



ARCHÉO-NIL

Revue de la société pour l'étude des cultures prépharaoniques de la vallée du Nil

La chronologie relative de la Basse Vallée du Nil jusqu'au 3^e millénaire BC
(coord. E.C. Köhler)

numéro
21
Avril 2011



CYBELE

65 bis, rue Galande 75005 PARIS

BUREAU

Président :
Yann Tristant
Présidents d'honneur :
Jean Leclant et Béatrix
Midant-Reynes
Vice-présidente :
Evelyne Faivre-Martin
Secrétaire :
Marie-Noël Bellessort
Secrétaire adjointe :
Cécile Lantrain
Trésorière :
Chantal Alary

COMITÉ DE RÉDACTION

Directeur de publication :
Béatrix Midant-Reynes
Rédacteur en chef :
Yann Tristant

COMITÉ DE LECTURE

John Baines
Charles Bonnet
Nathalie Buchez
Isabella Caneva
Éric Crubézy
Marc Etienne
Renée Friedman
Brigitte Gratien
Nicolas Grimal
Ulrich Hartung
Stan Hendrickx
Christiana Köhler
Jean Leclant
Bernard Mathieu
Dimitri Meeks
Catherine Perlès
Dominique Valbelle
Pierre Vermeersch
Pascal Vernus
Fred Wendorf
Dietrich Wildung

TRADUCTION ANGLAISE

Jane Smythe

SIÈGE SOCIAL

Abs. Cabinet d'égyptologie
Collège de France
Place Marcelin-Berthelot
75005 Paris (France)

ADRESSE POSTALE

Archéo-Nil
abs / Marie-Noël Bellessort
7 rue Claude Matrat
92130 Issy-les-Moulineaux
(France)

COURRIEL :

secretariat@archeonil.fr

COTISATIONS

Membres titulaires : 35 €
Membres étudiants : 25 €
Membres bienfaiteurs :
40 € et plus

MAQUETTE

Anne Toui Aubert

PHOTO DE COUVERTURE

Michel Gurfinkel

Tous droits de reproduction réservés.

LISTE DES AUTEURS

Nathalie BUCHEZ
Institut national de recherches
archéologiques
518 rue Saint Fuscien
80090 Amiens (France)
nathalie.buchez@inrap.fr

Maria Carmela GATTO
Department of Near Eastern
Languages and Civilizations
Yale University
PoBox 208236
New Haven CT 06520-8236
(États-Unis)
maria.gatto@yale.edu

Rita HARTMANN
German Institute of
Archaeology, Cairo
31, Sh. Abu el-Feda
11211 Zamalek, Le Caire (Égypte)
ri.hartmann@gmx.de

Amber HOOD
Merton College
Merton Street
Oxford, OX1 4JD
(Royaume Uni)
amber.hood@merton.ox.ac.uk

Stan HENDRICKX
Sint-Jansstraat 44
B-3118 Werchter (Belgique)
s.hendrickx@pandora.be

Mariusz JUCHA
Institute of Archaeology
Jagiellonian University
Ul. Gołębia 11
31-007 Cracovie (Pologne)
jucha_m@hotmail.com

E. Christiana KÖHLER
Institut für Ägyptologie
Universität Wien, Frankgasse 1
A-1090 Vienne (Autriche)
e.christiana.koehler@univie.ac.at

Agnieszka MACZYŃSKA
Poznań Archaeological Museum
ul. Wodna 27
61-781 Poznań (Pologne)
agnieszka.maczynska@
muzarp.poznan.pl

Béatrix MIDANT-REYNES
Institut Français d'Archéologie
Orientale
37 El Cheikh Aly Yussef Street
Munira, Qasr el Ainy
BP 11562 Le Caire (Égypte)
bmidantreynes@ifao.egnet.net

Noriyuki SHIRAI
Faculty of Archaeology
Leiden University
PO. Box 9515, 2300 RA Leyde
(Pays-Bas)
n.shirai@arch.leidenuniv.nl

Jane SMYTHE
The American Research Center
2 Midan Simón Bolívar
Garden City
Le Caire 11461 (Égypte)
jsmythe@arce.org

Yann TRISTANT
Macquarie University
Department of Ancient History
NSW2109 (Australie)
yann.tristant@mq.edu.au

Wouter CLAES
Musées Royaux d'Art et d'Histoire
Parc du Cinquantenaire, 10
1000 Bruxelles (Belgique)
w.claes@kmg-mrah.be

Sommaire du n°21

5 Introduction

par E. Christiana Köhler

Dossier : La chronologie relative de la Basse Vallée du Nil jusqu'au 3^e millénaire BC (coord. E.C. Köhler)

15 The Palaeolithic and Epipalaeolithic of the Nile Valley and the deserts

par E. Christiana Köhler

17 Neolithic in the Nile Valley (Fayum A, Merimde, el-Omari, Badarian)

par E. Christiana Köhler

21 Some remarks on the chronology of the early Naqada Culture (Naqada I / Early Naqada II) in Upper Egypt

par Rita Hartmann

33 Settlement Sites in the Nile Delta

par Mariusz Jucha and Agnieszka Mączyńska

51 Chalcolithique final (ou Moyen ?), Nagada IIC-D/IIIA

par Nathalie Buchez

65 Naqada IIIA-B, A Crucial Phase in the Relative Chronology of the Naqada Culture

par Stan Hendrickx

81 The Relative Chronology of Nubia

par Maria Carmela Gatto

101 Naqada IIIC-D – The end of the Naqada Culture?

par E. Christiana Köhler, Jane Smythe & Amber Hood

111 Conclusion

par Béatrix Midant-Reynes

Études et essais

- 115 A Missing Chapter of *The Desert Fayum*: Fayum lithic artefact collection in the Allard Pierson Museum, Amsterdam
par Noriyuki Shirai
- 147 Bibliography of the Prehistory and the Early Dynastic Period of Egypt and Northern Sudan. 2011 Addition
par Stan Hendrickx & Wouter Claes

Lectures

- 165 À propos de Isabelle Crevecoeur, *Étude anthropologique du squelette du Paléolithique supérieur de Nazlet Khater 2 (Égypte). Apport à la compréhension de la variabilité des hommes modernes*, Leuven University Press, Egyptian Prehistory Monographs (EPM) 8, Leuven, 2008.
par Yann Tristant
- 167 À propos de Emily Teeter (ed.), *Before the Pyramids. The Origins of Egyptian Civilization*, The Oriental Institute of the University of Chicago – Oriental Institute Museum Publications 33. Chicago, 2011.
par Yann Tristant
- 169 Appel à contribution

The Relative Chronology of Nubia

Maria Carmela Gatto

Department of Near Eastern Languages and Civilizations, Yale University

The long Holocene Nubian chronology is here revised and reassessed taking into consideration Nubia as a cultural territory, which includes the Nile Valley from the First to the Fourth Cataract and the surrounding deserts. During the 5th millennium BCE the Nubian area of influence extended as far as Middle Egypt and the Khartoum Region. In the southern parts of the Egyptian Nile Valley, Nubian identity markers continue to be recovered within the material culture during the 4th millennium BCE, when the area was part of the Naqada territorial network. Pottery is used as main discriminatory factor for cross-cultural association and for cross-dating when radiocarbon dates are not available or adequate.

La longue chronologie de l'Holocène en Nubie est ici révisée et réévaluée en prenant en compte la Nubie comme un territoire culturel qui inclut la vallée du Nil de la Première à la Quatrième cataracte et les déserts environnants. Durant le 5^e millénaire BC, la zone d'influence nubienne s'étendait jusqu'à la Moyenne Égypte et jusqu'à la région de

Khartoum. Dans la partie méridionale de la vallée du Nil égyptienne des marqueurs d'identité sont encore présents dans la culture matérielle pendant le 4^e millénaire BC, alors que la région est désormais intégrée au territoire nagadien. La céramique est ici utilisée comme le principal facteur discriminant pour les associations transculturelles et pour la chronologie relative quand les datations radiocarbones ne sont pas disponibles ou valides.

Introduction

In a traditional geographical definition, Nubia is the section of the Nile Valley between the First and the Sixth Cataract; a “corridor” linking Egypt to the sub-Saharan regions of Africa (Adams 1977)¹. Current anthropological and archaeological research suggests that this geographical definition is narrowly conceived given the evidence of Nubian cultures, which cover a much larger and fluid area. A cultural definition of Nubia, therefore, must take into account the

1. I want to thank prof. John C. Darnell for giving me permission to mention unpublished information on prehistoric sites in the Rayayna and the Qena Bend deserts.



Schematic synoptic chart. WH: Wadi Howar; LQ: Laqiya; UE: Upper Egypt; AS: Aswan; NK: Nabta Kiseiba; LN: Lower Nubia; KS: Kerma Selem Basin; AT: Atbai; FC: Fourth Cataract; DR: Dongola Reach; KH: Khartoum. Dotted boxes are used for phases with no radiocarbon dates available, the chronological attribution of which is guessed by cross-reference.

desert regions to the east and west of the Nile, as well as the areas of exchange and interaction between Nubians and nearby people. Nubian northern and southern frontiers were more fluid and socially active by the 5th millennium BCE, when Nubian Culture strongly interacted with those from Middle and Upper Egypt and the Khartoum Region. A great array of terms is currently used to define Nubian cultural units, leading to a serious interpretative misunderstanding of the data. Intra-cultural variability, a peculiarity of pastoral nomadic societies, is often wrongly interpreted at a culture level. In order to make a new, comprehensive and simplified sequence for the whole of Nubia, a detailed revision of the existing chronological and cultural succession in each of the areas included in the Nubian cultural territory is essential. The present revision is mainly based on cross-referencing between these areas. This has been made possible thanks to a recent improvement in archaeological research along the Nile, particularly in Egypt, Upper Nubia and the deserts. Yet, in areas such as the Nubian Eastern Desert (Atbai) and the Second Cataract, the information available is not adequate for good dating. Therefore, the Nabta-Kiseiba and the Kerma sequences have been used as refereeing sequences. For the strong tie between A-Group Nubia and Predynastic Egypt, a preliminary revision of the 4th millennium chronology is possible. As a matter of fact, not many radiocarbon determinations are available for this period, but the presence in A-Group funerary contexts of Egyptian artifacts, particularly pottery, makes it possible to detail the relative chronology. However, this is not possible for Upper Nubia because the information to hand is still too patchy and no Egyptian material is locally found. Nonetheless, cross-referencing with Lower Nubia helps to link, at least in some instances, the chronology of the two areas. Hereafter, the data will be discussed region by region, starting with those where more radiocarbon dates are available. For each region only Nubian-related phases will be

mentioned and, in order to make a correspondence with the Egyptian Predynastic sequence easier, all dates are reported in BCE (for dates in BP see bibliographical references). Ceramic assemblages are used as a primary discriminatory factor for cross-cultural association and for cross-dating when radiocarbon dates are not available or adequate. What is proposed here is intended to serve as a preliminary revision based on data to hand. Future research and publications will hopefully help in better adjusting this view.

The Data

The Nabta-Kiseiba Region

The southern section of the Egyptian Western Desert has been intensively investigated by the CPE² since the 1970s (Wendorf & Schild 1980; Wendorf, Schild & Close 1984; Wendorf, Schild & Associates 2001). A long chrono-cultural sequence, recently revised, was proposed, supported by a great number of radiocarbon dates (Wendorf, Schild & Associates 2001).

The first Holocene unit identified is the El Adam and is dated to *c.* 8400-7800 BCE. This corresponds with the re-occupation of the desert after the arid spell of the Late Pleistocene. The Arkinian of the Nile Valley, which shares many characteristic elements with the El Adam, has been dated to the 10th millennium BCE (Schild, Chmielewski & Wieckowska 1968). The pottery in association with this unit, the oldest in the desert, is scarce and atypical in comparison with successive local productions and contemporary productions from neighboring regions: the fabric is very fine and sand-tempered with many dark mica inclusions, body thickness is quite thin, the vessels seem well fired, and the decoration has a banded rocker packed dotted zigzag pattern covering the entire surface (Gatto in preparation). Because such evidence has not been found in a secure context, its link with this phase remains questionable.

2. Combined Prehistoric Expedition.

The El Ghorab unit, dated to c. 7500-7100 BCE, follows after a short arid phase.³ According to the CPE, cultural relations are detected with the Masara Culture of the Western Desert oases and, even more so with the Elkabian of Upper Egypt (c. 7300-6600 BCE – Vermeersch 1978). No connection with Nubia is reported at this stage.

Another short arid break separates the El Nabta phase (c. 7000-6600 BCE) from the El Ghorab. In this instance, no relations with contemporary industries from nearby regions are proposed by the CPE. However, a comparative analysis of lithic assemblages from the Second Cataract and the Nabta-Kiseiba region shows without doubt the link between the El Nabta phase and the Shamarkian (and thus, the oldest segment of the Khartoum Variant as detailed below – Usai 2005; 2008a; 2008b; Gatto 2006a). The minor variations within the lithic tool types recorded in the sites from the two regions are explained by Usai as the result of different seasonal activities (Usai 2008a). This analysis also brought to light the strong similarities between the two aforesaid industries and El Ghorab, raising doubts about the existence of the latter as an independent cultural unit. The chronological position of the El Ghorab was questioned by Usai, as some of its radiocarbon dates, obtained from ostrich egg-shell fragments, were lately corrected for isotopic fractionation. This was done following the assumption that ostrich egg-shell samples give dates younger than those from charcoal by about 350 years (Wendorf, Schild & Close 1984, cited in Usai 2008a). However, there are different points of view on the use of such a technique (for details see Usai 2008a). According to Usai a realistic date for the El Ghorab unit should be c. 7150-7100 BCE.

An argument in favor of a direct link between the El Ghorab and El Nabta comes from the pottery. Unfortunately, only two sherds are so far clearly associated with the El Ghorab phase; nevertheless, they are identical to those from the El Nabta

phase. Furthermore, a sherd found by the Colorado Expedition close to site 11-I-13 in the Murshid district in Nubia (a site related to the Shamarkian, therefore, contemporary to El Ghorab), has a zonal dotted wavy line decoration with a wide pattern (type R5 – Gatto 2002a: 73, fig. 5.5f; 2006a: tab. 1, pl. II second picture to the top), characteristic of the El Nabta and El Ghorab units (personal observation)⁴.

According to the CPE, there was no arid break between the El Nabta and the successive Al Jerar phase (c. 6600-6200 BCE). They both developed during the so-called *optimum climaticum* of the 7th millennium BCE. No direct connection is proposed for Al Jerar by the excavators, only similarities with the Masara phases from Dakhla. Its direct relationship with the second sub-phase of the Khartoum Variant (VK1b, see below) is attested by the re-analysis of lithic and pottery assemblages (Usai 2005; 2008a; 2008b; Gatto 2006a). As for the latter, a marked change in decorative techniques and fabrics are noticeable between the El Nabta and the Al Jerar assemblages (Gatto 2002a). The older being zonally decorated, mainly with rocker packed dotted zigzag patterns, some of which form two variants of the famous dotted wavy line decorations from the Sahara and the Khartoum Region, and alternatively pivoting stamp patterns. The more recent corpus is exclusively characterized by overall applied rocker packed dotted zigzag decorations.

The El Ghanam phase (c. 6000-5500 BCE), which follows after an arid spell at the end of the 7th millennium, has to be associated with the second stage of the Khartoum Variant (VK2a – Gatto 2006a), although no relation is proposed by Wendorf and associates. Pottery is rather coarse; decorations are simple and are restricted to fewer vessels, while the refinement of surfaces only exhibits a greater degree of smoothing.

Two phases characterize the 6th-5th millennia BCE at Nabta, divided by a very short arid spell of c. 100 years; namely the El

3. The climatic sequence reported here is that of the CPE; for a different reconstruction see Kuper & Kröpelin 2006.

4. The Colorado Pottery Collection is now housed at the British Museum.

Baqar (c. 5400-4700 BCE) and El Ansam (c. 4600-3500 BCE). Pottery associated with the former is dated from c. 5000 BCE and for the first time it does not have plastic decorations, but surface treatments used as decoration. It is distinguished by smoothed, burnished and black mouthed small bowls with no other decorations except a few notched rims; fabrics are fine sand tempered. Red or brown burnished and/or black topped wares are among the earliest in the Nilotic region (Gatto 2006c).

The pottery of the second phase adds plastic decorations, such as rocker zigzags and rippling to the types previously reported. Caliciform beakers are now found in funerary contexts at Gebel Ramlah (Gatto 2010). Fabrics made with sedimentary clay, of the shale family, are introduced as well. The strong difference between one pottery assemblage and the other is striking and seems to be the result of influences, this time not only from Nubia but also from the Egyptian Oases and Upper Egypt (Gatto in press a).

At Nabta during this phase the rippled decoration is first applied to the local black mouthed ware, giving birth to a combination that will be a distinctive trait for many of the Nubian-related prehistoric cultures (Tasian, Badarian, Abkan, A-Group, Pre-Kerma and in part, the Neolithic of Khartoum). From the 4th millennium BCE onwards only scant evidence of human settlement in the region is detected from the archaeological record.

The Kerma Region and the Seleim Basin

Reconstruction of the prehistoric sequence in the Kerma Region, including the Seleim Basin, is still in progress mainly by the Swiss Archaeological Mission at Kerma. At this stage of the research most of the phases are defined by a single site, therefore much needs to be added to enlarge, confirm or adjust the available reconstruction.

The earliest Holocene occupation is detected at the site of Busharia and is dated to c.

8300-7800 BCE.⁵ Its chronological range fits well with that of the El Adam phase at Nabta and the Arkinian in the Second Cataract. However, the pottery assemblage published to date, is characterized by the use of the alternately pivoting stamp return technique, the rocker stamp, and by coarse fabrics with mineral inclusions that seem to differ consistently from that of the El Adam phase. The settlement of El Barga and its nearby graveyard defines the successive occupation, dated to c. 7500-7000 BCE (Honegger 2003; 2004b; 2004c; 2005; 2007), indicating the same range as that of the Western Desert El Ghorab phase and the Lower Nubian Shamarkian/KV1a phase. The pottery assemblage of this period is characterized by zonal decorations applied mainly using the alternately pivoting stamp technique.

Wadi el Arab is the type site (settlement and graves) for the 7th millennium BCE, although radiometric dates range from c. 8500 to 6000 BCE (Honegger 2007; Honegger *et al.* 2009). It partially overlaps with El Barga and is contemporary to the El Nabta and Al Jerar phases in the Western Desert and again to the Shamarkian/KV1a, b of the Second Cataract. The Wadi el Arab evidence is particularly important for the discovery of a small number of domesticated cattle bones dated to 7000 BCE, representing the first Neolithic evidence in the area. Pottery now seems to be completely covered in decoration, mainly with the rocker and the alternately pivoting stamp techniques and, judging from the few currently published pieces, it closely resembles that of the Khartoum Variant and the Al Jerar phases. The next known occupation, another cemetery at El Barga, is dated to c. 6000-5500 BCE. Unfortunately, the pottery available thus far is not sufficient for any detailed description. At Nabta the El Ghanam phase is contemporary to the El Barga Cemetery, while at the Second Cataract it is simultaneous with the Khartoum Variant stage IIb.

In the Kerma and Seleim Basins, as well as at the Dongola Reach, the chronological vari-

5. Mentioned in the Swiss Archaeological Mission website: http://www.kerma.ch/index.php?option=com_content&task=view&id=52&Itemid=92 (accessed May 2011).

ations, within the 5th millennium, mainly rely on funerary data. Although radiocarbon dates are available for most of the sites, only Cemetery R12 at Kawa has been systematically investigated and published. There are a great number of cemeteries found at Kadruka and in the Seleim Basin, to include the aforementioned R12 (Reinold 2001; 2002; 2004; Salvatori & Usai 2008). A large village of this period, with remains of hearths and post-holes, has been found in the same location of the Eastern Necropolis of Kerma (Honegger 1999: 77-82). At Nabta the El Baqar and part of the El Ansam phase are dated to this same period.

Following grave seriation and ceramic typology, two main chronological phases are recorded at Cemetery R12. The oldest is dated from c. 4800 to 4500 BCE and is divided in four sub-phases. The pottery is mainly decorated or partially decorated with rippled and rocker or simple impressions to form geometric patterns; caliciform beakers are attested from approximately 4700 BCE. The second phase, dated to c. 4500-4200 BCE, is characterized by a distinct ceramic assemblage almost exclusively without plastic decorations on the whole outer body. Instead, surfaces are well smoothed or burnished and decorations are confined on the rim band (Salvatori 2008). Coeval cemeteries from Kadruka, Kawa and Multaga all have similar ceramic assemblages and radiocarbon determinations, confirming what was noted at R12.

A gap in the regional sequence is reported for the 4th millennium BCE. From c. 3200 to 2500 BCE the Pre-Kerma Culture is, to date, recorded in the area (Honegger 1995; 1997; 1999; 2001; 2003; 2004a; 2006; 2007), with Middle and Late phases identified. Good comparisons from Nabta are lacking for these later occurrences. Instead, they are well documented in Lower Nubia with the Terminal A-Group Culture of the late 4th millennium BCE and the post A-Group evidence (the B-Group *sensu* Gratien 1995, see below). The fact that many similarities are shared between the Pre-Kerma and the A-Group, particularly as far as the pottery is concerned, seems to support the presence of

a variant of the latter in the Kerma Region; so far only hints at such a presence is attested. The large and complex settlement found in the Eastern necropolis of Kerma bears witness to a well-structured complex society. Although the architecture resembles that of modern African villages, the Pre-Kerma settlement can be considered proto-urban in character. A contemporary chronology and similarity among domestic ceramic assemblages suggests a strong tie between the Pre-Kerma and the Terminal A-Group (personal consideration). The possibility that the development of social complexity in Kerma has been accelerated by processes originated in Lower Nubia (and ultimately Upper Egypt) has to be considered.

The Second Cataract and the Wadi Halfa Reach

The prehistoric cultural sequence for the area of the Second Cataract and the Wadi Halfa Reach was proposed by Wendorf and associates as result of their work during the UNESCO Salvage Campaign (Wendorf 1968). Since this work there has been the general consensus of a direct link between the Qadan industry of the late Pleistocene and the Abkan. Contemporary with the late Qadan development, however, there were other assemblages that did not fit into the general framework of the Nubian Final Stone Age. The Arkinian and the Shamarkian were, subsequently seen as “limited intrusions” in the region (Marks 1970 cited in Nordström 1972). A similar circumstance was detected also for the Holocene sequence, where intrusive industries, such as the Khartoum Variant and the Post-Shamarkian, were present simultaneously with the Abkan.

Substantial revisions of the sequence have been recently undertaken, starting from two different, but complementary perspectives, using the lithic and the pottery assemblages respectively as the key elements (Usai 2005; 2008a; 2008b; Gatto 2006a). A phylogenetic evolution from the Qadan to the Abkan, through the Ballanan, the Arkinian, the Shamarkian, the Khartoum Variant and the Post-Shamarkian, has been proposed

after a re-analysis of lithic assemblages. It has been based on the following elements (Usai 2008b): an over-simplification of core treatment through time; an appearance of new exploitation techniques; an increase in dimension; and some peculiar stylistic characteristics passed on from one industry to the other.

Hence, the newly revised Holocene sequence includes the Arkinian, Shamarkian, Khartoum Variant, Post-Shamarkian, Abkan, and the A-Group. Pottery is without doubt present in the sequence material culture from the Khartoum Variant; although only a small number of potsherds were found in one of the Shamarkian sites (Schild, Chmielewski & Wieckowska 1968), and unfortunately the short description published do not help in confirming their cultural link.⁶

A detailed analysis of the Khartoum Variant pottery from all sites found by both the SJE⁷ and the CPE in the Second Cataract region, clearly brought to light how different ceramic assemblages, characterized by diverse decorative patterns, techniques and fabrics have been put together. This evidently means an association of sites, under the definition of Khartoum Variant, which do not represent the same period and cultural unit (Gatto 2006a). The main reason for this misinterpretation has to be found in the surface provenance of most of the materials.

According to the pottery study, feasible only thanks to cross-references with the Nabta-Kiseiba sequence, five ceramic groups are recorded within the Khartoum Variant. Some of them have clear counterparts in the Nabta-Kiseiba repertoires; some others are not present in the Western Desert:

1. Ware A corresponds to the pottery assemblage of the El Nabta phase (c. 7000-6600 BCE)
2. Ware B corresponds to Al Jerar pottery (c. 6500-6200 BCE)

3. Ware C has no direct comparison in the Western Desert and might be contemporary and/or slightly younger than Ware C⁸

4. Ware D corresponds to the El Ghanam ceramics (c. 6000-5500 BCE)

5. Ware E, without comparison in the desert, might be younger than Ware D.

Taking into consideration the abovementioned results, the Khartoum Variant encompasses at least three phases of the Western Desert sequence and a time-span of two-thousand years. Thus, it should be considered as a group of successive units with a rough sub-division into at least two main phases, each divided into sub-phases (Gatto 2006a):

- KV1, dated to the 7th millennium BCE
 - 1a. characterized by Ware A, corresponding to El Nabta Phase (c. 6900-6500 BCE)
 - 1b. characterized by Ware B, corresponding to Al Jerar Phase (c. 6400-6200 BCE)
 - 1c. characterized by Ware C, not well detected to date, but it can be either contemporary with sub-phase 1b or slightly younger
- KV2, dated to the 6th millennium BCE
 - 2a. characterized by Ware D, corresponding to the Middle Neolithic of Nabta-Kiseiba (c. 6000-5500 BCE)
 - 2b. characterized by Ware E, not well detected so far, but possibly dated right after sub-phase 2a.

Unfortunately, not much more can be said on the chronology with the information at hand. The Shamarkian, predating the Khartoum Variant, is dated to c. 6800-6600 BCE. These represent dates that perfectly fit within the time range of the Khartoum Variant sub-phase 1a (contemporary with the El Nabta phase in the desert). Therefore, the oldest occupation of the Khartoum Variant sites actually corresponds to the Shamarkian; indeed, the fact that pottery was found in association with the latter phase seems to support this reconstruction⁹.

6. In the text they are cited as Neolithic (p. 703). Unfortunately, the sherds are lost; therefore, a new check is no longer possible: Schild, per. comm.

7. Scandinavian Joint Expedition.

8. Similarities have also been noted with the 7th millennium pottery from Wadi el Arab in the Kerma Basin (Honegger et al. 2009).

9. Usai (2008b: 47) suggested that “the Khartoum Variant [lithic] may represent an advanced phase of the Shamarkian (second half of the 8th millennium bp).”

The Post-Shamarkian is dated to *c.* 4800-4100 BCE¹⁰, therefore contemporary to the Abkan. No pottery was found in the few sites representing this phase; however, the presence of a side-blow flake, characteristic of the Late Neolithic productions in the desert and along the Egyptian Nile, seems to suggest a coeval chronological position with the Abkan. A small number of side-blow flakes were also found in the Abkan industry, but misinterpreted¹¹.

The Abkan of the Second Cataract region defined by the CPE as an industry and subsequently by Nordström (1972) as a cultural unit was first identified by Myers (1958; 1960). According to the old chronology, it covers the 5th millennium and the first half of the 4th millennium BCE and is represented by three different phases: Early, Developed and Terminal (Shiner 1968; Nordström 1972). Abkan-related evidence is also reported from Upper Nubia, the Nubian Eastern Desert and from the Laqiya region of the Western Desert (Gatto 2002b; *in press b*; Lange & Nordström 2006).

The Early and Developed Abkan phases are mainly defined by poorly preserved camp sites. Shiner identified only three sites as Early Abkan and tentatively dated them to the beginning of the 5th millennium BCE (Shiner 1968). The Developed Abkan most likely dates from the late first half of the millennium to the end. The division between one stage and the other was primarily based on lithic variability, but that may well represent a functional aspect of the same cultural unit. Thus, the existence of an Early Abkan phase remains dubious and cannot be confirmed. There is indeed evidence in the region of ceramics with smooth or coarse surfaces and coarse sand tempered fabrics that might represent the pottery of this initial stage of the Abkan.

Although this material mostly originates from surface collection and undated or poorly dated contexts, thanks to cross-referencing, a chronological attribution to the end of the sixth-beginning of the 5th millennium BCE seems reasonable.¹² With the information currently available, the Developed Abkan seems to cover most of the 5th millennium without major changes in the material culture.

According to Shiner (1968), the Abkan is characterized by pottery with surface colour varying from gray to red to brown, smoothed or wiped, never burnished; generally undecorated, occasionally with rocker decorations and milled rims. Nordström (1972) diversified Abkan ceramic manufacturing techniques and his types may be adjusted as: coarse, wiped, brown burnished with or without rippled, black burnished, brown burnished black mouthed with or without rippled, red coated black mouthed with or without rippled, and decorated. Following Shiner, Nordström related the undecorated pottery, with few decorated exceptions, to the Developed Abkan. The black mouthed and rippled wares alternatively, were related to his Terminal Abkan phase, dated to the first half of the 4th millennium. Such chronological attribution has to be revised since black mouthed and rippled wares are now known from Tasian, Badarian, Kerma and Nabta contexts dating to the first half of the 5th millennium (Friedman & Hobbs 2002; Honegger 1999; Gatto 2006c). Burnished and black mouthed rippled wares are indeed consistently reported from both Developed and Terminal Abkan sites, including the stratified deposit at Catfish Cave, dated to the Terminal Abkan phase.¹³ For now, identifying chronological variations within Abkan ceramics is a difficult task.

10. Original radiocarbon dates in Wendorf 1968; re-run by Wendorf, Schild & Haas 1979.

11. Usai, *per. comm.*

12. Due to pottery similarity, an overlapping with the latest stage of the Khartoum Variant, KV2b (Gatto 2006a) might be possible. So far, the best known site dated to this phase is under investigation at Sai Island (Garcea 2006-2007; Garcea & Hildebrand 2009); radiocarbon dates from the upper layer confirm its chronological position at the end of the 6th millennium BCE.

13. Personal observation; the artifacts from Catfish Cave are now housed at the Yale Peabody Museum.

No cemeteries have been discovered in the Second Cataract area and it is hard to cross-reference the Abkan evidence with that from Upper Nubia. However, Abkan pottery has been compared to that of the Karat Group from the Dongola Reach, which represents the domestic counterpart of the cemeteries found in Multaga and generally speaking, in Upper Nubia (Gatto 2002b; Geus & Lecoine 2003). Both assemblages have a comparable pottery typology and percentage of pottery types within settlements, and both lack all the decorated vessels so typical of the funerary context. The strong difference between domestic and funerary ceramic assemblages is a typical trait of Nubian cultures and it is already detectable at this moment in time. The two phases of the Late Neolithic, identified in Upper Nubia, are therefore not yet visible in the Second Cataract region.

During the 5th millennium BCE no evidence of settlements are reported along the Nile from Dakka to Armant. Scattered findings however, such as three caliciform beakers, found reused in a C-Group cemetery in the Dakka area (Gatto 2006c), or sand tempered brown smoothed or burnished potsherds found in a secondary context at Elephantine (Raue 2008), bear witness to a different reality.

The so-called A-Group is the cultural unit that characterizes the 4th millennium in Lower Nubia. Its spatial and chronological distribution is subject to regional variability. In all probability, an A-Group-related unit was present in Upper Nubia as well, but for the time being only scant evidence hints at its existence. The A-Group has been divided into consecutive development phases by many authors, including Trigger (1965) and Williams (1986), yet, the definition currently in use is that of Nordström (1972 with the recent revision of 2001), who recognized three phases: Early (corresponding to Kaiser's *Stufen* Naqada Ic-IIc), Middle (contemporary to Naqada IId-IIIa)

and Terminal (corresponding to Naqada IIIb). His proposal was mainly based on data available to him from the Wadi Halfa Reach and the Second Cataract region, dated only to the later phases. According to Nordström, the Early A-Group phase was confined to the northern part of Lower Nubia and for his case he could only define it using second-hand published information. The author has managed to identify the latest development of the Abkan, sitting contemporary with the Early A-Group in the southern part of Lower Nubia.

Through the process of ongoing revision, the Early A-Group and the Terminal Abkan phases cannot be considered as such any longer. The Terminal Abkan is more closely connected to the Middle and Terminal A-Group phases of the Second Cataract region than the northern Early A-Group and both, although part of the same cultural background, differ in at least two major facts: the presence/absence of cemeteries, and Egyptian material. This has of course, strong implications from a cultural point of view. It might be argued that the lack of Terminal Abkan cemeteries is only the result of archaeological research, but the location of Middle and Terminal A-Group cemeteries in the area does not support such hypothesis.

What can be said so far is that two successive stages of development have been identified in Lower Nubia between 3800 and 3350 BCE (corresponding to Hendrickx's Naqada IC and Naqada IID phases in Egypt - Gatto 1998; 2006b; Hendrickx 2006). The first stage dated to Naqada IC-IIB (3800-3600 BCE) marks the earliest Naqada occupation in Lower Nubia.¹⁴ No evidence of a settlement is reported so far in the section of the Nile Valley between Gebel es-Silsila and Sayala that might be dated prior to Naqada IC.¹⁵ The reason for this gap is still far from being understood since Neolithic evidence datable at least to the second half of the

14. The possibility that what is currently reported as Badarian rippled pottery from sites such as Hierakonpolis or Elkab should instead be dated to the early 4th millennium BCE and associated with the Nubian component of the Naqada Culture in the area has to be seriously considered.

15. As a matter of fact, prior to Naqada IC no settlement is reported from Armant southward.

5th millennium BCE is consistently reported from surrounding regions. According to H.S. Smith (1991), some of the intact graves, which do not have Egyptian material in the funerary offerings, might be dated prior to the arrival of the Naqada Culture. This assumption implies that: there was a local population in the area before Naqada IC; that the population was Nubian-related (as it partially was in Upper and Middle Egypt); that a Nubian-related population continued to be settled in the region during the rise of the Naqada Culture in the Qena Bend area; that the Naqada Culture rapidly spread southward till Sayala; and that it overlapped and intermixed with the local Nubian-related population. However, none of these points can currently be tested.

In this early phase, Egyptian material and cemeteries are reported southward until Sayala in the Dakka Plain. Naqada black topped potsherds have been found, albeit in limited numbers, at localities further south, such as Catfish Cave (personal consideration) and sites in the Abka district (personal consideration; Nordström 1972; 2006). The First Cataract region was at this time integrated into the Naqada territory and cannot be counted as Nubia anymore. More difficult is to interpret the position of the Dakka-Sayala area in relation to Egypt. The Egyptian material counts for half of the funerary offerings from the local cemeteries. As far as the Egyptian pottery is concerned, almost all types are recorded indicating their direct and regular distribution from Egypt, which is not common when dealing with imported items (Takamiya 2004). Therefore, the direct involvement of Naqada in the region has to be considered. During this phase the Nubian pottery is characterized by black topped and rippled wares; fabrics are locally made, but seem to follow a common tradition (Gatto *et al.* 2009); shapes can vary considerably within the region.

A second phase, contemporary to Naqada IIC-D, is again attested in the Dakka-Sayala area and corresponds to a more developed stage of this mixed Naqada-Nubian culture.

Comparable evidence is attested in the First Cataract region, but here the Naqada component makes up the majority, indicating a stronger tie with the Egyptian world. The site of Khor Daud at Dakka likely represents an exchange-market place (Piotrovsky 1967), suggesting at that time, the area was probably the boundary zone between Egypt and Nubia. If so, this is the area where to look for the origin of the A-Group Culture. The first attempt to produce painted pottery is attested in cemeteries at Gerf Hussein, north of Dakka. On simple black topped bowls vertical, wide and spaced lines, obtained with a wash of pure clay are added on the outer surface (personal consideration¹⁶). In the Second Cataract region thus far, any change has been detected in the Terminal Abkan phase.

During 3350-3150 BCE (corresponding to Nordström's Middle A-Group and Hendrickx's Naqada IIIA), the socio-cultural setting deeply changes in Lower Nubia echoing the contemporary dramatic changes in the Naqada socio-political system. Two elite cemeteries are now reported from Sayala and Qustul (Firth 1927; Smith 1994; Williams 1986); however, there is a noticeable diversity between grave typology and material culture from each site, with Qustul being the richer of the two. The amount and quality of objects found in this small cemetery close to Abu Simbel is outstanding and has parallels only in the early royal cemeteries of Egypt. The famous Nubian egg-shell painted ware, which according to Nordström (1972; 2001) characterizes the Terminal A-Group phase, is already present at Qustul in great quantity and in the highest quality ever to be encountered in Nubia (Williams 1986). The rulers buried at Qustul already seem to have a stronger tie with Egypt. As a matter of fact, the quality and typology of Egyptian materials from Qustul has no parallel at Sayala, but for the exception of the golden mace handle found in Tomb 1 (Firth 1927). This phase also corresponds with the establishment of a settlement at Afia, north of Aniba

16. The pottery is now housed at the Boston Museum of Fine Arts.

(Lal 1967; Smith 1962). The architectural evidence, with squared adjacent rooms made of stone walls, is unknown in Nubia before Kerma, but is reported in Egypt. Objects from Egypt seem to make up the majority of cultural material (personal consideration), and it is also interesting to note the presence of domesticated grains. This all suggests that Afia might be an Egyptian outpost in Nubia, directly related to the area ruled by the elite, who were buried in Qustul. Radiocarbon dates are available for the site and, in combination to cross-referencing with the Egyptian material, seem to propose the site's continued use after the end of the A-Group Culture (Gatto 2006b), when Lower Nubia was directly controlled by Early Dynastic Egypt. Apart from the elite cemeteries and the settlement at Afia, the remaining cemeteries, also recorded in the Second Cataract region, are lacking evidence for a highly stratified society.

The last phase, dated to 3150-3100 BCE and corresponding to Nordström's Terminal A-Group and Hendrickx's Naqada IIIB-C1, marks the unification of Lower Nubia, from Dakka-Sayala to the Batn el-Haggat under the Qustul rulers. An elite cemetery, similar in many respects to Qustul is now reported from Naga Wadi, located south of Sayala (Firth 1927; Smith 1994). The egg-shell painted ware is found more often, but still rarely, in cemeteries; most of it is in fact concentrated in Qustul. The rulers in Qustul adopt the same ideology and iconography of the Egyptian rulers of Dynasty 0. Again, evidence of social complexity is quite limited in other cemeteries, although with a slightly higher percentage than in the previous phase.

With the end of the millennium and the establishment of the Egyptian dynastic society, the Nubian Culture developed a different socio-economic and political model difficult to detect on the archaeological record. From this new entity, here defined as B-Group *sensu* Gratien (1995), but known southward as Late Pre-Kerma, rises the following

Middle Nubian cultural phase. On this matter it is important to note that some of the few radiocarbon dates available for the A-Group cluster around the later first half of the 3rd millennium BCE (Gatto 2006b), thus too late compared to the chronology here applied. A revision of the pottery corpus from sites SJE 340 and SJE 430 indeed identifies the presence of pottery, in many respects similar to that of the Late Pre-Kerma/B-Group phase (personal consideration¹⁷).

The Eastern Desert

Reconstruction of the Holocene sequence in the Nubian Eastern Desert is still patchy due to the limited archaeological research in the area.¹⁸ To date, two different moments of occupation were identified. One dated to the Early Holocene and the other to the Late Holocene. Most of the earliest evidence is composed of potsherds collected on the surface during the survey made by the CeRDO Expedition in the Sudanese section of the desert (Sadr 1997; Sadr *et al.* 1995; Lanna & Gatto 2010). The pottery has the same decorations encountered in the Western Desert, the Second Cataract and Kerma; therefore, despite such scant information, a correlation with the El Nabta, Al Jerar, Khartoum Variant, El Barga and Wadi el Arab phases can be made without question (8th-7th millennia BCE – Gatto in press b).

Furthermore, the Late Holocene occupation is related to the Nubian sequence and rare evidence of the Neolithic of the Abkan and El Ansam types, the A-Group and possibly the Pre-Kerma, are detected (fifth to first half of the 3rd millennium BCE). This evidence mainly consists of temporary camp sites and tumuli or stone structures. Again the pottery has been the discriminating factor in cultural assignation (Gatto in press b).

Laqiya and Wadi Howar

The southern part of the Libyan Desert only partially relates to the Nubian tradition. In the Laqiya Region the first evidence of Nubian Culture is dated to *c.* 4700 BCE.

17. The pottery from SJE A-Group sites has been reanalyzed at the Uppsala University Gustavianum Museum.

18. For details on the history of the research see Gatto in press.

This phase can be attributed to the Abkan of the Nile Valley, but also shows affinities with Nabta and the rest of the Late Nubian Neolithic (Lange 2006; Lange & Nordstrom 2006). During the second half of the 4th millennium BCE the sites in this area are associated with the A-Group (Lange 2003; 2006). The Wadi Howar sequence is related to the Nubian sphere only from the second half of the 3rd millennium BCE with a pastoral segment of the Kerma Culture (Jesse *et al.* 2004). However, even during a period where connections are more common with the Khartoum region, some sites are found in the Lower Wadi Howar (which is the section of the wadi closest to the Nile Valley) with caliciform beakers and pottery similar to that found in the Nubian Neolithic cemeteries of Kadruka and Multaga (Gebel Abyad & Abu Tabari - Jesse 2003; 2006-2007). Radiocarbon dates highlight a slightly younger age of the sites compared to those from Upper Nubia (beginning of the 4th millennium BCE).

Dongola Reach and Fourth Cataract

Current knowledge suggests that there are two main prehistoric phases existing in the Dongola Reach. The Karmakol phase is dated at site MTG3 in Multaga (Geus & Lecointe 2003; Gatto 2006d; Peressinotto *et al.* 2004) to the mid-6th millennium BCE by radiometric dates obtained from organic inclusions in pottery. Karmakol sites were first identified in the area by the CPE. The Karmakol people were not part of the Nubian network, keeping at that time, the Dongola Reach separated from the Nubian territory.

The second phase is dated to the 5th millennium BCE and shows typical elements of the Nubian Neolithic in the Kerma and Seleim Basin areas. This is particularly true for the pottery, while some local variations are detected in tombs structures and spatial arrangement (Geus & Lecointe

2003). Campsites of this phase were already recorded by the CPE and defined as the Karat Group (Marks & Ferrings 1971).

The chronological and cultural sequence near the southern border of Nubia is still poorly understood, although the area has recently been intensively investigated due to the building of a dam upstream from the Fourth Cataract. Hitherto, what can be assumed from the available data is the presence of the same two phases reported for the nearby Dongola Reach. During the 7th millennium BCE (the chronological range might indeed be wider) a mix of people exploited the region. In fact, ceramics similar to those from the Dongola Reach (Karmakol Group), Kerma, and the Eastern Desert are contemporary present in the area, in addition to examples associated to the Khartoum assemblage. The second phase is dated to the 5th millennium BCE and this time the archaeological evidence is homogeneously related to the Neolithic of Upper Nubia (Gatto 2006a; in press b).¹⁹

The Khartoum Region

A strong similarity between the Nubian evidence and that from the Khartoum Region (to include the section of the Nile Valley between the confluence of the Atbara River and Khartoum, the sections of the Blue Nile and White Nile south of Khartoum and the northern part of the Gezira) is detectable during the 5th-4th millennia BCE and is the consequence of the adoption of pastoral economy south of the Fourth Cataract. A climatic deterioration in the Khartoum region is supposedly one of the main reasons for this economic change. The Nubian-related elements here built upon the local Mesolithic or Early Khartoum tradition with an influence that can vary in space and time even within the same site.

The chronology of the Khartoum Neolithic, in spite of recent revisions (Salvatori & Usai 2006-7), is still rather basic. Nevertheless,

19. The main results of all the projects were published in the proceedings of four conferences held in Gdansk (2004), Berlin (2005), Cologne (2006), and Lille (2007): Paner & Jakobielski (2005); Näser & Lange (2007); Wotzka & Felber (forthcoming); Gratien (2008). Several articles also appeared in Sudan & Nubia and many communications were presented during the annual meeting of the SARS at the British Museum.

when radiocarbon dates are cross-related with ceramic assemblages a more detailed sequence comes to light. Five phases, which form three chrono-cultural units are then defined (Gatto 2001): 1) Early Neolithic phase I, *c.* 4900-4700 BCE; major sites are Rabak, Umm Direiwa I, and Islang. 2) Early Neolithic phase II, *c.* 4700-4300 BCE; major sites are Shaheinab and Geili settlement. 3) Middle Neolithic phase I, *c.* 4300-4000 BCE; major sites are Kadero I, Kadero II, Ghaba and El Kenger East. 4) Middle Neolithic phase II, *c.* 4000-3800 BCE; major sites are Kadero II, Ghaba and El Kenger Middle. 5) Late Neolithic, *c.* 3800-3400 BCE; major sites are Kadada A-B, Kadada C and Geili Cemetery.²⁰

Each chrono-cultural unit is characterized by a different pottery repertoire, the main changes of which are not reported within shapes and fabrics, but within the intra-site and intra-regional percentage variability of decorative techniques and patterns. In the Early Neolithic pottery, decorations still show strong ties with previous local productions. In the village found at Geili, for instance, half of the pottery assemblage is decorated with rocker dotted zigzags characterized by an unevenly serrated edge. Alternately, pivoting stamp impressions, simple impressions and incisions are also quite common techniques in use to achieve a variety of patterns. The Nubian influence is detectable in the limited presence of burnished vessels and of rocker plain zigzags and rippled decorations (Gatto 2001; 2002b). At the same time in Upper and Lower Nubia, decorations such as the rocker dotted zigzags with unevenly serrated edges and the alternately pivoting stamps are reported for the first time (Salvatori & Usai 2008).

The oldest Neolithic necropolises in the Khartoum region are dated to the Middle Neolithic. The Nubian influence in this case is not only noticeable in the cultural material, particularly pottery, but also in the use of formal disposal areas. Funerary rituals have connections as well, among which is the presence

of animal sacrifices (dogs and sheep-goats) and bovine bucrania in human graves are recorded (Reinold 2007; Roma 2010).

At Kadero there is a difference between the pottery assemblage from the village and that from the cemetery: in the first case, the majority of the vessels are decorated with the rocker technique (although compared to Geili with a less percentage), with incisions and simple impressions being the other common decorative technique. Black topped and black rimmed vessels represent new productions of this phase. The latter type is a local reinterpretation of the black topping peculiar of the Khartoum Neolithic only (Gatto 2001). In the cemetery, pottery is mainly decorated with incisions, burnishing, black topping and black rimming. This new Nubian-related pottery, including three examples of caliciform beakers (the oldest in the region – Chlodnicki 1997) are primarily confined to funerary contexts, while in domestic contexts rocker decorations applied on the whole surface, representing the local tradition, are still preferred.

The two cemeteries found at Kadada and dated to the Late Neolithic are slightly different as far as the pottery assemblage is concerned. At Cemetery A-B the majority of the vessels are decorated with alternately pivoting stamps, incisions and ripples. Smoothed coarse ware vessels are also common. At Cemetery C the rippled decorated vessels are in the majority, followed by those with incisions, burnishing and alternately pivoting stamping. A trend towards an increase of Nubian-related productions, particularly rippled vessels, is thus attested. Of note is the minor presence of caliciform beakers on both cemeteries, with KDD-C having a slightly higher percentage (Gatto 2001; Geus 1980; 1982; 1984a; 1984b; Reinold 1987; 2007). Both rippled wares and beakers here have peculiarities, which diverged from those detected in the Nubian counterpart. Most, but not all, of the rippled decorations are obtained by applying a comb vertically on the exterior surface; the beak-

20. The aforementioned sites are some of the most important among those radiocarbon dated. Other important sites are also known, but their chronological association relies only on material cross-referencing.

ers are longer and with a larger flared rim. The chronology of the examples from the two regions varies also, with the Khartoum types being younger than those from Nubia. At Shaheinab Cemetery, painted vessels are also reported (Arkell 1953); again a northern influence for them is highly likely, as painted wares are first found in Nubia in A-Group contexts and then in the Pre-Kerma (Honegger 2004a). Shaheinab is actually one of the sites in the region with a stronger Nubian influence on the pottery assemblage. The site showing the stronger link with the A-Group culture, however, has been found by local people in the Sabaloka area (Gatto 2006-2007). Judging from the few vessels now housed at the SFDAS's storeroom in Khartoum, it represents a cemetery context. The vessels have strong similarities with Middle and Late A-Group examples from Lower Nubia, but also have peculiarities not encountered in the northern contexts. Unfortunately the site has yet to be located and properly documented by archaeologists.

Upper and Middle Egypt and Nearby Deserts

The northern Nubian border consists of a quite large and fluid zone. Throughout the 5th millennium BCE, when the Nubian Culture underwent its maximum territorial expansion, the Middle and Upper Egyptian Nile Valley and nearby deserts became the northern fringes of the Nubian cultural territory. This corresponds to a re-occupation (or more likely a more stable occupation) of Middle and Upper Egypt, after the Elkabian Period dated to the end of the 7th millennium BCE (Vermeersch 1978).²¹

The two Nubian-related archaeological units known in this period are the Badarian and the Tasian. Judging from the small amount of radiocarbon dates to hand, it is likely that the two cultures only partially

overlap, with the Tasian being slightly older than the Badarian.²² The Badarian has a more valley-oriented settlement pattern, with many cemeteries and campsites found at the edge of the valley. It is interesting to note the presence of animal burials in the cemetery, a behavior already encountered in Nubia, particularly within the so-called Early A-Group in the Aswan region. The Tasian, on the other hand, seems more connected to the desert environment, even if evidence of it was also found in the Mostagedda-Badari region (Brunton 1937). The Tasian pottery assemblage includes caliciform beakers, black topped and rippled beakers and sand tempered smoothed or burnished bowls (J.C. Darnell pers. communication; Friedman & Hobbs 2002; Brunton 1937). Except for the black topped and rippled beakers, the remaining Tasian pottery assemblage strongly resembles that from the Nabta Terminal Neolithic, as attested in the Gebel Ramlah graveyard (Gatto 2010). Black topped and rippled vessels are also characteristic of the Badarian pottery repertoire (Brunton & Caton-Thompson 1928) that in addition, shows a connection to northern contemporary ceramics, such as those from Fayum (personal consideration; Caton-Thompson & Gardner 1934).

With the 4th millennium BCE, the Egyptian Culture takes its own pathway, becoming more and more independent from Nubia. The southern part of the Egyptian Nile Valley, however, shows a strong Nubian connection during this phase. Its proximity to Lower Nubia and the contemporary A-Group Culture keeps their Nubian cultural background alive within the local population. This is particularly visible in the pottery and lithic assemblages, with a preference in showing identity markers within the funerary sphere.

The ongoing excavation in the Predynastic settlement and cemetery of Nag el-Qarm-

21. Evidence of human occupation in the Qena Bend area, both along the Nile and in the deserts is reported from the second half of the 6th millennium BCE. One of these includes the Tarifian (Vermeersch et al. 1992; Ginter, Kozłowski & Drobniwicz 1979; Ginter & Kozłowski 1984).

22. A radiocarbon determination for the beginning of the 5th millennium BCE is available for the Tasian rock-cut tomb in Wadi Atulla (Friedman & Hobbs 2002); a radiocarbon determination to mid 5th millennium is also available for the Wadi el-Hôl Tasian Cave (J.C. Darnell pers. communication).

ila, north of Kubbaniya, is bringing to light such evidence. The domestic remains identified so far are radiometrically dated to 3800-3700 BCE, perfectly fitting within phase Naqada IC-IIB of Hendrickx's chronology (Gatto *et al.* 2009). The majority of the lithic assemblage is made following the Naqada tradition, but some elements of Nubian origin are identified, among which are the lunates.²³ Locally made Nubian-related pottery is present in the domestic sphere in a very low percentage compared to Naqada pottery; however, as a peculiarity of the Aswan Region, half of the vessels are locally made with coarse shale fabrics.²⁴ The necropolis at Nag el-Qarmila is currently under investigation and the graves, although already plundered, can be easily dated thanks to the funerary offerings left by the looters. These are in majority Naqada-related, but a higher percentage of Nubian vessels have been noticed. The chronological range of the cemetery is so far between Naqada IC and IID-III A1 with a possible break belonging to IIB.²⁵ Nubian pottery is present throughout the phases, while major changes are encountered between the shale/Nile C wares. Shale fabrics are consistently present in the older graves; the vessels often have well finished surfaces with a red coating and polishing, and are used as a substitute for the red polished wares. In the younger graves, shale fabrics are absent and replaced by the Nile C fabric. Pottery of the Nubian tradition consists almost exclusively of black mouthed vessels in the later phase, while some red polished and smoothed pots are recorded in the older graves. They are definitely made locally with silty clay that might either be the so-called Wild Nile or the Middle Pleistocene alluvial deposits at the site. The shapes and surface treatments of the Nubian black mouthed pottery often differ from those known in Lower Nubia: large bowls might have a flat base and conical body; the coating and the burnishing

on the outer surface is usually uneven; the coating is applied with a vegetal device (a sort of brush); and burnishing strokes are highly visible. Typical Lower Nubian shapes in combination with rippled decoration are represented as well, particularly in the youngest phase.

The Holocene Nubian Sequence: A Proposal

What is presented in this paper shows the strong tie existing in the archaeological record for the region of northeastern Africa. This notably clarifies the parallel fashion with which the chronological and cultural succession occurs throughout Nubia.

Ways to define Nubian prehistoric cultures may vary according to the perspective taken, whether it is economy, social complexity, cultural definition etc. Here it is preferred to avoid specific definitions related only to one of the aforementioned aspects and propose a general framework, which relies on both Trigger's and Nordstrom's use of the term Early Nubian and on Clarke's definition of cultures.

The term Early Nubian (EN) is here used to define the Nubian Holocene Prehistoric Period (c. 10,000 to 3000 BCE), as well as to identify the prehistoric Nubian culture group. The Early Nubian culture group is seen as part of the Nilotic techno-complex that includes, among others, the Egyptian and the Khartoum culture groups (Gatto 2002b).

Different phases of the Early Nubian Period correspond to different cultures; sometimes more than one culture can be reported in one phase. Sub-phases mostly correspond to sub-cultures, thus to regional intra-cultural variability.

Subdivisions within the Early Nubian are mainly determined by changes in the economy and social complexity and usually exist on a regional scale (Nubia as cultural territory). Intra-cultural variability will be taken into consideration as a second step.

23. Lunates are characteristic of the 5th and 4th millennium Neolithic tool production all over Nubia. Lunates used as sickle elements still in situ as part of a wooden handle have been recovered by Reisner in the contemporary Cemetery 17 at Khor Bahan (Reisner 1910).

24. The percentage of shale wares in the Hierakonpolis-Adaima area is about 30% (Bucheze 2004).

25. As supported by the absence of a younger settlement in the area.

Five discrete periods/phases can be defined: Early Nubian I: corresponds to the beginning of the Holocene Period, when a hunter-gatherer-fishing economy was still predominant, although with an incipient social complexity (delayed-return hunter-gatherers). Pottery was already manufactured and possibly an early cattle-keeping activity was established. Nabta-Kiseiba, the Nile Valley from the Second to the Third Cataract and the Nubian Eastern Desert were settled by distinct but strongly related communities that seasonally moved from the river to the desert.

Early Nubian II: corresponds to the 7th millennium BCE, when cattle herding has a prominent role in the economy, together with foraging, hunting and fishing. A remarkable change in ceramic manufacturing might reflect a shift towards a new socio-cultural system in which the aforementioned groups, those displaying incipient social complexity, merge. Seasonal movements between river and desert are detected and a more permanent settlement in the desert can last for months.

Early Nubian III: corresponds to the 6th millennium BCE, when incipient aridity forces humans to adjust their economy, now mainly herding-related, and the settlement pattern; a higher mobility is adopted in the desert environment. Sheep/goats from the Levant are easily accepted by herders

as amelioration to their subsistence strategy. For the first time funerary offerings are found in graves in the Kerma region.

Early Nubian IV: corresponds to the 5th millennium BCE, when Nubian herders expand their territorial movements and improve relationships with surrounding people. Of particular importance is their presence in Upper Egyptian deserts, where interaction with local and oases communities creates the cultural background for the Predynastic Culture. A strong intra-cultural variability is detected due to this spreading and because pastoral societies do not have the same arrangement that farming societies tend to have. The portion of the Valley between the third and the fourth Cataracts, being favorable for foraging and farming, presents a more sedentary settlement pattern with communities relying for their subsistence on both herding and foraging/farming.

Early Nubian V: corresponds to the 4th millennium BCE, when social complexity in Nubia develops at a higher speed because of the strong relationship with Predynastic Egypt. Chiefdoms are reported in the Dakka-Sayala and Second Cataract regions, and are also likely to exist at Kerma. With the unification of Egypt, a reassessment in Nubian social organization and settlement patterns take place, building the foundation for a new socio-cultural entity, the so-called Middle Nubian.

Bibliography

- ADAMS, W.Y., 1977. *Nubia: Corridor to Africa*. Princeton.
- ARKELL, A.J., 1953. *Shaheinab: An account of the excavation of a Neolithic occupation site*. Oxford.
- BRUNTON, G., 1937. *Mostagedda and the Tasian culture*. London.
- BRUNTON, G. & CATON-THOMPSON, G., 1928. *The Badarian civilisation and prehistoric remains near Badari*. British School of Archaeology in Egypt & Egypt Research Account 46. London.
- BUCHEZ, N., 2004. Les vases à cuire de l'époque prédynastique à Adaiïma: aspects techniques, économiques et culturels [in:] MARCHAND, S. (ed.), *Cahiers de la Céramique Égyptienne* 7: 15-45. Le Caire.
- CATON-THOMPSON, G. & GARDNER, E. W., 1934. *The desert Fayum*. London.
- CHŁODNICKI, M., 1997. New types of the Neolithic pottery in Kadero (Sudan). *Cahiers de recherches de l'Institut de Papyrologie et d'Égyptologie de Lille*, 17,2: 29-35.
- FIRTH, C.M., 1927. *The archaeological survey of Nubia: Report for 1910-1911*. Cairo.
- FRIEDMAN, R.F. & HOBBS, J., 2002. A 'Tasian' tomb in Egypt's Eastern Desert [in:] FRIEDMAN, R.F. (ed.), *Egypt and Nubia. Gifts of the desert*. London: 178-191.
- GARCEA, E.A.A., 2006-2007. The Holocene prehistory at Sai Island, Sudan. *Cahiers de recherches de l'Institut de Papyrologie et d'Égyptologie de Lille*, 26: 107-113.
- GARCEA, E.A.A. & HILDEBRAND, E.A., 2009. Shifting social networks along the Nile: Middle Holocene ceramic assemblages from Sai Island, Sudan. *Journal of Anthropological Archaeology*, 28,3: 304-322.
- GATTO, M.C., 1998. A-Groups: a Complex Society of Lower Nubia [in:] C. ALHAIQUE; B. ARIAS; E. BARICH; C.W. BECK; N.J. CONARD; J. DE GROSSI MAZZORIN; M. HEYWORTH; L. KRZYZANIAK; A. MARTINI; M. MASSETI; N. NEGRONI CATACCHIO; M. PATOU-MATHIS; J.P. RAYNAL; M.K. STRIEDTER; A. TAGLIACCOZZO; T. TILLET; S. VANNUCCI; F. WENDORF & C. PERETTO (eds.) *Proceedings VIII° Congress IUSSP – Workshops*, vol. 1. Forlì: 515-519.
- GATTO, M.C., 2001. *Tradizioni ceramiche e confini culturali nella tarda preistoria (V°-IV°millennio a.C.) dell'Africa nord-orientale*. Istituto Universitario Orientale, Dottorato di Africanistica (unpublished Ph.D. dissertation).
- GATTO, M.C., 2002a. Early Neolithic pottery of the Nabta-Kiseiba area: Stylistic attributes and regional relationships [in:] NELSON, K. & ASSOCIATES, *Holocene settlement of the Egyptian Sahara. Volume 2. The pottery of Nabta Playa*. New York - Boston - Dordrecht: 65-78.
- GATTO, M.C., 2002b. Ceramic Traditions and Cultural Territories: the "Nubian Group" in Prehistory, *Sudan and Nubia* 6: 8-19.
- GATTO, M.C., 2006a. The Khartoum Variant pottery in context: Rethinking the Early and Middle Holocene Nubian sequence. *Archéologie du Nil Moyen*, 10: 57-72.
- GATTO, M.C., 2006b. The Nubian A-Group: A reassessment. *Archéo-Nil*, 16: 61-76.
- GATTO, M.C., 2006c. Prehistoric Nubian ceramic traditions: Origin, development and spreading trajectories [in:] CANEVA, I. & ROCCATI, A. (eds.), *Acta Nubica. Proceedings of the X Int. Conference of Nubian Studies. Rome 9-14 September 2002*. Roma: 103-106.
- GATTO, M.C., 2006d. The most ancient pottery from the Dongola Reach (Northern Sudan): new data from the SFDAS survey related to the construction of the Merowe Dam. *Archéologie du Nil Moyen* 10: 73-86.
- GATTO, M.C., 2006-2007. «Je voudrais te montrer un truc». A short note on a possible A-Group related cemetery at the Sixth Cataract of the Nile. *Cahiers de recherches de l'Institut de Papyrologie et d'Égyptologie de Lille*, 26: 115-119.
- GATTO, M.C., 2010. Pottery from Gebel Ramlah [in:] KOBUSIEWICZ, M.; KABACINSKI, J.; SCHILD, R.; IRISH, J.D.; GATTO, M.C. & WENDORF, F., *Gebel Ramlah: Final Neolithic Cemeteries from the Western Desert of Egypt*. Poznan: 125-157.
- GATTO, M.C., in press a. The Holocene prehistory of the Nubian Eastern Desert [in:] BARNARD, H. & DUISTERMAAT, K. (eds.), *History of the People of the Eastern Desert from Prehistory to Present*. Los Angeles.
- GATTO, M.C., in press b. Beyond the Shale: Pottery and Cultures in the Prehistory of the Egyptian Western Desert [in:] DAVOLI, P.; BAGNALL, R.S. & HOPE, C. (eds.), *New Perspectives on the Western Desert of Egypt*. Lecce.
- GATTO, M.C., in preparation. *Catalogue of The Wendorf Pottery Collection at The British Museum*, BAR International Series. Oxford.
- GATTO, M.C.; DE DAPPER, M.; GERISCH, R.; HART, E.; HENDRICKX, S.; HERBICH, T.; JORIS, H.; NORDSTRÖM, H.-A.; PITRE, M.; ROMA, S.;

- SWIECH, D. & USAI, D., 2009. Predynastic settlement and cemeteries at Nag el-Qarmila, Kubbania. *Archéo-Nil*, 19: 186-206.
- GEUS, F., 1980. *Rapport annuel d'activité. 1978-1979. Service des Antiquités du Soudan, Section Française de Recherche Archéologique*. Khartoum.
- GEUS, F., 1982. *Rapport annuel d'activité. 1980-1981. Service des Antiquités du Soudan, Section Française de Recherche Archéologique*. Khartoum.
- GEUS, F., 1984a. *Rescuing Sudan Ancient Cultures*. Khartoum.
- GEUS, F., 1984b. Excavations at El Kadada and the Neolithic of the Central Sudan [in:] KRZYZANIAK, L. & KOBUSIEWICZ, M. (eds.), *Origin and Early Development of Food-Producing Cultures in North-Eastern Africa*. Poznan: 361-372.
- GEUS, F. & LECOINTE, Y., 2003. Survey and excavation at el-Multaga, a resettlement area related to the construction of the Merowe Dam: Preliminary results. *Sudan & Nubia*, 7: 33-39.
- GINTER, B. & KOZLOWSKI, J.K., 1984. The Tarifian and the origin of the Naqadian [in:] KRZYZANIAK, L. & KOBUSIEWICZ, M. (eds.), *Origin and early development of food-producing cultures in North-Eastern Africa*. Poznan: 247-260.
- GINTER, B.; KOZLOWSKI, J.K. & DROBNIEWICZ, B., 1979. *Silexindustrien von El Tarif: ein Beitrag zur entwicklung der prädynastischen Kulturen in Oberägypten*. Archäologische Veröffentlichungen 26. Mainz am Rhein.
- GRATIEN, B., 1995. La Basse Nubie à l'Ancien Empire: Egyptiens et Autochtones. *Journal of Egyptian Archaeology*, 81: 43-56.
- GRATIEN, B. (ed.), 2008. *Actes de la 4e Conférence internationale sur l'archéologie de la 4e cataracte du Nil : Villeneuve d'Ascq, 22 et 23 juin 2007*. Villeneuve d'Ascq.
- HENDRICKX, S., 2006. Predynastic – Early Dynastic chronology [in:] HORNUNG, E.; KRAUSS, R. & WARBURTON, D.A., (eds.), *Ancient Egyptian Chronology*. Handbook of Oriental Studies. Section One. The Near and Middle East, vol. 83. Leiden - Boston: 55-93, 487-488.
- HONEGGER, M., 1995. Kerma: Note sur la reprise des fouilles de l'agglomération pré-Kerma. *Genava*, 43: 58-59.
- HONEGGER, M., 1997. Kerma: L'agglomération pré-Kerma. *Genava*, 45: 113-118.
- HONEGGER, M., 1999. Kerma: les occupations néolithiques et pré-Kerma de la nécropole orientale. *Genava*, 47: 77-82.
- HONEGGER, M., 2001. Fouilles préhistoriques et prospection dans la région de Kerma. *Genava*, 49: 221-228, XII-XVI.
- HONEGGER, M., 2003. Peuplement préhistorique dans la région de Kerma / Prehistoric Population in the Kerma Region. *Genava*, 51: 281-290, xiii-xvii.
- HONEGGER, M., 2004a. « The Pre-Kerma: a cultural group from upper Nubia prior to the Kerma civilisation », *Sudan and Nubia*, 8 : 38-46.
- HONEGGER, M., 2004b. El-Barga [in:] WELSBY, D. & ANDERSON, J.R. (ed.), *Sudan Ancient Treasures : an Exhibition of Recent Discoveries from the Sudan National Museum*. London: 31-34.
- HONEGGER, M., 2004c. Settlements and cemeteries of the Mesolithic and Early Neolithic at el Barga (Kerma region). *Sudan & Nubia*, 8: 27-32.
- HONEGGER, M., 2005. Kerma et les débuts du Néolithique africain [in :] BONNET, C. ; HONEGGER, M. & COLLAB., Les fouilles archéologiques de Kerma (Soudan), *Genava*, n.s., 53: 239-249.
- HONEGGER, M., 2006. La culture du Pré-Kerma de Haute Nubie, *Archéo-Nil*, 16: 77-84.
- HONEGGER, M., 2007. Aux origines de Kerma [in :] BONNET, C. ; HONEGGER, M. & COLLAB., Les fouilles archéologiques de Kerma (Soudan), *Genava*, n.s., 55: 201-212.
- HONEGGER, M.; BONNET, C.; DUBOSSON, J.; JAKOB, B.; FALLET, C. & RUFFIEUX, P., 2009. *Kerma (Soudan), report to the 2008-2009 season* (Documents de la mission archéologique suisse au Soudan; 1). Neuchâtel.
- JESSE, F., 2003. New archaeological work in the Lower Wadi Howar (Northern Sudan): A preliminary report on the 2002 field season. *Nyame Akuma*, 60: 43-45.
- JESSE, F., 2006-2007. Un nouvel aspect du Néolithique au Wadi Howar (Nord du Sudan) – des vases calciformes. *Cahiers de recherches de l'Institut de Papyrologie et d'Égyptologie de Lille*, 26: 187-196.
- JESSE, F.; KRÖPELIN, S.; LANGE, M.; PÖLLATH, N. & BERKE, H., 2004. On the periphery of Kerma. The Handessi Horizon in Wadi Hariq, Northwestern Sudan. *Journal of African Archaeology*, 2: 123-164.
- KUPER, R. & KRÖPELIN, S., 2006. Climate-controlled Holocene occupation in the Sahara: Motor of Africa's evolution. *Science*, 313: 803-807.
- LAL, B.B., 1967. Indian Archaeological Expedition to Nubia, 1962. A preliminary report [in:] *Fouilles en Nubie (1961-1963)*. Le Caire: 97-118.
- LANGE, M., 2003. A-Group settlement sites from the Laqiya region (Eastern Sahara, Northwest Sudan) [in:] KRZYZANIAK, L.; KROEPER, K. & KOBUSIEWICZ, M. (eds.), *Cultural markers in*

- the Later Prehistory of Northeastern Africa and recent research*. Poznan: 105-127.
- LANGE, M., 2006. *Wadi Shaw - Wadi Sahal. Studien zur holozänen Besiedlung der Laqiya Region (Nordsudan)*. Africa Praehistorica 19. Köln.
- LANGE, M. & NORDSTRÖM, H.-Å., 2006. Abkan connections - The relationship between the Abkan culture in the Nile valley and early Nubian sites from the Laqiya region (Eastern Sahara, northwest-Sudan) [in:] KROEGER, K.; CHŁODNICKI, M. & KOBUSIEWICZ, M. (eds.) *Archaeology of early northeastern Africa. In memory of Lech Krzyżaniak*. Poznan: 297-312.
- LANNA, S. & GATTO, M.C., 2010. Prehistoric Human Occupation in the Nubian Eastern Desert: an overview [in:] *Between the Cataracts, Proceedings of the XIth International Conference of the Society for Nubian Studies*, PAM Supplement Series, vol. 2.2. Warsaw: 319-328.
- MARKS, A.E., 1970. *Pre-ceramic sites*. Scandinavian Joint Expedition to Sudanese Nubia 2. Helsinki.
- MARKS, A.E. & FERRING, C.R., 1971. The Karat Group: An Early Ceramic Bearing Occupation of the Dongola Reach, Sudan [in:] SHINER, J.L.; MARKS, A.; CHMIELEWSKI, V.; HEINZELIN, J. DE & HAYS, T.R., *The Prehistory and Geology of Northern Sudan. Report to the National Science Foundation*: 187-275.
- MYERS, O.H., 1958. Abka re-excavated. *Kush*, 6: 131-141.
- MYERS, O.H., 1960. Abka again. *Kush*, 8: 174-181.
- NÄSER, C. & LANGE, M. (eds.), 2007. Proceedings of the Second International Conference on the Archaeology of the Fourth Nile Cataract. *Meroïtica* 23.
- NORDSTRÖM, H.Å., 1972. *Neolithic and A-Group sites*. Scandinavian Joint Expedition to Sudanese Nubia 3. 2 vols. Copenhagen.
- NORDSTRÖM, H.-A., 2001. A-Group [in:] REDFORD, D.B. (eds.), *The Oxford Encyclopedia of Ancient Egypt* (e-reference edition). Oxford University Press. 23 May 2011: <http://www.oxford-ancientegypt.com/entry?entry=t176.e0015>
- NORDSTRÖM, H.-A., 2006. The discovery of the Neolithic in Nubia. *Archéo-Nil*, 16: 31-39.
- PANER, H. & JAKOBIELSKI, S. (eds), 2005. *Proceedings of The Archaeology of the Fourth Nile Cataract Gdańsk - Gniew/ 23-25 July 2004*. Gdańsk Archaeological Museum African Reports 4. Gdańsk.
- PERESSINOTTO, D.; SCHMITT, A.; LECOINTE, Y.; POURIEL, R. & GEUS, F., 2004. Neolithic nomads at El Multaga, Upper Nubia, Sudan. *Antiquity*, 78: 54-60.
- PIOTROVSKI, B.B., 1967. The Early Dynastic settlement of Khor Daoud and Wadi-Allaki: The ancient route to the gold mines [in:] *Fouilles en Nubie (1961-1963)*. Le Caire: 127-140.
- RAUE, D., 2008. Who was who in Elephantine of the third millennium BC? *BMSAES*, 9: 1-14.
- REINOLD J. 1987. Les fouilles pré-et proto-historiques de la Section française de la Direction des Antiquités du Soudan; les campagnes 1984-85 et 1985-86. *Archéologie du Nil Moyen* 2: 17-60.
- REINOLD, J., 2001. Kadruka and the Neolithic in the Northern Dongola Reach. *Sudan & Nubia*, 5: 2-10.
- REINOLD, J., 2002. Néolithique du Soudan central et de Haute Nubie - données sur le matériel en céramique [in:] JENNERSTRASSE 8 (eds.), *Tides of the desert - Gezeiten der Wüste*. Köln: 203-218.
- REINOLD, J., 2004. Kadruka [in:] WELSBY, D. & ANDERSON, J.R. (ed.), *Sudan Ancient Treasures: an Exhibition of Recent Discoveries from the Sudan National Museum*. London: 42-48.
- REINOLD, J., 2007. *La nécropole néolithique d'El Kadada au Soudan Central*. Paris.
- REISNER, G.A., 1910. *The Archaeological Survey of Nubia. Report for 1907-1908*. Cairo.
- ROMA, S. 2010. *Sepoltura animale nella preistoria della Valle del Nilo egiziana e Sudanese: contesti, evidenze archeologiche e interpretazioni*. Unpublished PhD dissertation. Napoli, Università di Napoli "L'Orientale".
- SADR, K., 1997. The Wadi Elei finds: Nubian Desert gold mining in the 5th and 4th Millennia BC? *Cahiers de recherches de l'Institut de Papyrologie et d'Égyptologie de Lille*, 17,2: 67-53.
- SADR, K.; CASTIGLIONI, A. & CASTIGLIONI, A., 1995. Nubian Desert archaeology: A preliminary view. *Archéologie du Nil Moyen*, 7: 203-229.
- SALVATORI, S., 2008. Pottery for the death: a survey of grave goods categories [in:] SALVATORI, S. & USAI, D. (eds.), *A Neolithic cemetery in the Northern Dongola reach. Excavations at site R12*. SARS 16. BAR Int. Ser. 1814. Oxford: 9-19.
- SALVATORI, S. & USAI, D. 2006-2007. The Sudanese Neolithic revisited. *Cahiers de recherches de l'Institut de Papyrologie et d'Égyptologie de Lille*, 26: 323-333.
- SALVATORI, S. & USAI, D. (eds.), 2008. *A Neolithic cemetery in the Northern Dongola reach. Excavations at site R12*. SARS 16. BAR Int. Ser. 1814. Oxford.
- SCHILD, R.; CHMIELEWSKI, M. & WIECKOWSKA, H., 1968. The Arkinian and Shamarkinian industries [in:] F. WENDORF (ed.), *The Prehistory of Nubia*, vol. II. Dallas: 651-767.

- SHINER, J.L., 1968. The Cataract tradition [in:] F. WENDORF (ed.), *The Prehistory of Nubia*, vol. II. Dallas: 535-629.
- SMITH, H.S., 1962. *Unesco's international campaign to save the monuments of Nubia*. Preliminary reports of the Egypt Exploration Society's Nubian survey. Cairo.
- SMITH, H.S., 1991. The development of the A-Group culture in Northern Lower Nubia [in:] DAVIES, W.V. (ed.), *Egypt and Africa. Nubia from Prehistory to Islam*. London: 92-111.
- SMITH, H.S., 1994. The princes of Seyala in Lower Nubia in the Predynastic and Protodynastic periods [in:] BERGER, C.; CLERC, G. & GRIMAL, N. (eds.), *Hommages à Jean Leclant. Vol. 2. Nubie, Soudan, Ethiopie*. BdE 106,2. Le Caire: 361-376.
- TAKAMIYA, I.H., 2004. Egyptian pottery distribution in A-Group cemeteries, Lower Nubia: Towards and understanding of exchange systems between the Naqada culture and the A-Group culture. *Journal of Egyptian Archaeology*, 90: 35-62.
- TRIGGER, B.G., 1965. *History and settlement in Lower Nubia*. Yale University Publications in Anthropology 69. New Haven.
- USAI, D., 2005. Early Holocene seasonal movements between the desert and the Nile Valley. Details from the lithic industry of some Khartoum Variant and some Nabta/Kiseiba sites. *Journal of African Archaeology*, 3, 1: 103-115.
- USAI, D., 2008a. Tracing the movements of the Western Desert dwellers: site 11-I-13 in Wadi Karagan, Sudanese Nubia, closely akin to El Ghorab or El Nabta. *Journal of African Archaeology*, 6, 2: 219-232.
- USAI, D. 2008b. Lunates and micro-lunates, cores and flakes. The lithic industry of R12. ANeolithic cemetery in the Northern Dongola Reach. Excavation at site R12. S. Salvatori and D. Usai. London, SARS Publication n. 16: 53-58.
- VERMEERSCH, P.M., 1978. *Elkab II. L'Elkabien, Epipaléolithique de la Vallée du Nil Egyptien*. Leuven.
- VERMEERSCH, P.M.; PAULISSEN, E.; HUYGE, D.; NEUMANN, K.; VAN NEER, W. & VAN PEER, P., 1992. Predynastic hearths in Upper Egypt [in:] FRIEDMAN, R. & ADAMS, B. (eds.), *The Followers of Horus. Studies dedicated to Michael Allen Hoffman*. Oxford: 163-172.
- WENDORF, F. (ed.), 1968. *The Prehistory of Nubia*. Dallas.
- WENDORF, F. & SCHILD, R., 1980. *Prehistory of the Eastern Sahara*. New York.
- WENDORF, F.; SCHILD, R. & ASSOCIATES, 2001. *Holocene settlement of the Egyptian Sahara. Volume 1. The archaeology of Nabta Playa*. New York - Boston - Dordrecht.
- WENDORF, F.; SCHILD, R. & CLOSE, A.E. (eds.), 1984. *Cattle-keepers of the Eastern Sahara. The Neolithic of Bir Kiseiba*. Dallas.
- WENDORF, F., SCHILD, R. & HAAS, H., 1979. A new radiocarbon chronology for prehistoric sites in Nubia. *Journal of Field Archaeology* 6 (2): 219-223.
- WILLIAMS, B.B., 1986. *Excavations between Abu Simbel and the Sudan frontier, Keith C. Seele, Director. Part 1: The A-Group royal cemetery at Qustul: Cemetery L*. Oriental Institute Nubian Expedition, vol. III. Chicago.