

9.ICAANE 2014

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1. THE CONSTRUCTION OF NEOLITHIC CORPORATE IDENTITIES

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One of the most momentous thresholds in the longer-term evolution of human sociality was neolithisation - the transition from more flexible mobile foraging communities to sedentary and complex corporate societies. For too long Neolithic research has concentrated on the economic side of this transition, while the formation and maintenance of these early large-scale communities could not have developed without unprecedented cognitive and social capacities. More than ever before, in these sedentary milieus the human ability to perceive selectively, to memorize associatively, and to act in a collaborative way, evolved by steadily valorizing, symbolically charging and communicating practices, discourses, spaces and things, including building “traditions”. Corporate identities in the Near Eastern Late Epipalaeolithic and Neolithic were not only formed and sustained by commonly accepted tangible things (images, paraphernalia, practices etc.), they were also promoted and transformed by intangible modes, codes and ideological concepts.

The workshop aims to identify and translate the empirical evidence of the different intangibles that helped to form Epipalaeolithic and Neolithic group identities. One of the approaches might be the concept of (inter-)mediality by which cognitive competences behind corporate strategies can be identified. In addition to prehistoric archaeologists, the workshop invites contributions from specialists in evolutionary and cognitive sciences.

Programme

SESSION 1, NEOLITHIC CORPORATE IDENTITIES IN EVOLUTIONARY CONTEXT

- Nigel Goring-Morris & Anna Belfer-Cohen
Moving Around' and the Evolution of Corporate Identities
- Lisbeth Bredholt Christensen
Things Animate and Inanimate: Objectification of Things as Part of Corporate Identity?
- Tobias Richter
The Corporate Group Reconsidered: Counter-power, Cooperation and Agency in Epipalaeolithic Societies in Southwest Asia

SESSION 2, IDENTITY AND SOCIO-ECONOMY

- Kurt W. Alt & Marion Benz
Teeth Story Writing: Basta and the Difficult Path to Farming Communities
- Eleni Asouti
The Role of Climate Instability and Resource Predictability in the Formation of Neolithic Corporate Identities in Southwest Asia
- Amy Bogaard
Neolithic 'Cooperatives'? An Archaeobotanical Approach to Neolithic Corporate Identities

SESSION 3, IDEOLOGY AND IDENTITIES

- Gary Rollefson
"I am we": the Display of Socioeconomic Politics of Neolithic Commodification
- Christa Sütterlin
Cultural Memory: Symbols and Rituals for the Purpose of Making and Sustaining Group Identity
- Theya Molleson
Physical Signs of Corporate Identity

Abstracts

NIGEL GORING-MORRIS & ANNA BELFER-COHEN

'Moving Around' and the Evolution of Corporate Identities

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With the advance of sedentism during the Epipalaeolithic the sense of territoriality was amplified, with group identity increasing on the one hand, while on the other personal and community territories shrank. Indeed, processes of intensifying self-identity can be identified at the group level. These were accompanied by increases in the variety and quantities of material culture remains, which necessitated increased intercourse with neighbouring groups and communities. Such a scenario portrays an intermediate situation that cannot be explained either through reconstructed Palaeolithic modes or through the established rules of the later, fully-fledged agricultural societies of the Near East.

Previous research aimed towards distinguishing and defining overarching monothetic communal patterns of behaviour. There has been little emphasis in research to examine the issue of whether the cultural koines in the Near East reflect diffusion of ideas, as opposed to migration by leapfrogging, reflecting the movements of actual communities or populations.

In our paper we investigate such issues relating to the Epipalaeolithic and Early Neolithic in the Near East, and their impact on the emergence of the new and unique Neolithic existence, the precursor of modern lifeways worldwide.

LISBETH BREDHOLT CHRISTENSEN

Things Animate and Inanimate: Objectification of Things as Part of Corporate Identity?

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In contemporary society, most things are lifeless objects to us: after having been produced in factories we acquire them, use them, and throw them away. Yet, "Even biologists have trouble deciding what is alive. 'Life' is in important ways continuous with other phenomena rather than having clear boundaries [. . . and there] may not be an absolutely rigorous distinction between inanimate matter and matter in a living state." (S. Guthrie *Faces in the Clouds* 1993: 53) Accordingly, to make a distinction at all between alive and lifeless is a cultural enterprise. This is the case for such diverse objects as stones, trees, deceased group members, tools, or pottery. My question is to what extent the increased involvement with humanly produced objects from Late Epipalaeolithic and onwards contributed to an objectification and a lifelessness attributed to both individual objects and perhaps also to fellow human beings. What were the implications of the large production of things for the construction of a group identity, as we may have known it since the Neolithic?

TOBIAS RICHTER

The Corporate Group Reconsidered: Counter-Power, Cooperation and Agency in Epipalaeolithic Societies in Southwest Asia

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In this paper I want to caution against uncritically accepting that Neolithic corporate groups were a novel and fundamental component of early agricultural societies in southwest Asia. My aim is to highlight that the idea of corporate groups as originally formulated by late 19th and early 20th century sociologists and anthropologists is not uncritically accepted. I will suggest that Neolithic corporate groups are constructs that seem to emphasise differences between gatherer-hunters and agriculturalists that are rooted in the deeply rooted Cartesian nature: culture dichotomy. I will then review the archaeological and ethnographic record to show that cooperation was in fact a key evolutionary characteristic of many Upper and Epipalaeolithic societies in southwest Asia. Rather than thinking that hunter-gatherer groups naturally lacked this kind of social institution, we should be considering why gatherer-hunters preferred looser, more egalitarian structures over more rigidly defined networks of social engagement.

KURT W. ALT & MARION BENZ

Teeth Story Writing: Basta and the Difficult Path to Farming Communities

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The transition from mobile to sedentary life was one of the greatest social challenges of the human past. Yet little is known about the impact of this fundamental change on social interactions amongst early Neolithic communities in the Near East. We systematically recorded epigenetic characteristics of teeth and skull bones from foraging/early farming societies from the southern Levant to the middle Euphrates, and focus herein on a key site, the late Pre-Pottery Neolithic settlement of Basta in Southern Jordan. Additionally, mobility pattern was reconstructed via systematic strontium (Sr) isotope analysis of tooth enamel of most Basta individuals. The frequency of congenitally missing maxillary lateral incisors in the 9,000-year-old community of Basta is exceptionally high (35.7%). A worldwide diachronic comparison of the general rate of this anomaly shows that the enhanced frequency can only be explained by close familial relationships akin to endogamy. This is supported by strontium isotope analyses, indicating a local origin of almost all investigated individuals. The exceptionally high incidence of missing incisors within Basta represents the earliest evidence of a self-imposed exclusive mating system. Our interpretation provides direct and strong evidence for the fundamental social changes that accompanied the transition from mobile hunter-gatherers to sedentary farmers, when flexible social structures were tied into more permanent social bonds.

ELENI ASOUTI

The Role of Climate Instability and Resource Predictability in the Formation of Neolithic Corporate Identities in Southwest Asia

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Empirical scrutiny demonstrates that theories aiming to explain socioeconomic change in terms of final Pleistocene-early Holocene climate deterioration (push theories) or improvement (pull theories) fail. Instead, periods of sustained socioeconomic and cultural innovation appear to be associated with periods of climatic instability, manifested at the timescales of direct human experience of landscape change, that is at the individual, generational and inter-generational scale. It is argued that climate instability generated suitable contexts for the development of inter- and intra-group information exchange and community interaction networks, which were

negotiated via “corporate identities” that emerged during the early Holocene across the geographical and socio-cultural divides of Southwest Asia.

AMY BOGAARD

Neolithic ‘Cooperatives’? An Archaeobotanical Approach to Neolithic Corporate Identities

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Farming is often linked with the atomization of society into small-scale households. But analysis of the most direct (archaeobotanical) evidence for crop production and use suggests that household storage was deeply intertwined with supra-household cooperation. Using recent data from Çatalhöyük, central Anatolia and other late PPN-PN sites, this paper challenges the assumption that domestic consumption necessarily reflects domestic production, and considers the implications of (at least partially) cooperative farming for understanding the consequences of the agricultural transition in western Asia.

GARY ROLLEFSON

“I am we”: the Display of Socioeconomic Politics of Neolithic Commodification

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Competition for resources (arable land, pasturage) within settled farming populations became increasingly intensive as those populations grew. One strong measure to reduce the tensions that might lead to conflicts over such commodified aspects of the environment was the development of corporate kinship groups that established exclusive access to certain land parcels (among other resources) to their members; abiotic resources were also claimed exclusively, such as names, symbols, and myths. A correlated development was the expression of corporate identities, signs that distinguished one corporate group from all others. While many of those signs may have been lost to prehistorians, others have survived. The site of ‘Ain Ghazal provides good evidence of such corporate identities as reflected in architectural clustering and ritual practices, particularly during the Middle PPNB and Late PPNB periods.

CHRISTA SÜTTERLIN

Cultural Memory: Symbols and Rituals for the Purpose of Making and Sustaining Group Identity

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The transition from semi-nomadic hunter-gatherer groups to larger independent communities living in permanent settlements brought more than economic and social changes. On a cultural level, the emergence of forms which reveal a greater emphasis on the symbolic economy may be observed. This includes forms of norms and customs, of religion, and of monuments and sacred objects. We may observe comparable phenomena in traditional cultures that exist today. The construction of group identity depends on myths that explain the group's identity by the cultural creation of common ancestors (Eibl-Eibesfeldt 1995, Suetterlin 2000). This is for the most part territorially defined. Materially, these myths are manifested by sacred objects that combine stylistic singularity with solidarity of form. Stored in central locations of the community, they are continually ritually re-activated. Through such symbols, the group communicates its “identity”. The earlier kinship relationships between members of the group are replaced by culturally defined relations.

On another level, artefacts and monuments that derive their expression from the repertoire of ritual "hostility displays" are used to secure the group's territory. Both forms of symbolic practice serve to maintain the group identity internally by binding through common descent and externally by territorial demarcation through agonal symbols. Examples from different cultural contexts will illustrate this discussion.

THEYA MOLLESON

Physical Signs of Corporate Identity

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Corporate identities are constructed in response to need in the face of dispersal or suppression. Physical signs that reflect the need can be interpreted.

Early Neolithic foundation burials may signal a change in focus from the closure deposits of abandoned buildings to a bond with the future. Later immigrants marked their arrival at Abu Hureyra with burials in a new large building within the host settlement. They were physically distinctive. They brought with them successful methods of shepherding and specialist crafts and above all integrated with the host population.

Artificial cranial deformation was a surprisingly early response to the need for corporate identity. A minority group can ensure they are clearly identifiable as a group by cranial modelling imposed at birth. They can emerge as an elite group, risking conflict. Strategies are developed to deal with those outside the norm, to avoid conflict. The function of rites de passage may not be solely to indoctrinate the initiate, but also to confer a special identity (e.g. shaman) on the otherwise intractable individual.

2. THE CHRONOLOGY OF TRANSITIONAL PERIODS FROM 3000-1000 BCE: COMPARING ABSOLUTE CHRONOLOGIES BASED ON ¹⁴C TO RELATIVE CHRONOLOGIES BASED ON MATERIAL CULTURE

ELISABETTA BOARETTO – FELIX HÖFLMAYER

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As chronology is the backbone of history, secure absolute dates are a prerequisite for understanding political history, trade and cultural interconnections in the Ancient Near East. For a long time chronology was based on changes in the material culture and synchronization with historical chronologies of Egypt and Mesopotamia. Even 60 years after the development of radiocarbon dating, relative chronologies of the Levant, Anatolia, Cyprus and the Aegean are the common basic chronological models used for writing history.

However, in the last decades a major change has taken place based on integrating field work, quality control on the datable material and improvement in radiocarbon dating analysis. This new approach has resulted in high resolution absolute chronologies for certain periods that in turn raise fundamental questions about timing of events, synchronization with historical chronologies, and reliability of material culture changes for absolute dates and diffusion of ideas, trade and so on. This in turn has resulted in some disagreements between traditional chronological models and radiocarbon dating. These differences, which can reach a few hundred years in some cases, occur in several chronological phases and may in part be attributed to the different methodological approaches to absolute dating between science and humanities, a difference that should be addressed in the proposed workshop.

In this workshop we would like to present the current state of research in chronology from the Early Bronze Age down to the Iron Age, both from a scientific as well as from an archaeological point of view in order to detect agreements as well as disagreements. Field archaeologists, epigraphers and radiocarbon experts will be invited to give state of the art research results regarding the chronologies in the Near East region between the 3rd and 1st millennium BC. This would provide new research directions for students and all scholars.

Programme

SESSION 1

- Introduction
- Michael W. Dee
Relative and Radiocarbon-based Chronologies for Egypt during the First and Second Millennia BCE
- Rita Gautschy
Astronomical Data and their Potential for Chronological Purposes
- Felix Höflmayer
Middle Bronze Age Chronology, Egypt and Tell el-Dab'a: Where it fits and where it doesn't

SESSION 2

- Elisabetta Boaretto
Radiocarbon Chronology of the Early Bronze Age in the South Levant: Improving Time Resolution and Synchronization
- Pierre de Miroschedji
The Radiocarbon "High" Chronology for the Early Bronze Age Southern Levant to the Test of Archaeology: Solutions, Problems, and Perspectives
- Pascal Butterlin
Between the East and the West, Chronological Issues at Mari (2900-1760 BCE)

SESSION 3

- Constanza Coppini
Evidences for the MBA-LBA Transitional Period in Northern Mesopotamia: Stratigraphic Sequences and Ceramic Assemblages
- Eleonora Carminati
Towards the Periodization of the Early Kurgan Cultures of Southern Caucasus: State of the Question and Preliminary Results
- Hassan Fazeli Nashli
The Relative and Absolute Chronology of the Iranian Central Plateau during the Third and Second Millennium BC

Abstracts

ELISABETTA BOARETTO

Radiocarbon Chronology of the Early Bronze Age in the South Levant: Improving Time Resolution and Synchronization

Weizmann Institute of Science

The end of the Early Bronze Age is often described as being “sudden” in the framework of the archaeological record. This in turn raises questions about the actual resolution of the archaeological record itself and if in fact it is defined by the materials deposited or by the limit in resolution of radiocarbon dating?

The first step is to understand the nature of the site and the site formation processes in order to tailor the strategy for collecting samples for radiocarbon dating. An example of this approach is the recent study of the Early Bronze Age chronology at the site of Megiddo, Israel. A location was found with very fine stratigraphy where we dated sufficient layers such that the fluctuations in the radiocarbon dates could be superimposed on the calibration curve fluctuations (in essence “wiggles matching”). At Tel es Safi we used a different approach when dating seeds from a large Early Bronze jar, where we only dated the seeds located at the base of the jar and must have been in situ. The chronology was extended by dating the layers beneath the jar. These two studies as well as the others that we used to date the end of the Early Bronze III appear to be limited in resolution more by the nature of the archaeological record and less by the resolution of radiocarbon dating. Moreover with this new excavation approach combined with high resolution dating it might be possible to “re-open “ some of the past excavated sites and recover radiocarbon samples for resolving other chronological issues.

PASCAL BUTTERLIN

Between the East and the West, Chronological Issues at Mari (2900-1760 BCE)

Université Paris I Panthéon-Sorbonne

Abstract:

ELEONORA CARMINATI

Towards the Periodization of the Early Kurgan Cultures of Southern Caucasus: State of the Question and Preliminary Results

University of Melbourne

The transitional stage between the Early and the Middle Bronze Age in southern Caucasus (ca. mid-end of the 3rd millennium BC) is defined by the emergence of the barrow burial (kurgan) horizon, which reached its apogee during the Middle Bronze Age (2nd millennium BC) within the frame of the Trialeti culture. Traditionally, the Early

Kurgan cultures have been variously dated from the beginning of the 3rd to the beginning of the 2nd millennium BC, according either to relative chronology models based on the synchronisation of cultures or absolute models, arbitrarily accounting calibrated and uncalibrated dates. Not only is the general chronology of this phase uncertain, but also its internal periodization, differentiating only between an earlier Martqopi-Early Trialeti and a later Bedeni phase. The recent comprehensive re-examination of the pottery repertoire of this phase has allowed distinguishing at least three main cultural stages within the Early Kurgan cultures, represented by the isolated or the joint evidence of the pottery groups detected. The redefinition of the Early Kurgan ceramic collection, through the autoptic analysis of the finds, their morphology and the results of the archaeometric investigations, allowed for the first time to preliminary systematize and suggest a new periodization for this phase.

COSTANZA COPPINI

Evidences for the MBA-LBA Transitional Period in Northern Mesopotamia: Stratigraphic Sequences and Ceramic Assemblages

Freie Universität Berlin

The so-called MBA-LBA 'Dark Age' is a matter of debate in archaeological studies concerning 2nd millennium Mesopotamia: how long did it last, and most of all, is it really distinguishable? Many scholars have tried to understand and prove it, through the use of written sources, astronomical data, archaeological stratigraphic sequences, and means of absolute dating. However, Northern Mesopotamia underwent major changes in a period spanning from the 17th to the 15th century BC. Such modifications involved on large scale the political organization of the land (emergence of Mittani), but on smaller scale the daily life of people and their internal dynamics. In this paper, and to the aim of the workshop, we are going to illustrate and detect the small-scale changes as a part of the chronology subject, dealing with relative chronology. Stratigraphic sequences and ceramic assemblages from sites situated in the Syrian Upper Euphrates Valley and the Khabur Valley are going to provide the basis for establishing a chrono-stratigraphic diagram for the region. The correlation of ceramic types and relative stratigraphic contexts from the mentioned regions is going to constitute a piece of the large Relative Chronology subject, thus giving new data from Northern Mesopotamia.

MICHAEL W. DEE

Relative and Radiocarbon-based Chronologies for Egypt during the First and Second Millennia BCE

University of Oxford

Dynastic Egypt offers some of the richest relative dating evidence of any Bronze Age civilisation. Artefact sequences, stratigraphy and king-lists all form part of the established archaeological canon. Such records are a valuable resource for scientists interested in refining radiocarbon-based chronologies using Bayesian statistical modelling. However, a precise understanding of how the relative sequences relate to the passage of time is essential before they can be employed for this purpose. In this paper, I discuss the methods by which the ordering of cultural sequences may be chronometrically tested, and then outline the variety of ways such information can be utilised in Bayesian models. Absolute chronologies produced in this manner will then be juxtaposed against conventional historical records with specific emphasis being placed on the periods of transition known as the First and Second Intermediate Periods.

RITA GAUTSCHY

Astronomical Data and their Potential for Chronological Purposes

Universität Basel

To derive absolute dates with a precision of one year for pharaohs and Mesopotamian kings, records of astronomical observations have been frequently used. While the confidence in the astronomical dating method was almost unlimited at the beginning of chronological studies, the situation changed dramatically during the last decades, leading to a denial by several researchers of any usefulness of astronomical data for dating purposes. For the utilization of astronomical data and their reliability different rules of thumb hold in Egypt and Mesopotamia due to the varying nature of the solar Egyptian and the lunisolar Mesopotamian calendar. One type of astronomical observation can provide an absolute date of an event only in exceptional cases, usually further chronological information is needed. On the other hand, neglecting the available information from astronomical data means wasting useful evidence. When knowing the possibilities and limits of this dating method it is a powerful tool in combination with other dating methods. For four papyri from El-Lahun in Egypt the results of the astronomical and the ¹⁴C dating method can be compared directly. I will address the possibilities and limits of astronomical data for chronological purposes in Egypt and Mesopotamia and discuss the agreements and disagreements with the ¹⁴C determinations.

FELIX HÖFLMAYER

Middle Bronze Age Chronology, Egypt and Tell el-Dab'a: Where it fits and where it doesn't

University of Chicago

Absolute dates for the Middle Bronze Age of the Levant are still mainly based on archeological synchronisms with Egypt and especially with site of Tell el-Dabca in the eastern Nile Delta. For a long time, reliable radiocarbon sequences were lacking that could be used to check the validity of the proposed synchronisms and the derived absolute dates. Only recently, sequences of radiocarbon determinations on stratified short-lived samples from the sites of Tel Ifshar and Tell el-Dabca were published and together with ongoing research in the framework of the project 'Radiocarbon dating the Bronze Age of the Levant' funded by the Fritz Thyssen-Foundation, the German Archaeological Institute and the University of California, Los Angeles, allow to compare absolute dating based on synchronisms with Egypt and Tell el-Dabca with reliable scientific data. In this paper we will discuss new radiocarbon determinations for the site of Tell el-Burak (Lebanon) and Tel Kabri (Israel) and their implications on Middle Bronze Age absolute chronology.

HASSAN FAZELI NASHLI

The Relative and Absolute Chronology of the Iranian Central Plateau during the Third and Second Millennium BC

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One of the important necessities for archaeology of Iran is to access a calendar date to understand the trajectory cultural development both synchronically and diachronically. Chronological studies within the region back to 1930s when Roman Ghirshman and Erich Schmidt systematically investigated the origin of prehistoric societies (Schmidt 1937, Ghirshman 1935). Later, through the data collected from the excavated sites of Hissar, Cheshmeh-Ali and Sialk, allowed Donald McCown to propose a comprehensive chronological framework for the

region (McCown 1942). However, in the second major step Robert H. Dyson focused on the cultural horizons and subdivided the chronology of Iran from 6000-2000 BC into the seven stages from 'Soft Ware Horizon' to the 'Northern Gray Ware Horizon' (Dyson 1965).

The revolutionary stage of chronological studies in the central plateau started from 1990s when many old and new sites systematically excavated by the Iranian and non-Iran archaeologists. Through the secure stratigraphic information and using c14 dates, archaeologists have proposed a new chronological model for the central plateau of Iran (Sarлак 2011, Nokandeh 2010, Fazeli et al 2009, Pollard et al 2012). From the excavations data such as Tepe Pardis, Qoli Darvish, Sialk South, Arisman, Sagzabad, and kapandeh I will propose a new model of chronology for the Iranian central plateau during the third and second millennium BC.

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PIERRE DE MIROSCHEDJI

The Radiocarbon “High” Chronology for the Early Bronze Age Southern Levant to the Test of Archaeology: Solutions, Problems, and Perspectives

CNRS

The radiocarbon 'high' chronology recently proposed for the Early Bronze Age of the Southern Levant challenges traditional relative chronologies based on material culture. The discrepancies between the two chronologies need to be discussed, evaluated, and eventually reconciled in one way or another. The paper will attempt to examine archaeological data in light of the new ¹⁴C chronology. It will show that the latter actually offers the solution to several problems concerning the relative chronology of the Southern Levant with Egypt, with the Central Levant, and with the Northern Levant and beyond. The paper will also discuss some of the problems entailed by the 'high' radiocarbon chronology: the shortness of the EB II period, the dating of the end of the 'urban' EB III period, especially in relationship with Egypt, and the length of the Intermediate Bronze Age period. Finally, it will also stress that the challenges posed by these problems are not a simple matter of acceptance or dismissal of the

radiocarbon chronology. The dialogue now established between ^{14}C -based absolute chronologies and relative chronologies based on material culture actually offers both a new perspective for research and a significant contribution to the progress of archaeological knowledge.

3. DESERT KITES – ARCHAEOLOGICAL FACTS, DISTRIBUTION AND FUNCTION

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Research on Desert Kites has intensified during the last years. These large stone structures are now known from many parts of the Arabian Peninsula, the Levant and Syria but also from Central Asia. They appear in a great variety of forms. Common to all are two or more long stonewalls converging towards an enclosure. Their function is still highly debated. Some scholars see them as hunting traps whereas others think them to be suitable to collect semi-domesticated animals.

The desert kites are the most spectacular remains of a long forgotten culture at the fringe of the desert. It is time to give this culture the status it deserves. The discussion about the controversial ideas of the function of desert kites will help to understand the economy of these cultures.

The workshop is a unique possibility to bring together the leading scientists working on the subject.

Programme

SESSION 1, REGIONAL REPORTS

- David Kennedy & Rebecca Banks & Matthew Dalton
Kites in Saudi Arabia
- Wael Abu-Azizeh & M. Tarawneh
Out of the Harra: Desert Kites in South-Eastern Jordan. New Results from the South-Eastern Badia Archaeological Project
- Per Storemyr
The Distribution of Ancient Game Traps in Upper Egypt and Lower Nubia

SESSION 2, PROJECT STUDIES

- Rémy Crassard
The Globalkites Project: Multi-proxy Studies of the Desert Kite Phenomenon
- Olivier Barge
First Results of the Globalkites Project: Research in Armenia, Kazakhstan and Jordan
- Dani Nadel & Guy Bar-Oz & Dan Malkinson & Amnon Nachmias & Anna Khechoyan & Boris Gasperian
New Insights into Desert Kites in Armenia (the Fringes of the Ararat Depression)

SESSION 3, SOCIAL AND ECONOMIC ASPECTS

- Mohammed Maraqten
Hunting in Ancient Arabia in the Light of Rock Art and Epigraphic Material
- Alison Betts
Beyond the Walls: Social, Economic and Strategic Aspects of Kite Use
- Ueli Brunner
The South Arabian Form and its Implication for the Interpretation of Desert Kites

Abstracts

Wael Abu-Azizeh¹, & M. Tarawneh²

Out of the Harra: Desert Kites in South-Eastern Jordan. New Results from the South-Eastern Badia Archaeological Project

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Kite structures are known in Jordan since the beginning of the last century where they have been first identified by the pilots of the Royal Air Force and the French Army during the mandates period. Since then, although this kind of structures is known from other areas of the Southern Levant and the Near East (Sinai, Negev, Syria, Saudi Arabia...), their distribution have been thought to be restricted in Jordan to the northeastern basalt Harra landscape, despite the fact that no convincing explanation could be provided for such a confined geographical location.

From the point of view of arid peripheries settlement dynamics understanding, the gap left in southern and southeastern Jordan was puzzling in view of the clear continuity in human occupation evidenced by recent research.

The recent discovery of kites east of al-Jafr, in Jibal al-Khashabiyeh area, brings new data modifying considerably our knowledge of these late prehistoric structures. Their remarkable organization in an almost 20 km long chain like continuous feature is reminiscent of the Harra layout of these structures, while they also show clear local specificities and characteristics, as for instance an increased exploitation of the topography for their construction.

Olivier Barge

First Results of the Globalkites Project: Research in Armenia, Kazakhstan and Jordan

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One of the goals of the Globalkites project is to understand the desert kites phenomenon in the frame of its geographical extension. This goal is addressed by organizing fieldworks in different regions. Kites from Armenia, Kazakhstan and Jordan have been observed and studied in 2013. The preliminary results lead to a precise description of those structures in each region, regarding kites' architecture and spatial organization in the landscape. Chronological data, relative and chronometric, have also been gathered. These data, combined with satellite imagery analyses – the interactive process between satellite images and fieldwork observations enrich both approach – are yielding the first elements of interpretation. The comparison of these data will be presented.

Alison Betts

Beyond the Walls: Social, Economic and Strategic Aspects of Kite Use

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This paper will draw on comparative literature in a variety of disciplines to explore some of the wider aspects of the communal hunt. Much of the study on the enigmatic structures known often as 'desert kites' concerns

archaeological data and mapping of distributions. However, to understand the background to their creation and use, it is valuable to consider the societies that may have built and used them. They demand much time and energy to build and manage, often require aggregation of disparate social groups, and the distribution of resources following a successful hunt may also be socially and economically complex.

UELI BRUNNER

The South Arabian Form and its Implications for the Interpretation of Desert Kites

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The information about desert kites in Yemen stems mostly from fieldwork undertaken within the scope of a project of the German Archeological Institute. The South Arabian desert kite has an open Y-form structure. The head consists of several short walls on the left side, standing at right angles to the continuous wall on the right side. Between these chambers and the wall runs the lane. It is narrowest at the beginning of the head and widens towards its open end. The tails leading to the head are not always compact walls. Sometimes they are only manifested by heaps of stone, which create the impression of a line.

The environment, location and size of desert kites suggest they were traps for game. The different settings in the topography and variety of forms of the desert kites suggest that different animals were hunted, such as gazelle, ibex or onager. Having this in mind, some pre-Historic stone arrangements in Europe could be interpreted as hunting traps.

RÉMY CRASSARD

The Globalkites Project: Multi-proxy Studies of the Desert Kite Phenomenon

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Within the last few years, the number of inventoried kites has increased fivefold, and the known distribution zone has been greatly extended. The GLOBALKITES Project is facilitating the study of these structures at the regional and local scale via the GeoExplorer GLOBALKITES Interactive Map, available on the website www.globalkites.fr. This inventory demonstrates the surprisingly wide geographical range of these structures, both in the Near East and in outlying regions. We refer to the extensive construction of these features as the "Kites Phenomenon", and suggest that it raises questions about kites' origins via diffusion or cultural convergence. The scale of this distribution also has implications for issues of dating and function, which are still very unclear.

Investigation of the Kites Phenomenon is at the heart of the GLOBALKITES project. The team is composed of archaeologists, archaeozoologists, geographers and geoarchaeologists, who implement an interdisciplinary approach previously little used in such studies. Satellite images provide substantial amounts of data that can be subjected to geomatic analysis, with the resulting spatial data used to identify and explain regional differences. To this end, an archaeozoological inventory and environmental characterization are in progress. The fundamental issues cannot be resolved without field investigations. In parallel, a program for automatic recognition of kites in Google Earth is being developed in collaboration with mathematicians and computer scientists.

DAVID KENNEDY¹, REBECCA BANKS¹ AND MATTHEW DALTON²

Kites in Saudi Arabia

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Although it has long been known that Kites were to be found in Saudi Arabia, it is only very recently that the availability of high-resolution imagery on Google Earth and Bing has enabled researchers to identify them far more widely and in greater numbers than previously believed. In particular, imagery for the areas around Khaybar and Al-Hiyat revealed over 200. Now the high-resolution imagery has been extended more widely and a fuller picture can be formed. The Kites are varied in size and shape but many are of a distinctive, angular form not found elsewhere in 'Arabia'. With an increased data set, greater familiarity with the wide variety of other, probably contemporary, stone-built structures in the region, and with the geological and vegetational environment, there is an opportunity to offer a more detailed analysis and interpretation than previously done by Kennedy and Bishop.

MOHAMMED MARAQTEN

Hunting in Ancient Arabia in the Light of Rock Art and Epigraphic Evidence

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The purpose of this study is to present a general view of hunting in pre-Islamic Arabia such as the hunt of ibex, gazelle, Arabian Oryx, ostrich and wild ass. This paper is depending primarily on the epigraphic evidence gained from the ancient South and Early North Arabian inscriptions. Further, the rock drawings of hunting scenes in North, Central and South Arabia as well as hunting scene reliefs discovered in Yemen are very significant source, especially those that are associated with inscriptions. Archaeological evidence, Arabic Classical sources such as the pre-Islamic specific hunt poetry (ṭardiyya) and ethnographic data will be considered.

The hunt was a central institution in ancient Yemen from the beginning of the first millennium BCE to the decline of the South Arabian culture at the eve of Islam and the ritual hunt was practiced by the Sabaean rulers in the relation with the South Arabian supreme deity 'Aṭtar. A recently discovered 20-lines Sabaic inscription relating to the hunt of Oryx and wild ass using the horse will be presented. This text has been discovered by the American Foundation for the Study of Man at the Awām temple/Maḥram Bilqīs, Mārib, Yemen. Safaitic and Thamudic inscriptions and rock art drawings relating to hunt will be also taken into account.

A special attention will be given to the hunting technology such as the so-called 'desert kites' or animal traps and especially those that are presented in the rock drawing.

DANI NADEL¹, GUY BAR-OZ¹, DAN MALKINSON², AMNON NACHMIAS¹, ANNA KHECHOYAN³ & BORIS GASPERIAN³

New Insights into Desert Kites in Armenia (the Fringes of the Ararat Depression)

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Desert Kites are found in Southwest Asia from Yemen in the south to Armenia in the north. Though thousands are known, most were only briefly documented using Google Earth images without any fieldwork. So far, less than 20 were excavated in this vast region. We report here of our first season of fieldwork along the fringes of the

Ararat Depression (Armenia), where we excavated two V-shaped kites and one enclosure kite within a rich landscape that also includes dwelling sites, burials and petroglyphs.

The architecture of the kites was characterized through excavations in the heads and along the arms. The differences between the two types of kites are analyzed in terms of settings, dimensions, architecture and suggested utilization. No radiocarbon dates are yet available, and the most common finds in the kites are pottery sherds from the Middle Bronze Age. Other rare finds include obsidian artifacts and stone implements.

We also tested a settlement and a ceremonial structure near the kites. The remains from these include typical Middle Bronze Age II artifacts, assigned to so-called Trialeti-Vanadzor Cultural tradition (ca. XXI–XIX centuries BCE). An adjacent burial yielded pottery dated to the Late Bronze Age, ca. XIV–XIII centuries BCE.

PER STOREMYR

The Distribution of Ancient Game Traps in Upper Egypt and Lower Nubia

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More than 40 years ago James Hester and Philip Hobler reported the discovery of ancient stone-built game traps in the little Dunqul Oasis in the Western Desert of Egypt, some 150 km SW of Aswan. Simultaneously, they announced game trap concentrations along the Nile in Lower Nubia between Aswan and the Sudanese border. These were not published, and until recently it was assumed that the traps had become victims of the rising waters of the Lake Nasser reservoir. However, following the finding of yet another, very substantial concentration of game traps in Aswan 10 years ago, as well as a minor concentration at el-Hosh between Aswan and Luxor, studies of high-resolution satellite images has confirmed that most of the announced Lower Nubian game traps still exist. But there are many more than originally announced and the west bank of the Nile in Lower Nubia now stands out as extremely rich in game traps, with hundreds of km of stone fences. With a focus on distribution, their characteristics, use and dating are the themes taken up in this presentation.

4. ARTIFACTS MADE OUT OF BONE AND RELATED MATERIALS: MANUFACTURE, TYPOLOGY AND USE

CANAN ÇAKIRLAR & HERMANN GENZ

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Artifacts made out of materials of faunal origin (bone, ivory, horn, antler, mollusc shell, etc.) are commonly encountered in excavations in the Ancient Near East. While some groups of artifacts, such as ivory carvings or engraved *Tridacna* shells have received considerable attention, mainly because of their artistic significance, more mundane, yet more abundant objects such as tools and simple jewelry have often been neglected.

To address this imbalanced situation, we would like to organize a workshop focusing on artifacts made of bone and related materials from the Ancient Near East from the Neolithic to the Islamic Period.

The discussion will focus on the following aspects:

- Identification of raw materials and manufacturing methods (including possible workshop remains)
- Retrieval practices on the excavation (how, when and by whom are artifacts identified? Especially ad-hoc tools with limited alterations may only be identified through a detailed faunal study)
- Exchange in raw materials or finished items (ivory, shells)
- Typology and chronology of specific artifact categories
- Functional aspects (including use-wear studies)
- Contextual discussion

Programme

SESSION 1

- Canan Çakırlar
Ivory, elephant bones, and the relationship between the two in Syria and beyond
- Alice Choyke
Tiny Windows on Household Affairs: a glimpse into Late Chalcolithic Bone-working traditions at Horum Höyük in Southeastern Anatolia
- Rozalia Christidou & Mihriban Özbaşaran
Early Neolithic bone artifacts from Aşıklı Höyük, Central Anatolia

SESSION 2

- Hermann Genz
The Early Bronze Age Bone Object Assemblage from Tell Fadous-Kfarabida, Lebanon
- Haskel J. Greenfield & Annie Brown, Itzhaq Shai & Aren M. Maeir
Understanding Early Bronze urban patterns from the perspective of an EB III commoner neighbourhood: the excavations at Tell es-Safi, Israel. Bone tool frequencies and the nature of bone tool assemblages in an early urban assemblage: Tell es-Safi, Israel
- Luca Peyronel
Bone manufacture at Ebla (Syria) during the Early and Middle Bronze Age (c. 2400-1600 BC)

SESSION 3

- Ariel Shatil
Bone Carving in Early Islamic Jerusalem

Abstracts

CANAN ÇAKIRLAR

Ivory, elephant bones, and the relationship between the two in Syria and beyond

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The abundance and craftsmanship of the ivory objects in the archaeological record of the LBA and IA Eastern Mediterranean leave no doubt as to their high commercial value. Elephant teeth (tusk and molars) comprise an important raw material used in the manufacture of these objects. Recent zooarchaeological research shows that cranial, dental, and post-cranial remains of Asian elephants (*Elephas maximus*) are as ubiquitous as worked finds of ivory across the northern Levant. In this presentation, I will discuss the nature of these remains in relationship to the demand for raw material for ivory industries.

ALICE CHOYKE

Tiny Windows on Household Affairs: a Glimpse into Late Chalcolithic Bone-working Traditions at Horum Höyük in Southeastern Anatolia

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The now submerged site of Horum Höyük was excavated some ten years ago as part of rescue operations connected to dam building on the Middle Euphrates in Turkey. Most of the bone tool material comes from a large, undifferentiated refuse pit. The assemblage is largely characterized by the ad hoc use of bone with some notable and exceptional pieces. Connections in manufacturing and use traditions will be explored in terms of the nature of the small settlement itself, general bone-working trends in the period and local styles of bone manufacture. Comparisons will be made with material from the EBA I levels at the site of Zeytinli Bahçe and more broadly with the large tell site of Arslantepe.

Research at these tell sites present with a variety of difficulties which are often endemic to the study of sites connected to complex societies, especially ones associated with monumental architecture and the emergence of texts. I would also like to explore some of these methodological issues in light of the three examples listed above and other experiences as well as discuss ways of finding a happy compromise between excavating archaeologists and specialists like bone-tool analysts who work in find materials rarely connected to power and large-scale economic issues.

ROZALIA CHRISTIDOU

Early Neolithic Bone Artifacts from Aşıklı Höyük, central Anatolia

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The new project of excavation of the Aceramic Neolithic site of Aşıklı Höyük, central Anatolia employs the technological and taphonomic view to study bone artifacts. The analysis is based on the identification of the raw materials and morphological and metric traits of the artifacts and on the classification of the wear observed with optical microscopy. Wear measurements using tribological techniques permit refinement of observations.

Our study first focused on the earliest levels so far excavated on the site. The present paper discusses blank acquisition for tools, mainly awls and rubbing instruments, and ornaments, such as beads and pendants, and their successive modifications until discard. Tool production was based on bone breakage and shaping with a limited range of techniques and stone tool edges; ornaments are more varied from a technological point of view. In either case, our analysis permits study of movement organization and variation and thereby fine comparisons between blanks and final products. Technical habits and technicity are considered. These data together with information on tool use modes and maintenance allow us to examine bone artifact production in terms of resource potential and choice and perceptions that structured choice. The next step is to extent the study over time and space variations of the bone industries within the site.

HERMANN GENZ

The Early Bronze Age Bone Object Assemblage from Tell Fadous-Kfarabida, Lebanon

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Despite their relatively limited scale, the excavations conducted at the site of Tell Fadous-Kfarabida on the Lebanese coast between 2004 and 2011 have provided a large and surprisingly varied assemblage of objects made out bone and related materials from the Early Bronze Age levels.

In addition to large numbers of awls and spatula, other objects are attested as well, such as spindle whorls, beads and pendants, a decorated bone tube, a scale beam and several cylinder seals made out of bone or hippopotamus ivory.

This study will present a typological study of the material from the site, investigate the raw material used for the different types, analyze the distribution of the objects in different functional units and finally conclude with some thoughts on the use of specific types.

HASKEL J. GREENFIELD¹ – ANNIE BROWN¹ – ITZHAQ SHAI^{2,3} – AREN M. MAEIR³

Bone tool frequencies and the nature of bone tool assemblages in an early urban assemblage: Tell es-Safi, Israel

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Most studies assume that the faunal remains found within and around structures relate to the subsistence activities of the occupants. In this paper, we will present newly collected data on the frequency of bone tool/ornament remains at the early urban centre of Tell es-Safi, Israel that challenge this assumption. Detailed microscopic and taphonomic examination of the zooarchaeological assemblage collected during the excavation of the EB III (2800-2500 BCE) neighbourhood at the site suggests that formal and informal tools/ornaments are present in far greater numbers than normally described in most contemporary assemblages. This suggests that the distribution of bones in residential areas may be more related to use and fragmentation of modified bone than to subsistence. The focus of the excavations at Tell es-Safi/Gath is on an Early Bronze Age III commoner neighbourhood. While the neighbourhood contained a layout that is common for other EB urban centres, few other such areas of early urban sites have been subjected to an intensive zooarchaeological analysis. Based on these data and analysis, we discuss the significance of identifying use wear polish on even fragmentary remains in order to understand osteological frequencies in early urban settings.

LUCA PEYRONEL

Bone manufacture at Ebla (Syria) during the Early and Middle Bronze Age (c. 2400-1600 BC)

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The corpus of bone objects and tools from Tell Mardikh-Ebla allows investigating the role and development of bone manufacture at the urban centre between 2500 BC and 1600 BC. A preliminary assessment of the bone production that takes into account typology, distribution, and relation with other broad functional classes of items is presented, trying to underline trends and changes occurring through times.

During the Early Bronze Age III-IV a specific local production of ornaments of a high quality is attested by a large number of decorated sticks/pins, and a decorated bone tube shows that this specific production widely diffused in the Levant and in Anatolia was attested also at Ebla. Bone tools (especially awls and needles, pin-beaters, spindle-whorls) are also widely used together with bronze and especially stone implements (including a variety of lithic and obsidian blades). On the contrary, the craftsmanship of figurative and decorative inlays and beads prefers other kinds of material, such as semi-precious stones and shell.

A trend towards a dichotomy between high-specialized manufacture of valuable objects, such as inlays and incrustations, linked with the ivory industry, and a production of tools that seems to be restricted to spinning and weaving activities (spindle and spindle-whorls, shuttles, pin-beaters, needles) is evident during the Middle Bronze Age, when the number of bone tools sharply decrease and lithics almost completely disappear.

ARIEL SHATIL

Bone Carving in Early Islamic Jerusalem

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Excavations at Givati Parking Lot, on the north-west slope of the City of David ridge, have uncovered an Early Islamic neighborhood, dated to the time of the Abbasid Dynasty (8th-10th cent AD). This neighborhood shows both domestic and industrial characteristics. One of the crafts that were practiced in the area was bone carving. Ample evidence was found in and around one of the neighborhood's buildings which was used as the actual bone carving workshop.

The refuse of bone carving found at Givati reveals a complete reduction sequence of the objects produced there, giving new and important insights into the technology of the craft. The selection of special bone elements as raw material, the set of tools used by the carver, his technological knowledge and efficiency, points to a specialized, full time workshop.

The finding of the bone carving workshop in Givati has important insights not only into this unique craft, but also into the economic organization of related professions, establishments and crafts in Early Islamic Jerusalem. With this find, Jerusalem joins a small number of Near Eastern sites where evidence for large scale bone objects production, of any period, was recorded, among them Ashkelon, Alexandria, Caesarea and Petra.

5. TRAJECTORIES OF COMPLEXITY IN UPPER MESOPOTAMIA: PROCESSES AND DYNAMICS OF SOCIAL COMPLEXITY AND THEIR ORIGIN IN THE HALAF PERIOD

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Upper Mesopotamia has been seen until a few decades ago as a region that underwent passive processes of complexity which originated in Lower Mesopotamia. Yet, recent archaeological research has demonstrated that complexity was developing in Lower and Upper Mesopotamia at comparable rates. This reconstruction is based, however, on a patchy understanding of the dynamics affecting Upper Mesopotamia throughout the 7th-4th millennia BC: most of the data comes actually from the Upper Euphrates and the Syrian Jezirah, whereas the Upper Tigris has been so far only very marginally considered.

Furthermore, the study of such transformation has been based on the analysis of the Ubaid and LC materials, somehow underestimating the importance of the “wider perspective”, i.e. the integration of previous periods, within longer developmental processes.

The scope of this workshop is thus to focus on the processes of complexity from a wider standpoint, that takes into account the dynamics that started already in the Halaf period and continued throughout the Ubaid and the LC in Upper Mesopotamia. Participants are invited to present papers that re-discuss the roots of such processes from multiple standpoints (material cultural, settlement pattern, regionalisation, urbanisation, specialisation and exchange), so that longer trends of complexity may be properly recognized and discussed.

Programme

SESSION 1 – GENERAL TRENDS (ECONOMY, CONTACTS, TRADITIONS ...)

- Stuart Campbell
Persistent Cosmologies in Mesopotamia; What Happens to the Neolithic World?
- Marcella Frangipane
Halaf and Ubaid: Two Opposite Models of Society. What was the Basis of their Hybridisation in Upper Mesopotamia?
- Salam Al Kuntar
Economic Opportunities and Interregional Networks in Upper Mesopotamia in the Late Chalcolithic
- Marco Ramazzotti
Back to the Future. The Analytical Archaeology of the Mesopotamian Urbanism.

SESSION 2 – LANDSCAPE/SETTLEMENT PATTERNS

- Dan Lawrence & Andrea Ricci
The Roots of Complexity? Landscapes and Settlement from the Halaf to the Late Chalcolithic in the Northern Fertile Crescent
- Marco Iamoni
The Dynamics of Complexity and Settlement Pattern: the Eastern Upper Tigris Region between the 6th and 4th Millennium BC
- Simone Mühl
Where People Meet - The Eastern Tigris Region from the 6th to the 4th Millennium BC
- Tim B.B. Skuldbøl & Carlo Colantoni
Urbanism on the Edge - Complex Settlement Patterns and Urban Transformations on the Rania Plain in Northeastern Iraq

SESSION 3 – SOCIAL AND ECONOMIC CHANGES

- Olivier Nieuwenhuys
Hosting, Eating and Drinking across Boundaries
- Jill A. Weber
Animals and Complexity: Mapping Urbanized Niche Construction through Sex and Size
- Daniela Arroyo-Barrantes
Feasting and Mass Production in Early Urban Societies: Tell Majnuna, Tell Brak, Syria

- Final discussion

Abstracts

MARCO IAMONI

The Dynamics of Complexity and Settlement Pattern: the Eastern Upper Tigris Region between the 6th and 4th Millennium BC

University of Udine, Department of History and Preservation of the Cultural Heritage

The formation of complexity is a key issue that has attracted the interest of archaeologists since the discovery of the earliest settlements in the ancient Near East. The excavation of site sequences in S. Mesopotamia has suggested that the "Land of Sumer" was the area where socio-economic complexity emerged for the first time. Since then, progress in archaeological research modified this picture; we now know that complexity emerged in different regions with autonomous (though sometimes interrelated) dynamics. Yet this reconstruction is still very partial, with regard to both the archaeological details and the regions involved. It is based to a large extent on excavation data from specific areas (mostly the Euphrates basin) and has until very recently, not adequately incorporated evidence from landscape studies. This paper aims to partially rectify these weaknesses by analysing an area (the Eastern Upper Tigris region in modern Iraqi Kurdistan) that has been thus far little investigated. Thanks to the recent research conducted by the Italian Archaeological Mission in Assyria (University of Udine) with the LoNRP project, a significant amount of information on the regional settlement and its material culture is now available: this will help to provide an initial analysis of the formation of complexity in this area of Northern Mesopotamia, with a particular focus on its manifestation in regional settlement distribution.

SALAM AL KUNTAR

Economic Opportunities and Interregional Networks in Upper Mesopotamia in the Late Chalcolithic

University of Pennsylvania

During the Late Chalcolithic period in Upper Mesopotamia, structural elements like settlement type, subsistence economy, and ritual practice became increasingly differentiated while material culture over a vast region became unusually similar. In this paper I argue that social and economic interactions shaped the overall organization of the interregional networks and created significant convergence in technology and style. Efforts of the LC communities to find the most efficient production strategies in this period of economic growth and urban developments led to analogous similarity in material culture. My argument is based on recently examined data from Hamoukar, Brak, and Tepe Gawra and it demonstrates cross-cultural contacts and patterns of interaction along the Euphrates and Tigris in the Late Chalcolithic.

DANIELA ARROYO-BARRANTES

Feasting and Mass Production in Early Urban Societies: Tell Majnuna, Tell Brak, Syria

University of Cambridge

This paper explores the role of production and consumption of pottery during the emergence of early urbanism in Northern Mesopotamia. In this context, craft production is expected to grow and intensify to fulfill the needs of a larger and more complex population, stimulating mass production and standardization.

In Tell Majnuna (Tell Brak, Syria) large pottery assemblages from the Late Chalcolithic 3 period (ca. 3800-3500) were found together with vast quantities of human and animal bones. These intensive discard contexts give a unique opportunity for robust analysis of this typology, as well as to discuss the intensification and ongoing diversification of craft production in the 4th millennium BC.

Through the study of typology, carrying capacity and the quantitative analysis of the assemblage, this research also gives insight into how large feasting events provide opportunities for community engagement and social differentiation.

STUART CAMPBELL

Persistent Cosmologies in Mesopotamia; What Happens to the Neolithic World?

Department of Archaeology, School of Arts, Languages & Cultures, University of Manchester

Archaeologists working on early complexity have tended to start by the seeking the roots of later institutions and social adaptations in earlier periods. While logical in some ways, this tends to underestimate the importance of understanding how the distinctive characteristics of earlier periods evolve through time, how some aspects may persist into later periods and how they may shape the way in which later society develops. In particular, this paper argues that we can identify ways in which the world of the late Neolithic in Mesopotamia may have been structured and how agency may have worked within it. By examining how elements of this changed and persisted through time during the subsequent periods, we can better understand the development of societies of different complexity.

MARCELLA FRANGIPANE

Halaf and Ubaid: Two Opposite Models of Society. What was the Basis of their Hybridisation in Upper Mesopotamia?

University "La Sapienza" – Rome

The paper proposal starts from the idea that the Halaf society was basically egalitarian, with almost no real spur towards social stratification, and that this at one point may have become a limit to its development and even survival. The Ubaid society conversely seems to have been founded on a somehow stratified structure since its first appearance in the Lower Mesopotamian plains. The paper will try to analyse the reasons that made it possible for the two communities to mix each other and the contribution given by the Halaf society to the deep changes which took place in Upper Mesopotamia in the course of the 5th millennium BC and brought to a new society based on a hierarchical model of Ubaidian type.

DAN LAWRENCE & ANDREA RICCI

The Roots of Complexity? Landscapes and Settlement from the Halaf to the Late Chalcolithic in the Northern Fertile Crescent

Durham University; German Archaeological Institute

Landscape archaeology, and particularly settlement pattern analysis, has long been used to assess social complexity. The spatial organisation of sites, presence or absence of hierarchies, often based on site size, and variations in population density and long distance trade networks are all regularly employed as evidence in this assessment. However, reconstructing past landscapes requires an understanding of the nature of the archaeological remains visible in the present day. This is particularly true of prehistoric periods in the Northern Fertile Crescent, where dense later occupations have destroyed or masked much of the evidence for earlier cultures. This paper therefore has three aims. Firstly, to examine the evidence available for reconstructing landscapes and settlement patterns from the Halaf period to the Late Chalcolithic, and highlight what may be missing from the record. Secondly, to compare and contrast these landscapes across the Northern Fertile Crescent using a large dataset of regional surveys brought together by the Fragile Crescent Project (Durham University). Thirdly, to place these landscapes in their long term context in relation to later periods more commonly associated with ideas of social complexity.

SIMONE MÜHL

Where People Meet - The Eastern Tigris Region from the 6th to the 4th Millennium BC

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Older and more recent excavations and surveys in Syria have revealed a great deal of information concerning the late Neolithic and Chalcolithic transitions in upper Mesopotamia. At the same time, our understanding of these periods in the northeastern part of the Fertile Crescent remains fragmentary, especially in those areas where archaeology was largely focused on the late Assyrian capitals and beyond. Between 2001 and 2004, the Iraqi Directorate of Antiquities conducted work at 63 sites, 15 of which were excavated in the Makhul area near the confluence of the Tigris and the Lesser Zab.

Only a small number of Halaf period sites were recorded, whereas there is an abundance of newly founded Ubaid settlements. This picture is also reflected in recent survey results in the Shahrizor Plain of Iraqi Kurdistan. Therefore, many questions still need to be answered. Furthermore, this also raises a great number of issues that are related not only to the chronology and spatial distribution of pottery groups as well as certain architectural features, but also to the cultural settings and developments during the 6th to the 4th millennium BC. The paper shall present the results of the Makhul dam salvage excavations and their setting within the wider regional context of the late Neolithic and early Chalcolithic transition in northeastern Mesopotamia. The material study is combined with a GIS-based analysis of the known sites in the eastern Tigris region and their environment.

OLIVIER NIEUWENHUYSE

Hosting, Eating and Drinking across Boundaries

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Anthropologists and archaeologists exploring social identity emphasize that identities are multiple and situational. In culturally fragmented contexts contact across boundaries is possible to the degree that individual and groups ascribe to institutions facilitating peaceful interaction. These insights are a valuable starting point for discussing the Halaf and Ubaid in the ancient Near East. Scholars have demonstrated much diversity in subsistence, social organization and complexity within these culture groups. Both cultural mosaics are identified archaeologically foremost by their respective pottery styles, which in both cases were similar across considerable distances. I shall

adopt Gil Stein's depiction of the Ubaid as an 'interaction sphere', but argue that its origins can be traced to the Late Neolithic of Upper Mesopotamia. As well, I shall follow Phil Karsgaard to argue that Halaf and Ubaid ceramic assemblages were similar in the way vessels were used. Stylistically elaborated Fine Ware serving vessels painted with geometric motifs figured in everyday commensality within the individual household and in community wide feasts. Feasts involved competition, fostering emerging complexity, but also values of equality and hospitality. Ascribing to such values enabled heterogeneous later prehistoric groups to interact, exchanging goods, people and ideas across persisting local identities and adaptations. The primacy traditionally accorded to the southern Mesopotamian lowlands may be questioned; the 'settling of Sumer' may have become possible only after Mesopotamian communities had established institutions capable of transcending localized identities and adaptations.

MARCO RAMAZZOTTI

Back to the Future. The Analytical Archaeology of the Mesopotamian Urbanism.

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This paper is a further attempt to apply Artificial Adaptive Systems to the analysis of the Mesopotamian urbanism. The 'urban revolution' in the Land of Sumer and Akkad has been considered as a complex natural and cultural phenomenon, but also the product of cognitive behavior that can be critically discussed both on the historiographical and analytical level. The complementary exploration of these two research's levels leads to a strong diversifications of the Mesopotamian City representations and a progressive human attempt to trace them back to the simulation of cognitive complexity. AAS, as a specific set of Artificial Intelligence (AI) mathematical tools which express these emulative properties, are historiographically animated in the 'connectionist' reaction to 'behaviorism' and therefore are proposed here as an 'analytical model' for to explore the empirical complexity of the southern and northern Mesopotamian urbanism through non-linear programming (NLP) and dynamic algorithms (DA). At the end of the nineteen eighties, numerous studies resurfaced in the attempt to understand complexity no longer as external to man and subject of our predominantly applicative research, but rather as a living expression of our intelligence, of our mnemonic, of perceptive and constructive capacity. In this sense, complexity was almost removed from the undisputed supremacy of external interpretation, able to be analyzed through mechanical and linear systems, and became the subject of specific research which aimed to trace brain's capacity to create it. The analogy between cultural complexity and the complexity of intelligence then gave rise to a new system of theoretical knowledge, methods and applications linking archaeological research to the New Artificial Intelligence. Theories, methods and applications which are already in use and identify a whole new world of archaeology, which is not a paradigm of it, as cognitive archaeology aims to be, but a (contemporary) way to undertake the same historical reconstruction. The AAS application to the ancient near eastern urbanism can be considered a new frontier of the Settlement Archaeology research, but it is rooted 'back to the future' because has been inspired by the Analytical Archaeology application of the System Theory, and moreover by the David Leonard Clarke pioneer approach in connecting the epistemic nature of our contemporary researches to the Cybernetic.

TIM B.B. SKULDBØL & CARLO COLANTONI

Urbanism on the Edge - Complex Settlement Patterns and Urban Transformations on the Rania Plain in Northeastern Iraq

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This paper discusses the survey and excavation findings from around the twin sites of Bab-w-Kur on the Rania plain of Iraqi Kurdistan and evidence of an increase in the tempo of transformation from the Halaf/Ubaid through the Late Chalcolithic period.

Bab-w-Kur lie in a spatially-constrained environment on the eastern margins of Upper Mesopotamia and in a pristine research region. In the Late Chalcolithic period we see an emerging settlement complexity and the clustering of multiple small sites into larger complexes.

Excavations at Bab-w-Kur show radical transformations from the LC2 to LC 3-4 periods with rapid shifts in social and economic functions with decreased functional capacities. This non-primary centre presumably competed with other urban entities on the plain. This raises the question of whether Bab-w-Kur failed to reach the critical mass of a competitive urban settlement and was subsumed into the demand sphere of a larger nearby centre. Or, is it an example of the varied trajectories of urban development for the period? Complementing these insights are data from the survey that shows sites occupied in the Halaf/Ubaid periods forming part of the dense Late Chalcolithic settlement network.

This will act as the starting point for a discussion of concepts regarding the trajectories of urban complexity on the edges of Upper Mesopotamia.

JILL A. WEBER

Animals and Complexity: Mapping Urbanized Niche Construction through Sex and Size

Consulting Scholar, Near East Section, The University Museum of Archaeology and Anthropology; Philadelphia, PA 19103 USA

In Northern Mesopotamia, the Late Chalcolithic (LC, ca. 4000 – 3200 BC) is surfacing as an autochthonous, dynamic era of increasing population density and, perhaps causally, emergent cultural innovations and evolving settlement patterns. Within this period, Tell Brak and its immediate environs evidenced expansion of its settled area and settlement reorganization around seemingly-industrialized economic-activities. Concomitantly, analysis of substantial faunal-data from Tell Brak and Tell Majnuna indicates contemporary shifts in animal-management practices and animal health, suggesting larger-scale herding in a resource-constrained environment. Is such spatial reorganization toward segregation of activities and specialized land-use a natural result of increased population density and complexity?

Animal-bone data from Bab w Kur, in Iraqi Kurdistan, is used to broaden the scope of analysis. That system undergoes similar transformation of spatial and cultural attributes – albeit on a smaller scale and later within the LC period than is evident at Brak.

By examining bodies of faunal data from a broader area and asynchronous occurrence, we can develop an understanding of broader patterns of niche construction and organic evolution of land-use and animal-keeping that accompany population dynamics.

6. COLLECTIONS AT RISK: SUSTAINABLE STRATEGIES FOR MANAGING NEAR EASTERN ARCHAEOLOGICAL COLLECTIONS

ANDREW JAMIESON

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This workshop addresses a crucial but often ignored aspect of Near Eastern archaeology: the sustainable management of increasing numbers of archaeological collections. Every archaeological collection is at risk, not only from warfare or civil unrest, but from natural elements such as earthquakes, fire and floods, and from inevitable decay due to climatic conditions or neglect. The workshop aims to share views and raise awareness about archaeological collections management in the Near East as the cultural heritage of this region continues to be threatened by ongoing instability and conflict. Discussion will consider short, medium and long-term approaches to archaeological collections management. In the short-term, the care of archaeological collections during periods of instability and in conflict zones is acknowledged as a high priority requiring urgent attention and needing an immediate response. In the mid-term, there is a need to assess the significance of archaeological collections and develop criteria in order to prioritise available resources to deal with the continuing influx of artefacts into repositories. In the long-term, there is an on-going necessity to develop strategies for sustainably managing archaeological collections in the future, considering access and use, and improving collections management practices. The workshop will stimulate an exchange of ideas and perspectives on the issues involved in Near Eastern archaeological collections management, with a view towards articulating sustainable strategies for the management of Near Eastern archaeological collections.

Programme

SESSION 1, CONFLICT AND COLLECTIONS

- Michael T. Fisher & Gil J. Stein
Aks of War: A Digital Museum Inventory for a War-Torn Afghanistan
- Youssef Kanjou
Protection Strategies and the National Museum of Aleppo in Times of Conflict
- Cheikhmous Ali & Philippe Quenet
Syrian Museums at Risk: An Overview. Issues and Solutions

SESSION 2, CURATING, QUANTIFYING AND PRESERVING COLLECTIONS

- Fadi Beyano, Assaad Seif & Tim Williams
Beirut: The Challenge of Curating Large and Complex Urban Datasets
- Dianne Fitzpatrick
Quantifying the Problems and Counting the Costs of Near Eastern Archaeological Collections Management: Five Case-Studies
- Nicole Reifarth & Elisabeth Völling
Textiles as Culture Heritage in Fieldwork, Repositories and Collections

SESSION 3, MANAGING, ACCESSING AND USING COLLECTIONS

- Antonio Sagona, Claudia Sagona & Aleks Michalewicz
'Legacy Data' and the site of Samtavro: Revisiting Archaeological Collections and Archives of the Georgian National Museum
- Anna Stevens
From Dig House to Digital Humanities: Managing the Archaeological Collection of Amarna
- Silvia Perini
Syrian Cultural Heritage in Danger: A Database for the National Museum of Aleppo
- Ilka Schacht
Identifying Significance: Prioritising Archaeological Collections for Long-term Preservation

CHAIR

- Andrew Jamieson
New Uses for Old Collections: Community and Curriculum Engagement Using Near Eastern Archaeological Collections

Abstracts

MICHAEL T. FISHER & GIL J. STEIN

Aks of War: A Digital Museum Inventory for a War-Torn Afghanistan

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For the past three decades Afghanistan has oscillated between civil war and civil strife, but the last decade of conflict has introduced a new element to the country: U.S. and internationally funded projects in fields such as education, energy and cultural heritage preservation. It is within the context of an uncertain and deteriorating security situation that our project, the National Museum of Afghanistan-Oriental Institute Museum Partnership, is rapidly creating a digital inventory of the National Museum's holdings. The steps toward recording, assessing, and securing the possibly 60,000 objects that have survived the decades of looting and iconoclastic destruction are challenging and numerous. Over the past two years, the Partnership has inventoried and taken photos (aks in Dari) of tens of thousands of objects using a secure, relational, translingual database that functions in both Dari and English. This paper will provide an overview of the National Museum and its collection, demonstrate the structuring principles and efficacy of the translingual database, and present our development strategies specific to the conflict zone of Afghanistan. Our discussion will focus on the challenges of working toward both a complete digital inventory and a sustainable inventorying system within the context of an ongoing civil war.

YOUSSEF KANJOU

Protection Strategies and the National Museum of Aleppo in Times of Conflict

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This paper discusses the protection strategies for archaeological collections at the National Museum of Aleppo; one of the most important museums in the Middle East. It contains objects from northern Syria, including items from Ebla, Mari and Ugarit. It also houses the archaeological collections of the international salvage excavations from the Euphrates and Tishreen dam areas. Other important artefacts come from the prehistoric sites of Mureybet and Abu Hurayrah. The current conflict in Syria, which has impacted on the city of Aleppo since 2012, has resulted in considerable damage to the National Museum of Aleppo and surrounding areas. When hostilities began it was necessary to prepare and activate a plan to protect the museum and its collections, taking into account the diversity of risks and a need to prioritise tasks. The large number and diverse nature of the archaeological collections necessitated the implementation of a range of protection methods. The Aleppo Museum Collections Management Division initiated a protection strategy comprising four working groups and involving six separate stages. This paper will offer an insight into the protection strategies employed to protect the archaeological collections at the National Museum of Aleppo.

CHEIKHMOUS ALI & PHILIPPE QUENET

Syrian Museums at Risk: An Overview. Issues and Solutions

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Syrian museums have been at risk since the beginning of the armed conflict in Syria. Actually, they had been long before, because of feeble security measures and the lack of proper inventories of the collections. A reinforcement of security, including the displacement of the most valuable masterpieces, occurred in 2011 when the Syrian Prime Minister issued a circular letter warning against alleged trained foreign gangs who were on the edge of putting museums at threat. Many museums underwent heavy destruction (cf. Homs) along the past two years, as well as massive pillage (cf. Homs, Aleppo, Ebla, Dura Europos, Der ez-Zor). Some are occupied, sometimes used as headquarters, by troops of soldiers, either fighting on the side of the opposition (cf. Ma'rat an-Nu'man, Raqqah) or belonging to the army of the regime (cf. Idlib, Aleppo, Der ez-Zor). International institutions have proved to be inefficient to prevent or stop damage to the museological treasures of Syria. Fortunately the local civil society finds strength enough in some occasions to safeguard its heritage: for instance the collections of the Museum of Education of Aleppo have been all sheltered in a safe place. Such achievements could easily and rapidly multiply with a minimum of support from outside.

FADI BEYANO, ASSAAD SEIF & TIM WILLIAMS

Beirut: The Challenge of Curating Large and Complex Urban Datasets

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Since the Lebanese civil war archaeological work has been undertaken apace in Beirut, in advance of large scale redevelopment. Stratigraphic excavations have generated large quantities of material, from tens of thousands of context sheets and plans, hundreds of thousands photographs, to millions of artefacts and ecofacts. These complex and inter-related datasets require extensive collections management, presenting a major challenge for the Department of Antiquities, as well as the rescue archaeology teams generating and researching the ancient city. Despite farsighted developer funding for rescue archaeology, post-excavation funding is still a rarity. Nevertheless, strategies are being developed to undertake the analysis and dissemination of this internationally significant material, to plan from the outset it's archival future, and to assess the long-term storage and collection management needs. At present discard policies are difficult to implement: given the exceptional range and quality of this stratigraphically excavated archive of urban archaeology, with its potential to radically change our understanding of issues from ceramic typologies and distribution, to faunal reference collections and the provisioning of the city. We need to ensure that these large and complex datasets are retained, disseminated and curated for present and future users. This paper explores these challenges and the developing responses.

DIANNE FITZPATRICK

Quantifying the Problems and Counting the Costs of Near Eastern Archaeological Collections Management: Five Case-Studies

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To develop strategies for the sustainable and long-term management of archaeological collections it is necessary to understand the processes involved in the creation of these collections. This paper discusses findings from five case studies; sites in Syria and Turkey, spanning the Neolithic, Bronze Age, Iron Age, Hellenistic and Roman periods, were selected for the study. The case studies include a range of site types. Each case study is characterised by different organisational structures reflecting research objectives developed according to the specific needs of the excavation project. The main purpose of the case studies was to obtain data primarily on the creation of these collections. Decisions relating to significance influence the quantification of archaeological collections. Observing the on-site archaeological processes in the collection and curation of material it was possible to identify stages and monitor decision-making in relation to the retention or discard of archaeological material. The case studies yielded important findings enabling five archaeological collections from a representative selection of Near Eastern type sites to be tracked and quantified. These findings, combined with other forms of qualitative and quantitative analysis, are being used to develop a template for an Archaeological Collections Management Plan designed to assist archaeologists in managing collections.

NICOLE REIFARTH & ELISABETH VÖLLING

Textiles as Culture Heritage in Fieldwork, Repositories and Collections

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This paper stresses the importance of textile finds and features as part of cultural heritage in the Near East, which is threatened by inevitable decay due to climatic conditions or neglect in general. Textiles are extremely sensitive to environmental influences and may leave only tiny and inconspicuous traces. Hence our knowledge about textiles and textile manufacture in the Ancient Near East is mainly based on cuneiform texts. There has been a strong contrast between the scarcity of textile finds and their importance as highest valued goods in the Ancient World. Textile evidence can be concealed under variable states of preservation, e.g. as mineral replaced structures or as imprints in clay, pottery, seal impressions, and even soil may still exhibit detailed weaving patterns. The first part of the paper discusses textile finds recovered in Turkey, Syria and Iraq from the PPNA up to the Iron Age, and provides questions about strategies for the first aid and on-site record of textile traces during fieldwork. The second part of the paper will discuss the conservation of textile remains, their short- and long-term storage in repositories and collections, as well as researching methods and the future usability of data gained from millimeter-sized scraps.

ANTONIO SAGONA, CLAUDIA SAGONA & ALEKS MICHALEWICZ

'Legacy Data' and the site of Samtavro: Revisiting Archaeological Collections and Archives of the Georgian National Museum

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Over the last 20 years or so, countries of the former Soviet bloc have witnessed some major transformations in the organization and management of their cultural institutions and the heritage they oversee. One of the challenges contemporary researchers face is preserving and re-assessing information gathered from earlier excavations (legacy data). This paper will focus on the vast necropolis at Samtavro, near Tbilisi, which is accorded primacy in the archaeology of the southern Caucasus for several reasons. Covering an area approximately 20 hectare, it is the largest known burial ground in the Caucasus. Its longevity of use is also remarkable. First utilised as a cemetery in the third millennium BC, it peaked during the Late Bronze and Iron Ages, and again in the late Roman and late Antique periods. The bulk of the information we have for this extraordinary site has been gathered over four major and independent projects, stretching over nearly 150 years and crossing several types of approaches and methodologies. This paper will present an overview of the legacy data and how it can be managed and preserved for future generations.

ANNA STEVENS

From Dig House to Digital Humanities: Managing the Archaeological Collection of Amarna

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Excavations at Amarna, the short-lived New Kingdom capital of Egypt, began in the late 19th century and continue today under the direction of Barry Kemp. The site has yielded a vast assemblage of artefacts from the city's temples, palaces, houses and burial grounds, collected against the backdrop of major developments in the management of archaeological assemblages. This collection is now dispersed around the world: partly in museums, large and small, and private collections in Egypt, Europe, the USA and Australasia; and partly in magazines in and around Amarna itself. This paper will explore the challenges of managing a collection that is now heavily fractured, and subject to variable management procedures and storage conditions. It will take into account the backdrop of recent political instability within Egypt, and will outline a new initiative – the Amarna Digital Atlas – that seeks to reunite the collection in an open-source digital environment.

SILVIA PERINI

Syrian Cultural Heritage in Danger: A Database for the National Museum of Aleppo

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Since Syria's spring revolution of March 2011, the management of its archaeological heritage has been weakened and its protection is now in danger. Scholars, archaeologists and other cultural heritage professionals must therefore consider their involvement in the protection of Syria's cultural property. This paper discusses a strategy to help protect the archaeological collections of Syria through the creation of a collaborative, open-sourced electronic database aimed at gathering together different artefact assemblages stored at the National Museum of Aleppo. The Database for the National Museum of Aleppo (DNMA) will provide a homogenized system, which does not currently exist, and allow the adaptation of multiple incompatible systems to local methodologies so that specific research queries within the miscellaneous body of data can be addressed. The DNMA will offer an accessible and consistent electronic record keeping system for the Aleppo Museum that will ensure ongoing access to the archaeological collections, and thus help to maintain the ideals of conservation encouraging scholarly research and education. The database will initially be populated with the material

recovered from the following sites: Tell Ahmar excavated by Prof. Guy Bunnens; Jerablus-Tahtani excavated by Prof. Edgar Peltenburg; and Tell Qumluq recovered by Dr Youssef Kanjou and Dr Andrew Jamieson.

ILKA SCHACHT

Identifying Significance: Prioritising Archaeological Collections for Long-term Preservation

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Assessing the research significance of archaeological collections is a critical step in identifying collections that should be prioritised for the bestowal of the finite resources available for their long-term care, for empowering archaeologists and collection managers to make decisions about the care of collections, for the dissemination of information about them, and to help ensure access to collections for research. Clearly articulating the significance of archaeological collections helps justify not only their retention but also the financial cost of their long-term preservation. In 2008, a set of criteria and a process was developed for the systematic assessment of the research significance of historical archaeological collections. The 5-step model provided a basis upon which heritage agencies could establish policies to guide the composition and growth of archaeological collections. The underlying research, and the case study collections examined, in formulating this significance assessment model derive from the western archaeological context (Australia, New Zealand, the United Kingdom and the United States). This paper presents the model to a new audience, and explores its relevance and applicability to the Near Eastern archaeological context. It considers the opportunities and challenges to its adoption, and presents recommendations for its implementation, by cultural institutions in the region.

ANDREW JAMIESON

New Uses for Old Collections: Community and Curriculum Engagement Using Near Eastern Archaeological Collections

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The costs involved in managing archaeological collections are substantial and often difficult to justify. Traditionally, many archaeological collections are used for research purposes or as reference collections. Difficulties in accessing these collections can significantly hinder or limit use. Improving access and increasing the uses of archaeological collections can validate the resources required to manage artefact assemblages and at the same time raise awareness about their importance and value. This paper discusses the uses of archaeological collections in the engagement of community, and as an enhancement of education curriculum. The first part of this paper will outline a proposal for the creation of an artefact repository at Qal'at Najm in north Syria which includes opportunities for community engagement incorporating archaeological collections from the salvage excavations in the middle and upper Euphrates valley. The second part of this paper will discuss the integration of archaeological collections in the delivery of the Archaeology Program at the University of Melbourne which is enriching curriculum engagement. Examples of object-based teaching and learning using archaeological collections will be discussed. Both models advanced in this paper demonstrate viable new uses for old collections.

7. THE SETTLEMENT LANDSCAPE OF THE ORONTES VALLEY IN THE FOURTH THROUGH SECOND MILLENNIA BCE

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In the context of developing urban life and economic interaction in the northern Levant in the Proto-historic periods, the Orontes Valley is often characterised as a 'land between' the better-known coastal entrepot and the dense settlement landscapes of the Euphrates and its tributaries. Often covered by summaries of 'Inland West Syria', the particular characteristics of the Orontes Valley settlement landscape are obscured (if not ignored entirely) by a focus on the spectacular discoveries at Ebla and more recently at Qatna.

This workshop seeks to foreground the role of smaller-scale settlements in the Orontes Valley in the developing inter-regional interaction of the Third Millennium BCE. It aims to identify key networks of inter-action, and evaluate their varying intensities over time. The workshop will also seek to explore the varying effects of the peripheral 'mega-sites' on the smaller settlements of the Orontes Valley. Finally, we will consider the importance of inter-regional trading networks – how they were created, maintained, and the consequences of their disruption. Ultimately we hope to re-assess the varying importance of the Proto-historic Orontes Valley settlement landscape within its Syrian regional and Levantine inter-regional context.

Themes/Questions to be addressed in this Workshop

- The settlement landscape of the Orontes catchment
- Integration of sequences/identification of key settlement phases
- Material cultural markers and relative chronology
- Defining sub-regional settlement 'clusters'
- Identifying networks of communication and interaction
- Assessing the varying role of nomads in networks
- Inter-regional interaction before, during and after the Eblaite state
- Defining transitional horizons

Programme

SESSION 1

- Graham Philip
The Settlement Landscape of the Orontes River Valley during the 4th Millennium BC: Perspectives from Tell Nebi Mend and the Homs Region
- Agnese Vacca
The Orontes Valley and the Sequences of Tell Mardikh/Ebla and Tell Tuqan in the Early 3rd Millennium BC: A Comparative Framework
- Lynn Welton
Northern Levantine Spheres of Interaction: The Role of the Amuq in the Early Bronze Age

SESSION 2

- Marta D'Andrea
A Matter of Style: Ceramic Evidence of Contacts between the Orontes Valley and the Southern Levant during the Mid-Late 3rd Millennium BC
- Lisa Cooper
Orontes-Euphrates Synchronisms and Spheres of Interaction and Exchange in the Early Bronze Age
- Frances Pinnock
Ebla in the IIIrd Millennium BC: Architecture and Urban Planning

SESSION 3

- Melissa Kennedy
Militarisation and the Changing Socio-political landscape of the EBA and MBA
- Corrine Castel
Mid/late 3rd Mill. Inland West Syria viewed from the Arid Margins
- Stephen J. Bourke
The Land Behind Qadesh: The Orontes Valley and the Wider World in the Middle Bronze Age

Abstracts

GRAHAM PHILIP

The Settlement Landscape of the Orontes River Valley during the 4th millennium BC: Perspectives from Tell Nebi Mend and the Homs Region

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Recent work on the 4th millennium cal. BC excavation sequence from Trench VIII at TNM has provided a reliable basis for analysis of the LChal/Early EBA settlement history of the Homs region, and the Orontes Valley, and has provided data against which the more characteristically urban landscape of the mid-late 3rd millennium BC can be understood.

The 4th millennium sequence TNM comprises two main phases of activity. The first dates to the early 4th millennium BC, and the second to its last few centuries. A combination of radiocarbon dates and marked ceramic change suggests that these are separated by a gap in occupation around the mid-4th millennium, at least within the excavated area. Indications of a clear distinction between the size and complexity of the architectural units of the two phases, and in the quality and variety of the two ceramic industries, suggests a shift from a pre-urban village, early in the millennium to an increasingly 'complex' society from 34/3300 cal BC.

This sequence has provided a basis upon which to review the settlement data collected by the Syrian-British regional project Settlement and Landscape Development in the Homs Region, Syria, undertaken between 1999 and 2009. Broadly speaking, early Fourth Millennium BCE hinterland settlements are focused along the Orontes, and the associated seasonal wadi systems, which are incised into the marl landscape that extends eastwards from the river valley. In contrast, the contemporary settlement landscape of the basaltic region to the west of the river, is characterized by a rather different type and scale of settlement, suggesting that the two landscapes were utilized in a rather different manner. The later 4th millennium sees the appearance at TNM, of what may constitute the first of a series of fortifications/terrace expansions. Consistent with this, hinterland settlement across the marl becomes both more intensive and extensive across the region and appears to provide the basis of those developments that attain their peak during EB IV.

This paper will present the new evidence for the 4th millennium cal. BC sequence at TNM, and will then chart the contemporary developments in regional settlement record.

AGNESE VACCA

The Orontes Valley and the Sequences of Tell Mardikh/Ebla and Tell Tuqan in the Early 3rd millennium BC: A Comparative Framework

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The Orontes Valley is a crucial area, densely settled during the Early Bronze Age, which crosses from north to south the Inland West Syria, linking the Syrian upland (Ebla region) to southern Syria and the northern Lebanese area. Several sites (such as Tell Qarqur, Tell 'Acharneh, and Qal'at el Mudiq) located in the Central Orontes Valley (Ghab basin) yielded early 3rd millennium materials, as well as southernmost sites such as the large tell of Hama and the site of Tell Nebi Mend, the ancient Qadesh. Due to the lack of extensive excavations and publications of stratified contexts, the relative chronology of Inland West Syria during the first half of the 3rd

millennium BC is poorly defined. Data from earlier occupational phases at Ebla (Mardikh IIA), together with stratified materials retrieved in the deep sounding opened in the Lower Town of Tell Tuqan (Area P), provide information on the earliest 3rd millennium BC phases, allowing to build a preliminary seriation of stratified ceramic materials, and to propose a relative chronology for these two key sites. This contribution will address the formative phases preceding the rise of the Eblaite State. Framing the Orontes Valley sites within these two key sequences will provide a comparative framework that will allow to propose a parallel seriation between the two areas.

LYNN WELTON

Northern Levantine Spheres of Interaction: The Role of the Amuq in the Early Bronze Age

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The chronology of the 3rd millennium in the Northern Levant has been constructed around a small group of key sequences and excavations, including the Amuq Sequence. Information about this sequence has predominantly originated from excavations conducted in the 1930s, but has been expanded by the work of the Amuq Valley Regional Project survey, and the recent excavations of the Tayinat Archaeological Project.

During the Early Bronze Age, the Amuq existed primarily within a sphere of interaction that incorporated inland Northern Syria and particularly the Orontes Valley. In terms of specific forms, however, the Amuq also shows a number of differences from the other assemblages observed in inland Northern Syria. The Amuq, therefore, represents an idiosyncratic local variant of the north Syrian assemblage, interpreting the larger patterns locally and separately from the remainder of inland Syria.

MARTA D'ANDREA

A Matter of Style: Ceramic Evidence of Contacts between the Orontes Valley and the Southern Levant during the Mid-Late 3rd Millennium BC

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Although a few major sites in the Orontes Valley have provided long stratigraphic sequences for the Early Bronze Age, the bulk of archaeological data and materials dates from the mid-late 3rd millennium BC, i.e. Early Bronze IVA and IVB in the regional periodization. Thus, due to the fact that settlement patterns and ceramic series are better known for these chronological horizons, the paper focuses on this time-span, with the goal of analysing in particular the relationship between the Orontes valley and the Southern Levant. As well known, stylistic and typological features of the EB IV Southern Levantine ceramic assemblages argue for contacts with the North, including, besides Western Inland Syria, also other neighbouring areas, particularly the Damascene basin and Lebanon. Within this framework, the Orontes valley, and especially its central and upper sectors seem to have played a central role in the elaboration and transmission of technological and cultural information toward the South, due to their position as buffer zones between those areas. Such an analysis will enable us to include some of the main themes in debate within the workshop: the definition of cultural boundaries and/or provinces; the investigation of networks of communication and interaction; and the analysis of the role of the mobile social components in transferring cultural information. Finally, changing patterns of interaction between the Upper and Central Orontes valley and the surrounding areas through time will be analysed with regard to the major socio-political changes taking place in those regions within the mid-late 3rd millennium BC.

LISA COOPER

Orontes-Euphrates Synchronisms and Spheres of Interaction and Exchange in the Early Bronze Age

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Recent excavations and the continuing study of the artifact assemblages from sites within the Orontes Valley of the Northern Levant have now made it possible to formulate a relatively fine-grained chronological sequence for the last four-five centuries of the third millennium BCE. While the destruction of Palace G at Ebla appears to have been a major disturbance in the 24th century, much of the available archaeological evidence indicates that EB settlement in much of the Orontes Valley and surrounding regions continued, relatively unabated, until the very end of the millennium. With a fuller understanding of this long Orontes sequence, much of which has derived from synchronisms observed in the region's ceramic sequences, it is now possible to link the Orontes chronology with that of the Euphrates River Valley to the east, this having also recently undergone refinements to its ceramic sequence. This paper outlines the firm temporal relationships between these two regions and explores parallel developments that might reflect similar socio-economic processes, modes of exchange and cultural interaction in these last centuries of Early Bronze Age urbanism.

FRANCES PINNOCK

Ebla in the IIIrd Millennium BC: Architecture and Urban Planning

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The paper will focus on what is thus far known about the urban structure of Ebla from the pre-Palace phases through the age of the State Archives, to the post-Palace phases, until the end of the third millennium BC, giving the state of art of our knowledge about this long period. Evidence is far from being complete and organic, but an attempt will also be made to present a general frame of the evolution of material culture, and of its chronological evolution.

MELISSA KENNEDY

Militarisation and the Changing Socio-political landscape of the EBA and MBA

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The post-Palace G (ca. 2250-2000 BCE) landscape of western inland Syria witnessed a dramatic socio-political shift, which can be seen primarily in the decline of Ebla's regional hegemony. This appears to have resulted not only in the construction of wider regional networks of interaction and cultural exchange, but as well in an increasingly militarised landscape, manifested both literally and symbolically. This would suggest that although the militarisation of the Levant finds its greatest expression in the Middle Bronze Age, its genesis, at least in the Northern Levant, can be dated to the end of the Third Millennium BCE.

This paper will address the different manifestations of this phenomenon throughout western inland Syria from EB IVB through to the end of the MB I. It will also explore the wider socio-political implications of this development, as well as the impetus for this dramatic transformation in the later Third and early Second Millennia BCE.

CORRINE CASTEL

Mid/late 3rd Mill. Inland West Syria viewed from the Arid Margins

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The discovery of the mid/late third millennium city of Tell Al-Rawda has highlighted unexpectedly the Arid Zone to the north of the Palmyra mountains.

After nine seasons of excavations (2002-2010), this site appears to be a key-site to understand the development of urbanization of Syria in the region of “Inland Western Syria” and the birth of territorial states. Tell Al-Rawda is a planned city and not only a settlement occupied a part of the year by a semi-nomadic population. Its material culture relates to the western region even if the urban model refers to Northern Syria.

The lecture aims at examining the possible cultural and political interactions of all these different regions in the context of the second part of the 3rd mill. BC.

STEPHEN J. BOURKE

The Land Behind Qadesh: The Orontes Valley and the Wider World in the Middle Bronze Age

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The Middle Bronze Age is characterized by the militarization of cities and the fortification of peripheral settlements. During the same period, groups of cities coalesce into regional kingdoms, of greater or lesser extent. The varying roles of landform type, settlement pattern and city fortification in the formation of this militarized political landscape will be explored, at first instance through a consideration of the settlement history of Tell Nebi Mend, sourced to the UCL excavation archive, before moving to a landscape analysis of the changing MBA settlement systems in the hinterland of the ‘Kingdom of Qadesh’, sourced to the database of the Durham Homs Regional Survey.

Finally, the varying makeup of the kingdom of Qadesh throughout the MBA will be assessed, and compared with contemporary polities along and adjacent to the Orontes, to see if one can discern a specifically ‘Orontean’ character to the riverine regional groupings under analysis.

8. TRACING COMMEMORATION - SOCIAL DIMENSIONS OF THE PAST IN THE PAST

SARAH LANGE & AARON SCHMITT

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To approach the topic of Commemoration in the Ancient Near East (ANE) several general questions need to be asked: What did people in the ANE commemorate? What were the criteria for their choices? For what purpose did they commemorate? By what means did they commemorate – did they use objects and/or places? How did the ways the people in the ANE chose for commemoration depend on the subject that was honored? And thus, are we able to trace these acts of commemoration and how?

To substantiate the expressed questions we constrain the topic to two aspects: The **commemoration of the deceased** and the **commemoration of historical personages, deeds and events**. Concerning the first matter, it has to be asked whether the memory of deceased members of a social formation (from small groups such as the family to larger social groups and the whole 'society') was kept alive purposefully; if so, why and by what means? How did the commemoration of the dead change over time? And, connecting this key issue with the matter of historical commemoration: How were kings commemorated and how can the commemoration of the king as a deceased be differentiated from a commemoration of the king as a historical personage? How and to what extent were objects used to remember historical events, historical places and historical personages? Was there a deliberate choice concerning what was remembered? Who made these choices? In which dimensions do we have to visualize the act of commemoration? And finally, could the act of commemoration have different connotations (negative/positive)?

With regard to the two key issues we are going to address these questions in our workshop on the basis of well documented and self-contained contexts as well as objects coming from those. The cuneiform sources are another crucial element that can contribute to the answers we seek for. Additionally we would like to draw upon theoretical concepts developed in other disciplines – after a thorough investigation concerning their viability – to fill the gaps that exist in the archaeological and textual data and to help us explain our evidence.

We are convinced that a workshop is one of the best formats to bring together different scientists who can contribute to answer these questions from their individual perspective and can help us to trace the social dimensions of commemoration in the ANE.

Programme

SESSION 1

- Gebhard Selz
The State, the Family and the Individual: Funerary Practices and Commemoration Rites in the Light of the late Early Dynastic Mesopotamian sources
- Edgar Peltenburg
Monuments and Materials: the Development of Commemorative Practices in North Syria in the Early-Middle Bronze Ages
- Sarah Lange
kispum for Family Members Only? How a “Family Cult” was used to link one’s own History with Historical Personages

SESSION 2

- Peter Pfälzner
Keeping Remembrance through Objects - Old Objects in Later Grave Contexts
- Aaron Schmitt
Thoughts about the Relation between Material Culture and Memory in Ancient Mesopotamia
- Elisa Roßberger
Things to Remember: Storage und Function of Dedicated Objects in Old Babylonian Temples

SESSION 3

- Daniel Fisher
The Misplaced Altar and the Forbidden Serpent: The Problem of Material Culture in Biblical Israel
- Davide Nadali
Defragmenting Memories: The (ab)used Power of Remembering in the Ancient Near East
- Norman Yoffee (Discussant)
Final Discussion

Abstracts

DANIEL FISHER

The Misplaced Altar and the Forbidden Serpent: The Problem of Material Culture in Biblical Israel

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What happens to objects when they outlast the cultural memories that they once commemorated and conveyed? In this paper I consider two examples of objects abandoned by shifting cultural memories in the Hebrew Bible: the Trans-Jordanian altar of Joshua 22, and the bronze serpent of 2 Kings 18:4. Both facilitated the formation and reformation of cultural memory and identity in biblical societies, lending reality to the imagined past through their presumed static presence across time. At the same time, their static presence also frustrated memory. Memory is by necessity dynamic, while objects are by nature unchanging—this is the source of their power. However, it can also be their undoing when they do not fit changing, reformed memories. This paper explores these possibilities and problems posed by material culture. Both objects are initially normative and commemorate significant moments in Israel's shared past, but are discarded in the course of cultic centralization and reformation in pre-exilic Judah. Biblical writings offer a privileged view into how biblical societies grappled with this problem, by redefining the altar and destroying the serpent. The objects continued to be socially and mnemonically generative in new and unexpected ways—the altar through its redefined presence and the serpent through its absence.

SARAH LANGE

kispum for Family Members Only? How a “Family Cult” was used to link one’s own History with Historical Personages

Institute for Ancient Near Eastern Studies, University of Tübingen (Germany) sarah.lange@uni-tuebingen.de

The kispum lists from Mari suggest that the conventional kispum ritual had to fulfill certain conditions: it had to be performed regularly, the addressees needed to be individual ancestors and the offerings were composed of food. Additionally some texts present us with exceptional kispum celebrations that were performed on special occasions and in some instances for dead personages that could by no means be the ancestors of the performer of the offerings; at least not in the common understanding of the term “ancestor” as a deceased family member of high standing. This paper attempts to show how family cult was bent to fit the king's purpose, not just in Mari but also in Ugarit. In these instances, the kings used the “family cult” to commemorate historical personages by constructing an artificial family relation for political reasons. Thus, as important as it is to find a precise definition of the term “ancestor”, the ways food offerings were performed within the “family cult” show that it is necessary to apply some flexibility to this concept. The presented sources will illustrate that depending on the context and the purpose of the ritual, the “ancestor-concept” was sometimes adjusted to include historical personages who were therewith commemorated within the “family cult”.

DAVIDE NADALI

Defragmenting Memories: The (ab)used Power of Remembering in the Ancient Near East

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Ancient people were conscious of their past and the importance of its legacy in the present and future of societies they were living in. However, how did the mechanisms of remembering and building memories work? Monuments, myths, legends and poems were essential part of the process of building memories, sometimes implying the destruction and cancellation of a previous tradition. Can we speak of a common mnemonic heritage or did different (sometimes contrasting) memories co-exist? Maybe, the creation of a common shared memory was prerogative of the royal power, while, more probably, several “fighting” memories exist. In particular the study will take into consideration the commemoration of kings and kingship in the Assyrian period pointing out the mechanisms of commemoration by the Assyrian kings and the events related to the growth of the Assyrian power: while it might be inferred that Assyrian kings and officials shared the same mechanism of commemoration (through written sources, architectures and visual media), it is indeed evident that different operations and perceptions co-existed all along the history of the Neo-Assyrian period: cancellation and forgetfulness were also crucial elements of the process of commemorating.

EDGAR PELTENBURG

Monuments and Materials: the Development of Commemorative Practices in North Syria in the Early-Middle Bronze Ages

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Commemoration is a term applied to a wide variety of remembrance practices and events. In focusing on mortuary evidence, this paper seeks to clarify criteria by which we may differentiate long term commemorative agendas from events that attended the burial of deceased, ones that usually incorporate short term commemorative agendas. The prolific Early Bronze Age mortuary evidence from the Middle Euphrates Valley furnishes research opportunities for several lines of enquiry. Here attention is given to above ground burial places, from small cairns to imposing monuments, not simply as territorial place markers, but more explicitly as materialities of political legitimacy. In addition, attention is drawn to the exceptional division of burial and commemorative deposits in Jerablus Tahtani Tomb 302 and the potentials for extrapolating from that division to identify long term commemorative deposits in other mortuary contexts. Finally, the paper assesses a possible correlation between the general disappearance of mortuary monuments and the rise of Amorite kingdoms in conjunction with formal kispu ceremonies during the Middle Bronze Age.

PETER PFÄLZNER

Keeping Remembrance through Objects - Old Objects in Later Grave Contexts

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The study of the inventory of the Royal Tomb of Qatna demonstrates that a large number of “old objects”, dating to the Middle Bronze Age, were still kept at prominent positions during the use of the communal chamber tomb in the Late Bronze Age. It is to be questioned, whether this was done unintentionally, because these objects were pure left-overs from elder uses of the tomb, or whether they functioned as tools of remembering. Possibly, there existed a direct link to specific persons of older periods, who should be remembered through the presence of these objects. Alternatively, a more general approach of commemorating the royal ancestors as a whole could be seen as background for keeping the mentioned objects in the tomb over long periods of time. The different theoretical possibilities will be discussed in this paper with the aim of getting an insight into the attitude of Bronze Age Syrian society towards ancient objects.

ELISA ROßBERGER

Things to Remember

Storage und Function of Dedicated Objects in Old Babylonian Temples

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The dedication of objects to gods and goddesses is among the best documented religious practices of ancient Mesopotamia. The Old Babylonian period offers particularly rich textual evidence for both royal and non-royal dedications in the form of jewellery, weapons, vessels and other paraphernalia. On occasion, these objects were used for adorning the cult statues and their shrines. But mostly, they were stored in locations adding to the divine "treasure", which could afterwards not easily be disintegrated. Thus, over time specific persons and occasions created a collection of things – a material manifestation of social memory inherent to the temple as focal point of Old Babylonian society.

The paper will contrast our textual knowledge of these practices with the archaeological record taking the Kititum-Temple at Ishchali as its prime example. What is left of these treasures? In which locations were they kept? Are specific object categories present that are not attested in the texts? Can we reconstruct the objects' histories, ritual and social functions?

AARON SCHMITT

Thoughts about the Relation between Material Culture and Memory in Ancient Mesopotamia

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Memory constitutes an essential part of human life, from the individual memory of a single person to the collective memory of smaller and larger groups. These memories of persons and events are shaped and changed on various interconnected ways. They are used for a variety of different purposes, for example the legitimation of social formations and their hierarchical structures or as the "binding agent" of groups within societies.

Within these processes, objects can play an important role as they are used to remember persons and events even over long periods of time.

In this paper I will investigate and comment on the role of (mainly inscribed) objects from southern Mesopotamia, using the cities of Nippur and Ur as case studies. Both cities yielded comparatively large corpora of inscribed dedicatory objects which were found in the Ekur and the buildings of Ur's temenos area. A special focus will be put on the Kassite period in which a change towards the treatment of "antiques" (objects older than the contexts they were found in) can be observed in comparison to the preceding periods.

GEBHARD J. SELZ

The State, the Family and the Individual. Funerary Practices and Commemoration Rites in the Light of the late Early Dynastic Mesopotamian sources

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The archaeological and philological evidence of mortuary practices and commemorating rites in Mesopotamia received much attention in the secondary literature. The paper attempts to re-evaluate the well-known evidence from a rather specific perspective. It discusses the mixture of individual, group and state incentives which possibly lie behind the factual surfaces. The hypothesis proposed here is that a careful distinction of the distinct aims of these "actors" may shed additional light on the ideological background of the different

Mesopotamian societies and therefore improves our understanding of the various sorts of governance attested in Mesopotamia during this period.

NORMAN YOFFEE

Final Discussion

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9. ARCHAEOLOGY OF THE NEGEV AND THE 'ARABAH DURING THE IRON AGE

GUNNAR LEHMANN, DEPT. OF BIBLE, ARCHAEOLOGY AND ANCIENT NEAR EASTERN STUDIES

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The workshop will be concerned with recent research on the archaeology of the Negev, 'Arabah and Arabia during the early Iron Age. The idea is to discuss settlement, trade and subsistence strategies with special emphasis on issues such as trade with the Arabian peninsula, the copper production in the 'Arabah and the phenomenon of Qurayya Ware ("Midianite pottery"). The presentation of recent archaeological research will shed new light on these questions.

Programme

SESSION 1

- Juan M. Tebes
The Transregional Flows Between the Southern Levant and Arabia in the Iron Age through a Study of Decorative Motives and Iconography in Pottery
- Yotam Asscher
The early Iron Age chronology of the Negev in the Light of Radiocarbon Dates
- Tali Erickson-Gini
The 2013 Excavation in 'En Hazeva - Strata 8 and 7b

SESSION 2

- Chaim Ben David
"You who live in the clefts of the rocks" Jeremiah (49:16): Edomite Mountain Strongholds in Southern Jordan
- Thomas E. Levy
Iron Age Copper Production and Society in Faynan, Jordan - An Overview Based on New Field Data
- Erez Ben-Josef
Iron Age Copper Smelting Technologies in the Arabah Valley and the Question of Their Origin

SESSION 3

- Eli Cohen-Sasson
Qurayya Ware (Midianite Pottery) in the Southern Levant
- Mario Martin
Iron IIA Pottery from the Negev Highlands and its Link to the Wadi Arabah Copper Districts
- Dvory Namdar
Analytical Evidence for Spice Trade between South Asia and the Levant in the Early Iron Age

Abstracts

GUNNAR LEHMANN

Introduction to the workshop

Ben Gurion University

EREZ BEN-JOSEF

Iron Age Copper Smelting Technologies in the Arabah Valley and the Question of Their Origin

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The material culture associated with copper smelting technologies of the Late Bronze and Iron Ages Arabah Valley was studied in detail during the last 50 years, resulting in a relative good understanding of the technological practice and development in this region around the turn of the 1st millennium BCE. However, there are strong indications that the technologies were not a local innovation and the place of their origin is yet unclear. The current talk will present an outline of the technologies used for copper smelting in the Arabah Valley and discuss possible origins, including northwestern Arabia, the Sinai Peninsula and the Eastern Desert of Egypt.

ELI COHEN-SASSON

Qurayya Ware (Midianite Pottery) in the Southern Levant

Ben-Gurion University (eli.timna@gmail.com)

The paper gives a summary of Qurayya Ware found in the Southern Levant with emphasis on Israel/Palestine. The geographical distribution, chronological issues and functional aspects of the appearance of this pottery style will be discussed. The paper will also present a petrographical analysis of selected vessels and study the links of the Southern Levant with the Arabian Peninsula against the results of this analysis.

TALI ERICKSON-GINI

The 2013 Excavation in 'En Hazeva - Strata 8 and 7b

Israel Antiquities Authority (talixgini@gmail.com)

In May 2013, a three week excavation took place in the earliest strata of the Iron Age site of 'En Hazeva and was directed by the writer on behalf of the Israel Antiquities Authority in cooperation with Dr. C.D. Bowman (Rochester College), Prof. R.M. Shipp (Austin Graduate School of Theology) and T. Christian. The excavation uncovered the earliest layer of occupation in Strata 8 and evidence of metallurgical activities, probably in the form of the casting of metal objects, and numerous grinding implements of the later part of the 11th century BCE. The occupation discovered in 2013 appears to pre-date the earliest defensive structure in the tell, a square tower (11.5 x 13 m. in size) that was eventually incorporated into later fortresses. A significant amount of ceramic sherds of painted ware vessels that were apparently produced at Qurayya in northern Saudi Arabia were uncovered together with hand-made cooking pots (formerly referred to as Negbite ware) containing copper slag inclusions.

An excavation was also conducted inside a room of the Stratum 7a fortress, which was formerly excavated by Cohen and Israel on behalf of the Israel Antiquities Authority in the early 1990s. The excavation of the room produced evidence of occupation of the 9th through 8th centuries BCE. A preliminary examination of the finds from both strata revealed strong typological connections with those uncovered in the Faynan region of southern Jordan.

THOMAS E. LEVY

Iron Age Copper Production and Society in Faynan, Jordan - An Overview Based on New Field Data

Levantine Archaeology Laboratory, University of California, San Diego, USA (thomasevanlevy@gmail.com)

As part of a deep-time study of the role of ancient mining and metallurgy on social evolution in Jordan's Faynan district, in 2002, the Edom Lowlands Regional Archaeology Project (ELRAP) began an investigation of Iron Age production centers and their landscape. Over a 10 year period, our team carried out 10 Iron Age excavations and 4 major surveys along different wadi systems in the research area. These were the first carefully stratified excavations carried out in Faynan and provide a wealth of new data and information concerning the nature of Iron Age copper production and society. These data have been used to test two generic models concerning the control of copper production during the Iron Age in this region: 1) a foreign control model where ancient Near Eastern core civilizations took charge of copper extraction and production, and 2) local societal control of production based on different peer-polity interaction scenarios. This paper summarizes the results of the ELRAP expeditions that will appear soon as a major monograph.

MARIO MARTIN

Iron IIA Pottery from the Negev Highlands and its Link to the Wadi Arabah Copper Districts

Tel Aviv University (mario_antonio@hotmail.com)

The paper reports the results of a petrographic investigation of pottery from early Iron IIA settlements in the Negev Highlands. Traditionally interpreted as "Israelite fortresses," these settlements are today understood as compounds of local, pastoral-nomadic groups in a process of sedentarization. A substantial portion of the vessels studied, most notably slag-tempered ware, originated in the copper districts of the Wadi Arabah. It has been suggested that the copper extraction system in these districts was operated by tribal desert groups. Petrographic data adds an additional dimension to this proposition, demonstrating that the subsistence economy of the Negev Highlands sites was supplemented by the participation of at least some of the local inhabitants in this enterprise.

JUAN M. TEBES

The Transregional Flows Between the Southern Levant and Arabia in the Iron Age through a Study of Decorative Motives and Iconography in Pottery

Pontificia Universidad Católica Argentina (jmtebes@hotmail.com)

Previous research on the transregional flows between Arabia and the southern Levant in the Iron Age have traditionally focused on the question of the trade in south Arabian incense, and particularly the textual and pictorial evidence from Assyria, Arabian objects (or their imitations) and Arabian names or scripts in epigraphic evidence found in the southern Levant, and a few analyses of faunal (camel) remains. However, because of

academic and not so academic reasons, a systematic study of the most abundant archaeological material at hand, pottery, has seldom been done. This paper will study the decorative motives and iconography of a wide range of pottery corpora coming from the Arabian Peninsula (Northwestern Hejaz, Central Arabia, southern Arabia, Persian Gulf and Oman) and the southern Levant (Negev, southern Transjordan). Through a careful comparative analysis of the pottery decorations, this research will provide light on the nature of the flows between the Levant and Arabia, their dating, the pottery iconography's meaning, and the complex processes of cultural diffusion, imitation and adaptation of meaningful symbols.

CHAIM BEN DAVID

The Iron Age Road Network in the Negev and Wadi Araba and the Connections to the Arabian Trade Routes

Kinneret College on the Sea of Galilee, <bendavidhm@gmail.com>.

While the Nabataean and Roman road networks connecting both sides of the Arabah rift valley are relatively well known in modern scholar, mapping the Iron age network is quite of a challenge. The physical remains of roads from the Roman period are very clear and especially easy to detect in desert areas. From the Iron age period only few such remains have been lately discovered, mainly in southern Jordan. By understanding the geographical and geological conditions of the area together with historical and archeological clues we will propose the map of the main routes in the Negev and Wadi Arabah. Special attention will be focused on the routes leading to and from the copper production sites in Faynan and Timna, and on the connections with the Arabian trade routes.

YOTAM ASSCHER

The Early Iron Age Chronology of the Negev in the Light of Radiocarbon Dates

Department of Structural Biology and the Kimmel Center for Archaeological Science, Weizmann Institute of Science, Rehovot 76100, Israel, <yotam.asscher@weizmann.ac.il>

The paper will present new radiocarbon dates from recent excavations in the northern Negev. The current state of research in the research area will be summarized and discussed against the background of progress recently made in the study of Iron Age chronology.

DVORY NAMDAR

Analytical Evidence for Spice Trade between South Asia and the Levant in the Early Iron Age

Hebrew University, Jerusalem, Israel, and Ayelet Gilboa, University of Haifa, Israel

In our paper we present the results of Residue Analyses performed on small clay flasks that were common in the 11th–9th centuries BCE in Phoenicia, in other Levantine regions and in Cyprus. Their shape, decorations and distribution suggested that they probably contained some precious liquid and that they were part of an extensive commercial trade network. We analyzed the lipid contents of 26 such flasks from five archaeological sites in Israel, using gas chromatography coupled with mass spectrometry (GC-MS). In ten flasks the molecule cinnamaldehyde was well preserved, indicating that presence of cinnamon. We argue that the cinnamaldehyde

does not originate from depositional or post-depositional contamination. Since in antiquity the various cinnamon species grew only in south and south-east Asia, these findings are the first indication of spice trade between this region and the 'west' at such an early date. Other compounds hint at the presence of nutmeg, but they are less conclusive.

10. LATE NEOLITHIC AT ÇATALHÖYÜK IN THE NEAR EASTERN CONTEXT

ARKADIUSZ MARCINIAK (POZNAŃ UNIVERSITY) & LECH CZERNIAK (GDAŃSK UNIVERSITY)

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The session organizers have been conducting intense study of the upper Late Neolithic strata of the East mound at Çatalhöyük. These works have brought about a series of new discoveries that shed light onto hitherto unknown developments in the final phase of the settlement occupation.

Late Neolithic houses comprise a series of small, cell-like spaces, probably used for storage and working areas, surrounding a larger central 'living room'. They show a significantly lesser degree of symbolic elaboration. The most significant changes in burial practices involved a lack of intramural burials, which were replaced by a special burial architecture. Considerable changes occurred also in subsistence practices, including procurement, storage, processing and consumption of different resources.

The session seeks to put up these developments in the second half of the 7th millennium cal BC in a broader Near Eastern context. In particular, we intent to examine parallels and discrepancies in the process of disappearance of Neolithic megasities in the light of new discoveries in other areas of the Near East. Accordingly, by putting up Late Neolithic Çatalhöyük in a broad regional context, the session will facilitate an in-depth discussion on social, economic and ideological changes taking place at the end of Neolithic and beginning of Chalcolithic.

Programme

SESSION 1

- Arkadiusz Marciniak – Lech Czerniak
Çatalhöyük East at the End of the 7th Millennium. The Demise of Neolithic Mega-City
- Gary Rollefson
Late 8th and 7th Millennium Turmoil in Neolithic Jordan
- Nigel Goring-Morris – Anna Belfer-Cohen
The Relationship Between the Aceramic and Ceramic Neolithic in the Southern Levant

SESSION 2

- Patrycja Filipowicz
The Lake District Groups as Descendants of Çatalhöyük East
- Ian Kuijt – Arkadiusz Marciniak
A Tale of Two Cities: Revisiting Population Estimates for Çatalhöyük East and Neolithic Communities
- Peter F. Biehl et al.
The Transition Between the East and West Mounds at Çatalhöyük around 6000 cal BC: a View from the West

SESSION 3

- Eleni Asouti
Discussant

Abstracts

ARKADIUSZ MARCINIAK – LECH CZERNIAK

Çatalhöyük East at the End of the 7th millennium. The Demise of Neolithic Mega-City

University of Poznań; Gdańsk University

In this talk we aim to outline the background of the workshop by discussing causes and mechanisms of the demise of Çatalhöyük in Central Anatolia. The results of ongoing excavations of its uppermost levels, along with use of multiple lines of high resolution archaeological and archaeobiological evidence, made it possible to significantly expand our understanding of the disintegration of constitutive principles binding this large mega-city, emergence of a new social system as well as consequences of this process for the development of fully-fledged farming communities in the region and beyond. In particular, we aim to discuss changes in spatial organization, architecture, burial practices as well as subsistence basis and modes of environment exploitation. They revealed a gradual reduction of the house to its living functions and marked removal of burials and elaborated symbolism out of its realm. New strategies for the acquisition of numerous raw materials imply changes in land use around the site. All these changes imply the beginning of smaller, more dispersed and more independent acquisition, production and consumption units.

GARY ROLLEFSON

Late 8th and 7th Millennium Turmoil in Neolithic Jordan

Whitman College, Walla WA

The second half of the 8th millennium witnessed the emergence of “megasites” (area greater than 10 hectares such as ‘Ain Ghazal, Wadi Shu’eib, and Basta) in Jordan, possibly due to a major influx of immigrants from the Jordan Valley and Palestine. The greatly increased population in the Jordanian highlands posed serious pressure on local environmental resources, and when rainfall amounts dropped severely at the end of the millennium, there was widespread abandonment or precipitous decline in residents in settlements. Some of the farmers turned to the badia, areas of Jordan and Syria that today range from steppe (less than 250 mm rainfall) to hyperarid desert (less than 50 mm annual precipitation). By the middle of the 7th millennium, full-fledged transhumant ovicaprids herding groups were established permanently in the Badia, subsisting heavily on hunting and opportunistic farming. Evidence for this major transformation in the economy of the southern Levant is discussed.

NIGEL GORING-MORRIS – ANNA BELFER-COHEN

The Relationship Between the Aceramic and Ceramic Neolithic in the Southern Levant

The Hebrew University of Jerusalem

We evaluate recent suggestions as regards the assumed sharp division between the Early (so called “Pre-Pottery”) and the Late (so called “Pottery”) Neolithic in the south/central Levant. The traditional division marker was the appearance of ceramics, which became rather an obsolete criterion, since there is growing evidence that

ceramics as an established phenomenon appeared earlier and during the Early Neolithic. Is such a division still valid? The answer is equivocal depending on which aspect of the Neolithic human existence we focus. At least in the south/central Levant, it seems that the existence of an independent, Late (Pottery) Neolithic stage is rather of a short and limited duration, as parts of what was previously considered Late Neolithic are currently assigned to the following Chalcolithic era (i.e., the Wadi Raba phase). Similarly, the Yarmukian phase, which was considered as the first stage of the Late Pottery Neolithic, under close scrutiny and with more information at hand, shows closer similarities with the later stages of the Early Neolithic, namely the PPNB. Finally, even if one can come up with some unique characteristics, are they sufficient to consider the existence of an independent stage in local human history, given the problematic dating of south Levantine sites originally assigned to this stage?

PATRYCJA FILIPOWICZ

The Lake District Groups as Descendants of Çatalhöyük East

University of Poznań

Around 6500 BC, when Çatalhöyük started to disintegrate, the Neolithic rapidly spread out of Central Anatolia, emerging first in the most adjacent area: the Lake District in south-western Anatolia. Recent excavations of the very last phases of the occupation of Çatalhöyük East, bridge the gap between the classic Neolithic of the Konya Plain and the Lake District Neolithic and show that roots of the latter to be seen in the Konya Plain, as judging by gradual changes observed at Çatalhöyük.

In this paper, I will reassess the evidence of the Neolithic in the Lake District in terms of architecture, burial practices and material culture in the light of recent works at Çatalhöyük. I intend to demonstrate that some trends visible in the Lake District originated from the Late Neolithic Konya Plain, arguing that communities from the Lake District, such as Hacilar, could more likely be descendants of Çatalhöyük inhabitants, as they came into being when this large megasite started to fall apart.

IAN KUIJT – ARKADIUSZ MARCINIAK

A Tale of Two Cities: Revisiting Population Estimates for Çatalhöyük East and Neolithic Communities

University of Notre Dame, South Bend, IN; University of Poznań

How many people lived in Neolithic villages? Bayesian modeling of the Late Neolithic strata at Çatalhöyük East allow us to understand when buildings and open areas were constructed, used, and abandoned. With a better understanding of building use life, combined with refined understanding of the total open space between residential and ritual buildings in Neolithic settlements, in this paper we put forth a revised reconstruction of village demography. Drawing upon new population estimates we illustrate a significant population decline from the classic phase at Çatalhöyük East through the last three hundred years of occupation. Bayesian modeling and rigorous consideration of occupational history at Çatalhöyük East demonstrates that widely accepted estimates of population levels in the classic phase of 8,000 to 5,000 people are significantly inflated. A more reliable estimates would be 2,500 to 1,000 people with 50% of the population under 10 years of age and a significantly lower number towards the end of its use.

PETER F. BIEHL 1 – JACOB BRADY 1 – INGMAR FRANZ 2 – DAVID ORTON 3 – SONIA OSTAPTCHOUK 4 – JANA ROGASCH – EVA ROSENSTOCK 6 – ELIZABETH STROUD 7 & PATRICK WILLETT 1

The Transition Between the East and West Mounds at Çatalhöyük around 6000 cal BC: a View from the West

1 State University of New York at Buffalo; 2 Christian-Albrechts-Universität Kiel; 3 UCL Institute of Archaeology, London; 4 Muséum National d'Histoire Naturelle, Paris; 5 Flinders University, Adelaide; 6 Free University Berlin; Oxford University

Investigation of the transition between the Late Neolithic (LN) and Early Chalcolithic (EC) around 6,000 cal BC on the two mounds at Çatalhöyük/Central Anatolia is hampered by the erosion of the relevant layers on the East Mound and the fact that the corresponding layers on the West Mound are buried under developed EC occupation deposits. This paper sheds light on the process drawing on evidence from Trench 7, a 14C-dated deep sounding on the eastern fringe of the West Mound. The extent and method of excavation can only provide a limited picture of this important transition period and gradual move of the settlement from the East to the West Mound; but stratigraphy, architectural remains and artifacts and ecofacts pieced together with evidence from drilling cores, the preceding LN layers from the East Mound and the subsequent EC layers on the West Mound as well as other sites from the region allow for the reconstruction of the transition progress from the 7th to the 6th millennium cal BC.

ELENI ASOUTI

Discussant

University of Liverpool

11. MUSEUMS AND THE ANCIENT MIDDLE EAST: EXHIBIT PRACTICE AND AUDIENCES

GEOFF EMBERLING – LUCAS PETIT

Kelsey Museum of Archaeology, University of Michigan – National Museum of Antiquities, Leiden

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Museums represent one of the major ways the ancient Middle East is presented to the general public, collectively reaching millions of visitors each year. This was already noticed by Shanks and Tilley (1987) some 25 years ago. The increasing public prominence of museums since then and the concurrent proliferation of programs of museum studies are further indications of the opportunities presented by museum exhibits.

Current practices of exhibiting the ancient Middle East are structured and constrained in different ways in different museum contexts and cultural settings, yet there has been a nearly complete absence of formal discussion about exhibitions among ancient Near East curators and scholars.

This session will provide a first opportunity for an international group of museum curators to discuss opportunities and tensions in exhibiting art, histories, and cultures of the ancient Middle East. Opportunities may include varied ways of connecting with different audiences and interests; tensions may include differing approaches to the past taken by art museums, history museums, national museums, and university museums, or the roles of curators, educators, and audiences in constructing exhibitions.

Programme

SESSION 1 EXHIBIT TACTICS

- Jack Green
“We’re not an art museum:” Presenting archaeological narratives at the Oriental Institute Museum
- Haim Gitler
The art of displaying small objects
- Joan Aruz & Yelena Rakic
Exhibiting Interaction: Displaying the arts of the ANE in their broader context

SESSION 2 EXHIBIT STRATEGIES

- Beatrice André-Salvini
Permanent and Temporary Exhibition in a so-called ‘Universal Museum’: The Louvre,
- Holly Pittman & Richard Zettler
New Galleries at the Penn Museum: Challenges and Opportunities
- Clemens Reichel
Conflicted Conscience — on Balancing Curatorial, Design, and Marketing Demands for a Blockbuster Exhibit

SESSION 3 EXHIBITS AND AUDIENCES

- Pedro Azara, Albert Imperial, Marc Marin, Eric Rusiñol, & Joan Borrell
Ancient “Art” in the White Cube?, or How Contemporary Art Creates Ancient “Art”.
- Irving Finkel
How to Make People Stop and Look
- Leila Badre
Museum Exhibits and Education: The AUB Museum as a Case Study

Abstracts

JACK GREEN

“We’re Not an Art Museum:” Presenting Archaeological Narratives at the Oriental Institute Museum

Oriental Institute, University of Chicago

The current galleries of the Oriental Institute Museum (1999-2006) form a case study, starting with a brief history of collecting and display strategies from the late 19th to the early 21st century. In addition to a review of the mission of the Museum as part of the Oriental Institute at the University of Chicago, I will review some of the ways in which objects were selected or strategically excluded from redisplay in recent times to present a greater emphasis on the value of archaeological research and Oriental Institute expeditions, than the unprovenanced (usually purchased) objects that played a more prominent role in earlier displays. The importance of archaeological excavation and context remains integral to the manner in which the Oriental Institute presents itself to school groups, the scholarly world, and the wider public. In this sense, the museum presents itself as an archaeological museum filled with visual culture, yet with very limited emphasis on stylistic change or the history of art in the ancient Near East. Yet unprovenanced objects that tend to be valued more in art-historical terms, do continue to play a role in many of our displays. This paper explores some of those value-laden tensions in curatorial selection and exclusion, and explores ways in which unprovenanced “art” objects might be integrated sensitively alongside well-excavated objects.

HAIM GITLER

The Art of Displaying Small Objects

The Israel Museum, Jerusalem

From the museological point of view, displaying artifacts is one of the most important responsibilities of a curator as it enables access to historical objects and assists in creating a link with the general public. Among all of the complexities involved in realizing these goals, working with smaller objects is one of the more challenging. Finding the right combination of design, including lighting, accessibility, and showcasing, is essential for allowing the viewer to focus on the actual object in an optimal way. While texts and images are very important, one must keep in mind that these are meant to be accessories and should not attract attention. In this paper, several ideas that have been implemented at the Israel Museum, Jerusalem will be presented. The test case will focus on several different approaches used in exhibitions on ancient coins at the Israel Museum, showing that there can be various solutions, but all have to take into account the correct balance of elements mentioned above.

JOAN ARUZ AND YELENA RAKIC

Exhibiting Interaction: Displaying the arts of the ANE in their broader context

Metropolitan Museum of Art

Visitors to the Metropolitan Museum of Art have the opportunity to view the collection of ancient Near Eastern art within the broader context of an encyclopedic Museum. A series of special exhibitions organized by the

department of Ancient Near Eastern Art - *Art of the First Cities, Beyond Babylon*, and the upcoming *From Assyria to Iberia* - reflect this viewing experience in a more focused manner. These exhibitions aim to display the arts of the ancient Near East within their broader context and focus on the extensive interconnections among these rich and complex civilizations and surrounding areas. This paper will examine the concepts behind constructing such exhibitions as well as consider how this approach fits within the greater mission of an encyclopedic museum.

BEATRICE ANDRÉ-SALVINI

Permanent and temporary exhibition in a so-called 'Universal Museum': The Louvre

Musée du Louvre

In recent years the Louvre has expanded the perspectives of the "département des Antiquités orientales." The Museum has installed new galleries for the collections of the Levant under the Roman Empire favoring a horizontal reading of one period, and it has developed new forms of national and international cooperation as the loan of masterpieces to the Louvre-Lens for a diachronic comparative historical presentation, or the Louvre Abu Dhabi whose aim is to be an illustration of a new model of museum. These large-scale projects require an adaptation or an evolution and a reorganization of the collections displayed in the permanent galleries as well as in the temporary exhibition spaces according to new lines of research and different approaches to reading history. Furthermore, these changes within a big museum conceived, at the origins, as "universal", allow concentration on the specific work which is the heart of advanced museum research.

HOLLY PITTMAN AND RICHARD ZETTLER

New galleries at the Penn Museum: Challenges and opportunities

University Museum, University of Pennsylvania

The University of Pennsylvania Museum of Archaeology and Anthropology houses one of important collections of artifacts from the ancient Middle East outside of the region. It's especial importance resides in the fact that the collections consist with rare exception of materials distributed from regular excavations, removing questions of provenance, authenticity, and legality. During the next decade, these collections will be reinstalled in entirely reconceived galleries on the third floor of the Penn Museum. Ur and Nippur are the core of the Mesopotamia; Beth Shan is the core of the Levant; and Hasanlu, Hissar, and Chesm Ali/Rayy represent Iran. This presentation will describe the early stages of curatorial thinking about the display, seeking to identify both challenges and opportunities that these particular collections pose. Who are the audiences for these galleries? How can each be engaged? Where are the points of balance between regional/chronological sequence; cross-cultural threads; and highlighting the "works of art" that abound in the collection? How can digital technology enhance and extend the presentation? Some of the themes currently under discussion include the stories of retrieval; the culture history of "moments" best illuminated by the collections; cross cultural themes of interaction and trade, development of fundamental technologies; social organizations and political hierarchies; the story of writing within its cultural context and the results of and potential for programs of continuing research.

CLEMENS REICHEL

Conflicted conscience—on balancing curatorial, design, and marketing demands for a blockbuster exhibit

Royal Ontario Museum, Toronto, Canada

Generally intended to provide a major revenue source for a museum, blockbuster exhibits need to attract large audiences. This requirement has a significant impact on their content and design. Curators often find themselves in a challenging position: while demands from design and marketing teams to make an exhibit accessible can undermine scholarly accuracy in favor of sensationalism, blockbusters also offer curators unprecedented opportunities to showcase their work and area of expertise to large audiences, especially when paired with programming and outreach. These challenges and opportunities dominated the planning of “Mesopotamia,” a blockbuster exhibit held at Toronto’s Royal Ontario Museum (ROM) from June - December 2013. Having encountered limited topic recognition for “Mesopotamia” during initial market testing, the exhibit’s layout and feel was adapted to increase its appeal with numerous target audiences within Toronto’s multi-cultural society, while interactive features were installed to promote audience engagement especially among younger visitors. Looking at the exhibit’s content, design, programming and marketing strategies, this presentation will review the successes and shortcomings that “Mesopotamia” encountered, and provide suggestions on how a curatorial role could be defined in future ROM blockbuster exhibits.

PEDRO AZARA, ALBERT IMPERIAL, MARC MARIN, ERIC RUSIÑOL, AND JOAN BORRELL

Ancient "Art" in the White Cube?, or How Contemporary Art Creates Ancient "Art".

Escola Tècnica Superior d'Arquitectura de Barcelona

A recent exhibition on Mesopotamia has shown, contrary to what was expected, that Near Eastern culture can interest a broad audience who is not familiar with art history and archaeology. It seems that the objects have two contradictory qualities: they seem to belong to a most ancient time, but, at the same time, they seem to look at us, to be near us, to be able to get into contact with us.

This apparent familiarity may be due to the fact that modern and contemporary art has got us used to certain shapes and expressions which seem “primitive”, and to the fact that, if we look at them as artworks, it is because we have made them: we look at our creations –as, in fact, the concept of art is rather recent, and objects before the XVIIIth century could not have follow our conception of what is a work of art-. So, in a sense, Mesopotamian “art” is as recent as the most up-to-date artworks, as it is been defined by us when looking and thinking at them as art. The fact that we show them in an exhibition is a proof that their function and meaning have changed. The paper will reflect thoughts about exhibitions of archaeological items, among them near eastern ones, due to the curatorial and design processes of *Before the Flood: Mesopotamia (35000-2100 BC)*, and *The Mediterranean: From Mythos to Reason (VI century BC- IV century AD)* exhibitions (2012-2015).

IRVING FINKEL

How to Make People Stop and Look

British Museum

Museum curators in their enthusiasm are apt to miscalculate completely the effects of gallery displays on real, human people. This talk will discuss how to consider visitors, how to visualise their questions, how to provide

what they want as well as what we think we want to impose on them. It will address the problem of *Museum Leg*, an affliction which comes upon the public five minutes after entering any museum or art gallery, which causes them to plod around with a glazed expression failing to take note of anything they encounter while thinking all the while of the shop, the toilets or the café.

LEILA BADRE

Museum exhibits and education: The AUB Museum as a Case Study

Archaeological Museum, American University of Beirut, Lebanon

Before its renovation in 2006, the display style at the AUB Museum was that of its time (middle of last century), where the objects were left to speak for themselves, rather than engage the visitor in an educational process. Renovation was an opportunity to re-examine the collection in view of developing new and more meaningful ways of conveying its significance.

Because the Museum is a regional one including seven countries with objects mostly lacking their provenance, a double concept was introduced dividing the collection into two parallel groups: one focusing on the chronological evolution of the material and the other highlighting the various themes which are presented as comprehensive mini exhibitions. These exhibits had to follow a logical progression, with a firm transition that links the showcases in a smooth way, telling the story which in fact is made of several small stories!

Being a university museum gives the AUB Museum a special academic role, oriented to students and scholars. At the same time, it has to appeal to the entire community of the University environment. Several layers of texts accompany the exhibits: the large posters for the general themes, the small texts for specific groups and finally a succinct legend for each object. Several illustrations, placed in the background of the cases, help to relay the explanation in a more concrete and lively way.

The visitor, of any category, must leave the museum having been moved by at least one special object, moreover he must remember one or more stories that the display has tried to convey. Then, the Museum has reached its goal!

12. ELITE RESIDENCES IN THE HELLENISTIC AND ROMAN NEAR EAST

STEPHAN G. SCHMID – ZBIGNIEW T. FIEMA – PIOTR BIEWNKOWSKI – BERNHARD KOLB

Berlin; Berlin/Helsinki; Manchester; Basel

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A particular result of the symbiosis of old and new traditions is represented by elite residences (palaces, villae) in the Near East. Between the conquests of Alexander the Great and the Later Roman Period, the area under consideration witnessed the appearance of spectacular residences which feature both the old elements of Near Eastern architectural traditions as well as "new" elements, mostly deriving from such structures as the Argead palaces at Aigai and Pella in Macedonia. The specific arrangement and combination of these elements may be purely fashionable but may also point to some specific functional considerations.

This workshop addresses the question of elite residences in the Near East, concentrating on the few known structures in Judea and Transjordan, associated with Herod the Great and the Nabataean kings. Topics will include general plans, landscape designs, interior decoration, building traditions used, the elusive issue of the 'quality' of materials and construction, and best specific parallels from elsewhere in the Mediterranean. In order to widen the scope of discussion, selected complexes of funerary architecture will also be added in order to ascertain the relations between the architecture of the living and the architecture of the dead in the elite context.

Programme

SESSION 1

- Stephan G. Schmid – Zbigniew T. Fiema – Piotr Biewnkowski – Bernhard Kolb
Power Landscape and Luxury Architecture - the IUBP and NEPP Residences in Petra
- Polytimi Agoridou (Berlin)
New Insights into the Interior Decoration of a Bath Complex on Umm al-Blyara, Petra
- Marco Dehner (Berlin)
What these Stones can Tell Us: a GIS-based Comparative Study of Architectural Members from the NEPP Area in Petra, Jordan

SESSION 2

- Bernhard Kolb (Basel)
The Mansion of az-Zantur IV in Petra: Parallels and Differences with Presumed Residences of the Nabataean Kings
- Karin Petrovszky (Berlin)
Nabataean Funerary Complexes and their Relationship with Elite Residences" (awaiting answer)
- Thomas Kabs (Berlin)
Same Status – Different status? The Relations of the Herodian and Nabataean Dynasties with Rome and Eventual Influences on the Building of their Residences (awaiting answer)

SESSION 3

- Achim Lichtenberger (Bochum)
The Herodian residences: an overview (contacted but no reply, since in holidays)
- N. N. (PhD student with prof. Lichtenberger at Bochum)
The basileia at Alexandria in Egypt: the mother of prototypes?" (need to await prof. Lichtenbeger's reply, cf. supra)
- Stephan G. Schmid (Berlin)
Roman imperial residences and their relationship with Near Eastern royal architecture in the view of recent research" (only if at least two of the above will not be realized)

Abstracts

13. ETHNOARCHAEOLOGY AND EXPERIMENTAL STUDIES IN NEAR EASTERN ARCHAEOLOGY

RUTH SHAHACK-GROSS

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Ethnoarchaeological and experimental research are two types of actualistic studies that bridge an important gap between the present and the past. Such studies are often used by archaeologists as they focus on material remains and thus provide a means for interpretation of archaeological material remains related to cooking, subsistence practices, activity areas, production processes (e.g., of metals, of ceramics), and ideological and ritual aspects of human activities.

Traditionally, such actualistic studies (especially ethnoarchaeology) stem from and relate to the anthropological schools of archaeological thought. They are therefore related mostly to prehistoric archaeology and rely heavily on macroscopic observations and interviews. In recent decades however, actualistic studies are being conducted more and more by archaeologists working in historical periods, and hence address many questions related to practices evident in historic periods only, such as a variety of pyrotechnological practices (baking, metal and glass production), urbanization, and more. Such practices, processes and materials that are typical of historic periods are especially relevant to Near Eastern archaeology.

In addition to the above, it is noted that methodological changes characterize Near Eastern actualistic studies. A new approach focused on materials and their microscopic traits in ethnoarchaeological contexts and experimental studies is developing in the last decade. To date, there is almost no discourse between these apparent three different types of actualistic studies: experimental, macro-ethnoarchaeology, and micro-ethnoarchaeology. The aim of the proposed workshop is therefore to bring together the different types of actualistic studies carried out in the Near East in order to promote discussion of methodological and interpretational aspects of these studies, on all levels of observation (from macroscopic to microscopic) and all time periods. In this workshop, methodological aspects will be highlighted by presentations and discussion of method, theory and research design of actualistic studies, while interpretational aspects will be highlighted by presentations of case studies.

Programme

SESSION 1

- Ruth Shahack-Gross
Introduction: Method and Theory in Actualistic Studies
- Elisabetta Boaretto, Mintz, E., Shahack-Gross, R. & Gur-Arieh, S.
High Resolution Radiocarbon Dating in Archaeological Research: the Lesson from a Modern Ethnographic Context
- Georgia Tsartsidou
Phytolith Assemblages from two Ethnographic Contexts of Greece: Implications in the Interpretation of the Archaeological Record

SESSION 2

- Emma Jenkins, Khalil Jamjoum & Sameeh Al Nuimat
Phytoliths as Indicators of Past Water Availability
- Maria Bofill
What and How to Grind? An Ethnoarchaeological and Experimental Approach for the Study of Grinding Technologies in the Neolithic of the Near East
- Shira Gur-Arieh
A Geo-Ethnoarchaeological and Experimental Study of Cooking Installations, their Taphonomy and Preservation

SESSION 3

- Sarah Elliott, Robin Bendrey & Jade Whitlam
Ethnoarchaeological Research on Modern Animal Husbandry in Iraqi Kurdistan. Linking the Macroscopic with the Microscopic: Integrating Animal, Plant and Environmental Data
- Hadia Faisal, Ramon Buxó and Miquel Molist Montaña
Agricultural Methods in Southern Syria: an Ethnoarchaeological Study in the Sweida Region (2011-2012) and its Contributions to Understanding Agricultural Practices in the Neolithic Site of Tell Halula (Syria)
- David Friesem
Ethnoarchaeology of Mud Structures Across the Near East: Taphonomy, Preservation and Site Formation Processes
- Ruth Shahack-Gross: Closing remarks

Abstracts

RUTH SHAHACK-GROSS

Introduction: Method and Theory in Actualistic Studies

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Actualistic studies include ethnographic and experimental research. Ethnoarchaeology is the study of material remains that result from present day human practices. Thus it involves recording of material signatures of human activities in their social, economic and ideological contexts. Experimental archaeology refers to field as well as laboratory-based experiments primarily conducted with the aim of replicating the material fingerprints of ancient human activities, structures and crafts. Both fields of research focused traditionally on macroscopic traits of materials. The realization that the archaeological record also includes a microscopic aspect results in a growing tendency to integrate macro- and microscopic aspects related to materials linked to human behavior and activities. This presentation will introduce theoretical as well as methodological aspects in the development of actualistic studies in archaeology, via example case studies. It will also attempt to highlight strengths and weaknesses inherent in each field, and suggest how the two may be integrated in order to strengthen the archaeological implications derived from the results of such studies.

ELISABETTA BOARETTO¹ – EUGENIA MINTZ¹ – RUTH SHAHACK-GROSS² – SHIRA GUR-ARIEH^{1,2,3}

High resolution radiocarbon dating in archaeological research: the lesson from a modern ethnographic context

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Chronologies in archaeological research are requiring higher and higher time resolution challenging the capability of radiocarbon dating. The most common samples used in radiocarbon dating are short-lived charred organic remains and bones. This method has at least two underlying assumptions: (1) the radiocarbon record of short-lived materials reflects the time of burial of the material and the age of a stratum; and (2), the state of preservation and the level of contamination of the samples permit accurate dating. To validate the first assumption, an ethnoarchaeological study was carried out in southeastern Uzbekistan. The radiocarbon contents of organic materials were studied from materials collected in a traditional agro-pastoral rural village. The sampling strategy included: interviewing the local people about periods of construction, renovations and changes in the use of buildings; sampling of organic materials of different origin; identification of short-lived organic materials before dating; and a small scale excavation of a sheep and goats house in order to test the age distribution along a stratigraphic profile. High resolution ¹⁴C dating for the past 60 years can be determined using the radiocarbon bomb peak. Results show in some cases disagreement between the expected year and the ¹⁴C value. These results provide a better understanding of depositional processes of short-lived samples, their context and impact the interpretation of the archaeological record.

GEORGIA TSARTSIDOU

Phytolith assemblages from two ethnographic contexts of Greece: Implications in the interpretation of the archaeological record

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Phytoliths have often been used as a proxy for identifying activity areas and human action in the past. Many ethnoarchaeological studies have been conducted in order to test their potential. Kranionas and Sarakini are two Greek traditional villages that have served as an ethnographic environment for phytolith analysis. Their study showed that phytoliths are a strong tool with much potential in recognizing activity areas. However, they also revealed the weakness of following a single scientific approach when interpreting human activities printed in the sediments. In this talk examples of different cases-activity areas are shown in order to highlight the difficulty of identifying human activities especially when they follow idiosyncratic behaviors and innovations. A collapsed two-story smithhouse, a threshing floor covered with dung, animal enclosures that preserve lime floors and cereal barns with dung are presented. Their phytolith assemblages are analyzed and their problems are discussed. In addition, the possible mistakes in the interpretation of similar sediments in archaeological context are stressed. In some cases more than one scientific method were applied and this proved to be the best way to try to solve archaeological puzzles.

EMMA JENKINS¹, KHALIL JAMJOUR², SAMEEH AL NUIMAT³

Phytoliths as indicators of past water availability

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It has been proposed that phytoliths from archaeological sites can be indicators of water availability and hence inform about past agricultural practices (Rosen and Weiner 1994; Madella et al 2009). Rosen and Weiner (1984) found that the number of conjoined phytoliths from cereal husks increased with irrigation while Madella et al (2009) demonstrated that the ratio of long celled to short celled phytoliths also increased with irrigation. In order to explore how phytolith formation is affected by water availability, wheat and barley were experimentally grown from 2005 to 2008 under different irrigation regimes at three crop growing stations in Jordan. Phytoliths from the husks of these experimentally grown plants were extracted using the dry ashing method (Piperno 2006). Results demonstrated that although the number of conjoined cells and the ratio of long celled to short celled forms does increase with irrigation, there were considerable inter site and inter year differences suggesting that environmental variables other than water availability affect phytolith uptake and deposition.

MARIA BOFILL

What and how to grind? An ethnoarchaeological and experimental approach for the study of grinding technologies in the Neolithic of the Near East

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Use-wear analysis of prehistoric stone tools is closely related to experimental programs that give the empirical base for proposing technological and functional interpretations of these toolkits. Such experimental works are usually supported by ethnoarchaeological data that brings the opportunity of looking into a broad range of

functional possibilities. When considering grinding stone toolkits the various functions include grinding of cereals, legumes, condiments, meat, and minerals. Yet, some of these processed materials leave little or no material evidence on grinding stone tool surfaces, making it difficult to identify archaeological processed materials. The aim of this communication is to link the data obtained from the ethnographic references with the results of the experimental, use-wear and residue analysis of the Neolithic grinding stone assemblages considered in my research. My study deals with two Neolithic sites, tell Halula and tell Aswad (Syria), that have been crucial for delineating the first farming communities in the Northern and Central Levant. Which role played the grinding techniques in the socioeconomic context of the first plants domesticated in this area? A review of ethnographic parallels focused on traditional hand-grinding stone tools in Africa, Anatolia, Syria and Nepal provide a very rich source of knowledge about this technology.

SHIRA GUR-ARIEH^{1,2} – ELISABETTA BOARETTO^{1,3} – AREN M. MAEIR² & R. SHAHACK-GROSS¹

A geo-ethnoarchaeological and experimental study of cooking installations, their taphonomy and preservation

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Cooking installations are abundant in archaeological, pre-modern and modern settlements in the Near East. Archaeological cooking installations are mostly identified through analogy based on macroscopic traits similar those of ethnographic installations. The study presents: (a) direct evidence to the use of fire in or on archaeological installations, based on an experimental study related to Philistine pebble hearths and an ethnoarchaeological study of mud constructed ovens in rural Uzbekistan; (b) reconstruction of cooking temperatures; and (c) a newly developed method that allows determination of the proportions of wood and dung used as fuel. In addition, a laboratory-based experiment supplied an explanation for taphonomic processes that alter micro-remain concentrations in fuel composed of wood and dung. The study integrated macro- and microscopic observations, using a variety of geoarchaeological methods that included FTIR spectroscopy, phytolith analysis, dung spherulite and wood ash pseudomorph quantification, and micromorphology. The insights gained from the ethnoarchaeological and experimental studies were applied to the study of archaeological hearths and ovens from Iron Age sites in Israel, allowing better interpretation of these ancient cooking installations.

SARAH ELLIOTT, ROBIN BENDREY & JADE WHITLAM

Ethnoarchaeological research on modern animal husbandry in Iraqi Kurdistan. Linking the Macroscopic with the microscopic: integrating animal, plant and environmental data

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Ethnoarchaeological research has increasingly played an important role in the understanding and interpretation of archaeological deposits. This paper will examine aspects of the modern rural village of Bestansur in the foothills of the Zagros Mountains, Iraqi Kurdistan. Our research aims to understand how families use and manage their livestock within the local landscape, to elucidate links between animal and plant resources and explore possible archaeologically identifiable traces of these practices. This work has been carried out in the framework of studying and understanding archaeological signatures left behind by the occupations and activities of this rural

community, and relating them to early Neolithic practices and the emergence of farming communities. Dung is a major signature of occupation and activity, and is the primary focus of this paper. To date ethnographic and experimental animal dung studies are limited. However, reference collections and comparative data from different types of animal dung are increasing. Our research strategy involves the creation of comparative datasets, specifically focusing on investigating the chemical signatures and microscopic identification of dung deposits (through the presence of calcareous spherulites) and traces of animal diet, grazing/foddering patterns and how these are represented in the plant silica phytoliths extracted from the dung.

HADIA FAISAL¹ – RAMON BUXÓ² – MIQUEL MOLIST MONTAÑA³

Agricultural methods in Southern Syria: an ethnoarchaeological study in the Sweida region (2011-2012) and its contributions to understanding agricultural practices in the Neolithic site of Tell Halula (Syria)

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The analysis of agricultural practices of the Neolithic settlements is a very important line of research for the knowledge of the production activities of the first farmers. In order to advance the study of the farming populations of Tell Halula (Euphrates Valley, Syria) in the PPNB period, Hadia Faissal conducted a recent Ethnoarchaeological study of current agricultural activities in the Sweida region (Syria). The latter region was selected to carry out this ethnographic survey, because traditional agricultural methods are still being used, such as Roman ploughing as well as others. We analyze the complete agricultural sequence from the sowing to the food preparation. These agricultural techniques were documented during two trips to Syria in 2012. In this paper, we present the results of the study and the ethnoarchaeological analysis about the systems related to the current cultivation of cereals and legumes (wheat, chickpeas, lentils ...) in southern Syria, and inputs that are derived for the study of Neolithic samples. This ethnographic survey has allowed us to reach some theories about ancient agricultural practices in the PPNB period.

DAVID E. FRIESEM

Ethnoarchaeology of Mud Structures Across the Near East: Taphonomy, Preservation and Site Formation Processes

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Mud structures are common domestic architectural features since the Neolithic. Because mud-based building materials are less durable than stones or cement, they degrade and thus contribute to formation of many Near Eastern archaeological sites. Here I present an ethnoarchaeological study, conducted in modern abandoned mud structures in arid South Israel and temperate Northern Greece, in which I studied the taphonomy of earth floors, mud brick walls, thatch roofs and microscopic activity remains. Field observations and excavations were coupled with various sediment analyses conducted in the laboratory. It was found that roofs play a major role in preservation of remains deposited on activity floors, and that once roofs collapsed mud brick material degraded and accumulated on top of the roof remains. This process resulted in the formation of a microscopic complex that includes the floor- activity remains- roof- degraded mud brick material. Additionally, it was identified that mud brick degradation processes are initiated by low energy flows forming a macroscopic talus and in some cases

even a mound at wall feet, which can be identified micromorphologically owing to distinctive patterns of slope deposited sediments. These results highlight the importance of combining several analytical methods to distinguish between various infill sediments, thus enabling better interpretation of archaeological mud structures.

14. IRRIGATION AND WATER WORKS IN THE ANCIENT NEAR EAST

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During the last few years the archaeology of irrigation and water supply has become a major topic in ancient Near Eastern studies. The lack of water as a result of insufficient precipitation made it essential for ancient historical empires to utilize hydraulic technologies to develop remarkable systems of water supply and irrigation management to deal with such aridity. Irrigation and water works played an important role in both rural and urban settlement in these ancient civilizations, particularly for the Achaemenid and Sassanid periods. Whereas some scholars have looked at urban water management, irrigation and water supply within the context of daily routines of life and their role in the settlement patterns, others see, for example, Achaemenid water systems providing evidence of interactions with the Classical Greece world.

The scope of this workshop will be upon the presentation of the most recent research on key aspects of irrigation and water distribution in the Near East especially for Achaemenid and Sassanid Persia. The workshop will bring together senior researchers working on the subject in order to assess the state of the field and identify new directions of research.

Programme

SESSION 1

- T.J. Wilkinson & Dan Lawrence
Water Use at the Frontier: The Role of Water Systems in the Borderland of the Sasanian Empire
- Maurits Ertzen & Tijs De Schacht
Wealth is Water” Modeling Water Control in Achaemenid Iran
- Kourosh Mohammadkhani
Management of Water in the Achaemenid city of Dahaneh-e Gholaman, Sistan-Iran

SESSION 2

- Seyed Abazar Shobairi
A Comparative Study of Urban Water Management in Achaemenid Persia and Classical Greece:
Persepolis and Olynthos (6th - 4th c. BC)
- Louise Rayne
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Mapping Long-term Irrigation Strategies on the Miān-āb Plain of Khuzistan

SESSION 3

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Water works at the ‘palace’ of Vouni (Cyprus)
- Afshin Yazdani
A Report on the Discovery and Excavation of the Four Achaemenid Water Wells at the Foot of Persepolis
Terrace Platform Persepolis World Heritage Site

Abstracts

T.J. WILKINSON & DAN LAWRENCE

Water Use at the Frontier: The Role of Water Systems in the Borderland of the Sasanian Empire

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Conventionally, frontier zones and ancient frontier walls are seen as 'artefacts' consisting of the walls themselves, forts and associated military installations. However, research by a joint UK and Iranian Project has demonstrated that the Sasanian Gorgan Wall in NE Iran was functionally related to the development of a massive system of water supply. These not only supplied water for wall construction, water supply for the forts, irrigation and perhaps transport, they were probably also used for the purposes of defence. This paper will present the evidence for the use of hydraulic systems on the Gorgan Wall in NE Iran, and will place them in the wider context of the Sasanian frontier in Azerbaijan, Syria and Iraq. Because water systems have played a long role in ancient defence, we will contextualize our presentation within the broader topic of ancient Mesopotamian and Iranian water use, as well as the power relationships of the empires themselves.

MAURITS ERTSEN¹ & TIJS DE SCHACHT²

Wealth is Water" Modeling Water Control in Achaemenid Iran

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In Iran, along the northern and eastern fringes of the Pasargadae plain (Fars), five dam remains from the Achaemenid period (550–330 BCE) present an important footprint of human impact and reshaping of the region. In the framework of the Joint Iranian-French Archaeological Project at Pasargadae, these dams were studied. In a wadi 22 km north of Pasargadae, Sad-iDidegan dam is an earth gravity dam with remains of a feeder canal and control infrastructure. To the northwest, Sad-iShahid Abad earth dam stored water from the perennial Rud-iPolvar River and had a similar canal and control structure. Close to SadiDidegan a large earthwork crossed the watershed divide between Didegan and Shahid Abad. Though constructing the system was left unfinished, the remains echo major investments of available labor. The contemporaneity of both dam sites is clear evidence of the regional and elaborately planned character of hydrological endeavors in the Pasargadae area. This contribution proposes a possible use of the two dam system using a modern control simulation model. Based on this possible use, the paper will set the dams of the Pasargadae plain in their wider hydrological context and link that to the hydraulic mission of the Achaemenid powers.

KOUROSH MOHAMMADKHANI

Management of Water in the Achaemenid city of Dahaneh-e Gholaman, Sistan-Iran

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Dahaneh-i Gholaman is located eastward of Sistan-Baluchistan (Iran). The site was first recognized by Umberto Scerrato, who conducted surface surveys and undertaken excavations there between 1962 and 1965. The first excavations have shown that the site would have been occupied only in Achaemenid period. The climate of region of Sistan is arid. Sistan is only watered by perennial Helmand River and some seasonal rivers. There is one main ancient canal, south of the buildings in the north zone of the site. From the study of an aerial photograph (1/2000, 1965 NCC of Iran) and satellite images (Landsat and Google earth), two new canals of water have been found in the north zone. One of these new canals joined the main ancient canal at its end, to the west of the site, and the second one in the middle of site in the south of the buildings. The direction of the main canal is west-east until its source of water (Sanaroud River). Sanaroud had been the second direction of Helmand River in the Achaemenid period. The length of the main ancient canal until Sanaroud was 30 km.

SEYED ABAZAR SHOBAIRI

A Comparative Study of Urban Water Management in Achaemenid Persia and Classical Greece: Persepolis and Olynthos (6th - 4th c. BC)

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Systems of water supply and management played an equally important role in the ancient urban settings of Persepolis, the Achaemenid capital founded by Darius I in Fars in southwestern Iran, and the contemporary Greek city of Olynthos, situated on the Chalcidice Peninsula in the north Aegean.

This paper focuses on the respective archaeological evidence for urban waterworks at these two sites, as typical examples of water management technology and its relationship to urban development in Greece and in Persia. It also considers, among others, similarities between these two contexts that could be due to interactions between the Greek and the Persian world, and not least, to the well attested participation of Ionians/Greeks in the construction of Achaemenid palatial cities.

LOUISE RAYNE

Water and Territorial Empires

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Many relict irrigation systems extend across the area of Northern Mesopotamia; this research uses remote sensing to identify them. In an area where fieldwork is currently difficult, satellite images offer a way to map traces of ancient hydrological features. CORONA images facilitated the recording of water systems which were dated through comparison with survey data. Collected between 1960-1972, with a pixel size of 2-5 m, these images provide a view of the landscape before recent intensification destroyed many archaeological remains. They were also used for Digital Elevation Model (DEM) creation; a 10 meters spatial resolution DEM was generated which was used to recognize the morphology of a significant canal. Recent high resolution imagery and data was also used, including IKONOS and SRTM. Confirmation of features as artificial channels rather than natural streams or ancient route-ways was enabled through the application of modern DEMs.

This combined dataset was used to construct a detailed map of relict irrigation; a peak in the Early Islamic period is apparent, developing from Hellenistic and Late Antique canals. These water management systems were constantly modified, abandoned and reused. Given an uncertain climate, past irrigators were forced to adopt this flexible and dynamic approach.

MEHRNOUSH SOROUGH

Mapping Long-term Irrigation Strategies on the Miān-āb Plain of Khuzistan

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In Near Studies, Sasanian period is known for unprecedented achievements in water management strategies and technology which enables agricultural expansion and intensification. The Plain of Miān-āb, on the northeastern part of Khuzistan, is home to a sophisticated irrigation system, including an extensive canal network and several relict hydraulic features. Archaeologists and historians have suggested that this hydraulic system was in most part developed in the Sasanian period and fell into despair after the Muslim Conquest of Khuzistan. Despite recent scholarly interests in the irrigation history of Miān-āb, little is known about the process of development of these “Sasanian” water works, that is, their relationship with the preceding and succeeding investments. Without this understanding, our image of the Miān-āb Plain could be overshadowed by what is known about the better studied irrigated landscapes of the Near East. The present paper reports on a work-in-progress that aims at distancing from generalization about the water management history of Miān-āb through a holistic mapping of the relict canal features and hydraulic structures. Previously collected archaeological data and old satellite and aerial imagery are used for this study. Some tentative results from the study of the ancient irrigated network vis-à-vis settlement patterns will also be presented.

SHAHROKH RAZMJOU

Revisiting Achaemenid Rock-cut Wells: Cistern or Ancient Riddle

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The area around Persepolis contains a number of massive wells, cut into the rocks. The best known well is located at Persepolis, between the palaces and the royal tombs. It has been identified as cistern by archaeologists and early visitors to the site. According to the explanations, they are made in order to collect water after raining and to avoid damage to the buildings below the mountain on Persepolis platform. The rest of the wells, almost completely buried, are located between Persepolis and Naqsh-e Rostam royal cemetery. These wells are also identified as cisterns in the same way. However, another Achaemenid rock-cut well, located near Shiraz, can produce more questions about the nature and function of these wells. The location and design of the wells show that they are different types with still unknown aspects. This makes it a necessity to restudy these wells and their function.

ANTIGONI ZOURNATZI

Water works at the ‘palace’ of Vouni (Cyprus)

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Excavated by the Swedish Cyprus Expedition in the late 1920’s, the monumental complex at the hilltop of Vouni, on the northern coast of Cyprus, remains to date one of the most conspicuous physical settings of political authority in Cyprus during the Persian period. The builders of the complex evidently selected the site on account, primarily, of its exceptional strategic importance and easy defensibility. The absence of a spring locally was compensated for by means of an elaborate system of collection and management of rain water—a system that, according to the excavators, underwent modifications in the successive periods of occupation of this complex from the opening of the fifth to the early decades of the fourth century BC.

The present paper reviews the available evidence for the water supply and drainage of this complex with reference, not least, to analogous contemporary and earlier practices within and outside the island.

AFSHIN YAZDANI

A Report on the Discovery and Excavation of the Four Achaemenid Water Wells at the Foot of Persepolis Terrace Platform Persepolis World Heritage Site

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While removing earth for constructing a toilet service at the western margin of the Persepolis parking lot and at a distance of about 500 m. to the west of the great stairway of the terrace platform four ancient water wells were discovered. The wells were cut in the ground in the method nowadays used to cut wells by hand and had about originally 5 m. deep. Based on the stratigraphical studies three main phases were determined, the first one started since the cut and by the time the wells were used to provide drink water, an intermediate short phase of abandonment which in the case of water well no. Tow comprises of intentional blockage and destruction of the well by falling big stones, bricks and debris into the well, and the last phase which includes a weak resettlement of the site which is seen at the well no.1 by using it as a big garbage pit. Fortunately due to the character of the wells i.e. semi filled by water, whatever had fallen into them remained in a perfect intact shape which resulted to discover the largest amount of ever discovered pottery vessels of Achaemenid period.