

TRACKING NEOLITHISATION PROCESSES ON BOTH SIDES OF THE SINAI: A BRIDGE BETWEEN THE NEAR EAST AND NORTHEASTERN AFRICA

Theme: Interpreting the archaeological record: artefacts, humans and landscapes

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Keywords: Neolithisation, Africa, Near East, Material culture, Transitions

The studies of Neolithisation in the Southern Levant and North-East Africa are two separate worlds of research. Indeed, the processes observed on both sides of the Sinai, seem to be quite different. However, recent data suggests some common aspects, such as the presence of Near-Eastern fauna taxa in East Africa.

The session aims to bring together researchers who are currently working on the Neolithic transition of both regions (Lybia, Sudan, Egypt, vs Palestine, Israel and Jordan), based on various types of materials such as settlement patterns, architecture, graves, pottery, lithic, fauna, botanical remains etc.

We would like researchers to propose synthesis regarding the type and pace of changes, as well as mechanisms of transformation from hunter-gatherers to farmers in a wide chronological frame for their own field of interest. Rather than tracking any theory of diffusion, long-distance contacts or cultural exchanges, the intention of this session is to better identify the major steps of the processes involved from different approaches.

In order to compare the data from both regions, we invite participants to make presentations that follow a common structure, including:

- Synthesis of available data/Critical review
- Tracking continuities and discontinuities
- Contextualising the emergence and development of those major changes
- Current scientific issues/ Perspectives of research

This session will allow those researchers, who have rarely had the opportunity to meet, to discuss and share their points of view and build a basis for future collaborations.

Abstract book ISBN:

978-80-907270-5-2

Abstracts for session #85

WHAT PLACE FOR THE DEAD IN THE LEVANTINE NEOLITHIC PROCESS?

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With the establishment of a sedentary lifestyle in the Natufian and the subsequent development of an agro-pastoral economy in the Neolithic, the quantity of human burials in the Levant appears to have increased. Are they only there to mark the settlement of communities on a specific territory? Observations of contextual, funeral and biological data suggests that the dead are not as passive as they appear. The treatment of the corpse is revealing of the new place that the deceased occupied in the society. The removal of the skulls and their subsequent treatment (grouping, pigmentation, plastering) are not the only witnesses to the profound changes that took place. From the Natufian onwards, there was a redistribution of social roles where the (selected) deceased take an increasingly important place. The complexity of the funeral gestures adopted, testifies to the importance and diversity of the roles the living community assigned to them. Moreover, a close link of interdependence can be seen between burials, houses and other structures. Thus, the deceased seem to serve as identity reference points during the repositioning of human societies in their environment and belief system. This paper will present examples to illustrate this point and highlight major steps in this process.

Keywords

funerary practices, deceased status, graves increase, archaeoethnology, Natufian, Pre Pottery Neolithic

Note/comment

THE ROLE OF STORAGE IN THE NEOLITHISATION PROCESS: PERSPECTIVES FROM SAI ISLAND AND BEYOND

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Since Jacques Cauvin first proposed the Neolithisation concept, scholars have lauded this framework for broadening the scope of agricultural origins research. Rather than simply seeking to correlate climate changes and human responses, archaeologists now undertake more holistic assessments of changing social values and beliefs, and probe interactions between social spheres, economic choices, and the local environments in which change unfolded. Storage is a key variable in understanding how the process of 'Neolithisation' may or may not have progressed in a particular area, because it relates to both a) economic/subsistence needs that in turn are shaped by environmental conditions, and b) social values (such as sharing or ownership) and social desires (such as predictable access to ingredients for larger gatherings or ceremonies). Using ethnoarchaeological examples, this paper first explores the ways in which cultural and environmental variables may both influence human choices of storage methods, as people weigh practical needs vs. social consequences. Second, the paper examines diachronic and geographic variation in methods of storage seen in the archaeological record - using a notable example from Sai Island and other examples situated in Egypt and Sudan from Final Pleistocene to Middle Holocene times - and considers the ways human choices in these contexts may have articulated with environmental, economic, and social changes. Finally, the paper uses archaeological examples from other regions (eastern Africa, Mississippi Valley in North America) to probe factors that may limit the Neolithisation process.

Keywords

Storage, Africa, Nile, Sudan

Note/comment

ON THE EVE OF NEOLITHISATION: SOCIAL, ECONOMIC AND SPIRITUAL STRATEGIES OF LATE HUNTER-GATHERERS BURIED AT THE SIXTH NILE CATARACT

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This paper presents results of multidisciplinary analyses of one of the largest Early Holocene burial grounds in Northeast Africa. The habitation site of Sphinx at Jebel Sabaloka in central Sudan was occupied by hunter-gatherers of the Early Khartoum culture between ~11,000 and 7,000 cal BP. The associated burial ground was used for 800 years between ~8,700 and 7,900 cal BP. Its large size (~300 m²) is ~30% of the entire 940m² of the combined area of the settlement and cemetery. Of an estimated 400–450 burials, 52 individuals have been uncovered, and 48 have been subjected to archaeological and natural scientific analyses.

The key findings on the buried population from the point of view of biology, demography, habitual activities, burial rite, spiritual habits, subsistence and mobility will be presented. This evidence will be integrated in the broader settlement and historical context, and with the framework of other Holocene hunter-gatherer burial grounds in Northeast Africa. Jebel Sabaloka provides evidence for 4000 years of developments in Early Khartoum forager economy, ecology and society that set the stage for the transition to food production in the Sahel and Sahara. Models that prioritize the processes of diffusion of economic innovations and peoples in the spread of food production need to be revised to integrate the long trajectory of developments within this region. Our aim is to begin to define the social, economic and spiritual strategies of one uniquely documented population that shall serve as the basis for discussion of the circumstances of and reasons for Neolithisation of central Sudan.

Keywords

late hunter-gatherers, community burial grounds, Early Khartoum (Mesolithic), Sudan

Note/comment

Abstract #: 04

LOCAL DEVELOPMENT AND LEVANTINE INFLUENCE SEEN IN THE LITHIC TECHNOLOGY OF THE FAYUM NEOLITHIC IN EGYPT

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Scholars on both sides of the Sinai Peninsula have considered the Fayum Neolithic in Egypt as a counterpart in the cultural interaction between the southern Levant and northeastern Africa at the time of Neolithisation in the Early-Middle Holocene. However, as their understanding of the Fayum Neolithic was not deep enough, their comparison of the material culture of both regions has tended to be superficial, failing to bridge a chronological gap between these regions. This paper will present a more detailed picture of various stone tools of the Fayum Neolithic that was gained through a recent restudy of the old lithic collections made in the early 20th century and currently housed in museums. It will also discuss the local development and Levantine influence seen in the lithic technology in the Fayum, and reconsider when and how Southwest Asian domesticates and the technical know-how of dealing with them were brought to the Fayum.

Keywords

Egypt, Fayum Neolithic, lithic technology

Note/comment

LANDMARKS IN EARLY ANIMAL DOMESTICATION: AN INTER-SPECIFIC AND INTER-REGIONAL STUDY OF THE LEVANTINE RECORD

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Based on the archaeozoological (and archaeogenetic) record for the Northern and Southern Levant, this presentation will track the evolution of animal domestication in the region, from its initiation at the onset of the Pre-Pottery Neolithic period, ca. 10,500 years ago through to the establishment of fully fledged animal husbandry by the late Pottery Neolithic (ca. 6,500 BP). An integrated and up-to-date synthesis of current data for both regions for the four main domesticates – pig, sheep, goat and cattle, will be given. We will highlight inter-specific and inter-regional differences/similarities in the domestication process, which is of special interest given the tradition divide in timing and the cultural-historical sequences between the north and south. Issues to be discussed include - methodologies used to assess domestic status, single versus multiple origins of domestic taxa, autochthonous domestication, diffusion events and the chronology and rate of the process. Reference will also be made to the concurrent palaeoenvironmental, social and technological changes that have been documented in the archaeological record. Finally, we will examine possible shortcomings and strengths in the data sets and critically examine current approaches and interpretations, as an aid to future research in the region.

Keywords

Domestication, Neolithic, Near East, Archaeozoology, Husbandry, Levant

Note/comment

NUBIAN LITHIC INDUSTRIES BETWEEN THE 9TH AND THE 6TH MILLENNIUM BC IN THE CONTEXT OF THE NEOLITHISATION OF NORTH-EASTERN AFRICA

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The Early Holocene Nubian lithic industries are generally characterized by the debitage of small flint, chert, agate or quartz pebbles found in the alluvial terraces of the Nile or in wadi deposits. The products are essentially flakes, but bladelets are appreciated for the manufacture of numerous geometric microliths (lunates, triangles, trapezes) and backed pieces used to arm arrows. Scrapers, perforators and notched pieces complete the common toolset.

The first proper lithic studies undertaken in Nubia were conducted by the Combined Prehistoric Expedition directed by F. Wendorf during the UNESCO salvage campaigns in the 1960s. These studies constitute the basis for defining the Nubian cultural sequence stretching from the Late Pleistocene to the Middle Holocene. Since then, the work of D. Usai has permitted readjustments and a better understanding of the evolution of the lithic industries between Early to Middle Holocene. However lithic studies are scarce in Nubia, especially in Upper Nubia. The discovery in the 2000s by M. Honegger of two Early Neolithic sites dated to the first half of the 6th millennium BC in the Kerma region offer new data to apprehend the neolithisation of Nubia. The analysis of the lithic industries - in progress in my PhD thesis - does not show a real rupture, but some new typological and technical components originating from the North seem to appear in conjunction with the first livestock.

Keywords

Nubia, Early to Middle Holocene, Lithic industries, Neolithisation

Note/comment

HIERARCHICAL SETTLEMENT SYSTEMS AND POTTERY VARIABILITY OF LATE FORAGERS AND EARLY HERDERS AT JEBEL SABALOKA, SUDAN

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This paper presents the results of new surveys with test excavations and an analysis of variability of pottery productions. It will provide evidence for spatial and temporal relations between task sites, minor settlements and the core sites of Sphinx and Fox Hill. It also offers new dating and interpretation of the settlement systems by late foragers and early herders. Finally, the large pottery assemblages from Jebel Sabaloka may contribute to building a solid bridge between the Near East and Northeastern Africa. Repeated surveys in the western part of the Jebel Sabaloka and in the surroundings of the Sixth Nile Cataract, in central Sudan, have brought to light some thirty sites occupied by late foragers (Mesolithic, Early Khartoum) and early herders (Shaheinab Neolithic). The sites differ in size, depth of deposits, finds and primary activities. They could be classified according to a three-level hierarchy, consisting of task sites, minor settlements, and core occupation sites. Sphinx (SBK.W-60) is a core site that preserves more than one meter of anthropic sediments. Its chronology anticipated the emergence of the Early Khartoum complex to the beginning of the ninth millennium BC. Abundant impressed and incised pottery is present from the lowest levels, confirming that systematic pottery production in Northeastern Africa dates from the late tenth/early ninth millennium BC, as observed in the Egyptian Western Desert. The decorated pottery from Northeastern Africa offers hints on the origin of pottery in the Near East: impressed sherds are found in the Pre-Pottery Neolithic C in Turkey, dating to the beginning of the seventh millennium BC. They are totally different from local Pottery Neolithic ceramics and were thought to have a western, Mediterranean, origin. However, impressed pottery is about two-thousand years older in Northeast Africa. Therefore, impressed pottery in the Near East might originate from Northeastern Africa.

Keywords

Pottery production, Settlement system, Late foragers, Early herders, Sudan

Note/comment

THE EVOLUTION OF FUNERARY PRACTICES AND POPULATION FROM EPIPALAEOLITHIC TO NEOLITHIC: THE EMBLEMATIC CASE OF EL-BARGA (SUDAN)

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The site of El-Barga is located in Northern Sudan, 20 km to the south of the third cataract of the Nile, on the edge of the alluvial plain. Between 2001 and 2014 excavations were undertaken firstly on the remains of an Epipalaeolithic habitation structure dated from 7500 to 7300 cal BC. Then the fieldwork focuses on two cemeteries, one of Epipalaeolithic period (7800-6700 cal BC) which revealed 45 inhumations and the other of Early Neolithic period (6000-5500 cal BC) with 108 individuals.

The contrast between the Epipalaeolithic and Neolithic burials is striking and evokes those brought to light in the site of Gobero in central Sahara. The individuals from the earlier burials have a robust morphology and are seldom buried with personal adornments. By contrast, the later ones are more gracile and are accompanied by offerings and personal effects, mostly made up of tools and adornments. In addition, the comparative anthropological comparison of both assemblages underlines phenotypic differences consistent with biological discontinuity in the human occupation of the area. Finally, the pottery presents either surfaces covered in impressed decorations of Sudanese Style or a burnished surface, whose diffusion from the north to the south is more or less synchronous with the flow of Neolithic diffusion. This Early Neolithic cemetery, which is the oldest known for the African Neolithic, announces at an early date the rites that were practiced in the Nubian cemeteries from the 5th millennium BC onwards.

Keywords

Epipalaeolithic, Early Neolithic, Cemetery, Neolithization, Population, Nubia

Note/comment

LIFE ON THE RIVER BANK. VIEW FROM THE MESOLITHIC AND NEOLITHIC KHOR SHAMBAT

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Located in Omdurman, approximately 8 km north of where the Blue and White Nile meet and 100 m from the current riverbed, Khor Shambat is an exceptional place to study the Early and Middle Holocene in Central Sudan. The interdisciplinary research, conducted as a part of the National Science Centre, Poland project (Grant no. 2015/17/D/HS3/01492 - A new perspective on prehistoric societies of the Early and Middle Holocene in Central Sudan in the view of interdisciplinary research studies), uncovered the presence of stratificated remains of Mesolithic and Neolithic settlement, accompanied by ample archaeological material, as well as radiocarbon dated burials from several chronological horizons. Use of the latest analytical methods to evaluate the material collected over the last 3 years will allow us to significantly supplement current knowledge regarding the environmental and cultural changes which took place here between 7000 and 3000 calBC, including the mechanisms of transformation from a hunter-gatherers to farmers.

Keywords

Central Sudan, Mesolithic, Neolithic, Neolithization

Note/comment

THE BEGINNING OF THE POTTERY PRODUCTIONS IN THE SOUTHERN LEVANT (7TH MILLENNIUM CAL. BC): A CRITICAL REVIEW

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Located between South-west Asia (Syria) and North-east Africa (Egypt) that are two major centers of invention of pottery, the Southern Levant is a key study region to raise various historical issues related to the widespread adoption of pottery. Yet, this area of the Fertile Crescent has so far remained on the sidelines of research on the early ceramic productions because of the late appearance of pottery (second half of the 7th millennium cal. BC). Although several theories have been put forward on the paces, causes and processes for the widespread adoption of pottery in the southern Levant, the different assumptions remain highly speculative because of the lack of consistent data on the first pottery productions.

This paper presents a critical review of current knowledge on the emergence of pottery in the southern Levant. We will first discuss chronological issues based on the thorough analysis of stratigraphic data, ceramic styles, and available C14 dates. Then, we will discuss the reasons for the appearance of pottery in the southern Levant through a renewed approach of the utilitarian and social functions of the earliest pottery in the region. Finally, we will discuss the processes for the widespread adoption of pottery based on the available data regarding the manufacture of the first ceramic vessels.

Keywords

Southern Levant, Early Pottery Neolithic, Pottery, Function, Manufacture

Note/comment

NEOLITHIC IN THE WESTERN DESERT IN LIGHT OF RESEARCH CONDUCTED IN THE AREA OF BERGET EL SHEB AND NABTA PLAYA.

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For nearly 50 years, the Combined Prehistoric Expedition (CPE) and the associated missions led by the Institute of Archeology and Ethnology of the Polish Academy of Sciences have been conducting excavations in the Western Desert of Egypt. Among the most important achievements of the CPE of the Western Desert is the confirmation of intensive Neolithic settlement in the Gebel Nabta, Bir Kiseiba and Berget el Sheb, Gebel Ramlah regions, based on the breeding of cattle, sheep, and goats, growing and gathering wild millet, and the discovery of megalithic complexes. Moreover, the long-lasting-research allowed us to draw a general scheme of the cultural development in the Western Desert. It is related to climatic fluctuations and settlement changes observable in the sequence of wet and dry periods. Each wet period had its specificity in the scope of precipitations, fauna, flora, etc. Changing conditions required cultural adaptations which had been reflected in ways of life and social organizations. Can we, in light of the latest research, speak of a full Neolithic packet in each of the outlined principal phases in the region? In our presentation, we wish to show the complexity of issues of Neolithic genesis and development in Western Desert, from the Early Holocene settlement in the Desert, through the Holocene Optimum, until the end of prehistoric settlement in the area at the end of 4.5 ca. cal. BP.

Keywords

Neolithic, Holocene, Western Desert of Egypt

Note/comment

VISIBILITY OF NEOLITHISATION WITHIN LITHIC COLLECTIONS FROM CENTRAL SUDAN

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Within central sudanese prehistory is strong traditionality within lithic toolkit. There are almost no ruptures and majority of types of last hunter-gatherers are similar if not the same as are those of first agropastoralists. Most typical tool are segments/crescents/lunates for both periods/ lifestyles. There are slight changes within representation of different types of microliths. But this evidence did not show any major shift of subsistence strategies.

Fortunately for the early Neolithic period there is one exception and this is presence of gouges (axe like bifacially shaped artifacts). Within lithic collection they are seen as a marker of Neolithic period. They last for quite short period (about 500 years 5500-5000 cal. BC). Especially for surface collections or sites with badly visible stratigraphy (which are quite abundant in this region) within lithics gouges are almost only way how we are able to distinguish neolithic collections from slightly older hunter-gatherer assemblages. Until today no detailed use wear analysis was done on them so we are not sure how they fit to the puzzle of Neolithisation. According to our preliminary use wear observations they served for woodworking.

Keywords

central Sudan, Nile valley, Lithics, gouges, neolithisation

Note/comment

RESULTS OF PALEOBOTANICAL ANALYSES CARRIED OUT AT THE KADRUKA SITE IN UPPER NUBIA

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The Kadruka site, on the right bank of the Nile south of the 3rd cataract, is crossed by the Wadi el-Khowi, a former branch or course of the Nile that flowed about ten kilometers east of the current course. It was a major settlement pole for the populations between fifth and fourth millennium BC.

Under thick layers of silt, a great number of funerary sites and settlements have been identified. While wind erosion has considerably abraded settlements, cemeteries located on small hills have proven more resilient and are preferred study structures to understand societies.

The rich archaeological material extracted from the graves of the KDK1 funeral mound excavated by J. Reinold in the 1980s and 1990s is currently under study. The preservation of the material, despite decades of storage, lends itself to anthracological studies, as well as to palynological, phytolithic and non-pollen palynomorphs (NPPs) analyses. They concern objects, deposits in vases or around the deceased, textiles, pillow contents. The same study was carried out on the burials of the KDK 23 funeral mound, with the exception of anthracology.

The analysis of dental calculus collected from individuals buried in cemeteries 1, 18 and 23 is ongoing.

The presence of non-native taxa and cereals in the samples studied raises the problem of their origin, culture and process at the end of the 5th millennium BC, the results obtained in settlements levels dated to the end of the fifth millennium not being indicative of their presence.

Keywords

Sudan, Middle Neolithic, crops, domestication

Note/comment

PASTORALISTS WHO PRACTICE AGRICULTURE: NEW PERSPECTIVES FROM JEBEL MOYA (SUDAN)

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The establishment of mixed agropastoral, or pastoral with a strong element of agriculture, economies and their initial dispersals across North-East Africa is still poorly known. This is especially true in the eastern Sahel (Sudan), despite this region long regarded as central to the origins of sorghum agriculture. Recently, studies of sorghum chaff imprints in ceramics has pushed back domestication processes to between 3500 - 300 BC at KG23 near the Atbara river (eastern Sudan). This early sorghum is associated with hunting and fishing only. Later evidence for probably mixed cultivation of sorghum and pearl millet by ca. 1850 BC from site K1 (Kassala) is associated with the herding of goats and sheep. This mixture of savanna pastoralism and sorghum remained the foundation of the economy through the rise of the later Meroitic state (ca. 350 BC - AD 350). This raises questions about how early pastoralism and sorghum cultivation were integrated and how quickly they spread within African savanna ecosystems.

The new archaeological fieldwork at Jebel Moya (ca. 240km south south-east of Khartoum) has produced robust empirical data confirming integrated sorghum cultivation with cattle, sheep and goat pastoralism by the mid-third millennium BC. Lipid residue analysis on sherds from 2000 years ago show animal fat and plant processing. A dating program has started on identified crop and domesticated faunal remains, in addition to prior luminescence dates direct on pottery, which have been revised. These dates also provide improved chronological sequences for the deposits excavated in the October 2017 fieldwork season, the first systematic excavations since Henry Wellcome (1911-14). The site, with ca. 4.7 hectares of unexcavated archaeological deposits remaining, provides extraordinary scope for examining how communities in the eastern Sahel with a strong pastoral component integrated agricultural activities and how these were constituted.

Keywords

Jebel Moya, Sudan, sorghum, pastoralism, domestication

Note/comment

Please note that Dr Brass is unable to attend the conference. Dr Vella Gregory is part of the project.