay Gould:

‘the charming notion that true science can only be based on unbiased observation of nature in the raw is mythology. Creative work, in geology and anywhere else, is interaction and synthesis: half-baked ideas from a barroom, rocks in the field, chains of thought, lonely walks, numbers squeezed from rocks in a laboratory, numbers from a calculator riveted to a desk, fancy equipment usually malfunctioning on expensive ships, cheap equipment in the human cranium, arguments before a road-cut.’  
(Gould 1987, 98).

My attempts at interpretation also involve experiences harvested in similar chance events. I shall here start with a chance event I was exposed to in Darfur before I started my archaeological career.

The events that came to give direction to my interpretative quest occurred in 1965-66 when I had joined my husband who was employed in the Jebel Marra Project in Darfur. At that time, I was an undergraduate student at the University of Bergen with a background in anthropology and sociology. I was ‘just’ an expatriate wife and did not have any research project. I was an ordinary woman who was curious about the lives of people. When living in the villages I became fascinated by the lives of women particularly their involvement in daily activities. I spent time walking around in the villages with our two-year-old son. The two of us became a familiar sight among the inhabitants. I would sit with women participating in their daily activities and trying to more or less intuitively grasp something about their life. As I always had my son with me, the women likewise would have their children strapped to their back (Plate 1) or be breast feeding them (Plate 2). We could often sit together for hours, me just watching their activities, or trying to make simple conversation in my broken Arabic. This went quite well since Fur women were not too fluent in Arabic. I watched them in different contexts - in a multitude of activities from child-care, to food preparation, to cultivation (Plate 3) and in different spatial settings from the domestic huts and compounds to public spaces in the village and the local market places.

From the studies of Fredrik Barth and my husband I had learnt about the great economic independence of women among the Fur (Barth 1967; Haaland 1998). Wives and



*Plate 1. A young Fur woman from the village of Kuttum with a baby strapped to her back.*



*Plate 2. A woman from the village of Zalingei breast feeding her baby.*

husbands cultivated their own separate fields and stored the grain in their own separate granaries. The husband did not have rights in his wife's granary. There seemed to be a near equal workload among husbands and wives in cultivation activities. However, by being with the women in the village I was struck by the observation that women were busy all the time – they were nurturing children, they were weeding, husking, winnowing and grinding grain, they were fetching water (Plate 4) and cutting firewood, they were sweeping the hut and the compound, they were boiling porridge and brewing beer. At 4-5am while still dark I often woke to the sound



*Plate 3. Women weeding sorghum. Note the baby strapped to the back of one woman (photo: G. Haaland).*



*Plate 4. Women from the village of Amballa fetching water. Note the baby strapped to the back of the woman (photo: G. Haaland).*

of sorghum being ground – this female activity went on for 2-3 hours before other tasks had to be undertaken. Grinding is an activity that gradually wears down the body. I later discovered that material from Neolithic sites in the Levant indicated that female skeletons had traces of heavy wear on knees and ankles related to these activities (Akkermans and Schwartz 2003). These daily chores seemed to be somehow taken as a 'natural' condition of being a woman (by the Fur as well as by the anthropologists). It is just these seemingly trivial activities I shall focus on here. I shall suggest that they produced incremental changes that over time had revolutionary social consequences.

The year among the Fur women had a tremendous impact on me, but it took me a long time before I realised the archaeological importance of the kind of insights I had gained by hanging around with women in the villages. This alerted me to the close symbolic associations between female identity, nurturing, food-provisioning, pottery-making and food-pots. The Fur used terms for parts of the human body to describe parts of pots. They explicitly conceptualized pots as females particularly associated with motherhood. However, drawing on such 'subjective' experiences for the interpretation of

archaeological material was not considered 'scientific' when I started my archaeological career. It, therefore, took me some time to see the potential of systematically using ethnographic observations as an inspiration to make interpretations that could serve as provisional hypotheses about the socio-cultural context of prehistoric material.

### Getting into Archaeology

When I returned to Norway I started my studies in archaeology. This was to classify and analyse Neolithic material excavated by the Joint Scandinavian Expedition to Nubia in connection with the building of the Aswan High Dam in the 1960s. This gave me access to material from Neolithic and so-called A-Group sites near the Second Cataract. My work was stimulated by the classification system developed by Fred Wendorf in his classic study of stone-age sites in Nubia (Wendorf 1968). At this time archaeology was dominated by the so-called processual school with its emphasis on counting 'objective' features of artefacts that could be measured and calculated.

During the Darfur experience, I had gained a subjective understanding of female activities. When I was working within the archaeological milieu it was required of me to have an objective approach meaning that ethnographic observations were relevant if they focused on the functional use of artefacts.

In 1972 I was employed as lecturer at the Department of Archaeology in the University of Khartoum. The department had been established by Peter Shinnie five years earlier. It was during this time that I met Laurence Kirwan, an imposing person with a vast knowledge of the archaeology of the Nile Valley. He made a great impression on my students and me. During my two and a half years as lecturer I was contacted by Lech Krzyżaniak from the Centre of Polish Mediterranean Archaeology. He was directing a large Polish expedition excavating the site at Kadero, just north of Khartoum. I was invited to join his team for three seasons. It was possible to combine this work with my obligations at the University of Khartoum since I could train BA students in field techniques at Kadero. To work with this interdisciplinary group of archaeologists, physical anthropologists, botanists and osteologists was an important experience. Lech Krzyżaniak's three decades of fieldwork at Kadero were ground breaking. Kadero has become one of the most cited early Neolithic sites in Sub-Saharan Africa.

### Kadero and the Khartoum Neolithic

The Kadero Neolithic material, dated to the fifth millennium BC, showed the early importance of domestic animals, mainly cattle. The archaeological inventory also contained bones of large and small wild animals, as well as of fish from the nearby Nile, and grinders. This indicated a multi-resource adaptation based on rearing domestic animals, hunting of large and small animals, exploitation of aquatic resources and gathering of wild cereals. Kadero was a large settlement area, with remains

of two cemeteries. The burial ground on the outskirts of the site showed differences in grave location related to sex and age. Some graves had a very rich inventory of grave goods consisting of several mace-heads, a varied collection of ceramics including beautiful caliciform beakers (Plate 5), fine personal ornaments including different types of beads made from carnelian, shells traded from the distant Red Sea, ivory bracelets, lip plugs, nose and ear plugs. There were several finds of bucrania suggesting the ritual importance of cattle.



Plate 5. Caliciform beaker from Kadero (photo: M. Jordeżka, courtesy of Poznań Archaeological Museum collection).

Kadero was one of the first sites to be excavated with these extremely rich funerary remains as well as finds of human sacrifice. Based on the material from Kadero, Krzyżaniak argued that this differentiation in inventory indicated the formation of an elite and emergence of a chiefdom type of society, where control of cattle was an important part of the elite's power. Kadero is particularly relevant for understanding such social differentiation. It produced a large amount of animal bones (88% of them livestock, mainly cattle) (Krzyżaniak 1991; 2004).

Although my primary task was to classify stone artefacts, the main objective was to look at this material in the context of the total site inventory in order to make plausible reconstructions of the past life of the people that had inhabited Kadero. The material inventory of the Kadero site indicated that the people who had inhabited the site exploited different resources. Exploitation of specific resources, e.g. livestock, fish and cereals, was in different ways affected by seasonal variation in natural conditions. Inspired by my readings of Evans-Pritchard's (1940) and Lienhardt's (1961) studies of the Nuer and Dinka, I expected that this might have favoured seasonal occupation activity at specific sites, i.e. I assumed



that specific activities had been carried out by people who had occupied seasonal settlements where conditions were favourable for the kind of resource they exploited. To delve further into this problematic field I applied for funds from the Norwegian Research Council to survey and excavate sites in different micro-environmental zones close to Kadero. With a research team of two of my students from the University of Khartoum – Anwar Osman Magid and Ali Tigani el-Mahi – we excavated the sites of Zakiab and Um Direiwa. The small site of Zakiab located close to the Nile was excavated in 1978 (Figure 1). The material inventory indicated that the inhabitants had been involved in dry-season fishing and herding of domestic animals. The next year, 1979, our team excavated Um Direiwa – a large settlement located on the plain just east of Kadero containing a rich inventory of grindstones indicating intensive use of cereals. The ceramic material found at the two sites was similar to what was found at Kadero, except that there were no caliciform beakers. No burials were recorded at the Zakiab and Um Direiwa sites.



Figure 1. Map of Neolithic sites along the Nile discussed in the text.

Since beakers were only found at Kadero in rich graves this suggests they may have played an important symbolic role related to social differentiation.

From a human ecology perspective, I argued that the Khartoum Neolithic sites (Kadero, Zakiab and Um Direiwa) were related to each other in a yearly cycle of adaptation somewhat similar to that observed amongst the Nuer and Dinka of South Sudan. Since I was firmly placed in the processual economic research tradition my focus was on the economic interdependence of the sites. I did not venture into a discussion of the significance of the two burial grounds

which were recovered at Kadero. This was elaborated upon by David Edwards in 2004. He argued that these Khartoum Neolithic sites might also have been closely interlinked in a ceremonial context with the Kadero site serving as a common ritual feasting centre manifested in the large number of domestic animals recovered and bucrania deposited as grave offerings. He argued that a large amount of bones especially from cattle is rarely found on pastoral sites indicating that the site had a special significance related to the ceremonial role of cattle (Edwards 2004, 57-58).

During the last decades sites with large settlements and rich burial grounds similar to the Kadero site have been investigated in the Nubian Nile Valley from north of Dongola to south of Khartoum (Geus 2004; Reinold 2001; 2008; Salvatori and Usai 2006; Sadiq 2008; Usai 2016). Material from these sites indicates local cultural variations as well as their participation in wide-ranging exchange networks. Very rich material culture was used for adorning the body of the deceased. This is manifest in material such as beads, amulets, bracelets, lip-nose-ear plugs, made from ivory, carnelian, zeolite and imported marine shells from the Red Sea, indicating contacts over long distances. Some palettes were found with remains of red ochre and malachite, which were probably used to decorate the body. A common feature is the focus on the decoration of the body which was buried in a pit in a tightly contracted foetal position. Special objects recovered in graves on several of these sites are distinctly female figurines, these vary in shape from voluptuous to highly stylised forms (Plates 16 and 17). Figurines have, however, not been recovered at Kadero.

The adaptation of the inhabitants of the newly excavated sites appears to have been similar to Kadero's multi-resource system with exploitation of domestic animals, aquatic resources, hunting and grain utilization. On northern sites domesticated cereals such as wheat and barley of Near Eastern type have been recovered (Out *et al.* 2016; Usai 2016).

From the fifth millennium BC the archaeological record shows an increased variety of pottery types, e.g. small vessels, such as cups and beakers, used for serving food and drink (Krzyżaniak 1991; 2004; Caneva 1994). This was probably also related to increased social differentiation where drinking was part of social display. This indicates the beginning of a long-term trend in which small drinking vessels became increasingly prominent and more varied (Reinold 2001; Krzyżaniak 2004). Dirar (1993) has argued that fermented foods such as sorghum beer have a long-time depth in Sudan, with 30-50 different varieties recognised. They may well have been drunk from vessels of this kind and it seems likely that it was during this time or even earlier that beer was first made (Haaland 2007); residue analyses of Neolithic pottery from the Blue Nile provide some support for their use in brewing beer (Fernandez and Tresseras 2000). Beer – and other kinds of alcohol – are now widely recognised as having played important roles in cultural history in Africa as well as in many other parts of the world (cf. Edwards 1996; Dietler 2006;

Dietler and Hayden 2001). The daily intake and importance of beer that I observed among the Fur (Plate 6) of all ages might thus have a long time depth.

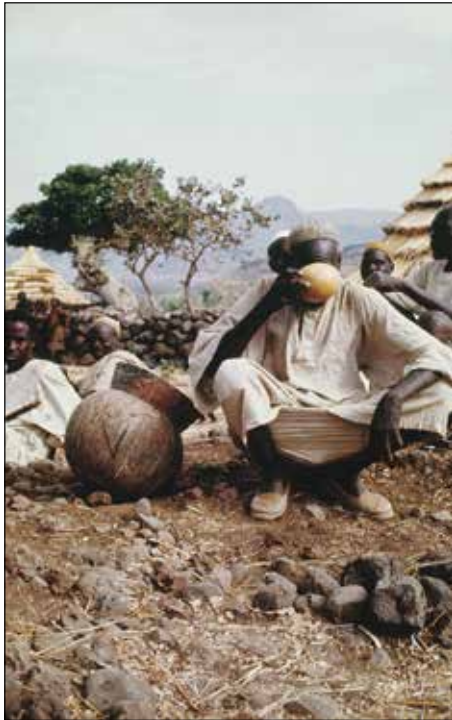


Plate 6. A Fur man drinking beer at a work party in Jebel Marra (photo: G. Haaland).

### The cultivation – domestication puzzle

A striking feature of the Um Direiwa inventory was the huge amount of grinders (30,000 fragments). These were mostly worn out parts of upper and lower querns and only very few were complete. The very high number of grinders suggested that the inhabitants made intensive use of plant resources. Imprints of plant remains on pottery (Stemler 1990) showed that these were ‘cereal’ plants such as wild varieties of sorghum, *panicum* and *setaria*. This posed a puzzle; the large amounts of grinders indicated intensive use of cereals suggesting cultivation, while plant remains showed that the plants used were wild cereals with the exception of one impression resembling domestic sorghum. This led me into the cultivation – domestication puzzle. Conventionally the presence of domesticated plants has been taken to be a diagnostic feature of cultivation and the emergence of agriculture.

My provisional solution to the cultivation-domestication puzzle was that the people were cultivating wild varieties, i.e. activities such as harvesting, weeding and planting. However, this was not manifested in the morphological changes characteristic of domesticated varieties. I considered cultivation as a socio-economic process relating to people’s activities in interaction with wild plant species, and domestication as a biological process causing genetic changes manifested in plant morphology. Cultivation I thus considered to have evolved earlier than domestication and to have constituted the selective pressure which led to the emergence of domesticated

plants. The paleo-botanist Ann Stemler’s findings attributed the lack of morphological differentiation between cultivated and wild grain to the harvesting method: the inhabitants were probably harvesting by stripping the grain off the stalks into baskets.

Since I was puzzled by the lack of evidence on our archaeological sites of domesticated cereals such as sorghum I wanted to get some information on exploitation of wild plants by gathering and simple cultivation activities. During fieldwork (1973) in the village of Toumra in northern Darfur I observed



Plate 7. Fur women from Jebel Marra collecting ants from underground nests (photo: G. Haaland).

that gathering of wild plants was important especially in periods of food shortage. The plants gathered were cereals such as *setaria*, a grain we had also recovered at the Neolithic sites. Gathering of wild food plants as well as gathering of insects (Plate 7) were female activities. However, the information I collected was rather limited. Later in the 1980s Anwar Magid (1989), who was trained as an ethno-botanist, did a detailed study of the use of local food plants in the dry Sahel area of northern Darfur. He observed that 20 different species of wild food plants were used. The most important plants were the graminiae cereals which were fairly similar to the cereals they cultivated. Some plants needed special treatment to make them edible; this was quite a labour-intensive process which often included several days of soaking in water to get rid of the poison before they could be eaten. Processing and preparing these food plants depended to a large extent on what part of the plant is gathered, whether seeds, fruits, or root vegetable, and also on the state of the plant gathered - hard, soft, fresh, dry, bitter or sweet.

The women of Darfur had a thorough knowledge of food plant resources and their nutritional values. Magid (1989) noted that the accumulation of such knowledge would be gained by observation and participation in gathering activities that start in childhood. When women go on trips to gather food-plants, girls from the age of six accompany their mothers. The grains were gathered in baskets as well as in pots or swept from the ground. This did not require any specialised tools. It was the women who did the harvesting, winnowing



and threshing as well as making stores and storing wild cereals. However, they did not sow or weed these plants. Since the Fur observations, as well as wider ethnographic surveys, overwhelmingly show that it is women who perform activities related to plant gathering and shifting cultivation I started to consider it quite likely that it was the activities of women that led to one of the most important 'revolutions' in human history – namely domestication of food plants and the emergence of settled agricultural communities. As women were performing their daily chores in food provisioning they exerted a selection pressure that led to the incremental changes in plant morphology which characterised the emergence of domestic species.

### **Ethnographic observations as a source for the interpretation of possible cultural meanings for the material inventory**

There were two types of material from Khartoum Neolithic excavations that I, on the basis of my early experiences and observations in Darfur, wanted to study. I hoped that I could understand them better in light of the way the Fur associated similar objects with symbolic meanings.

Since I was rather puzzled by the large numbers of grinders that we had excavated on the Nile Valley sites, I undertook fieldwork in 1978 in the village of Dor in northern Darfur. Women in the village were making their own grinding stones. Suitable raw material was found in only one area, where a fine-grained sandstone was located. Women had their own quarry where they extracted the raw material and did the rough shaping of the grinders (Plates 8 and 9). The grinders were then



*Plate 9. A sample of roughly pecked upper and lower grinders at the quarry.*



*Plate 8. A woman from the Village of Dor pecking the grinders into a rough shape at the stone quarry before bringing them back to the village at the foot of the hill.*

brought back from the quarry to the village where the final shaping and pecking of the tools took place. I studied their use over time and discovered that the surface of the grinders gradually became too smooth and had to be re-textured with a hammer-stone made of fine-grained quartz. The process of re-texturing had to be repeated every 3-4 weeks. These

activities would gradually wear down the grinders and cause them to break. This could explain the numerous broken tools recovered at the Khartoum Neolithic sites. The making and using of grindstones were closely associated with female identity, so much so that when grinders are used in male dominated activities like iron production, it is women who perform the task of grinding the ore into smaller pieces for smelting; it is only women who can perform this task.

While I was focusing on the functional aspects of female activities, I realised the importance of the symbolism associated with the artefacts - the grinders were gendered in the sense that the upper grinder was seen as a male and the lower as a female, and the act of grinding was metaphorically associated with sexual intercourse. The whole food preparation process was closely associated metaphorically with the sexual act. Comparatively we see such associations over most of Sub-Saharan Africa as well as within early agricultural communities in general (Haaland 1997).

Pottery was the other material object I focused on in my ethnographic work. I did three separate studies (between 1972 and 1978) to explore the process of pottery making and use in the villages of Toumra in northern Darfur and Gidad and Sarar in southern Darfur. In all three communi-

ties the activities are more or less similar - women of a caste-like category of potters and blacksmiths (called Mir in Fur language) were making pottery while the men were involved in ironwork. Clay was available locally in riverbeds and was tempered with organic material such as chaff from sorghum or animal dung; the potter kneaded and pounded the clay



Plate 10. A Fur woman from the village of Toumra making pots. Note the broken grinder in the back, used for pounding and grinding the clay to get rid of impurities.



Plate 12. A potter from the village of Sarar putting on the neck of the pot after having finished shaping the rounded body.



Plate 11. Fur women from the village of Gidad kneading the clay into a ball pot. Note the clay anvil in the front which will be used to beat the pot into shape.



Plate 13. A small depression in the ground lined with straw and bark where pots are stacked ready to be fired, from the village of Gidad.

on grinders to remove impurities (Plate 10). The first step in shaping the pot is to work the clay into a ball (Plate 11). The potter makes a small depression in the ground. Above this she places the clay, and pounds the clay ball into shape with an anvil of dry clay. This creates the round bottom of the pot. She will pound the pot into shape with the same anvil and lastly put on the neck (Plate 12). The pots are decorated with simple incised designs, and then left to dry in the sun; pots are smoothed or burnished usually with a water-rolled pebble before being fired. The firing of the pots takes place just outside the village and is a very simple technique using a small pit in the ground into which the pots are placed. The fuel consists of grass and bark which are placed beneath and above

the pots (Plate 13). From lighting the fire, it takes less than an hour to finish the process. When women are making pots they will bring their babies along for breast feeding (Plate 14).



Plate 14. While making pots, women will bring their babies along. Here a woman from the village of Gidad is breast feeding her baby in a break from her chores.



The Fur used terms for body parts to describe parts of pots in addition they explicitly associated pots as females and in particular with motherhood occasionally manifested by placing two protrusions called *nansu* (breasts) on pots. No aspect of this relationship can better serve as a metonym for this quality than the mother's milk (*bora fatta*) that sustained me as a child. The material content of the mother-child relationship will, with the growth of the child, change from mother's milk to porridge and beer as the dominant items. These items are metaphorically associated with women. It is only women of the blacksmith caste that make pottery. This is generally the case across the Sudan savannah belt (Haaland, 1985; Haaland *et al.* 2000).

The Fur material indicated a very close correlation between females and hearth-centred activities. These were a set of activities including child rearing, food preparation by use of various tools, and a rich set of symbolism surrounded these activities and items. Storage of food in a granary is connected with women's work and pot making. Women would make the large clay pots to serve as granaries and store food inside the house. My work here was limited; however, cross-cultural material indicates that the storage of food in a granary is connected with women's work (Hastorf 1992). Comparative studies shows that storage of food in pots as well as processing of food were associated with females. Gedef Abawa in his work among the Amhara in Ethiopia observed that the big clay containers used to store grain like teff were made by women. They also used body terms for different parts of the container such as stomach, neck and mouth. The granary when completed is painted with cattle dung, and features are made to indicate breasts (Firew 2009, 42-43).

Wright (1991) has suggested that the cooking of food is closely associated with pottery production. Pottery making and food preparation by cooking involves activities that in many respects are similar, such as grinding, use of water, kneading and firing. Furthermore, Wright argued from the first evidence of pottery that it is very likely it involved female work. To quote from Skibo and Schiffer (1995, 80) 'The clay cooking pot, one of humankind's most important technologies, was likely an achievement of women'.

The pot was strongly related to women and motherhood. Use of pottery takes place in a female dominated hearth – a domain that has a broad potential to symbolise important events and relationships in human life – a potential that is frequently realised in conceptualisations of pottery making as a transformation analogous to gestation. Thus, the symbolic association between pots and the body of the women and her nurturing roles, such as breast-feeding and cooking, is close at hand (Herbert 1993, 213).

### The social context of mother symbolism

The philosopher Alasdair MacIntyre has made the following formulation relevant for an understanding of the importance of symbolic construction of moral solidarity in pre-state societies:

“As with vulnerability and affliction, so it is correspondingly with dependence. Dependence on others is of course recognized in a general way, usually as something that we need in order to achieve our positive goals. But an acknowledgement of anything like the full extent of that dependence and of the ways in which it stems from our vulnerability and our afflictions is generally absent”

(MacIntyre 1999, 2).

Furthermore he emphasizes “... the mother-child relationship as a paradigm for moral relationships.” (MacIntyre 1999, 2). In pre-state societies security in life and property is fragile and has to be based on mobilization of the morality of relations. The mother-child relationship almost universally is taken as a prototype for solidarity.

Among the Fur a wide range of metaphoric constructions are rooted in the experience of the mother as the nurturer par excellence – first as provider of milk from her breasts and then as a provider of the staple foods (porridge, beer) from her cooking pot. Metaphoric association between pots and motherhood is part of a wider set of symbols fostering ideas of solidarity among the Fur community members.

This rich symbolism has been discussed by Gunnar Haaland. In several articles (1998; 2012) he has shown how the Fur have taken the mother-child relationship as a prototype for social solidarity. The quality of solidarity is expressed in a symbolic imagery constructed around a key symbol called - white milk - mother's milk. The symbolic imagery focuses on a relationship where the quality of solidarity is taken for granted, namely the mother-child relation. The concrete item, mother's milk, in Fur called *bora fatta*, is metaphorically linked to another item, namely millet with the same name: *bora fatta*. Millet flour mixed with water is used in a variety of critical situations both in individual and collective life situations: with circumcision, at rain rituals and in the treatment of certain diseases. It expresses and fosters a precarious solidarity in a wider range of social relations. (May I trust your solidarity like I trust the solidarity of my mother?). Such solidary relations are of particular political importance in communities that have not developed centralized political institutions for the protection of life and property. Under such conditions survival depends on *ad hoc* mobilization of social relations of solidary support. Such solidarity is expressed and fostered by the use of items and activities that are convincing as symbols of mother-child based symbolism.

Commensality of porridge and beer is an obvious activity that may foster such solidarity. The two items are made from the same raw material – millet – and are made by women. In traditional Fur thinking they were set apart from other food items in the sense that the selling of these products would imply an activity classified as shameful, similar to selling sex (Plate 15). The fact that porridge and beer are served from the mother-associated pot serve to make the commensality more compelling.





Plate 15. Fur women selling beer in the market. The act of selling beer is considered immoral like selling sex (photo: G. Haaland).

One important item found in early Neolithic communities that I interpret as related to mother-child based solidarity consists of figurines modelled on attributes of the female body. However, among the Muslim Fur I found no evidence of this kind of symbolic imagery.

Figurines are striking artifacts recovered from Khartoum Neolithic sites closely associated with female symbolism. None of the figurines found date earlier than the Neolithic; they are hence associated with a food producing economy; most are recovered from the Middle Nile region between the Third Cataract and Khartoum and are primarily from the fifth to the third millennium BC (Haaland and Haaland 2017). The majority of these figurines are made of clay although a few are made from stone or bone (these are highly stylized) (Plate 16). The clay figurines are quite diverse in their expression; features such as breasts, buttocks, stomach and hair are marked while features such as legs and the face are rather schematic (Plate 17). These objects are mostly recovered from graves, both in rich as well as simple graves (Reinold 2008). A striking aspect of the burials in the Neolithic Sudanese Nile Valley is that the deceased is buried in a foetal position, evoking, for example, the association between woman, the mother earth as the mother (the womb and tomb). The analogy between the fertility of women and the fertility of the soil is common, both among the Fur and in most agricultural societies (Eliade 1962). This analogy is readily associated with the analogy between a child and the mother's womb and the dead body in the 'womb' of the earth, as well as with associations linking 'death' to rebirth into another kind of existence. There are instances such as at el-Kadada and es-Sour where small children have been buried in pots (Sadiq 2012). The importance of the pot in symbolising life and death is also manifested in the custom of burying the placenta in a pot as was observed amongst the Fur.

The ethnographic insight stimulated me to search for evidence backwards in time in order to explore possible connections between the early emergence of pottery making and women's work.



Plate 16. Stylized sandstone figurine (SNM 26861) from Kadruka. The figurine was recovered in a very rich male grave dated to c. 4000 BC. The burial objects included, bucrania, nine mace heads, a diorite palette, several ivory bracelets, and pottery such as caliciform vessels and goblets (photo: Rocco Ricci, © The British Museum).



Plate 17. Clay figurine (SNM 26895) from el-Kadada dated to the mid fourth millennium BC recovered from a grave of a child; it was placed by the neck of the child, breasts and pelvis are outlined, incised pattern around the breasts and stomach-pelvis might be tattoos. (photo: Rocco Ricci, © Sudan National Museum).

### The archaeological sites along the Nile and Atbara rivers in Central Sudan

In cooperation with Anwar Osman Magid and Ali Tigani el-Mahi we decided to survey and excavate archaeological sites with remains of pottery older than that recovered at the Khartoum Neolithic sites. The Atbara region further north seemed important, especially because several sites with remains of ceramics dated to the tenth millennium BC had been found in North Africa (Figure 2).

We started our Atbara work in 1983 and continued with several field seasons until 1990 (Haaland and Magid 1995). The work yielded some very interesting material of the so-called Khartoum Mesolithic type, most importantly huge amounts of pottery, the oldest dated back to the ninth millennium BC. We could now investigate sites which were the possible 'forerunners' of the Khartoum Neolithic sites. We excavated three sites: Abu Darbein, ed-Damer and Aneibis located on old riverbanks of the Atbara and the Nile ranging in size from 6,000-10,000m<sup>2</sup> (Plate 18). The archaeological material from the sites dated back to the mid-ninth millennium BC, most dates clustering around 8000 BC. The sites are thus from a later phase in the use of ceramics, when

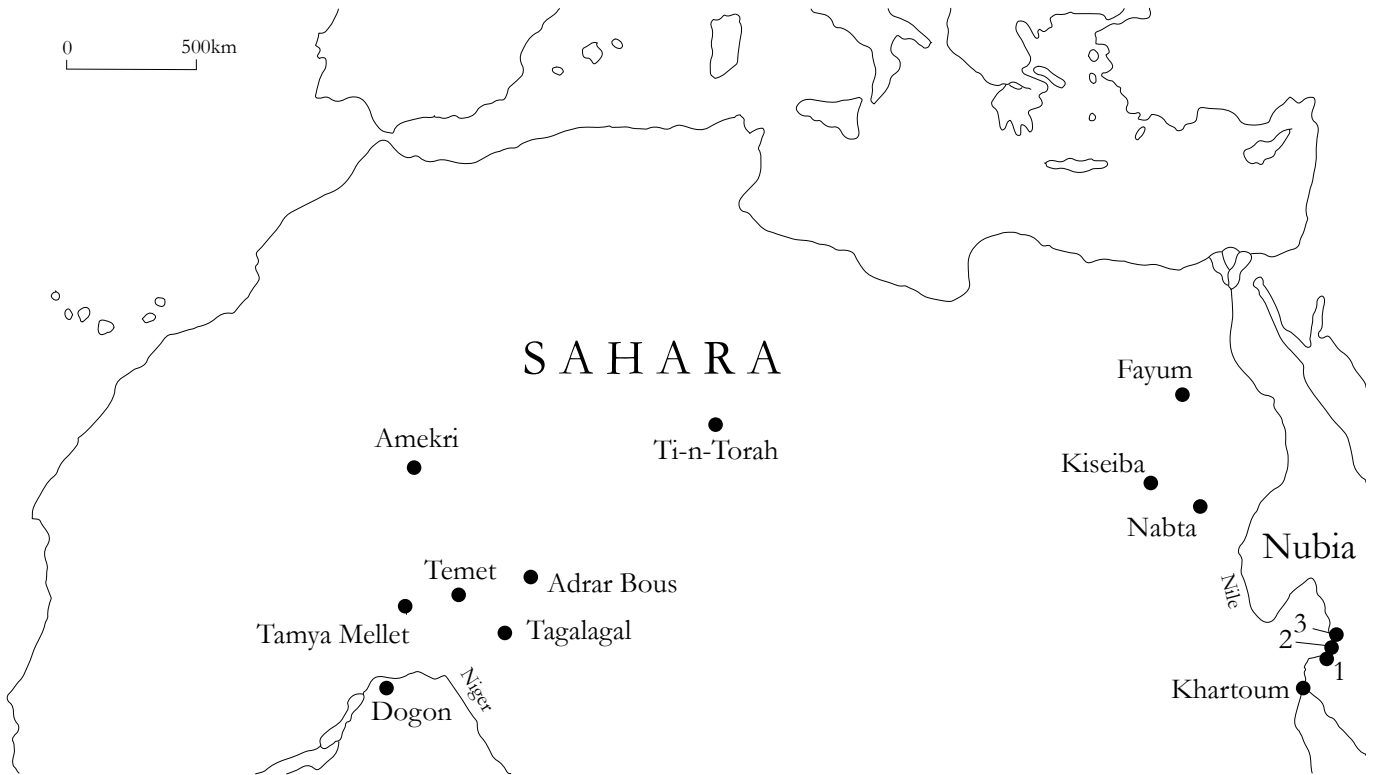


Figure 2. Map of sites with remains of early pottery dated tenth-ninth millennium BC. The Mesolithic Atbara and Nile sites are marked as 1 – ed-Damer, 2 – Abu Darbein and 3 – Aneibis.



Plate 18. The Abu Darbein site is situated along an old bank of the river Atbara. This sort of location is typical for the Mesolithic sites in the area.

pottery was becoming quite abundant. I believe that it is a good illustration of the development of a multi-resource and aquatic adaptation of people when the use of pottery had become quite diversified.

The material inventory of the sites indicated that they had been inhabited by hunter-gatherers that exploited a broad spectrum of resources – hunting small and large animals like elephant and giraffe, gathering plants and relying heavily on aquatic resources; around 50 different fish species were exploited, some like the Tilapia being up to 50kg in weight. The species composition indicates that the fishermen were using nets and exploited deep-water fish from boats (Peters 1995). Small disc-shaped ceramic artefacts were probably

used as net-sinkers, bone harpoons were used to catch larger aquatic animals, while no fish-hooks were found. These river resources are an abundant and reliable food source with high productivity and storability. Remains of the cereals such as sorghum and setaria were recovered as imprints on pottery. All these cereals were from wild plants (Magid 1995). Fragments of grinders were found. They were quite few compared with those from later Khartoum Neolithic sites suggesting people were harvesting not cultivating the cereals. The very high artefact densities and thick cultural deposits suggest long-term permanent occupancy. The most visible artefacts recovered on the sites were pottery vessels in huge quantities. Some excavated squares (1m<sup>2</sup>) contained 3-4 kg of potsherds. The enormous amount of pottery would have acted as a constraint on the mobility of the people and thereby might have stimulated a more sedentary life style. The pots seem to have been produced on the sites. The clay used has been identified as the same as that found locally along the alluvial river bank, as well as the mica mixed in the clay as temper, and the tools used to decorate the pots. The pots have rounded bottoms and are of a globular shape (Plate 19), mostly decorated with dotted-wavy line design, with a few sherds showing incised wavy-line pattern. The dotted wavy line type pottery has a wide distribution over north Africa and along the Nile Valley (Jesse 2010). Dunne *et al.* (2016) have analysed the residues found inside potsherds from the site of Aneibis, radiocarbon dated to bp (not calibrated) 8230 +/-120, <sup>13</sup>C 0/00 -5.7. In their report, they suggest the pots were used



Plate 19. An almost complete pot from the site of Aneibis located along the main Nile. The pot is decorated with a typical wavy line pattern (photo: A. M. Olsen).

to process plants as well as wild fauna. This might indicate that the diet of the inhabitants consisted of porridge/beer as well as meat.

A large number of potsherds was retrieved from the sites (mostly fragmentary except for one almost complete pot, (now stored in the Sudan National Museum). We interpreted the sherds as having been used for different purposes – cooking, storing and possibly serving. I started to classify the pottery material, in a manner that we as archaeologists are trained to do: rim/mouth, neck, shoulder, body and base sherds. In 1983, while working on the site, I stopped and realised that the manner that I, as an archaeologist, was classifying potsherds was according to bodily traits, the same way as I had observed the Fur people did when they named the different parts of the pot. This made me realise that what had fascinated me among the Fur women could be an important key to try to gain an understanding of the archaeological material which was not only related to functional activities, but also to the rich symbolism which I had observed around these activities and the material products among the Fur people.

### Culture historical reflections on the innovation of pottery

It is now generally accepted that the invention of pottery occurred in the tenth millennium BC in North Africa. The early dates from the Dogon region in Mali, 9400 BC (Huysecom *et al.* 2009), are consistent with early dates from Central Saharan mountains, Eastern Sahara and the Nile Valley around Khar-toum (Jordan *et al.* 2016). There is abundant evidence for even earlier use of pottery, dated to the fifteenth millennium BC, among hunter-gatherers from East Asia, China, and Japan and the Russian Far East (Jordan *et al.* 2016). Pearson (2005) and Kuzmin (2006) have argued for even some older finds of pottery. Pottery thus appears to have been invented independently among hunter-gatherers not only in North Africa but even earlier in East Asia. The pottery vessels recovered from both regions were quite fragmentary but appear mostly to originate from round bottom globular vessels used for cooking cereals and aquatic resources (Huysecom *et al.* 2009; Jordan *et al.* 2016).

The African ceramic tradition developed within a hunting-gathering kind of society in the warm and wet early Holocene climatic phase in the Sahara and Sahel. At that time, the savannah vegetation zone appears to have extended up to 500km further to the north. The area, which today is desert, would then have supported dry savannah type vegetation in most areas, generally what we today think of as typical for the Sahel zone of sub-Saharan Africa, further south (Kuper and Kröpelin 2006). The wet climate produced a vast tropical grassland which spread across the former desert; grasses and edible grains became available. Huysecom *et al.* 2009 has argued that the early pottery from Mali is associated with the boiling of wild cereal grain to make it more digestible. This has been further substantiated by Dunne *et al.* (2016), who published extensive evidence that plants were processed in pottery vessels at least 10,000 years ago. The research pointed to the prevalence of plant over animal lipid residues; 54% of the total residues recovered from the vessels have a predominantly plant source, emphasizing the importance of a wide variety of plants, such as cereals in the diet of these prehistoric people. This was probably the beginning of the long history of porridge/beer consumption. The earlier described ethno-botanical study by Magid (1989) on the gathering of wild plants might give us an indication of the type of plants collected. It was conceivably during this early pre-domestication period that the typical African ‘pot and porridge/beer’ food tradition emerged (Haaland 2007; 2016).

### Conclusion

The ethnographic observations<sup>1</sup> I have used in this article as a source for interpreting the prehistoric items do not, of course, ‘prove’ that these items were embedded in such socio-cultural contexts. My intention has been to make the steps of interpretation sufficiently clear so that my hypotheses can be modified or rejected in light of further evidence. By using anthropological analysis of ethnographic observations in my interpretations I am searching for generalizable features of particular archaeological ‘facts’. Some generalizations I recognize have a more limited empirical range. The connection between female identity and pottery making is not universal. Most often when pottery is handmade and prepared in a simple household context it is made by women. In communities with a more complex division of labour in the Sudan savannah belt and in Ethiopia it is also a female activity but performed by women of particular caste-like groups. A most interesting variation is found among Nilotic speaking groups, and some of their neighbours, e.g. Azande of Sudan, Uganda and Kenya, where pottery making is a male task. However in communities where pottery making is based on large-scale wheel-made technology it is generally performed by men. However the association of pots with mother – motherhood looks as if it has a wide empirical range.

<sup>1</sup> More photos are available on our web-page: <https://ubdarfur.b.uib.no>



The metaphorical projections from female body to features of pot forms are grounded in basic experiences of the mother as 'nurturer'. It is the women who transform food from a natural to a cultural product, and the pot is crucial in this transformation. A fundamental aspect of being a woman is constituted by her role as a nurturer. A metaphoric association between female bodies and pots is close to hand. Thus, the invention of pots made a fundamental difference in people's life experiences. The earliest bodily experience of a child in being breast fed would later have been extended to another experience when being fed boiled food from the container, the pot made by women. This fundamental recognition of the deeply rooted connection between the pot, woman and nurturing alerted me to see this in a wider global context. I started to collect the terms used for pots by different people and have till now collected vocabulary from people speaking 20 different languages, from African languages to Indo-European to Tibeto-Burmese. There seem to be the same bodily terms used with only some small variations such as the name for rim which varies between lip and mouth and the body. A particularly interesting case is from the Nilotic Luo of Uganda where pottery making is a male task but where the pot is explicitly regarded as female and the bottom of the pot is called *pende* – umbilical cord. It is the metaphoric association between the human body and pots that comes across and appears to be a universal experience, suggesting a special relationship between pottery and human bodily experience.

From an evolutionary perspective, there appears to be a close interdependence between female organised activities and some of the most important social developments like innovation in pottery and cooking, cultivating activities, the emergence of domesticated plants, and increased sedentarization.

## Bibliography.

- Akkermans, P. M. M. G. and G. M. Schwartz 2003. *The Archaeology of Syria: From Complex Hunter-Gatherers to Early Urban Societies*. Cambridge.
- Barth, F. 1967. 'Economic spheres in Darfur', in R. Firth (ed.), *Themes in Economic Anthropology*. London, 149-174.
- Caneva, I. 1994. 'Recipienti per liquidi nelle pastorali dell' alto Nilo', in I. Caneva (ed.), *Drinking in ancient societies*. Padua, 209-226.
- Dietler, M. 2006. 'Alcohol: anthropological/archaeological perspectives', *Annual Review of Anthropology* 35, 131-139.
- Dietler, M. and B. Hayden (eds) 2001. *Feasts: Archaeological and Ethnographic Perspectives on Food, Politics and Power*. Washington.
- Dirar, H. A. 1993. *The Indigenous Fermented Food of the Sudan: A study of African Food and Nutrition*. Wallingford.
- Dunne, J., A. M. Mercuri, P. R. Evershed, S. Bruni and S. di Lernia 2016. 'Earliest direct evidence of plant processing in prehistoric Sahara pottery', *Letters to Nature* December 2016 Volume 3, Article 161, 94.
- Edwards, D. N. 1996. 'Sorghum, beer and Kushite Society', *Norwegian Archaeological Review* 29, 65-77.
- Edwards, D. N. 2004. *The Nubian Past. An Archaeology of Sudan*. London.
- Eliade, M. 1962. *The Forge and the Crucible*. Chicago.
- Evans-Prithcard, E. E. 1940. *The Nuer: A Description of the Modes of Livelihood and Political Institutions*. Oxford.
- Fernandez, V. and J. J. Tresseras 2000. 'New data on intensive plant processing and beer brewing in the Mesolithic and Neolithic periods of Central Sudan', *Nyame Akuma* 54, 42.
- Firew, G. A. 2009. *An ethnoarchaeological approach on understanding the origin of Agriculture in Ethiopia*. M.A. Thesis, University of Bergen.
- Geus, F. 2004. 'Funerary culture', in D. A. Welsby and J. R. Anderson (eds), *Sudan Ancient Treasures*. London, 73-83.
- Gould, S. J. 1987. *An Urchin in the Storm*. London.
- Haaland, G. 1998. 'Beer, blood and mother's milk: the symbolic context of economic behavior in Fur society', *Sudan Notes and Records* (New Series 2), 53-76.
- Haaland, G. 2012. 'Event focused fieldwork and comparative methodology: exploring ethnic groups and cultural variation', in L. Naidoo (ed.), *An Ethnography of Global Landscapes and Corridor*. <http://www.intechopen.com>
- Haaland, G., R. Haaland and S. Rijal 2000. 'Social Life of Iron. A cross-cultural study of techno-logical, symbolic, and social aspects of iron making', *Anthropos* 97, 35-54.
- Haaland, R. 1981. *Migratory Herdsmen and Cultivating Women. The Structure of Neolithic Seasonal Adaptation in the Khartoum Nile Environment*. Unpublished Ph. D. dissertation. University of Bergen.
- Haaland, R. 1985. 'Iron Production, its Socio-Cultural Context and Ecological Implication', in R. Haaland and P. L. Shinnie (eds), *African Iron Working Ancient and Traditional*. Oslo, 50-73.
- Haaland, R. 1987. *Socio-Economic Differentiation in the Neolithic Sudan*. British Archaeological Reports Int. Ser. 350. Oxford.
- Haaland, R. 1997. 'Emergence of sedentism: new ways of living, new ways of symbolizing', *Antiquity* 71, 374-385.
- Haaland, R. 2007. 'Porridge and Pot, Bread and Oven: Food ways and Symbolism in Africa and the Near East from the Neolithic to the Present', *Cambridge Archaeological Journal* 17, 167-83.
- Haaland, R. 2016. 'Origin of Domestication and Aquatic Adaptation: The Nile Valley in Comparative Perspective', in T. Tvedt and T. Oestigaard (eds), *A History of Water, Series 3, Vol. 3. Water and Food: From Hunter-Gatherers to Global Production in Africa*. London, 54-74.
- Haaland, R. and G. Haaland 2017. 'Prehistoric Figurines in Sudan', in T. Insoll (ed.), *Oxford Handbook of Prehistoric Figurines*. Oxford, 84-104.
- Haaland, R. and A. M. Magid 1995 (eds). *Aqualithic sites along the Rivers Atbara and the Nile*. Bergen.
- Hastorf, C. 1992. 'Gender, Space, and Food in Prehistory', in J. Gero and M. J. Conkey (eds), *Engendering Archaeology, Women in Prehistory*. Oxford, 132-159.
- Herbert, E. 1993. *Iron, Gender and Power: Rituals of transformation in African societies*. Bloomington.
- Huysecom, E., M. Rasse, L. Lespez, K. Neumann, A. Fahmy, F. Ballouche, S. Ozainne, M. Magetti, C. Tribolo and S. Soriano 2009. 'The emergence of pottery in Africa during the tenth millennium cal BC: new evidence from Ounjoungou (Mali)', *Antiquity* 83, 905-917.
- Jesse, F. 2010. 'Early Pottery in Northern Africa – An Overview', *Journal of African Archaeology* 8, 219-238.
- Jordan, P., K. Gibbs, P. Hommel, H. Piezonka, F. Silva and J. Steall 2016. 'Modelling the diffusion of pottery technologies across Afro-Eurasia: emerging insights and future research', *Antiquity* 90, 590-603.
- Kuzmin, Y. V. 2006. 'Chronology of the earliest pottery in East Asia: progress and pitfalls', *Antiquity* 70, 773-789.
- Kuper, R. and S. Kröpelin 2006. 'Climate-controlled Holocene occupation in the Sahara: motor of Africa's evolution', *Science* 313, 803-807.
- Krzyżaniak, L. 1991. 'Early farming in the Middle Nile Basin. Recent discoveries at Kadero (central Sudan)', *Antiquity* 65, 159-172.
- Krzyżaniak, L. 2004. 'Kadero', in D. A. Welsby and J. R. Anderson (eds), *Sudan Ancient Treasures*. London, 49-53.
- Lienhardt, G. 1961. *Divinity and Experience: the Religion of the Dinka*. Oxford.

- MacIntyre, A. 1999. *Dependent Rational Animals: Why Human Beings Need the Virtues*. Chicago.
- Magid, A. M. 1989. *Plant Domestication in the Middle Nile Basin. An Archaeobotanical case study*. BAR Int. Ser. 523. Oxford.
- Magid, A. M. 1995. 'Plant Remains from the sites of Aneibis, Abu Darbein and El Damer and their implications', in Haaland and Magid (eds), 147-177.
- Out, W. A., P. Ryan, J. J. Garcia-Granero and D. Usai 2016. 'Plant exploitation in Neolithic Sudan: A review in light of new data from the cemeteries R12 and Ghaba', *Quaternary international* 412, 36-53.
- Pearson, R. 2005. 'The social context of early pottery in the Lingnan region of South China', *Antiquity* 79, 819-829.
- Peters, J. 1995. 'Mesolithic subsistence between the 5th and the 6th Nile cataract: the archaeofaunas from Abu Darbein, El Damer and Aneibis (Sudan)', in Haaland and Magid (eds), 172-219.
- Popper, K. 1972. *Objective Knowledge*. Oxford.
- Popper, K. 1976. *Conjectures and Refutations*. London.
- Reinold, J. 2001. 'Kadruka and the Neolithic of the Northern Dongola Reach', *Sudan & Nubia*, 5, 2-10.
- Reinold, J. 2008. *La nécropole néolithique d'el-Kadada au Central Soudan*, Vol. 1. Paris.
- Sadiq, A. M. 2008. *The Neolithic of the Middle Nile Region: An Archaeology of Central Sudan and Nubia*. Kampala.
- Sadiq, A. M. 2012. 'Individuals and families: traditions of burials in the Sudanese Neolithic 5000–3000BC', *Adab* 29, 58-93.
- Salvatori, S. and D. Usai 2006. 'The second season of excavations at the R12 site, a late Neolithic cemetery in the Northern Dongola Reach', *Sudan & Nubia* 6, 2-7.
- Skibo, J. M. and M. B. Schiffer 1995. 'The Clay Cooking Pot. An exploration of women's technology', in J. M. Skibo, W. H. Walker and A. E. Nielsen (eds), *Expanding Archaeology*. Salt Lake City, 80-91.
- Stemler, A. B. L. 1990. 'A scanning electron microscopic analysis of plant impressions in pottery from the sites of Kadero, El Zakiab, Um Direiwa and el Kadada', *Archéologie du Nil Moyen* 4, 87-105.
- Usai, D. 2016. 'A picture of the prehistoric Sudan: The Mesolithic and Neolithic. Periods', *Oxford Handbook online*. Oxford.
- Wendorf, F. 1968. *The Prehistory of Nubia*. Dallas.
- Wright, R. P. 1991. 'Women's labour and pottery production in prehistory', in J. Gero and M. Conkey (eds), *Engendering Archaeology: Women and Prehistory*. Oxford, 194-223.