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Tuesday 27 March

Session I (1.30 pm – 3 pm)

Endangered Archaeology in the Middle East and North Africa: Research From Heritage Protection (I)

Chair: Graham Philip

Dr Pascal Flohr (University of Oxford, School of Archaeology)
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Protecting the Pottery Neolithic

The first 'typical' farming communities –small hamlets and villages with mixed farming, and possibly the distinction between 'desert and sown'– came into existence during the Pottery Neolithic period (ca 7th-6th millennia BC). Due to a research bias, and especially their visibility, these generally small sites remain understudied in the Southern Levant. Sites are often located under metres of colluvium and only found through excavation (archaeological or otherwise, e.g. roadworks). Not only are they under-represented in the research record, but due to these factors, it is also very difficult to protect them. Nonetheless, Pottery Neolithic sites have been recorded in surveys and excavations, and it is possible to collate these data into a standardised framework. Large datasets, such as the Endangered Archaeology in the Middle East and North Africa (EAMENA) database, can therefore help by giving an overview of what is known across the Southern Levant. Importantly, the remote sensing methodology developed by the EAMENA Project can also be used to assess the condition of these sites. Preliminary results for Jordan show that Pottery Neolithic sites have a more widespread distribution than previously thought, and that it is possible to predict their location (see Hitchings et al. 2013, *Antiquity*). By combining the EAMENA methodology, published data, and predictive models, we can start to identify areas of possible Pottery Neolithic sites and thus prioritise which areas to further research or protect when development takes place. This study shows how large datasets can help us study and protect neglected periods and sites.

Dr Jennie Bradbury (University of Oxford), Dr Pascal Flohr (University of Oxford, School of Archaeology), Dr Letty ten Harkel (University of Oxford, School of Archaeology)
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Tracing the patterns: Fields, villages, and holy places in Lebanon

Lebanese archaeological research has often focused on settlement sites from the Bronze Age to Roman periods, while the surrounding landscapes, as well as earlier and later periods remain under-represented. Large datasets collecting information from all periods and site types, such as the Endangered Archaeology in the Middle East and North Africa (EAMENA) database, give a chance to address this imbalance. The EAMENA project uses satellite imagery to identify archaeological sites and the threats posed to them. This has led to the recognition of hundreds of thousands of previously unpublished sites. Although primarily designed as a heritage platform, the database is very useful for research purposes too. This paper will explore how we can use the database to trace patterns of settlement and landscape use. Analysis was carried out across three transects of ~700 km², each running from coast to hills in northern, central, and southern Lebanon, giving us a holistic overview of the landscape. The majority of the database records for these areas are characterised by the remains of abandoned buildings and agricultural terraces, and – to a lesser extent – religious sites. Our results show profound differences between northern and southern Lebanon, as well as between coastal and inland zones. These differences reflect historical differences in land use, subsistence economies, and belief systems which often bear little relevance to modern socio-political boundaries. Our study demonstrates the importance of large, holistic datasets for previously understudied site types and periods in piecing together past patterns of land use and change over time.

Dr Michael Fradley (University of Oxford)
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Historic aerial photogrammetric mapping missions in the MENA region: an early earth observation data source?

The use of using aerial-perspective data is increasingly important as a tool of archaeological survey and monitoring in the MENA region, particularly where geopolitical conditions restrict site access. This paper will focus on the value of photographs from early photogrammetric aerial mapping missions, where overlapping sequences of vertical aerial

photographs were used to construct topographical maps, as a means of assessing landscape change and its impact on heritage assets in the region over a much longer time period. While there has been much use of archives of satellite imagery, such as data from the CORONA mission, less use has been made of aerial photography, in part due to the disparate origins of these mapping missions, difference in preservation and practical issues relating to accessing archives. This paper will focus in particular on the output of British forces in the region from the First World War onward, particularly in areas such as Jordan, Iraq and Yemen. It will briefly cover the chronology of technical development, political constraints on its application and issues of preservation in the past and present. Discussing examples from the Jordan Valley area, it will demonstrate the value of these historic aerial photographs as an early source of earth observation data. It will close by considering the need to actively locate surviving photo archives and promote open-access policies for the use of archaeologists and others in the geographical and earth sciences for whom the data will be of use.

Current Fieldwork (I)

Chair: Michael Brown

Garstang Professor of Archaeology Douglas Baird (University of Liverpool)
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Boncuklu and the antecedents of Çatalhöyük

The site of Boncuklu is 9.5 kms to the north of Çatalhöyük in the Konya Plain of central Anatolia and occupied over the millennium preceding the development of Çatalhöyük and probably a direct antecedent of Çatalhöyük. This paper examines the evidence from ongoing excavations for continuity and change from the occupation of Boncuklu to Çatalhöyük. There are clear continuities in the nature of structured patterns in use of domestic space, household continuity, mortuary practices, deployment and character of ritual and symbolism, exploitation of resources in and beyond the Konya plain. There are continuities in agricultural and pastoral practices and the nature of wetland exploitation. However there are changes in the density of occupation and the scale of the agropastoral economy, in probable household composition and interrelationships and the nature and role of communal institutions. This will allow an exploration of the role of increasing degrees of sedentism, dependence on mixed farming relative to long lasting local traditional practices in structuring social relationships and underwriting community size and institutions. Richly textured evidence from household archaeology, artefact studies, aDNA, isotopes, human osteoarchaeology, archaeobotany and faunal studies underwrites this analysis.

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Lower Göksu Archaeological Salvage Survey Project (2013-2017)

The Lower Göksu Archaeological Salvage Survey Project (LGASSP) was a five years long archaeological project that was conducted in the Mersin province of southern Turkey as a response to the construction of a hydroelectric dam in the Göksu valley. The Göksu Valley in Rough Cilicia acted as a channel of communication that linked the Mediterranean coast to south central Anatolia throughout history. This dynamic landscape with changing settlement patterns and land use trends had a strategic importance for regional powers in the past, was an integral part of regional trade networks, and was culturally affected by and had an effect upon the neighbouring regions. Our project team worked within the flood zone to document as much as possible of the archaeological material and elements of tangible and intangible cultural heritage that will be lost after the completion of the dam in the coming years. In this paper, we will present the results of five years of fieldwork, during which we documented archaeological sites dating from the Chalcolithic to the Byzantine period, and will discuss the settlement patterns and routes of communication and transport, that evolved through time. This collaborative project was conducted by Bitlis Eren University and the University of Leicester with the support of the British Academy (Newton Advanced Fellowship) and the British Institute at Ankara.

Dr Christoph Bachhuber (University of Oxford)
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Konya Regional Archaeological Survey Project

The Konya Regional Archaeological Survey Project (KRASP) is an interdisciplinary, multi-scalar research program in south-central Turkey. This paper presents the methodologies, aims and preliminary results of KRASP's first fieldwork season on the Konya Plain (2017), and various analyses begun in 2016 of legacy material collected in previous

surveys associated with the British Institute of Archaeology at Ankara (BIAA) in the Konya Plain, including those of James Mellaart, David French and Ian Todd. KRASP has set out to achieve a number of goals with the legacy and fieldwork sub-projects. Many of them align with *longue durée* approaches to archaeological landscapes, including a diachronic outline of human-environment interactions in different ecological niches, and a related (diachronic) assessment of the formation of archaeological landscapes. KRASP is also interested in how and why and with what consequences networks of communication formed within and beyond the landscapes of the Konya Plain, for example as mediated by networks of production and exchange, mobility related to (pastoral) transhumance, political consolidation, or some combination of these. The last aim of KRASP discussed here is different from the above because it is concerned with the 'archaeological present'. This is similarly a study of landscapes, but develops ethnographic methodologies to understand how people living in the region today interact with the archaeological landscapes they inhabit.

Mesopotamian Pottery: Developing Interpretive Frameworks (I)

Michael Lewis (University of Cambridge)

Clays, Technologies and Modes of Ceramic Production at Gurga Çiya, Iraqi Kurdistan during the late 4th Millennium BCE

Gurga Çiya is a small multi period site located in the far south-east of the Shahrizor Plain, Iraqi Kurdistan, near to the modern town of Halabja. The Late Chalcolithic 4 (LC4) strata features pyrotechnical installations including a probable ceramic kiln, alongside a dense deposit of Uruk-related ceramics. This study will present as a case study, a sample of LC 4 ceramics from Gurga Çiya. In utilising a range of analytical techniques, the production sequence or *chaîne opératoire* of the studied ceramics will be determined, and thereby move beyond a static, categorical classification of ceramic type and forms that is so often applied to Near Eastern ceramic studies. For the first time in the regional archaeology, this presentation aims to provide a detailed understanding of the *chaîne opératoire* during the LC4 at a small rural site in the Shahrizor Plain, Iraqi Kurdistan. Aspects under consideration include raw material procurement, ceramic forming techniques, paste preparation and firing will also be investigated along with ideas of ceramic standardisation and mass production. Through this, it is hoped that a more detailed understanding of the ceramic manufacturing process will give an insight into the LC community at Gurga Çiya, and how the site fits into the wider LC4 sphere.

Francesco Del Bravo (Free University Berlin)

The Scarlet Ware: Chomsky, Microstyle and Aesthetic. A New Paradigm in Central Mesopotamian Chronology

The aim of the contribution is to stress the intimate relationship which governs the three types of analysis, named in the title, when applied to material culture, i.e. pottery. Taking as a starting point the polychrome ceramics identified in the Pusht-i Kuh region of modern Iran; a detailed correlation of decoration microstyle morphology, aspects of syntactic structures and aesthetic theory of art, will be mashed together to generate a different vision of the material culture in question, as indicator of: social habits, cultural consumption strategies and stylistic behaviours. Each of the three levels of analysis mirrors corresponding behaviours in the cultural construct at play, i.e. the society/producer of the materials. So once the evidence is put together a clear description of social mechanisms and cultural meanings should be possible. Reached this first step in testing the hypothesis, a second level of comparison, more stratigraphically oriented, will be presented. At this second level a new chronology for central Mesopotamia is proposed, anchoring each of the chronological subdivisions to "first step" elements in the cultural social continuum under analysis. The stratigraphical reanalysis of major Mesopotamian sequences, mainly excavated at the beginning of 20th century, will be based not only on polychrome potteries, which represent a highly specialized class of material, but on the entire corpus retrieved.

Juliette Mas (UMR 7192 - PROCLAC Paris)

3rd Millennium B.C. Upper Mesopotamian Luxury Pottery Vessels and Households Social Status

A quick glance at the Near Eastern material culture demonstrates that since the beginning of the development of the ceramics, the luxury vessels constituted, beyond the daily common use pots, an important part of the production, and it is still the case during the Early Bronze Age in Upper Mesopotamia. Nevertheless, we can observe a shift in the production of the luxury vessels by the half of the 3rd millennium, with a development of new strategies to increase the production of these prestigious goods in order to satisfy the more important needs induced by the rise of large urban centers. The luxury pottery vessels could be locally produced or involved in economic and medium or long-

scale exchange networks, that concerns either finished vessels or the raw materials used for their production. The analysis of the discovery contexts show that these prestigious objects were not exclusively used in palatial or religious environments but well distributed within the « middle class » households. Indeed, decorated vessels, made of luxury wares or with elaborated shapes were a way for the households to assert their social status.

Session II (3.30 pm – 5 pm)

Endangered Archaeology in the Middle East and North Africa: Research From Heritage Protection (II)

Chair: Sayantani Neogi

Dr Michael Fradley (University of Oxford)
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Research value of the EAMENA approach: identifying potential Bronze-Age landscapes in Yemen

The Endangered Archaeology of the Middle East and North Africa (EAMENA) project focuses on the use of satellite imagery to identify and monitor heritage sites. In the course of the project's systematic survey this methodology has demonstrated a significant potential to identify a range of previously unrecorded archaeological sites. The work of the project in Yemen is particularly notable in this regard, generating a range of new data in regions where geographical and political constraints have limited previous research on the ground. Recent survey in the governorates of al-Bayḍā' and Ḍamār have revealed a range of new evidence of settlement forms and landscape features which, through comparison with the results of earlier fieldwork in the region, are comparable to Bronze-Age sites previously recorded on the ground. The quantity and range of evidence would suggest a hitherto unrealised scale and complexity of settlement. This paper will present aspects of these new datasets and their implications for future research in Yemen, as well as the potential for further the use of satellite imagery to further fill out our archaeological understanding of the country.

Dr Louise Rayne (University of Leicester) & Dr Julia Nikolaus (University of Leicester)
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Damage and threats to archaeology in North Africa

The Endangered Archaeology in the Middle East and North Africa (EAMENA) project has been documenting archaeological sites across the MENA region and the threats posed to them in an online database. Recording across North Africa is being predominantly undertaken at the University of Leicester and has required a slightly different approach to the Near East. Different chronologies and site types are present and the timescales of processes affecting the preservation of sites are also different. In the Middle East extensive damage was caused to archaeological sites in the 1970s/80s due to agricultural expansion, meaning that legacy data such as Corona images are often the best available dataset. Conversely in much of North Africa expansion of agriculture has intensified recently, so modern satellite imagery is of particular value. However, the threats to Archaeology in North Africa differ from region to region, requiring a variety of recording and protection efforts. In this paper we discuss the distribution of EAMENA's data for archaeological sites in North Africa and the key threats to their preservation. While the effects of conflict have been high-profile, the impact of more mundane activities is significant. Our methodology primarily comprises image interpretation and classifications of freely-available satellite data (e.g. via Google Earth, Sentinel). For targeted sample areas we are also employing methods which utilise high-resolution current and historical satellite and aerial observation systems including sensors such as WorldView, Pleiades, and unmanned aerial vehicles. So far we have recorded over 8000 sites from case study areas in Morocco, Algeria, Tunisia and Libya. In particular we have identified the significant risks posed by rapidly expanding irrigated agriculture, for example in the Jufra oases in Libya, urban growth (e.g. around Tunis), and infrastructural projects including canal and road building (e.g. the Draa valley, Morocco). A narrow window of time is available in which we can make use of modern spaceborne data in conjunction with archaeological research to record these sites before they are destroyed.

Dr Letty ten Harkel (University of Oxford, School of Archaeology)
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The 21st-century history of the Crusades: a heritage management perspective on Crusader archaeology from the EAMENA database

Archaeological 'Big Data' databases like the EAMENA (Endangered Archaeology in the Middle East and North Africa) database are versatile tools for both research and heritage management purposes. The EAMENA database (www.eamenadatabase.ox.ac.uk) combines 'new' sites discovered in some 20 countries in the Middle East and North Africa through remote sensing surveys, with data collated from existing ground surveys. The result is a powerful research tool, capable of cross-regional comparison as well as more geographically focused studies. In addition, remote sensing data – such as aerial photographs and satellite imagery – are used to map the present and sometimes changing condition of archaeological sites as well as any threats to their longer-term preservation, with substantial potential for heritage management research. This paper uses data collated from existing research projects and publications focusing on a single, well-defined time period in a single country, the Crusader or Frankish period in Lebanon. Different types of Crusader sites exist in the database, ranging from well-known castles to churches, chapels and secular domestic architecture. The vast majority of records comprise standing buildings, which, through their exposed nature, are exposed to different threats than below-ground archaeology, a situation that is exacerbated by the fact that many of the better-known sites are also tourist attractions. Comparing site type with current condition and threats – the latter two based on our remote sensing methodology – this paper will provide insights into the variable responses to Crusader archaeology during the 21st century.

Current Fieldwork (Session II)

Chair: Kristen Hopper

Giorgia Marchiori (Durham University)
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Daily life and commercial activities in the late Roman Western Nile Delta: the case of a House and an Amphorae Storage

Excavation in Unit 4 at the site of Kom al-Ahmer under the Kom al-Ahmer – Kom Wasit Archaeological Project (University of Padova, CAIE) has unearthed the remains of a mud brick domestic structure and an amphorae storage dated to the late 4th and early 5th century AD, whose latest recorded occupational phases were characterised by the finding of a considerable amount of bronze coins. This shared pattern of coin dispersal may also link the buildings within their spatial context, a large neighbourhood in one of the central areas of the ancient settlement. Additionally, the large array of amphorae found inside the storage, mostly empty and placed up-side down, may reveal activities related to the practice of recycling amphorae, both as containers and as implements. The latest recorded occupational phase of the house coincides with the level on which the amphorae lied, thus suggesting a contemporaneity confirmed by the dating of coins and pottery remains. This could be indicative of the house being altered into a more commerce-related space or acquiring a multi-functional purpose. The current investigations at Kom al-Ahmer have revealed that the site was inserted within a trade network that linked it to major Mediterranean ports, thus suggesting that the settlement was commercially active before and during the late Roman period. The excavations in the residential neighbourhoods may reflect the relationship between the ancient settlement's inhabitants and their commercial endeavours.

Dr Stefan Smith (University of Ghent)
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The Dense Prehistoric Landscape of the "Black Desert" of Jordan: Preliminary Results of the "Western Harra Survey"

The Harra, or "Black Desert", of north-eastern Jordan is part of the Harra't al-Sham, a basaltic plateau of around 50,000 km² that stretches from southern Syria across the north-eastern salient of Jordan and into the north-western corner of Saudi Arabia. This region is characterised by low levels of precipitation and access difficulties due to the dense scatter of basalt rocks over its entire surface. However, archaeological investigations over the last few decades, and in particular the last few years, have identified a prehistoric site distribution across the Harra of an almost unparalleled density in the Middle East. The "Western Harra Survey" is one such project, conceived to study the western edges and interior of the Harra, its prehistoric structures, their material remains, their dates of occupation, and the overall shifting patterns of settlement and nomadism in the region. Its first season of fieldwork took place in October-November 2015, and the second was completed in September 2017. The results of these two seasons provided a wealth of data that allow some preliminary interpretations to be made that impact on the larger region. These include the analysis of large quantities of lithic material at numerous sites, potential links to raw chert material sources, and a typological seriation of the morphology of sites known as "wheels", which appears to be linked to

different site uses and/or different periods of occupation. This paper will disseminate these results in the context of the Harra region and beyond.

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From Alexander to the Crusades (c. 200 BCE-1100 CE): Recent Archaeological Discoveries in Jarash, Jordan

Since 2015, the Late Antique Jarash Project (LAJP) has investigated the long-term development of the city of Jarash in northwest Jordan. Focusing especially on the exposure and recording of the city's extensive, but largely neglected residential neighbourhoods, three seasons of fieldwork from 2015 to 2017 have already provided a rich and diverse series of finds. Located in some distance from the city's monumental centre, these findings allow for unique insights into the everyday lives of the people that once called Jarash their home. In this paper, we outline the principal discoveries of the LAJP so far, and seek to contextualise this material in light of recent reviews of the occupational history of Late Antique and Early Islamic Jarash and northeast Jordan more generally (Rattenborg and Blanke 2017). With the recent exposure of strata dating to the 2nd century BCE and on-going investigations of domestic housing showing continuous occupation up until the 9th or 10th century CE, the findings of the LAJP may constitute the longest occupational sequence found in Jarash to date. As such, it holds the potential to thoroughly revise traditional assumptions about the history of Jarash as steered by cultural clashes between Christianity and Islam and the impact of environmental changes and seminal natural disasters.

Mesopotamian Pottery: Developing Interpretive Frameworks (II)

Eloisa Casadei (La Sapienza - University of Rome)

The last centuries of the 3rd millennium BC. Changing inventories and changing connections

The last centuries of the 3rd mill. BC are characterized by a dramatic change in the configuration of the archaeological pattern of the whole Ancient Near East. Focusing on the Southern Mesopotamia, only textual evidences have been largely investigated to understand the chain of events that determined rapid changes in the political and social structure of the region. Nevertheless, looking at the surveys and stratigraphic sequences, the period between the Akkadian and the Isin-Larsa domains (ca. 2350-1800 BC) in Southern Mesopotamia seems represented archaeologically by continuity and merely gradual changes both in settlement pattern and material culture, resulting in a still difficult delimitation of different historical periods. Being a strong sensitive recipient of social behavior, pottery is one of the main elements to deal with in the reconstruction of social changes. A well-defined morphological seriation can help in determining the different choices in style and fashion. The manufacturing technique of the vessels, preliminary determined by macroscopic observations, can be considered a starting point for understanding the organization of production. Moving from this insight, the paper will focus on the evolution in morphology and the way of production of the Southern Mesopotamian ceramic assemblage dated to the late 3rd and early 2nd mill. BC, as means for detecting changes in socio-economical settings.

Valentina Oselini (La Sapienza - University of Rome)

What "Local" means? Characteristics and Spread of the Middle-Late Bronze Age Pottery in the Diyala Basin (Central Mesopotamia)

Pottery belonging to the sites located in the Diyala Basin represents a huge corpus which allows to define the ceramic horizon spread at regional and local level during the Isin-Larsa, Old Babylonian and early Kassite periods (ca. 1950-1450 BC). In the specific case of the Middle Diyala, which mainly means the area of the Hamrin Dam, it is possible to define clusters of materials diffused among contemporary small and rural centres representing the scenery of a suburban reality. Observing the similarities between the Middle Diyala assemblages and the Lower Diyala sets, which correspond to the biggest and most important towns of the 2nd millennium BC in the Diyala Basin, it is possible to highlight the elements characterizing the whole region. The contribution here presented intends to emphasise what types and categories can be diagnostic of each chronological phase and considered widely spread. In this perspective, the present analysis shows that the types of beakers, jars and flasks tended to be widespread in the two areas more than bowls, vats and vessel used in the production processes (pots, platters, strainers, etc.). Moreover, with the help of chemical and thin-section petrographic analyses on some potsherds from Tell Yelkhi (Hamrin Basin), the aim of this paper is the understanding of their manufacture, provenance and use, trying to give some suggestions on the organization and specializations of pottery production.

Daniel Calderbank (University of Manchester)

Spatial Distributions of Pottery Vessels at Tell Khaiber: A Functional Perspective

Pottery typologies are often guided, both implicitly and explicitly, by the perceived uses of individual vessels and general vessel shapes. Yet, these perceived uses are very rarely tested directly. This paper pursues a holistic investigation of textual, material, and archaeological contextual evidence, to help reconstruct the patterns of pottery use at the site of Tell Khaiber, southern Iraq. Textual sources provide considerable information on the various vessel types in circulation during this period, and hint further at the use-contexts in which these vessels operated. Together this evidence speaks to the strong association between pottery and commensal habits: cooking, beer brewing, measuring, processing, storage, as well as serving and consumption. Through a detailed analysis of the Tell Khaiber assemblage (9,000+ diagnostic sherds and 350+ complete vessels), generated from securely stratified deposits, we can begin not only to test which vessels were most suited to each of these respective use-contexts, but also subsequently map patterns of activity onto the site's complex public building. The spatial distribution of everyday activities at Tell Khaiber not only reflects the social relations at play across the site itself, but also provides clues as to the workings of the wider socio-political landscape during the mid-2nd millennium BC.

Wednesday 28 March

Session III (9 am – 10.30 am)

Endangered Archaeology in the Middle East and North Africa: Research From Heritage Protection (III)

Chair: Jennie Bradbury

Azadeh Vafadari (Durham University)
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Pilot implementation of damage and risk assessment methodology in northern Lebanon

As a result of an increase in conflicts in the Middle East and North Africa impacting cultural heritage, the heritage community has been focused on saving and protecting the heritage in the affected countries and regions. As important and timely as these concerns are, they should not result in overlooking the scale of continued threats from factors such as neglect, urban development, modernization of rural areas, and agricultural expansion affecting a large number of heritage places in more presently stable regions and countries such as northern Lebanon. From its start, the EAMENA project has been identifying and monitoring threats and damage to sites using satellite imagery and aerial data. Since 2017, the EAMENA project felt the need to allow for more detailed and field-based recording focusing on three-tier categorizations of heritage resources into heritage places (e.g. a settlement), heritage features (e.g. a mosque within the settlement), and heritage components (e.g. a wall of the mosque). This paper presents a field-based condition assessment approach, carried out in Lebanon, to test new features of EAMENA to identify, record and evaluate damage and threat to heritage buildings, site elements, and their components. The case study includes results of a fieldwork carried out in Lebanon in the summer of 2017 as part of the Kübbā Coastal Survey (KCS) project [1]. Once such data is incorporated into the EAMENA database, further research and analysis could be done at a larger scale including (but not limited) to identification of risk zones, identification of preservation needs and strategies, and prioritization of resources. 1. The Kübbā Coastal Survey (KCS) Project records the archaeology of the north Lebanese coast and is funded by the Council of British Research in the Levant (CBRL) in collaboration with the American University in Beirut (AUB), Durham University, the Direction Générale des Antiquités du Liban, and the EAMENA Project (<http://eamena.arch.ox.ac.uk/affiliated-projects/the-kubba-coastal-survey/>).

Dr John B. Winterburn (University of Oxford)
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Early Twentieth-Century Defended Landscapes of Southern Jordan

The Hejaz Railway was constructed from Damascus to Madinah between 1900 and 1908. Outwardly a pious railway for the transport of Hajj pilgrims it had military potential and threatened British interests in Egypt and the Suez Canal. Following the outbreak of war and the Great Arab Revolt in June 1916, an Arab and British force captured the port of Aqaba surprising both Ottoman and British commanders. This enabled Arab forces to move northwards and plan an advance on Damascus and exploit the vulnerabilities of the Hejaz railway. As a response to the increased threat to the railway a German military advisor set about constructing defences in the landscape between Ma'an and Mudawarra. This paper explores these landscapes, illustrates the diversity of structures and how these were built rapidly between August 1917 and April 1918. These trench systems, earthworks and dry-stone buildings contrast with the Balkan style of architecture used in the railway buildings. The fortifications represent the final throes of the dying empire defending its assets and are possibly the last defensive structures built by the Ottomans and represent possibly the best preserved Great War landscapes anywhere. They have no protection and are being damaged by quarrying and looting; some have removed entirely as sources of stone. Many of these fortifications were first recorded by the Royal Air Force as they were being constructed and the sketch-maps they produced have been used to locate, visit, photograph and record the structures and ensure they are preserved through record.

Dr Sayantani Neogi (Durham University)
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Exploring the geoarchaeological context of Girsu and Lagash through remote sensing and legacy data

This paper expands on the work done by Jotheri (2016) who had examined a spatially large area in the southern marshes of Iraq. Palaeochannels were identified from remote sensing data which correlated with known

archaeological sites. These palaeochannels were dated according to the age of the sites. This new study concentrates on a smaller area, focussing on the major settlements of Girsu and Lagash and their surroundings, in order to create a higher resolution map of the palaeohydrology of the region. While the well-known archaeological site of Girsu has a date range of Early Dynastic-Parthian periods, the site of Lagash ranges in date between Uruk-Old Babylonian periods. This study integrates use of historic and recent remote sensing data, geomorphological interpretation and archaeological information. The application of this approach in the floodplains of the Tigris-Euphrates allows us to reconstruct the complex palaeo-river network, providing insights into the landscape and environmental settings in which these riverine sites operated.

Archaeological Sciences

Chair: Kamal Badreshany

Dr Emma Jenkins (Bournemouth University)

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Understanding building practices and the use of space at the Neolithic sites-of WF16 and 'Ain Ghazal: a combined ethnographic and scientific approach

Understanding Neolithic sites in southwest Asia is often difficult because of the lack of preservation of organic remains and the effects of various taphonomic processes that alter the original record. It is therefore crucial that we maximise the information that can be acquired from these sites. Here, we use an ethnographic approach to test the potential of using plant phytoliths and geochemistry to aid our interpretation of southwest Asian Neolithic sites. We sampled two Neolithic sites-WF16 and Ain Ghazal-and one ethnographic site-Al Ma'tan-which is a recently abandoned stone and mud constructed village. Here sampling could be supplemented by information gained from informal interviews with former residents, which furthered our understanding of how the phytolith and elemental concentrations formed. We sampled distinct context categories such as 'middens', 'storage features', and 'roofs and roofing material'. Our results found that while certain categories from all three sites did show similar patterns in their phytolith and elemental signatures for example 'external fire installations and ashy deposits' others were quite distinct for example 'floors and surfaces'. Overall, our results demonstrate that phytolith and geochemical analysis can greatly improve our understanding of southwest Asian Neolithic sites.

Dr Elizabeth Stroud (University of Oxford)

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Crop husbandry and plant use in central Anatolia: a multi-stranded investigation of Chalcolithic plant-food production

There is limited knowledge of plant-food production in central Anatolia between the 6th and 4th millennia cal BC even though this transitional period between the emergence and establishment of agriculture and the development of urban centres, states and empires is crucial in understanding the social and ecological roles of plants. The lack of excavated sites, limited recovery of archaeobotanical material and changes in archaeobotanical methods have resulted in a dearth of knowledge surrounding Chalcolithic plant-food production and changes therein. Using four case studies, this presentation considers the similarities and differences in the use of plants between the sites, including the crop species cultivated, techniques and strategies used to cultivate them and the procurement of wild taxa. The evidence examined ranges from archaeobotanical analysis of plant remains and processing waste through to stable isotope analysis of crop taxa. The methods used to cultivate crops and the modes by which they were processed, stored and consumed are explored in order to develop a nuanced view of plant-food procurement during the Chalcolithic. This paper presents new research from the large early Chalcolithic sites of Çatalhöyük West and Canhasan I and the smaller late Chalcolithic sites of Çamlıbel Tarlası and Kuruçay, exploring regional differences and the impact of environmental conditions and site size on crop choice and agricultural decision-making. Weed flora and crop stable isotope analysis shed light on distinctive management strategies for particular crops. Environmental and social constraints appear to play an important role in shaping plant-food production during the Chalcolithic.

Mesopotamian Pottery: Developing Interpretive Frameworks (III)

Melissa Sharp (University of Tübingen)

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Heresy at the Alter of Typology: mid-3rd millennium BC cooking vessels from NE-Syria

Typology is one of the key methodologies employed by archaeologists, yet is flawed. Ceramic typologies of the Near East often prioritise form/shape as the most important point of comparison. Instead, an alternative perspective based on other functional criteria (ware, rim diameter etc.) prove a more fruitful for making inter-regional analyses in the data presented here. The material analysed derives from cooking vessels collected at six sites in North-Eastern Syria from the mid-3rd millennium BC, all originating from household contexts.

Kyra Kaercher (University of Cambridge)

The Glazed Ceramics of Gird-i Dasht

Recent excavations at Gird-i Dasht, in northeastern Iraqi Kurdistan, by the Rowanduz Archaeological Project, have uncovered the last three periods of the site's occupation. The latest period dates to the Iran-Iraq War of the 1980s the second period dates to the Late Islamic/Ottoman occupation (ca. 1500–1900 C.E.) and the third period falls within the Middle Islamic Period (ca. 1000–1500 C.E.). The ongoing excavations at Gird-i Dasht are refining our understanding of the ceramic assemblages of these little understood periods and include painted Diyana Ware, monochrome and polychrome glazed wares, stamped and moldered fine wares, silhouette ware, stonewares, fritwares, and a wide variety of unglazed earthenwares and glass. This paper analyzes the stylistic aspects of the excavated glazed assemblage, and compares it to other sites in the Middle East to refine the chronology (Rayy, Kashan, Nishapur, Tabriz, Mosul, Samarra, and Raqqa). This paper will present the evidence for the dating of these levels and discusses how Gird-i Dasht fits into the overall historical narrative of the region.

Session IV (11 am – 12.30 am)

Cultural Heritage (I)

Chair: Abdulmir al-Hamdani

Dr Mohamed Kenawi (University of Oxford)
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Interaction between past and present: Living archaeology in Egypt

The large number of archaeological sites in Egypt within the narrow Nile Valley and the over populated Nile Delta has resulted in the growth of modern villages, towns, and communities on the remains of ancient sites or very near their ruins. The long continuation of using and reusing the same spot for religious purposes, through periods of change in religion, resulted in the continuity or contiguity of sacred spaces in some cases or their destruction in other cases. By contrast, on the fringes of the desert far from present-day villages and towns, the interaction between past and present is different. This paper will present an overview of the transformation of sacred spaces, the abandonment of sites, and the relationship between a site and its community.

Dr Emma Cunliffe (Newcastle University)
(emma.cunliffe@ncl.ac.uk)

Archaeologists and the military: reassessing cooperation 13 years after Iraq

When Coalition forces invaded Iraq in 2003, the consequences – for both the Iraqi people and their heritage - were dire. As Iraq devolved in sectarian conflict, major archaeological sites were heavily damaged by occupying forces, and hundreds of others were systematically looted. Archaeologists who cooperated with military forces were heavily criticised by some for working with the military and so 'providing academic and cultural legitimacy to the invasion' and contributing to a wider 'ethical crisis' in archaeology (Hamilakis, Y. 2003, *Public Archaeology*, 2: 107). 13 years on, international focus is once again heavily invested in the conflicts and security crises in the Middle East, threatening the people and their heritage. Yet has archaeology as a field moved on? What lessons have been learned? This paper presents an overview of some of the key developments in military cultural property protection in the last 13 years from the perspective of the Blue Shield network, focusing on lessons learned by both archaeologists and military professionals. The paper is timely, given the release of the Chilcot Report into the invasion of Iraq, and the ratification by the UK of the 1954 Hague Convention for the Protection of Cultural Property in Armed Conflict. It argues that the time has come to re-evaluate our relationship, and offers a platform founded in ethics and international law from which to do so.

Brittini Bradford (Durham University)
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The Spatiotemporal Contextualisation of Looting Impacts During the Invasion of Iraq at Mashkan-Shapir Utilising Remote-Sensing Technologies

Investigation into contemporary satellite imagery of Mashkan-shapir (Iraq) provides a microcosmic reflection of the relationship between extreme artefact displacement and regional instability. Highlighting visible change from 2003-2011, by utilising remote-sensing technologies and GIS software for the systematic contextualisation of looting at a site otherwise inaccessible today, this case study demonstrates evidence of the impact(s) contemporary military engagement can have on regional archaeological sites. Further discussion includes suggested looter preference, potential subsurface loss, and agricultural encroachment to provide an essential evaluation of and contrast to previous established methods of artefact loss quantification utilising remote-sensing techniques.

Remembering Eddie Peltenburg (I)

Chair: Bill Finlayson

Dr Lindy Crewe (CAARI)
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Eddie's Last Excavations (Part 1): Souskiou Laona Chalcolithic Cemetery

Eddie strongly supported his students, encouraging us to gain experience beyond our PhD specialisations, both in the field and our research networks. The trust that he placed in us inspired us to rise to the challenge. In 2001 we instigated a field school project at the Middle Chalcolithic (late 4th–early 3rd millennia BC) cemetery at Souskiou Laona, part of a unique complex of sites comprising a settlement and surrounding extramural cemeteries, in advance of Eddie beginning excavation of the settlement. The Laona outcrop, into which tombs were dug, was thought to be thoroughly looted for the anthropomorphic figurines and pendants that characterise the Middle Chalcolithic. The initial aims of the project were to establish a typology for the tombs, obtain information on the mortuary population (as looters leave the human remains), and perhaps locate any grave goods that may have been overlooked. As excavation proceeded a number of intact features were revealed and it became apparent that we needed to develop new methodologies to respond to the complexity of the site. Following six seasons of excavation, complete exposure of the outcrop revealed a diverse set of rock-cut features and associated evidence for funerary ritual. Perhaps most striking was the presence of intact features both with and without human interments and/or grave goods. In tandem with the settlement evidence, these results illuminate the importance of ritual practice to Cypriot Chalcolithic populations and underscore the value of a holistic approach to archaeological data, as advocated by Eddie over the years.

Dr Diane Bolger (University of Edinburgh)
(diane.bolger@ed.ac.uk)

Eddie's Last Excavations (Part 2): The ritual economy of the Souskiou settlement and cemeteries

Eddie's recent excavations at Souskiou have shed important light on the emergence of social complexity in Cyprus during the late 4th and early 3rd millennia BC, a topic that was a focal point of much of his research. Despite extensive looting, the cemeteries at Souskiou have yielded a variety of mortuary facilities and a wealth of artefacts that attest to the development of corporate identities and social inequality on the island before the Bronze Age. The settlement at Laona, located on the steep NW slope of the Vathyrkakas ravine to the west of the Laona cemetery, functioned as a specialised centre for the manufacture of picrolite figurines and pendants for which the period is best known. Together, the settlement and cemeteries furnish evidence for economic intensification linked to an increasing demand for picrolite as a central component of funerary rituals. This ritual mode of production, which is characteristic of many small-scale societies both past and present, began to be transformed in the early 3rd millennium when the demand for picrolite was replaced by a desire for more exotic objects, such as faience beads and copper-based ornaments, some of which were imported from abroad. This is likely to account for the reversion to intramural burial during the final Chalcolithic phase of the site, and to the site's subsequent abandonment, setting the stage for the emergence of higher levels of social complexity associated with the economic and political activities of aspiring elites during the Cypriot Bronze Age.

Dr Bleda During (Leiden University)
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The Excavations at the Site of Chlorakas-Palloures: New Light on the Late Chalcolithic of Cyprus

Chlorakas-Palloures is a Middle and Late Chalcolithic site situated in the Ktima region of the Paphos district of Cyprus. Since 2015 a team from Leiden University has initiated excavations at this site, which was endangered by planned construction developments. The first three seasons have yielded remarkable buildings and artefacts, which shed important new light on the Late Chalcolithic of Cyprus. These include a very monumental Late Chalcolithic building and the oldest axe currently known from Cyprus. Such finds have important implications for reconstructions of Chalcolithic society and the emergence of metallurgy on the island. In this presentation I will discuss the main results of the first three seasons at Chlorakas-Palloures.

Place and Identity (I)

Chair: Penny Wilson

Martina Massimino (Durham University)
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Identifying Late Chalcolithic and Early Bronze Age Metal Communities of Anatolia and Northern Mesopotamia through Grouping and Network Analyses

A long-distance network system stretching from the Aegean to the northern regions of Syro-Mesopotamia increasingly interconnected Anatolia and Mesopotamia from the Late Chalcolithic onwards. This was a period in which the emergence of new complex socioeconomic entities was prompting a quest for resources to display status and wealth. Among the resources used for this purpose, metal played a major role as a valuable commodity in the new social value system of these communities. The remarkable abundance in Anatolia of poly-metallic ore deposits combined with the lack of mineral resources of Mesopotamia must have been important in the creation and maintenance of such an extensive network of interaction and exchange. This paper applies and compares two innovative methods from European archaeology – typenspektren group analysis and modularity maximisation network analysis – to define groups and networks of Late Chalcolithic and Early Bronze Age copper-based objects from Anatolia and Northern Mesopotamia, for which metal compositional analyses are currently available. The resultant spatial clusters have implications for understanding regional and interregional patterns of production and exchange. Applying both grouping and network methods to the Anatolian and Northern Mesopotamia data could enable to reconstruct how and to what extent Anatolia and Northern Mesopotamia were interconnected and thus enhance our understanding of the socioeconomic structures and relations underlying the production, exchange and use of copper-based objects during the periods under examination.

Professor Juan José Castillos (Uruguayan Institute of Egyptology)
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Tomb Orientation in Predynastic Egypt

Without the Nile Egypt would not have existed as it did and would not have been the cradle of a great civilization. The many representations of boats in the contemporary art reflected what would later become more clearly defined as a concept of the Nile as the watery highway that enabled quick and easy communication as well as transportation of goods over thousands of miles and well into today's Sudan. The mostly regular floods assured the inhabitants abundant crops that made possible political developments more difficult elsewhere as well as a source of protein from exploiting its varied and also abundant ichthyological resources. The river, a boundary between the worlds of the living and of the dead, also played a very important role in the ancient Egyptian religion. It is not surprising then that from the earliest times the river was very relevant to their lives and even after death it had an impact on their funerary practices. Every year the river would bring the flood and more important of all, fertile mud that provided most of the time rich harvests thus creating in the ancient Egyptian mind the idea of the Nile as a life giving force. Perhaps this concept was also extended to include the dead who hoped to experience a rebirth in their graves and who tried in most cases to align their tombs with the river. Even in recent times there was a misconception as to tomb orientation in early Egypt that got published, although unsupported by the available evidence. This study reviews this evidence and also the peculiarities of some cemeteries located in a certain region of Upper Egypt at different times of the predynastic that differ as a significant minority.

Dr Joanna Debowska-Ludwin (Jagiellonian University in Krakow)
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Socio-economic changes in the early Egyptian society as reflected by graves of the Tell el-Farkha cemetery

The site of Tell el-Farkha is located in the eastern Nile Delta and apart from a long sequence of settlement remains it preserved also diversified examples of burials dated from the late Predynastic to the Old Kingdom times. First graves at the site were discovered in 2000 at the Eastern Kom and since the following year on a regular field works in the area have been started bringing all together almost 150 excavated burials. Soon, it became clear that the graves represent a much more complicated history that reflects a complex picture of evolving burial customs practiced in early Egypt against the background of a wider political transformation. Basing on the present state of our research we distinguish four separate episodes in the sepulchral activity recorded at the Eastern Kom: monumental mastaba, Protodynastic cemetery, Early Dynastic cemetery, and Old Kingdom cemetery. Each of them is unique in its character but together they form a coherent evolutionary line of Deltaic burial customs. The evolution recorded at the site affected many spheres with changes manifested in: cemeteries range, structural and economical diversity of particular graves, objects included into offerings, or rituals, which are well worth a closer study. Analysis of the material, which together with a vast repertoire of settlement evidence form a great tool for explaining some difficult social processes, will be the subject of this presentation.

Session V (1.30 pm – 3 pm)

Cultural Heritage (II)

Chair: Emma Cunliffe

Dr Abdulmir al-Hamdani (State Board of Antiquities and Heritage of Iraq)
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Digitizing the Past: New Atlas Map and Digital Database for the Archaeological Sites in Iraq

Documenting and registering cultural heritage in places that have witnessed armed conflicts and wars are fundamental to safeguarding the heritage of humankind. Iraq is one of the countries in the Middle East with a heritage that is endangered by a combination of looting, armed conflict and terrorist operations. The current Iraqi Archaeological Atlas has not been updated since 1971, and was published in a short run book form making it hard to find, and only records 7,000 sites, many fewer than the total number of sites in Iraq. I had the opportunity to develop an updated, digital version of the Iraqi Archaeological Atlas. The backbone for the data from southern Iraq were the archaeological surveys carried out by Robert Adams and his colleagues in the central and southern Iraq, as well as, the results of Tony Wilkinson's survey in the plain of Sinjar in northwest of Iraq. Between 2003 and 2009, I was able to add some 1200 new archaeological sites which had not been included in the original Iraqi Atlas sites. Iraqi archaeological atlas and maps from the Iraqi Military Survey were used to locate archaeological sites. The Atlas was developed through the digitization and georeferencing of all of these sources. Corona and Digital Globe satellite imagery were used to identify the locations of the sites. 15,000 archaeological sites were documented. The data can be useful for anyone seeking to select sites to be excavated. In addition, it can be used by the central government and local governorates in Iraq when they plan development projects in the countryside so they can avoid damage to archaeological sites as they develop the initial plans for such projects.

Dr Paul Collins (University of Oxford)
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Introducing the Nahrein Network: Researching the Future of the Middle East's Past

Since 2011, the destruction of heritage sites throughout Syria and Iraq has received widespread publicity. International aid projects have pumped millions of dollars of aid into the documentation, digitisation, and conservation of threatened and damaged buildings and archaeological sites across the Middle East. However, only a few of these schemes pay much attention to long-term, local interests and impacts and rarely acknowledge that 'heritage' is meaningless without communities to inherit it. At the same time, the whole region is struggling with the human effects of many decades of violence, mis-government and corruption on a predominantly youthful population. In these circumstances antiquity and cultural heritage may seem self-indulgent irrelevancies while there is such urgent need for research and delivery of post-conflict security, state-building and social cohesion. The AHRC GCRF-funded Nahrein Network (2017–21), based at UCL, Oxford, and the University of Kurdistan Hewlêr, aims to challenge this dichotomy, by fostering the sustainable development of antiquity, cultural heritage and the humanities in Iraq and its neighbours, and supporting interdisciplinary research to enable universities, museums, and community groups to better serve local, post-conflict needs. In this talk I will outline the five major aims of the Network, from better understanding the current situation to delivering real improvements in the prospects of people in Iraq. I will

also explain the operation of its Visiting Scholars scheme and Grants Fund programmes, which will be open to UK and Middle Eastern applicants until 2020.

Professor Bill Finlayson (Council for British Research in the Levant)
(billfinlayson@gmail.com)

Presenting Prehistory: The Neolithic Heritage Trail in Southern Jordan

With rare, monumental, exceptions, such as Stonehenge or Gobekli Tepe, the presentation of prehistory is seen as difficult in terms of interpreting, protecting and preserving the visible archaeological remains. The pillars, colonnades, temples of the classical period, and more recent fortified and religious sites are all more familiar to audiences, and therefore more easily understood, while the architectural preservation of such sites is sufficiently commonplace that both expertise and confidence are relatively plentiful. The remains of early prehistoric sites are less familiar to conservators, less well preserved and more fragmentary, and much less familiar to potential audiences. The Neolithic Heritage Trail aims to address this need and tell the story of the Neolithic in Jordan. The Trail is both a tour running between sites in Southern Jordan and the wrapper for sub-projects, working to attain the objective of bringing the Trail to life. The tour runs at the edge of the Wadi Arabah, at Wadi Faynan 16, and Ghuwayr 1, through the Wadi Nimala to Shkarat Msaied, Ba'ja, and onto the plateau and the Petra Park at Beidha and Basta. This presentation will provide an overview of several projects working on the Trail, including the Beidha experimental reconstruction project, the Beidha visitor interpretation project, the Deep Past as a social asset in the Levant project, and the Discovering Wadi Faynan project. These encompass work including simple backfilling, site stabilisation, experimenting with conservation methods, the application of these methods, the creation of paths, site signage, film making, and museum display.

Remembering Eddie Peltenburg (II)

Chair: Graham Philip

Dr Joanne Clarke (University of East Anglia) and Alexander Wasse (Yeditepe University)
(joanne.clarke@uea.ac.uk)

A Second Look at the Cypriot Round House Phenomenon and its Relationship with the Northern Levant

In 2004 Eddie Peltenburg published a paper in a volume entitled *Neolithic Revolution: New Perspectives on Southwest Asia in Light of Recent Discoveries on Cyprus*. In it he argued for a north Syrian PPNA origin for circular building forms that persisted, and indeed developed, throughout the Cypriot Neolithic. There were weaknesses in his argument more than partly due to gaps in the evidence that are only now being filled. Fifteen years ago we had no knowledge of the PPNA colonisation of Cyprus, ostensibly from the northern Levant, demonstrating a long connection between Cyprus and that region. Nor did we know that Late Neolithic circular architecture in the northern Levant, assumed to be Halafian and thus discounted by Peltenburg and others as being too late to be related to the Cypriot Neolithic circular buildings, has now been pushed back in time to the middle of the 7th millennium BC at Tell Sabi Abyad and Chagar Bazar among other sites. Indeed, in the last few years evidence has been mounting for continued links between the mainland and Cyprus throughout the later Neolithic. The forms that these links take appear to have been quite complex involving northern Syria but also the hinterland of the Levant more generally. In this paper I examine the well-known circular architecture of Khirokitia in Cyprus and the now-proven-to-be, contemporaneous circular architecture of the 7th and early-6th millennia northern Levant and the Jordanian badia. I will suggest that circular architecture and other common material traits to all three regions represented a particular way that certain groups socially constituted their material world, meaning that the links between these disparate regions may have been less about formal connections and much more about 'a shared ways of doing things'.

Elizabeth Cory-Lopez (University of Edinburgh)
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The Chaîne Opératoire of picrolite cruciform figurines

Picrolite is a variable metamorphic stone, found in discreet locations on the island of Cyprus. The late Eddie Peltenburg published influential articles which inspired the archaeologists to view this material from a contextual viewpoint, rather than as a stone to create simple adornments. Although the people of Cyprus worked picrolite for thousands of years, it was in the relatively brief time of the Middle Chalcolithic (c.3000 BCE) that the enigmatic cruciform figurines emerged. Much scholarly debate has focused on iconography and meaning, explaining the objects

using contextual links to the ceramic “childbirth” figures and as markers of gendered identities. Such studies have proved fruitful in understanding the social dynamics of this period. This present study focuses on an area which, hitherto, has not received much attention: the context of making. Using the principal of Chaîne Opératoire as a framework it fosters an appreciation of the technical choices available to the carvers. Rather than seeing this process as a uni-linear event, it highlights the practice as socially embedded. In turn it incorporates concepts such as ancestors and new ways in which the use of picrolite operated within communities that were highly mobile within their landscape.

Dr Piotr Jacobsson (SUERC Radiocarbon Laboratory)
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Why are radiocarbon chronologies in the earlier Holocene of SW Asia difficult and why should we be bothered about it?

Radiocarbon dating has been used in south-west Asian contexts since the technique was first developed by Willard Libby and his team at Chicago in the 1940s. However, over the past two decades progress in articulating questions of socio-cultural change has been limited. This leads to gaps between statistical models and interpretive nuance in the study of earlier Holocene communities. This state of affairs is driven by the complex nature of many of the sites in question and the diagenesis of the dating materials, both of which are factors well beyond the control of archaeologists working in the region. This paper explores how small sample sets resulting from technical and practical difficulties affect our ability to discuss details of past communities through the discussion of two abortive attempts at cultural interpretation dependant on the quality of radiocarbon assemblages. The first case study was aimed at recognizing intra-communal tensions at Kalavassos-Tenta and the second sought to understand the chronological relationships between Cyprus and the south-west Asian mainland between the 10th and 7th millennia cal BC. While both these projects failed due to the difficulties inherent in radiocarbon dating in south-west Asia, they serve as clear examples of the specific challenges encountered and point to technical developments necessary to harness the full potential of ¹⁴C dating in the region

Place and Identity (II)

Chair: Martina Massimino

Narmin Ismayilova (University of Birmingham)
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Evaluation the most influential concept of the Kura-Araxes culture (KAC): ‘cultural package’ or ‘regionalism’

A cultural hybridization process in the Southern Caucasus from 3500 BCE led to the formation of the most widespread culture in the Near East – the ‘Kura-Araxes’ culture. Existing literature examines the KAC through the lens of ‘cultural package’ (cultural assemblage) and ‘regionalism’ (regional diversity). The ‘cultural package’ comprised a distinctive collection of artefacts and features that displayed similarities over vast geographical distances, from the Caucasus, North-western Iran, Eastern Anatolia to the Levant. Paradoxically, from the third millennium onwards, the homogeneous units started to undergo the diversification process. Throughout the improvements, the KA communities showed self-conscious sets of regional sentiment and values. Therefore, the presence of homogeneity and heterogeneity in the same culture engendered curiosity among scholars. Rather than focusing on the characteristics of the ‘cultural package’ and ‘regionalism’ separately, this paper evaluates which one of these concepts played a more determining role in the dynamic interaction between South Caucasian and Near Eastern communities? The study compares the transformation practices of the KA areas, in terms of ceramic, settlements and funerary traditions throughout these processes. This paper argues that regionalism accelerated the expansion of the KAC by generating new practices and giving rise to multiple networks, contrary to the slow and sometimes imperceptible changes of the KA cultural package. In other words, regional diversities spread the richness of the KAC to different geographies and constructed the regional identity through materials and their stylistic features. This comparative analysis contributes to a better understanding of the elusive literature of the ‘cultural package’ and ‘regionalism’.

Valentina Agata Grasso (University of Cambridge)
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The archaeology of late antique/pre-Islamic Arabia: decaying paganism and incipient monotheism

Recent archaeological findings in the Arabian Peninsula are expanding our understanding of the cultural milieu and political structures of the pre-Islamic Middle East. This material could offer a corrective to literary accounts, which are often centuries later than the events they describe. Beginning by reading the “Satanic Verses” (Qur’ān 53:19-20), this paper will examine archaeological testimonies that shed some light on religious attitudes in the Arabian Peninsula and its northern extension (Levant and Persian Gulf), between the fourth and the sixth centuries C.E.). It will show how the material evidence can be exploited in order to illuminate the religious history of Arabia in Late Antiquity, right before the emergence of Islam. An eclectic array of epigraphic documents, architecture and artefacts will be examined. Study of these findings will offer an original perspective on the cultural environment of pre-Islamic Arabia, reconstructing the shift from polytheism to scriptural monotheisms, began with the diffusion of Christianity (in North Arabia and Ethiopia) and Judaism (in South Arabia) during the fourth century. The aim of this work is hence to show how we can successfully develop a time line of the religious history of the area from study of the material remains, attempting to construct a coherent historical narrative out of our fragmentary sources.

Session VI (3.30 pm – 5 pm)

Heritage (III) / Approaches to Visual Culture (I)

Chair: Catherine Draycott

Dr Stefania Ermidoro (AVASA - Associazione per la Valorizzazione dell'Archeologia e della Storia Antica)
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The Urkesh Extended Project: Archaeology for the Future

Ancient Urkesh is one of the first cities in history; Tell Mozan, the modern name of the archaeological site, is in northeastern Syria, in a region with a Kurdish majority. Archaeological excavations on the site were interrupted in 2011. In every other respect, however, the project has remained fully active and it has even expanded in the past years in unprecedented ways – not only maintaining the site, but enhancing its cultural dimension. Through the war crisis, our project has been tested and has proven its resilience. It was a strong community archaeology project that had three major goals: the conservation of the site, a rich public outreach program, an economic development plan. These three goals could be maintained throughout the past years, thanks to an intense long-distance collaboration between the Directors with the staff members and a number of local individuals. In the Urkesh Extended Project, the past is relevant in three major ways. (1) The pride of belonging: we have regular visitors to the site because we have maintained it so that local people find in it a source of identity. (2) The territorial legacy: people are made more aware of their responsibility as guardians of the territory. This has proven to be the best way to ensure conservation and avoid vandalism. (3) Economic sustainability: if we have been able to maintain the site viable during the crisis, it may become a source of stability and growth in times of peace.

Dr Laura Battini (CNRS-Collège de France)
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Mesopotamian Images of Violence and Audience in the II mill BC

The II mill BC produced images of violence, especially in the first half of the mill. despite scholars usually emphasize the ‘peaceful’ images of kings. It’s a decisive period which induces two important changes in the representation of violence in comparison with the III mill. BC. First of all, in the first half of the II mill BC there is a fluctuation in the frequency of violence representations. Second, in the second half of the millennium there is a geographical change with a dislocation of the subject in the North (Assyria).

Silvia Ferreri (University of Cambridge)
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Kassite gods and land transactions: a new interpretation of a unique set of images

Kassite kudurru are precious resources for Assyriologists working on 2nd mill. land administration but they also represent a challenge to art historians taking upon the task of investigating the origins of their unique iconography. Still unsatisfactory are answers to questions such as: Why were symbolic representations of gods preferred to usual anthropomorphic images? What are the reasons for departing from Mesopotamian traditions, otherwise followed in all other aspects of Kassite administration and material culture? Interpretations of kudurru imagery either link divine entities to constellations or assign to the images a generic protective function. I argue that astronomical interpretations are defective on methodological and practical grounds. Methodologically, they imply a separation between inscriptions and images carried by the same object, challenging the definition of “monument” which is

otherwise applied to kudurru. On practical grounds, they explain only small subsets of symbols at a time, needing constant adjustments to suit the several arrangements that symbols take on kudurru. On the other hand, although interpretations based on the protective function of symbols are applicable to the whole set of images, they do not explain why they were chosen instead of anthropomorphic representations. I propose a new interpretation of kudurru symbols that transcends the limitations of previous analyses because it is based on the way in which land transactions were performed. I demonstrate that kudurru imagery and inscriptions are linked by more profound connections than the mere protective function concluding that a symbolic representation was necessary to fulfil the task kudurru were created for.

Remembering Eddie Peltenburg (III)

Chair: Bill Finlayson

Dr Charalambos Paraskeva (University of Cyprus, Department of History and Archaeology)
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The Mark of Greatness: Eddie Peltenburg's Impact on the Theoretical Archaeology of Prehistoric Cyprus

Owing to a protracted quest for the island's national identity and a persistent adherence to the cultural-historical paradigm, archaeologists in Cyprus failed to follow self-reflexive discussions occurring within the field from the 1940s to roughly the end of the 1970s, namely during the heyday of early and mature Processual Archaeology. However, by the early 1980s, the advent of a new, more theoretically-informed generation of mostly foreign researchers on the island revolutionized both the methodological and theoretical underpinnings of Cypriot archaeology. Professor Eddie Peltenburg was one of the most distinguished members of this merry band of revolutionaries, and worked continuously for more than 50 years on the prehistoric material culture and small-scale societies of the island. It is now time to take a step back and assess the legacy bequeathed to us. As George Orwell once wrote: "the planting of a tree, especially one of the long-living hardwood trees, is a gift which you can make to posterity at almost no cost and with almost no trouble, and if the tree takes root it will far outlive the visible effect of any of your other actions." As a far-seeing visionary, Eddie sought throughout his career to plant seeds in the form of ideas, research strategies and insights that will far outlast his time with us. This talk aims to explore his contributions to the theoretical archaeology of Cyprus and chart his transformation from a developed/cognitive processualist to post-processualist and beyond.

Dr Lisa Graham (University of Edinburgh)
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Makounta-Voules: Prehistory in the Polis Region, Cyprus

One of the last unknown territories from prehistoric Cyprus is the north-west of the island. In 2017, an international collaborative project conducted an intensive survey around the village of Makounta-Voules with the purpose of establishing the periodization and extent of the known prehistoric site. What was found was an extremely rich ceramic assemblage confirming Chalcolithic and Bronze Age dates for the site, with little evidence for other periods. Additionally, several ground stone tools were found on the surface, many of which were for domestic and agricultural activities, confirming that this was the location of a rather large permanent village. Also, dozens of fragments of metal slag (a bi-product of the smelting process) were found on the surface of the site. The site's close proximity to the Limni mines, with abundant copper resources, coupled with slag is suggestive of prehistoric metalworking. It is known that in the Chalcolithic to Bronze Age transition metallurgy in Cyprus begins to take hold. When and if this practice began at the site will be of great importance to our understanding of the prehistory of the island and future seasons will hopefully reveal more about the prehistory of the Polis region. This paper presents the initial findings from the 2017 surface collection, explores the significance of the results and discusses future plans to improve our understanding of this overlooked region.

Dr Luca Bombardieri (Università di Torino), Marialucia Amadio, Francesca Dolcetti and Giulia Muti
(Italian Archaeological Project at Erimi-Laonin tou Porakou)
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From Space to Placemaking. Multi-scalar approaches to Middle Bronze Age Erimi-Laonin tou Porakou, Cyprus

Recent studies in Cypriot urbanism have stressed the need of developing interdisciplinary data-sets to analyse the history and organisation of proto-urban and urban centres from diachronic, spatial and structural perspectives, and to pay particular attention to the analysis of communal and non-elite areas, since these are recognised as fundamental in the examination of development of social and cultural identities and roles (Manning et al. 2014, 9; Fisher 2014b). Middle Bronze Age Erimi-Laonin tou Porakou (ca. 2100-1650 BC), offers a good case-study to investigate this topic, as it includes a range of key contexts to analyse social, cultural and economic developments of the recent Cypriot prehistory, and to enhance the analysis and definition of the formative period of urbanisation in Cyprus. The ancient site of Erimi-Laonin tou Porakou was first identified in 2007 as result of a survey project aimed at outlining the landscape use and sequence of ancient occupation in the middle and lower valley of river Kouris, in the southern region of Cyprus. Significant material evidence and topographic characteristics have encouraged intra site analysis (Bombardieri 2017). The project, which is conducted by the University of Torino, Italy, has the principal aim of examining the role of this settlement in the formative process of urbanisation in Bronze Age Cyprus, by applying an interdisciplinary and multi-scalar approach based on the synergy between standard field practices and integrated scientific analyses, including micromorphology, spectroscopic and geochemical techniques on deposits and artefacts, archaeobotany, paleodiet, osteological examination of human and animal bones, and digital analysis and visualization.

Landscapes of Empires (I)

Chair: Maurits Ertsen

Dr Kristen Hopper (Durham University) and Dr Dan Lawrence (Durham University)
(k.a.hopper@dur.ac.uk and dan.lawrence@durham.ac.uk)

Politics and power on the frontier: Sasanian landscapes in comparative perspective

Using the results of fieldwork and remote sensing conducted as part of the Persia and its Neighbours Project this paper will examine the evidence for landscape transformations (investment in large-scale irrigation systems, defensive infrastructure, urban centres and the organisation of rural settlement) on several northern and western frontiers of the Sasanian Empire in Iran, Azerbaijan, Syria and Iraq. From the perspective of these diverse geographical examples, we will consider whether we can identify a Sasanian landscape signature and discuss the role of imperial policy, regional elites and local communities in shaping settlement and land use patterns between the 3rd -7th centuries AD.

Dr Andrea Squitieri (Ludwig-Maximilians University of Munich)
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The Peshdar Plain Project 2015-2017: Investigating a Major Assyrian Settlement on the Empire's Eastern Frontier (Kurdish Autonomous Region of Iraq)

Since 2015 the Peshdar Plain Project, directed by Karen Radner (LMU, Munich) and conducted under the auspices of the Sulaymaniyah Antiquities Directorate, has completed 5 excavation campaigns at the "Dinka Settlement Complex", a major Iron Age site in the Bora Plain (Peshdar district, Autonomous Kurdish Region of Iraq). The project was inaugurated after the chance find of a Neo-Assyrian tablet dated to 725 BC at Qalat-i Dinka, indicating that the area was part of the Border March of the Palace Herald that was created in the 9th century BC to guard access along the Lesser Zab to the empire's heartland. The results of the geophysical survey, the surface pottery survey and excavations indicate that the "Dinka Settlement Complex" extended over an area of ca. 60 ha, and it may have founded before the Assyrians took over the area. So far, we exposed more than 1000 m² of buildings, streets and production areas, including one for pottery production. Bioarchaeological and material data provide rich new information for many aspects of life on the eastern frontier of the Assyrian Empire, an area so far little known archaeologically. The site also provides the opportunity to synchronize Assyrian and Western Iranian pottery cultures. Finally, an ancient qanat irrigation system may have been created to provide water for this settlement. This presentation will show the recent results of the excavation campaigns at the site, framing them in the political and cultural context of the eastern frontier of the Neo-Assyrian Empire.

Dan Socaciu (University of Liverpool)
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Urartu and Assyria: The Landscape of a Border Region

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This presentation will discuss the region separating the kingdom of Urartu and the Assyrian empire, with an emphasis on its geography, both physical and political. Urartu and Assyria did not share a border, not in the modern way we think of one. The territory situated between the headwaters of the Tigris and of the Lower Zab was independent and acted as a buffer zone between the two states. The southern foothills of the mountains sheltered a number of political entities that managed to steer straight between the two crushing powers, and maintain a certain degree of autonomy, even after the initial expansion of the Neo-Assyrian Empire. Another element of this landscape is the high peaks of the Taurus Mountains, the physical barrier separating the two powerful states. The Taurus creates a great difference both in climate, and economy. The situation in this region is more complex than it seems at a first glance, and it makes it compulsory to review our ideas on how Assyria and Urartu interacted, and the nature of those interactions.

Thursday 29 March

Session VII (9 am – 10.30 am)

Approaches to Visual Culture (II)

Chair: Silvia Ferreri

Emanuele Prezioso (Independent researcher)
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Minds, Images and Creativity: Social Formation in the Late Egyptian Prehistory

The role of images in past cultures has been subject to many archaeological and anthropological studies and continues to enlighten our understandings about past communities. Nowadays, we are surrounded by icons, signs, or pictures, and as consequence our plastic brains are accustomed to coupling with these environmental stimuli. Such longstanding effects of culture on the brain should be traced along the asynchronous processes of interaction between individuals and things that delineate the human becomingness. Figurative representations more than any other material have a central role in the recursive processes that generate minds: they help to empirically reconstruct the structural alterations of individuals and groups as a creative evolution. Such phenomena can be recognised, for instance, in the figurative representations of the Late Egyptian Prehistory. On the verge of state formation, modifications in the imagery manifesting an increasing focus on the body represent the most evident change toward the control of the centrifugal forces that govern the society. Therefore, it is maintained that production and engagement with representations in cognitive environments foster the creation of similar minds and compose the social, authorising more coercive forms of power through creative innovations. Images could be seen as externalised thoughts that, subject to changes, can open up to delineate pathways of socialising complexity through creative engagement. The paper intertwines theories on the extended, embodied, and enactive mind, cognitive archaeology, and African accounts on creative power, to describe social formation as an ongoing process of interaction where things and minds recursively shape themselves.

Dr Selga Medeniaks (Trinity College Dublin)
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The Persian Threshold in the Temple of the Lydian goddess Kybebe

Among the sixth and fifth century BCE spolia from the fallen piers of the synagogue in ancient Sardis was a threshold stone carved with a distinctive Near Eastern quatrefoil pattern. This paper demonstrates that the marble block came from the sanctuary of the Mother Goddess Kybebe, built or renovated under Persian direction soon after the conquest of Lydia, describes the symbolism of the motif, and the significance of its incorporation into a Lydian sacred setting. The study sheds new light on the acculturation of Persian and Lydian religion, and assesses Achaemenid use of religious institutions in the exercise of political power during the earliest stages of their Anatolian hegemony. The research is a complementary piece to my forthcoming article on the identity and iconography of the Persian-period goddess for the *Journal of Eastern Mediterranean Archaeology and Heritage Studies*.

Kathryn Kelley (University of Oxford)
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Exploring new dimensions—not just for novelty: 3D imaging, digital cataloguing, and corpus-wide research on ancient Near Eastern cylinder seals

The pilot project “Seals and their Impressions in the Ancient Near East (SIANE)” a joint venture of Oxford University, Southampton University, and the University of Paris (Nanterre), has aimed to develop an improved capture system and digital catalogue of cylinder seals. Equipment using a structured light approach was developed by K. Martinez, D. Young, and J. Hare at Southampton University, and collects 3D data representing the seal surface and carving. The capture process aims to include essential physical information on each seal (carving and cylinder shape, size, weight, colour, and material), while also being efficient enough to enable a few researchers to document large numbers of seals—so far, we have imaged the entire collection of c. 1000 seals in the Bibliothèque nationale de France and the Ashmolean museum collection of similar size, with the images and catalogue data hosted on the Cuneiform Digital Library Initiative. This talk outlines the system that has been developed, and explores some of the potential corpus-wide research questions that may open up in relation to the database, which is intended to facilitate studies of seal carving, material, and other aspects of seals and sealing practice that reach beyond single museum collections.

Palaces and Administration

Chair: Christina Tsouparopoulou

Dr Rune Rattenborg (Durham University)
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Please Wait For Your Number To Be Called: Statistical Perspectives on the Size and Nutritional Value of Grain Rations in the Middle Bronze Age

This paper reviews the size, value, and social context of Bronze Age grain rations with reference to a textual data set concerning disbursements for more than 600 individuals found at three different Middle Bronze Age sites in the Syrian and Iraqi Jazīrah. As the primary dietary component of early agricultural societies, per capita consumption of cereals is a critical factor in understanding a whole range of aspects of past institutional economies. In the study of cuneiform cultures, base values are usually drawn either from modern ethnographic accounts (Adams 1981, Padgham 2014, Paulette 2013) or from nominal figures found in administrative cuneiform records (Ellison 1981, Gelb 1965, Stol 2004). The conversion of the latter into a useful modern equivalent relies both on a correct understanding of processes of cereal preparation and consumption and on determining the absolute value of ancient capacity measures. The range of possible benchmark figures available from the literature is, consequently, extremely wide, and may as much reflect our notion of what a person should eat, as what they, on average, did eat. Drawing on statistical impressions from multiple historical data sets, I consider here in more detail the size and nutritional value of grain rations according to gender, age, and social status of the recipient. In so doing, I offer a differentiated and empirically grounded set of averages of cereal consumption for adults and adolescents, and some critical comments on the role of grain rations as a potential source of income or means of supporting relatives.

Alathea Fernyhough (University of Manchester)
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Power Beyond the Cities: Investigating Authority and Autonomy at Haradum in Early Second Millennium B.C. Mesopotamia

Due to the long-standing and persistent urban-bias within Mesopotamian archaeology, cities have consistently been positioned as central to the state while rural sites have been firmly placed on the periphery and designated with a passive political and economic role. There has been a considerable lack of research into the Mesopotamian countryside, particularly with regard to autonomy and non-central authority, limiting our understanding of wider social, political, and economic networks and organisation. This paper confronts issues with the core-periphery model, and explores the investigation of autonomy and different forms of authority. Using the case study of Haradum (Khirbet ed-Diniye), a site in the Mesopotamian hinterlands dating to the early 2nd Millennium B.C., this paper analyses how autonomy and authority are established, enacted and performed at the town, with particular regard to political and economic power. Using a combination of various analytical and interpretive methods, three sources of evidence are explored: architecture and layout, texts, and material culture. Through this analysis, a complex landscape consisting of different spheres of power emerges. Exploration of the relationship between these spheres contradicts notions of unilateral power relations, highlighting instead degrees of interdependence, co-existence, and negotiation.

Dr Sophy Downes (Kings College London)
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The Central Conundrum: Gaps and Invisibility in Contemporary Persepolis

This paper compares the current layout of Persepolis with the plan of the site in antiquity. It argues that the paths which have been established through the reconstructed complex obscure Persepolis' original spatial principles. Notably, the addition of several doors—or more accurately gaps—on the north-south and east-west axes near the Central Building have opened up an architecture that was based on restriction and segregation: it is now much easier to walk across the site than its original architects intended. Archival research shows that the current site-paths originate in routes created during the 1930s excavations for access and spoil removal; these paths were then further defined during subsequent conservation programs. Space syntax analysis reveals that the effect of these changes has been considerable: the increased accessibility of the more secluded areas has also moved the gravity of the site eastwards, so that the western areas, particularly the private palaces and the terrace above the plain, which were originally the most significant areas, now attract less attention. This eastwards shift has also erased the original co-ordination between ground height and integration, which gave ancient Persepolis a distinctive spatial coherence.

These changes to Persepolis are relatively inconspicuous—they are effected through unmarked removal of a few wall sections—so it is easy for the visitor to miss that they are not experiencing the site's original architectural logic. This raises the question of how the ancient spatial qualities could better be signalled in the reconstruction.

Landscapes of Empires (II)

Chair: Dan Lawrence

Dr Michael Brown (Heidelberg University & Durham University)
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The Parthian Mountain Fortresses of Rabana-Merquly in Iraqi-Kurdistan: Investigations 2016-'17

The twin fortresses at Rabana and Merquly are located 1.5 kilometres apart on the western side of Mt. Píramagroon, one of the most prominent massifs in the Zagros Mountains of Iraqi-Kurdistan. These neighbouring sites initially came to the attention of archaeologists through their matching rock-reliefs. Based on numismatic parallels, supported by archaeological evidence, it is proposed that these depictions of near life-size figures represent an anonymous Arsacid King of Kings, credited with construction of the mountain fortresses during the early first millennium A.D. Both reliefs are aligned with perimeter fortifications that enclose substantial architectural remains. The settlement at Merquly was excavated in 2009 by the Sulaimaniyah Directorate of Antiquities, revealing a citadel and associated structures (Saber et al. 2014). In 2016-17, with the discovery of an extensive fortification system at nearby Rabana by a team from Heidelberg University, it was determined that both sites constitute a single cluster of occupation. This can in turn be related to long-distance communication routes, and the wider historical geography of the Parthian Empire.

Dr Katie Campbell (University of Oxford)
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The Mongols in Central Asia: Recent fieldwork at Merv and Otrar

The Mongol Conquest of the Khwarezmian Empire at the start of the 13th century apparently caused devastation and depopulation across the region. This paper aims to introduce some of the archaeological evidence for this event and the urban change which followed, at the major cities of Merv, in present-day Turkmenistan and Otrar, in Kazakhstan. Ongoing fieldwork at the sites will be contextualised by briefly outlining relevant research undertaken by Soviet and subsequent national and international teams at each site, followed by a summary of work and initial results at both Merv and Otrar. The nature of occupation at each site during the 13th and 14th centuries will be explored, as well as considering the archaeological markers indicative of conquest, destruction, abandonment, renovation and reconstruction. Applying this interpretive framework, some initial observations will be made on the situation in Merv and Otrar on the eve of the Mongol Conquest as well as indications of how each city fared through the latter part of the 13th and 14th century.

Dr.Ir. Maurits Ertsen (Water Resources - Delft University of Technology)
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Modelling Mesopotamia – Agent-based modelling for emerging power relations

Small-scale activities many thousands of years ago in southern Mesopotamia changed the capacity of such regions to sustain large populations over long periods of time. Mesopotamia's early anthropogenic irrigated landscapes seem to have emerged from short-term activities, but long term effects were massive. Water and irrigation can bring wealth and stability to communities and nations, but can also harm landscapes and food production on the long term. A narrow environmental threshold may separate stable, irrigated landscapes from unstable, over-used ones. Ancient Mesopotamia would have 'collapsed' because of salinization due to over-irrigation. However, as did the emergence of Mesopotamian society, its 'downfall' would have unfolded over centuries too. It is very likely that full scale effects of interventions are only visible by humans after some time has passed, possibly only in the next generation – which should make it very difficult for these next generations to relate the effects back to actions of their predecessors. The archaeological record of Mesopotamia is rich, and as such allows building mathematical agent-based models within which all different kinds of (human and non-human) agents 'act' and 'link' in building a computer-based society – which in this case would shape itself as the closely controlled irrigated landscapes of Mesopotamia. This contribution will show the results of first modelling efforts for early Mesopotamian agriculture. These results are based on close cooperation between modellers, irrigation experts and archaeologists. Therefore, this paper will also discuss how such cooperative efforts can be shaped in order to maximize productive outcomes.

Session VIII (11 am – 12.30 am)

Revisiting Legacy Data

Chair: Stefan Smith

Diderik Halbertsma (University of Liverpool)
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Revisiting Tell Deir 'Alla: the Early Iron Age deposits

Tell Deir 'Alla, one of the most important archaeological sites in the Jordan Valley dating from the Late Bronze Age to the Late Iron Age, was excavated by the late Dr H. J. Franken (Leiden University) during the 1960's. While the Early Iron Age sequence was published in the late '60's, it was limited to a generalised discussion of the stratigraphy, as well as a study of the pottery. Much more in-depth information is present in the raw excavation data, gathered in several boxes at Leiden University. This archive from the 1960's excavations at Tell Deir 'Alla has been made available to the author for further research and publication. The current research aims to digitise and analyse the relevant archaeological strata for further use, as well as re-evaluate several of the early interpretations made concerning the Early Iron Age, and in particular Tell Deir 'Alla's role in it. While working with legacy data is not without its challenges, it comes with many opportunities. This archive contains a wealth of data, consisting of for example excavation plans, elaborate cross-sections, photographs, find drawings, and metal samples. Most of these data have not before been subject to detailed analysis, and remain unpublished. By revisiting this old excavation archive from a modern perspective, the role of Tell Deir 'Alla during this poorly understood period can be re-evaluated. Furthermore, by evaluating the finds in relation to their archaeological contexts, our understanding of life at Deir 'Alla during the Early Iron Age can be refined.

Luca Volpi (La Sapienza - University of Rome)
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Research from the Digitalization of Cultural Heritage: Reworking on Some Graves from the Royal Cemetery of Ur, Iraq

In a period in which the southern Iraq sees a new and (hopefully) flourishing season of archaeological interest, the simultaneous definition of open-source digitalization projects make a huge amount of data accessible to many users, with ambitions ranging from simple curiosity to dissemination for scientific research. The Ur-Online Project, a collaboration between the British Museum and the Penn Museum, specifically, aims to unify all the documentation regarding the excavations at Ur (Iraq) from 1922 to 1934 (original excavation photographs, archives, plans as well as the description of all the materials stored in the museums) and to make them available in an open web database. The present research starts from the exploitation of this web source to analyze some private graves excavated in the Royal Cemetery area from 1926 to 1932 by Sir L. Woolley and dated from the "Second Dynasty" to the "Sargonic" period. Many scholars reconsidered this chronological attribution, pointing out the existence of a burial phase belonging to the last part of the 3rd Millennium BC, never specifically investigated. Thanks to the online available documentation, as well as a field research in the warehouses of the British Museum, it is now possible to attempt to reconstruct a sequence of post-Akkadian/neo-Sumerian phases of the necropolis on the basis of the material culture. The paper aims to show preliminary results of the research, to critically analyze the documentation related to these burials and to underline the role of this kind of online sources for a more widespread academic research.

Friederike Jürcke (Free University Berlin)
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Long-term Settlement Dynamics in Southeastern Iran

This paper will present new analyses of the evidence for long-term settlement dynamics in southeastern Iran, focusing in particular on the transition from short-lived Neolithic villages to the large urban settlements of the Bronze Age. Several surveys have been conducted in the 1960s and 1970s and since 2000, which have contributed greatly to our knowledge of occupation in the region. Building on this legacy data for the Bardsir and Daulatabad Plains, and the Soghun Valley, this study concentrated on local (valley) and regional (inter-valley) dynamics from the 6th to the 3rd millennium BC. On the local level, changes in the settlement pattern indicate shifting subsistence strategies as well as periods of growth and decline. Comparing the settlement trajectories of these highland communities to each other at the regional scale, highlighting periods of regional integration as well as spatial variability, may elucidate the nature of communication and cross-valley interaction in a region, where mobility and

environmental conditions are key factors. A discussion of the limitations of the data and an examination of the available evidence for early Holocene environmental conditions and climate change in such a marginal climatic environment have also been used to contextualise the observed dynamics.

Landscapes of Empires (III)

Chair: Kristen Hopper

Dr Catherine Draycott (Durham University)
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Art and Landscapes of the Achaemenid Empire

Traditionally, the Achaemenid impact on Anatolia has been judged on the basis of visual and material culture, with debates over the levels and extent of (as well as meaning of) 'Persianisation'. Margaret Cool Root long ago pointed out, however, that impact should not be judged solely in terms of 'Persianising', but according to a broader array of phenomena and products that emerged in and are representative of the period, including those which resist categorisation as 'Persian'. And indeed, there were numerous significant developments in various parts of Anatolia which can be said to have been affected by its (or better, their) incorporation into Empire, but which cannot be said to have any kind of 'Persian' cultural stamp. This paper highlights some case studies of memorial art on tombs - a vital archaeological source in at least three main ways that will be highlighted: they allow one to gather regionalism in the kinds of social identities embraced; they entail varied interactions with places, regions and landscapes in the sense of place making; and consideration of their local contexts, beyond political history, can usefully expose gaps in research on ecology and economy. This last begs proper landscape archaeologies of the Achaemenid Empire, which alongside studies of textual sources for economy, especially those in the Iranian heartland, can nuance ideas of the impact of the Empire on its territories.

Dr Damjan Krsmanovic (University of Leicester)
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A Place Between Powers? The Kızılırmak Region of Anatolia in the Iron Age

The number of excavated sites with extensive Iron Age levels in the Kızılırmak region of Anatolia presents a uniquely dense concentration of data which has the capacity to furnish detailed interpretations of the cultural and political dynamics in the centuries following the end of the Hittite Empire. Most conventional narratives have assumed a culture-historical cast and low-level of political development and complexity in the region during the Iron Age compared to the west and the south. In addition, historical narratives have cast the area as being under sway of various spheres of power such as Phrygia, Tabal and Media. In this paper, I shall put forward some new perspectives on the cultural and political workings of the region. With the Early Iron Age as time of greater population mobility, the Middle Iron Age gave rise to the gradual coalescing of small, territorially restricted centres, accounting for differentiated trajectories of development across the landscape. I shall focus in particular on the archaeological data from the sites of Çadır Höyük and Alişar Höyük, as examples of a lower-order settlement and a small centre respectively, which show political authority in the region was distributed unevenly across the landscape and through time. The foundation of Kerkenes Dağ in the later 7th century BCE will also be discussed in terms of its impact on socio-political dynamics in the wider landscape.

Andrea Titolo (La Sapienza - University of Rome)
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On the Edge of the Empire: Riverine Landscape and Settlement Patterns in the Haditha Dam Region during the Iron Age

Many recent studies have dealt with the nature of the Assyrian settlement patterns and landscape, demonstrating how diversified the former have been through time and space, adapting themselves at to the changes of the latter, with cases such as Khabur and Upper Tigris regions. On the other hand, the Haditha Dam region - ancient lands of Hindanu and Suhu - is archaeologically less known. It was the target of the Assyrian expansionism under Ashurnasirpal II and the seat of semi-independent governors who claimed to descend directly from Hammurabi. The archaeological investigations prior to the construction of the Haditha Dam, offered an opportunity to understand the nature of the landscape and revealed many sites datable to the Early I millennium B.C., some of which seemed to have a marked military nature. The region was therefore seen as a seat for fortresses and temporary encampments of the Assyrian Empire, without properly considering the environment surrounding the sites themselves. The present

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paper, through preliminary analysis of the material culture of the sites, the settlement pattern and surrounding landscape using GIS and satellite images, aim to suggest a diversified nature of both the region and archaeological sites.

Poster Presentations

Dr Piotr Jacobsson (SUERC Radiocarbon Laboratory)
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How Old is (PPNA and PPNB) Jericho?

The Pre-pottery Neolithic layers of Tell es-Sultan, located on the outskirts of modern-day Jericho, were one of the original testing grounds of the nascent 14C dating technique in the early 1950s. Various dating efforts continued at the site into the 1990s creating a labyrinth of old and older data leading to some confusion about the exact date of some of the archaeological deposits. This poster presents a Bayesian chronological model carried out on pre-screened 14C determinations from the PPNA and PPNB levels of Tell es-Sultan. It highlights some of the specific challenges involved in working with these old dates and some of the ways that the chronology of the site relates to the shape of the radiocarbon calibration curve. While providing a model free of non-quantifiable uncertainties seems to be an impossibility for the Tell es-Sultan assemblage, the current results might have implications for how the Middle to Late PPNB transition is conceived.

Latif Oksuz (Durham University, Department of Archaeology)
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Burial Customs in Anatolia during the Bronze Age

The Bronze Age saw the emergence one of the first cities and states in Anatolia. The Early Bronze Age (EBA) covers a period between around 3000-2000 BCE. This period is defined as a period of urbanization, when complex societies emerged. The Middle Bronze Age (MBA) covers 2000-1600 BCE. In this period, long distance trade increased and a lot of mixed material culture, native and foreign style, has been discovered. Lastly, the Late Bronze Age (LBA) dates to 1650-1100 BCE. During this period, Anatolia was home to several states and population groups. The most important and powerful one was Hittite. Excavations and survey materials from Anatolia help us to understand changes and variability in the mortuary practices during this time of massive social change. In western Anatolia, where pithos burials, are the norm, sites like Yortan, Karatas-Semayuk, Troy, and Demircihoyuk give us important information about ancient ways of life and social organization. Additionally, Titris Hoyuk, Birecik Dam Cemetery, Lidar Hoyuk and more sites from eastern Anatolia clarify our understanding of mortuary practices during the Bronze Age. My research project aims to synthesize the burial data for the Bronze and Iron Ages, which has not been synthesised in an overall study of geographic and chronological patterns. Placing these within the context of wider socio-political changes in Anatolia and will seek to identify and interpret space-time patterns in the representation of social identities (gender; age; hierarchies; family units); religious beliefs; spatial organisation of settlements and beliefs about death (intramural or extra mural burials) within the burial record. This poster will present the first stages of research, focussing on the Bronze Age materials, mapping its distribution.

Philipp M. Rassmann (CUNY, Borough of Manhattan Community College)
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All the Complicated Ground Stone

The study of Near Eastern ground stone tools commonly comprises of functional studies that uphold traditional constructs of ground stone. Accordingly, they served subsistence needs within the capacity of processing plant and animal based materials to enable consumption and land clearance to facilitate cultivation. But, given theoretical advances that highlight the complex histories of artifacts, holistic approaches to ground stone studies suggest the need for more complex and nuanced interpretations of ground stone. This poster presents the complexity of ground stone tool making in the Halaf settlements of Tell Kurdu and Domuztepe. Through a technological study, the poster shows how concepts related to intersectionality and ambiguity, as well as materiality, inform a new understanding of ground stone. Data from a chaîne opératoire based methodology of studying surface modifications reflects the complex process of making-using-remaking ground stone and the makers' longitudinal relationship with the various by products. The variability in tool production stages reveal the makers' continuously evolving relationships with the tools. These relationships reflect the complex daily activities of prehistoric village life.

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