Mona Akmal M. Ahmed & Aboualhassan Bakry*

Prehistoric Child Burials in Sudan

Introduction

The integration of children into archaeological interpretations is an essential step when attempting to make inferences about ancient societies. However, infants and children are not yet fully included and not sufficiently investigated across the archaeological sites especially those dating to the Prehistoric period. This situation evokes the importance of applying the recently developing science of the archaeology of childhood, and integrating diverse approaches when investigating this age group. However, constraints usually arise when considering the special nature of the evidence related to children, which is characterized by its low visibility and the poor preservation of their skeletal remains.

Temporal and spatial aspects play a major role in enhancing the impact of such constraints. For example, the deposition of child remains outside the main cemeteries, either within settlements or at the margins of the habitation sites exposes them to various natural and artificial taphonomic agents. This situation is widespread in the Prehistoric sites of Sudan.

The archaeology of childhood in Sudan is witnessing a gradual improvement which is evident by some research papers and monographs concerned primarily with the burials of children and pot burials in one hand,[1] while including them in the osteological, paleopathological, and bioarcheological investigations equally as adults especially for the recently excavated and published sites like R12 and Kadero on the other hand.[2]

In the current research, we aim at assessing the evidence of infants and children within the Mesolithic and Neolithic sites of Sudan. In this regard, their burials are used as a main source of information about three main variables which are:

a) the age categories
b) the types of burials
c) the types of the grave goods they were accorded by adults.

Combining these data can help to reach answers for several research questions:

– how infants and children were viewed by their societies?
– did they enjoy specific/different types of burials and grave goods?
– did their mortuary spaces develop as part of that related to adults or as a separate phenomenon?
– how might such data reflect special sets of mortuary practices which were related specially for infants and children?

Seven Sudanese sites (Fig. 1) are discussed in the current research. These sites are distributed spatially between North and Central Sudan, while they temporally span the time period between Mesolithic, Early Neolithic, and Late Neolithic. The earlier sites did not provide an evidence neither for sentiments nor cemeteries but rather seasonal camps and workshops, and the evidence from the Upper Paleolithic was even more scarce and limited.[3]

The data from these sites are variable not only in terms of the amount of information so far available about them, but also in terms of their environmental and geographic settings, as well as the data available to be used in tracing the evidence of infants and children and the mortuary practices related to them.

Several surveys and excavation campaigns[4] have led to the discovery of a wide range of Mesolithic and Neolithic sites, representing cemeteries, settlements, or both. The data from these sites are variable either due to the preservation status of the sites themselves or due to lacking proper excavation reports or using poor excavation techniques and/or methodologies. Therefore, the seven sites included in the current research are chosen not for them being presenting the only evidence, but as examples representing the culture entities of both North and Central Sudan, as well as variability in material culture, burial types, grave goods types, preservation, environment, and various investigation methodologies.

Such variation helps in assessing the state of research related to the archaeology of childhood

* Senior Archaeologist, Exhibition department, The Grand Egyptian Museum & Faculty of Archaeology, Cairo University

1 Sadig 2014; Sadig 2014b.

2 Salvatori and Usai 2008; Chlodnicki et al. 2011.

3 Osypinski 2014:10.

4 Trigger 1994.

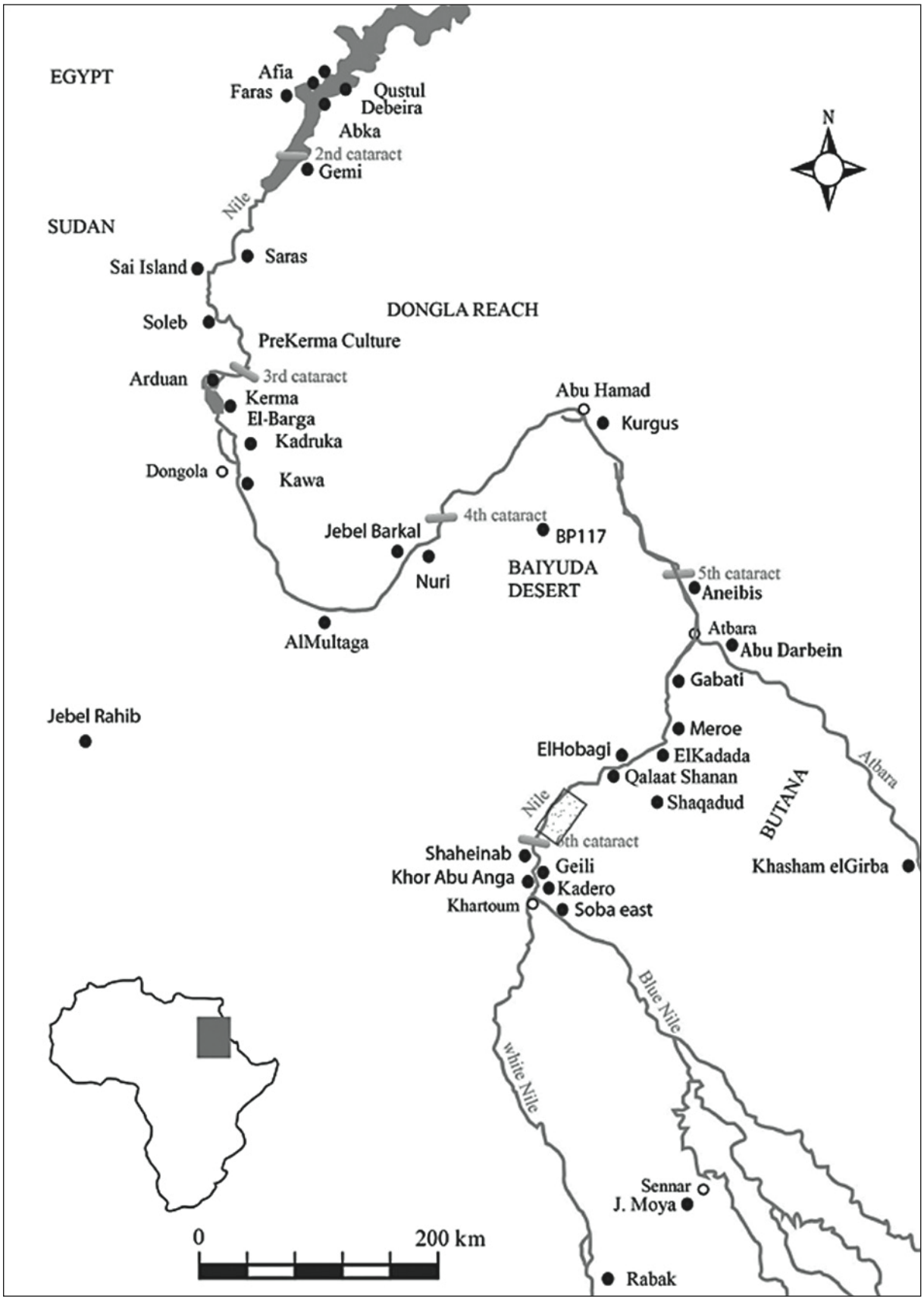

Fig. 1: Map showing most of sites included in the current study (after Nassr 2016: Fig. 2).

generally and assessing the presence of similarities and differences between the evidence of infants and children within the sites. This in turn should help in tracing the evidence of the mortuary practices related to children, as well as the mechanism behind choices of burial types and their contents through a bio-cultural approach that integrates the data provided from their static burials and skeletal remains with the cultural entities of the prehistoric Sudan.

Data tables were produced for each site, with each burial in every site being described using the same variables: burial number, the number of children in the same burial, the number of adults in the same burial (if existed), the grave goods types, body orientation, body position, the direction of the head, the preservation condition, the recorded pathological cases, sex and age. However, part of or all of these variables were provided for each site. Finally, the data from all the sites are compared and correlated together (Tab. 1).

Child burials in North Sudan

The earliest evidence from this region includes Middle Paleolithic and Mesolithic sites with varying conditions of preservation. Those sites reflect the changing climatic conditions happening during the Holocene. The earliest sites of the humid phase were therefore located at the desert edge, while the sites shifted towards the alluvial plain with the increasing aridity. The site of El-Barga represents a good example for the sites in this region (7800-5500BC).[5] This site and the cemeteries at R12 are used as examples from the Northern Sudan sites where the evidence of child burials is recorded.

El-Barga

The Mesolithic-Early Neolithic site of El-Barga is located about 15 km east of Kerma city.[6] The data provided so far from the site is relatively scarce,[7] however, it has initially revealed the presence of a Mesolithic cemetery and a habitation area.[8] Further to the south a Neolithic cemetery without an associated habitation area was discovered.[9] The discovery of some housing remains dating to the Mesolithic period is another unique aspect of El-Barga since

SR	Site	Context	B.Context	Chnology	Total	B. of SA	No. of SA	Approx %	No. og Inhumations	Shape of burials	Common P.	Age Categories	Common Postion	Wrappings	Coverings	Averge depth	Pathology
1	El- Barga	S - C	C	Mesolithic - Early Neolithic	75?	34	34	45%				NA	Contracted	Absent	Absent	NA	NA
2	Dongola Reach	C	C	Neolithic	158	44	45	29.7%	Single (With three exceptions)	Oval and elliptical simple pits	Poor	Perinatal, infants, child.1, and child.2	Left Side	Absent	Absent	NA	Present (6)
3	El Kadada	S - C	S	Neolithic		19	19		Single	pot burials, and simple pits		neonate, infants, child.1, and child.2	Variable	Absent	Absent	NA	NA
4	Es Soour	S	S	Neolithic		4	4		Single	Pot burials		NA		Absent	Absent	NA	NA
5	Qala'at Shenan	S - C	S	Mesolithic - Early Neolithic		NA	NA		NA	oval and circular simple pits, pot burials		NA	Contracted	Absent	Absent	NA	NA
6	Esh Shaheinab	S - C	C	Neolithic and Protodynastic		5	5		Single with one exception	Circular pits	Poor	infants and child	Contracted	Absent	Absent	65 - 88 cm	Present (1)?
7	Kadero	S - C	S	Neolithic 5960 – 5030 BP	222	47	47	21.17%	Single (with two exceptions)	Invisible pits, and oval pits	Poor	neonate, infants, child.1, and child.2	varaible	Absent	Absent	24-38	NA

Tab. 1: The seven sites in the current study compared.

5 Honegger 2014: 19.
6 Honegger 2014: 27.
7 Salvatori and Usai 2008: 147.
8 Honegger 2014: 27.
9 Salvatori and Usai 2008:147

comparable cases are scarce. Moreover, three burials were mentioned within the habitation area, but with no details about sex or age of the skeletal material.[10]

Both Mesolithic and Neolithic child burials are recorded in the site, while out of eleven Mesolithic burials only one belongs to a two-year-old child. However, the number of burials dating to the Mesolithic period and the total number of burials in the site must be taken with caution since five burials were mentioned to be of uncertain dating since they lied in a proximity to the Neolithic sector, while the work in the site was not even fully published.[11] The southern sector which primarily dates to the Neolithic period is influenced by erosional processes which caused many of the burials to appear on the surface.

Out of the 64 burials unearthed in the site about 33 belong to children. Not only the number of the recorded child burials is unique but also the grave goods accompanying these burials reflect the characteristic features of the Sudan Neolithic burials (Fig. 2). The bodies of the deceased were generally in contracted positions, few of them being in a hyper-contracted position as if they were bound into a bag.[12]

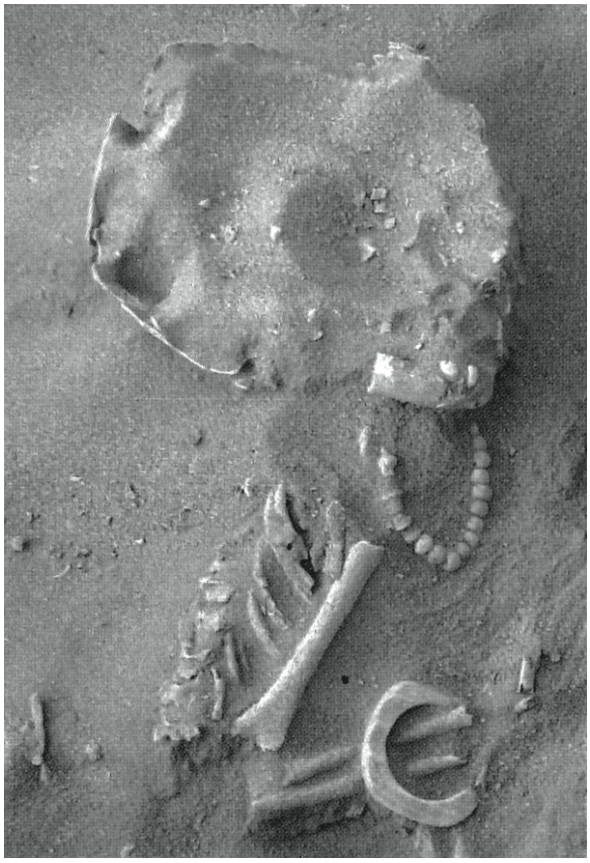

Fig. 2: Child with hippopotamus ivory bracelet and necklace with bone and amzonite beads (Honegger 2004: colour pl. XIX).

10 Honegger 2004:27
11 Honegger 2004: 28

R12 Cemetery – Northern Dongola Reach

The site was discovered by the SARS (Sudan Archaeological Research Society) survey of the northern Dongola Reach, where an eroded archaeological mound of Nile silt rose close to a Paleo-channel of the Nile which probably used to run at the site's northern edge. The mound was 2.9 m above the surrounding surface. After the survey and excavation works the site revealed the presence of a cemetery which covered a space of about 30 x 19 m.

The site was generally described as disturbed. However, the burials were differentially preserved also within the same cemetery due to their geological context, while in some cases burials were dug in the silt layer and their bottoms were plastered with mud when reaching the sand deposits.[13] The excavations revealed 166 burials with about 200 inhumations (including the discrete number of 186 persons, and additional 30 added as MNI).[14] The orientation and position of the deceased in the burials differed between left and right, with the left side being more common. Contracted and flexed positions are both recorded.

Most of the burials were equipped with varied types of grave goods including handmade pottery bowls, calciform beakers, stone tools, and personal adornment. This situation is also applicable to the burials of infants and children (Tab. 2), which formed about 27.9% of the total population (n=47). The insertion of specific types of grave goods into their tombs implied the acquirement of a certain social status after birth, which means that they were generally treated in the same way as adults.[15]

Child Burials in Central Sudan

The archaeological sites of Central Sudan have attracted many archaeologists from different universities and institutions to survey and excavate this region.[16]

Most of the work has resulted in discovering mostly cemeteries rather than settlements. This is due to the ancient locations of the settlement sites

12 Honegger 2014: 30.
13 Salvatori and Usai 2008: 2.
14 Salvatori and Usai 2008: 83.
15 Salvatori and Usai 2008: 6.
16 Ahmed 2014: 5.

R12 Cemetery									
Burial no.	Type of structure	Shape	no. of children	No. of Adults	Orientation	Head direction	Position of the body	preservation	Age
5	Simple pit	Elliptical	one		W-E	N	Left	very poor	child
7	Simple pit	Elliptical	one	one (male)	adult (W-E) - child(NW-SE)	N - NE	Male and child :left	cranial bones absent	perinatal
8	Simple pit	Elliptical	one		W-E	N	Left	very poor	3months
9	Simple pit	Sub-circular	one		E-W	S	Right		6 yrs +/- 24 m
10	Simple pit	Elliptical	one		W-E ?	N ?	Left	badly damaged bones	Infant
11	Simple pit	Elliptical	one		W- E	N	Left	badly damaged bones	4yrs
26	Simple pit	Sub-circular	Two		W-E	N	Left	very poor	3yrs + Perinatal
32	simple pit	sub - rectangular	one		NW- SE		left	disturbed / fair condition bones)	perinatal
34	simple pit	oval	one					poor bone preservAation	6 month
34 bis	Simple pit	oval	one		W-E	NE	Left	poor bone preservAation	40 weeks
36	Simple pit	oval	one		?	?	?	poor bone preservAation	4 yrs
37	Single pit	oval	one		NW- SE	NE	Left		10 yrs
40	Simple pit	Elliptical	one	one adults	?	?	?	very poor bone preservation	Infant
42	Simple pit	Elliptical	one		?	?	?	very poor bone preservation	3yrs
44	Simple pit	Elliptical	?		?	?	?	very disturbed, very poor bone preservation	child
45	Simple pit	Elliptical	one		NE-SW	NE	Left	damaged bones, and very poor bone preservation	6 yrs
57	Simple pit	Elliptical	one		S- N	E	Right	very poor bone preservation	9 months
58	Simple pit	Elliptical	one		W-E	N	Left		1 yr
72	Simple pit	?	one		E- W	?	Left	badly preserved bones	6 months
73	?	?	one		?	?	?	deflated burial	Infant
78	Simple pit	Elliptical	one		NEw-SW	SE	Left		9 yrs
81	Simple pit	Sub-circular	one		E- W	NW	Right	fair preservation pof bone	9 yrs
83	Simple pit	Elliptical	one		SE- NW	S	Left		9 yrs
86	Simple pit	Elliptical	one		W- E	N	Left	very poor bone preservation	4 yrs
87	Simple pit	Elliptical	one		NE- SW	NW	Right	very poor bone preservation	6 months
91	Simple pit	Elliptical	one		?	?	?	badly presrved and eroded	Child
95	Simple oit	NA	one		NE-SW	SE	Left	badly eroded and poorly preserved	perinatal
96	Simple pit	?	one		SW-NE	?	?	very poor bone preservation	Infant
97	NA	NA	two	adult - unknown sex or age				badly preserveed	infant
98	Simple pit	Elliptical	one		S -N	SE	right	badly preserved	5 years
100	Simple pit	Elliptical	one		NW- SE		left	disturbed burial and incomplete remains	child
101	simple pit	ellipitical	one		NE- SW	SE	left	poor bone preservAation	10 years
107	simple pit	?	one		NW- SE	S	right	disturbed and the post cranial bones are fragmentary	infant
108	simple opit	elliptical	one		S -N	?	right	disturbed by later burial	1.5 - 2 years
114	simple pit	elliptical	one		NW- SE	NE	left	badly preserved, eroded, and disturbed	10 years
115	simple pit	elliptical	one		SW-NE	NW	left	eroded	6 years
118	simple pit	elliptical	one		E - N	S	left	eroded and bones poorly preserved	6 month
128	simple pit	elliptical	one		SW-NE	N	left	badly preserved	6 month
135	simple pit	elliptical	one		NE	?	left	well preserved, bones "fair"	3 years
143	simple pit	elliptical	one		W - E	N	left	well preserved	12 years
144	simple pit	elliptical	one		W - E	N	left	partly preserved	4 years
149	simple pit	elliptical	one		W - E	?	left	eroded pit	4 years
150	simple pit	elliptical	one		NW- SE	NE	left	well preserved	10 years
151	Simple pit	elliptical	one		N - s	E	left	badly preserved	3 years

Tab. 2: The burials from R12 cemetery.

Burial no.	Type of structure	No. of children	Position of the body	Age
KDD 12/7	pot burial	one		Infant
KDD 12 /10	pot burial	one		Infant
KDD 22/9	?	one	flexed , right side	6 - 7 years
KDD 22/21	pot burial	one		Infant
KDD 22/31	pot burial	one		Infant
KDD 22/32	?	one	right side	Infant
KDD 22/58	pot burial	one		Infant
KDD 22/59	pot burial	one		Infant
KDD 22/ 71	pot burial	one	right side	5 - 6 years
KDD 22/72	pot burial	one		3 years
KDD 22/77	pot burial	one		4 - 6 month
KDD 22/83	pot burial	one		Infant
KDD 22/84	pot burial	one		Infant
KDD 22/97	pot burial	one	left side	3 years
KDD 22/99	pot burial	one		newborn
KDD 22/100	pot burial	one		Infant
KDD 32/1	pot burial	one		Infant
KDD 32/20	pot burial	one		Infant
KDD 32/28	pot burial	one		Infant

Tab. 3: The burials from the settlements of El Kadada.

at the banks of the Nile, with easier access to the water resources and farming land. This made the settlement sites affected by natural factors such as floods and erosion, as well as artificial factors caused by the human activity.[17] Five sites are used as examples where infants and child burials were recorded in this region, and they are ordered based on their geographical location from north to south.

Es-Sour

This Middle Neolithic site lies to the north of Meroe. It is located about 35 km north of Shendi, and 2.5 km from the Nile canal. The local topography is generally flat except for two low mounds at its eastern side. The site was excavated by the Department of Archaeology, Khartoum University in 2005.[18] The excavations in the site assigned it to 4230 BC–4190 BC and 4045 BC–3955 BC.[19] Es-Sour is mainly known for its domestic context where a Neolithic settlement without an associated cemetery was discovered. Diverse types of material culture were discovered in the site including stone tools, faunal and floral remains, as well as pottery, ivory and bone objects. Child burials in the site are pot burials like in El Kadada, and they are situated also in the settlement area.[20]

El Kadada

The site was initially known by the salvage work conducted in 1976 by F. Geus of the French Archaeological Research Unit and the Sudan Antiquities Service. This work resulted in the discovery of the Neolithic cemetery at El Kadada where infant pot burials and burial pits of adults were discovered.[21] The skeletal material from these burials was analyzed and studied by J. Reinold.[22] The earliest remains and finds in the site belong roughly to the Khartoum Neolithic and A Group cultures.[23] The site of El Kadada revealed the earliest example of infant pot burials in the middle Nile region in Sudan.[24]

Infants and child burials were discovered in the occupational area in a random distribution, sometimes in close relation as clusters or sparsely distributed.[25] The data concerning their burials were primarily compiled from the catalogue of skeletal materials provided by Reinold (2007).[26] Out of the 19 recorded infants and child burial (Tab. 3), 17 represented pot burials. These pot burials occasionally contained varied types of grave goods including objects of personal ornaments such as bracelets, made of ivory and other materials, as well as palettes.[27]

17 Ahmed 2014: 7.
18 Sadig 2005: 40.
19 Sadig 2008: 13.
20 Sadig 2014a: 88.
21 Rampersad 1999:129.
22 Rampersad 1999:131.
23 Rampersad 1999:129.
24 Sadig 2014a: 285.
25 Sadig 2014a: 285.
26 Reinold 2007.
27 Sadig 2014a: 286.

Fig. 3: Pot burials from Qala'at shenan (Sadig 2014b: 117).

In Reindold's catalogue the preservation status was not clearly stated, however, in few cases the skeletal remains of infants and children were fragmentary and scattered.[28] Body position and orientation was also rarely described, and it was only in three cases that the infant's position was described to be on right side, and in one case being on the left side.

Qala'at Shenan

It is one of the Neolithic sites which were discovered in Shendi town and proved to be of special significance in understanding the Neolithic period in the Khartoum region. The site lies about 7 km south of El Kadada. The archaeological site comprises three archaeological mounds (A, B, and C) with rich material culture. Qalaat Shenan was identified as a Neolithic locality first by J. Vercoutter in 1962, while the first excavations were conducted by Azhari M. El Sadig in 2000 on behalf of Shendi University, which took place directly after the survey conducted by National Cooperation of Antiquities and Museums (NCAM) in 1999.[29] However, the work was later resumed by Ahmed Hamd Nasser in 2010. The investigations in the site resulted in uncovering the remains of a Neolithic settlement in Mound C, and few Neolithic burials at Mound B. However, the history of the site starts already in the Mesolithic period and it was used again during the Islamic period. The Prehistoric material culture is comparable with that of El Kadada and Es Sour, and there is an evidence of both settlement and burial areas in the site.[30] Few child burials, mainly dating to the Late Neolithic period, were recorded, most of them situated at the margins of the inhabited area.[31]

Those were found in two types, one as interments in simple pits, which seemed to be mostly dedicated to children between six and ten years. They were buried in a contracted position, without or with varying amount of grave goods. The other type are jar burials (Fig. 3). Five examples of the latter type were recorded, two of them being uncovered from Mound B, which lies at central part of the site.[32] The

28 Reinold 2007: 88, 89.

29 Hamd 2015: 159.
30 Hamd.2012: 8,9.
31 Hamd.2015: 168.
32 Hamd.2015:160.

Burial no.	Type of structure	No. of children	No. of Adults	head direction	facing	Position of the body	preservation	sex	age	Depth
J 59 (6)	circular burial	one	one adult	W		loosely contracted	bad consitions and crushed skulls	Female ?	Child	65 cm
L 59 (4)	circular burial	one					Completely disturbed		Infant	71 cm
J 60 (1)		one		W					Infant	
K 60 (3)		one		NE	W	tightly contracted, right side	badly preserved	Female ?	7 - 8 years	58 cm
K 60 (7)	circular burial	one					disturbed		Infant	88 cm

Tab. 4: The burials from Esh Shaheinab.

jar burials from Qalaat Shenan were further classified into sub-classes or types according to the grave goods deposited with them: without any grave good, with small exterior and interior grave goods, or with large exterior and interior grave goods. The smaller grave goods types included beads, small bowls, and small palettes, while the larger ones included burnished and decorated large bowls.[33] On the other hand, the detailed information on the numbers of burials, age, sex, and types of grave goods in each of them is not described in the excavation reports, and therefore not included in the data tables.

Esh Shaheinab

The site is located about 50 km to the north of Omdurman on the west bank of the Nile,[34] covering an area of about 200 m,[35] between Jebel Aulia and the 6th Cataract. The investigation of the site started with the work of Arkell on behalf of the Sudan Government Antiquities Service in 1949, who discovered the remains of settlements and burials dating to the Protodynastic and Meroitic periods. One burial dates to the Neolithic period, however, the site was heavily eroded especially at the side which is more proximate to the Nile river.[36]

The excavations conducted by Arkell, together with the good documentation, and preservation of the site's material at the National Museum of Khartoum, allowed recent researchers to continue investigating the site.[37] Remnants of housing structures were not found, but hearths were obviously recorded.[38] Rich material culture was unearthed from the site, especially barbed harpoons, and dotted wavy line pottery.[39]

Arkell described the earliest burials, which are characterized by contracted position, as dating to the Protodynastic period, mainly based on the pots which were deposited as grave goods.[40] However, only five examples of infants and child burials are recorded (Tab. 4). Small bowls and pots were the common grave good type found in these burials, with four pots being the average number in each burial.[41] Burial K 60 is the only burial which is contemporary to the Neolithic occupation.[42]

Kadero I

The site of Kadero lies 18 km north of Khartoum on the east bank of the Nile,[43] about 18 km north of the confluence of the White and Blue Nile.[44] The site was situated in the desert in the past, but the current land use placed the site between the buildings of the village and the cultivated areas. It has to be considered that two sites are named Kadero: Kadero I, which is the one actually discussed here, while Kadero II is the one located 600m NE.[45] The site represents a new developmental stage in comparison to the Shaheinab culture, especially concerning the material culture as well as some aspects of the funerary practices.[46]This well studied and published site gives us more insight about the possible connections between A-Group culture and Kadero people. Moreover, we can trace a connection between Egypt and Kadero by specific types of the tomb equipment, especially those related to elites such as mace-heads.[47]

The site includes an early seasonal camp and early Neolithic settlement areas.[48] The chronology is based on typologies of pottery and lithics which were found abundantly, as well as the radiocarbon dating to 5960–5030 BP.[49] The earliest burials found there date to Early Khartoum Neolithic. The site was first discovered in 1955 by H.N. Chittick who noticed the similarity between its pottery and that of Shaheinab.

33 Hamd.2015:170-171.
34 Garecea 2006: 96.
35 Arkell 1953: 1.
36 Arkell 1949: 212.
37 Garcea 2006: 96.
38 Arkell 1949: 214.
39 Garcea 2006: 69.
40 Arkell 1949:215
41 Arkell 1953: 82.
42 Arkell 1953: 83
43 Barkat 1995: 101.
44 Sadig 2009: 37.
45 Chlodnicki et al., 2011:9
46 Rampersad 1999:327
47 Rampersad 1999:330
48 Chlodnicki et al. 2011: 9, 10.
49 Barkat 1995: 101.

The excavation, survey works, stratigraphic analysis, botanical analysis and test pits continued in the following years. The discovery of Neolithic burials took place in 1975.[50] Neolithic burials were also found in the northern and southern middens as well as the space between them.[51]

The big amount of pottery was used to define the different phases of the settlement which was initially inhabited by a population of the Early Khartoum culture. However, it is evident that the site was prone to mechanical and biological weathering processes.[52] Moreover, it seems that the site was influenced by the alluvial activity caused by rainfall and erosion which caused taphonomic impact on the stratigraphic context.[53] The early inhabitants used the site as a seasonal campsite. Those early inhabitants are also believed to be pastorals,[54] while the population density was higher during the Neolithic period.[55]

A total of 218 Neolithic burials, containing 222 inhumations, were unearthed in Kadero. However, the site was used as a burial place also during the Meroitic and Postmeroitic periods. All Neolithic burials are found within the context of the settlement, while more than 160 other burials were discovered within its cemetery (two in the excavation season of 1991, and 163 in the following seasons). The preservation of the burials was generally influenced by the erosional process disturbing the stratigraphy of the site and affecting the depth of the burials. These bad preservation conditions caused the bones to be fragile and fragmentary in many cases, which in turn hampered the sex and age determination for many of the burials.[56] Both rich and poor burials were found, most times with no grave goods. In some cases rich finds and pottery were discovered. The more elaborate burials were found in a specific burial cluster and date to Late Neolithic.[57] The work on the site continued in 17 seasons since 1972 till 2003.[58]

The burials are grouped in ten main clusters based on the proximity, and classes based on the grave goods content. Moreover, sets composed of two and three burials were also recorded. These clusters were named using alphabetic letters from A to J. Five child burials were discovered in cluster A, three of them being richly furnished with diverse sorts of grave goods (Fig. 4–6). Three infants were recorded in cluster D, while two child burials were found in cluster F (burials 106, and 202). These two latter burials were richly equipped with sandstone palettes, carnelian beads, bivalve shells, and pottery. Other poor infants' burials were also documented in the same cluster. In cluster G, one child is recorded with poor furnishing consisting of potsherds. Finally, three children were recorded in cluster H (Tab. 5).

The child burials in this cluster were equipped with vessels and personal adornments including nose studs. In cluster I, the richest burial was that of a child whose age was described as "Infant I", the burial being equipped with sherds beads, and stone pendant.[59] Adult men and women were found in all clusters in variable numbers in each cluster and representing variable classes and degrees of richness within the same cluster.

Data Analysis

The seven sites described above have provided certainly different amounts of data. This is due to the lack of complete skeletal catalogues and full monographs about some sites like Es-Sour, El Barga, and Qala'at Shenan, where only exaction reports are available. Contrary to that are the sites of Kadero I and R12 which are well documented and described with full skeletal catalogue allowing for making comparisons and correlations. Moreover, data concerning the funerary goods, environment, exact context, and paleopathology are not similarly available. This situation is common in the research on Prehistoric sites, which are mostly neither preserved nor well documented.

Answering specific questions is crucial when trying to infer about the mechanisms behind the selection of certain types of goods which were placed at infants and children, and the dynamics behind the choice of the types and their number, as well as the possible association between sex/age, and burial type with the types of offerings. Moreover, it is essential to trace the evidence of specific funerary practices that were especially related to infants and children as a significant age category. Such questions include:

- what are the age categories in the Mesolithic and Neolithic burials of infants and children in Sudan?
- what are the types of burials, and what was their locations?
- what are the categories of grave goods, and was it related to age, sex, or type of burial?

50 Chlodnicki et al, 2011: 9, 10
51 Chlodnicki et al., 2011: 14.
52 Chlodnicki et al. 2011: 55.
53 Barkat 1995: 102.
54 Barkat 1995: 101.
55 Chlodnicki et al. 2011: 55.
56 Kryzaniak 2011: 57.
57 Chlodnicki et al. 2011: 14.
58 Chlodnicki et al. 2011: 16.
59 Kryzaniak 2011: 62.

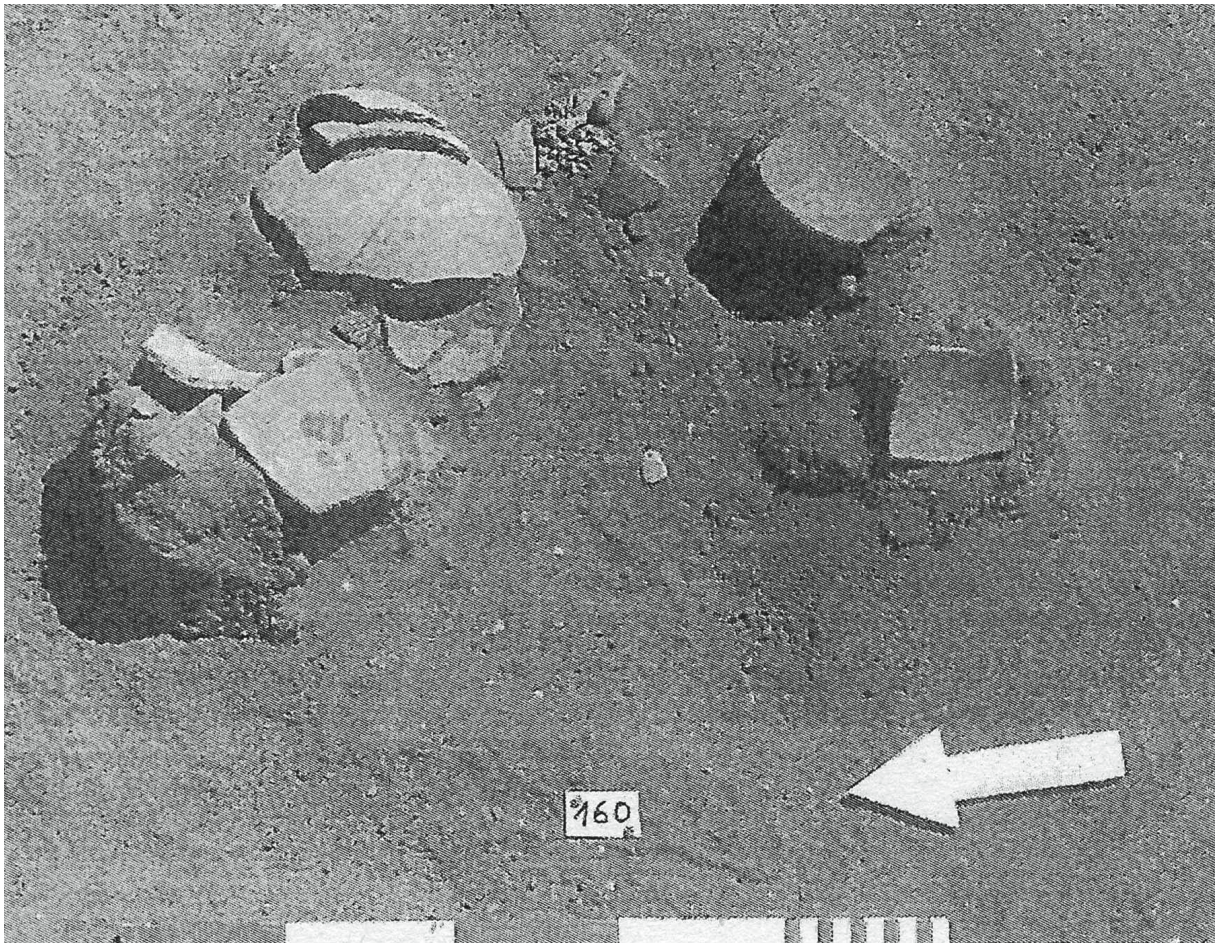

Fig. 4: Burial 160 from Kadero (Kryzaniak 2011: 151)

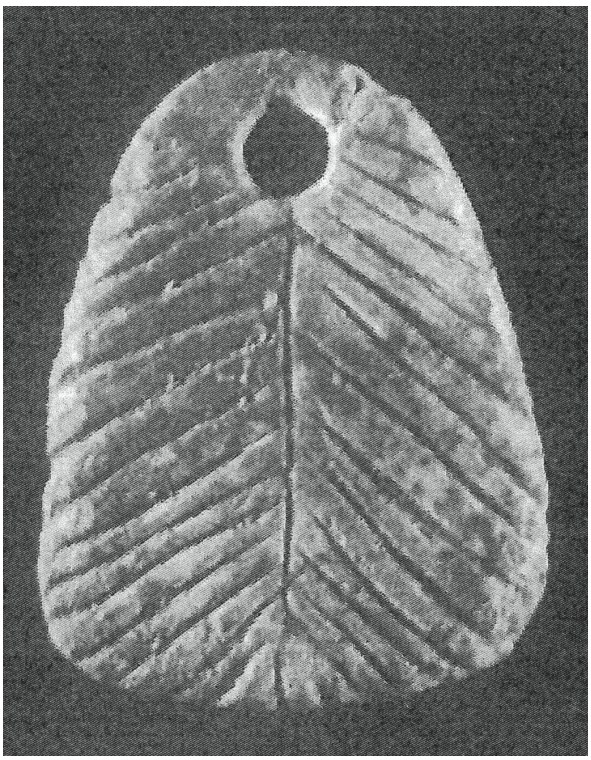

Fig. 5: Bone pendant from burial 160 (Kryzaniak 2011: 151)

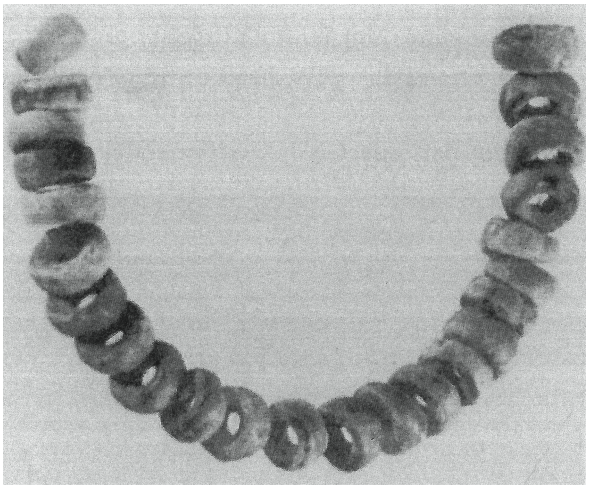

Fig. 6: Carnelian necklace from burial 160 (Kryzaniak 2011: 151)

Kadero I									
Burial no.	Type of structure	No. of childre	No. of Adults	Orientation	Head direction	Position of the body	Sex	Age	Depth
1	not visible	one		W-E	west	on right side	NA	Infant	1-10 cm
4	not visible	one		SW-NE	SW	on right side	NA	4 - 6 years	1-10 cm
6	not visible	one		W - E	W	on right side	NA	13 - 15 years	1 - 2 cm
7	not visible	one		SE - NW	SE	on the left side	NA	7 - 8 years	1 - 6 cm
10	not visible	one		NE - SW	NE	on the left side	female	13 - 15 years	2- 30 cm
11	not visible	one		NW - SE	NW	on the left side	NA	6- 10 years	0 - 10 cm
16	not visible	one		NE - SW	NE	on the right side	NA	2- 3 years	5-15 cm
18	not visible	one				cluster of bones	NA	newborn	0 - 5 cm .
33	not visible	one		SE - NW	SE	left side ?	NA	0 - 7 years	1 - 5 cm .
34	not visible	one		SE - NW	SE	left side ?	NA	0 - 7 years	1 - 5 cm .
46	not visible	one	one female adult			cluster of bones	NA	2.5 - 6 years	35 - 60 cm .
47	not visible	one		SW - NE	SW	left side ?	NA	1 - 2 years	25 - 40 .
70	not visible	one		NW - SE	SE	left side ?	NA	juvenis	5 - 10 cm .
75	not visible	one		NW - SE	NW	back	NA	Infant I	15 - 25 .
77	oval	one		W - E	west	cluster of bones	NA	newborn	12 - 25 cmm .
79	not visible	one		W - E	west	left side ?	NA	12 - 16 year	50 - 70 cm .
80	not visible	one		E-W	E	right side	NA	Infant II	45 - 55 cm
89	not visible	one				cluster of bones	NA	Infant	5 - 10 cm .
91	not visible	one		W - E	west	left side ?	NA	Infant II	0 - 5 cm .
92	not visible	one		S- N	S	right side	NA	Infant II	0-10 cm .
95	not visible	one				cluster of bones	Na	Infant I	2 - 8 cm
101	oval	one		W - E	W	right side	NA	4 years	**40 - 55 cm .**
103	not visible	one		S- N	S	left side ?	NA	Infant I	40 - 50 cm .
113	oval	one	one female adult	SW - NE	SW	cluster of bones	NA	Infant	34 - 75 cm .
115	not visible	one		W-E	west	right side	NA	Infant I	3 - 8 cm
117	not visible	one		SW - NE	SW	left side ?	NA	6-7 years	5 - 20 cm .
133	oval	one		W-E	west	right side	NA	newborn	35 - 40 cm
143	oval	one		W - E	west	right side	NA	Infant I	60 -85 .
146	not visible	one		NW - SE	NW	left side ?	Na	newborn	37 - 50 cm
156	oval	one		SW - NE	SW	left side ?	NA	3- 4 years	60 - 100 cm
157	not visible	one				cluster of bones	NA	newborn	30 - 40 cm
160	not visible	one				cluster of bones	NA	newborn	10 - 30 cm
166	round pit	one				cluster of bones	NA	0 - 7 years	30 - 45 cm
168	oval	one		NW - SE	NW	cluster of bones	NA	newborn	85 - 105 cm .
181	not visible	one		N - S	N	right side	NA	7 - 14 years	5 - 20 cm .
186	not visible	one		W - E	W	right side	NA	child	40 - 60 cm
190	oval	one		NW - SE	NW	cluster of bones	NA	child	65 - 80 cm
195	round pit	one				cluster of bones	Na	Infant	50 - 65 cm
203	th red ochre on the l	one				cluster of bones	NA	Infant	45- 82 cm
204	not visible	one				left side ?	NA	Infant	20 - 40 cm
206	not visible	one					NA	Infants I	40 - 43 cm
208	not visible	one				cluster of bones	NA	Infants I	60 - 85 cm
220	oval	one				cluster of bones	NA	Infant	80 - 120 cm
222	not visible	one				cluster of bones	NA	Infants I	0 - 25 cm
228	not visible	one		NW - SE	NW	left side	NA	Infants I	5 - 35 cm
229	not visible	one		SE - NW	SE	right side	NA	newborn	27 - 35 cm
234	not visible	one		W - E	W	left side	NA	Infants I	35 - 48 cm

Tab. 5: The burial from the cemetery of Kadero I.

	Age Categories - Age Ranges		
	Age Category	Chronological Designation	
Perinatal	Fetal	In Utero	
	Perinatal	Birth	
Post natal	Neonate	Birth : 1 month	Child /Subadult
	Infant	2 Month : 1 year	
	Child 1	1 year : 5 years	
	Child 2	6 years : 14 years	
	Adolesent	15 years : 17 years	

Tab. 6: The age categories used in the current research (compiled from Lewis 2007 and Scheuer & Black 2004).

– how can we use such data to conclude on possibly existing mortuary practices related to sub adults in prehistoric Sudan?

The number of sub adults and the age categories present

Although the number of buried individuals should – in ideal cases – reflect the number of deaths in a given society during a given time period, this in fact is not usually the case. The problem increases when it comes to fetuses, infants and children whose remains are less likely to survive or are sometimes not even found due to burying them in a separate place out of the cemeteries and graveyards dedicated to adults, or within settlements.

In normal cases infants and children should comprise about 50 to 60% of any society.[60] However, the total number of burials in most sites is unknown or inaccurate hampering the possibility of determining the portion subadults represent.

The ages of children were described using different ways. In some cases, age categories were given mostly without defining what is meant by the used term. In other cases, chronological age ranges were given with varying degrees of accuracy. This raises the importance of using unified terms when describing the age of subadults. The age categories in Tab. 6 were compiled from Lewis (2007) and Scheuer and Black (2004) and were applied to the sites in the current study. The terms used in this table were similar to the terms used in most of the publications which is one of the reasons behind selecting them to be used here. However, some publications and catalogues used terms that were difficult to be compared with the ones used here. For example, the term "newborn" is considered here as equivalent to "neonate", and fetus as equivalent to "fetal", while the terms "Immature", "Juvenile" seemed to be used alternatively in some publications.

Age determination was conducted based on dentation and the length of long bones as mentioned in few instances. On the other hand, sex determination is mostly lacking except in few cases of those classified as child 2 or adolescents. However, lacking information about gender hampers the correlations between gender and the type of inserted grave goods.

The data in Tab. 7 show that perinatal and adolescents are the least frequently recorded age groups among children, while neonate comes as the second less frequent present age category. On the other hand, infants and children represented the majority of the samples, which comprise the age range between one and fourteen years. The higher mortality rate in this wide age group might be explained as being caused by stressors related to weaning age, malnutrition, and various environmental, and subsistence related factors. However, the exact cause of death cannot be observed due to the lack of detailed bioarcheological and paleopathological investigation except for few sites like R12 and Kadero I. For example, dental wear and criberia orbitalia are recorded on the skeletal remains of infants and children from R12.[61] Such lesions are usually related to dietary practices and/or malnutrition. However, this does not mean that it could be defined as a cause of death.

60 Vlahos 2014:1; Baxter 2008: 1.

61 Salvatori and Usai 2008: 294, 301.

Sites/Age group	Pre-weaning					Child		
	NA	Fetal	Perinatal	Neonate	Infant	Child.1	Child.2	Adolscent
El Barga								
R12			4		14	12	15	
El Kadada				1	14	2	2	
Shaheinab					3		3	
Kadero	1			8	19	5	13	3?

Tab. 7: The age categories present in five of the sites.

Types of burials, and their context

Sites/Burials shapes	Simple pits"Shape ND"	Oval/Elliptical	Circ.	Invisible pits	Pot burials
El Barga					
R12					
Es sour					
KDD					
Q.SH					
Kadero					

Tab. 8: The types of burials present in six sites.

The type of the burial structure does not only reflect the general trend or the choice of the burial in terms of its shape and size, or the social conditions behind this choice but more diverse and significant factors which may include: the choice of the geological context in which the burials are dug or deposited; the efforts which the living society afforded to dig the burial which might be controlled by cultural, social, economic, or emotional factors; as well as the availability of the implements used to dig or shape the burial place (Tab. 8).

The motivations behind burying the deceased in a separate place out of the main cemetery can be explained within the cultural frame of each social group. Age is usually the most significant factor in this regard, however, sex is also considered as a factor. For example, infants are mostly found in the domestic areas which is the case at El Kadada, while infants and children seemed to be buried mostly with adult females, which is the case at El Barga. Moreover, acquiring specific types of diseases during life may cause the person to be excluded from the main cemetery after dying. Several ethnographic studies have shown that burying the deceased in cemeteries involves the concept of separating them from the living society and maintaining the intactness of the living community.[62]

The Prehistoric societies of Sudan buried their infants and children in the settlements and cemeteries in different types of burials. These included simple pits of defined shapes (oval, elliptical, circular); simple pits of undefined shapes or invisible outline (as a result of erosion or originally intended to be without a defined shapes); pot burials.

Housing burials, habitation pits, or residential burials are considered as a special type of burial whose meaning might vary a lot more than normal burials in cemeteries. Such a type of burial usually has different explanations. One of these emphasize the possible role those little deceased were meant to play towards the living society. This type also implies the existence of emotional connection with the dead unlike the waste pit burials.[63]

On the other hand, while some infants and children were buried still in the context of settlement, another part enjoyed a space in the main cemeteries together with adults.

Simple pits

Simple pits with defined and undefined shapes, without superstructure or apparent surface markers such as lines of stones, are the most common burial type related to children in Sudanese sites. Despite the fact that the second common type "pot burials" is known to be dedicated more to infants, deceased infants were also found to be buried in simple pits especially those in oval shapes. The pits with invisible or undefined shapes are probably a result of erosion and other taphonomic agents which caused the collapse of pits walls or as result of disturbance by later burials or natural factors. On other hand, this type was not solely related to sub-adults but also for

62 Trinkaus 984: 676.

63 Adams and King 2011: 1.

adults in similar, or other shapes, and larger sizes as in the case of R12 (Fig. 7, 8).

Pot burials

In Sudan, the evidence of pot burials is primarily associated with settlements like in El Kadada, Qala'at Shenan, and Es-Sour. Both decorated and undecorated wares were used for this type of burial. When considering the evidence from El Kadada where such type has first emerged, it becomes clear that both decorated and undecorated types existed; the decorated ones including linear decoration, dotted lines, and ripple decorations. Pot burials were treated as normal burials since they were accompanied by external and/or internal grave goods.

It is believed that such type of burial was more related to the younger age categories (stillborn and infants). This tradition is still known in some African communities and even in Sudan itself. One of the interpretations which are related to this type of burials is the imitation of the female womb, which in turn refers to this human being as more related to the phase of childhood.[64] This explanation is supported by many ethnographic studies conducted on African societies, and which contributed to the possible interpretation of such types of burials. Such studies favor the "Mother womb" explanation, which could be more reliable when there are inverted and perforated jars which imitate the woman's womb. This could be related to the tendency of making the woman pregnant again after miscarriage.[65] In many sites where pot burials were discovered (either in Egypt or Sudan) the age of the human interment usually ranged between fetal and six years, which could be in part related to a specific symbolic system, while it can also be explained as a result of the correlation between the size of the deceased and the size of the coffin or containers.[66]

Fig. 7: Burial 144 (Salvatori et al. 2008: 275).

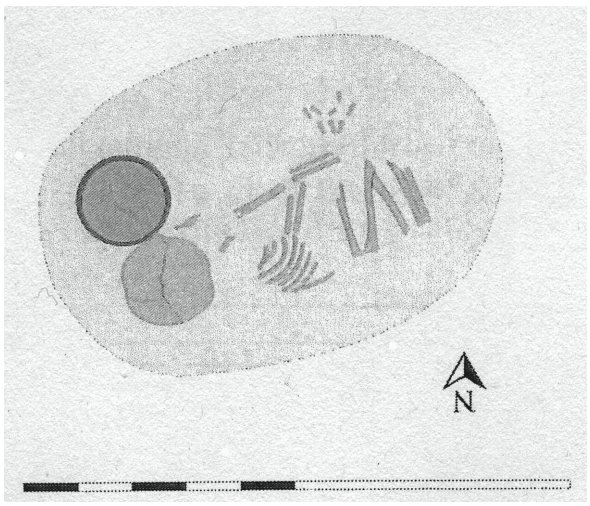

Fig. 8: Burial 149 (Salvatori et al. 2008: 280.

Grave goods types

- what is the implication of the types of the deposited grave goods on social and religious aspects of ancient societies?
- can they be used as a status indicator?
- are they gender or age related?
- were infants and children given specific sets of grave goods similar to adults or not?

To answer these questions we need first to browse the more and the less frequently used types of grave goods which are recorded in the infant and child burials from the sites included in the current research.

The data in Tab. 9 indicate the various types of offerings which were presented to infants and children. However, in order to conduct a more accurate assessment of the types of goods and their frequency the number of offerings types according to the specific categories were counted in each grave in all sites together. Finally, all the data were compared. 24 types of grave goods are recorded from all seven sites together. Each type was described by the total number of the offering type in all sub-adults burials (No.), the frequency in the graves (Freq.). If such detailed information was not available in the literature, "P" was used to describe the category as "present", but

64 Sadig 2014a: 286-287.
65 Kilroe 2014: 221
66 Sadig 2014a: 286-287.

			Sites						
		No. of burials	47	46	19	5	33	NA	4
SR	G.G types	Info	Kadero	R12	KDD	SH	Barga	Q.Shenan	Es Sour
1	Pottery	No.	50	63	24	14		P	P
		Freq	20	28	14	4			
2	Sherds	No.	Few	Few	Few	Few			
		Freq	4	4	7	1			
3	Necklace	No.	3	17			P		
		Freq	3	17					
4	Braclet	No.	17	28	1		P		
		Freq	7	13	1				
5	Beads	No.	101	182	108	4	P	P	
		Freq	8	3	4	1			
6	Pendant	No.	2			1			
		Freq	2			1			
7	Nose-stud	No.	12						
		Freq	3						
8	Ring	No.	1	3		6			
		Freq	1	1		1			
9	Palette	No.	4	3	6		P	P	
		Freq	4	3	5				
10	Lithic	No.		19	12		P		P
		Freq		8	3				
11	Animal bones	No.		7					
		Freq		6					
12	Bone tools & Objects	No.		8					
		Freq		5					
13	Bivlave sell/ valve	No.	11	5	25				
		Freq	11	5	7				
14	Marine shell	No.	1						
		Freq	1						
15	Pigments	No.	5						
		Freq	2						
16	Segments	No.	30						
		Freq	1						
17	Comb	No.		1					
		Freq		1					
18	Calciform beaker	No.		6					
		Freq		5					
19	Nile Oyster	No.		2					
		Freq		2					
20	Macehead	No.		2					
		Freq		2					
21	Ostrich eggshell	No.		1	3		P		P
		Freq		1	1				
22	Nerita Shell	No.		1		27			
		Freq		1		1			
23	Pebbles	No.		6+					
		Freq		4					
24	Feeding cup	No.				2			
		Freq				2			

Tab. 9: The grave goods categories described in terms of their number and frequency.

without knowing the exact number of the object and the frequency of its use.

However, only few types were common in all of the sites. Therefore, these types are classified in three stages including the most common types (at least in 4 or more sites), the least common types (at least in 2 sites), and the level in between (3 sites). The more frequently used goods are pottery vessels, sherds, beads, necklaces, bracelets, lithic, palettes, and ostrich eggshells. The next stage includes bivalve Nile shells, Valve shells, Nerita shells, and rings. The least common types include mace-heads, calciform beakers, pebbles, Nile Oyster, comb, segment, and pendants.

Pottery vessels, sherds, and Calciform beakers

The three types are commented on here together since they are all produced from clays. However, pottery vessels and sherds are considered as the most frequently recorded types. The sherds in the burials of infants and children were generally either found as broken sherds of complete vessels, or as scattered sherds that did not form a complete one. However, in both cases the evidence of sherds was then classified as "Sherd" and described in term of the quantity as "Few", since the number of the discovered sherds was mostly not defined. The pottery found in the burials of the Prehistoric societies in Sudan does not only reflect the variety in the produced shapes and their varied quality and quantity, but also the variation of decorative motifs and techniques. However, in some cases it is assumed that certain types of decorative motifs might have belonged or represented a specific family or lineage which have once lived in a specific locality.[67]

The discovered types however varied between the sites. For example, the pottery vessels from sub-adult burials in R12 included restricted and unrestricted hemispherical bowls, globular jars, large open bowls decorated with rocker stamping technique, and tempered vessels. From Kadada the burials of infants and children included decorated and undecorated wares, the decorated ones including dotted lines and ripples. The pottery from Esh Shaheinab on the other side were few but varied in types including ladle pots, black incised wares, burnished bowls and saucers, as well as bowls decorated with impressed patterns, and black incised wares. The types from Kadero I included incised deep bowls. The pottery found in these burials can be generally classified into types which are known to be used only as offerings, and types which are used as grave goods but their possible use in daily life is highly suggested.

Distinguishing between funerary vessels and those of daily use can be accomplished when comparing the types present in settlements with those from cemeteries. This is usually difficult except in few cases as in Kadero where some types seemed to be more prominent in the context of burials than in settlement. This is true for combed ware and red burnished ware, while other types like scarped ware, black topped brown ware, and coarse exotic ware were completely absent from cemeteries.[68] However, the proportion of the pottery vessels in child burials varied between sites. For example, the number of pottery vessels found in the child burials (n=50) makes roughly 50% of the total 100 complete pottery vessels found in the site of Kadero.[69]

Calciform beakers for example are classified under the first type, since it was related solely to the burials in Sudanese sites. Such beakers are mostly made of tempered clays and seemed to have been dispersed also to south Egypt, since it was widely present in the burials of Gebel Ramlah.[70] However, this assumption is sometimes criticized by the lack of enough archaeological evidence from settlements in Sudan where it might have been used.[71]

However, it seems also that some types of pottery were specifically related to infants and small children, especially the smaller ones or the miniature forms of pottery, since out of 12 burials of children whose ages ranged between perinatal and 3 years in R12, two specific classes of pottery were recorded. These are small bowls with lug handles and small bowls with one or two opposed depression. Moreover, it is also suggested that in the cases where smaller pots were placed into larger ones such types reflect a production for funerary use.

Personal adornment

Despite the fact that personal adornments were accorded to both adults and sub-adults, the deeper investigation of the distribution of these offerings based on the sex and age referred in many cases to its prevalence in the burials of children more than those of adults. This is the case in the cemetery at R12 where about 38% of the child burials contained

67 Salavtori and Usai 2008: 18.

68 Chlodnicki 2011.218.

69 Chlodnicki 2011: 215.

70 Kobusiewicz et al. 2009.

71 Salvatori and Usai 2008: 9.

personal adornment which represented the highest percentage.

Personal adornments include beads, necklaces, bracelets, pendants, and rings, which are made of varied materials. Carnelian, amazonite, shells, and ostrich eggshells are the most common raw materials used for beads. Symbolism, accessibility, and attractive shape are the factors that probably controlled the choice of bead materials.[72] However, hippo and elephant ivories were also used for the production of bracelets, while elephant ivory was more prominent in many cases like in Kadero I. Nose studs (Fig. 9) are one of the least frequently used offerings. They were made of ivory like the two examples from burial no. 4 in Kadero which belongs to a 4-6 years old child.

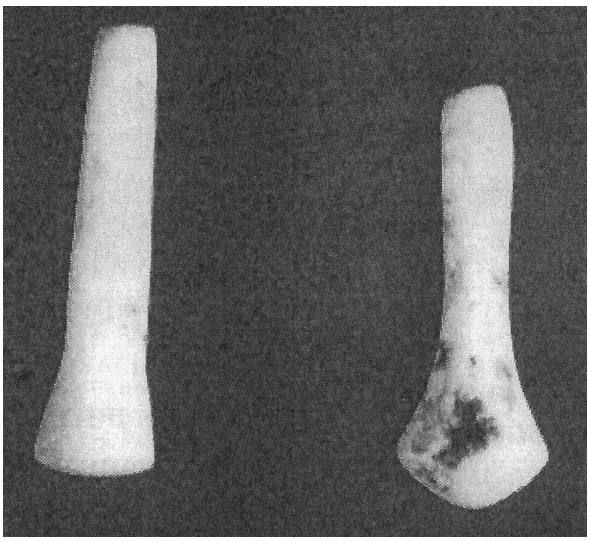

Fig. 9: Nose-stud from burial 4 at Kadero I (Kryzaniak 2011: 79)

Palettes and Pigments

Almost all the palettes found inside the Sudanese burials were made of sandstone. These were used together with the granite ones to grind minerals into pigments and reduce them either into powders or small pieces.[73] The palettes which were used as offerings were probably all of daily use, especially when pigments were evident on many of the discovered ones. However, the size of the palettes used as grave goods was larger than those found in the middens in the site of Kadero[74] and this might reflect the selection of the better ones to be used as offerings rather than producing larger ones.

The proportion of the palettes found in the burials of infants and children in accordance to the total number found in a certain site is usually not traceable. However, it is clear that palettes were among the offering types associated with the burials of infants and children. For example, the evidence from Kadero indicates that 4 out of 9 palettes were found in the burials of infants and children, while most of the rest comes from the context of middens. Oval, fan-shaped, and rectangular shapes with round edges were all recorded.[75]

Red Ochre was more frequently used than green malachite and is recorded in many of the Sudan Neolithic cemeteries including El Kadada, El Barga, and R12. There it was placed as a lump (as a part of the offerings), or as powder underneath the deceased, where it might have formed a bed-shaped layer.[76] The latter case is known from some child burials from R12 cemetery. The body of the child was found embedded in a red ochre layer which might symbolizes a bed where the child body rested, or at least certainly for a ritual use. The red ochre as a natural mineral pigment was also used for coating the pottery vessels in some instances like in Kadero (burial 215). Polishing stones were sometimes interpreted as tools for grinding ochre especially when found associated with it.

Lithics

Stone tools were deposited as offerings in five sites. However, the frequency of their use is not high. The used types were even limited. For example, axes, granite polishers, flakes, backed blades, and cores from flint, agate, and serpentine are recorded from the child burials at R12 cemetery. On the other hand, quartz and sandstone grinders with few flint tools are recorded in the child burials from Al Kadada.

Ostrich eggs and ostrich eggshell

In general, the evidence of using ostrich egg shells comes primarily from Upper Egyptian and Sudanese sites. This might reflect the spatial distribution of the local environment, in which ostriches lived in south Egypt and Sudan where it was hunted, illustrated, and exploited since the Prehistoric period.[77] In Sudan, ostrich eggshells were used for beads, a tradition known there since Middle Paleolithic,

72 Bobrowski et al. 2011: 339
73 Salvatori and Usai 2008: 58.
74 Jordeczka 2011: 305.
75 Chlodnicki, et al: 2011: 304
76 Salavatori and Usai 2008: 58.
77 Phillips 2009.

Sites	No. of Burial	No. of types of G.G	Burial types		Burials/ G.G	Age groups	Burial/ G.G	Age groups	Burial/ G.G (4-5)	Age groups	Burial/ G.G	Age groups
			simple pit	pot burial	class.1		class.2		class.3		class.4	
R12	45	15	X		5	child(1),child1(1), child2(1), Infant(2)	29	Perinatal(4), Infant (9),child1(11) , child2(5), child(2)	3	Infant(2), child2(1)	6	child1(1), child.2(5)
El Kadada	19	8	X?	X	3	Infant (3),	11	Infant (7), child1(1), child2 (2), neonate(1)	4	Infant (3),	1	child1(1)
Esh - Shaheinab	5	7	X		1	child2(1)	3	child (1), Infants (2)	0		1	Infant (1)
Kadero	47	13	X		20	Adolscent (3), Child2 (4), Child(0-7)(2),child1 (2), Infant (8), neonate (1)	23	Infant (10), child1(2),child2(4), neonate(6),child 0-7 (1)	4	child1(2),neonate(1), infant (1),	2	Infant(2),
	116				29		66		11		10	
					25%		56.80%		9.40%		8.60%	

Tab. 10: The grave goods classes correlated with the age categories and the burial types.

while in Egypt the evidence of such beads is known since late Paleolithic in Wadi Kubbayna.[78]

The presence of ostrich egg shell beads with almost the same diameter do not only reflect the accuracy in producing them but also following the same production criteria in specific workshops. Ostrich eggs were sometimes used as container themselves when pierced. Examples are recorded from R12 cemetery and El Kadada with low frequency.

Mace-heads

Mace-heads were uncovered in the contexts of both settlements and cemeteries of the Neolithic period in Sudan, which is in part contemporary with the Predynastic culture in Egypt. However, such a type of goods is rarely found in infants and child burial in Sudan. Examples in the current study are limited to two cases from R12 cemetery, where two 9-years old children are buried. The two mace-heads are of ovoid and biconical shapes. Mace-heads are also recorded from Saheinab, El Kadada, and Kadero, but not from the burials of children or infants.

Other types of goods

Among the least frequently recorded types of offerings are animal bones, feeding cups, bone tools, combs, Nile Oyster, marine shells, pebbles, and segments. Cattle horn, bovid tibia, two cattle teeth, fragments of cattle rib, and bovid femur are recorded from the burials of children in R12. However, it seems that such type of offering was more associated with older children whose age ranged between 9 and 12 years, one of them being 3 years old. Marine shells on the other hand were rarely used as it was recorded only in one burial with one shell at Kadero. This is true also for combs.

Offerings classes, age categories, and number of types

The data are further analyzed viewing the grave goods in accordance to their owners and their context. The grave goods in Tab. 10 were classified into four classes. Class I is given to the burials void of any offerings, Class II given to the burials with 1 to 3 offerings types, Class III for the burials with 4 to 5 offerings types, and Class IV for burials with 6-8 offerings types. In Tab. 10 four sites are included only based on the availability of data about the types and numbers of offerings. However, a site like Esh Shaheinab is certainly not representative when considering the small sample size. The data in Tab. 10 deal with 116 burials from all the sites which were classified into the aforementioned offering classes. The age categories of the children are assessed, as well as the number of the burials that belong to each class in each site.

The result indicates that the majority of the burials in all sites belong to Class II (56.8%). Almost all age categories were present in this class, except for adolescents. Next frequent is Class I with 25% of the burials representing it. However, the ratio of the burials void of any offerings is low in all the sites except Kadero, where 42.5% of the burials lack offerings. However, the study conducted by Kryzaniak

78 Brobrowski et al. 2011: 335.

(2011) showed that the burials of males and infant I were richer than those of female. They have more varied types of grave goods including palettes, mace-heads, and jewels. However, females were rewarded rich grave goods when buried with children, which might reflect the tendency of providing the buried child with rich offerings.[79]

However, the infants from El Kadada and the one child from Esh Shaheinab who were not equipped with any type of grave goods cannot be considered as statistically significant representatives of the devised age categories, since infants already make up the largest age category at El Kadada, while at Esh Shaheinab only five burials were documented at all.

Class III and IV comprised the minority of the burials, 9.4% in the first, and 8.60% in the latter. Class IV was ascribed to a limited number of children in all sites. Those were probably privileged by being accorded with various types of goods, which mostly have also reflected a certain degree of quality. Moreover, one age category in 3 of the sites was present in this class. Infants from Esh Shaheinab and Kadero were selected to enjoy types of Class IV, while child 1 and child. 2 are the age categories chosen for this class in El Kadada and R12 respectively.

Concluding remarks

The data from the sites included in the current research indicate that there was a regional variation between the sites of North and Central Sudan especially during the Neolithic. The burials of infants and Children were located in the cemeteries of adults in the Mesolithic and Neolithic sites of North Sudan, while in Central Sudan they were found in the context of settlements even when the sites revealed the evidence of both settlements and cemeteries like in Kadero, Qala'at Shenan, and El Kadada. Esh Shaheinab is an exception of this tradition in Central Sudan. However, this can be explained by the temporal factor, as the earliest burials in the site are dated to the Protodynastic period.

Moreover, it could also be that this tradition was more common at the sites of Khartoum and Shendi region in Central Sudan, especially looking at the similarity of the material culture. On the other hand, the use of pot burials as a main burial type for infants was especially common in the same region. This is evident from the sites of Es Sour, El Kadada, and Qala'at Shenan.

On the other hand, similarities have also existed. For example, in almost all sites of North and Central Sudan, the simple pits burials were nearly similar in size and shape (especially the oval and the undefined shapes). Almost all burials of infants and children were single with few exceptions in some of the sites. The body positions, the direction of heads, and the side in which the child rested were variable, but the contracted position was more common. In addition to this the poor condition of preservation was another shared aspect. For example, bioturbation, animal's activities, natural erosion, animal burrowing, and disturbance by later burials were mentioned among the taphonomic agents influencing the burials in R12 cemetery.

It is evident that infants and children were accorded similar treatments like adults in most aspects. These is visible in the inclusion of various types of grave goods which were also present in the burials of adults, placing their bodies in similar orientation to that of adults, and burying them individually or in multiple burials within the graveyards or the burials of adults. However, some aspects distinguished the burials of infants and children from those of adults and can probably reflect the existence of a specific set of practices which was related to this age category. Concerning the burial types, pot burials are a unique tradition related to infants and children up to six years, and its evidence is solely related to settlements. This is unlike other Prehistoric cultures where pot burials are recorded within cemeteries which is the case from some sites in prehistoric Egypt[80], while the age range exceed 6 years and reaches 10 in other prehistoric pot burials from Lebanon[81] On the other hand, some types of goods were totally absent from the burials of infants and children such as armlets and certain types of stone tools, while some offering types which were common between adults and sub-adults were deposited in a different manner when accorded to sub-adults. For example, pottery, beads, and ornaments were recorded from the burials of both, but those placed with children were of less quantity, while miniature forms of larger objects like miniature pottery vessels were also recorded mainly from the burials of infants and children.

Wrappings and coverings were absent in the burials of sub-adults in Sudan. However, it was in rare cases from R12 that evidence of an animal skin was found. Here, the child was lying on and partially covered with this skin.[82] If the excavator observed

79 Kryzaniak 2011: 65.

80 Crubezy et al. 2005.

81 Sadig 2015: 205.

82 Salvatori and Usai 2008: 217, 259

correctly, this would be one of the rare examples in Sudan were such practice is recorded.

These two burials were of a 6-month infant and 9-years old child, who belonged to class III and class IV respectively. It is noteworthy that the burial of the 9-years old child was also the same one where one of the only two mace-heads from R12 was found. Moreover, a cattle tooth was recorded from the same burial. The inclusion of animal remains was another rare phenomenon of the infant and child burials in Sudan, counting 7 examples from 6 burials in R12. The 9-years old child in burial 81 at R12 got a richly furnished burial which certainly reflected a specific social status, especially when considering the inclusion of a mace-head and animal remains. This status was reflected by the grave goods types, number of types, and the body treatment. On the other hand, the status did not influence a burial type, or shape, and might also not be related to the chronological age given to this occupant. However, this status could be interpreted as inherited or accorded to the child based on the existence of a certain social age in which the child was expected to play a social role among his/her society.

Age seemed to play a major role when correlated with the selection of specific types of goods. This is visible at the rarely used offering of another mace-head which was deposited with another 9-years old child from burial 83. Animal remains seemed to be treated as a prestige good which had both ritual symbolism, and served also as a status marker, which is associated with specific age category. The six examples from R12 from the burials 42, 78, 81, 115, 143, and 150 belonged to children who belonged to "child 2" age group, only one belonging to "child 1".

Red ochre also seemed to be of a certain importance in the burial ceremonies of infants and children. This is evident by using it in diverse manners.

Finally, it is clear that almost all infants and children were given grave goods and few ones being privileged with offerings of Class IV and specific unique types of goods such as mace-heads, personal adornments of ivories, and animal bones. Some of them got a special body treatment either by wrappings or the use of red ochre. This probably reflects the existence of some kind of ranking in those early communities, which was intended to be viewed by their families after their death of such younger members.

The types of the deposited grave goods reflect the environmental context of the sites, as well as the mixed subsistence strategies visible in the remains of hunted animals, Nile shells, and marine shells to a lesser extent. Infants and children seemed to be viewed as active participants who were treated like adults after their death. However, the lesser number of goods in their graves probably reflected the lesser needs, absence of professions, and absence of specific social status in most cases. Younger categories of perinatal, neonates, and infants seemed to have a certain significance which could reflect symbolic, emotional, and social connections through the spatial context of their burials in settlements, and caring about supplying them with a minimum number of proper goods in most cases. Even in the cases where abnormalities and congenital diseases are recorded, infants and children were still accorded similar treatments to others. This reflects another social aspect about those ancient societies, despite that the high infant mortality rates in a site like El Kadada generally reflects some kind of dietary stress, malnutrition, and/or the exposure to certain environmental or subsistence stressors.

Variations existed on both temporal and spatial basis. The spatial basis includes variations between the practices of North and Central Sudan, and sometimes on the level of the same region, and the same site. The temporal variations are reflected through the evolutionary pattern of the inclusion of grave goods which were mostly less or absent during Mesolithic, while increased towards the Neolithic. The changing types, quality, and used materials reflect the new culture entities of this period. Moreover, the context of infant and child burials seems to evolve over time. The burials of children and infants were mostly located within settlements especially during Mesolithic and early Neolithic either in the form of burial pits, and later in pot burials towards the late Neolithic, however towards the late Neolithic and Protodynastic it seemed that child burials started to be at the margins of the habitation areas, and only within the burial places dedicated to adults. This is a tradition which will continue during the later periods in North and Central Sudan.

Bibliography

Adams R., King S., 2011. Residential Burial in Global Perspective. Chapter 1. In: Archeological Papers of the American Anthropological Association, Volume 20, Residential Burial: A Multiregional Exploration, Hoboken.

Ahmed S. M., 2014. An Introduction to the Merowe Dam Archaeological Salvage Project (MDASP) In: The Fourth Cataract and Beyond. British Museum Publications on Egypt and Sudan 1. Ed. by Anderson J.R., Welsby, D.A., 5-8.

Arkell A. J., 1949. The Excavation of a Neolithic site at Esh Shaheinab. Sudan Notes and Records, Vol. 30, No. 2, 212-221.

Arkell A. J., 1953. Shaheinab: An account of the excavation of a Neolithic occupation site carried out for the Sudan Antiquities Service in 1949-50, Khartoum.

Bacvarov K., 2006. Early Neolithic jar burials in southeast Europe. A comparative approach. Institute of Archaeology and Museum, Bulgarian Academy of Sciences, Bulgaria. Documenta Praehistorica XXXIII, 115-125.

Bacvarov, K., 2008. A long way to the west: Earliest jar burials in southeast Europe and the Near East. In: Babies Reborn: Infant/Child Burials in Pre- and Protohistory. Ed. by Bacvarov, K., 61-70.

Barakat H. N., 1995. Middle Holocene vegetation and human impact in Central Sudan: charcoal from the Neolithic site at Kadero. In: Vegetation History and Archaeobotany, May 1995, Volume 4, Issue 2, 101-108.

Baxter J. E., 2005. The Archaeology of Childhood. Children, gender, and material culture, Washington.

Bobrowski P., Jordeczka M., Krzyzaniak A., Mrozek-W. M., 2011. Personal adornment. In: The Lech Krzyzaniak Excavations in the Sudan, Kadero, Studies in African Archaeology, vol. 10. Ed. by M. Chlodnicki, M. Kobusiewicz, K. Kroeper, Poznan. 335-345.

Chlodnicki, M., Kobusiewicz, M., Kroeper K., 2011. Kadero. The Lech Krzyaniak Excavations in the The Sudan, Kadero. Studies in African Archaeology, vol. 10. Ed. by M. Chlodnicki, M. Kobusiewicz, K. Kroeper, Poznan 7-9.

Crubzey, E., Duchesne S., Reynes B. M. M., 2005. The Predynastic cemetery at Adaima (Upper Egypt) General presentation and implications for the populations of Predynastic Egypt.

Debono, F., Mostensen, B., 1990. El Omari: a Neolithic settlement and other sites in the vicinity of Wadi Hof, Helwan, with appendixes on geology by H.A. Hamroush, Mainz

Garcea, E. A.A., 2006. The endless glory of a site: Esh Shaheinab in the Sudanese Prehistory. Acta Nubica, 95-102.

Grzymsk, K., 2004. Landscape Archaeology of Nubia and Central Sudan. African Archaeological Review, Vol. 21, No. 1, March 2004, 7-30.

Haaland, R., 1992. Fish, Pots and Grain: Early and Mid-Holocene Adaptations in the Central Sudan. The African Archaeological Review, Vol. 10, 43-64.

Halcrow, S.E, Tayles N., 2008. The bioarchaeological investigation of childhood and social age: Problems and prospects. Journal of Archaeological Method and Theory 15, 190-215.

Hamd, A. H. N., 2015. The Late Neolithic at Qalaat Shenan site at Shendi Reach, In: Hunters-Gatherers and early food producing societies in Northeastern Africa. Ed. by Kabcinski J., Chlodincki M., and Kobusiewicz M., Studies in African Archaeology, Vol.14, Poznan. 159-176.

Hassan, F., 1986. Chronology of the Khartoum Mesolithic and Neolithic, and related sites in the Sudan. Statistical Analysis and comparisons with Egypt. The African Archaeological review 4, 83-102.

Honegger M.,2004. Settlments and cemeteries of the Mesolithic Early Neolithic at el Barga (Kerma Region). Sudan & Nubia 8, 27-32

Honegger, M., 2014. Recent advances in our understanding of prehistory of North Sudan. In: The Fourth Cataract and Beyond. British Museum publications on Egypt and Sudan 1. Ed. by Anderson J.R., Welsby, D.A., 19-30.

Jordeczka, M., 2011. Stone tools. In: The Lech Krzyzaniak Excavations in the Sudan, Kadero, Studies in African Archaeology, vol. 10. Ed. by Chlodnicki, M., Kobusiewicz, M., Kroeper, K., Poznan.

Kilroe, L., 2014. Precious Deposits: New Interpretations of Infant Jar Burials in Ancient Egypt and Sudan. In: Current Research in Egyptology 2014: Proceedings of the fifteenth Annual Symposium. Ed. by Pinarello, M.S., Yoo, J., Lundock, J., Walsh, C., Oxford. 1474-1488

Kobusiewicz, M., Kabaciński J., Schild R., Irish J. D., Wendorf F., 2009. Burial practices of the Final Neolithic pastoralists at Gebel Ramlah, Western Desert of Egypt. British Museum Studies in Ancient Egypt and Sudan 13, 147-74.

Kroper, K, Wildung D., 1985. Minshat Abu Omer. Münchner Ostdelta Expedition, Vorbericht 1978-1984. Schriften aus der ägyptischen Sammlung 3, München.

Kryzaniak L., 2011. Changes in the natural environment between 8000 and 3000 BC. The Lech Krzyzaniak Excavations in the Sudan, Kadero, Studies in African Archaeology, vol. 10. Ed. by Chlodnicki, M., Kobusiewicz, M., Kroeper, K., Poznan.17-38

Kurswaska, A., 2010. Mollusc shells at Gebel Ramlah. Chapter 6. In: Gebel Ramlah, Final Neolithic cemeteries from the Western desert of Egypt. Ed. by Kobusiewicz M., Kabacinski J., Schild R., Irish J.D., Gatto M.C., Wendorf, F., Poznan.

Laneri, N., 2007. An archaeology of funerary rituals. In: Performing death, social analysis of funerary traditions in the Ancient Near East and Mediterranean. Ed. by Lameri, N., and others. The Oriental Institute of the University of Chicago. 1-14.

Lewis, M.E., 2007. The Bioarchaeology of children – Perspectives from biological and forensic Anthropology, Cambridge.

Nassr A. H., 2016. Late prehistoric sites from the Sabaloka province north of Khartoum on the Eastern bank of the Nile, Sudan. Afrique: Archéologie & Arts 12, 21-42.

Phillips, J. S., 2009. Ostrich Eggshell. In: Wendrich, W. (ed.), UCLA Encyclopedia of Egyptology.

Pinhasi, R., Bourbou, C., 2008. How Representative Are Human Skeletal Assemblages for Population Analysis? In: Advances in Human Palaeopathology. Ed. by Pinhasi, R., and Mays, S., 31-44.

Rampersad, S. R., 1999. The Origin and relationships of the Nubian A-group. PhD thesis, University of Toronto.

Reinold, J., 2007. La Nécropole néolithique d'el-Kadada au Soudan central: les cimitières A et B (du Kôm principal). In: Fouilles de la Section française de la Direction des antiquités du Soudan 1.

Sadig, A. M., 2005. Es Sour. A Late Neolithic site near Merowe. Sudan and Nubia, Vol. 9. 40-46.

Sadig, A. M., 2013. Reconsidering the 'Mesolithic' and 'Neolithic' in Sudan. In: Studies in Early Near Eastern Production, Subsistence, and Environment 16. Ed. by Shirai Noriyuki, Berlin, 23-42

Sadig, A. M., 2014a. Child burials: A Funerary practice in the Middle Nile region, Evidence from the late Neolithic site of Es Sour. In: The Fourth Cataract and Beyond, Proceedings of the 12th International Conference for Nubian studies. Ed. by Anderson J.R., Welsby, D.A., 285-292

Sadig, A. M., 2014b. Individuals and Families. Traditions of burials in Sudanese Neolithic 5000-3000 BC (Corrections and Updates). ADAB. Issue No. 23, June 2014, 115-118

Sadig, A. M. 2015. The Late Neolithic: Regional Diversity and Cultural Unity in Central Sudan. Hunter-Gatherers and Early Food Producing Societies in Northeastern Africa. Studies in African Archaeology, vol. 14, Poznan, 387-416

Salavatori, S., and Usai, D., 2008. A Neolithic Cemetery in the Northern Dongola Reach Excavations at Site R12 edited by Sandro Salvatori and Donatella Usai with contributions by Luana Cenci, Paola Iacumin, Joel Irish, Margaret Judd, Nadja Pöllath, Sandro Salvatori and Donatella Usai. Sudan Archaeological Research Society Publication Number 16, London.

Scheuer, L., Black, S., 2014. The juvenile skeleton. Chapter 1: Juvenile Skeletal Remains: Provenance, Identification and Interpretation.

Stevenson A., 2006. An Analysis of the Predynastic cemetery of el-Gerzeh: Social identities and mortuary practices during the spread of the Naqada culture. PhD thesis, Cambridge University.

Trigger, B.G., 1994. Paradigms in Sudan archaeology. The International Journal of African Historical Studies, Vol. 27, No. 2 (1994), 323- 345.

Trinkaus, K. M., 1984. Mortuary ritual and mortuary remains. Current Anthropology, Vol. 25, No. 5 (Dec. 1984), 674-679.

Vlahos, M. M. L., 2014. Developing an archaeology of childhood. Experience in Australia 1788-1901. PhD thesis, University of Queenland.

Zegretti C., 2012. Child burials of the Nubian A-group. In: Prehistory of Northeastern Africa, New Ideas and Discoveries, Studies in African Archaeology", vol. 11. Ed. by Kabaciński, J., Chłodnicki, M., Kobusiewicz, M., Poznań, 141-152.

Zusammenfassung

Die Einbeziehung von Kindern in die Interpretation ist wesentlich für das Verständnis der archäologischen Evidenz von antiken Gesellschaften. Allerdings ist dies für die meisten Gegenden noch nicht zufriedenstellend gegeben, so auch für den Sudan. Doch ist gerade die Situation der „Archäologie der Kindheit" in den letzten Jahrzehnten im Sudan langsam verbessert worden. Die vorliegende Untersuchung zielt darauf, diese neuen Chancen für die Sichtbarmachung von Hinweisen auf Säuglinge und Kinder in den prähistorischen Gesellschaften des nördlichen und zentralen Sudan zu nutzen. Dafür wurden sieben Altertümerstätten ausgewählt und hinsichtlich der Variablen Alterskategorie, Bestattungstyp und –kontext sowie Grabbeigaben diskutiert. Diese Daten werden verglichen und hinsichtlich der Evidenz von bestimmten Bestattungssitten, die spezifisch für diese Altersgruppe sind, analysiert.