

BANEA 2015 LONDON
BRITISH ASSOCIATION FOR NEAR EASTERN ARCHAEOLOGY
LONDON CENTRE FOR THE ANCIENT NEAR EAST



BANEA Conference
7-9 January 2015

Borders, Transitions and Connections

organised by

The Institute of Archaeology UCL

The London Centre for the Ancient Near East

School of Oriental and African Studies (SOAS)

Petrie Museum of Egyptian Archaeology

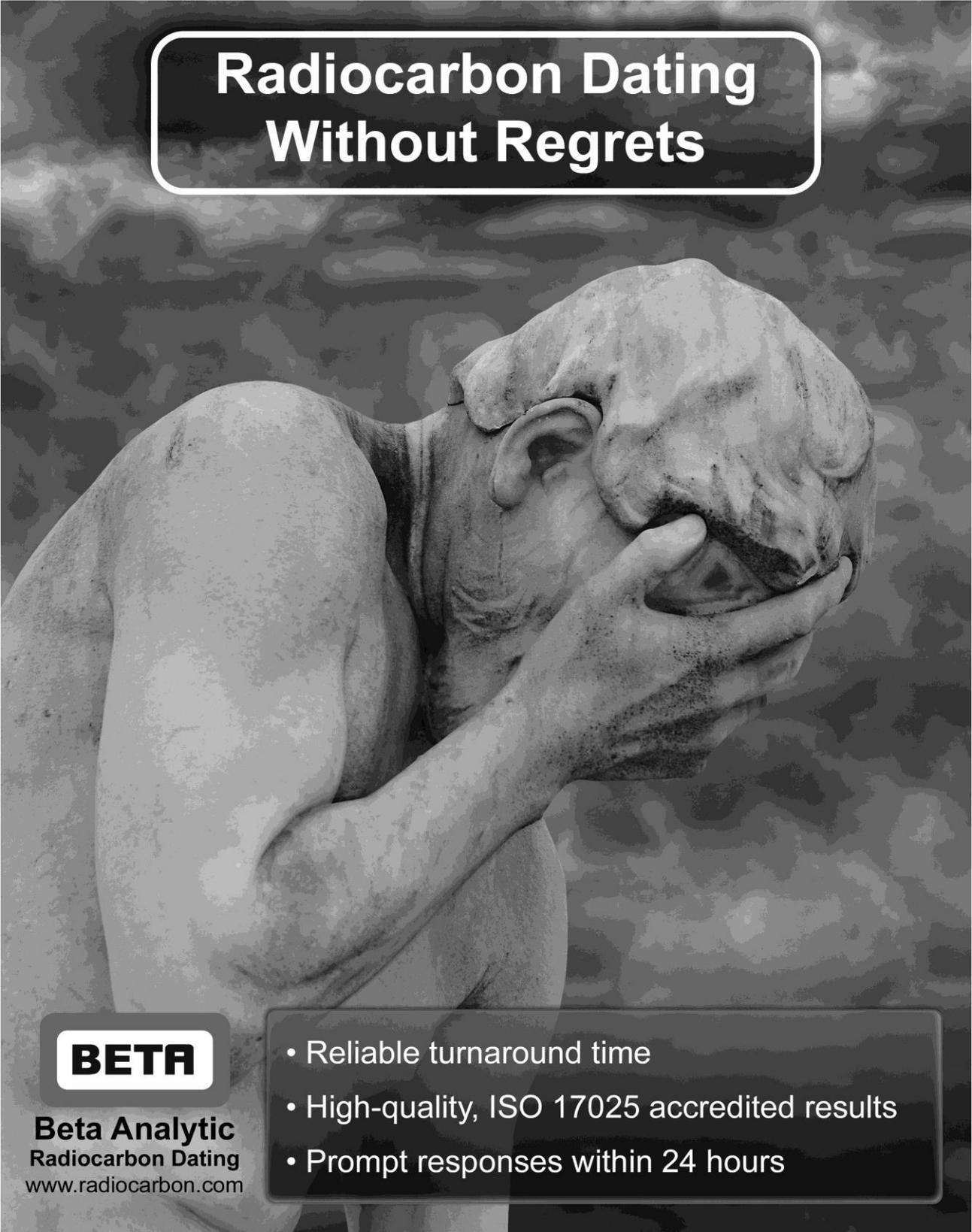
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BANEA 2015 LONDON

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LONDON CENTRE FOR THE ANCIENT NEAR EAST



Welcome to the BANEA 2015 Conference.

We are delighted to welcome so many archaeologists, academics, students and enthusiasts to a programme of over 100 papers in five streams, and hope that with everyone's co-operation we can make BANEA 2015 an enjoyable and stress-free occasion for everyone, including the organisers!

You will find in this programme the final time-table. Session chairs will gently encourage speakers to keep strictly to the limit of 20-minute papers, allowing 5 minutes for questions and 5 minutes for the audience to move between sessions. Should a speaker fail to appear we will allow gaps in the time-table so that the programme does not alter.

With the exception of Room 1.10 both Roberts' lecture theatres and Malet 1.03 have front and rear entrances. If you are settling in for a full session, please sit towards the front of the room; this will allow latecomers, peripatetic stewards and stream-changers to use the rear entrance to minimise disruption. The Institute of Archaeology LT is rear entrance only but we still suggest leaving the rear rows free for stream-jumpers.

We are very grateful to our sponsors and advertisers whose support has allowed us to maintain the cost of attendance at such a low rate, and particularly to UCL and SOAS for the provision of rooms free of charge.

With the exception of the reception at SOAS following our keynote lecture, coffees and lunches will be served in the Roberts Building Foyer which will also host the reception given by the Friends of the Petrie Museum of Egyptian Archaeology. The Petrie Museum is only moments away in Malet Place and is staying open until 8pm for delegates – if you have never visited, you are in for a treat!

In your conference pack you will find a copy of the London Diary for the Ancient Near East sent out 3 times a year to BANEA / LCANE members. Your conference fee included membership of BANEA and we encourage everyone to attend the AGM on Friday at 1.20 in the Ambrose Fleming LT.

The 'Bronze Age Connections' session celebrates Peggy Drower (Mrs Margaret Hackforth-Jones), last student, and biographer, of Flinders Petrie. Peggy excavated at Amarna and Armant in the 1930s and, as a lecturer (and Reader) in the History Department at UCL for 43 years, impressed on generations of students the value of cross-cultural, cross-discipline study.

Peggy achieved her centenary in 2012 and died in her 101st year. We wish we could say the same of Professor Tony Wilkinson who we have lost far too early. We dedicate BANEA 2015 to him and an appreciation of his career will be offered during the AGM.

Organising committee

It is with sadness that we announce the death on 25th December of
Professor Tony Wilkinson, University of Durham.

Tony enjoyed a long and distinguished career in the archaeology of the ancient world and was a pioneer in landscape archaeology and early urbanisation.

He will be missed as a colleague, friend, and mentor to generations of students.

We dedicate BANEA 2015 to his memory



POSTERS

ROUTLEDGE Poster Competition

Adam ALLENTUCK	Zooarchaeological evidence for domestic maintenance in the Early Epipalaeolithic
Barbara BOLOGNANI	A reanalysis of chamber B at Yazilikaya
Simone BONZANO	Shaping geographic oriented history: weighted COST analysis to understand ancient communication systems
Josef Mario BRIFFA	The figural world of late Iron Age Judah
Pinar BÜLBÜL	Neo-Hittite tomb stelae
Claudia CAPPUCCHINO/ Sara PIZZIMENTI	The Bronze and Iron Age sequence of the G sounding in the Lower Town at Karkemish
Lara GONZALES CARRATERO	Tracing the origins of bread cultures in the Near East
Jafar JOTHERI	To what extent may palaeochannels be accurately dated on the basis of their associated settlements?
Bülent KIZILDUMAN	Interrelations between the Karpaz peninsula and the Levant during the Bronze Age
Paulina KUCHARSKA-BUDZIK	Alexander the Great and the oriental kandys
Olivia MAVRINAC	Survey in the Qa' Shubayqa
Giulia SCAZZOSI	Living at the foot of the acropolis. A newly discovered Late Bronze I building at Karkemish
Francesca SIMI	The Tell Gomel archaeological survey
Lisa SNAPE-KENNEDY	From quartz grains to landscapes: evaluating the potential for luminescence dating of archaeological landscape features in the Transcaspien region
Li SOU	Shining new light on colour: a study of polychromy and light on Neo-Assyrian reliefs
The Routledge poster prize of a £200 Routledge book-voucher will be made at 7pm during the Friends of the Petrie Museum reception in the Roberts Foyer	

**The Petrie Museum of Egyptian Archaeology
is delighted to welcome the BANEA Conference
Delegates to a special opening of the museum
6-8 pm on Thursday 8 January**



BANEA 2015 SCHEDULE

Please be aware that this schedule may be subject to change

January 7 4-6.30pm Registration in the Brunei Gallery, SOAS, Thornhaugh Street, Russell Square					
January 7 6.30pm Keynote Lecture: Nicolò Marchetti, "Recent Excavations at Karkemish", followed by reception					
January 8 8.30am Registration in Roberts Building Foyer					
Jan 8	Roberts (G.06) Ambrose Fleming	Roberts (G.08) David Davies	Malet Place Engineering 1.03	Roberts Room 1.10	Institute of Archaeology G6
	<i>The Central Zagros Archaeological Project</i> <i>Chair R Matthews</i>	<i>Anatolia and North Syria in the Late Bronze and Iron Age</i> <i>Chair J.D. Hawkins</i>	<i>Cyprus and the Mediterranean</i> <i>Chair Diane Bolger</i>	<i>Museums and Cultural Heritage</i> <i>Chair Jon Taylor</i>	
9-9.30	R Matthews Early Neolithic ecosystems in the Central Zagros of Iran and Iraq	Ferrari et al Changing patterns. 2000 years of transformation and continuity in area C at Karkemish	Jacobsson What do the Cypro-PPN sites tell us about the nature of the M-/L-PPNB transition?	Helgestad The Ur Project: reunification and integration of finds and data from Woolley's excavations at Ur	
9.30- 10	W Matthews Continuity and transformation in social roles & relations: Representations early built environments	James Frontiers of conflict in Early Iron Age w Syria: assessing the militaristic capabilities of the Kingdom of Carchemish	Bolger Fragmented identities: social and material transformations in 3rd millennium BC Cyprus	Chmelenko Mesopotamian art in Russian museums	
10- 10.30	Bendrey The times they were a- changin': human-animal relationships at the origins of farming in the Central Zagros	Brown Frontiers and empires in the Middle Euphrates valley: results from the Land of Carchemish (Syria) Project	Chelazzi Living by the rivers: social networks and settlement patterns in south-western Cyprus during the second millennium BC	Munawar Cultural Heritage Syria	
10.30	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK

	<i>CZAP, cont.</i>	<i>Anatolia cont. Chair J.D. Hawkins</i>	<i>Syria-Levant varia Chair E Peltenburg</i>	<i>Decapolis Chair A Zerbini</i>	<i>New UCL research Chair D Wengrow</i>
11-11.30	Richardson Networks of material interaction: pXRF ...	Rutishauser Natural and political frontiers in Cilicia	Peltenburg The Early to Middle Bronze Age transition in north Syria: implications from mortuary practices	Boyer Evidence of spring-fed irrigation in the hinterland of the Decapolis city of Gerasa	Wengrow Gurga Chiya and Tepe Marani: introducing two new sites in the Shahrizor Plain, Iraqi Kurdistan
11.30-12	Whitlam et al Transitions in plant use in the Neolithic of the eastern Fertile Crescent	Montesanto Early Iron Age pottery from Çatalhöyük and Tell Afis: break or change in north Syrian frontier?	Arroyo Barrantes Mass pottery production and feasting in early Mesopotamia: the case of Tell Brak	Zerbini Landscapes of production in the Decapolis: the wine and oil industry and its infrastructure	Himmelman Halaf pottery production at Tepe Marani: Embedded traditions or superficial decorations?
12-12.30	Iversen Snails on a Neolithic mound: the molluscs of Bestansur	Maner Late Bronze and Iron Age settlements and sanctuaries of the south-eastern Konya Region	Philip et al First (artificial) light: lamps, fuels and economic activity in early complex societies	Schörner Looking at the Abila hinterland: first results of the Survey Campaign 2014	Marsh / Altaweel The search for hidden landscapes in the Shahrizor, Suleimaniyah province, Iraqi Kurdistan
12.30-1	Mudd Stone at Bestansur: continuity and change, innovation and tradition	Weeden Hittite routes to the west	Shahack-Gross et al Geoarchaeological investigation in a domestic Iron Age quarter, Tel Megiddo	Lucke Soil fertility in the Decapolis region: a victim of desertification?	Fuller New research at Jarmo: the 2014 Season
1-2	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
	<i>Combining Ethnoarchaeology session Chair E Jenkins</i>	<i>Anatolian Connections Chair M Weeden</i>	<i>Bronze Age Connections and Networks in honour of Peggy Drower Chair Jan Picton</i>	<i>Classical Antiquity and the Near East</i>	<i>Theory and method Chair S Doherty</i>
2-2.30	Palmer et al Rural settlement, house forms and oral histories in S Jordan	Heffron Stone stelae and religious space in Kültepe-Kaneš	Collins Connections in the 3rd millennium BC: a view from Kish	Franglé Hellenistic economy in Phoenicia	Sharp Discard patterns: discussions on sherd methodology

2.30-3	Vos et al Studying phytolith and geochemical soil signatures in Bedouin campsites at Wadi Faynan, Jordan	Palmisano The long and winding road: pathways of communication in the Old Assyrian Trade network	Casadei / Oselini Features in transition: contacts between the alluvial plain and the Central Tigris region between the first empires	Hicks Seal bearers in the Seleukid world	Rattenborg Configuring Mesopotamia: regional signifiers and the many locations of the 'land between the rivers'
3-3.30	Allcock et al Ethno-geochemical studies of chemistry patterns and their application in Neolithic archaeological site interpretation	Bülbül Aramaeian culture in south-eastern Anatolia	Di Pietro Patterns of change within Egyptian Predynastic settlement ceramics. The stratigraphic sondage at Nekhen 10N5W, Hierakonpolis	Stampolidis Eleutherna on Crete and the Near East	Pincé Exploring the possibilities of geochemical analyses on painted pottery of pre-Islamic Iran
3.30	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK
	<i>Ethnoarchaeology cont.</i>	<i>East Anatolia</i> <i>Chair M Weeden</i>	<i>Connections, cont.</i> <i>Chair A.T.L. Kuhrt</i>	<i>Sumerian Texts</i> <i>Chair A.R. George</i>	<i>From Syria to Egypt Varia</i>
4-4.30	Grattan et al Ancient metal mining and smelting and the modern world: ethnoarchaeological insights into the ancient world	Pulhan North of the Tur Abdin but not out of touch: excavations at Gre Amer, Garzan	Rosińska-Balik / Dębowska-Ludwin The tale of two tells. Distant but connected? Nature of relations between Egypt and the Levant during the EBA	Schmidhuber Linguistic variation and compositional strategies in Old Babylonian Sumerian royal inscriptions	Lorenzon Geo-archaeological analysis of mudbrick architecture: a case study at Tell Timai in the Egyptian Delta
4.30-5	Shahack-Gross Understanding site formation processes by combining ethnoarchaeology with geoscience methods	Bonzano Urartu in its first years: lowland and highlands in the developing of Urartian Socio-political landscape.	Hart Sacred or secular? An analysis of the rosette motif in the iconographic repertoire of the Near East, Egypt and the Aegean	Saadoon Neo-Sumerian letter-orders from Umma kept in the Iraqi Museum	Lubetski Influence of Egyptian glyptic symbols on Israelite aniconic artifacts

5-5.30	Elliott et al Modern animal husbandry in Iraqi Kurdistan	Edmonds The Relief of Tiglath-Pileser III at Mila Mergi revisited	Ksiezak Evolution of fabric use in Tell el-Yahudiyeh ware – a case of specialization in pottery production at the site of Tell el-Maskhuta during the Hyksos period		Rayne Imperial water supply and irrigation in the Balikh Valley, Syria
5.30pm POSTER PRESENTATIONS IN THE ROBERTS BUILDING FOYER					
6-8.00pm FRIENDS OF THE PETRIE MUSEUM RECEPTION IN THE ROBERTS BUILDING FOYER. THE PETRIE MUSEUM IS OPEN					
7.00pm ROUTLEDGE POSTER PRIZE PRESENTATION IN THE ROBERTS FOYER Judging panel: Dr Richard Bussmann, Dr Rachael Sparks, Dr Mark Weeden					
JANUARY 9th					
	Roberts (G.06) Ambrose Fleming	Roberts (G.08) David Davies	Malet Place Engineering 1.03	Roberts 110	
	<i>Seasonality and Society in the Early Middle East</i> <i>D Wengrow</i>	<i>Neolithic to EBA</i> <i>Chair M Altaweel</i>	<i>Bronze Age Connections and Networks 2. Papers in honour of Peggy Drower</i> <i>Chair A.T.L. Kuhrt</i>	<i>Late Antique Frontiers of Iran, the Caucasus, Anatolia and Iraq</i> <i>Chair E Sauer</i>	
9-9.30		Croucher Continuing bonds, past and present: a reinterpretation of plastered skulls in light of contemporary theories of bereavement	Pitkänen Migration and colonial encounters in late second millennium BCE Levant	Comfort Forts and the frontier – Roman and Persian remains along their common border in Late Antiquity	
9.30-10	Wengrow et al Göbekli Tepe and its Palaeolithic background: thoughts on seasonality and inequality among prehistoric hunter-gatherers	Shirai Adaptation of a Neolithic farming community to a challenging environment in Egypt	Massafra The Egyptian presence at Tell el-'Ajjul in the LB I as reflected by pottery Imports	Lawrence Canals, connections and control: investigating the landscapes of the Sasanian frontier in the southern Caucasus	
10-10.30	Roe / Martin Open season: modelling prehistoric wildlife dynamics in Epipalaeolithic and Neolithic Jordan	Robinson PPNA Social Organisation at Wadi Faynan 16, southern Jordan	Hinson Dead ringers: The adoption and adaptation in bells in Late Pharaonic Egypt	Hopper Local and regional networks on the Sasanian frontier in NE Iran	
10.30	Coffee Break	Coffee Break	Coffee Break	Coffee Break	

	<i>Seasonality and Neolithic Chronology</i>	<i>Late Neolithic-Chalcolithic Chair M Altaweel</i>	<i>Bronze Age Connections Chair A.T.L. Kuhrt</i>	<i>Sasanian cont. Chair D Lawrence</i>
11-11.30	Henton / Martin Animal tracking in prehistoric Jordan: wildlife mobility and seasonality reconstructed using dental isotopes and microwear	Flohr et al Did rapid climate change episodes affect early farming societies in the Near East?	Tucci Foreigner artisans or exotic influence? The case of southern Levantine jewellery during the Late Bronze Age	Sauer et al Enhancing natural barriers from the Dariali Gorge in Georgia to northern Iran
11.30-12	Bode et al Running dry? A multi-proxy approach to understanding seasonality at the Epipalaeolithic hunter-gather site of Kharaneh IV, Azraq Basin,	Nieuwenhuys After the first pot. The integration of ceramic containers in the Upper Mesopotamian Late Neolithic	Cancellara The transition from Late Bronze Age to Iron age in southern Levant: persistence of Canaanite culture	Hartnell Agriculture in Sasanian Persia: ideology and practice
12-12.30	Wilkinson Abroad in all weathers? The seasonality of 'interdependence routes'	Lawecka Newcomers and autochthons. Late Chalcolithic 3-5 settlement in the Upper Greater Zab area	Safadi An evaluation of the maritime accessibility and protection of Bronze Age and Iron Age Levantine harbours	Wordsworth The development of route networks on the north-eastern frontiers of Sasanian and early Islamic worlds
12.30-1	Maeda Another chronological view of the use of lithics in the early Neolithic on the upper Tigris	Ilkhani Plant exploitation patterns from the 8th to the 4th millennium BC in northern Fars, Iran: change or continuity?	Asscher et al A slow social integration of the Philistines in the southern Levant is supported by a new radiocarbon based chronology	
1-2	LUNCH	LUNCH	LUNCH	LUNCH
1.20	BANEA AGM in Ambrose Fleming	BANEA AGM in Ambrose Fleming	BANEA AGM in Ambrose Fleming	BANEA AGM in Ambrose Fleming
2pm	<i>Kurdish area, N Iraq Chair M Altaweel</i>	<i>Neolithic to EBA Chair K Wright</i>	<i>Connections Chair R Bussmann</i>	<i>Islamic Archaeology Chair A Petersen</i>
2-2.30	Skuldbøl / Colantoni Low-density urbanism and urban sprawl in the Zagros foothills, north-eastern Iraq	Smith The Barqa Epipalaeolithic project: new evidence for Late Pleistocene environments and Epipalaeolithic activity in the Wadi Faynan, Jordan	Quick literary influence and linguistic reality: adaptation, transformation, and continuity beyond the late bronze age collapse	Gutfeld Ramla excavations north of the White Mosque

2.30-3	Shepperson Fortifying Erbil: first excavations on Erbil citadel	Richter et al From hunter-gatherers to farmers in the south-eastern foothills of the Jebel Druze: The Natufian-PPNA transition in the Qa' Shubayqa	Moriconi Like the wolf on the fold': some aspects of the Neo-Assyrian imperial impact and strategies in southern Levant during the VIIth century BC	Priestman Ceramic exchange in the western Indian Ocean, AD 400 - 1275
3-3.30	Marf Deified and sacred mountains of the Zagros In the highland and lowland records	Wright Craft production, food preparation and household differentiation Çatalhöyük East and other Neolithic sites in the Near East		Berghuijs From camel to truck: Islamic occupation and punctuation in the Black Desert, Jordan
3.30-4	Coffee Break	Coffee Break	Coffee Break	Coffee Break
	<i>Neolithic to EBA Jordan, Israel</i>	<i>Neolithic to EBA Northern Syria</i> <i>Chair K Wright</i>	<i>International varia</i> <i>Chair R Bussmann</i>	<i>Islamic Archaeology cont.</i> <i>Chair S Redford</i>
4-4.30	Finlayson / Makarewicz New excavations at Beidha	Arntz Re-figuring categories. Interpreting the figurines at Late Neolithic Tell Sabi Abyad, Syria (6400-5800 BC)	Brass At the frontier of early States: zones of interaction in Sudanic north-east Africa 4th century BC to AD	Molleson Interpretation of the Modern burials from Abu Hureyra
4.30-5.	Yekutieli The renewed excavations at Tel Erani	Plug Keepsakes: grave goods as the materialization of relationships at late Neolithic Tell Sabi Abyad, Syria (6400-5800 BC)	Ichaba The traditional iron working industry in the Abuja area, Nigeria: external influences from north Africa and the Mediterranean world	Petersen Medieval and Ottoman Palestine
5-5.30	Greenfield Urban animal exploitation and bone taphonomy in the Early Bronze Age III neighbourhood at Tell es-Safi/Gath, Israel	Badreshany The dissemination of early pottery technology during the Neolithic of the Upper Orontes Valley: A petrographic perspective		

Allcock et al

Ethno-geochemical studies of activity related chemistry patterns and their application in Neolithic archaeological site interpretation

Samantha Allcock, Sarah Elliott, Emma Jenkins, Bournemouth University; Carol Palmer, Council for British Research in the Levant (CBRL), John Grattan, Aberystwyth University

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The combined analysis of geochemical methods and observations derived from ethnographic material offers a significant opportunity to investigate the impact of human activity on structural 'spaces' (Derham *et al* 2013). In this paper we explore portable-XRF derived elemental variations and comparisons with data obtained from ethnographic oral histories of a recently abandoned village of Ma'tan in Jordan as part of the INEA project (Identifying activity areas in Neolithic sites through ethnographic analysis of phytoliths and geochemical residues). The aim is to understand how particular activities and building practices e.g. hearths, food storage and plastering leave behind identifiable signatures that reflect the formation processes. We consider if these characteristic signatures can help us identify the same activity types in the archaeological record.

From preliminary comparisons to archaeological data obtained from similar activity areas, it appears that elemental concentrations are not entirely comparable between modern and archaeological material for the Neolithic settlements examined to date. The impact of 7,000 years of chemical alteration may have resulted in archaeological samples that are more homogenous than the abandoned village samples.

Allentuck et al POSTER

Zooarchaeological evidence for domestic maintenance in the Early Epipalaeolithic

Adam Allentuck, Joe Roe, Louise Martin, Danielle Macdonald, Lisa Maher, Institute of Archaeology UCL. Email: a.allentuck@ucl.ac.uk

Investigations of faunal remains from Kharaneh IV, an Early Epipalaeolithic 'mega-site' in the eastern steppe of Jordan are providing a rare opportunity to examine intra-site spatial manifestations of repeated seasonal occupations.

At Kharaneh IV dense accumulations of animal remains have been excavated from hearths, middens, pits, caches and some of the earliest and best-preserved brush hut structures in the Near East. The combination of a high density of faunal and lithic deposits and a constrained series of radiometric dates indicates that Kharaneh IV was intensively and repeatedly occupied by large groups of hunter-gatherers over the span of c.1200 years. The question of how a large community managed their food refuse within circumscribed household spaces is therefore of particular importance.

Preliminary results from taphonomic and zooarchaeological analyses indicate that the seasonally aggregating foragers of Kharaneh IV repeatedly moved organic waste away from a brush hut (Structure 1). These results also reflect practices in which particular categories of anatomically articulating portions of animal carcasses came to be associated with particular types of contexts, including the interior space of Structure 1. While refuse disposal and structured deposition are conventionally regarded as practical and symbolic behaviours, respectively, we argue that both were formal, deliberate, habitual practices that together constituted alternate forms of Early Epipalaeolithic domestic maintenance.

Arntz

Re-figuring categories: interpreting the figurines at Late Neolithic Tell Sabi Abyad, Syria (6400-5800 BC)

Monique Arntz, Faculty of Archaeology, Leiden University. Email: marntz@gmail.com

This paper addresses the Late Neolithic figurines from Tell Sabi Abyad, Syria. Figurines are a well-known find category at prehistoric sites across the ancient Near East, but archaeologists struggle with their interpretation. The paper aims to develop a contextual, material-based understanding of these clay objects.

I argue that current interpretations too often rely on iconographic analyses without being reflexive and critical about the shortcomings of such an approach when dealing with prehistoric contexts.

I offer a more nuanced analysis of Neolithic figurines by performing a contextual analysis and by examining their material properties to gain insights into their manufacture, use and subsequent discard. By analyzing figurines in this

way we can start to discover meaningful patterns within and/or between our traditional figurine categories. This may provide a more secure basis for their interpretation.

Arroyo Barrantes

Mass pottery production and feasting in early Mesopotamia: the case of Tell Brak

Daniela Arroyo Barrantes. da366@cam.ac.uk

By the first half of the 4th millennium BC, Late Chalcolithic (LC) sites in northern Mesopotamia experienced exponential area growth, reaching up to 130ha. Pottery production in this period is crucial to understanding how intensive and complex craft production was in these emerging population centres. The case of Tell Majnuna and T2, two satellite mounds of Tell Brak, Syria, is presented. Excavations revealed a series of recurrent depositions with large quantities of discarded materials, including layers with substantial amounts of pottery, animal and human bones. This evidence suggests the continuous celebration of feasts in the context of large burial episodes, and the transformation of pottery production from smaller crafting units to workshops capable of fostering mass production during the early LC phases.

This paper presents the preliminary results of the quantitative study of typology, morphological function and capacity, as well as the chronological changes in the assemblage.

Asouti

Revisiting seasonality in Near Eastern prehistory

Eleni Asouti, Department of Archaeology, Classics and Egyptology, University of Liverpool. Email: e.asouti@liverpool.ac.uk

This paper traces the uses and development of the concept of seasonality in the later prehistory of SW Asia, with emphasis in the Pleistocene/Holocene transition. Traditionally, seasonality has been widely used by prehistorians as a heuristic tool for exploring and interpreting prehistoric subsistence and mobility strategies. This paper demonstrates the potential of this concept for investigating in a more inclusive manner changing perceptions of, and engagements with, the landscape during this period.

Asscher, et al

A slow social integration of the Philistines in the southern Levant is supported by a new radiocarbon based chronology

Yotam Asscher^{1,2}; Steve Weiner¹ and Elisabetta Boaretto². 1. Department of Structural Biology and the Kimmel Center for Archaeological Science, Weizmann Institute of Science, Israel. yotam.asscher@weizmann.ac.il. 2. Weizmann Institute-Max Planck Center for Integrative Archaeology and Anthropology, D-REAMS Radiocarbon Laboratory, Weizmann Institute of Science, Rehovot 76100, Israel

The Late Bronze to Iron Age transition in the southern Levant involves the rise of small political entities such as the Philistines and Israelites following the withdrawal of the Egyptian empire from the region. The date for this transition towards the end of the 12th century BC, is currently based on historical dating and the relative chronology of events related to the arrival of the Philistines and the Egyptian withdrawal. The arrival of the Philistines is associated with destruction layers dated to the 12th century, which formed the narrative that the Philistine migration was not peaceful, and was associated with the Egyptian withdrawal.

A new radiocarbon chronology shows that the Philistines appeared in Tell es-Safi/Gath and Qubur el-Walaydah in the 13th century BC. This high resolution chronology influences the narrative of the Philistines arrival, showing coexistence between the Philistines and the Egyptians before the Egyptian withdrawal, with cultural separation in the archaeological record of more than 100 years in the coastal southern Levant.

Badreshany

The dissemination of early pottery technology during the Neolithic of the Upper Orontes Valley: a petrographic perspective

Kamal Badreshany, Durham University. Email: kamal.badreshany@durham.ac.uk

This paper will use a combination of unpublished ceramic data from Tell Nebi Mend along with data from sites surveyed in the wider Homs region and the Beq'a to investigate the development and spread of the so-called Dark Faced Burnish Ware during the Neolithic in the Upper Orontes Valley. The data from recent petrographic and ICP-AES and MS analyses indicate that closely related craft

production modes and large distribution spheres link the varied settlement landscape of the area. The data sheds light on the sharing of early pottery technology and the earliest spread of what would soon become a ubiquitous technology, reflecting the changing nature of society and economy in the Upper Orontes Valley during the Neolithic.

Bendrey

The times they were achanging': human-animal relationships at the origins of farming in the Central Zagros

Robin Bendrey, Department of Archaeology, University of Reading, Reading. Email: r.bendrey@reading.ac.uk

The emergence of animal husbandry in the Near East occurred gradually over millennia, evolving from hunting strategies and the intensification of relationships between humans and wild animals into the management of, at first, morphologically unchanged animals, generally within their natural habitats. The evidence suggests that animal domestication occurred in multiple centres of the Fertile Crescent and followed markedly different trajectories in different regions and locales before a coalesced farming package emerged.

The importance of the Zagros mountains and foothills of western Iran and eastern Iraq in the Neolithic transition from hunter-foraging to village-farming has been recognised since the pioneering investigations of Braidwood's team half a century ago. Research in this region of the Fertile Crescent has since lagged behind that in the western and northern parts. A number of recent projects, however, are providing new evidence on the nature and significance of Neolithic developments here.

This paper reports on zooarchaeological findings from recent excavations by the Central Zagros Archaeological Project at the Early Neolithic sites of Bestansur and Shimshara in the Zagros foothills of Iraqi Kurdistan that contribute new insights to this transition. The paper contextualises these findings within broader patterns of regional ecology and resource use across the Central Zagros. The study contributes, in particular, to our understanding of the origins and spread of goat husbandry in the region, but also to the complex expression of human-animal relationships in the settlement archaeology of the Early Neolithic of the Eastern Fertile Crescent.

Berghuijs

From camel to truck: Islamic occupation and punctuation in the Black Desert, Jordan

Koen Berghuijs, Leiden University. Email: koenberghuijs@hotmail.com

Long regarded as a cultural backwater beyond the fringes of civilisation, Jordan's eastern *badia* remains an archaeological blind spot in our understanding of Islamic desert societies. Recent fieldwork in the Jebel Qurma region east of Azraq has revealed a wealth of archaeological remains hidden in this marginal basalt expanse. Next to a large number of prehistoric and Roman/Byzantine sites, this inhospitable landscape of preservation yields a surprising variety of Islamic nomad campsites, open-air mosques, and cemeteries, as well as a rich (pre-) Islamic epigraphic and petroglyphic corpus. Remarkably, the archaeological record does not reflect a continuous human presence in the region, but rather displays a general pattern of intermittent temporary occupation and exploitation, with short-term oscillations detectable within the Islamic period. Drawing on results from intensive surveys (2012-2014) and excavations (2014), this paper seeks to provide a preliminary occupational history of the region from the seventh century up to the present, and to reconsider current views on the Islamic Black Desert.

Bode et al

Running dry? A multi-proxy approach to understanding seasonality at the Epipalaeolithic hunter-gather site of Kharaneh IV, Azraq Basin

Leslie Bode, Matthew Jones, Alexandra Livarda (University of Nottingham); Angela Lamb (British Geological Survey). leslie.bode@nottingham.ac.uk

This paper presents the preliminary results of a multi-proxy study examining the relationship between the archaeobotanical data, including stable carbon isotopic values, with existing zooarchaeological evidence to investigate seasonality in relation to changing water stress at the Epipalaeolithic, hunter-gatherer site of Kharaneh IV, located in the Azraq Basin.

We discuss our initial results in light of our initial hypothesis of increasing water-stress throughout the occupation, as well as implications for regional vegetation reconstructions and the patterns of subsistence and movement of the inhabitants of Kharaneh IV both on site and within the Azraq Basin. This methodology allows us to comment

with increasing confidence on the complex interplay of sociality and seasonality that the hunter-gatherers in this area may have experienced.

Bolger

Fragmented identities: social and material transformations in 3rd millennium BC Cyprus

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In this paper I look at the transformation of gendered identities during the Chalcolithic period in Cyprus by tracing the development and demise of anthropomorphic figurines and pendants. While the manufacture, treatment and use of these artefacts during the 4th millennium, as well as their sudden abandonment during the early centuries of the 3rd millennium, can be linked to changes in personal and social identities, including those of gender, these practices did not occur simultaneously throughout the island; nor did they manifest themselves in precisely the same ways, even at sites within the same region. The social transformations accompanying these changes are best understood within a larger framework of engagement between the island and the surrounding mainland during the early 3rd millennium. By focusing on some of the differences in material culture and social practice among contemporary sites in western Cyprus, we can attain a more nuanced understanding of the ways in which gendered identities were constructed—and deconstructed—at this critical point in time.

Bolognani POSTER

A reanalysis of Chamber B at Yazılıkaya: how King Tudhaliya IV "Became a God"

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The sacred subjects and royal images of the sanctuary at Yazılıkaya are carved in two natural crevices, better known as Chamber A and Chamber B. The different motifs of the reliefs of the chambers have suggested to scholars a differentiation also in the function of these areas. Textual sources and iconographical analyses give us a general idea about the ritual activities related to Chamber A. Conversely, the interpretation of Chamber B is still problematic. It has been interpreted as a place to perform royal mortuary

practices due to the presence of “the twelve gods” and the massive Sword God, who are strictly connected with the afterlife. The representation of the cartouches of Tudhaliya IV in both the chambers may reveal a semantic connection between the two areas, i.e. the depiction of the *post-mortem* divinization of King Tudhaliya IV.

Bonzano POSTER

Shaping geographic oriented history: weighted COST analysis to understand ancient communication systems

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In Near Eastern archaeology the study of ‘highlands’ is recent, with new research in the Caucasus, Anatolia and Iran: it is almost possible to talk about the birth of a ‘landscape archaeology of the highlands’.

However, there is not yet a specific methodology for the study of highlands and landscape archaeologists working in these areas use adapted techniques developed for the plains of Levant and Mesopotamia: and that is particularly true in the use of GIS, Remote Sensing and Spatial Analysis.

The study of the highlands requires a different and more contextualized approach, not only archaeological, but also addressing morphological and anthropological issues such as natural erosion, seasonal blocked communication, zonal farming and regional cohesion. One of keys to understanding these environments is the study of the rural pathways through the mountains that support the development and adaptation of the regional social structure.

In this poster, I will present a straightforward outline of a Weighted COST Surface GIS methodology of communication networks I used in Turkey and Iraq to outline the route's network of regions following archaeological, anthropological and/or historical parameters. I will present two case-studies in the first millennium BCE - Lake Van and the Koya District in Iraqi Kurdistan. In the former, the model outlined on GIS the complete route and pathways system around Lake Van and the entanglement with the coeval settlement patterns; in the latter, it has been used to plot the paths of human movement in the area before any fieldwork to plan the scheduled archaeological survey.

Bonzano

Urartu in its first years: lowland and highlands in the developing of Urartian socio-political landscape

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Urartu-Bianili (the highland kingdom that ruled eastern Anatolia between the 9th and 6th century BCE) is unusual in the historical framework of the Iron Age Near East.

Urartu-Bianili presents a fragmented socio-political organisation based on a dense network of fortresses that suited the specific natural and human environment of the eastern Anatolian highlands. It was a specific product of what should look like a well-planned 'social agency' that arose from the resilient conflict between lowlands (the valley where they settled in) and the highlands (where large semi-nomadic groups lived).

This conflict was a factor in the development of a competitive political form of domination able to expand through the valleys of the Taurus, Zagros and Caucasus ranges and to last for several centuries. How that happened is the most interesting and still hidden aspect of Urartu-Bianili's political structure, as it involves the understanding of different social-agencies, development patterns and political processes related to the entire historic development of the kingdom.

This paper will analyze the social agencies the early kings of Urartu deployed, as well as the effects these had in the development of specific settlement pattern.

A particular regard will be given to the relationship between those 'social agencies' and the regional road network of the Lake Van region in eastern Turkey, and the use Urartian kings made of the fortresses in order to seize and hold the throne in the eastern highlands.

Boyer

Evidence of spring-fed irrigation in the hinterland of the Decapolis city of Gerasa

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The Decapolis city of Gerasa lies in the eastern Ajlun highlands in northern Jordan. In the Roman-Byzantine period Gerasa was an important provincial city with road and trading links with its Decapolis neighbours and a territory of ca. 1000

km². Gerasa's water supply came from strong spring sources within 5km of the city, carried to the city and its hinterland in surface aqueducts, unlike the Decapolis cities of Gadara, Abila and Adraa in northern Jordan which in part relied on water supplied via a tunnel aqueduct system 100-km long from sources in southern Syria. The landscape is primarily hilly limestone terrain but two centrally located valleys contain rich alluvial soils. Climatically, the territory straddles the boundary between the Mediterranean climate of the highlands to the west and the steppe to the east. Today's average annual rainfall of 370 mm is variable but supports rain-fed agriculture over much of the district, with spring-fed irrigation watering the Jarash Valley and sections of a neighbouring valley. Declining spring yields in the last century have reduced the area irrigated, but evidence is presented of wetter conditions and of a probably more extensive irrigation network in the Hellenistic-Byzantine period. Epigraphic and archaeological evidence of the importance of agriculture in the local economy is also presented.

Brass

At the frontier of early states: zones of interaction in Sudanic north-east Africa 4th century BC to AD

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The Nilotic Meroitic State bounded the southern frontier of Greco-Roman Egypt from the late 4th century BC until the 4th century AD. Outbound trade from its capital Meroe involved especially elephants, gold, ostrich feathers, ebony, ivory and iron across the desert to Ptolemaic and Roman Egypt or through Red Sea ports to Middle Eastern destinations. These trade items flowed into the centre of the Meroitic State, the Shendi Reach just north of Khartoum, from pastoral societies along its frontiers. They were then redistributed outwards through a prestige-goods system whereby artefacts and materials were selected according to either their commercial or royal symbolic value. This was particularly important to the continuation of the Meroitic State which has come to be regarded in recent years as an African segmentary state where rulers did not exert as much direct control over the areas outside of the Shendi Reach as in centralised states such as Egypt.

I argue that to conceptualise the frontier peripheries of early states as conservative, relying

on innovation from the centre, is to misunderstand their internal dynamics: population movements, fluid social networks and regional exchange systems. Each zone embodied its own distinctive form of kinship and power relations which bore relation to the wider political use of their regions of the Nile.

Examining how these frontier zones functioned, facilitating trade and inscribing their social identities in the landscape reveals new perspectives on state-periphery interactions which can be applied elsewhere in the Near East where pastoral societies are also to be found on the margins of city states and empires.

Briffa POSTER

The Figural World of late Iron Age Judah

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The study of figurines of Judah in late Iron Age (8th-6th centuries BC) has focused primarily on the female figurines, generally interpreted in relation to Asherah, and to religious ritual concerned with fertility or protection. The present study moves away from this interpretative paradigm by considering the entire figurative repertoire, including also horse and rider figurines, animals, and other models. It also places greater emphasis on context, and considers particularly the intra-site distribution of the figurines. The case studies, focusing on the sites of Lachish and Jerusalem, open new possibilities for interpretation that take into account variation in figurine use across a site, and consider the implications for the production and manipulation of social identity through the use of clay figurines.

Brown

Frontiers and empires in the Middle Euphrates Valley: results from the Land of Carchemish (Syria) Project

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Between c.1350 and 717 BC settlement patterns in the Middle Euphrates Valley were transformed by overarching forces of empire. A significant and reoccurring feature of this period was mass deportation, which began with the Hittite conquest of Carchemish under Šuppiliuma I in the mid-fourteenth century BC. This phenomenon culminated with the Assyrian capture of the Land of Aštata during the reign of Tukulti-Ninurta I (c.

1233-1197 BC), leading to the almost complete abandonment of the 'Big Bend' region north of Emar. During the subsequent era of Neo-Hittite rule at Carchemish, some frontiers conversely became a focus for settlement, located at strategic intervals along major overland communications. Highlighting new results from the Land of Carchemish (Syria) Project, this paper examines the changing expression of geopolitical frontiers in the Middle Euphrates Valley and adjacent areas across the Bronze to Iron Age transition

Bülbül C

Aramaean culture in south-eastern Anatolia

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After the Aegean migration of the 2nd millennium BC the large states of the Hittites, the Mittannians and Babylon III were taken from the stage of history. In Anatolia appeared the Phrygian and Urartian states, the Babylonian Empire in Mesopotamia was replaced by Assyria and city-states established by Aramaean tribes.

Aramaean migrations started in 1100 BC continuing until 900 BC, and created the third phase of Semitic migration. The Semitic tribes which came with the Aramaean migration occupying the south-eastern Anatolia region had a simpler tribal culture compared to the previous inhabitants. Assyrian rulers fought to prevent the encroachment of these tribes.

The 10th- 11th century could be called the real Aramaean century with the establishment of the Bit-Zamani tribe in the Diyarbakır area, the Bit-Adini into the large folds of Fırat, the Bit-Agusi between the Euphrates and Karasu, the Bit-Gabbar (Sam'al) around Gaziantep, and the Bit-Brutaş tribe around Kayseri.

Bülbül P POSTER

The Neo-Hittite period tomb steles in Kahramanmaraş Museum

The Hittites were destroyed as a result of the Aegean migrations in south-eastern Anatolia and northern Syria. City-states which existed during the Hittite Empire continued their presence in this region with a similar population, traditional architecture and art from the imperial past. Many of these "Neo-Hittite States" were established in the area known in Iron Age texts as "Hatti". These city-states are present from the middle of the

12th century until the end of the 8th century. In the regions of the Neo-Hittite States have been found Luwian written texts, a large number of cuneiform text and tomb steles.

Some of these tomb steles are exhibited in the Archaeological Museum of Kahramanmaraş, the area of the Neo-Hittite state of Gurgum.

Cancellara

Amid crisis and restructuring: the transition from the Late Bronze Age to the Iron Age in the southern Levant

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The Late Bronze Age does not end in a well-planned single historical event, but with a series of difficult to detect linked occurrences. The 13th century BC shows the crisis of political, economic and social structures of the Near East. The eastern Mediterranean balance collapses. The Hittite empire collapsed, the Mycenaean centres are devastated and Egyptian power declines. Ugarit and Alalakh, the two main northern Syria cultural centres, are destroyed at the end of the century, as well as established Canaanite cities.

The resulting political vacuum promotes the arrival of new ethnic groups and formation of new political structures that produce distinctive changes in the material culture.

Not all scholars agree in placing the transition at the beginning of the 12th century BC as the regional cultural context is not uniform. In Galilee, the Jezreel Valley, and on the Acco Plain there is strong continuity with the previous period, while in the southern coastal plain the arrival of the Philistines creates a clear break with Late Bronze Age culture. In the hill country the process begins of semi-nomadic groups settling.

New distinctive elements, unknown in the previous period, occur throughout the southern Levant, interacting at various levels with the Canaanite substrate, triggering the processes of change that will form the basis of renewed political structures of later centuries.

Cappuccino / Pizzimenti POSTER

The Bronze and Iron Age sequence of the G sounding in the Lower Town at Karkemish

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The new excavations conducted by the Turco-Italian Expedition of the Universities of Bologna, Gaziantep and Istanbul, directed by Prof. Nicolò Marchetti, at the site of ancient Karkemish are contributing new information on the chronological sequence at the site. In this context, the excavation of a deep sounding in area G, at the foot of the acropolis, has been of paramount importance where we retrieved a remarkable continuous sequence, spanning some 6.59 meters, from the Early Islamic phase on the surface to the early Middle Bronze Age just above bedrock.

The poster presents the stratified materials dating between MB I and Iron III, in a sequence with no chronological gaps, supplying excellent evidence on the first settlement of the Lower Town and how it developed.

Casadei / Oselini

Features in transition: contacts between the southern alluvial plain and the central Tigris region between the first empires

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Hammurabi is considered the first king of the newly unified Babylon, whose reign spread from the southern alluvial plain of Sumer to the central Tigris region. The idea of a wide territory dominated by a great king started during the second half of the 3rd millennium BC, under Sargon, the founder of the Akkadian dynasty. Material culture gives the opportunity to prove the existence of a link between powers and people, and how this influenced the relationships reciprocally.

Taking into consideration both the northern and southern contexts of material culture (from the late 3rd to the early 2nd millennium BC), it will be possible to identify the pottery types of local origin, on the one hand, and the influences derived from contacts between north and south. In particular, pottery forms and morphological features from the central Tigris Region, especially from the Hamrin Basin, will be compared with the repertoire of the southern alluvial plain to identify both continuity and changes in local traditions during periods of foreign control, and how the central authority exerts its presence.

Chelazzi

Living by the rivers: social and networks and settlement patterns in south-western Cyprus during the second millennium BC

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The development towards so-called 'social complexity' on Cyprus during the third and second millennia BC is a widely debated question. Surprisingly little research, however, has been carried out to date on regional settlement patterns at the medium-to-small scale of analysis and on social mobility between the coastal lowlands, the middle river valleys and the foothills of the Troodos massif. The analysis of these topics may help to shed light on Cypriote 'regionalism' in the first half of the second millennium and provide further insights into land use systems, economic interaction and mobility.

Substantial archaeological data has been collected over the past 60 years, through excavations, extensive and intensive surveys and casual reconnaissance. The GIS processing of archaeological data will be contextualized into the environmental framework of the region and the social dynamics of the Cypriote Bronze Age. The aim is to highlight some trajectories in certain landscape dynamics such as the development of settlement patterns according to pre- and proto-specialized production schemes, social networks and models of mobility. This involves the tracking of changes in the organization and control of labour, the exploitation of certain natural resources and the intensity of social and economic interaction along different river drainages as well as comparisons of emergent patterns with other regions of the island.

The aim of this research is not only to re-read and re-use abundant legacy data in the light of the well-known wider social trajectories of the Cypriote Bronze Age, but also to enrich our understanding of the development of 'social complexity' in Cyprus.

Chmelenko

Mesopotamian art in Russian museums

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This paper will discuss the origins and importance of the Mesopotamian collections in the Pushkin and Hermitage Museums. The Pushkin Museum in

Moscow contains 476 works of art mostly excavated in northern Iraq by the Soviet-Iraqi archaeological expedition in 1970. In addition, there are 1319 cuneiform texts donated by Academician NP Likhachev (1862-1930) and a fine set of quality casts from the British Museum Assyrian reliefs and other purchases. The Hermitage Museum in St Petersburg by contrast originates with the private collection of the Russian royal family, diplomatic gifts and purchases.

Collins

Connections in the third millennium BC: a view from Kish

Paul Collins, Jaleh Hearn Curator of Ancient Near East, Ashmolean Museum. Email: paul.collins@ashmus.ox.ac.uk

Kish was one of the most important cities of ancient Iraq, the site of crucial political developments in the third millennium BC. Excavations of numerous settlement mounds at the site were undertaken by the University of Oxford and the Field Museum, Chicago between 1923 and 1933. Finds were divided between the Iraq Museum, the Field Museum and the Ashmolean Museum. This talk provides an overview of the excavations and ongoing work to interpret and date the finds that place Kish within an extensive network of trade and diplomacy reaching from the Indus Valley to the Mediterranean.

Comfort

Forts and the frontier – Roman and Persian remains along their common border in Late Antiquity

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The frontier between the early Byzantine and Sasanian empires before the seventh century is little known but there are interesting remains of fortifications on both sides. Several attempts have been made to identify the line of the frontier in late antiquity between the Black Sea and the junction of the Euphrates with the Khabur where Julian crossed the frontier in AD362 and which probably remained an important border crossing point until the early seventh century.

Some have argued for a frontier zone rather than a linear border. This paper will examine what is known about the fortifications, especially in the

areas south of the Taurus mountains, and what can be deduced from the archaeological and written evidence concerning the nature of the border.

Croucher

Continuing bonds, past and present: A reinterpretation of plastered skulls in light of contemporary theories of bereavement

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Drawing on contemporary sociological theories of bereavement and mourning, this paper reassesses mortuary evidence from the Neolithic of south-west Asia. Using the examples of plastered skulls and other human remains, traditional interpretations are questioned, proposing that the remains may be indicative of expressions of grief and mourning, and a desire to maintain a physical connection with the dead, in line with theories of Continuing Bonds (Klass, Silverman and Nickman 1996) and the Dual Process Model (Stroebe and Schut 1999; 2010). Finally, this paper will consider the usefulness and validity of contemporary theories of behaviour in the interpretation of ancient remains, and the role that ancient remains might play in contemporary conversations around death and dying.

Di Pietro

Patterns of change within Egyptian Predynastic settlement ceramics. The stratigraphic sondage at Nekhen 10N5W

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Archaeological investigations conducted at the ancient alluvial town of Hierakonpolis (ancient Nekhen) in 1969 and 1984 by the late Michael A. Hoffman uncovered the first well stratified deposits of Predynastic and Early Dynastic age (c. 4th-mid 3rd mill. BC) ever found on a major town site in Upper. The ceramic material was first recorded and examined by Barbara Adams (UCL Petrie Museum) and Michael Hoffman, but the detailed study and publication were never completed due to the illness and premature death of the principal investigators.

This material, a sample of which has only recently become available and re-analysed by the writer (2012-2014), can now be re-assessed in light of new comparative material coming from other sites

in the Nile Valley and the increased knowledge we have of the process of state formation in Egypt.

The aim of this paper is to discuss technological and morphological developments observable in the ceramic assemblage through the different strata at Nekhen (Square 10N5W), which might be chronologically meaningful and which are especially important as a potential reflection of other wider changes taking place within society and economy of this 'urban' centre at the dawn of the early Egyptian state.

Edmonds

The relief of Tiglath-Pileser III at Mila Mergi revisited

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The rock relief and inscription of Tiglath-Pileser III at Mila Mergi, near Dohuk, Iraqi Kurdistan, is a vital case study for Neo-Assyrian expansion, describing the annexation of the land of Ulluba on the Assyrian periphery during a period of protracted competition between Assyria and Urartu over the buffer states and 'habhu lands' of northern Iraq and south-eastern Anatolia.

First published by J. N. Postgate in 1973, the site has since remained inaccessible due to various political factors, and later studies have been based on Postgate's preliminary documentation of the relief. Revisited by the author in the summer of 2014 as a part of the Eastern Habur Archaeological Survey of the University of Tübingen, the relief has now been further documented despite its now unfortunately highly damaged state.

This presentation reports upon the current state of the relief and uses the new fieldwork to re-examine the relief philologically, historically, and archaeologically, framing it within a larger picture of frontiers in the Iron Age and Neo-Assyrian processes of expansion. A large portion of its surface was recently destroyed by looters; the author's reconstruction of the recovered fragments, now in the Dohuk Museum, is described.

Elliott et al

Modern animal husbandry in Iraqi Kurdistan: ethnoarchaeological research using scientific approaches to integrate animal, plant and environmental data

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Ethnoarchaeological research has increasingly played an important role in the understanding and interpretation of archaeological deposits. This paper will examine aspects of the modern rural village of Bestansur in the foothills of the Zagros Mountains, Iraqi Kurdistan. The research aims to understand how families use and manage their livestock within the local landscape, to elucidate links between animal and plant resources and explore possible archaeologically identifiable traces of these practices. Can these modern signatures be related to early Neolithic practices and the emergence of farming communities.

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

Ferrari / Pizzimenti

Changing patterns. 2000 years of transformation and continuity in area C at Karkemish

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The 2011-2014 campaigns of the Turco-Italian Archaeological Expedition at Karkemish, under the direction of Prof. Nicolò Marchetti of the University of Bologna, revealed a complex and continuous occupation at the site extending over several millennia. This evidence is particularly relevant in area C (in the so-called Lower Palace

Area) where, so far, eleven structural phases have been identified covering a time span of c.2000 years, from the Iron Age II to the Early Islamic period, with almost no interruptions.

Our paper examines how the use of urban and architectural space in this central area developed through time. Through a detailed stratigraphic and architectural analysis, together with associated materials, we will highlight how in phases of different cultural orientation the area has been transformed or simply re-used. Intra-site connections will be evaluated with the purpose of understanding the functional layout of the city in its various periods.

Finlayson / Makarewicz

New excavations at Beidha, southern Jordan

Bill Finlayson & Cheryl Makarewicz, CBRL, Email: director@cbri.org.uk

Diana Kirkbride's pioneering research at Beidha in the 1950s and 60s represented an important advance in knowledge about early Neolithic settlements, but since then new work, especially in northern Syria and, within Jordan, on large Late PPNB settlements had largely eclipsed the significance of Beidha. Recent work on the PPNB of southern Jordan has re-established an interest in local early developments in the PPNB. The large structure of Building 37 at Beidha was partially excavated by Kirkbride, but its full significance was not realized at the time as no other structures like this had yet been excavated elsewhere. Its potential similarity to the communal structures subsequently excavated in Syria was noted when the Beidha architecture was published, but no radiocarbon samples had been taken, only half the building area had been excavated, and the interior features in the floor had not been examined. A field season was conducted in spring 2014 to reinvestigate and sample this building, and this presentation will report on the results of this research.

Flohr et al

Did rapid climate change episodes affect early farming societies in the Near East?

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Climate change has often been cited as a factor in socio-economic change as observed in the archaeological record. Around 8200 years ago (ca 6200 cal BC) the potentially most profound climatic event of the Holocene took place, which caused cooler and more arid conditions globally (the '8.2 ka event'). A similar arid event, although smaller in magnitude, took place around 9200 years ago. In the Near East, effects of the latter have not often been studied yet, but the 8.2 ka event has been linked to the abandonment of sites, the spread of the Neolithic, changes in settlement patterns, and local adaptation strategies, such as increased mobility and subsistence changes. However, claims that such developments were triggered by climatic change are in almost all cases disputed. Our aim was to re-assess current evidence for changes in societies at the time of both the 9.2 and 8.2 ka BP climatic events. As synchronicity is a key prerequisite (although not evidence) for a causal link between climate and socio-economic changes, we focus on dating evidence, using Bayesian modelling and GIS. In this paper we present results from throughout the Near East and show that early farming societies were more resilient in the face of severe climatic change than often thought.

Frangié

The Hellenistic economy in Phoenicia and Transjordan: the case of Beirut and Tyre

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Within the framework of my research on the Hellenistic Near East, and as a direct result of my PhD in which I undertook pioneering analysis on the Hellenistic economy of Beirut extended to southern Phoenicia, the trade in the Mediterranean and the role of the Phoenicians in the Hellenistic economy, I was given the opportunity to expand my research on the Near Eastern economy through current projects in Lebanon and in the Jordan Valley.

The Hellenistic period is marked by a turning point in the political and economic context of the region, especially after the Roman expansion in the Mediterranean. As shown by the analysis of archaeological data and historical sources, the port area of Beirut and many other coastal cities developed in a considerable way throughout this period. At the same time, the Berytians and the Tyrians were the most significant colonies to be

found in Delos and Puteoli, which were hubs for the International trade in slaves and products like perfume, spices, oil, corn, salt, textiles, etc.

This presentation aims to present new data and an update about the coastal economy and the Mediterranean activity of Beirut and Tyre during the Hellenistic period, as well as research perspectives about the organization of the economy and the social structures of the exchange on the Phoenician coast.

Frangié, D., *Hellenistic Beirut: from the Persian period harbour to the Augustean colony, (Beyrouth hellénistique: du port de l'époque perse à la colonie augustéenne)*, University of Paris 1, 2009.

Fuller

New Research at Jarmo: the 2014 Season

Dorian Fuller, Institute of Archaeology UCL. Email: d.fuller@ucl.ac.uk

Jarmo has a prominent place in the history of research on the origins of agriculture and the methodological developments of problem oriented archaeology. However, research there preceded the development of flotation and sieving for the recovery of plant and animal remains, as well as small finds like lithic debitage. New research has focused on excavation through a context system with large scale flotation and sieving. This included three areas of excavation, one focused on late ceramic midden, another focused on an area of buildings and a third focused on a deep step trench to recover a full site sequence. All of these units can be tied directly to the plan and stratigraphy of Braidwood and with 169 flotation samples we can already make significant improvements on the earlier work of Helbaek.

Gonzalez Carretero POSTER

Tracing the origins of bread cultures in the Near East. Introducing ethnoarchaeobotany and experimental archaeobotany at Neolithic Çatalhöyük

Lara Gonzalez Carretero, Institute of Archaeology. Email: lara.carretero.13@ucl.ac.uk

Archaeobotany is the science of studying ancient plant remains to attempt to reconstruct and interpret the environment of past societies. This is rather problematic when trying to recreate daily life and domestic activities such as food preparation and cooking practices. Previous

archaeobotanical research at Çatalhöyük has mainly focused on agricultural production practices, storage facilities and the disentanglement of dung fuel and crop-processing as sources of seeds. Very little attention has been paid to the study of present traditional societies and how these interact with plant resources on daily basis.

The current study integrates archaeobotanical analyses of unstudied plant evidence, such as amorphous organic residues originally identified as 'bread', combined with the archaeological and ethnoarchaeological study of artefact assemblages (ovens, clay balls, pots, ground stones, etc.) and food preparation following traditional Turkish recipes.

Microscopic and SEM analyses can directly compare charred modern experimentally prepared specimens with ancient examples to establish whether they are indeed bread, or dough or any other cereal preparation. It may also be possible to identify the cooking processes, techniques and ingredients that led to the preparation and creation of these Neolithic meals at Çatalhöyük.

Grattan et al

Ancient metal mining and smelting and the modern environment: ethnoarchaeological insights into the ancient world

John Grattan, David Gilbertson, Russell Adams, Carol Palmer, Emma Jenkins. jpg@aber.ac.uk

The Wadi Faynan in southern Jordan was a centre of ancient copper mining and smelting for several thousand years. A research campaign which has lasted over a decade has identified metal processing and smelting activities from at least the Chalcolithic to the Byzantine era. Analyses of metal distribution, cycling and accumulation in the modern environment may yield insight into the environmental consequences of these activities in the ancient world. This paper presents the results of a survey of copper concentrations in the floor sediments and prepared food in modern Bedouin tents. It is clear that modern domestic activity may lead to enriched concentration of metals to levels which are dangerous to human and animal health. A broader survey of metal concentrations accumulated in the tissues of plants and animals further illustrates the comprehensive contamination of the modern environment by ancient industrial activity. We may therefore interpret analyses of metal accumulation in

archaeological contexts and explore the potential impacts of these in the ancient world.

Greenfield et al

Urban animal exploitation and bone taphonomy in the Early Bronze Age III neighbourhood at Tell es-Safi/Gath, Israel

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Tell es-Safi/Gath, Israel is now recognised as one of the major urban centres for the southern Levant with an extensive area of Early Bronze (EB) II/III settlement. It was surrounded by a large fortification wall that encompassed c.25 ha of urban settlement. Intensive excavation of a non-elite urban neighbourhood over the past decade has allowed definition of the nature of urban residences and lifestyles. Structures appear to be sturdy small multi-room houses, with a courtyard, and in few cases a small storage room. This paper describes the analysis of the zooarchaeological assemblage from the uppermost levels of the neighbourhood dating to the EB III. It will show that while most animals are domestic livestock, there is in fact a wide range of both domestic and wild animals exploited in urban contexts. Occupants had access to long-distance and local trade goods, used various recording methods, and sacrificed expensive animals best known for transporting goods. Consideration of the taphonomy of the assemblage raises questions as to how much of the faunal assemblage is due to subsistence versus bone tool production and use.

Gutfeld

Ramla excavations north of the White Mosque

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According to contemporary Arab sources, the city of Ramla was founded ca. AH 93-96/712-715 CE by Suleyman II, son of the Umayyad Caliph Abd al-Malik, to serve as the administrative capital of the southern province of Israel, Jund Filastin.

Salvage excavations were conducted in the civic centre of Ramla north of the White Mosque in summer 2014, revealing a stone-paved street running east-west, parallel to the White Mosque, lined on the south with shops and with what appears to be an open market adjacent from the north. At least ten shops were found, in one of

them the remains of an *Opus Sectile* pattern made of marble, limestone and Dead Sea stone (Bitumen), mixed with a huge amount of mother of pearl and thousands of blue and green *tessera* glass stones. Remains of a water tower were discovered, along with an impressive water channel that led to a reservoir. The arches of the reservoir were looted in the Mamluk period, but impressive cross shaped pillars were uncovered on the massive plaster floor of the pool. The wide (1.80m) walls of the reservoir preserved to a height of 7m, are plastered with a thick hydraulic gray plaster. A fragment of an Arabic inscription with a Hijra date was found on the floor of the reservoir.

Industrial remains dated to the Abbasid and early Fatimid period were found. The area was interrupted at the height of its development by an earthquake probably in 1033, which essentially destroyed Ramla.

Hart

Sacred or secular? An analysis of the rosette motif within the iconographic repertoire of the Near East, Egypt and the Aegean

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My PhD research, which investigates the prolific use of the rosette motif in the Near East, Egypt and the Aegean regions during the Bronze and Early Iron Ages, utilises a multi-disciplinary approach to the visual interpretation of the motif, encompassing archaeology, art history, anthropology, and even studies into human perception and cognition, in order to examine the role of this particular motif from a broad contextual and conceptual background.

The role of art as a visual code of communication has long been examined with symbols found on material forms being vehicles for the non-verbal communication of complex ideas to others. Taking the perspective, in my examination and analysis of the rosette motif, to be that of a means of non-verbal communication, I intend to demonstrate in this paper, through comparative data derived from the prolific visual depictions of the rosette, both similarities and differences in its cultural and contextual use within the Near East, Egypt and the Aegean. Through the analysis of this evidence I aim to further illustrate the potential transfer and transformation of such visual imagery, and its

associated contextual use, with reference to a specific case study.

Hartnell

Agriculture in Sasanian Persia: ideology and practice

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Data for the political economy in the highlands of Sasanian Persia is relatively limited, leading researchers to suggest that agricultural development and the level of urbanism in the region was limited. This article will present new survey data for settlements and agriculture in the Kur River Basin, in order to discuss a specifically-highland understanding of Sasanian agricultural practices, the extensification of agriculture, and the implications of this strategy for the social organization of Persia. Finally, the paper will consider the ideological concepts that framed the specific techniques used for Sasanian agriculture in the highlands and elsewhere.

Heffron

Stone stelae and religious space in Kültepe-Kaneš

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Architecturally bounded religious space in early second millennium Anatolia, neither formulaic nor monumental like the centrally administered temples of the Hittite state, presents a greater interpretative challenge. Cultic settings of this period are best described as shrines or small sanctuaries presumably at the disposal of small communities. A concurrent yet distinct sphere of ritual activity is also recognisable at the household level, confined to the physical context of the domestic house and defined by the private concerns of the family. This particular sphere is conspicuous at the site of Kültepe-Kaneš, especially in a small number of ordinary private houses furnished with a distinct type of cultic installation, namely stone stelae. Associated with a variety of other symbolically charged elements (such as ritual vessels, foundation or votive deposits), the Kültepe stelae are a stark testimony to the practice of delineating permanent, formalised ritual space within otherwise domestic settings.

This paper explores interpretative frameworks for understanding the ritual use and social meaning of

stone stelae within *kārum* period society, the mixed Assyro-Anatolian composition of which is identified as a particularly significant backdrop.

Helgestad

The Ur Project: reunification and integration of finds and data from Woolley's excavations at Ur

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In this presentation we introduce the Ur Project, and the online resource we have created. The project is an ambitious collaboration between the British Museum and Penn Museum to digitize all the extraordinary material from the ancient city of Ur. The current phase of the project started in July 2013, with lead support from the Leon Levy Foundation. The project is digitally reunifying the finds from Sir Leonard Woolley's excavations in the 20s and 30s, as well as the excavation archives, including the original photographs and the field notes.

Our state-of-the-art online facility fully integrates this abundance of information. In this presentation, we will for the first time display a live online version of the database and website.

Henton / Martin

Animal tracking in prehistoric Jordan: wildlife mobility and seasonality reconstructed using dental isotopes and microwear

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The eastern Jordan steppe hosted regionally unique Epipalaeolithic and Neolithic gazelle-hunting sites, with evidence for vast aggregations in the former, and dedicated single-species kill-processing activities in the latter. These sites raise questions as to how hunting strategies were linked with the seasonality and mobility of prey animals.

We present here our methods for approaching the prehistoric seasonal mobility and behaviour of steppic wildlife, focusing on gazelle, including the establishment of local isotope baselines (from published sources and new plant data), and the use of dental microwear. We then present pilot results of these analyses applied to archaeological gazelle dentitions.

The techniques greatly refine and complement the zooarchaeological data from eastern Jordan, allowing exploration of how wildlife behaviour

underpinned prehistoric hunter-gatherer use of the steppe. Distinct seasonality-driven models of mobility and resource-use emerge, in which hunter-gatherer engagements with their surrounding animal life was central to their social organization, in terms of negotiating access rights, territories, landscape knowledge, and also resource sharing and exchange.

Hicks

Seal bearers in the Seleukid world

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Most documents produced within the Seleukid empire were written on parchment or papyrus, and have not survived the intervening centuries. However, many thousands of clay bullae which once sealed such documents have been found at Seleukid sites, including Seleukeia-Tigris, Uruk and Tel Kedesh. On these bullae are impressed a wide range of seals, with a diverse range of motifs, including gods, portraits, animals and objects, as well as dynastic motifs and legends referring to taxes and officials.

The largest group of sealings (*ca.* 25,000 extant examples) comes from the 'Archives Building' at Seleukeia-Tigris, which has been characterised as a civic repository where inhabitants stored documents of personal importance. Through comparison with similar material from Achaemenid sites, in particular Persepolis and Daskyleion, as well as analysis of the sealing practices used for cuneiform tablets, this paper will explore this problematic categorisation of Seleukid seal-bearers into 'official' and 'private' categories, and investigate the interactions of individuals both with and within the Seleukid administration. I will conclude by assessing the extent to which the evidence of the bullae allows us to posit continuities between Achaemenid and Seleukid administrative systems.

Himmelman

Halaf pottery production at Tepe Marani: Embedded traditions or superficial decorations?

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This paper aims to investigate the Late Halaf pottery from Tepe Marani in the Shahrizor plain of Iraqi Kurdistan, focusing on raw material selection and processing. In addition to macroscopic analysis of the assemblage excavated in 2013 and

2014, a total of 25 fine ware and 26 coarse ware potsherds were studied by thin sectioning and portable x-ray fluorescence. The results suggest that the raw materials were all from a local source. They also show that with the exception of the addition of plant temper, the raw material selection and processing was the same for both fine and coarse wares. The recipe used is generally consistent with fine ware pottery from other Halaf sites (such as Tell Arpachiyah, Tell Halaf, Chagar Bazar, and Domuztepe), but not for the coarse wares. The assemblage from Tepe Marani displays regional variation within a larger Halaf pottery-making tradition, and suggests varied levels of interaction between the Shahrizor plain and other sites within the Halaf cultural sphere.

Hinson

Dead Ringers: The adoption and adaptation in bells in late Pharaonic Egypt

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Bells are attested since the 1st millennium BC, apparently invented in the east and rapidly transmitted westwards. This paper focuses on the introduction of bells into Egypt from the Near East, and their earliest use there, between the middle of the Third Intermediate Period (c.1069-664 BC) and Late Period (c.664-332 BC). The initial use of bells in Egypt has received very little scholarly attention, despite showing a complete re-interpretation of the material culture.

The Egyptians treated bells in an entirely unprecedented manner; rather than being both instruments and ritual objects, as consistently elsewhere, late Pharaonic bells were placed universally in children's graves, identifying them with a context and social group with which they were hitherto not associated. This has never satisfactorily been explored – was such practice an extension of Near Eastern custom, or were bells given new agency based on existing Egyptian beliefs? This paper therefore aims to address questions which have been to this point overlooked - why bells were first introduced into Egypt, how they were re-understood, and what significance they held during this initial period of adoption. After a brief summary of the significance of bells in the Near East, contrasted against their earliest Egyptian use, possible interpretations of the Egyptian evidence will be explored - in the light of both pre-existing Egyptian religious practice and Near Eastern uses

and beliefs - to see if these concepts can help untangle the issues surrounding the employment and reinvention of bells in Late Pharaonic Egypt.

Hopper

Local and regional networks on the Sasanian frontier in NE Iran

Kristen Hopper - Durham University. Email: k.a.hopper@dur.ac.uk

The Sasanian frontier of north east Iran is characterised by the Gorgān Wall, which would have controlled movement across the Gorgān Plain. While the location of the wall was not constricted by the natural environment, it was very much influenced by it, roughly following the course of the Gorgān River and the natural divide between the rain-fed foothills of the Alborz mountains, and the semi-arid steppes to its north.

The number of archaeological sites and irrigation features in the southern half of the plain, as compared to the north, indicates dense sedentary occupation in most periods from the Neolithic to the present day. However, historical and ethnographic sources also underline the importance of the steppe for mobile pastoral and agro-pastoral groups which tend to leave fewer direct traces. Picturing this frontier as dividing the arid from the sown denies the multiplicity of subsistence strategies, economic activities and community interactions that utilised both these landscapes.

As there is limited evidence for Sasanian period route systems in this region, nodes in the network (such as sites and resource exploitation areas) have been combined with data on topography, roads, and seasonal pathways of movement in order to better understand the connectivity of the region.

As well as reviewing the evidence for these networks this paper will also discuss the sensitivity of these interpretations to shifts in chronology that occur when bringing together large amounts of data from multiple archaeological surveys and sources

Ichaba

The traditional iron-working industry in Abuja area. Nigeria: external influences from north Africa and the Mediterranean world

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The Taruga iron smelting site provided the earliest evidence of the Nok Culture iron-smelting technology c. middle of the 1st century BC, and falls within the Abuja area of central Nigeria. The possible origin(s) of the iron smelting technology in the area is not well established due to the paucity of archaeological records. However, the possibility of external influences from north Africa and the Mediterranean cannot be ruled out, judging by several centuries of trade and cultural contacts via the trans-Saharan trade.

This paper which is based primarily on historical field research on the iron-working industry in the Abuja area in the 18th and 19th centuries, throws light on the changes in the industry as a result of external influences from north Africa and the Mediterranean. The paper posits that the trans-Saharan trade was a medium of technological and cultural influences from north Africa and the Mediterranean to the western Sudan for several centuries before the 19th century.

Ilkhani

Plant exploitation patterns from the 8th to the 4th millennium BC in northern Fars, Iran. Change or continuity?

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Plant macro-remains from three multi-occupation sites in northern Fars were employed to reconstruct the nature and patterns of plant exploitation from the 8th to the 4th millennium BC. The analysed archaeobotanical data for this study derive from the sites of Rahmatabad, Nurabad and Mehrali, each of which covers a long sequence of occupation.

Fars highland is an area characterised by great diversity in natural resources, witnessing significant cultural and economic developments and transformations from the Neolithic to the late Chalcolithic periods. The main objective of this research is to evaluate whether any significant changes took place in the use of plants through time by prehistoric people in this region. The results of seeds and wood charcoal analysis of this

research indicated exploitation of relatively diverse natural resources for different purposes, such as food, fuel and fodder for animal.

The research also showed some local strategies in woodland management through time, based on wood charcoal analysis. Overall, the analysed plant assemblage allowed us to obtain the first direct evidence of plant resource exploitation by prehistoric societies in northern Fars advancing our understanding of prehistoric subsistence strategies during the Neolithic and Chalcolithic periods.

Iversen

Snails on a Neolithic mound: the molluscs of Bestansur, Iraqi Kurdistan

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The focus of many studies of archaeological molluscs is what they can tell us about past environments and/or diet and this has influenced the collection and analysis of the material. Molluscs have been found at a number of Neolithic sites in the Zagros but the reporting of their presence has been disappointing. The remains of *Helix salomonica* are ubiquitous at Bestansur and the excavation, sampling and recording methods employed allow us to map the activities of preparing, eating and discarding of molluscs at the site. The recovery of molluscs from heavy residue (following flotation) is combined with other data to enhance and confirm spatial variation of mollusc-related activities. The results show that the different activities took place in distinct areas of the site and suggest communal participation.

Jacobsson

What do the Cypro-PPN sites tell us about the nature of the M-/L-PPNB transition?

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There are periods in prehistory when the radiocarbon calibration curve shapes our perceptions of the past. This is well recognized in case of calibration plateaux – periods when calibrated ranges of radiocarbon determinations become too imprecise to tell whether a particular process is taking several decades or several centuries. However, sharp drops in the calibration curve also pose a challenge, as they can over-emphasize the rapidity of transitional periods and

hence obscure their interpretation. One such drop is present around the time of the transition between the Middle and Late PPNB periods. On Cyprus this transformation is associated with the shift from the *Ancienne B* to *Moyenne* phases at Parrekklishia– *Shillourokambos* and activity at Krittou Marattou – *Ais Yiorkis*. The available radiocarbon dates from these sites indicate that the transition on the island was taking place as early as 7650 cal BC and hence well before the break in the curve. When compared to the dates of the transition on the mainland, these results hint at the possibility that the changes associated with it happened over several generations and so questions can be asked as to how acute they were for the people who experienced them.

James

Frontiers of conflict in early Iron Age western Syria: assessing the militaristic capabilities of the Kingdom of Carchemish, c.1000-717 BC

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This presentation will seek to expand the traditional narrative of Early Iron Age military history in western Syria by shedding light on the militaristic capabilities of the Carchemish, a culture that has been extensively studied, but as yet has never been the subject of an intensive conflict themed study for the era in question. This discrepancy in our records can largely be attributed to the rise and expansion of the Neo-Assyrian Empire, whose sources have completely dominated Early Iron Age military history studies.

This presentation will analyse the conflict-related sources associated with the Neo-Assyrian Empire's rise to power in 9th-8th century BC western Syria in order to ascertain whether the armies of the empire were as overwhelming as the texts suggested. Can a place in Early Iron Age military history be reserved for smaller kingdoms, such as Carchemish, Sam'al, and Gurgum, or were their achievements simply too inconsequential to be of any note?

This analysis will also seek to avoid the traditional arguments used to assess combat potential, such as an overreliance on technologically superior weaponry to explain how wars were won, by employing a more encompassing approach evaluating leadership, recruitment, logistics and tactical manoeuvres equally. I will suggest some alternate theories on how conflict-related events unfolded in and around the lands of the Kingdom

of Carchemish from around 1000 BC until the city finally fell to Neo-Assyrian invaders in 717 BC.

Jotheri et al POSTER

To what extent may palaeochannels be accurately dated on the basis of their associated settlements?

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Many researchers argue that a systematic survey of all existing settlements in a given region, dating the pottery and plotting them on period maps, would show that they are arranged in linear patterns following the lines of the palaeochannels present in that region during that period.

We test this argument by determining the age of palaeochannels using radiocarbon dating and comparing the estimated date with the age of the associated settlements. The Kut area in the southern Mesopotamian floodplain was selected as the subject of the case study. The research was carried out using a combination of geological, geomorphological, historical and archaeological approaches, in addition to remote sensing and sample collection for radiocarbon dating.

As a result, three significant channels were reconstructed and carbon dated: the Dijla-Alaoura, the Dujaila and the Gharraf. The Dijla-Alaoura channel, which is believed to be the ancient Tigris, started running in Cal BP 2760 while the oldest associated settlements are from the Parthian period (2280-1526 BP, i.e. 330 BC-224 AD). The Dujaila channel, near the Islamic city of Wasit, started running in Cal BP 1520 while the oldest associated settlements are from the Sasanian period (1526-1314 BP, i.e. 224-636 AD). The Gharraf channel, a modern branch of the Tigris, started running in Cal BP 660 while the oldest associated modern settlements date from Ottoman period (651 BP, i.e. 1299 AD).

Kizilduman et al POSTER

Interrelations between the Karpaz peninsula and the Levant during the Bronze Age

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The north-eastern part of the island of Cyprus, the Karpaz Peninsula, is only 120km from Levant's harbour cities, and the predominant sailing winds and currents in the eastern Mediterranean made the peninsula an integral part of Bronze Age sea routes. Sandy, sheltered, beaches between the villages of Kuruova, Kaleburnu and Dipkarpaz provided natural harbours.

New surveys have been conducted in the area, previously neglected by archaeological research, and serve to put this region firmly into place as part of the economic network of the Late Bronze Age. In addition, they provided substantial data for a re-assessment of the political structures of Bronze Age Cyprus and its links to the Mediterranean sea trade.

Our study is based on material and evidence found during this survey in the Karpaz, as well as on preliminary results from the Kral Tepesi/ Vasili salvage excavation. This was complemented by new palaeographical data and comparisons to archaeological and textual evidence from contemporaneous sites and cultures surrounding Cyprus. The settlement of Nitovikla near Kuruova can be dated from Middle Cypriot III to Late Cypriot II, whereas the excavation results from Kral Tepesi/ Vasili all belong to the transition period from Late Cypriot II to III. Further interdisciplinary research is planned.

Ksiezak

Evolution of fabric use in Tell el-Yahudiyeh ware – a case of specialization in pottery production at the site of Tell el-Maskhuta during the Hyksos period

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Middle Bronze strata at the site of Tell el-Maskhuta in the Wadi Tumilat (eastern Nile Delta) provided a broad variety of pottery, representing not only vessels commonly found throughout

Egypt but also an interesting repertoire of imported ceramics and their local imitations. One of them, the so-called Tell el-Yahudiyeh juglets, belong to a distinct group of vessels from the late Middle Kingdom and Second Intermediate Period, all sharing red or brown to black burnished surfaces and in many cases white incised/punctuate decoration.

Ceramic material recovered from the MB/SIP layers at Tell el-Maskhuta exhibits interesting changes in fabric use, particularly evident in red/brown vessels. Originally identical to their black equivalent, in later phases they tend to be made of materials more common among other classes of pottery, while the previous type remains relatively unchanged. The continuous use of one fabric group in black juglets may be linked to its specific physical properties, which required the desired dark surface colour. If it was not a requirement for red/brown vessels other fabrics might have been gradually introduced, and after an experimentation phase became the major material used in production of this specific type of Tell el-Yahudiyeh ware.

This presentation will focus on the evolution of fabric use over 120 years, and explore the issue of an emergence of a separate sub-type of traditional Tell el-Yahudiyeh ware during the Hyksos period in Ancient Egypt

Kucharska-Budzik POSTER

Alexander the Great and the oriental kandys

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The kandys was an over-garment used by the Iranian people. Ksenofont (Xenophon) states that men of high social status wore this type of a cloak, which is iconographically supported by Achaemenid and Greco-Persian works of art.

In Attic art, depictions of the kandys appeared at the end of 5th century AD and in Athens the kandys was adopted by women and children, who also modified the style of wearing it. After approximately 100 years of popularity it was no longer used.

The kandys seems not to have reached the Macedonian kingdom as there are no evidence for it having been worn there before the time of Alexander the Great. This ruler adopted many elements of Iranian costume but ancient sources, state that he rejected the kandys.

This poster proposes the bold thesis that the Poros decadrachms prove the contrary because Alexander the Great is depicted upon them most probably wearing the kandys.

Ławecka

Newcomers and autochthons. Late Chalcolithic 3-5 settlement in the Upper Greater Zab area (Kurdistan Autonomous Region, Iraq)

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In the Late Chalcolithic 3-5 period, starting with the Early Middle Uruk at about 3700 BC and continuing till c.3100 BC, the still widely debated phenomenon of the so-called "Uruk expansion" took place. As a result of this process many components of the southern Mesopotamian material culture (pottery, seals and seal impressions, architectural plans, clay wall-cones etc.) were spreading out even to the far-off regions outside the primary Uruk culture territory. The "Uruk expansion" episode is reasonably well investigated as far as the western part of northern Mesopotamia is concerned, but the state of our knowledge relating to the area east of the upper Tigris river is definitely meagre and inadequate.

The picture which emerged in northern Mesopotamia as a consequence of these developments is rather complicated: we deal there with sites representing purely southern Uruk culture, southern enclaves in local settlements, sites with mixed features, as well as settlements with local, indigenous northern culture. The Upper Greater Zab Archaeological reconnaissance project (UGZAR) directed by Dr Rafał Koliński (Adam Mickiewicz University, Poznań) has been working since late in 2012 in the upper part of the Greater Zab valley.

In my paper I will present the data pertaining to the Late Chalcolithic 3-5 period amassed during our survey activities (2012-2014). Despite the relative remoteness of this region the Uruk culture influence is still clearly visible in the southern part of the area, while in the northern part only sites with local, indigenous pottery were found.

Lawrence

Canals, connections and control: investigating the landscapes of the Sasanian frontier in the southern Caucasus

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The landscapes of the Sasanian Empire are well known for a variety of massive construction projects, including substantial linear barriers, networks of fortified settlements and campaign bases and large scale irrigation systems. Recent archaeological fieldwork in Azerbaijan and Georgia has demonstrated the existence of all of these features in the southern Caucasus.

This geographically diverse region, encompassing the mountains of the upper and lower Caucasus chains, fertile river valleys and coastal areas and arid steppe land, presented a variety of challenges and opportunities for occupation. This paper will draw on three case studies focused on the irrigated landscape of the Mil Steppe in southern Azerbaijan, the Ghilghi Cay Wall in eastern Azerbaijan and the Dariali Pass in northern Georgia to investigate the structure and organisation of the Sasanian frontier in this region at a variety of different scales. Remote sensing data, including Corona satellite imagery, and other survey and excavation results will be used to fill in the gaps between these case study areas. Such an approach allows for the analysis of the role of the physical landscape, route networks and imperial strategies in the emergence of Sasanian landscapes in the northern borders of the Empire.

Lorenzon

Geo-archaeological analysis of mudbrick architecture: a case study in the Egyptian Delta

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In Egypt mudbricks are one of the most common building materials used in both public and domestic architecture. Therefore well-preserved earthen structures have been investigated with regard to their macro- and micro-morphological characteristics to examine manufacturing technology and construction techniques.

This paper aims to present the preliminary results of mudbrick geo-archaeological analysis from the site of Tell Timai, ancient Thmouis, in the north-eastern Egyptian delta conducted during the 2013 and 2014 campaigns.

During the 2013 and 2014 seasons the areas analysed included: a public monumental structure, domestic architecture from two different areas of the tell, Grid N8 and Grid Q13, and the temple area. Different methods, such as particle size analysis, X-ray fluorescence (XRF), X-ray diffraction (XRD), trace element geochemistry and soil micromorphology were instrumental to

the study of earthen building materials and architecture. Geo-archaeological analysis of earthen architecture helps to determine fluctuations in raw source materials and eventual changes in construction practices. Additionally a better knowledge of the mudbrick properties allows us to plan the best possible preservation strategy for the site. Preliminary results highlight a strong difference in bricklaying and temporal changes in mudbrick composition. An in-depth study of those changes could actually shed light into earthen construction techniques and fluctuation in raw source materials and tempers.

Lubetski

Influence of Egyptian Glyptic Symbols on Israelite Aniconic Artifacts

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Few studies of the influence of Egyptian culture on Israelite culture have dealt with onomastics. This paper will show that the sense of Hebrew PN *mrymwt* has its antecedents in Egyptian seal iconography. This name is recorded in the late biblical books of Ezra and Nehemiah, and is also engraved on an ostrakon (#50) unearthed in the Hebrew temple at Arad, as well as on a pre-exilic seal (WSS #251).

The suffix *mwt* has been perceived as a loan from northwest Semitic pantheon, and identified as Mot, the god of death. The fact that the divine epithet reflected a negative aspect had never been questioned in modern onomastic research, even when the name, *mrymwt*, was borne by Hebrew priestly families whose main function was to promote peace and life. However, untapped Egyptian iconic art and literature present a clear meaning for the prefix, and reflect a double meaning for *mwt*. My paper will illustrate through examples from Egyptian pictographic sources, iconic graffiti, and Egyptian onomastics that *mwt* is a homograph with two divergent meanings. *Mwt* can represent death, or the mother goddess, depending on the icon (Gardiner Sign List A14; 15; and G14; 15). The paper then provides both Wörter und Sachen, where the Hebrew word and the Egyptian iconography complement one another. I will present an unpublished iconic Egyptian scarab seal that shows the full name *mrymwt*. The seal cutter selected the pure ideographic depiction. There, the symbol of *mwt* is not death, but rather mother or mother

goddess, a far more appropriate epithet in a compound name for members of a priestly family.

Lucke

Soil fertility in the Decapolis region: a victim of desertification?

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Many areas of the Levant are considered to have been affected by soil degradation, partly as result of long-term farming since the Neolithic, but also due to poorly managed grazing. This suggests that the agricultural productivity of the region was somehow degraded, and that this contributed to the abandonment of sites. However, a case study near the site of Abila found a valley fill which provides evidence that soil fertility stayed more or less unchanged during the Holocene. However, the sediments also provide evidence for a rapid and intense landscape change during the Late Byzantine period. This was probably caused by a shift to aridity which also triggered socio-economic changes of subsistence strategies from agriculture to pastoralism. Sediments indicate that the climatic change seemingly occurred rapidly within approximately 100 years during the late 6th and early 7th century AD, and rubble layers indicate that it was associated with frequent heavy rainfall events. It may have been caused by a global climate event creating a 'year without sun' or 'Mystery Veil' which the Byzantine historian Procopius described in the year 536 AD. Nevertheless, the countryside near Abila of the Decapolis in northern Jordan was probably never 'empty' and always fertile – despite short-term rapid environmental changes as apparently reflected by the deposition of the valley fill.

Maeda

Another chronological view of the use of lithics in the early Neolithic on the upper Tigris

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Chipped stone artefacts used in the Neolithic Near East have often been considered as chronological and cultural markers. It is often the case that regional chronologies are proposed based on the typological change of particular tool types, such as arrowheads, which is supposed to represent cultural change. In northern Mesopotamia including the upper Tigris valley in south-eastern Turkey, it has been suggested that the microlith

industry in the Epipalaeolithic/early Neolithic was replaced by the arrowhead industry in the later developed Neolithic, reflecting cultural and social change (i.e. Neolithisation) in this area. However, the latest excavations of Hasankeyf Höyük, a PPNA settlement in the upper Tigris valley, demonstrate a continuous tradition in the use of microliths and arrowheads in spite of the typological shift of these tools. It is suggested that this tradition was probably acknowledged by the Neolithic people as the history of their own society, rather than a series of different cultures which is likely to be identified by archaeologists. This paper investigates the change and continuity in the use of lithic artefacts from a chronological viewpoint and interprets what it meant to past peoples.

Maner

Late Bronze to Iron Age settlements and sanctuaries of the south-eastern Konya Region

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The KEYAR (Konya Ereğli Yüzey Araştırması) survey in Konya Ereğli, Halkapınar, Emirgazi and Karapınar started in 2013. The two seasons (2013 and 2014) of the survey have revealed new and unknown data about the LBA and IA settlements and sanctuaries in this region. This paper will majorly focus on the Hittite and Neo Hittite period of this region.

Marf

Deified and sacred mountains of the Zagros in the highland and lowland records

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In the cuneiform inscriptions many mountain ranges and mountains of the Zagros are mentioned, some as deified points of the landscape, a few as sacred mounts. Moreover, according to the written records, some of the mountains in the Zagros are associated with local Zagrosian, Assyrian or Urartian deities, and others with known mythological creatures of ancient Mesopotamia. Interestingly, some of the recorded deified mountains appear in the cuneiform sources also as names of cities/lands or even as personal names.

In this paper, I present the epigraphic and ancient visual evidence for deified and sacred mountains of the Zagros, and also, based on topographic

knowledge of the Zagros and its modern toponyms the authors of this paper suggest potential geographical identifications and re-identifications of these sacred and deified mountains.

Marsh / Altaweel

The Search for Hidden Landscapes in the Shahrizor, Suleimaniyah province, Iraqi Kurdistan

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The Shahrizor plain is a mountainous alluvial valley located in Suleimaniyah province, Iraqi Kurdistan, nestled between the Zagros to the east and the Binzird, Baranan and Kara Daghs to the west. The Tanjero river is the largest channel, and runs from the north and into the modern dam lake, Darband-i Khan.

The alluvial plain is characterised by heavy sedimentation, as revealed by cores and trenches throughout the plain, however, recent palaeoecological research in the Shahrizor, using sedimentary and phytolith datasets, is beginning to reveal the past environments, which are quite different to the modern landscape.

The main focus of research has been in the arable plain between the two sites of Bakr Awa and Gurga Chiya, in the southern half of the Shahrizor plain. Gurga Chiya is a Chalcolithic period site, and Bakr Awa was a major regional power from the 3rd to 1st millennium. This paper will present results of the 2011-2014 geoarchaeological surveys in the region as well as phytolith analysis of on and offsite contexts.

Early indications are that there was an active anabranching fluvial system running between the two sites, followed by a hydrological shift in the later Holocene (c.500BC). The phytolith record indicates that there was a range of microenvironments in the plain and further afield in the uplands, which were all exploited by the inhabitants. Agriculture and possible horticulture is indicated by the onsite evidence at Bakr Awa, however field systems have yet to be found.

Massafra

The Egyptian presence at Tell el-'Ajjul in the LB I as reflected by pottery Imports

Angela Massafra, University of Glasgow. Email: angela.e.massafra@gmail.com

The aftermath of the so-called Hyksos dynasty in the Egyptian Delta and the fall of Avaris is a crucial

but yet puzzling phase for the history of both Egypt and Palestine. While it looks quite clear a more or less stable Egyptian presence in southern Levant after Thutmose III, there is still no consensus about the nature and extent of Egyptian involvement during the LB IA. What is the social identity of the inhabitants of the southern Levant at the dawn of the Late Bronze Age? As the creation of identity is particularly associated with the consumption of food and drink, a study of pottery sets can provide significant evidences. A contextual study of the Egyptian and Egyptian-style pottery found at the crucial site of Tell el-Ajjul between the end of the MBA and the beginning of the LBA could help us to understand the real social meaning and impact of imported commodities, in order to ascertain the presence of new populations or of practices of hybridization

Matthews R

Early Neolithic ecosystems in the Central Zagros of Iran and Iraq: patterns of change and continuity, 9800-7500 cal BC

Roger Matthews, University of Reading, and CZAP team. Email: r.j.matthews@reading.ac.uk

In this talk we discuss the major emerging features of the Early Neolithic of the Central Zagros region of the eastern Fertile Crescent, drawing on recent and ongoing researches. In reconstructing Early Neolithic ecosystems in the Central Zagros of Iran and Iraq we consider:

- Importance of local ecosystem reconstruction and contextual approaches in studies of origins of agriculture
- Early Holocene climate and environment change in the central Zagros
 - Previous and current research in Iraq and Iran
 - Central Zagros Archaeological Project: ecological transects and interdisciplinary approaches
- Highland ecosystems
- Piedmont ecosystems
- Implications for ecosystem reconstruction and the origins of agriculture
- Future directions

We are applying a wide range of interdisciplinary approaches to study multiple data sets on ecosystems including palaeoclimate studies, zooarchaeology, archaeobotany, pXRF analyses of materials, and micromorphology. Four key sites have been excavated in order to study ecosystems

and communities on an ecological transect through the Zagros from Sheikh-e Abad and Jani in the highlands to Bestansur and Shimshara in piedmont or hilly flanks. These new sites are filling an important gap in occupation in the Zagros from the end of the Younger Dryas cold period from 9800 cal BC, to a peak in the foundation of sites from 8500-8000 cal BC. In this paper we explore issues of change and continuity in multiple aspects of Early Neolithic life of the Central Zagros region

Matthews W

Continuity and transformation in social roles and relations: representations in early built environments

Wendy Matthews, Associate Professor, Department of Archaeology, University of Reading. Email: w.matthews@rdg.ac.uk

This paper examines the impact of increasing sedentism and agricultural practices on social roles and relations, at both short and longer term time-scales. It considers ways in which social roles and relations are represented in early built environments, drawing on architectural and anthropological theory. It then examines continuity and transformation in the nature and governance of roles and relations in specific communities in different ecological zones in highland and piedmont Zagros. New excavations in both regions are providing insight into the diversity of social roles and relations in open places, as well as within houses and sacred spaces. Architectural and microstratigraphic evidence indicates that there was considerable stability in the nature and articulation of particular roles as well as longer term innovation and transformation. Arguments for increasing focus on households as a fundamental socio-economic unit and on the key role of ritual in transformations in the Neolithic more widely are critically examined in the light of this new evidence and approaches to study of the sustainability and governance of social space.

Mavrinac POSTER

Survey of the Qa' Shubayqa

Olivia Mavrinac, University of Copenhagen. Email: oliviamavrinac@gmail.com

The east Jordanian *Badia* comprises a semi-arid zone between potential agricultural land and true desert on the lower slopes of the ancient volcanic peak of Jabal Druze. Qa' Shubayqa is situated in

the open limestone plains, the *hamad*, and the black boulder-strewn basalt upland, the *harra*. Archaeological research has been conducted on the north-eastern black desert for many decades, but only recently has interest in the area really thrived. Allison Betts carried out several surveys and a few excavations in the early 80s, uncovering traces of habitation dating from the Upper Palaeolithic to the Pre-Pottery Neolithic Period (PPN).

In 2012, the Shubayqa Project, lead by director Tobias Richter, began excavating at Shubayqa 1 and surveyed the area. The Qa' Shubayqa is often described as both a margin zone and frontier. However, our recent discoveries have given us reason to believe that this might is not the case.

Molleson

Interpretation of the modern burials from Abu Hureyra raises a number of questions of identity

Theya Molleson, Natural History Museum London.
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Recue excavations in advance of flooding by the Tabqa dam downstream on the Euphrates, by Andrew Moore recovered over a hundred modern burials - men, women and children - from four of six trenches being dug into the Neolithic tell of Abu Hureyra. How do the graves inform us of the people who selected the mound to bury its dead? Were these the burials of Islamic, nomad or non-Islamic communities? What are the best criteria and would they be the same for all periods? How did they live?

Montesanto

Early Iron Age pottery from Çatalhöyük and Tell Afis: break or change on the north Syrian frontier?

Mariacarmela Montesanto, University of Liverpool. Email: mia1988@hotmail.it

The beginning of the Iron Age is commonly known as the Dark Age, following the collapse of the great empires. There are almost no epigraphic sources, the political entities are still reorganizing into what later will become the Neo-Hittite states. The publication of new evidence means that the Late Bronze/ Iron Age transition need no longer to be considered as a gap in our knowledge, instead we can begin to look for patterns in the archaeological record that indicate the nature of this transition.

The earliest Iron Age assemblages seem to differ very little from the preceding Late Bronze assemblages except for the introduction of the Late Helladic IIIc (LH IIIc) pottery. This paper will closely examine this transition at Çatalhöyük and Tell Afis in order to both evaluate this apparent lack of change and to consider its social implications and to shed light on the first period of the Iron Age, when some important changes in the urban reorganization of some sites were accompanied by the appearance of a new kind of pottery. The presence of these new items is elusive and the changes in the material culture seem to be evanescent

Moriconi

'Like the wolf on the fold': some aspects of the Neo-Assyrian imperial impact and strategies in the southern Levant during the 8th century BC

Alessandro Moriconi, Sapienza University of Rome
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The crisis of the Neo-Assyrian Empire in the southern Levant at the time of Sargon II's death was followed by the resolute military strategy developed by Sennacherib on his third campaign (ca.701 BC), which violently repressed Judah's and Philistia's rebellions against the central power.

The imperial expansion in southern Levant represents a complex phenomenon, characterized by the development of an aggressive military policy and an intrusive administration pursued through successive stages of destruction, reconstruction, and involvement in the imperial framework that had a deep impact on the political and socio-economic evolution of the territories in the Judahite Shephelah, in the Philistine Pentapolis and in the Negev.

Archaeological results show evidence of the many ways in which Assyria reaped both economic and strategic benefits from these territories and shed light on how this process of expansion led to direct military confrontation with the most powerful and destabilising south-western threat: the Egypt of the 25th Kushite Dynasty

Mudd

Stone at Bestansur: continuity and change, innovation and tradition

David Mudd, University of Reading. Email: d.j.mudd@pgr.reading.ac.uk

Human receptiveness and acceptance of change and innovation is reflected in changes in material culture. Change, or continuity, in material culture may be due to the perceived functional/utilitarian benefits of a new concept, technology or product – reducing risk or increasing physical comfort through increased productivity, its social benefits – wider circle of social contacts, enhanced social status, and/or its symbolic benefits – demonstrating social affinities, self-fulfilment, appeal to/appeasement of supernatural beings.

The presentation will look at evidence for these processes in the ground stone assemblage from Bestansur. Stone as a material cannot be considered in isolation – it was used to make and process things from other materials. The presentation will include examples of stone used in conjunction with other materials, some of which are in the archaeological record (e.g. bone, mineral pigment), and some of which can be inferred, or observed in ethnoarchaeological studies (e.g. wood, leather).

The presentation will review the life histories of stone artefacts and their place in everyday activities such as tool making and food procurement and processing, and their role in symbolic aspects of activities such as burials and the use of space. I will argue that stone can be used as a marker for continuity and change, innovation and tradition.

Munawar

Preserving cultural heritage in conflict areas: a historical-comparative study “Aleppo, Syria” March 2011-March 2014

Nour Allah Munawar, University of Warsaw. Email: nourmunawar88@gmail.com

In the last century many cultural heritage sites have fallen victim to conflict. Archaeological artefacts have been looted and illegally excavated due to the lack of security of the sites. The United Nations Educational, Scientific and Cultural Organization (UNESCO) attempts to preserve and protect cultural heritage all over the world beginning with the Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict in 1954. The response and

implementation of this convention and its attached protocols was disappointing, because of the ineffectiveness of the convention itself.

Since March 2011, archaeological sites in Syria have suffered from escalating violence. Many sites have been damaged in different ways, such as looting, bombing, illegal excavations, terrorist actions and illicit trade. Many museums all over Syria have been looted or bombed. Moreover, monumental buildings such as citadels and castles have been used as military bases.

In this presentation, the author will present a new model for assessing damaged cultural heritage, and planning for reconstruction, involving stakeholders in the preservation of cultural heritage sites.

Nieuwenhuysse

After the first pot: the integration of ceramic containers in the Upper Mesopotamian Late Neolithic

Olivier Nieuwenhuysse, Faculty of Archaeology, Leiden University

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It has long been assumed that the introduction of the ‘first’ pottery containers must have brought immediate and far-reaching social, economic, and ideological changes. This focus is understandable but to some extent misleading. In Upper Mesopotamia, several lines of evidence now suggest that the ‘first pots’ did not have a huge impact on Neolithic societies at all. Several instances of occasional pottery production are known already from the Pre-Pottery Neolithic period. The start of sustained pottery production at ca. 7000 cal. BC did not noticeably affect existing socio-economic practices.

Pottery became an integral part of Upper Mesopotamian Neolithic societies only gradually through the later seventh millennium. At some sites we can now follow step by step the slow, complex integration of pottery production and consumption. Characterized by plain, amorphous and (to some) quite boring typologies, later seventh millennium ceramic assemblages represent a challenging research frontier. I shall briefly present the sites of Shir and Tell Sabi Abyad as case studies to discuss how increasing numbers of pottery containers in daily use went hand in hand with ceramic-technological innovation as an increasing range of important activities came to depend on pottery containers.

Palmer et al

Rural settlement, house forms and oral histories in southern Jordan

Carol Palmer, Emma Jenkins, Samantha Allcock, Sarah Elliott, Darko Marečević, Firas Bqa'in, and John Grattan. Email: c.palmer@bi-amman.org.uk

This paper provides an overview of rural settlement in upland southern Jordan focusing on abandoned stone and mud villages in the scenic Tafileh governorate, and the village of al-Ma'tan in particular. It describes the typical arched house form and how it was constructed and lived in prior to the 1960s/70s, before nearly all the inhabitants moved to their new concrete villages along the main road. At that time, the people were agro-pastoralists, grazing sheep and goats widely throughout the steeply rocky landscape, cultivating cereal and legume crops on the upland plateau, nurturing trees in spring-fed irrigated orchards, and hunting wild animals and gathering wild plants. Although villages may appear 'timeless', most are comparatively recent, with their origins in the late nineteenth and early twentieth centuries, during a period of marked population expansion and settlement.

This paper provides the ethnographic village context to the geochemical and phytolith research being conducted by the INEA project (Identifying activity areas in Neolithic sites through ethnographic analysis of phytoliths and geochemical residues) through a collaborative partnership involving Bournemouth University, where the Project is based, the Council for British Research in the Levant (CBRL), and Aberystwyth University. The presentation concludes by introducing the initiatives of the local community in al-Ma'tan to preserve their heritage and capitalize upon it through tourism initiatives, and to provide a space for the elders of the community to tell stories of their former village life and to pass it on to younger generations.

Palmisano

The long and winding road: pathways of communication in the Old Assyrian trade network

Alessio Palmisano, Institute of Archaeology UCL. Email: a.palmisano@ucl.ac.uk

This paper will reconsider ancient trade routes across central Anatolia and Upper Mesopotamia during the Old Assyrian colony period (ca. 1970 – 1710 BC) by analysing written sources and modelling possible paths or corridors of

movement in order to detect which factors (e.g. environmental or socio-political) affected the pathways of communication, and to explore their relationship to wider political geography.

I will examine how computational and spatial approaches help archaeologists to generate more realistic past movement models where the travel cost is not only determined by quantifiable factors (such as slope, elevation, land cover, etc.), but also by costs reflecting cultural influences (e.g. taboo zones, political boundaries, space perception, warfare, trade concessions, etc.). I will show computational methods that integrated with archaeological and textual evidence might be useful to reproduce patterns of movement, modelling the journey of the Assyrian merchant caravans between Aššur and Kaneš, and reconstruct the structure of the trade network set up by the Assyrians in the early second millennium BC.

Peltenburg

The Early to Middle Bronze Age transition in North Syria: implications from mortuary practices

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Scholarly debates concerning the Early to Middle Bronze Age transition in the Near East at the end of the 3rd millennium BC have focused on many issues of general interest: the 4.2 ka BP climate change 'event', demographic change, civilization collapse and re-construction, migration and, more specifically, the emergence of Amorite kingdoms. Because of limited archaeological visibility during the transition, evaluations are still hampered by poor chronological controls and the paucity of significant settlement area exposures, let alone resolution of the intensity, duration and ubiquity of climate change.

In this paper, I turn instead to a longer perspective on trajectories within the mortuary domain, an alternative but rich source of information often overlooked in these debates. Mortuary practices are informative in this context since they played an unusually strong social and political role in the Middle and Upper Euphrates regions of north Syria, a key region for an understanding of processes of change. Evaluation of contextualised mortuary developments here during the 3rd millennium shows that, rather than establish entirely new characteristics, later Amorite society emphasized several pre-existing traditions and trends.

Petersen

Medieval and Ottoman Palestine

Andrew Petersen, Director of Islamic Research, University of Wales Trinity Saint David. Email: a.petersen@tsd.ac.uk

This paper will discuss the methods and results of a project aimed at recording Medieval and Ottoman buildings within the West Bank and Gaza. The project is focussed primarily on Islamic buildings as Crusader buildings as well as churches and Christian buildings of other dates are generally already well documented. The project is based on the records of the Antiquities Department of Palestine compiled during the British Mandate 1918-1948. In addition to archive research some fieldwork was carried out to investigate the present condition of some of these buildings.

Philip

First (artificial) light: lamps, fuels and economic activity in early complex societies

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One of the characteristics of the EBA in the Levant is the proliferation of lamps in the archaeological record. What is less well understood is the extent of the impact that the availability of portable, artificial light would have had on patterns of human labour. This paper reports on a series of experiments designed to establish parameters (e.g. light emitted, trajectory of light strength over time, smokiness, fuel consumption) for a number of common lamp designs and fuels available in the 3rd millennium BC. The second part of the paper reports on the range of activities that can be undertaken in darkness lit only by the light of a single lamp. The experiments were undertaken by Year 6 pupils from Framwellgate Primary School, Durham who were asked to perform various manual and cognitive tasks in a 'black-out' tent, lit only by a single lamp. The experiments have produced a valuable body of data on the performance of lamps and on their potential impact upon human work capacity at the transition to early complex societies.

Pincé

Exploring the possibilities of geochemical analyses on painted pottery of pre-Islamic Iran

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The aim of this paper is to present the preliminary results of a geochemical analysis on pre-Islamic painted pottery. An archaeometrical study was undertaken on pre-Islamic painted pottery from excavations and surveys conducted by the late Prof. Dr L. Vanden Berghe (Ghent University) during the 1950s. These ceramics provide a sample of Iranian pre-Islamic painted pottery that is representative over time and space. The applied analytical method is portable X-ray Fluorescence (pXRF), a non-destructive technique to study the elemental composition of ceramics. The results of these geochemical analyses reveal distinct regional and chronological differences, allowing a renewed classification of the studied ceramic. In turn, this work provides a future reference framework for the identification of pre-Islamic pottery. Moreover, the acquired data will be used to shed light on the development of pottery technology and on questions concerning production centres and the origin of primary materials. In this paper, the process of acquiring and interpreting this data will be outlined and the importance of such an interdisciplinary approach to improve the current understanding of regional cultures in pre-Islamic Iran will be illustrated.

Pitkänen

Migration and Colonial Encounters in Late Second Millennium BCE Levant

Pekka Pitkänen, University of Gloucestershire. Email: ppitkanen@glos.ac.uk

This presentation will look at evidence of migration and colonialism in the Levant in the late second millennium BCE. It will include consideration and possible evidence for migrations of such groups as the Philistines and the Sea Peoples, the early Israelites and the Arameans. A focus will be on the possibility of colonizing migration and resulting settler colonialism, together with processes of colonial metissage, unintended consequences and ethnogenesis.

The presentation will attempt to synthesize both archaeological and textual evidence based on a colonizing migration model (cf. Manning, *Migration in World History*, pp. 5-7) adapted to

the ancient world, also reflecting on any tensions between textual and archaeological evidence. I will argue that seeing especially the Late Bronze-Early Iron Age transition in the ancient Levant as having been accompanied by migration and resulting (settler) colonialism can enhance our understanding of the period.

Plug

Keepsakes: grave goods as the materialization of relationships at Late Neolithic Tell Sabi Abyad (6400-5800 BC)

Hannah Plug, Faculty of Archaeology, Leiden University. Email: j.plug@arch.leidenuniv.nl

The cemeteries at Tell Sabi Abyad, Operation III, c.6400-5800 BC., hold tremendous potential to add to the emerging picture of death and burial during the Late Neolithic in the Near East. Due to secure chronological control, extensive documentation and an unusually large burial sample, we are able to investigate practices surrounding death and burial from a bottom-up approach. The cemeteries offer ample opportunity to go further than the mere analyses of social complexity and the creation of typologies of burial practice, and to investigate aspects of mortuary behaviour related to the person.

Grave goods can be regarded as elements of identity and personhood of the deceased, and also of the living community; they potentially provide insights into the relationships of the Late Neolithic inhabitants of Tell Sabi Abyad with their social, cultural, material and natural environments. Within the grave good assemblages we see expressions of the wide variety of relationships held by the prehistoric inhabitants of the site, ranging from supra-regional, to the most intimate of relationships, such as those between mother and child.

Priestman

Ceramic exchange in the western Indian Ocean, AD 400 – 1275

Seth Priestman, University of Edinburgh, School of History, Classics and Archaeology. Email: seth.priestman@gmail.com

The presentation draws on the results arising from doctoral research undertaken as a collaboration between the Centre for Maritime Archaeology at the University of Southampton and the Middle East Department at the British Museum. Two factors hold back the use of ceramics as a staple

evidence base upon which to develop a systematic reconstruction of the long-term economic history of the Indian Ocean region: the slow adoption of quantitative finds recording, and the inability to recognise the same varieties of pottery that occur repeatedly in different regions.

The study attempts to address these issues by applying a single integrated system of ceramic classification to assemblages from East Africa, the Middle East and South Asia, and by assembling the largest possible range of quantified ceramic datasets. Information has been collected from a combination of previously published reports, excavation archives and finds databases, and through direct recording of archived finds assemblages. In total over four million pieces of pottery are used to chart long-term changes in the composition of ceramic exchange between AD 400 and 1275. This in turn provides a crucial index with which to examine prevailing assumptions regarding the extent of growth or continuity in India Ocean commercial development in an age where few other sources of systematic economic history survive. The presentation focuses on selected results to illustrate the key potential of integrated cross-regional ceramic research.

Pulhan

North of the Tur Abdin but not out of touch: excavations at Gre Amer, Garzan

Gül Pulhan and Stuart Blaylock, Independent Researchers. Email: gulpulhan@gmail.com

The Ilisu Dam salvage excavations on the Tigris, at the far end of south-eastern Turkey, have opened up the history and archaeology of northern Mesopotamia in a previously unexplored area. Among these projects, Gre Amer, a small multi-period site in the Garzan Valley – a northern tributary of the Tigris River- illustrates an agricultural and artisan society culturally interconnected with well-known centres such as Nineveh, Assur and Tell Brak from the third to the late first millennia.

The largest occupation of the site, most likely a proto-Mitanni community, dates to the 17th century BC. Its material culture displays both local and regional (Khabur- and Nuzi-related) ceramic characteristics. The Early Iron Age is represented by well-built and well-preserved stone houses and their domestic contents provide evidence for the presence of a peaceful settlement after the regional collapses along the Tigris corridor in the Mitanni and Middle Assyrian periods. The picture

that emerges at Gre Amer is very different from the semi-nomadic life of the Early Iron Age proposed for sites in the Upper Tigris area.

As yet, Gre Amer has no identifiable Neo-Assyrian architecture or administrative evidence, but an increasing amount of pottery represents Assyrian material culture. The latest level at the site, comprising domestic complexes and a cemetery of some forty stone-cist burials, appears to belong to the Achaemenid-Hellenistic periods. This level has a very distinctive local material culture, which will illuminate these little known periods of the Near East.

Quick

Literary influence and linguistic reality: adaptation, transformation, and continuity beyond the Late Bronze Age collapse

Laura Quick, University of Oxford. Email: laura.quick@worc.ox.ac.uk

The recent discovery of a new exemplar of Esarhaddon's Succession Treaty at Tell Tayinat has re-opened an old problem: the apparent similarities between certain parts of the biblical book of Deuteronomy with the treaty tradition of the ancient Near East. In the Tell Tayinat exemplar some scholars have seen conclusive evidence that a copy of EST would have been available for Deuteronomy's authors in Judah to utilize as a source-text in their own composition, contra the alternate view that the parallels between these two texts stem from the familiarity of the Deuteronomic scribes with the treaty genre of the ancient Near East in more general terms.

The crux of the issue must be the linguistic means of transmission of EST to Deuteronomy. Would the Hebrew scribes who wrote Deuteronomy have been able to read and translate a cuneiform, Akkadian document? A 'no' negates the argument that Deuteronomy borrows specifically from EST, yet no proponent or critic of the theory has yet problematized the issue of bilingualism, save for a few vague references to the Amarna letters, correspondence from the southern Levant during the MBA conducted in Akkadian by Canaanite scribes. Yet to map this linguistic situation into the Iron Age is anachronistic.

This paper will attempt to chart the cultural continuity between the international structures of the great Bronze Age city-states and the contiguous political relations that emerged in the Early Iron Age. In so doing, the linguistic condition of the authors of Deuteronomy will be

reconstructed in order to provide a new access to the relation of Deuteronomy to EST

Rattenborg

Configuring Mesopotamia: regional signifiers and the many locations of the 'land between the rivers'

Rune Rattenborg, University of Durham. Email: rune.rattenborg@dur.ac.uk

It seems today a travesty to reiterate what exactly we mean by 'Mesopotamia'. The evident tautological qualities of Greek *mésos* ('middle, in between') and *potamós* ('stream, river') often rules out any further elaboration as to its origins, semantic consistency through time, or the assumed unproblematic nature of its current application. Yet names of regions are not stable markers, the more so because their delineation may be defined according to a complex and far from converging set of attributes rarely related to physical borders alone. We assign to regions more than just absolute spatial demarcations and ecological particularities, but also ethnic, cultural, infrastructural, and ideological, embedded in notions of centrality and relationality.

This paper considers the changing use and meaning of 'Mesopotamia' as a regional signifier in relation to its use as another name for the drainage of the Euphrates and Tigris rivers in present day Turkey, Syria, and Iraq. Through a review of the meanings of Mesopotamia and associated terms from the 2nd millennium BCE until present day, it is argued that current usage of Mesopotamia is largely a product of spatial taxonomies founded during the First World War. As such, the term holds a potential for conceptual confusion and for obscuring patterns of past social organisation visible in current research

Rayne

Imperial water supply and irrigation in Northern Mesopotamia

Louise Rayne, Durham University. Email: louise.rayne@durham.ac.uk

This research uses an interdisciplinary approach to investigate water management in northern Mesopotamia at the time of the later territorial empires (Neo-Assyrian to Abbasid). At this time irrigation, agriculture and settlement expanded into marginal areas of previously low crop production.

In order to record and investigate water systems at a regional scale remote sensing and GIS were used. 1960s CORONA images, which show the landscape before recent destructive changes, allowed for features to be digitised. Digital Elevation Models (DEMs) further facilitated analysis of ancient canals and qanats. Survey and excavation data were incorporated into the GIS database to provide detailed context.

Data from the Balikh Valley of northern Syria represent a specific case study. This landscape is an example of a palimpsest of complex irrigation systems, some dated by excavation, survey and by association. These systems were able to modify the landscape, creating environmental niches including marshes and shallow water tables which persisted into the later 20th century.

This paper discusses the evidence for water management including extensive and sophisticated canal systems such as the Nahr Al Abbara, in the north of the Balikh Valley, and the tunnel and qanat-based water supply of Early Islamic Raqqa. The water management systems in the Balikh can best be regarded as complex, hybrid systems that underwent cycles of use, modification and reuse. Empires may have directly imposed irrigation and therefore long-term environmental changes on the landscape, and at the same time other irrigating groups may also have taken advantage of changed political and economic conditions.

Richardson

Networks of material interaction: pXRF and other approaches

Amy Richardson, University of Oxford. Email: networks.of.materiality@gmail.com

Investigations of sedentism and domestication, in search of the first farmers, are producing a wealth of detailed and rigorous studies, examining human-plant-animal interactions as key indicators of the Neolithic transition. Material culture studies have a key role to play in this dialogue, informing our understanding of the networks and interactions that facilitated the spread of innovation across the Fertile Crescent. This paper examines the evidence at the Neolithic site of Bestansur for engagement with networks of material interaction, through the raw materials utilised by the inhabitants and the developments in technological innovation.

Nestled in the mineral-rich Zagros foothills, patterns of material sourcing and selection are

considered, alongside artefacts that demonstrate wider-ranging networks. The development of portable x-ray fluorescence (pXRF) technologies has greatly benefitted the characterization of materials in the field. The value of integrating this data with theoretically informed analysis has been demonstrated for the chipped stone assemblages at Anatolian sites. Applying scientific methodologies such as pXRF to all artefact classes, in conjunction with traditional techno-typological approaches, this study explores the importance of material networks to the community at Bestansur and the implications for the Neolithic transition in the eastern Fertile Crescent.

Richter et al

From hunter-gatherers to farmers in the south-eastern foothills of the Jebel Druze: the Natufian-PPNA transition in the Qa' Shubayqa

Tobias Richter and Lisa Yeomans, Department of Cross-Cultural and Regional Studies, University of Copenhagen. Email: richter@hum.ku.dk; yeomans@hum.ku.dk. Amaia Arranz, Geografia, Prehistoria y Arqueología, University of the Basque Country

Recent fieldwork in the south-eastern foothills of the Jebel Druze around the Qa' Shubayqa area has begun to highlight this region as a key area of settlement during the late Pleistocene and early Holocene. While survey has documented the presence of several Natufian and early Neolithic sites, excavations at the Natufian site Shubayqa 1 and the PPNA site Shubayqa 6 have produced evidence for substantial settlements.

We present initial results of the 2012-2014 fieldwork and discuss their implications for our understanding of the transition from hunting and gathering to food production in southwest Asia.

Robinson

PPNA social organisation at Wadi Faynan 16, southern Jordan

Zoe-Louise Robinson, Oxford Brookes University. zoe.robinson-2012@brookes.ac.uk

Extensive research has been conducted into PPNA social organisation over the past several decades; largely based on interpretations of PPNA society as living in villages made up of households, as the basic unit of economy (e.g. Byrd 2005). Yet, in 2002, Flannery called for researchers working on early Neolithic or Natufian sites to test hypotheses for new interpretations of social structure (see

Flannery 2002) by keeping building inventories separate. The aim was to take into account and test relationships between different hut sizes, tool kits and the presence and absence of domestic furnishings such as mortars and hearths, to better explore the potentially diverse social organisation of PPNA settlements. This paper will present preliminary results of such a study at PPNA WF16, southern Jordan by using chipped stone assemblages derived from high resolution excavation strategies (single context recording) within specific buildings. This will permit detailed interpretations of social organisation at the site, in light of building size and position, furnishings, and complex life histories.

Roe / Martin

Open season: modelling prehistoric wildlife dynamics in Epipalaeolithic & Neolithic Jordan

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Prehistoric hunter-foragers thrived in the rich, gazelle-dominated hunting grounds of the eastern Jordanian steppe. The rhythm of this existence was undoubtedly defined by seasonal variation in the distribution, density and mobility of prey; thus differing hypotheses of wildlife dynamics have strongly influenced interpretation of the regional archaeological record. We present a new, GIS-based approach to modelling animal behaviour to predict seasonal dynamics under different palaeoenvironmental regimes, and discuss implications of the model for reconstructing human hunting strategies and interpretations of the available archaeological and zooarchaeological data.

Rosinska / Debowska-Ludwin

The tale of two tells. Distant but connected? Nature of relations between Egypt and the Levant during Early Bronze Age

Karolina Rosinska-Balik and Joanna Debowska-Ludwin. Jagiellonian University. Email: joanna.debowska-ludwin@uj.edu.pl; k.rosinska.balik@gmail.com

Egyptian colonization in the Early Bronze I period is one of the most widely discussed issue in modern archaeology of the Near East. The presentation focuses on two sites of major importance: Egyptian Tell el-Farkha and Levantine Tel Erani. Discoveries of imported pottery both in Egypt and in Israel, as well as Egyptian-style brick

architecture found at Tel Erani suggest that relations between these two regions were based on long-distance trade. The paper briefly discusses the most significant imported finds at both sites and the socio-economic changes which followed interregional contacts.

With its favourable position on a trade route connecting Egypt with the Levant, the site of Tel Erani is generally accepted to be important for research on early Egyptian-Levantine relations in the 4th millennium BC. However, many years of partial studies on the site have resulted in the accumulation of questions on the actual character of Egyptian contacts which still remain unsatisfactorily answered.

The new project TRONE (Trade Routes of the Near East), conducted by the Jagiellonian University in Krakow, Poland and Ben-Gurion University of the Negev, is conducting new excavations by specialists in the field of both the southern Levant in the period of Early Bronze I and Pre- to Early Dynastic Egypt. Among the fundamental theses of the ongoing project are confirmation of our assumption that the development of Levantine urbanization was based on food surpluses gained by mutually advantageous trade exchange with Egypt and definition of the Egyptian settlement character in the Levant during the Early Bronze I period.

Rutishauser

Natural and political frontiers in Cilicia

Susanne Rutishauser, University of Bern. Email: susanne.rutishauser@iaw.unibe.ch

Natural formations such as rivers, mountain ranges, deserts or the sea build natural frontiers. They are strategically important as it is more difficult for invading armies to cross such a border. Natural borders may be easily defended and controlled.

The Cilician Plain is surrounded by such natural frontiers: the Taurus mountain ranges in the west and north, the Amanus Mountains in the east and the Mediterranean Sea in the south. Additionally, the foothills of the Taurus and the Misis Mountains separate the Cilician Plain in two settlement cluster: the western Çukurova and the eastern Yukarıova.

The Cilician plain was named “terre de frontière” (Trémouille 2001) for the Late Bronze Age or “Brückenland” (Meyer/Ziegler 2004) for the Hellenistic and Roman period. Natural formations

not only separate territories they can also build a connection between two settlement clusters.

This paper combines results of a study of ancient roads and itineraries from Hittite texts (Forlanini 2013) with spatial analysis with Geographic Information System (GIS).

Saadoon

Neo-Sumerian letter-orders from Umma in the Iraq Museum

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Ur III letter-orders are missives written for the purpose of requesting that some action take place or, in some cases, that an action not take place. These documents are typically identified by their salutation “tell so and-so”, or the use of verbs indicating that the recipient was to perform the action requested.

These letter-orders are rare in Iraqi museums and the texts under discussion did not come from scientific excavations but were confiscated or handed over to the Iraq Museum by Iraqi citizens. The texts discuss barley, seed, beer, bread or animals; one text has a date formula (IM.204417) and one text has a seal impression (IM.206331) dated to the third dynasty of Ur (2114-2004 BC). Study indicates that these cuneiform texts clearly belong to a single archive, and the personal names used indicate that they came from the site of Umma.

Safadi

An evaluation of the maritime accessibility and protection of Bronze Age and Iron Age Levantine harbours

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This paper evaluates the natural affordances of Bronze Age and Iron Age harbours located in central and southern Phoenicia. It looks at two factors that characterise a harbour location: its maritime accessibility and protection in light of its physical topography.

A review of the maritime developments and activities during the Bronze and Iron Age, and of the maritime environment of the eastern Mediterranean, suggests that localised and enhanced frameworks of studies are substantial in order to bypass general observations and trends. Through the modelling of winds, regional

differences in mean wind speed and direction are distinguished. These shed insight on the potential of sailing along the Levantine basin, particularly on the Lebanese coast. Moreover, in accordance with the topography of harbour sites, the wind models highlight their maritime accessibility: direction of sailing from and to each site, and their protection from predominant winds. The modelling of wave heights for each harbour site reveals the level of protection they afford for ships and boats.

This paper puts forth a detailed approach that testifies to the local character of the Mediterranean, and proves the necessity of integrating enhanced and localised analysis within a holistic study of ancient harbours. It also presents a new model by which to examine ancient harbours in general.

Sauer

Enhancing natural barriers from the Dariali Gorge in Georgia to northern Iran

Eberhard Sauer, University of Edinburgh, Konstantin Pitskhelauri, Tbilisi, Jebrael Nokandeh, Hamid Omrani Rekavandi, Gorgan: ICHHTO. Email: eberhard.sauer@ed.ac.uk

The Sasanian Empire (3rd-7th c.), stretching from western Mesopotamia to the western fringes of the Indian subcontinent and from the Caucasus, Caspian Sea, Karakum Desert and Hindu Kush into the Arabian Desert, was arguably much better protected by natural barriers than any European empire in antiquity or the Middle Ages ever was.

Sasanian ‘grand strategy’ enhanced these natural obstacles by closing obvious gaps through artificial barriers and fortifications, more systematically than any other Near Eastern empire before or since. These defensive works served a dual purpose: to make penetration into the empire as difficult as later escape from it. Far from being symbolic demonstrations of imperial power, the system contributed effectively to inner security, stability and prosperity.

Our presentation will focus particularly on recent joint fieldwork (by the Universities of Edinburgh, Tbilisi, Durham and the Iranian Cultural Heritage, Handcraft and Tourism Organisation) on the Alan Gates (the Dariali Gorge in Georgia), the main route across the central Caucasus, and the Gorgan Wall in northern Iran, the most major linear barrier in the Near East.

It is not our intention to paint a simplistic picture of a monolithic empire. We will also explore the

major role played by its neighbours and allies, notably the kingdom of Iberia, sometimes a part of the Sasanian Empire, sometimes independent or allied to Rome.

Scazzosi POSTER

Living at the foot of the acropolis. A newly discovered Late Bronze I building at Karkemish

Giulia Scazzosi, University of Pavia. Email: giulia.scazzosi@gmail.com

Since 2011 the joint Turco-Italian Expedition at Karkemish, under the direction of Prof. Nicolò Marchetti, aims at reconstructing the history and the layout of this Bronze and Iron Age capital city. Starting in 2013, archaeological evidence dating to the Late Bronze I has been brought to light in many areas: the Water Gate (area H), the South Gate (area D) and in area A, located near the Great Staircase and the Royal Gatehouse. In 2014 the remains of a presumably residential building dated to Late Bronze I have been retrieved.

The purpose of this poster is to provide a preliminary interpretation of this well preserved context. This discovery helps to shed light on the Late Bronze I occupation in one of the core areas of Karkemish, where very little archaeological evidence had been retrieved previously.

Schmidhuber

Linguistic variation and compositional strategies in Old Babylonian Sumerian royal inscriptions

Christoph Schmidhuber, University of Cambridge. Email: cs677@cam.ac.uk

The transitions studied in this paper are the variations in language and self-presentation of Old Babylonian Sumerian inscriptions. Examining selected aspects (orthography and separable verbs), I will discuss the nature and extent of variation both synchronically and diachronically, to find trends and investigate discrepancies between different scribes or scribal traditions. In parallel, different rulers' compositional practices will be compared to understand better how they employed royal inscriptions as a means of royal self-presentation.

Schörner

Looking at the Abila hinterland: first results of the survey campaign 2014

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In 2014 an interdisciplinary project started with the goal of reconstructing historical land use and landscape change in the hinterland of three cities of the Decapolis region from Bronze Age to modern times, combining archaeological, historical and scientific methods. The first step was to conduct an intensive survey of four linear transects radiating out of from the centre of Abila. The objective of this survey was to detect remains of agricultural activities in the landscape, looking for different types of artefact distribution resulting from a certain type of agricultural activity rather than being restricted to detecting new settlements.

In general, significant differences of material culture on the fields were observed. Because pottery is an indicator for the identification, dating and interpretation of activity zones in the landscape, variations of the distribution of material culture on the fields can indicate that its deposition was connected with certain land use practises, and probably with changes of land use strategies during time. Questions regarding the origin of the artefact carpet and the intensity of field use during different periods have been investigated.

Shahack-Gross et al

Geoarchaeological investigation in a domestic Iron Age Quarter, Tel Megiddo, Israel

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During the ongoing excavations of Area Q at Tel Megiddo, a variety of on-site geoarchaeological

analytical methods have been used in the study of Iron Age occupations dating to the Iron Age IIA. The aim of this approach is to optimally combine macro- with micro-archaeology in order to reconstruct activities that were carried out within an Iron Age urban neighbourhood. The macroscopic finds indicate that this area of the tell belonged to a quarter which features both domestic and public structures. Of particular interest are: (a) evidence for abandonment and spatial differentiation of activities in Level Q-5, associated with a large, well-built structure with as many as 18 pillars; and (b) localized small scale destruction associated with ephemeral metal-working activity related to occupation during Level Q-4. Similar approaches have been carried out at other sites in Israel (e.g., Tel Dor, Tell es-Safi/Gath), yet only at Megiddo have we been able to use these methods to study a large excavation area (ca. 200 m²). The results shed new light on the variability of human activities in public and domestic contexts in an urban environment, contribute to understanding uses of space and the phenomenon of destruction by fire, and offer means to differentiate between roofed and open spaces.

Shahack-Gross

Understanding site formation processes by combining ethnoarchaeology with geoscience methods

Ruth Shahack-Gross, Weizmann Institute of Science, Israel. ruth.shahack@weizmann.ac.il

Explanation in archaeology in general is based on analogies drawn from present natural and cultural phenomena to the past, which must take into consideration the processes and transformations that occur during site formation. Taphonomy, originally the study of processes occurring to bones from animal death to burial, is one approach with which the leap from the present to the past can be bridged. I will present three different studies where this taphonomic approach proved invaluable for archaeological explanation and site formation. First, studies among Maasai and Bedouin pastoralists in which degradation processes in livestock enclosure sediments have been followed, explain the chemical and physical properties of the resultant organic-poor sediment. Second, a study among Greek villagers contributed to understanding the mechanism of degradation of mud-brick houses, its importance to formation of Near Eastern mound (*tell*) sites,

and provided insights related to the study of activity areas and use of space. Lastly, a study of excrements of fruit and insect-eating bats provided a mechanistic understanding of diagenetic processes often identified in prehistoric cave sites. These examples illustrate the strength of the taphonomic approach for supplying mechanistic understandings of natural and anthropogenic formation processes.

Sharp

Discard patterns: discussions on sherd methodology

Melissa Sharp, University of Tübingen. Email: melissa_sharp91@hotmail.com

Discard patterns affect all archaeological analyses as the “Pompeii Premise” so rarely occurs. Ceramic analyses are particularly prone to these issues as sherds frequently move around sites, whether horizontally through regular waste removal or vertically through digging pits. However, not all studies of sherds are doomed to failure but can instead lead to developing new methodologies. This presentation discusses analyses of discard patterns from Mitanni Tell Brak, north-western Syria (1600-1300BC), to open up debate surrounding sherd analysis from more recent perspectives.

Shepperson

Fortifying Erbil: first excavations on Erbil citadel

Mary Shepperson, Institute of Archaeology UCL. Email: m.shepperson@ucl.ac.uk

The citadel of Erbil has recently been added to the UNESCO world heritage list and has a good claim to be one of the longest continuously occupied site in the world, dating back at least 6,000 years. Excavations were begun in 2013 as part of the Kurdish Government’s regeneration plan for Erbil citadel which includes an ambitious archaeological programme. After three seasons of excavation, the first area of study is approaching completion and has yielded excellent results.

The modern upper perimeter of the citadel is ringed with the backs of houses, but Ottoman written sources suggest the presence of a substantial defensive wall. Focused on the northern edge of the citadel, the excavation aimed to locate Erbil’s lost city wall and examine its nature and extent. The late period wall was found to be a complex structure preserved to a height of around 4m, incorporating multiple phases of

building and repair. The wall includes a solid round tower made of baked and unbaked brick, which also demonstrates the complicated construction history of Erbil's defences.

Below the late wall phase, a substantial earlier wall was discovered in front of the line of the later wall. This lower wall suggests that Erbil was continuously fortified for much of its history, providing a possible explanation for the pronounced upward growth of the citadel compared to its outward expansion. The lower wall was used as a foundation for the late wall, which in turn provided the foundation for the current perimeter housing. This data has not previously been presented.

Shirai

Adaptation of a Neolithic farming community to a challenging environment in Egypt

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It has been asserted that the Egyptian Nile Valley was so rich in wild food resources that people there did not need to introduce Levantine domesticates for a long time. When the late beginning and development of cereal farming and livestock-keeping in Egypt is discussed few consider the difficulty of ensuring that the domesticates introduced from the Levant thrived in a new environment, even though this may be a reason for the late beginning and development. Based on the study of the lithic assemblage from the first Neolithic farming community in Egypt, this presentation will discuss to what extent the development of lithic technology reflects people's efforts in this adaptation process.

Simi POSTER

The Tell Gomel Archaeological Survey. Surface research and off-site investigations in the heart of the Navkur Plain, Iraqi Kurdistan

Francesca Simi, Ancient Heritage Studies Programme, Ca' Foscari University, Venice. Email: francesca.simi@unive.it

My poster will present the methodology, goals and preliminary results of the Tell Gomel Archaeological Survey which represents my Ph.D. research project. The survey has its origins in the wider 'Land of Nineveh Archaeological Project' (LoNAP) in the northern Region of Iraqi Kurdistan which has been directed since 2012 by Prof.

Daniele Morandi Bonacossi of the University of Udine.

The area examined by the TGAS is the heart of the Navkur Plain, in the eastern hinterland of the Assyrian capital of Nineveh. The focus of settlement was the urban site of Tell Gomel, which probably corresponds to the Assyrian Gammagara referred to in the Jerwan B Inscription of Sennacherib as an "URU", a city.

The preliminary survey documented a settlement sequence ranging from the Chalcolithic to the Ottoman period. Due to its large size (about 16 ha) and position in the centre of the plain, Gomel must have played an important role in this region – presumably as its political and economic centre.

This territory, rich in water and fertile soils, constituted a trade route hub from the Late Chalcolithic onwards. In later periods, the area was strategic for commercial routes, but also for military transit and – in the case of the Neo-Assyrian Empire – for communications between the Turkish Upper Tigris regions rich in resources and the principal Assyrian cities.

Snape-Kennedy POSTER

From quartz grains to landscapes: evaluating the potential for luminescence dating of archaeological landscape features in the Transcaspien region

Lisa Snape-Kennedy, University of Durham. Email: l.m.snape-kennedy@durham.ac.uk

In the Sasanian Empire (3rd-7th centuries AD), the control and distribution of water was essential for providing a regular water supply in regions under military control. Recent survey data from the Transcaspien region (Georgia, Azerbaijan and Iran) collected as part of the wider 'Persia and its Neighbours Project' based at Edinburgh and Durham University, has produced a wealth of evidence for canals, agricultural terraces and fields in satellite imagery. Many of these features have been dated approximately by association with surface pottery and nearby settlements.

However, a key issue in landscape archaeology is chronological control. In some areas there is a lack of visible surface pottery and many landscape features have been reused and altered through time. Therefore it is difficult to determine when they were originally constructed and abandoned, but also when key phases of intensive use took place.

The aim of this research is to apply absolute dating methods to irrigation systems linked to known Sasanian sites identified in satellite imagery and from ground surveys. In order to test traditional relative dating methods, satellite imagery is used to target landscape features for excavation and sampling of sediments using the application of optically stimulated luminescence (OSL) combined with geoarchaeological techniques. In areas with sediments that have suitable luminescence properties, targeted excavation for OSL sampling can now be undertaken. This two-scale approach will ultimately improve our understanding of the complex histories of landscape features in these three regions.

Skuldbøl / Colantoni

Low-density urbanism and urban sprawl in the Zagros foothills, north-eastern Iraq

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Carlo Colantoni, Department of Archaeology, Bitlis Eren University, Turkey

This paper presents recent research by the University of Copenhagen on early urbanism in north-eastern Iraq. It discusses the development of indigenous urbanism in marginal and hilly regions of Upper Mesopotamia – in this case the Rania Plain, a semi mountainous, agriculturally fertile and enclosed valley in the Zagros foothills. The Rania Plain makes an ideal case study for the discussion of trajectories and expressions of urban development in Mesopotamia.

The project has made a number of observations regarding variability in the urban form on the Rania Plain. Research has so far revealed evidence of potential poly-nucleated urban sprawl during the Late Chalcolithic Period characterized by a difficult to distinguish transition between the urban landscape and the hinterland. The plain lacks a notably large urban centre and is characterized by a dense distribution of small to medium sized sites of which many may have possessed specialized production and functional roles. Excavations at the site of Bab-w-Kur suggest that the Rania Plain may have been a landscape of specialization with a sub-regional integrative relationship of clustered settlements in which Bab-w-Kur might have been an administrative node for a large production area. This picture of low-density urbanism contrasts most lowland

regions of Mesopotamia, that show strong hierarchical settlement patterning and large dominant centres.

We believe that the evidence so far available provides insights into the differing trajectories of nascent urban for the period.

Smith

The Barqa Epipalaeolithic project: new evidence for Late Pleistocene environments and Epipalaeolithic activity in the Wadi Faynan, southern Jordan

Sam Smith, Oxford Brookes University. Email: samsmith@brookes.ac.uk

New multidisciplinary data shed light on Late Pleistocene environments and Epipalaeolithic occupation in the Barqa dune system of Wadi Faynan, southern Jordan. Two seasons of survey have revealed a dense scatter of Epipalaeolithic artefacts covering an area of >20,000m². Sampled artefacts represent several periods of Epipalaeolithic activity, providing the first definitive evidence for Late Pleistocene human activity in Wadi Faynan. Geoarchaeological data provide evidence of major environmental changes, suggesting the presently arid Barqa region was previously far wetter. In this paper we present these field data and consider the implications of these for understanding the forager farmer transition in 'marginal' ecological zones

Sou POSTER

Shining new light on colour: a study of polychromy and light on Neo-Assyrian reliefs

Li Sou, University of Durham. Email: li.sou@durham.ac.uk

This poster will present the results of my first class undergraduate dissertation on the study of polychromy and lighting on Neo-Assyrian reliefs. This was to recognise and understand the effects that the original application of colour and varied light positions would have had on the appearance of the palatial carvings.

Statistical data from visual examination, original excavation records and published sources were analysed, in addition to XRF testing, to identify examples of original colour placement. Digital re-colourations and an RTI model reflecting these findings were produced, to form images of the reliefs that reflect their original palatial appearance more closely than their current

displays and portrayals in museums and publications.

Set schemes of colouration were found which reinforced Assyrian imperial ideologies, such as the legitimacy of the kings' rule through expressions of power, utilising an understanding of colour that is very different to that of modern western values. The poster will highlight the importance of colour and light as aspects to consider in future research, and depicts some of the most likely reconstructions.

Stampolidis

Eleutherna on Crete and the Near East

Nicholas Stampolidis. Crete. No abstract. Email: nstampolidis@cycladic.gr

Tucci

Foreigner artisans or 'exotic' influence? The case of southern Levant jewellery during the Late Bronze Age

Giulia Tucci, Sapienza University of Rome. Email: giuliatucci@live.it

Most of the jewellery produced in southern Levant through the Early and Middle Bronze Ages was of simple workmanship, realized in elementary metal and in a limited variety of semi-precious stones, faience, bone, ivory and shell. It was only at the very end of the MBA, and especially during the following Late Bronze Age, that jewellery craftsmanship underwent a meaningful typological and technological development. This period of intensifying interconnections and rising internationalism witnessed a wide-ranging movement of materials, goods and artisans, along with the circulation of technological knowledge and expertise throughout the Near East.

In Canaan, subject to the political and cultural hegemony of Egypt during the Late Bronze Age, the diffusion of both imported materials and exotic technical know-how is apparent in local jewellery manufacture, typified by the extensive use of Egyptian shapes, motifs and techniques, and using materials such as gold and semi-precious stones. On the other hand, Palestinian Late Bronze Age jewellery seems basically to be of local manufacture. Therefore, were local artisans producing these pieces, or were foreign craftsmen, either itinerant or settled, making at least some of them?

The aim of this paper is to briefly analyze the presence of local vs. foreign craftsmen in Late Bronze Age southern Levant, through the study of technological know-how, ateliers and historical background where they worked.

Vos

Studying phytolith and geochemical soil signatures in Bedouin camps at Wadi Faynan, Jordan

Daniella Vos, Emma Jenkins, University of Bournemouth; Carol Palmer, CBRL Amman. Email: dvos@bournemouth.ac.uk

A study of soil samples from seven Bedouin campsites at Wadi Faynan, Jordan, is being carried out in order to assess the efficacy of phytolith and geochemical analysis for understanding the use of space at ephemeral sites. While two of the sites were occupied during sampling, the other five had been abandoned for various durations of time at the point of sampling. This enables the research to explore how phytolith and geochemical soil assemblages are altered through time.

By evaluating the potential of these methods to increase our understanding of the use of space in ephemeral sites, this research aims to contribute to the study of spatial activity patterns in Neolithic sites, which often have poorly preserved organic remains.

Weeden

Hittite routes to the west

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Wengrow et al

Gurga Chiya and Tepe Marani: introducing two new sites in the Shahrizor Plain, Iraqi Kurdistan

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This paper will introduce a new joint project of UCL, UCL Qatar, and the Sulaimaniya Directorate of Antiquities and Heritage, focusing on the excavation of two previously uninvestigated mounds, located adjacent to one another in the vicinity of Halabja.

The talk will briefly describe new evidence for human settlement during the Late Neolithic (Halaf) and Chalcolithic ('Ubaid and Uruk) periods, which are otherwise poorly documented in this part of the Middle East.

Wengrow

Gobekli Tepe and its Palaeolithic background: some thoughts on seasonality and inequality among prehistoric hunter-gatherers

David Wengrow, Institute of Archaeology UCL.
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The monumental stone buildings of the Gemus Mountains, overlooking the Harran Plain in south-eastern Turkey, are often viewed as an evolutionary enigma. The main source of anxiety is a group of twenty megalithic enclosures, raised there at a time – around 9000 BC – when the surrounding plain was woodland-steppe, teeming with wild plant and animal life that colonised the Taurus piedmont after the end of the Pleistocene. Scientific dating places these structures within the 'Pre-Pottery Neolithic' period but, on current evidence, the groups responsible for their creation lived by hunting and foraging alone.

It has been argued, on this basis, that 'hunter-gatherer societies had evolved institutions to support major public works, projects, and monumental constructions, and thus had a complex social hierarchy prior to their adoption of farming'. But assertions of this kind raise evolutionary questions that they fail to answer: if social inequality was so deeply entrenched among prehistoric hunter-gatherers of the Fertile Crescent, then why did it take a further six millennia for anything like a state to emerge there? Part of the solution to such conundrums may lie in the relationship between seasonality and inequality among prehistoric hunter-gatherers. In developing this point, I will consider the evidence from Göbekli Tepe – not in relation to the inception of Neolithic farming societies, as is often done – but against the wider background of the Upper Palaeolithic in Europe and the Near East.

Whitlam et al

Transitions in plant use in the Neolithic of the eastern Fertile Crescent

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During the 1960s research on the origins of agriculture was focused at the eastern end of the Fertile Crescent, with areas of Iran and Iraq assuming prominence in models of plant domestication. Subsequent geo-political events caused a shift in focus to the west and resulting excavations, coupled with the development of modern archaeobotanical techniques, have generated our current model of pre-domestication cultivation, which sees this region as the centre for the origins of agriculture. In recent years renewed research and excavations in the eastern Fertile Crescent, including by the Central Zagros Archaeological Project (CZAP - www.czap.org), have provided us with the opportunity to reassess the role this region played in transitions in plant use and the domestication of plants during the Early Neolithic.

This paper focuses on evidence from the analysis of charred macrobotanical remains recovered at two CZAP sites: Sheikh-e Abad (c. 9800–7600 cal BC) situated in the Central Zagros of western Iran, and Bestansur a mid-eighth millennium site (c.7600 cal BC) in the foothills of Iraqi Kurdistan.

Sheikh-e Abad in particular is notable for its c.2200-year-long occupation, which spans the agricultural transition, and for being one of the earliest Neolithic sites known in the area. Crucially the archaeobotanical evidence suggests that a suite of large-seeded grasses formed part of the inhabitants' diet and may reflect the 'auditioning' of wild grasses (*sensu* Smith, 2011), thus supporting recent evidence from Chogha Golan for the independent cultivation and domestication of plants in the eastern Fertile Crescent.

Wilkinson

Abroad in all weathers? The seasonality of 'interdependence routes'

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The study of large-scale trade and exchange in the ancient world remains wedded, for the most part, to an 'anti-ecological' perspective in which interaction (of various sorts) takes place between actors who inhabit a rather flat and/or unchanging spatial field. The dynamics of landscape, climate, weather and the seasons are all too often ignored – rather understandably – for the sake of simpler models.

Additionally, our traditional publishing medium and printing restrictions also constrict our understanding to this flat Cartesian space: black and white paper maps have been extremely useful tools for archaeologists, but their visuality tends to limit the range of ecological dynamics that can be discussed.

Topography, climate and seasonality are essential to understanding the changing forms and intensity of human travel which enabled interaction and 'interdependence' between both urban and non-urban communities of the Near East. Using case-studies from the highland area(s) north of Mesopotamia, this paper sets out to examine how rethinking the visuality of maps might enable us to incorporate seasonality into our models of ancient trade routes.

Wordsworth

The development of route networks on the north-eastern frontiers of Sasanian and early Islamic worlds

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The eastern lands of the Sasanian and early Islamic empires are frequently perceived as regions of trade and interaction, characterised by long-distance routes that fed the demand for exotic goods. At the same time, it is in these zones that borders were crystallised and maintained, defining the limits of imperial control. In order to understand frontiers in this context, it is necessary to define the nature of the pathways in question and determine their relationship to border politics.

This paper presents recent archaeological survey material from the Karakum desert, Turkmenistan, which has charted the remains of desert travel from the Sasanian period through to the Mongol invasion. While much of the data collected pertains to the latter part of this window, it is possible to draw several conclusions about the early development of travel in the region and challenge existing ideas of the origins of long-distance trade. Furthermore, by contextualising the evidence within the broader discussions of cross-border interactions in mediaeval Eurasia, several critical questions are raised as to the manner in which frontiers were delineated and maintained.

Wright

Craft production, food preparation and household differentiation at Çatalhöyük East and other Neolithic sites in the Near East

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Long-term analysis of manufacturing data and spatial-contextual distributions of thousands of heavy stone tools used for craft production and food preparation at Near Eastern early Neolithic sites reveals patterns suggesting that domestic arrangements for craft production and food preparation were very variable between sites. Within individual sites, clear and stable patterns can be identified, suggesting household conventions and a degree of household autonomy and self sufficiency. However, there are some key exceptions suggesting the possibility that some households specialized in certain crafts.

It is suggested that household level craft specialization by 'entrepreneurial' domestic groups constitutes the earliest form of craft specialization in the agrarian societies of the Near East. This has implications for questions about what 'social complexity' might mean in early Neolithic societies. Case studies include bead production; production of milling tools; and the nature of household involvement in wall painting and other art forms. Sites discussed include large stable villages (e.g., Beidha, Çatalhöyük East) and seasonally occupied sites in Jordan, among others.

Yekutieli

The renewed excavations at Tel Erani

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Tel Erani is situated in southern Israel next to the modern town of Kiryat-Gat. The site consists of a 1.5 ha upper mound, and two adjacent lower terraces, an additional 15 ha. Tel Erani was first excavated by Shmuel Yeivin in 1956 to 1961, revealing the major importance of the site for studying the transition between the Chalcolithic to the Early Bronze Age (EBA), earliest urbanization in the southern Levant, connections between Egypt and Canaan at the end of the 4th millennium BC, the earliest Egyptian colonization of the area and more.

A major find was the remains of a city-wall whose date could not be precisely determined, a fact that became a focus for debate. One of the other known objects from his excavation was a large

potsherd of an Egyptian pithos bearing a *serekh* of Narmer. This find signalled the first realization of the major involvement of Dynasty 0/1 Egypt in the southern Levant.

In 1985 to 1988 Aharon Kempinski and Isaac Gilead returned to the site. Among their discoveries was the understanding that Tel Erani had prospered as a proto-urban site before the Egyptian colonization of the area (what became known as the Erani C horizon).

The current paper will present the renewed research at Tel Erani since 2013 carried out by a collaborative team of Ben-Gurion University of the Negev and the Jagiellonian University of Krakow. After two seasons new information emerges in regard to the fortification of the site in the EBA and its settlement in EB1/ EB2.

Zerbini

Landscapes of production in the Jordanian Decapolis: the wine and oil industry and its infrastructure

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This paper presents some of the preliminary results of fieldwork conducted in 2014 in the area between the wadi Yarmouk to the north and wadi

Zarqa to the south (northern Jordan). The predominantly hilly country enclosed by these two rivers displays pervasive evidence of ancient terracing. Its suitability for olive and vine cultivation is not only attested archaeologically – by a large number of presses displaying different degrees of sophistication – but also by literary sources.

Fieldwork was undertaken in the context of the author's *Productive Landscapes Project* (which aims at mapping all presses and mills in this region) as well as within the framework of the new French mission *Hauran Jordanien* directed by Dr P.-M. Blanc (CNRS, Nanterre).

Fieldwork concentrated on discovering new sites of oil and wine presses and re-visiting nearly 200 sites of oileries and wineries discovered by earlier missions. The aim was to establish a broad typological series to be compared with sites known from modern Tunisia, Libya, Israel, Lebanon and Syria.

Starting with an overview of the traditional methods of wine and oil production used in the region, this paper will then discuss the different types of presses and press components to be found in northern Jordan. We provide evidence for the scale of the wine and oil 'industry' in this densely urbanised part of the southern Levant.

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Consuming Identities in the 'Cradle of Civilisations' – Food

Consumption

and the Emergence of Social Complexity in Greater Mesopotamia

Supervisors: Dr Claudia Glatz (Archaeology/School of Humanities) and Dr. Jaime Toney (School of Geographical and Earth Sciences)

This project will shed new light on practices of food consumption and identity in the proverbial 'Cradle of Civilizations' by investigating the role of specific organic substances in the (re-)production and negotiation of social status and cultural identities at a time when the world's first urban societies developed in greater Mesopotamia. ... The focus region of the project comprises the south Mesopotamian plains and the Zagros piedmonts of modern-day Iraq from the fifth to the second millennium BC.

Fuller details of the project description, including details of how to apply, can be found on the Postgraduate Research web pages:

<http://www.gla.ac.uk/services/postgraduateresearch/scholarships/kelvinsmith/shortlistedscholarshipprojects/>

The closing date for receipt of applications is Friday, 23 January 2015

Applications should be emailed to Adeline Callander (adeline.callander@glasgow.ac.uk)

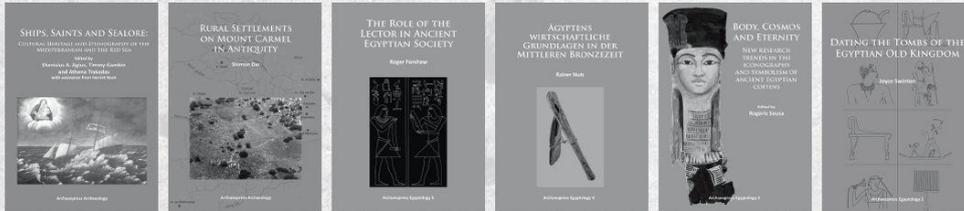


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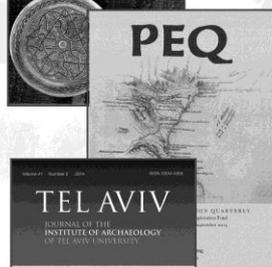
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