

RESEARCH CONFERENCE

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04 MAY 05 MAY















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### SCHEDULE OF TALKS

University of Naples "L'Orientale" 61/62 Via Chiatamone 80121 Napoli

UTC+2HOURS

#### **DAY ONE THURSDAY 04 MAY 2023**

09:30 - 10:00 Registration 10:00 - 10:20 Welcome and Conference Opening

#### SESSION 01 CHAIR: Elena D'Itria

10:20 - 11:35

10:20 – 10:35 Chloe Ward: Between legacy and innovation – Studying Bronze Age settlements in Northern Sudan.

10:35 - 10:50 Wafa Hussein: The archaeological survey of West Labab and Goz mari Villages.

10:50 – 11:05 Emanuele M. Ciampini, Silvia Callegher, Martino Gottardo, Francesca Iannarilli and Federica Pancin: Season 2022 of the Italian Mission at Jebel Barkal: discovering a new palace.

11:05 – 11:20 Cornelia Kleinitz, Alfatih Mohamed Ali Saeed, Hassan Ebeid-Allah: *Archaeologies of pastoralism at Musawwarat es-Sufra, Sudan.* 

11:20 - 11:35 Questions

#### **COFFEE BREAK**

11.35 - 12:10

### SESSION 02 CHAIR: Ian Styles 12:15 - 14:00

12:15 – 12:30 Mariusz Dzewiecki: *Spatial organisation of Soba East after multidisciplinary research* 2019 – 2022.

- 12:30 12:45 Mohammed Nsreldein and Simone Riehl (online): *Archaeobotanical evidence of stored crops from post mediaeval Nubia.*
- 12:45 13:00 Alfonso Battimelli and Matteo Delle Donne: *Tree vegetation and woody plant exploitation in Eastern Sudan during the early 2nd millennium BC: anthracological pilot study for Kassala.*
- 13:00 13:15 Mariasole Pepa and Andrea Pase (online): *Geographies and metamorphosis of Sudanese mega-irrigations projects.*
- 13:15 13:30 Giusy Capasso, Emanuela Cristiani and Andrea Manzo: *Plant consumption in Neolithic Eastern Sudan: new evidence from dental calculus analysis.*
- 13:30 13:45 Abdelhadi Abdellatif Salih: Teeth mutilation as a dental print in Sudan: case reports.

13:45 - 14:00

#### LUNCH

14:00 - 15:00

#### **SESSION 03 CHAIR: Francesco Michele Rega**

15:00 - 17:30

15:00 - 16:00

Keynote Talk: Dr. Donatella Usai:

Riverine life and environment in the Early-Middle Holocene:

The site of al-Khiday on the White Nile, Sudan.

#### **COFFEE BREAK**

16:00 - 16:30

16:30 – 16:45 Annissa Malvoisin (online): Between the Nile and the Niger: Trans-Saharan Decoration from Meroitic Nubia.

16:45 – 17:00 Enrico Giancristofaro: The Butana Group in the Eastern Sudan (IV – Early III Millennia BC): Some remarks and preliminary results.

17:00 – 17:15 Miroslaw Masojc: Early hominin activity from Eastern Desert, Sudan.

#### **QUESTIONS**

17:15 - 17:30

**END OF DAY ONE** 

17:30

#### DAY TWO FRIDAY 05 MAY 2023

09:30 – 09:50 Registration 09:50 – 10:00 Welcome Back

**SESSION 01 CHAIR: Matteo Delle Donne** 

09:30 - 11:30

10:00 - 11:00

Keynote Talk: Dr. Johannes Auenmüller: Metals and Metalworking at Amara West (Sudan): The remains of a metallurgical workshop in context

11:00 - 11:15 Juliet Spedding (online):

To see a world in a grain of sand.

11:15 - 11:30 Mahmoud Emam:

Ethnoarchaeological Observations and Historical interpretations: a processual approach in studying amulets in Ancient Suda.

#### **COFFEE BREAK**

11:30 - 12:00

#### **SESSION 02 CHAIR: Gilda Ferrandino**

12:00 - 13:30

12:00 – 12:15 Abdelrhman Fahmy, Anna Gołąbiewska, Wiktoria Wojnicz, Alicja Stanisławska, Jakub Kowalski, Justyna Łuczak, Adriana Zaleska-Medynska, Salvador Domínguez-Bella, Javier Martínez-López and Eduardo Molina-Piernas: *Nanotechnology in the preservation of archaeological construction material*.

12:15 – 12:30 Nadir Nasidi (online): *Reflections on the democratization of Shari'ah in the Republic of Sudan.* 

12:30 – 12:45 Beau Stocker (online): *Music Culture Translation in practice-based research: Sudanese and South Sudanese rhythmic trans* 

12:45 – 13:00 Hannaa Abdelgabar Ibrahim Adam: *The smoking pipes in the Senna region, central Sudan.* 

**QUESTIONS** 

13:15 - 13:30

LUNCH

13:00 - 14:30

**END OF CONFERENCE** 14:45

#### **EXTRAS**

FRIDAY 5 MAY 2023 20:00 CONFERENCE DINNER

SATURDAY 6 MAY 2023 POMPEII TOUR

#### Recent Archaeological Research in the Royal and Non Royal Cemeteries in the Middle Nile Region - Sudan

Dr. Mahmoud Suliman Bashir

Previous archaeological work in Sudan had been concentrated on monumental sites and mainly those presenting royal history. The contributions of pioneer archaeologists have established a general chronology and basics of Sudanese ancient civilizations. However, recent archaeological research in Sudan provides great information to help in better understanding of ancient societies and connections in the Sudan ancient history.

The region of the 5<sup>th</sup> Cataract is considered the less known area in archaeology. However, recent chance discoveries have provided important information for a better understanding of the area upstream the 5<sup>th</sup> Cataract and its important role during the Kushite periods. Chance discoveries and rescue excavations in several cemeteries of non-royals at Berber, Fereikha, Dangeil, Ineibis Qoz el Fung, and Artoli provided information allowing rethinking of the cultural boundaries of the early Kushite cultures to the south. The Kingdom of Meroe, the late Kushite period had dominated the area between the 5<sup>th</sup> and the 6<sup>th</sup> Cataracts. Monumental sites that express the glory of the royals who ruled this kingdom are scattered all over the Island of Meroe.

Recent archaeological work at Meroe pyramids site concentrated in the reopening of some of the burial chambers for research objectives and further site development for tourism. This work has provided results enabling us to revise the chronology of the royal cemetery at Meroe. The documentation and analysis from some royal burials on the basis of new innovative approaches provided an earlier dating to what has been believed before. This fact provides great research potential regarding re-studying monumental sites with the use of multidisciplinary approaches, for better understanding of Sudan ancient history.

### "Riverine life and environment in the Early-Middle Holocene: the sites of al-Khiday on the White Nile, Sudan"

Dr. Donatella Usai

The sites of the al-Khiday area, located on the left bank of the White Nile in central Sudan, have been the focus of an Italian archaeological project that began twenty years ago. Although much has been done, these sites continue to offer new evidence in a story needing constant adjustment and embracing a period from the twelfth to fifth millennia BC. We must continue to reframe our working hypotheses and find new answers to fresh questions, answers that frequently result from collaboration with colleagues in other scientific fields. Life at al-Khiday revolved around the river that provided abundant fish, an important source of subsistence. Gathering may have greatly contributed to the diet if we take into account the huge number of grinders and grinding-stones from the Mesolithic and Neolithic periods. The recent analysis of some of these, and the discovery of carbonised seeds, now confirm that they were indeed used to process plant foods. In contest, hunting seems to have been marginal at al-Khiday and the low consumption of meat is not only suggested by the low number of mammalian remains but also the results of pottery residue analysis. Early pottery production at this site appears to have been different from that of contemporary sites in the valley and instead represents a distinct local Mesolithic pottery production.

The centrality of the Nile and its aquatic life continued to characterise the Neolithic community. They "haven't done with fish" as in other contemporary contexts in the Nile valley, judging by the large quantity of excavated fish remains and evidence for a workshop producing shell fish-hooks and other objects. The Neolithic population at al-Khiday is similar to others in central Sudan in sharing some characteristic cultural traits in material production, such as the pottery, but it cannot be considered a pastoral society as most others are in the Nile valley, unless future data will turn down these hypotheses.

#### **KEYNOTE ABSTRACTS**

### Metals and Metalworking at Amara West (Sudan): The remains of a metallurgical workshop in context

Dr. Johannes Auenmüller

British Museum research excavations at Amara West, a Pharaonic town founded around 1300 BC in Upper Nubia, revealed evidence for a facility tasked with the production of metal artefacts. Crucible and tuyère fragments, alongside slagged and vitrified mud bricks, came to light amongst extensive stratified deposits of pottery sherds, charcoal and ash. This material stems from a particular area within the walled town and dates to the earlier phases of Amara West's existence. A currently running interdisciplinary project aims at assessing and understanding the materials, processes, installations and resulting products. The paper will first give an overview about the archaeological remains of this workshop and then address the scale and character of copper-alloy working at the site. The incorporation of natural scientific data of metal artefacts recently analysed at the British Museum provides further insights into the practices of copper provisioning and alloying at the colonial settlement of Amara West. Finally, the evidence will be discussed in the wider chronological, cultural and technological context of Late Bronze Age metallurgy in the Nile Valley and beyond.

**DAY ONE: SESSION ONE** 

### Archaeologies of pastoralism at Musawwarat es-Sufra, Sudan

Cornelia Kleinitz, Alfatih Mohamed Ali Saeed, Hassan Ebeid-Allah

The valley of Musawwarat es-Sufra, with its numerous temples and other built structures, was one of the primary ceremonial centres of the Kingdom of Kush. It is today one of the major national heritage sites in Sudan and valorised on a global level as part of the 'Archaeological Sites of the Island of Meroe' serial entry on UNESCO's World Heritage List. While research and preservation efforts have long focused on the monumental archaeological site as part of the (Early) Meroitic state's symbolic landscape, a new project aims to complement, and counter, this narrative and logic by focusing on the pastoralist landscape and lifeworld that provides the setting for the ancient ceremonial as well as the modern (World) heritage site. Based on a research partnership with the local community – where workmen and guards for the archaeological site have long been drawn from – we explore materiality's of pastoralism in this specific ecological context between archaeology, heritage and development.

### The archaeological survey of West Labab and Goz Mari villages, Northern Sudan 2016 Wafa al Hussein

This paper presents the results of an archaeological survey conducted in 2016 in the villages of West Labab and Goz Mari in Northern Sudan, as part of my academic course in Al-Neelain University. It was concerned with architectural remains from the Christian period to the early Islamic period that is between the 9th and 19th centuries. The area is located on the west bank of the Nile River, approximately 25 km south of New Dongola. The purpose of the survey was to clarify the significance of the area from an archaeological perspective. It aims to record and describe the individual archaeological sites, to conduct an analytical study of these sites and to identify the remains of the village in order to confirm the cultural continuity in the area. In addition to recording oral traditions of the region, the archaeological material was compared with material previously found at other sites from the same period. Each archaeological site was recorded and described and divided into settlements and cemeteries. The study showed that there have been a continuous occupation from the Middle Ages until today. Finally, this project highlighted the threats to the archaeological sites and made some suggestions for their protection.

### Between legacy and innovation – Studying Bronze Age settlements in Northern Sudan Chloë Ward

This paper will focus on work conducted as part of the DiverseNile project in the MUAFS (Munich University Attab to Ferka Survey) concession. The main aim of the project is to refine the cultural entanglement concept in Bronze Age Nubia, moving away from elite and funerary biases towards addressing genuine cultural diversity in peripheral zones. In this paper I want to discuss some of the work accomplished by the project, focusing on the settlement areas in the concession. This includes a combination of working with existing data from André Vila's survey of the region in the 1970s, as well as survey and excavation work conducted by the LMU team in the last few years. This will include preliminary results from our 2023 season in Sudan. The main aim of this paper is to discuss how we combine these different data sources to consider broader evidence of settlement activity and cultural diversity in Sudan. This includes both theoretical underpinnings in the use of legacy data in archaeological research and practicalities in how to make effective use of this data today. The paper

will conclude with considerations on how to ensure data produced today remains valuable and usable for future researchers.

Season 2022 of the Italian Mission at Jebel Barkal: discovering a new palace? Emanuele M. Ciampini, Silvia Callegher, Martino Gottardo, Francesca Iannarilli, Federica Pancin

During Season 2022 at Jebel Barkal, various activities have been carried out, focusing not only on the archaeological investigation but also on the conservation aimed at a better fruition of the site. Regarding the latter issues, a major restoration work was realised on the ceremonial sector of the Palace of Natakamani, marking the start of a broader project for the consolidation of exposed structures and musealisation of the entire archaeological area. In the meantime, a partial renovation in the display of Jebel Barkal Museum in Karima took place, thanks to an exhibition opened in March 2022 and the addition of new panels in November of the same year. Nevertheless, the greatest effort of the last season has undoubtedly involved the opening of a new area of investigation in the Italian concession, the one designated as B3500, which seems to define an edifice of great size and architectural richness, able to compete with the major royal buildings excavated at Jebel Barkal so far. This paper therefore aims to introduce the major results of the latest campaign, by discussing the material culture and by showing the documentation obtained by drone and 3D photogrammetry.

**DAY ONE: SESSION TWO** 

### Spatial organisation of Soba East after multidisciplinary research in 2019-2022 Mariusz Drzewiecki

Between 2019-2022, two extensive seasons of fieldwork had been carried out in Soba East to understand the spatial organisation of the capital of the Kingdom of Alwa (5/6-15/16 century CE). A large-scale geophysical survey in tandem with archaeological excavations to verify various types of magnetic anomalies or radar readings has covered the entire available land for research at the site (approx. 50ha). As result, new data on the spatial organisation of the Alwan metropolis has come to light such as the identification of unknown districts of the city, a network of streets, cemeteries and traces of gardens within the city. Small finds and samples obtained during excavations provided unique data and open new paths of scientific enquiry. Ethnological interviews and consultations with the local community have been initiated to understand various approaches to archaeological heritage and initiate discussion on the future of the site in the context of the rapidly developing suburb of Khartoum. Extensive training programs tailored to the early-stage researchers (one-month field schools) as well as experienced researchers (one-week workshops) have been implemented to expand ongoing capacity-building actions and invite researchers based in Sudanese institutions to cooperate.

### Archaeobotanical Evidence of Stored Crops from Post-Medieval Nubia (16th-19th Centuries AD): Insights from Old Dongola, Northern Sudan

Mohammed Nasreldein and Simone Riehl

The archaeobotanical investigations in Sudanese Nubia have been described as underdeveloped. Recently, the investigations are increasing across several sites in Sudan, which will lead to the establishment of a database for the ancient diet and agricultural production. Nonetheless, the archaeobotanical evidence of stored crops, either short-term or long-term crop storage, is not found. The excavations have shown several examples of storage containers known as *Gussiba;* which were remarkably known till recent times in today's Nubia. Archaeologically, none of these containers were found to contain a stored crop. This paper presents newly discovered assemblages of short-term stored crops from Old Dongola, the Northern province's capital of the Funj Kingdom (AD 1504-1821). Burnt seeds were found in the courtyard room of house U192, indicating they were preserved by charring due to a fire accident happened in 16th century, as confirmed by radiocarbon results. Charred seeds of Barley (*Hordeum vulgare L.*), Wheat (*Triticum aestivum L.*), Sorghum (*Sorghum bicolor L.*), Radish (*Raphanus sativus L.*), Grass pea (*Lathyrus sativus L.*), Cowpea (*Vigna unguiculata L.*) were stored in vessels and baskets. This discovery is the only evidence for the hypothesis that short-term crop storage was practiced at a household level in Sudanese Nubia. It also represents an essential set of crops that were part of the Nubian diet.

### Tree vegetation and woody plant exploitation in Eastern Sudan during the early 2nd millennium BC: anthracological pilot study for Kassala

Alfonso. Battimelli and Matteo. Delle Donne

In Eastern Sudan, archaeobotanical studies have mainly focused on the analysis of charred and desiccated macro-plant remains and plant impressions which have recently provided the basis for a new overview of the process of sorghum domestication. Conversely, the study of charcoals has received less attention even though a large number of charcoal samples have been retrieved from excavations carried out in the region in the past, such as during the Italian archaeological expeditions carried out by the former Istituto Universitario Orientale between 1980 and 1995. In the framework of research activities of the Italian Archaeological Expedition to Eastern Sudan of L'Orientale and ISMEO, a new line of investigation has been undertaken to reconstruct past vegetation and woody plant use and exploitation through charcoal analysis. A pilot study has been carried out on representative samples picked out by hand during excavations in K1 (Kassala) covering a period from 2000 to 1800 BC (Late Gash Group). Charcoal fragments over 2.0mm were examined using a high-power metallurgical microscope (x100-x400) and identified mainly using the usual reference works. Preliminary results provided evidence for an acacia semi-desert scrub in the area during the early 2nd millennium BC.

### **Geographies and metamorphosis of Sudanese mega-irrigations projects**Mariasole Pepa and Andrea Pase

This paper investigates the spatiotemporal evolution of mega-irrigation projects in Sudan and their recent evolution to question future trajectories. 'Thin spaces' like the Gezira and Kenana and 'ultra-thin-spaces' in the case of pivot irrigations systems in the River Nile State are explored to illuminate the relation between state, nature, and capital (Bertoncin et al., 2019). The contributions aim to reflect on the fieldwork conducted in February and March 2023 in Sudan and discuss recent evolution such as the diversification of production, the use of digital and renewable technologies in agriculture as well as new expansion in pivot areas (Bertoncin et al., 2022). The University of Padua has conducted research in Sudan for over 30 years and this allowed a long term analysis and a comparison with the most recent visit. Finally, the photo exhibition "Never ending (always transforming) irrigation spaces" currently displayed at CEDEJ-Khartoum will be presented as an alternative way to share research outcomes and discuss research progress.

### Plant consumption in Neolithic Eastern Sudan: new evidence from dental calculus analysis Giusy Capasso, Dulce Neves, Emanuela Cristiani, Andrea Manzo

The domestication of plant species in sub-Saharan Africa is crucial for reconstructing the different aspects of the transition to food production in human history. Indeed, palaeobotanical and genetic evidence highlight the pivotal role of Eastern Sudan in the domestication of cereals such as sorghum and pearl millet. However, little is known about legume consumption due to the scanty macro-botanical record available so far. We performed a dental calculus analysis on 37 individuals from sites UA50, UA53, and K1, located in the Gash delta, to diachronically investigate the consumption of plant species in the region during the Neolithic. Starches, phytoliths, fibers, wood/charcoal debris, and plant tissues were identified. Among the starches, we recorded Poaceae-type and Fabaceae-type granules, supporting the role of cereals and legumes in the Neolithic diet. Interestingly, both wild and domesticated cereal species were recorded throughout the period considered, following the paleobotanical evidence showing that the cereals' pre-domestication process, which started from the 4th millennium BCE, carried on in the 2nd millennium BCE. In absence of C and N isotopic analysis, due to the bad collagen preservation in all prehistoric Eastern

Sudan osteological samples, the analysis of dental calculus offers a unique insight into plant consumption in the region.

Teeth mutilation as a dental print in Sudan: case reports Abdelhadi Abdellatif Salih:

Historically human kind proved a tendency to excellence and uniqueness either from different races or various ethnic groups, which was reflected in their culture, one of these cultures are teeth mutilation. Sudan has a multi-diverse ethnic background among these ethnic groups are the denka and nuier which are originated from southern Sudan. However, by extracting their upper maxillary and lower mandibular anterior teeth two to six teeth and sometimes the canines, as an initiation of the adulthood ceremony they are enhancing their tribal identity, beauty and linguistic. Furthermore medically it was linked with the tetanus as locked jaws inhibit the fluid ingestion which is critical in such a medical conditions. Forensically an unidentified deceased body poses a dilemma in forensic investigation as the major critical question is who is the deceased. Dentitions, medical devices, DNA, finger print are considered as primary methods for human identification. However secondary methods include personal description of clothes, tattoos, jewellery and teeth. From a Forensic prospective teeth mutilation might assist in ethnicity determination in Sudan especially in the absence of medical or dental records of the deceased individuals.

**DAY ONE: SESSION THREE** 

### The prehistory of the Gezira reach (central Sudan) cultural characteristics and relative date Mohammed Alfatih Hayati

Within the framework of many seasons of archaeological work of the mid-Gezira reach in central Sudan, and between the White Nile and the Blue Nile, many of late prehistoric sites discovered among the center of Gezira Agricultural Project and westward. The concern in this study is to talk about the cultural identity of the prehistoric sites unearthed recently in the Gezira Reach - south of Khartoum. It will cover some parts of the areas south of Khartoum that have not previously been a focus of research. Therefore, this paper sheds a light on Archaeological sites belonging to the Mesolithic and Neolithic periods. Some of these sites were discovered in the second half of the twentieth century by the English diplomat Balfour-Poul, and the others have been discovered recently within the framework of the archaeological, heritage and environmental research project of the central Gezira reach, furthermore, our postgraduate studies in the same region. The prehistoric existence in the Gezira reach has to be discussed within the cultural framework of central Sudan, in addition to special cultural characteristics of the late prehistory, because there are cultural features related to the stone implements, as well as adornment tools need to be in studied focally. Actually, these sites are contemporaneous to Early Khartoum, Khartoum Neolithic and Jebel Moya. Finally, it is necessary to draw attention to and study this region specifically, because the population movement and the agricultural scheme endanger some of the sites.

### Between the Nile and the Niger: Trans-Saharan Decoration from Meroitic Nubia Annissa Malvoisin

The African Iron Age was a period of vast commerce which spanned regions and continents. During this period, the African continent and its surrounding continental regions entered the First Commercial Revolution (ca. 1000 BCE – 300 CE) (Ehret, 2016) where Nubia during its Meroitic period (ca. 343 BCE – 450 CE) was surrounded by a great means of travel, both by land and sea. The material culture of this period reflects iconographical convergence that disrupts the view of the Sahara as a barrier, demonstrates material networks, and suggests a more liberal movement of people, ideas, and things. This paper will ask questions of connection based on ceramic typologies and decorations dominant in Meroitic Nubia that parallel typologies being produced during the same period in Mali, Nigeria, and Libya (African Iron Age, ca. 200 BCE – 1000 CE). The presentation will investigate ideas, tastes, trends, and social context in order to create analyses based on particular decorative styles.

## The Butana Group in the Eastern Sudan (IV – Early III Millennia BC): Some remarks and preliminary results

Enrico Giancristofaro

Since the 80s of the last century, archaeological investigations were conducted in Eastern Sudan and lead scholars to outline a broad local chronological and cultural sequence, spanning from the 6th millennium BC to the 18th century AD. In this period, the region was settled by several human groups identified by a variety of ceramic productions. Among these, the one associated with the Butana Group is quite relevant and dates between the 4th and the early 3rd millennium BC on the basis of comparisons and carbon 14 analysis. However, the studies conducted up until now are very limited: the largest and most noteworthy is certainly "The Butana Group Ceramics" by Frank Winchell. Nonetheless, as time goes by, due to an increase in studies of the region, some criticalities emerged in this work, such as periodization of ceramic production as well as the dating of some sites. For this reason, some preliminary results emerging from the re-examination of the ceramic materials from KG23/UA14 site will be presented here, as well as from the UA53 site, where the archaeological investigations conducted by the Italian Archaeological Expedition to Eastern Sudan have brought to light a stratigraphic sequence partly datable to what appear to be the initial stages of the Butana Group.

### Chronological aspects concerning the Middle and Late Pleistocene hominin presence in Sudanese Nubia, NE Africa

Mirosław Masojć

The existing evidence supports the long presence of hominins in the Eastern Sahara, from possibly even the Early Pleistocene (MIS >13-11) to the end of the Middle Pleistocene (MIS 7a/6), as well as the early appearance of Homo sapiens (MIS 9<), which showed the long coexistence of these two human species in a relatively small area of the deserts of today's Sudan. It is no less important to show the Eastern Sahara as an area that cyclically played an important role in the dispersion through the green corridors of hominins and thus human culture in the Pleistocene. The presentation will show the evidence for the Middle and Late Pleistocene Eastern Saharan hominin activity based on the research results from the Sudanese areas referred to as the Eastern Desert Atbara River (EDAR) and Bayuda Desert. The results of chronological and archaeological analyses bring several aspects for hominin presence in this part of the Africa, which will be discussed as listed: 1. Earliest traces of Middle (or Early?) Pleistocene hominins activity (oldest Acheulean), 2. The presence of the latest Middle Pleistocene hominins (the youngest Acheulean), 3. The oldest traces of the presence of Homo sapiens (the oldest traces of Middle Stone Age).

DAY TWO: SESSION ONE

'To see a world in a grain of sand': Glass from Nubia and the Mediterranean Juliet Spedding

This talk will present the results of my PhD research using chemical analysis of Nubian glass from the Meroitic Period (c. 350BCE-350CE) and Early Nobadia (c.350-650CE). Material was examined from the sites of Faras, Qasr Ibrim, Meroe, and Gabati. The analyses highlighted the variety of vitreous materials present in Nubia at regional and site level. It also permitted the identification of glass groups as well as raising questions about possibilities of reworking of vitreous materials at site level. Additionally, comparisons to published material from around the Mediterranean and identification of chemical similarities of glass found in Turkey, Egypt, Butrint, and Nubia to indicate further trade links between these regions. The results of lead isotope analysis also enabled further potential links for the movement of raw materials to be identified while Indian-made glass found at Faras highlighted how far such material could travel and (indirect) connections between these regions. It is hoped that with more analyses of Nubian vitreous materials and examination of chemical connections from across the ancient world that Nubian glass can be placed into the wider context of making, working, and trade.

Ethnoarchaeological Observations and Historical Interpretations: A Processual Approach in Studying Amulets in Ancient Sudan.

Mahmoud A. Emam

Ethnoarchaeology offers archaeologists the opportunity to understand the present-day cultural processes and identify appropriate means to recognize and interpret meaningful variation in the archaeological record. However, the ethnoarchaeological research cannot provide clear answers about ancient societies, but it is considered as an atypical interpretative discipline and tool, that can be used to suggest actions and discover information that is otherwise difficult for the archaeologists to imagine and reconstruct. For this motive, this paper used the ethnoarchaeological approach as a tool to broaden and wide-ranging in scope the study amulets in ancient Sudan. Ethnoarchaeological survey through observations and interviews were conducted in Sudan in May 2022 with people living in Khartoum, provided information on the actions that might be correlated in believing in amulets, the choices and the purposes of amulets, in addition to the dynamic and variable attitudes concerning amulets. This paper deals with the ethnoarchaeological approach aiming to elucidate the intangible processes of *chaîne opératoire* of amulets in the archaeological context in ancient Sudan.

### Diversity in the colony: Multi-analytical explorations of 18<sup>th</sup> Dynasty kohl samples from Lower Nubia

Rennan Lemos, Caterina Zaggia, Kate Fulcher

This paper presents some preliminary results of a multi-analytical investigation of 18 kohl samples extracted from Egyptian-style containers from various 18<sup>th</sup> Dynasty cemeteries in Debeira, Lower Nubia. Excavations in Debeira by the Scandinavian Joint Expedition to Sudanese Nubia yielded robust data sets pertaining to all social strata. This evidence makes Debeira a microcosm of social relations, which provides a snapshot of colonial society during the 18<sup>th</sup> Dynasty. Previous macro-scale analyses of material culture from the area have pointed to alternative roles played by Egyptian-style objects. At a micro-level, analyses of kohl samples shed light on local practices associated with foreign objects in local contexts. The kohl samples were analysed using optical microscopy, ATR-FTIR, SEM-EDX and GC-MS. The results of these analyses point to greater diversity in terms of compositions, which end up revealing aspects of sociocultural practices in the Egyptian colony. Recent results obtained for Egypt also point to greater diversity. Comparing the results now obtained for Nubia with results for Egypt allows us to further demolish Egyptianisation perspectives on Nubia, which was equally complex and diverse as Egypt.

### Multi-functional monodispersed SiO2-TiO2 NPs and TEOS in the consolidation of archaeological lime mortars surfaces

Abdelrhman Fahmy, Anna Gołąbiewska, Wiktoria Wojnicz, Alicja Stanisławska, Jakub Kowalski, Justyna Łuczak, Adriana Zaleska-Medynska, Salvador Domínguez-Bella, Javier Martínez-López and Eduardo Molina-Piernas

Archaeological traditional lime mortars are susceptible to many environmental conditions such as the impact of water (rains, humidity, groundwater, etc.), variation of temperatures' degrees, winds and/or pollution. Accordingly, this research aims to provide newly assessed multifunctional nano-coating for the purpose of archaeological lime mortar protection. For this, the study combined physicochemical and mechanical characterizations in performance assessment of 3%, 5%, and 7% of the synthesized SiO2-TiO2 nano-particles (NPs) and TEOS as consolidants on the surfaces of the experimental lime mortars. A series of techniques and tests were fulfilled for the evaluation. For analysis, X-ray diffraction and UV-Vis along with scanning electron microscopy were used to identify microstructure. Furthermore, wettability, colorimetric, self-cleaning, petrophysical, nano-indentation and uniaxial compressive strength tests were performed in order to select the most suitable consolidate between 3%, 5%, and 7% SiO2-TiO2 NPs/TEOS. Durability assessments were carried out through salt weathering, thermal and UV aging tests. The results showed that 3% and 5% of SiO2-TiO2 NPs/TEOS enhanced the physical and mechanical properties of the lime mortars. On the other hand, 7% SiO2-TiO2 NPs/TEOS proved their insufficient efficacy in improving the surfaces of lime mortars for the high amount of TiO2 and its behaviour for aggregation

**DAY TWO: SESSION TWO** 

Developing sustainable tourism in Sudan: insights from national museum and community museum's projects in Sudan.

Ezzeldin Hajjaj

Conventions for the Safeguarding of Cultural Heritage recognize "the importance of museums as vessels of cultural diversity and as agents of It ensures sustainable development, and the 2030 Agenda for Sustainable Development is an action plan that addresses dimensions. The three economic, social and environmental - for sustainable development through the Sustainable Development Goals. The seventeen work as closely interrelated fields of action that provide information that guides pathways Development at all levels, respecting the three basic principles of human rights Equity and Sustainability Museums can contribute effectively to each of the three dimensions of development sustainable development, as well as in the demands of peace and security as basic requirements for sustainable development. Consequently The aim of this paper is to investigate the ongoing museum development projects in Sudan And their role in sustainable tourism development by focusing on two main projects: the western Sudan community Museums project and the Rehabilitation of the Sudanese national museum project.

### Re-reading; the stele of king Aspelta on the foundation of Prince Khaliut's tomb and mortuary cult.

El-Hassan A. Mohamed

The paper aims to shed the light on the unusual ceremonial attention given by the Napatan king Aspelta to the diseased prince Khaliut, the unknown son of the Kushite king Piye (Piankhy). Khaliut, who had served as a regional governor, died either during the life or after death of his father; and was evidently ignored or forgotten for over a century by later Napatan kings, until the reign of Aspelta. Who, for unexplained reason, took pains to honour and memorise Khaliut by building for him a new tomb and having a eulogistic granite stela erected at the entrance of the great temple of Amon at Jebel Barkal. The stela not only introduces Khaliut but also extols Aspelta for his good deeds. The paper discusses the issues of Khaliut's life as a religious prince; the significance of building him a new tomb and reviving his funerary cult by the king Aspelta's, and the benefit of implication of this action into Aspelta's life as king. Moreover, how the stele escaped the destruction all this time? The Aspelta's stela; although it is an important document; was stolen from its original place at Jebel Barkal and disappeared for two years, and found and returned back to Sudan National Museum in 2006.

### Reflections on the Democratisation of *Shari'ah* in the Republic of Sudan, 1983-2015 Nadir A. Nasidi

With the growing nature of the concept of democracy in the 20<sup>th</sup> century, the *Shari'ah* which is divinely put in place to guide human character and ensure the legality or otherwise of the actions of individuals, communities and governments by according rights to its owners has suffered a great setback throughout the Muslim world. Governments therefore, made bold steps to shrewdly force the *Shari'ah* to comply with the provisions of democracy either to protect their seats, or interests. Using a purely qualitative research methodology, this paper reflects on the democratisation of *Shari'ah* in the Sudan as a continuation of the colonial legacy of suppressing its proper application through the manipulation of religion to attain a political supremacy. The paper concludes that democratisation of *Shari'ah* has no doubt created serious socio-political tensions in the history of Sudan.

### Libraries and their role in highlighting Sudanese civilization: case study of the Khartoum University Library

Al Awad Ahmed

In the Sudan, libraries of all kinds and names play an important and effective role in disseminating culture and awareness of the importance of Sudanese civilization and in creating balanced development in the society in which it is located. They are known to peoples' universities for their roles towards society. It reflects Sudan's ancient civilizations and heritage of peoples over time, providing sources of information to graduate students and researchers of Sudan's civilization and ancient monuments (Abbas 2003: 47-48). This study aims to publicise the civilization of the Sudan and the antiquities found in a number of states of the Sudan through the library portal. The study examined the introduction of libraries and the role they play in reversing the civilization of the Sudan. The study then touched upon some Sudanese libraries that were interested in the presentation of the ancient civilization of the Sudan. To achieve those goals, the researcher prepared a questionnaire on the role that libraries play in familiarising themselves with the ancient civilization of the Sudan and an account of its impact since ancient times. The questionnaire was given 10 questions and distributed to random students and researchers attending Sudanese libraries to meet their research needs. The study used the analytical descriptive curriculum and the case study methodology. The study produced a number of findings and recommendations that would contribute to highlighting the role of libraries in reflecting Sudanese civilization

**DAY TWO: SESSION THREE** 

### The Writing System of Nobiin Nubian Language: Insights from the Writing System of Old Nubian

M. Jalal Hashim

Nobiin Nubian language is spoken in both northern Sudan and south Egypt. It is considered the direct descendent of the Old Nubian language that was the language of the mediaeval Christian Nubian kingdom that occupied the same area where presently Nobiin is spoken. One of the greatest challenges that has been facing the Nobiin speaking people is how to write their mother tongue in order to save it from extinction. In this regard, a host of purely technical problems have been considered, mostly pertaining to the script to be used in writing the language and the writing system. The present writer makes his contribution in this by starting from the huge experience of Old Nubian in order to glean the practical solution to the outstanding problem of both the script and the writing system. The script, which is mostly drawn from Greek writing characters (70%) besides Coptic and Meroitic characters (15% for each), is taken into consideration, with some of them dropped off. The ideological directions and trends of the Nubian are taken onboard as questionnaires and structured interviews were administered. Then the writing system of Old Nubian is taken into consideration, with its suitability and efficiency tested through a series of classrooms in the span of 20 years.

### In the footsteps of Christ: a brief account of Christian archaeology on the island of Meroe Mohamed Bashir

The archaeology of the Christian period (AD 400-1500) has received little attention in the intensive archaeological research on the island of Meroe. This paper is an attempt to shed light on the Christian presence as an undivided part of the archaeology of Meroe Island. In 2016, the author conducted a field study of the Christian archaeological features in the region, focusing particularly on the northern Meroe area. The field study was supplemented by available data from previous excavations and publications. This assessment draws attention to the issue of Christian archaeology in this region. The study proves the existence of an estimated number of Christian sites in the region, between settlements, burials, religious architecture and symbols - the sites were essentially concentrated around areas that provide sufficient protection.

### Music Culture Translation in practice-based research: Sudanese and South Sudanese rhythmic translation

Beau Stoker

The work in this presentation is part of a larger project of practice-based research that was conducted through a series of translations employing traditions from both Sudan and South Sudan. The initial stages of these translations were informed by musical connections cultivated through three years living in Khartoum Sudan, before the countries' split in 2011. The consecutive stages as part of the methodology positioned improvised music ensembles in sessions that explored the effects of the translations, resulting in musical output case studies. This presentation will engage in discourse of those elements that occurred through and as a result of the translations of Sudanese and South Sudanese rhythmic traditions. These traditions, virtually non-existent in western improvised music influences, are integrated as improvised music structural tools for timbral exploration and general composition components. Comparison of these outputs illustrates trends in current percussion performance practice in improvised music as related to a wider artistic context. To address specific

cultural interests in Sudan and South Sudan, accounts of musical experts are included as a means to interrogate this research through the source tradition lens.