This year’s Annual Report follows a new format, in which the key developments in archaeological research at Oxford over the past twelve months are highlighted in brief synopses of 28 research projects currently under way. We hope that this format will not only whet the reader’s interest and desire to find out more, but will also convey something of the originality, excitement, and scholarly importance of the archaeological research being done here.

The School of Archaeology – comprised primarily of the Institute of Archaeology and the Research Laboratory for Archaeology and the History of Art – has grown considerably in recent years, and the ever-widening scope of its research – which now reaches into Asia – reflects this expansion. Indeed, this year we were delighted to welcome several new members of academic staff: Professor Julia Lee-Thorp, Professor of Archaeological Science, who studies the diets of early hominins and more recent humans as well as environmental and climate shifts and stable isotope ecology, particularly in Africa; Dr Mike Petraglia, Senior Research Fellow and Co-Director of the Centre for Asian Archaeology, Art and Culture, a Palaeolithic specialist whose research into modern human origins, lithic technology, and evolution of cognition involves fieldwork on the Arabian peninsula and the Indian subcontinent; Professor Dame Jessica Rawson, who joins the School after stepping down as Warden of Merton College to lead a major Leverhulme-funded project on ‘China and Inner Asia, c. 1000–200 BC: Interactions that Changed China’; Dr Eleanor Standley, a joint appointment (Lecturer-Assistant Keeper) with the Ashmolean Museum, whose research interests lie in later medieval Britain; and Christopher Ferguson, who joins the ‘Origins of Wessex’ project as a postdoctoral Research Assistant. We welcomed, too, postdoctoral Research Assistants Dr Catherine Frieman (‘Developing Archaeo-prosopography’), Dr Richard Staff (‘Comparison study of the Lake Suigetsu and Lake Ichi-no-Megata Radiocarbon datasets: a proof of concept’), Dr Maura Pellegrini (‘Evaluating Hunter Gatherers’) and Dr Shweta Chavan (‘Developing radiocarbon dating of bone amino acids’). Having completed her doctorate, Katerina Douka returned to work with the ‘Ancient Human Occupation of Britain’ project. And the School celebrated when Professor Bert Smith, Lincoln Professor of Classical Archaeology, became a Fellow of the British Academy. It is also appropriate to note here with regret the retirement of two long-standing members of the archaeological community in Oxford, who have contributed to the success of the School over many years: Judy East, Professorial Secretary, and Adrian Allsop, postdoctoral Research Assistant and Safety Officer at the Lab. We have also had to bid farewell to Daniela Hofmann who, during her time as a British Academy Postdoctoral Fellow, contributed greatly not only to the study of Neolithic Europe but also to the social life of the Institute of Archaeology! Her cheerful presence will be greatly missed.

As ever, the School of Archaeology has enjoyed a lively, indeed virtually non-stop, programme of conferences, special lectures, and seminars this year. These are listed at the end of this report, but amongst the highlights was the launch in October of the Oxford Centre for Asian Archaeology, Art and Culture, with a tour-de-force lecture to a packed Ashmolean lecture theatre by Jessica Rawson entitled ‘From Steppe Road to Silk Road. Interaction with and Impact on China, 2000BC–AD1000’. Other major events included Chris Gosden’s O’Donnell Lectures in Celtic Studies on ‘Magic, Metals and Art in Iron Age and Early Roman Britain’, Leslie Webster’s lecture on the Staffordshire Hoard, and Bert Smith’s Myres Memorial Lecture, memorably entitled ‘Ancient Beards’. This year’s student-run conference on ‘The Archaeology of Recovery: Adaptive Strategies in Response to Crisis’ was the latest in a long series of successful conferences led by Graduate Archaeology in Oxford. The Leverhulme Trust sponsored the Visiting Professorship of Ian Lilley from the University of Queensland who is helping us to develop work on cultural heritage which will form a focus for research and Master’s courses. Professor Lilley, together with Chris Gosden, organized a workshop held in Oxford in May 2011 on capacity-building in cultural heritage with participants from the School of Archaeology, the World Bank, major extractive industries and cultural heritage management firms. The aim was to bring together some of the major players in this area to discuss common interests and to develop future initia-
tives of both a philosophical and practical nature. Other academic visitors included Pablo Arias, from the University of Cantabria, Santander, Dr P. Cherian, Director of Excavations at the site of Pattanam in Kerala, Charles Chui from Taipei, and Gilbert Oteyo from the Nyanza Cultural Group. Staff and students were this year able to benefit for the first time from the new student rooms and enhanced teaching facilities available in the recently re-opened and internationally celebrated ‘New’ Ashmolean Museum.

Members of the School of Archaeology continue to be actively engaged in a wide range of community outreach projects, chief amongst these this year being the East Oxford Archaeology and History Project, launched in October 2010 under the aegis of the Department of Continuing Education. Its aim is to train local residents in the techniques of excavation, survey and finds analysis in order to explore the past in this historic part of the city (www.archeox.net/project). In July 2011, the Open Day held at the end of the tenth and final season of excavations at the site of Marcham, an Iron Age settlement overlain by a Romano-British temple complex in the Vale of the White Horse, attracted some 1200 visitors (www.arch.ox.ac.uk/VRP1.html).

This year also includes a major milestone in the history of archaeology not only in Oxford, but in Britain: on 29 September – still some weeks away, as I write – we are marking the 50th anniversary of the founding of the Institute of Archaeology by Oxford’s first Professor of European Archaeology, Christopher Hawkes, with an Open Day and Garden Party. With over 150 alumni as well as current staff and students in attendance, and an address by Hawkes’ successor, Professor Sir Barry Cunliffe, this promises to be a memorable celebration.

The School of Archaeology currently administers and teaches the undergraduate degree of Archaeology and Anthropology, with an annual intake of around 25 students, and comprises some 30 permanent academic staff, 18 academic-related and postdoctoral researchers, some 120 postgraduate students reading for the degree of Doctor of Philosophy, and a further 43 reading for Master’s degrees. Its members, some of whose research projects are described below, are based not only at the Institute and the Research Lab, but also in the Classics Faculty and the Department of Continuing Education, with collaborative links to other Oxford departments, such as History and Oriental Studies. Such a dynamic research programme – which ranges from human origins and early hunter-gatherer societies to the origins of agriculture, ancient environments, classical and historical archaeology – would be impossible without success in garnering external support. Grant income for the School of Archaeology this year came to just under £4 million and derives from a range of funding bodies, including the British Academy, Leverhulme Trust, NERC, AHRC, Wellcome Trust, National Geographic Society, Leakey Foundation, Mellon Foundation, and European Research Council.

Despite the uncertainties facing the Social Sciences and Humanities, the School of Archaeology is entering a period where innovative fieldwork and thematic interests are leading us into new parts of the globe, while joint ventures with our great University Museums, the Pitt Rivers and the Ashmolean, are opening up fresh research and teaching opportunities. We hope that this report will impart to the reader a lively sense of these new directions in Archaeology at Oxford.
Members of the School of Archaeology

Professor Nick Barton  
Lecturer in Palaeolithic Archaeology  
*Institute of Archaeology*

Dr Lisa Bendall  
Sinclair & Rachel Hood Lecturer in Aegean Prehistory  
*Institute of Archaeology*

Dr Amy Bogaard  
Lecturer in Neolithic and Bronze Age Archaeology  
*Institute of Archaeology*

Dr Nicole Boivin  
Senior Research Fellow  
*Research Laboratory for Archaeology and the History of Art*

Dr Peter Bray  
Leverhulme Research Fellow  
*Research Laboratory for Archaeology and the History of Art*

Dr Fiona Brock  
Radiocarbon Laboratory Postdoctoral Chemist  
*Research Laboratory for Archaeology and the History of Art*

Dr Shweta Chavan  
Postdoctoral Research Assistant in Bioarchaeology  
*Research Laboratory for Archaeology and the History of Art*

Dr Alison Crowther  
British Academy Postdoctoral Research Fellow  
*Research Laboratory for Archaeology and the History of Art*

Sir Barry Cunliffe  
Emeritus Professor of European Archaeology  
*Institute of Archaeology*

Dr Michael Dee  
Postdoctoral Research Assistant  
*Research Laboratory for Archaeology and the History of Art*

Dr Janet DeLaine  
Lecturer in Roman Archaeology  
*Ioannou Centre for Classical and Byzantine Studies*

Dr Peter Ditchfield  
Stable Isotope Laboratory Manager  
*Research Laboratory for Archaeology and the History of Art*

Mr Chris Doherty  
Research Assistant  
*Research Laboratory for Archaeology and the History of Art*

Dr Katerina Douka  
Postdoctoral Research Assistant  
*Research Laboratory for Archaeology and the History of Art*

Dr Ceiridwen Edwards  
Postdoctoral Researcher in Ancient DNA Studies  
(Wellcome VIP Award)  
*Research Laboratory for Archaeology and the History of Art*

Dr Irene Good  
AHRC Research Fellow  
*Research Laboratory for Archaeology and the History of Art*

Professor Chris Gosden  
Professor of European Archaeology  
*Institute of Archaeology*

Professor Helena Hamerow  
Head of the School of Archaeology  
Lecturer in European Archaeology (Early Medieval)  
*Institute of Archaeology*

Dr Michael Haslam  
Postdoctoral Fellow in Palaeolithic Archaeology  
*Research Laboratory for Archaeology and the History of Art*

Professor Robert Hedges  
Professor of Archaeological Science  
*Research Laboratory for Archaeology and the History of Art*

Dr Dan Hicks  
University Lecturer and Curator in Archaeology  
*Institute of Archaeology/Pitt Rivers Museum*

Dr Thomas Higham  
Deputy Director, Radiocarbon Accelerator Unit  
*Research Laboratory for Archaeology and the History of Art*

Dr Linda Hulin  
Research Assistant, Oxford Centre for Maritime Archaeology  
*Institute of Archaeology*

Dr Zena Kamash  
Research Assistant to the Professor of European Archaeology  
*Institute of Archaeology*

Dr Jane Kershaw  
Randall-MacIver Research Fellow in Archaeology  
(Classical)  
*Ioannou Centre for Classical and Byzantine Studies*

Dr Christine Lane  
Postdoctoral Researcher in Tephrochronology, RESET Project  
*Research Laboratory for Archaeology and the History of Art*

Professor Julia Lee-Thorp  
Professor of Archaeological Science  
*Research Laboratory for Archaeology and the History of Art*

Professor Irene Lemos  
Reader in Classical Archaeology  
*Ioannou Centre for Classical and Byzantine Studies*
MEMBERS OF THE SCHOOL OF ARCHAEOLOGY

Professor Peter Mitchell
Lecturer in African Prehistory
Institute of Archaeology

Dr Mike Petraglia
Senior Research Fellow
Co-Director, Centre for Asian Archaeology, Art and Culture
Research Laboratory for Archaeology and the History of Art

Professor Mark Pollard
Director of the Research Laboratory for Archaeology and the History of Art
Professor of Archaeological Science
Research Laboratory for Archaeology and the History of Art

Dr Oli Pryce
Leverhulme Trust Early Career Fellow
Research Laboratory for Archaeology and the History of Art

Professor Christopher Ramsey
Deputy Director of the Research Laboratory for Archaeology and the History of Art
Director of Oxford Radiocarbon Accelerator Unit
Research Laboratory for Archaeology and the History of Art

Professor Dame Jessica Rawson
Professor of Chinese Art and Archaeology
Institute of Archaeology

Dr Linda Reynard
Postdoctoral Research Assistant in Radiocarbon Accelerator Unit
Research Laboratory for Archaeology and the History of Art

Dr Damian Robinson
Director, Oxford Centre for Maritime Archaeology
Institute of Archaeology

Professor Mark Robinson
Lecturer in Environmental Archaeology
Director of Environmental Archaeology Unit
Institute of Archaeology

Dr Nadine Schibille
Research Fellow in Byzantine Glass Mosaics
Research Laboratory for Archaeology and the History of Art

Dr Rick Schulting
Lecturer in Scientific and Prehistoric Archaeology
Institute of Archaeology

Dr Jean-Luc Schwenninger
Research Fellow, Luminescence Dating
Research Laboratory for Archaeology and the History of Art

Dr Victoria Smith
Postdoctoral Fellow in Tephrochronology
Research Laboratory for Archaeology and the History of Art

Professor Bert Smith
Lincoln Professor of Classical Archaeology and Art
Cast Gallery, Ashmolean Museum

Dr Maria Stamatopoulou
Lecturer in Classical Archaeology
Iaonnou Centre for Classical and Byzantine Studies

Dr Eleanor Standley
University Lecturer and Assistant Keeper in Medieval Archaeology (AD 500–1800)
Institute of Archaeology/Ashmolean Museum

Dr Dustin White
Research Assistant (RESET Project)
Institute of Archaeology

Professor Andrew Wilson
Director of the Institute of Archaeology
Professor of the Archaeology of the Roman Empire
Institute of Archaeology
D.Phil. Students

Jamie Anderson (Hertford College)
*Human Adaptation to Environmental Change in Marginal Environments of the North Atlantic Zone, c.AD 800–1700: A Reappraisal of the Chronological Basis*

Michael Athanson (St Cross College)
*Modelling Bullet Trajectories on Historic Battlefields Using Exterior Ballistics Simulation and Target-Oriented Visibility*

James Blinkhorn (St Hugh’s College)
*The Palaeolithic Occupation of the Thar Desert: Assessing Models for the Dispersal of Homo Sapiens into South Asia*

Bohingamuwa Bohingamuwa (St Cross College)
*Ancient Sri Lanka and the Early Indian Ocean Contacts*

Ceri Boston (Linacre College)
*Archaeological Dating*

Dominique Bouchard (Lincoln College)
*The Reception of Classical Antiquity in Calabria, 500–1700 AD*

Fiona Bradshaw (Wolfson College)
*Plant Exploitation in Oceania: Analysis of Resins from Archaeological and Ethnographic Artefacts in the Pitt Rivers Museum*

Cassian Bramham Law (Hertford College)
*Research on the Role of Lacustrine Systems and the Re-occupation of the North European Plain following the Last Glacial Maximum*

Elizabeth Brophy (Keble College)
*Royal Statues in Egypt 300 BC–AD 220: Context and Function*

Chelsea Budd (Keble College)
*Marginality, Metaphor & Meaning: Stable Isotope Studies of Diet and Subsistence Aimed at Understanding the Adoption of Agriculture during the Neolithic and Bronze Age Periods in the Marginal Environment of the Orkney Islands*

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*Two Roman Towns, Pompeii and Herculaneum: An Examination of the Use of Wood as Fuel in Ritual and Domestic Contexts*

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*The Western Caucasus: Imported Weapons and Armour in the Hellenistic Period*

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Tiffany Chezum (Exeter College)
*Traces of Greece and Rome in Late Egyptian Art. Hellenistic and Roman Influences on the Art of Ptolemaic and Roman Egypt*

Laine Clark–Balzan (Keble College)
*Dating the Aterian Using Techniques of Luminescence Dating and Implications for Mapping the Dispersal of Modern Homo Sapiens*

Neil Coomber (Wolfson College)
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Oana Dominte (Keble College)
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*Investigating the Chronology of the Middle to Upper Palaeolithic Transition in Mediterranean Europe by Improved Radiocarbon Dating of Shell Ornaments*

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*A Re-evaluation of the Evidence of Anglian-British Interaction in the East Midlands*

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*The Statuettes and Amulets of Heracleion-Thonis*

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*Cults and Relics at Constantinople: Their Origins and Development Before Iconoclasm (AD 330–720)*

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*Life and Death in the Korean Bronze Age (c.1500–400 BC): An Analysis of Monuments and Settlements in the Mid-Korean Peninsula*

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*Spatial Analysis as a Tool to Investigate Trading Networks and Seafaring Activity Between SE Asia and the Red Sea Regions from the Hellenistic and Roman Era Using Examples from the Sites of Berenike, Egypt, and Pattanam, SE India*

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*Elite Houses in Kissamos and Knossos (Crete): A Study in Emulative Acculturation*

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*Behavioural Modernity in Southern Landscapes: Modern Cognition in MSA Africa and Pleistocene Sahul*

Sharen Lee (Linacre College)
*Bayesian Methods for the Construction of Robust Chronologies*

Victoria Leitch (Hertford College)
*Production and Trade of Roman and Late Roman African Cookwares*

Chen Li (Merton College)
*Archaeology and Art of the Han Dynasty (China)*

Yan Liu (Merton College)
*Chinese Art History and Art Archaeology*
Matthew Lloyd (Merton College)
The Archaeology of Greek Warriors and Warfare from c.1200 to c.600 BCE

Lisa Ludwick (St Cross College)
Archaeobotany: A Study of the Late Iron Age and Early Roman Macroscopic Plant Remains from Silchester Insula IX

Anthony Lynch (St Cross College)
Carbon Isotopic Dietary Signatures of Amino Acids

Lara Mallen (St Hugh’s College)
Raiding Relationships: The Role of the San in the Stock Raiding System of the North Eastern Cape and Southern Lesotho

Anat Marom-Rotem (Linacre College)
Development and Application of an Analytical Method for Radiocarbon Dating Bones using the Amino Acid Hydroxyproline

Javier Martinez (Lincoln College)
Water Supply and Urbanisation in Late Roman and Visigothic Iberia

Rebecca McElwain (St Cross College)
Liminal Waters: Prehistoric to Present Day Identities of the Indian Ocean as Constructed from Île de la Reunion and their Roles in Environmental Management

Rebecca McGann (Exeter College)
Art and Text in Late Antiquity: The Language of Christian Narrative Images

Mark McGranaghan (Hertford College)
Foragers on the Frontiers: The /Xam Bushmen of the Northern Cape, South Africa, in the Nineteenth Century

Mark McKerracher (St Cross College)
Mid-Saxon Developments in Agricultural Production

Kristine Merriman (Merton College)
Vessel Use in Bronze Age Canaan

Elisabeth Montgomery (Exeter College)
Nilotic Imagery on Mosaic Pavements in the Levant in Late Antiquity

Wendy Morrison (Exeter College)
Expressions of Changing Identity in the Upper and Middle Thames Valley: Personal Adornment and Domestic Objects from 100 BC–AD 100

Roger Nathan (St Hugh’s College)
Numerical Modelling of Environmental Dose Rate and its Application to Trapped Charge Dating

Erika Nitsch (Linacre College)
Using Single Amino Acid Stable Isotope Analysis to Examine Dietary Indications of Cultural Continuity during the Transition between the Roman Empire and Early Medieval Period in Italy

Anna Oh (St Cross College)
A Multi-Proxy Approach to Examining Palaeoenvironmental Signals and Tephrochronology during the Middle Palaeolithic and Epipalaeolithic Phases at Grotte des Pigeons, Gafaralt, Morocco

Marcelle Olivier (Keble College)
Geometric Rock Art Along the Luangwa Escarpment, Zambia and its Relationship with the Later Stone Age in Southern and South-Central Africa

Jayson Orton (St Hugh’s College)
Late Holocene Archaeology in Namaqualand, South Africa: Hunter-Gatherers and Herders in a Semi-Arid Environment

Joanna Palermo (University College)
Innovative Economies: The Impact of Iron Technology on the Economy and Culture of Early Iron Age Greece (1200–700 BCE)

Konstantina Panouisi (Merton College)
The Use of Marble Statuary on the Island of Thasos

Charles Panos (Wolfson College)
A Study of the Late Twelfth and Thirteenth Centuries Byzantine Architecture and Painting: the Church of Kerna in Chios

Sefryn Penrose (St Cross College)
The Sculptured Portraits of Caracalla and Geta: Forms and Deployment

Sadie Pickup (Wolfson College)
Praxiteles’ Knidia: The Evolution, Development and Reception of the Statue

Charlotte Potts (Lady Margaret Hall)
Accommodating the Divine: The Form and Function of Religious Buildings in Latial and Etruscan Settlements c.900–500 BC

Paul Preston (Hertford College)
Lithics to Landscapes: Hunter-Gatherer Tool Use, Resource Exploitation, and Mobility During the Mesolithic of Northwest England

David Price (Wolfson College)
The Present in the Past. An Exploration of the Archaeoastronomical Significance of Selected Prehistoric and Early Medieval Irish Monuments

Sascha Priewe (Merton College)
Social Change Along the Middle Yangzi River: Re-configurations of Late Neolithic Society

Philippa Puzey-Broomhead (St Cross College)
Black Loyalists

Kathryn Reusch (St Hugh’s College)
Physical and Social Effects of Prepubertal Castration

Candace Rice (Exeter College)
Ports, Emporia and the Growth of the Roman Economy, 166 BC to AD 300

Valeria Riedemann Lorca (Lincoln College)
Amazonomachy: A Study of its Reception during the Fifth and the Fourth Centuries BC

Efthymios Rizos (Keble College)
Cities, Architecture and Society in the Eastern and Central Balkans During Late Antiquity (c.AD 250–600)
Jonah Rosenberg (St John’s College)
Rendering Emotion in Greek Art, 525–404 BC

Roberto Rossi (Lincoln College)
The Art of Hellenistic Warfare: Context, Images and Violence

Erica Rowan (St Cross College)
Roman Diet and Nutrition in the Vesuvian Area: A Study of Biological Remains from a Sewer at Herculaneum

Benjamin Sabatini (Linacre College)
Abandoned Chemistry: A new interpretation of copper alloy artifacts from the Cypriot Bronze age based on recently acquired and existing chemical data

Giulia Saltini Semerari (Lincoln College)
Towards the Greek Colonization: The Interaction Between Greece and Italy from the End of the Bronze Age to the Iron Age

Katia Schorle (St Cross College)
Strategies on Desert Frontiers: The Eastern Desert of Egypt, Libyan Desert and Syrian Desert in Comparison

Nichole Sheldrick (Corpus Christi College)
Archaeology of Roman North Africa – Material Culture and Identity in Urban Roman Tripolitania

Yuriria Silva-Velazquez (Linacre College)
Application of Transmission Electron Microscopy to Identify Pre-Hispanic Developments in the Manufacture of Maya Blue Pigment

Clifford Sofield (St Cross College)
Placed Deposits in Anglo-Saxon Settlements

Gabriela Sotomayor (Wolfson College)
The Iconography, Manufacture, and Stylistic Influence of Ptolemaic-Period Egyptian Jewellery and Engraved Gems

Silja Spranger (Lincoln College)
Honourific Statuary in the Third Century AD

Richard Staff (Linacre College)
Research on Radiocarbon Calibration Records, Focussing on New Measurements from Lake Suigetsu, Japan

Christina Triantafilou (Keble College)
Imperial Building in Trajanic Rome: A Study of the Construction and Economics of Public Building

Alexander Vacek (Merton College)
Greek and Related Pottery from Al Mina. A Case Study of Production, Consumption and Distribution of Greek Pottery in the Eastern Mediterranean from the Beginning of the Iron Age to the Archaic Period

Elsbeth van der Wilt (Linacre College)
A Selection of Lead Objects from Heracleion-Thonis, Egypt

Greg Votruba (Wolfson College)
Anchors and Mooring in the Ancient World

Victoria Waldock (Wolfson College)
A Multi-Sensory Analysis of Holocene Saharan Pastoralist Rock Art

Jennifer Wehby (St Cross College)
Investigation of the Agency and Expertise of Ancient Roman Builders Through Material Analysis of Concrete Samples from Ostia, Italy

Rui Wen (Keble College)
The Cobalt Blue Pigment Used on Islamic Ceramics and Chinese Blue-and-White Porcelain

Marlena Whiting (Lincoln College)
Travel and Accommodation in the East Mediterranean, 300–700: A Study of Networks of Communication, Travel, Infrastructure and Modes of Accommodation in Late Antiquity

Rachel Wood (Lincoln College)
After the Achaemenids: Exchange, Transmission and Transformation in the Visual Culture of Babylonia, Iran and Bactria c.330–c.100 BC

Rachel Wood (Keble College)
The Contribution of New Radiocarbon Dating Pre-treatment Techniques to Understanding the Middle to Upper Palaeolithic Transition in Iberia

Carrie Wright (St Cross College)
Calcium Isotopes in Modern Biological Mammal Systems and Archaeological Skeletal Material

Mu-Chun Wu (Hertford College)
Negotiating Space: An Archaeological Research in Aumagan, Taiwan

Rose-Marie Wyche (St John’s College)
The After-Lives of Tombs: The Re-use of Roman Sarcophagi in Provence

Heini Ynnila (Brasenose College)
Pompeii, Insula IX. 3: A Case Study of Urban Infrastructure

Maggie Ziriax (St Cross College)
Isotope Analysis Study of Migration Through the Use of Stable Isotope Analysis on Individuals from the Necropolis at Sanisera
Researc on Grotte des Pigeons at Taforalt in eastern Morocco forms the core of this project. The cave contains a rich, unbroken sequence of epipalaeolithic layers that extend back to around 20,000 years ago and the site includes the largest recently excavated epipalaeolithic cemetery in north-west Africa. The principal aims of the project are to examine factors that led to group funerary practices and whether this was accompanied by other changes such as an intensification in dietary behaviour and the adoption of less nomadic lifestyles. In other parts of Africa similar developments have been linked with the emergence of the Neolithic, but in this case and in this region the epipalaeolithic people continued to maintain a hunter-gatherer existence over a prolonged period of many thousands of years.

In order to examine the context of these changes, our excavations at Taforalt focused on the early occupation layers (20–13,000 years ago) and the overlying sequence when Taforalt was partly transformed into a large cemetery (12,500–10,900 years ago). The upper deposits are of interest because they consist of densely packed middens that contain enormous quantities of ash, charcoal and charred plant remains (including pine cones and acorns), plus a range of other cultural materials such as cut-marked and modified bone of Barbary sheep, ostrich eggshell and lithic artefacts. These upper deposits are therefore strongly anthropogenic and point to the exploitation of a diversity of food resources, as the extensive programme of sieving confirms. An equally intriguing aspect of these levels is in the presence of major concentrations of burnt and broken shells of terrestrial molluscs that are largely restricted to edible species (Dupotetia, Otala, Xerocrassa and Helix). One of the related goals of the project is to establish whether these were eaten as a regular part of the human diet or even husbanded, as some earlier researchers have suggested elsewhere. In stark contrast to these upper deposits, the underlying sediments reveal occupation horizons in which such molluscs are rarely present and include instead mainly representatives of the natural fauna of the cave. These layers are also rich in Barbary sheep and lithic artefacts, with distinctive hearth zones containing burnt bone and lithics but with none of the thick, ashy midden deposits present in the layers above.

At present, we would interpret this as evidence that the cave was used at different scales of intensity before and after about 13,000 years ago. In parallel with the midden area, renewed excavations of the burial horizons near the back of the cave produced in situ graves of adults, juveniles and infants, and represent an unprecedented insight into funerary behaviour during the epipalaeolithic period. The burials are in very close spatial proximity and their sequence can be partly inferred based on stratigraphic relationships and from the secondary deposition of bones or bone fragments from earlier skeletons into later burials. Samples of both human material and associated animal bones have been submitted for radiocarbon dating in order to clarify the depositional sequence and delimit the timing and duration of burial activity.

For further information, see the Cemeteries and Sedentism website: http://web.arch.ox.ac.uk/leverhulme/

The Cemeteries and Sedentism project is principally funded by the Leverhulme Trust and grants from the British Academy and the Natural Environment Research Council. The Institut National des Sciences de l’Archéologie et du Patrimoine granted permission to conduct this project. The work has been carried out in close collaboration with INSAP, Reading University, UK, the Natural History Museum, UK, and Römisch Germanisches Zentralmuseum, Mainz and by researchers at a number of UK institutions.

Excavations at Grotte des Pigeons, Morocco. Vertical section showing the midden deposits (grey) and underlying (yellow-brown) sediments, both with rich epipalaeolithic levels.
The cultivation and storage of plants are central to an understanding of early farming societies around the world. Growing crops fostered distinctive social relations, often featuring small-scale family units or ‘households’. Storage of produce enabled families to plan a future rooted in land holdings that could be passed on to later generations. But early farming communities in south-west Asia are often very large and long-lived; how were the socially divisive effects of food ‘hoarding’ by individual households overcome? The 9000-year-old settlement of Çatalhöyük in south-central Turkey is a case in point: households were tightly clustered into neighbourhoods so dense they lacked streets, and houses were entered through the roof. This crowded, pueblo-like settlement was occupied for over a millennium and grew to be an enormous village covering some 13 ha.  

A project integrating botanical and faunal evidence for food-related practices at Çatalhöyük suggests that its impressive coherence relied in part on sharing of ‘special’ foods beyond the immediate household on certain occasions. Faunal evidence points to sharing of meat from hunted animals, especially wild cattle; once killed, these large carcasses needed to be consumed quickly. This practice chimes with the site’s numerous installations of wild animal parts – especially cattle heads and horns – on interior house walls, benches or pedestals. Dramatic display and celebration of animal consumption contrast sharply with handling of plants, for which we now have uniquely detailed evidence from over 20 houses and a long temporal sequence. Plant storage was a private matter: grains, seeds and nuts were packed into bins and baskets in tiny ‘pantries’ off ground-floor living spaces. Even daily processing activities, such as the shelling of peas or dehusking of wheat, tended to occur in household spaces. The very ‘secrecy’ of plant processing, however, suggests that there was potential for sharing between households. Moreover, there is a remarkable degree of consistency in the range of crops and wild plants used from one house to the next. Cooperative work among households in the wider landscape – collecting wild plant foods, pooling labour at key points in the agricultural cycle – also helps to explain this conformity. Shared practices in the use and management of plants contributed to communal cohesion.  

Packed together cheek by jowl, Çatalhöyük households were nevertheless divided by their own self-interest, embodied in practice by ‘private’ processing and consumption of plants. In their art, however, people celebrated exceptional instances of food sharing that transcended household boundaries. We are currently exploring variability in handling of plant- and animal-based foods among houses and continuity versus change through time. If you would like to read more about this project, see recent papers in *Journal of Field Archaeology* (2008), *Antiquity* (2009) and *Current Anthropology* (2009) and the following websites: http://www.arch.ox.ac.uk/NIC1.html http://www.catalhoyuk.com/  

Recent botanical and faunal work at Çatalhöyük has been funded by a National Science Foundation grant (awarded to Katheryn Twiss, Stony Brook University, and Amy Bogaard) and a Templeton Foundation grant (awarded to Ian Hodder, director of excavations). On-site work and post-excavation analysis of botanical material have been carried out in collaboration with academics and students in Turkey, the UK, USA and continental Europe.
The notion of the world as a globalized entity, with geographical boundaries and cultural divisions falling aside at an increasingly breakneck pace, has become commonplace in society today. Images of African tribesmen in traditional dress using mobile phones, and people in remote villages drinking Coca-Cola encapsulate the kinds of transformations that are occurring, and demonstrate the pace of change in traditional societies worldwide. However, the sense we have that globalization is a new phenomenon is challenged by recent findings demonstrating that processes of globalization began to emerge many millennia ago.

The Oxford-based Sealinks Project is a major, international multidisciplinary project that is seeking to explore the early origins of globalization in a key world arena: the Indian Ocean. While the Atlantic Ocean long served as a barrier to contact and communication, the currents and wind patterns in the Indian Ocean appear to have enabled distant continents to be bridged from an early time period. This is indicated in particular by a number of spectacular early translocations of plants and animals, between Africa, India and Southeast Asia. The goal of the Sealinks Project is to try to understand more about this early period of contact, about which little is currently known.

The five-year Sealinks Project is taking a multidisciplinary approach to the study of the early Indian Ocean world, bringing together a range of disciplines from the humanities and natural sciences, including archaeology, molecular genetics and historical linguistics. A number of sub-projects are currently at various stages of progress, and are training a new generation of D.Phil. students in interdisciplinary techniques. For example, archaeological field studies in East Africa, Sri Lanka and India are being linked to specialist scientific and historical linguistic studies of plants, animals and elements of material culture. In another study, molecular genetic techniques are being drawn upon to study early Indian Ocean ‘hitchhikers’ – so-called commensal species that travelled with ships thereby colonizing new lands and tracing pathways of human trade and migration. Studies of modern and ancient African plant DNA are also being carried out to understand how and when a number of key Southeast Asian crops entered the continent.

Initial findings suggest that, far from being minor occurrences, early steps towards the globalized world we live in today had significant impacts on societies, ecosystems, agricultural patterns, material culture and technology. They produced, in many cases, hybrid cultural and biological entities whose ultimate origins from distant lands went unrecognized or were forgotten. These intersections were furthermore not only the creation of complex, state-level societies – small-scale groups, from foragers to fishermen to sea nomads and sailors, often had significant roles to play. The later trading and voyaging efforts of major state players, whether Roman, Arab or European, owe much to these earlier networks, forged through the efforts of long-forgotten individuals and societies. The Sealinks Project is seeking to rediscover these early connections and to reconstruct the processes of contact, trade and dispersal that took place in a now long-forgotten world where the ultimate consequences of these initial links – the intensively connected planet we inhabit today – could hardly have been imagined.

The Sealinks Project is funded by a major five-year European Research Council (ERC) grant awarded to Dr Nicole Boivin. Other funding has been provided by the Natural Environment Research Council (NERC) and the Oxford University Fell Fund. The project involves collaborations with a range of projects and institutions worldwide, in particular the Institute of Archaeology – University College London, University of Warwick, University of Durham, University of York, Cornell University, University of Dar es Salaam, British Institute in Eastern Africa, National Museum of Kenya, Kerala Council for Historical Research, Department of Archaeology Sri Lanka, University of Ruhuna and Postgraduate Institute of Archaeology Sri Lanka.

The Sealinks Project is exploring the origins of globalisation in the Indian Ocean. Initial findings suggest that these early steps towards the globalized world we live in today had significant impacts on societies, ecosystems, agricultural patterns, material culture and technology. They produced, in many cases, hybrid cultural and biological entities whose ultimate origins from distant lands went unrecognized or were forgotten. These intersections were furthermore not only the creation of complex, state-level societies – small-scale groups, from foragers to fishermen to sea nomads and sailors, often had significant roles to play. The later trading and voyaging efforts of major state players, whether Roman, Arab or European, owe much to these earlier networks, forged through the efforts of long-forgotten individuals and societies. The Sealinks Project is seeking to rediscover these early connections and to reconstruct the processes of contact, trade and dispersal that took place in a now long-forgotten world where the ultimate consequences of these initial links – the intensively connected planet we inhabit today – could hardly have been imagined.

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Dorchester-on-Thames occupies a unique position in British archaeology as the only place where towns dating from the Iron Age, Roman and Anglo-Saxon periods survive largely unobscured by later development. Dyke Hills, an Iron Age oppidum south of the modern town, is delimited to the north by impressive ditch and bank earthworks. The Roman walled town at Dorchester is one of only two known in Oxfordshire, and in c.AD 635, the seat of the first bishopric in Wessex was established there, making the town a centre of national importance. Three nationally important early fifth-century burials, two of which were found in the Dyke Hills ramparts in 1874, provide tantalizing, unique evidence of society at the end of the period of Roman rule in Britain and before the establishment of Anglo-Saxon kingdoms. They were buried with both Roman artefacts and dress items from the other side of the North Sea, suggesting that elements of Roman identity survived the political and military breakdown of the early fifth century. The Dorchester Project – undertaken in collaboration with Oxford Archaeology and the local community – is investigating Dorchester’s development as a means of illuminating each of these transitional stages on a regional and, ultimately, national scale. The excavations also provide training for undergraduates and members of the local community, who have obtained a Heritage Lottery Fund grant to support this training as well as exhibitions and lectures.

July 2010 saw the third season of excavation in allotments overlying the south-west quarter of the Roman town, with the main north–south Roman road through the town lying at its eastern margin. In the late Roman period most of this was an open area, perhaps serving as a market place or other public space. Remains of a timber building were found at the west edge of the site. This was cut by a late Roman ditch, probably dug after AD 350, curving away from the road to the north-west, defining the north-easter part of an enclosure. The features found suggest that the layout of this part of Dorchester was remodelled in the later fourth century. Further evidence of this is the accumulation of midden-like deposits which contain large amounts of Roman finds but have also consistently produced early Saxon material. It is possible that most if not all of these layers were deposited after the end of the Roman period.

At the western edge of the Roman road lay an Anglo-Saxon Grubenhaus. Such buildings are relatively rare in Roman towns; the present example mirrors one excavated in the allotments in 1962; others were found in 1972 c.200 m to the north. The most significant object from 2010 is a very late Roman buckle with two horses’ heads. This is the third example of this type of buckle found in the present excavations (see photo below) and was probably worn by late Roman officials or quasi-official personnel. This remarkable concentration of such buckles at a single site underlines the importance of Dorchester at the very end of the Roman period. This is further underscored by the Roman coins, a high proportion of which date to AD 388–402, indicating unusually enhanced activity at the very end of the fourth century, if not beyond. It raises the key question of the nature of the relationship between this activity and the earliest Saxon occupation.

Remarkable finds also emerged as a result of work carried out to restore the inner rampart of the Dyke Hills, after disturbance had revealed human remains. These

![Late Roman buckle from the 2008 field season.](image-url)
have been radiocarbon-dated to the late Roman period, raising the possibility that they were associated with the early fifth-century burials uncovered in 1874, thought to be those of a Saxon mercenary and his wife. More of the adult male skeleton was recovered, as were an elaborately decorated late fourth-century belt buckle and a late Roman throwing axe (see photo below). This ensemble makes it almost certain that the disturbed burial was of military character. This burial, together with the 1874 find, suggests the presence of a military community at Dorchester at the end of the fourth century which buried its dead ostentatiously, in a prominent location south of the town.

For further information, see the ‘Discover Dorchester’ website and blog: http://www.arch.ox.ac.uk/DOT1html and www.discoveringdorchester.blogspot.com

The Dorchester Project has received grants from the Royal Archaeological Institute, the Society of Antiquaries, the Oxford Journal of Archaeology, the Oxford Architectural and Historical Society, the Trust of Oxfordshire’s Environment, the Craven Committee and the Haverfield Bequest.
The island of Sark, one of the smaller of the Channel Islands, occupies a focal point between the archipelago and the adjacent coasts of France. It is ideally placed to feature in maritime exchange networks and yet with its steep 100 m high cliffs it is a formidable place to approach. The island’s archaeological fame lies in the discovery, in 1718, of the Sark Hoard – a remarkable collection of decorated Thracian metalwork associated with east Gaulish coins of the first century BC. The most unusual nature of the find raised the question of whether it represented a votive deposit and whether Sark had been regarded as a sacred island in the prehistoric and Roman period.

In an attempt to define Sark’s position in the regional networks the project has been undertaking a thorough survey of the archaeology of the entire island together with a programme of limited excavations. The survey has established that the island enjoyed a rich lithic industry during the Neolithic and Bronze Age. The production of polished stone axes was on a large scale using local dolerites of which the most spectacular was a porphyritic dolerite known only from a very limited location. Part-finished axes are frequent in surface collections and a programme of petrographic analysis is under way to narrow down production centres. The strong possibility is that island products were widely exchanged in regional networks. Other local products include perforated amulets of serpentine.

Two sites have been sampled by excavation. At Tanquerel Fields an extensive mid- to late Bronze Age settlement has been examined providing good contextual evidence for island-produced lithics and ceramic evidence showing extensive contacts with Normandy and Brittany. The same site was used again in the late Iron Age and Roman period at which time it seems to have been a sanctuary associated with the deposition of a broad range of coinage spanning the first century BC to the fourth century AD. It was from this site that the Sark Hoard came. The second excavation, at Gaudinerie, is examining a Beaker period ritual monument comprising small standing stones and other features, eventually covered by a rubble mound incorporating large sea-worn boulders which must have been carried up the cliffs from the beaches 100 m below. A number of other ritual monuments have been recorded during fieldwork. Work on both sites is still in progress.

The work is funded by the British Academy, the Society of Antiquaries, the Royal Archaeological Institute and the Société Serquaise. It is carried out in collaboration with Guernsey Museums.

Sark and Atlantic Maritime Connectivity

Barry Cunliffe

contact: barry.cunliffe@arch.ox.ac.uk

Early stages in the excavation of the Beaker period ritual site at Gaudinerie Field, Sark.
From about 300 BC until at least the fifth century AD Ostia, at the mouth of the River Tiber, served successively as coastal protection, naval base and commercial entrepôt for the city of Rome, some 22 km upstream. At its height the city covered an area of perhaps 150 hectares and had a highly mobile population of perhaps 50,000 or more, making it one of the largest cities in the empire after Rome, Alexandria, Carthage and a tiny handful of others. Extensive excavations in the first half of the twentieth century have also made it one of the best-known Roman cities of the high empire (second–fourth centuries AD), famous for its commercial buildings and high-rise apartment blocks, often used as a proxy for Rome itself. It is thus a key site for investigating the workings of pre-industrial urbanism both in general and within the context of the Roman world.

The first detailed coherent synthesis of the material was published by Oxford historian Russell Meiggs in 1960, but the many and varied research projects since the 1980s are radically transforming our understanding of the city. The main aim of the urban development project is to produce a new synthesis to set alongside that of Meiggs, one which explores Ostia primarily as a city in its own right and within the context of its immediate surroundings, from the imperial harbour to the luxury villas extending south along the coast, rather than in relation to Rome. It combines detailed study of the extensive standing remains with the broad topographical studies carried out by German and, more recently, Japanese teams, and the results of many recent small-scale excavations, both to provide a new picture of the physical development of the city over time, and to understand how, at its height, it functioned as a lived environment. Focusing on the continuous urban fabric rather than just the best preserved and/or published structures, it assesses how civic, religious, social and domestic environments developed in response to the needs of its fluid and heterogeneous population.

The project has so far given rise to several major articles on urban housing, the commercial landscape, and the building industry, which will contribute to the final monograph, to be published by OUP.

The project has been developed in collaboration with the Archaeological Superintendency of Ostia, and with the support of the British School at Rome. It also relies on the co-operation of many teams from Italian universities and foreign Institutes in Rome who have carried out projects in the city and its territory over the last twenty years. The study of the standing structures was funded by the AHRC and the British School at Rome, and completed with assistance from graduate students at the Universities of Reading and Leiden.
Work continued on the study of clay-based materials at Neolithic Çatalhöyük. This research is looking at changes in the site’s large repertoire of clay materials: mudbricks, plaster, figurines, clay balls and geometric clay objects, pottery and stamp seals. It examines what was behind these transitions and what their consequences were. A particular focus is on the link between changes in the clay-based material culture and the immediate landscape.

The Çatalhöyük Project is currently ending a post-excavation phase, in which excavation teams and specialists present their 2000–2008 findings for discussion; final reports are scheduled for publication in 2011. Towards this, a report was presented on a survey made to locate the sources of the various clays used at the East Mound. As the Neolithic land surface is now buried by between 3 to 5 m of later deposits, locating these sources has involved a programme of coring and the examination of sections exposed in deep drainage ditches. These are used to generate a model of the clay sources and to refine our understanding of the site’s changing environment. Fieldwork this year focused on the alluvial sediments of the modern landscape and their modification by pedogenesis, as these can be used to constrain our model of Neolithic Çatalhöyük.

In the laboratory, petrographic work continued matching the clay samples retrieved from coring with the fabrics of the various clay materials. The sources of most of the raw clays have now been established and the focus now is on the extent to which the raw materials were modified for use, through tempering and firing. In this way, the production pattern of these clay-based technologies is gradually being built up, allowing us to better interpret the nature of these material transitions.
Domestic Cattle in Europe: Local Domestication of Aurochs or Neolithic Migration?

Ceiridwen J. Edwards

CONTACT: ceiridwen.edwards@rlaha.ox.ac.uk

About 7000 years ago, Europe’s earliest farmers established an economy based on the use and management of domesticated plants and animals that still underpins the continent’s prosperity today. Archaeological evidence indicates that the Neolithic expanded out of the Near East into the Balkans, Greece, and into Northern Central Europe after 6400 BP. A key question for archaeologists and geneticists has been whether livestock species were domesticated locally in Europe, or whether domestic forms were brought from the Near East by migrating farmers. Prior to its extinction in the seventeenth century, the wild ancestor of cattle, the aurochs (Bos primigenius), was one of the largest land mammals living in Europe. Apart from northern Scandinavia, northern Russia and Ireland, it is known that aurochs ranged widely throughout the Eurasian continent, and it is this wide geographical distribution that makes it tantalizing to speculate about possible European centres of cattle domestication. The existence of local domestication centres in Europe and/or of hybridization of the European aurochs with domestic cattle imported from the Near East has been much debated recently. While modern genetic studies are a good means to begin answering this question, there are problems with using only contemporary data to extrapolate into the past, not least because Neolithic diversity may since have been lost due to historic breeding practices. In addition, it is necessary to determine the genetic characteristics of the extinct European aurochs population in order to fully discount local domestication.

In order to circumvent these difficulties, ancient DNA is required from archaeological cattle and aurochs, and several studies have begun the process of studying these ancient populations directly. A 2007 survey of archaeological remains generated molecular genetic DNA from several aurochs skeletons and compared these to data from prehistoric and modern domestic cattle. Extensive sampling across Europe demonstrated a continuity of the aurochs population across space and time, from the Last Glacial Maximum through the Holocene. This research could find no evidence of interbreeding between wild aurochs and domestic cattle, suggesting that domestic forms were kept apart from their wild counterparts, and that Europe’s modern cattle breeds are, in fact, ancient Neolithic immigrants rather than local domesticates. But where did European domestic cattle originate? Prior to this study it had only been possible to amplify ancient DNA from very few Near Eastern cattle remains, due to poor preservation conditions for DNA in this arid region. After exhaustive attempts, earliest genetic evidence for domestication in the Fertile Crescent was obtained, leading to the conclusion that the ancestors of our current domestic cattle displaced European aurochs in the process of migration out of the Near East during the Neolithic.

For relevant publications, see:

Bollongino, Edwards et al. (2006) – rsbl.royalsocietypublishing.org/content/2/1/155.long
Edwards et al. (2007) – rspb.royalsocietypublishing.org/content/274/1616/1377.long

This research was funded by the Irish Research Council for Science Engineering and Technology (SC/1999/409 and SC/2002/510) and Science Foundation Ireland (05/RF/MAT031). Oxford-based funding came through the John Fell OUP Research Fund and a Wellcome Trust VIP Award (092412/Z/10/Z). The research was carried out at Trinity College Dublin, in close collaboration with researchers in Ireland, the UK, France and Germany.
What is art? In the present this question is applied to Tracey Emin’s bed or the urinal exhibited in a gallery by Duchamp. The question is at least as pressing when looking at non-western cultures whether of the contemporary world or of the distant past. In looking at the fine metalwork of the later Iron Age and Roman periods in Britain we focused on the question ‘what did these artefacts do?’ to people and the social relations between them. Artefacts of the past and present are designed for various functions, but they all also have aesthetic qualities which appeal to the senses and they affect human emotions to a greater or lesser extent. Celtic art represents the first intricately decorated body of metalwork in British prehistory (other European groups had highly decorated Bronze Age metalwork, but this was very rare in Britain) and laid down patterns which recurred in early and high medieval decorative forms, such as the bowls at Sutton Hoo or illuminated manuscripts.

In the Iron Age (800 BC to AD 43) and early Roman period (AD 43 to 200) decoration occurred on a heterogeneous range of material including horse trappings, mirrors, swords, shields, fibulae, coins, armlets and torcs (necklaces). Earlier periods of the Bronze Age produced a considerable number of identical items, especially axes and spears. Iron Age metalwork is all individual in terms of form and decoration, so that no two items are identical. Even the internal structure of decoration on a single piece exhibits variety, so that repeated forms of motifs represent variations on a theme and not the same combination of curves, loops and tendrils. Compared to earlier Bronze Age society and later Roman forms, the Iron Age seems to have been a fairly fluid social formation, without any great evidence of differences in social rank. In such a world material things might have been used to negotiate social position, with artefacts and their decorations being connected to story, song and other forms of performance. Indeed the decorations have a rhythmical structure which might have echoed that of music or speech. After the Roman invasion of AD 43 motifs deriving from Iron Age Celtic art continue in use, but they are now symmetrically structured and with more identical objects. Colour is more dominant and the intricacies of decoration muted. Romano-British society was firmly hierarchical, but with considerable questions about identity in a society.
comprising locals and incomers. Celtic art in its changed form played a key role once again in the negotiation of charged sets of social relations.

Research on Celtic art was funded for three years by the Arts and Humanities Research Council with the principal applicants being Chris Gosden (Oxford), J.D. Hill (British Museum) and John Mack (University of East Anglia) and Duncan Garrow (now a lecturer at the University of Liverpool). Duncan is responsible for creating the first comprehensive database of objects deemed to be Celtic art, which is now hosted through the British Museum website, where many key pieces are held. In the first year of the project we organized a conference in Oxford (Garrow et al. 2008). We carried out the first systematic dating programme on Celtic art objects. The final results of the project are being published through Oxford University Press (Garrow and Gosden in press). Whether we see this body of material as art or not is a matter for debate, but we can definitely view it as material which demanded skills of those making it, but also of those viewing and using it.


Community Archaeology is a rapidly expanding area of research, activity and funding. Centred on engagement with the population of Oxford City, this project is mounting a series of new investigations, linked to programmes of education and training for volunteers, historical societies, special needs groups, schools and the general public. These investigations are guided by the research mission of the project, in conjunction with the views and aspirations of volunteers. A Project Steering Group was established in late 2010 and consists of representatives of all stakeholders in the project. A development phase took place in 2008–10, and the main award began in September 2010 and runs to September 2014. Two Project Officers/Research Assistants have been appointed to carry out the project: Jane Harrison and Paula Levick.

East Oxford (Oxford City east of the River Cherwell) is as rich in archaeological potential as any other part of the middle/upper Thames Valley, yet has until now not seen any concerted research programme addressing its development over the human timescale. East Oxford has also been overshadowed in heritage terms by the city centre. It consists of clusters of built-up areas based on medieval and post-medieval cores, separated by extensive green spaces available for geophysics, field-walking and test excavation. So far the project has undertaken investigations (geophysics and test-pitting) at St Bartholomew’s Chapel (known as ‘Bartlemas’), a surviving complex of medieval buildings originally founded as a leper hospital in 1126; in the village cores of Iffley and Church Cowley; and at Boundary Brook Nature Park where excavations discovered a deposit of bottles and implements from a Victorian pharmacy. Documentary and finds research has begun to tap the riches of a series of college and public archives. These activities are supplemented by training workshops and evening talks. Well over 300 volunteers are now registered as active.

Although the project is equally committed to investigating all periods, the Roman and medieval landscapes of East Oxford have begun to emerge as significant research themes. The Oxford Roman pottery industry extends from Headington to Blackbird Leys. Medieval village cores, and individual sites such as Bartlemas (above), the Knights Templars’ Preceptory in Temple Cowley, and the Nunnery at Minchery Farm, Littlemore, together with surviving traces of common fields, hold much potential. Volunteer sub-groups are now tackling research on prehistoric flints from Iffley Fields in University Museum collections, place-names, aerial photographs, and the area’s industrial and wartime heritage. Upcoming and future priorities include: studies of the Iron Age; the remains of the English Civil War in East Oxford; and geophysical surveys of meadows, playing fields and other open land. The test-pitting programme will be expanded considerably, and sites for a more sustained community excavation in later 2011 or 2012 assessed.

Project website: www.archeox.net

The project is funded by the Heritage Lottery Fund and the John Fell Fund, and is based on partnerships between Continuing Education, the School of Archaeology, and the Ashmolean and Pitt Rivers Museums.

Volunteers excavating a test-pit.

Volunteers displaying Victorian bottles from Boundary Brook.
Dietary Information from Ancient Bone

Robert Hedges, Thomas Higham, James McCullagh (Chemistry Department) (Principal Investigators)

**CONTACT:** robert.hedges@rlaha.ox.ac.uk

Twenty years of research in many laboratories, including the RLAHA, have shown that ancient bone, which after all is composed of the very food we ate, retains traces of information about the nature of that diet. Some of these traces are preserved in the isotopic ratios of the carbon and nitrogen atoms in surviving collagen – the main protein contained in bone. The information from isotope ratios is tantalizing; only certain parts of the world provide dietary items which can give really strong signals (the consumption of maize being a good example) – and with just two numbers measurable (i.e. carbon and nitrogen), there can be several different explanations for the slight differences we often see. For example, covered woodland can affect the carbon isotopes in domestic animals, and the practice of manuring can affect the nitrogen isotopes in crops. While our aim is to relate human bone isotope signals to what was consumed, we usually only have the animal bones to tell us the isotopic content of the diet.

So our research attempts two main directions – to develop new methods to give a wider range of isotopic information, and to engage in wide surveys, to build up patterns that will show subtle differences between comparable communities.

A current example of the wide survey approach is the AHRC-funded project led by Alasdair Whittle (Cardiff) in which we have measured about 600 human and 300 animal bones from about 20 sites. These are all from the early ‘LBK culture’ (the earliest farming economy encompassing Hungary to France), and we want to understand its nutritional economy, its internal cultural variations, and its geographical and ecological variation. For example, we can see male/female differences in diet on some sites, but not on others. The project is now entering its data analysis phase, where isotope measurements (including from Strontium) are to be combined with cultural (especially of burial) and bone morphometric and pathological data.

Secondly, we are investigating the potential for richer isotope information from individual amino acids. Our focus is on freshwater fish consumption, which has hitherto been almost impossible to detect. However, freshwater fish protein appears to exhibit different isotopic compositions in radiocarbon (the so-called reservoir effect), and in the relationships between each amino acid that makes up the protein. When people eat freshwater fish (and taking into account how protein and carbohydrate from other animals and plants can modify this picture), we are able to detect isotopic signatures for such a diet, both in radiocarbon and stable carbon-13. We are finding a very clear example in the bones from Mesolithic cultures of the Danubian basin. NERC is funding the radiocarbon approach, for developing experimental methods and the principles of the dietary transactions involved, and prove the method more widely; the stable isotope single amino acid approach, which potentially has very wide implications, is an ongoing in-house project, for which we hope to get funding this year.
The transition from the Middle to Upper Palaeolithic describes the period during which anatomically modern humans replaced Neanderthals in Europe and wider Eurasia, who of course ultimately became extinct. A number of key questions arise for palaeoanthropologists working in this area. Where, when and how did this extinction process play out and how did their extinction relate to the spatial dispersal of modern human populations? Did Neanderthals and modern humans ever meet, and if so for how long were they contemporaries in some or all parts of Europe? Did they mate? How much cultural exchange took place during this process, if any at all? At the heart of the resolution of all of these questions is an unambiguous and reliable chronology. Sadly, this has largely been lacking since the inception of the radiocarbon technique, the principal method used in determining chronology.

Work undertaken in Oxford over the last decade has been aimed at improving the dating of material between ~30–55,000 years ago, which covers the broad range of the Middle to Upper Palaeolithic transition. By improving aspects of the laboratory’s pre-treatment chemistry, particularly the purification of bone collagen using ‘ultrafiltration’, we have witnessed substantial improvements in accuracy in dating old bones. When comparing previous determinations from sites dating to this period with new measurements treated using ultrafiltration, it is apparent that the ultrafiltered collagen dates are often older, and we believe, more accurate. This is because most of the influential carbon contaminants for bones of this age are modern in origin. Archaeologically, the new ultrafiltered dates we have been obtaining also make much greater sense than before; we can see patterns in the data which make sense for the first time.

Within the framework of a large project funded by the Natural Environment Research Council (NERC), we have been dating over 400 new samples of bone, shell and charcoal from more than 60 key Palaeolithic sites in over ten countries across Europe, from Spain to the Lebanon. The main focus has been on sites with a succession of contexts containing lithic industries attributed to the Mousterian and Châtelperronian (associated with Neanderthals), and Aurignacian and Gravettian (associated with modern humans). One key site we have worked on is at the Grotte du Renne, at Arcy-sur-Cure, in France. Here in the 1950s and 60s, archaeologists found bone and teeth ornaments in archaeological layers alongside human remains of Neanderthals (see Figure). Usually, these types of objects are associated exclusively with modern humans. This unique association was taken by some as suggesting that Neanderthals had independently developed their own Upper Palaeolithic cultural adaptation, and by others that Neanderthals must have copied it from incoming moderns (a process called ‘acculturation’). Our redating work showed an unrealistically wide distribution in the radiocarbon dates from the key level, suggesting a degree of mixing of cultural material had taken place. We suggested that this site should be looked at extremely cautiously in terms of interpreting Neanderthal cognitive ability and complex behaviour.

Other results from the project are currently being written up for publication. A conference was recently held in Oxford to discuss the preliminary results from the work. We hope that several high-profile papers will emerge from the work in the next year.

For further information, see the ORAU website: https://c14.arch.ox.ac.uk/
This project is about cultural identity and how it was experienced in daily life. It explores how individuals and groups in the early Neolithic of central Europe used material culture, architecture and the human body to negotiate identities and social ties and to cope with novelties and transitions. The focus is the crucial Linear Pottery Culture (LBK), the first Neolithic culture in a vast area from western Hungary to the Paris Basin (and Ukraine) and from Bavaria into the northern European plains. While it has long been clear that material culture, such as pottery, becomes quite regionalized in the later phases of the LBK, it is only recently that researchers have considered the possibility of regional difference for themes such as social structure, settlement organization or burial rites.

This is the starting point for the current project, which investigates large-scale social trends – transition to the LBK, increasing regionalization, end of the LBK – from the perspective of individual, community and regional identity. It is at this scale that such wider phenomena and their implications were worked through by actual people. I wanted to find out how people in different areas responded to these trends and in how far they were instrumental in creating, delaying or hastening change. To gain an overview of regional diversity, I drew up a comprehensive database of funerary remains from the LBK and collected architectural evidence from selected regions. I then looked for evidence of day-to-day existence and routines, as well as information on artefactual traditions, such as pottery styles. All these aspects are in a sense comparable across the LBK, which is why it was defined as an archaeological culture in the first place. However, superficially similar items were often used differently in practice.

The project showed that micro-regional traditions and histories existed and that they influenced how attitudes to material culture and burial developed. For example, houses all look similar across the LBK, but people either monumentalized them or decided to make them more complex inside, respectively focusing on the impact of architecture on outsiders or on those living in the house. Such existing local and regional traditions have a big impact on how people reacted to wider transformations. The notion of a late LBK ‘crisis’ and dramatic cultural change, for instance, applies only to some areas, while others see a larger degree of continuity. In a final step, these regional trajectories will be more fully integrated with current general models on transitions in the European Neolithic. A monograph will be published with OUP in early 2012.

Many thanks to the Leverhulme for generously funding this project as an Early Careers Fellowship.
This research began as a deep-seated interest in the archaeology of water technology in the Roman world and what this can tell us not only about technology in and of itself, but also about the social roles of technology. Water technology has a relatively long history of study in Roman archaeology, particularly with the study of individual technologies, such as the engineering of aqueducts. More recently, efforts have been made to look at regional trends in these technologies; my doctoral work on the Near East followed on from that of Andrew Wilson on North Africa.

In the course of this work, it became clear that water and water technologies provided an excellent way into understanding how and why people choose some technologies over others. By analysing the geographical and chronological distribution of even the most seemingly humdrum water technologies, such as toilets, this work has been able to look at how people’s technological decisions are linked into wider sets of concerns about religion, hygiene, water conservation, economy and imperialism. This depth of analysis has been possible by taking a highly interdisciplinary approach and making use of insights and theories from, for example, anthropology, science and technology studies and psychology.

The results of this research have been published as a book (Kamash 2010a) and several journal articles and book chapters (Kamash 2008; 2010b; 2011a; 2011b; 2012b). This work has attracted interest across the UK and internationally. In 2010, for example, I participated in several interdisciplinary workshops at Durham University on the theme of water and was invited to Brown University to speak at their Mellon-funded ‘Fluid thinking’ seminar series. This year, I will be key-note speaker at a conference in Vienna on ancient and modern water technology. The future of this work will lie in looking at the interrelationships between science and technology, in particular thinking about how theories of material culture can be combined with archaeological science and the history and philosophy of science to inform us about how scientific ideas are manifested in the everyday world of objects (Kamash 2012a). As well as

organizing a multidisciplinary conference on this theme on 4–5 November 2011 at Magdalen College. I am also collaborating with Pete Bray (RLAHA), Brian Gilmour (RLAHA), Mark Pollard (RLAHA) and Anna Marie Roos (History of Science) on a project that will analyse the links between science, technology and society that can be traced through the analysis of medieval and Renaissance monumental brasses.


A water-lifting wheel, known as a noria, on the River Orontes, Syria (photo: Zena Kamash).
The World of Ancient Art: a Web-based Collaborative Research Platform

Donna Kurtz

CONTACT: donna.kurtz@wolfson.ox.ac.uk

The World of Ancient Art (www.waa.ox.ac.uk) is a web-based collaborative research platform designed for students, senior scholars, and a global public interested in the human past. Technical development is based in OeRC (www.oerc.ox.ac.uk), exemplifying OeRC’s commitment to interdisciplinary and cross-divisional research within the university and to the exploitation of emerging technologies. The World of Ancient Art will invite contributions of data and images from the public, of ppts, pdfs and podcasts from scholars.

The expectation is that a web-based platform combining the resources of the University of Oxford’s OeRC, School of Archaeology and Museums and Collections would attract quality contributions from a global scholarly community and that its innovative technologies could attract corporate sponsorship.

Interactive timelines and Google Earth take the user to archaeological sites anywhere in the world.

Clicking on a site, embedded in an underlying database, generates urls that encourage further research, both within The World of Ancient Art and on the web. There are already more than 6000 geo-coordinates available to the site and more than 20 PowerPoint programmes with more than 2500 screens, all embedded in the underlying database.
Understanding the nature of past abrupt environmental transitions and their impacts on human populations lies at the heart of current efforts to assess the probability and consequences of major climate shifts in the future. There is still, however, uncertainty around the true response of human populations to changes in their environments through time, largely due to the ambiguity of the precise timing and order of both environmental changes and key developments in the archaeological record. The RESET project brings together archaeologists, geologists and climate scientists to test the hypothesis that major human population shifts and developments that occurred between ~8 and 100 ka were driven by abrupt changes in the environment and climate. RESET consists of seven integrated work-packages, each focused on specific archaeological, climatic or technical objectives:

1: Neanderthals and modern humans in Europe (60 to 25 ka BP).
2: The impact of abrupt environmental transitions on early modern human populations in North Africa.
3: Repopulating Europe after the Last Glacial Stage.
4: Geochemical fingerprinting of tephra.
5: Abrupt environmental transitions and tephra in marine sediment cores.
6: Abrupt environmental transitions and tephra in continental records.
7: Data synthesis and age modelling.

Research in Oxford has focused on dating terrestrial environmental records that lie in close proximity to regions of interest to the archaeological strands of RESET. Our results help us understand the mechanics of abrupt environmental transitions by demonstrating the synchronicity of change recorded in sites from across Europe and the Greenland ice cores. A number of archaeological sites have also been dated using tephrochronology, providing unequivocal stratigraphical and temporal relationships between the archaeological story and the local environmental context.

For further information, see the RESET project website: http://c14.arch.ox.ac.uk/reset/embed.php?File=

The RESET project is a UK NERC-funded consortium grant, held principally between: the School of Archaeology, University of Oxford; the Natural History Museum, London; the National Oceanographic Centre and the Department of Archaeology, Southampton University; the Department of Geography and the Department of Earth Sciences, Royal Holloway University of London.
Laetoli consists of a suite of many fossiliferous localities across a large area in the Ngorongoro Conservation Area in the central highlands of Tanzania and it was made famous by Mary Leakey and co-workers in the 1970s with the discovery of the fossil trackways. It was blanketed by multiple ashfalls from a trio of once-active, but now extinct, volcanoes to the east in the Pliocene and Pleistocene. The combination of animal and hominin trackways in the ash, and abundant fossils including those of at least two hominins, provides unique information about environments and behaviour c.2–4 million years ago. Several features set Laetoli apart from other East African sites. Firstly, the topography stretches from the plains up to the volcanic highlands, imparting a climate that is slightly cooler, moister and more wooded than nearby Olduvai Gorge to the northwest, and the Serengeti. Secondly, even today the environment is strongly influenced by the volcanism in the past – the landscape and sediments are dominated by ash deposits and it apparently lacked significant freshwater bodies since there are few signs of significant bodies of freshwater. Thirdly, the type specimen for *A. afarensis*, a species first found, named and studied largely in distant Ethiopia, was (controversially) assigned to one of the Laetoli hominin specimens. Lingering doubts still remain about whether they are all the same, geographically dispersed species. Finally, the number of hominin fragments found, especially of *A. afarensis*, is still quite meagre, in spite of several large-scale field programmes including most recently the large-scale programme led by Terry Harrison, NYU, to which Peter Ditchfield (RLAHA) contributed. The relative paucity of *A. afarensis* at Laetoli (Harrison’s project was more successful in locating early *Paranthropus boisei* specimens) makes it difficult to compare them in detail with material from further north, and to decide whether they do indeed fit in with the *A. afarensis* hypodigm, both morphologically and ecologically. The environments of this landscape in the Pliocene are still poorly understood and some lines of evidence appear contradictory – ranging from Serengeti-like grasslands (from pollen) to woodland mosaics (faunal abundances). A recent isotopic study of fossil animals emphasized the woodland presence, but the authors went further, suggesting that some faunal lineages, which we would consider to be grazers, may have then been mixed feeders and still evolving adaptations to tropical (C₄) grass

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**Isotope Ecology of the Middle Pliocene Upper Laetoli Beds, Tanzania**

**Julia Lee-Thorp**

CONTACT: julia.lee-thorp@rlaha.ox.ac.uk

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Excavations at Locality 7 showing the dry acacia woodland in the background, and the extinct volcano Lemagrut in the distance.
biomes. This is a surprising result as the same species were fully adapted to C₄ biomes elsewhere in Africa by this time, and it requires further investigation.

An international team from the Universities of Bugando, Colorado at Denver, and Oxford aims to address these questions in a new programme that is targeted at localities dating to the period 3.5–3.6 Ma. An important feature of the project is the combination of multiple complementary methods to address environment and ecology (stable isotopes, phytoliths, faunal abundance, ecomorphology) within a narrower time window (c.3.5 million years), established through mapping of four distinct tuff/sedimentary units across the entire area. Excavations at Locality 7 with exposures of the Upper Laetoli Beds, and close to the ‘footprint’ site, have in the last two field seasons already recovered new hominin cranial and post-cranial specimens dating to this crucial time. Right at the end of the last field season, we discovered several new hominin remains, including two incisors. The Oxford contribution concerns the stable light isotope ecology, in order to illuminate the nature of the environment in this relatively narrow time window, as the previous isotopic study of the area incorporated large swathes of time. So far we have collected a suite of modern specimens from surface collections during fieldwalking, to establish a modern baseline, and a limited number of fossil specimens. We are also planning to explore the application of strontium isotopes as a technique to address which of the animals were migrating and therefore just ‘passing through’, and which were local. This could be important in our attempts to reconstruct the nature of the environment using both the faunal abundances and stable light isotopes as we can eliminate the ‘non-local’ species.

Taken together, a combination of faunal abundances, stable light isotopes, and other approaches (including phytoliths embedded in the ash layers) should allow us to build a finer grained picture of the environment c.3.5 million years ago. Given the importance of the site and the potential significance of recent new finds, the main outcomes will be publications in high impact international journals. The project is expanding, and currently we are in discussion with excavators conducting a new programme in Olduvai Gorge, to potentially link the research. We expect that the results of the Laetoli programme will have a major impact on current understanding of the environments that framed early hominin evolution in East Africa. The re-examination of the morphological affinities of existing and new hominin specimens may require reinterpretation of the species designation, an outcome which will have profound impact on our current understanding of the pathways of early hominin evolution.

The Laetoli project has been funded by grants from the Leakey Foundation and the UC at Denver. Applications to the National Geographic Society and the National Science Foundation are planned. The photographs are by Julia Lee-Thorp.
Lefkandi is an interdisciplinary project directed by Professor Irene S. Lemos. The site is located on the island of Euboea in Greece and was spotted by Hugh Sackett and Mervyn Popham in the 1960s. The first excavations took place on Xeropolis, which is the name of the tell where the ancient settlement was located. They revealed that the site was founded around 2000 BC. Xeropolis became important during the Middle and Late Bronze Ages, and particularly during the final stages of the Late Bronze Age, after the palatial 'collapse' of around 1200 BC. In 1968, after the invitation of the Greek Archaeological Service, an emergency excavation started in the area of the cemeteries, and by the end of the 1990s five burial plots had been investigated. The cemeteries cover chronologically the period from around 1050 to 825 BC, a period which before the discoveries at Lefkandi was known as the Greek Dark Age. The significance of Lefkandi as one of the most important Late Bronze and Early Iron Age sites in the Aegean is widely known. The finds from the rich cemeteries together with the discovery of a truly monumental, funeral building at the location of Toumba have changed perceptions of the 'darkness' covering the eleventh and tenth centuries BC in the Aegean.

Having excavated the rich cemeteries at Lefkandi, it became apparent that it was extremely important for the current state of research into the Late Bronze and Early Iron Ages of Greece to investigate further the contemporary settlement on Xeropolis. In 2003, Irene S. Lemos resumed excavations on the hill. This new phase of research at Lefkandi became possible after a generous grant by the Packard Humanities Institute which enables the purchase of land for excavation.

The current project has revealed significant structures dated to the Late Bronze and Iron Ages. It has also involved a number of complementary projects which have enhanced our understanding of the ancient landscape and the formation of the tell during its long period of use. Soil samples from floors and sections were also taken for a pilot study in order to establish, with the help of micro-morphology and multi-element soil analyses, patterns of space use and function of structures. Aspects of the diet and economy of the communities are now better understood with the systematic collection and study of bio-archaeological remains, animal bones and shells. The study of ceramics is combined and complemented by both petrography and chemical analyses. Collaborations have also been established with projects endorsing carbon dating.

Training of students is an extremely important aspect of the current project and already a large number have taken part from universities in the UK and elsewhere. Equally important also is the conservation and the protection of the archaeological site. On that front, open days and guide tours are organized in collaboration with the local community and the Greek Archaeological Service.

For more information see: http://lefkandi.classics.ox.ac.uk/

Funding: the project has been supported by PHI, INSTAP, and the Craven Committee of the University of Oxford.
Africa has many dams, but only rarely is systematic archaeological research undertaken before they are built. Changing priorities on the part of the World Bank and growing interest in heritage matters within the southern African country of Lesotho make the Metolong Dam an exception to this generalization. When completed in 2013 this will flood a 14 km-long stretch of the Phuthiatsana River, an area rich in rock paintings, open-air stone tool scatters and rock-shelters that preserve important sequences relating to its use by Bushman hunter-gatherers, as well as today’s Basotho population.

Given my previous fieldwork in this area in 1989, I was asked to oversee an assessment of its archaeology for the World Bank and the Metolong Dam Authority and to develop a programme for mitigating the dam’s impact. Survey and excavation were undertaken on the ground by my colleague, Charlie Arthur. Together, we also developed recommendations for building a sustainable structure for managing Lesotho’s archaeological heritage, an area in which previous development projects fell conspicuously short. An initial survey of the affected area was carried out between October 2008 and April 2009, followed by ten months of excavation at selected sites from October 2009 to August 2010. Subsequently, all 29 rock art sites within the dam’s catchment have been professionally traced by Oxford graduate student, Lara Mallen. Analysis of artefacts from our fieldwork is currently under way by Charlie and myself in Oxford and by our Basotho colleague, Lebo Mohapi. Colleagues in Canada, Britain and South Africa are undertaking other studies to identify the diet and environment of the hunter-gatherers who once lived along the Phuthiatsana Valley.

Our excavations focused on the two largest rock-shelters, Ha Makotoko and Ntloana Tsoana, which together provide a unique opportunity within southern Africa to explore human responses to environmental change at the local level as climate changed toward the end of the last Ice Age (some 13,000–9000 years ago); the sites are just 2 km apart and both have well preserved faunal remains. While we already knew that Ntloana Tsoana preserved artefacts in still older deposits as far back as 59,000 years...
ago, we now know that such Middle Stone Age material is also present at Ha Makotoko and that, in addition, both sites retain traces of much more recent occupation, within the past few thousand years. Such opportunities for comparing the two rock-shelters are enhanced by our decision to excavate on a large spatial scale in order to gain some idea of how people organized their activities within them. Excavations at smaller sites and survey of likely stone raw material sources complement our work at Ha Makotoko and Ntloana Tsoana, while fieldwork at an abandoned late nineteenth/twentieth century village, Ha Makoanyane, brings our research into living memory. An important aspect of all our work, picked up last year in the journal *Science* (330, 1174–5), has been the provision of training opportunities for students and other Basotho nationals, something that we hope will feed into the creation of a functioning national museum in Lesotho. In the same spirit, our publication efforts include communicating our findings to local communities through newsletters, newspapers and television. With support from the British Academy and the University’s Boise and John Fell Funds, we shall continue with this in further fieldwork this year and next ahead of the dam’s eventual impoundment.
Volcanic eruptions exert significant impacts on people across the world today, as witnessed by the alteration of habitats, the destruction of property, and even the grounding of air flights. The Toba Super-eruption of 74,000 years ago was Earth’s largest volcanic explosion in the last 2 million years. Prior to our research, the volcanic eruption was considered to be the main contributor in a human genetic bottleneck; thus, it was suggested, Toba almost wiped out humanity. Prevailing theories prior to our work also suggested that Toba caused, or contributed to, global cooling and related environmental catastrophes.

Thanks to an on-going, international project centred in India, our interdisciplinary project team is uncovering direct evidence on the impact of the Toba Super-eruption and its ash-fall over the subcontinent. Excavations have recently been performed in the Jurreru River Valley of southern India, where we have uncovered ‘Pompeii-like’ landscapes, including fossilized trees and leaves, termite burrows and a floor of Middle Palaeolithic stone tools near the village of Jwalapuram. A number of archaeological sites at Jwalapuram, below and above the volcanic ash, indicate that humans survived the eruption and its aftermath. We have followed the Jwalapuram research up in northern India, where we have now demonstrated that the Middle Palaeolithic artefact sequence is continuous, thereby supporting our arguments that Middle Palaeolithic populations survived the Toba Super-eruption. Though the blanketing of India by ash clearly had detrimental ecological effects, we also found, through isotopic work, that vegetative communities persisted and most were immediately restored after the ash fall. Isotopic work also indicated that vegetative communities were already changing at Jwalapuram prior to the volcanic event, probably in response to natural cycles in the Earth’s cooling before the eruption. Thus, we found no clear causative link between the Toba Super-eruption and the onset of global cooling.

Our findings reveal that human populations survived the Toba Super-eruption, thereby indicating that extinction and catastrophe theories were incorrect. However, it is clear that another volcanic event the size and magnitude of Toba would be devastating to humans today, especially those in the direct path of the ash fall. The difference lies in the fact that the populations of 74,000 years ago were small groups of mobile hunter-gatherers, who could respond to major disruptive natural events. On the other hand, sedentary people in Asia today depend on agricultural products for their survival, hence a large volcanic event and ash-fall would probably be truly catastrophic.

For further information, see the Toba Super-eruption website: http://toba.arch.ox.ac.uk/

The Toba Super-eruption project is principally funded by the Leverhulme Trust and from a Larger Research Grant from the British Academy. The Archaeological Survey of India granted permission to conduct this project. The Toba project has been carried out in close collaboration with Karnatak University and Allahabad University, and by researchers at universities throughout the UK, Australia and the USA.

Excavations at Jwalapuram, Andhra Pradesh, India, where Middle Palaeolithic artefacts were found preserved on a floor below the Toba ash.
The Southeast Asian Lead-Isotope Project: Investigating Metallurgical Proxies for Late Prehistoric Regional and Inter-regional Social Interactions

Thomas Oliver Pryce

CONTACT: oliver.pryce@rlaha.ox.ac.uk

O ccupying the critical Eastern Himalayan meeting point of China, India and the Pacific, Southeast Asia’s extraordinarily diverse history is widely thought to reflect the interaction of indigenous populations with foreign peoples and cultures. However, due to substantial ceramic variability and a relatively low research density, regional archaeologists have yet to agree pottery typologies that would enable the discussion of long range cultural exchanges. Therefore, founded upon metallurgy’s promising combination of highly skilled technologies with non-uniformly distributed and geochemically differentiable raw materials, the Southeast Asian Lead Isotope Project (or SEALIP) has been established to contribute metallurgical proxies for regional and inter-regional social interactions, focusing initially on the late prehistoric ‘Metal Age’ (c.1000 BC to AD 500).

SEALIP’s internationally collaborative research involves the typological, metallographic, elemental and isotopic study of c.300 metal artefacts from excavations in: Burma, Cambodia, India, Laos, the Philippines, Sri Lanka, Thailand and Vietnam; as well as characterizing the technological and isotopic signature of prehistoric metal production centres in order to fulfil the ‘Provenance Hypothesis’, ‘that variation between sources is greater than that between them’.

Current SEALIP data indicate that regional copper production sites can be reliably distinguished and that the earliest artefacts (c.1000 BC) are probably Chinese imports, which may have stimulated local mining and smelting activities. By the debut of the Southeast Asian ‘Iron Age’ (c.500 BC) the regional metal exchange pattern becomes extremely complex, with substantial quantities of Indian and Chinese artefacts circulating alongside local productions, and perhaps being imitated by Southeast Asian metalworkers. The ongoing integration of South Asian samples and correlation with Chinese datasets means that SEALIP will hopefully contribute to a clearer understanding of terrestrial and maritime cultural exchange at the continental scale.

For further information and publications, see my research website: http://sites.google.com/site/thomasoliverpryce/

SEALIP is principally funded by the Leverhulme Trust, with supplementary support from a British Academy Small Research Grant, an Oxford University Press John Fell Fund Small Award, a University of London Central Research Fund Small Grant, the UK Association of Southeast Asian Studies, and numerous funds from projects providing archaeological material. SEALIP has been carried out in close collaboration with Southeast Asian and South Asian colleagues, with foreign scholars conducting research in these areas, and with the Curt-Engelhorn-Zentrum Archäometrie in Mannheim.
The chronology of Ancient Egypt has been the focus of academic study for well over a hundred years and when Libby came to test radiocarbon dating in the 1950s it was material from Ancient Egypt that provided the oldest ‘known-age’ tie-points. Developments in the precision of radiocarbon dating, and in the statistical tools that can be applied to groups of measurements, now allow the method to address time-scales of the order of a single generation. Oxford has been at the forefront of the development of both the radiocarbon measurement technique and the statistical toolkit for their analysis (the OxCal program).

Like Libby, our first research in this area concentrated on proving the validity of the radiocarbon technique in this region and on the types of material most suitable for dating contexts in Egyptian sites. In doing so we uncovered a minor regional difference in radiocarbon values in the region, which most likely stem from the different growing season in the flood-dependent agricultural areas adjacent to the Nile. The next stage was to use the combination of a large number of radiocarbon dates tied to reigns in the historical period along with relative dating information from the historical chronologies themselves to build a radiocarbon-based chronology for Ancient Egypt. For the New Kingdom, where we had the greatest concentration of dated material we were able to pin the chronology to within a decade or so, confirming the dates that many scholars had deduced from various sources, but ruling out other hypotheses that had been put forward recently.

Our study has shown that radiocarbon can be used to address issues in chronology that were, only a decade ago, beyond the resolution of the technique. The agreement with the accepted chronologies for the New Kingdom gives the accuracy of the approach and shows the potential of these techniques for earlier periods where there are fewer other reference points. The next stage in our project is a study of material from the pre-dynastic period, which focuses on the formation of the Egyptian state.

See project websites:
http://c14.arch.ox.ac.uk/egypt.html
http://c14.arch.ox.ac.uk/egypt2.html

The first project was summarized by a publication in Science:

This research has been funded by the Leverhulme Trust through two successive research projects and has been in collaboration with Cranfield University and UCL.
Strings of bright red carnelian beads found in tombs of the early Chinese states c.850–650 BC seem at first sight unlikely candidates as evidence of major interactions between the Chinese elite of the day and the peoples further west in present-day Mongolia, Xinjiang province, Kazakhstan and Siberia. But the nearest comparisons are the fine beads found in Iraq and other areas of the Middle East in tombs of the third and second millennia BC. And the beads are not the only materials that the Chinese borrowed and then copied and developed in their own contexts – faience, typical of Western Asia and not China, is found with the carnelian and a new fashion for gold developed at the same time.

These bright, attention-attracting materials are only some of the products of continuous interactions between the highly populated Yellow River basin and the much more marginal areas to the north and west. But these sparsely populated regions were essential bridges between the early Chinese polities and metal-rich regions in the Altai and Ural Mountains. Unlike the early cultures of Mesopotamia, where metallurgy was developed in the fourth millennium, early China was dependent on developments further west for the stimuli that led to the first cast bronzes on the western periphery of the Chinese states in the late third millennium. Chariots and horses arrived from Siberia around 1200 BC, and iron-working also came from the same region around 800 BC.

With their highly organized, relatively dense population, early Chinese societies were able to react fast and on a large scale. Extravagant use of bronze for casting food and wine vessels, the hundreds of chariots surviving in tombs and large-scale iron foundries all demonstrate the power of Chinese societies to exploit innovation. Earlier views on the relatively late date at which the central Chinese polities developed bronze metallurgy had not appreciated the package of skills required to develop casting techniques nor the relationship of the early Chinese centres to the regions where metalworking was first developed in Western Asia, the Caucasus and Siberia.

Extensive research in the Urals and Siberia has provided a complete new foundation to our understanding of the development of Chinese techniques and the societies dependent on them.

A new five-year research project funded by the Leverhulme Trust looks at the ways in which these foreign materials and technologies reached the Yellow River across the steppes and deserts of Eurasia and tracks the web of Chinese responses. Already three possible routes into China’s central plain along the Yellow River have been identified. An understanding of these factors now enables a much fuller appreciation of the ways in which China’s physical environment and geographical position have in the past and will continue today to affect not only its technological but also its social development.
The Ancient Egyptians were a great maritime people with the river Nile at the heart of their civilization. They were also great seafarers who had sailed the waters of the Mediterranean and Red Sea for trade and tribute since the Old Kingdom. Yet by the Late Period, this proud maritime history had supposedly become somewhat tarnished and modern scholarly publications stress both the decline in Egypt’s maritime power and the rise to predominance of the Phoenicians and Greeks. The recent discovery of the ancient port-city of Heracleion-Thonis beneath the waves of Aboukir Bay, just down the coast from Alexandria, however, is forcing us to reconsider this premise and to rethink the role of Egyptian seafarers in the first millennium BC.

The submerged city of Heracleion-Thonis was rediscovered by a team led by Franck Goddio of the European Institute of Underwater Archaeology in Paris, who has been intensively studying the topography of the city through geophysical survey, prospection and targeted excavation. In Oxford, staff and students associated with the Oxford Centre for Maritime Archaeology have been undertaking aspects of the post-excavation and publication of this project, which is sponsored by the Hilti Foundation. Together we are examining the ancient port of Heracleion-Thonis, which was the main port of trade and gateway into Egypt at this time, in exceptional detail.

The port, which appears to have been in use mainly from the eighth–second centuries BC, has provided unprecedented evidence for maritime Egypt and its overseas contacts. The presence of Greek and Phoenician ships can be extrapolated from the remains of lead-filled stock and pierced stone anchors that have their closest typological parallels in the western and eastern Mediterranean respectively. These anchors became stuck fast in the muds and silts of the harbour basins and needed to be cut free of their ship. Yet these ‘foreign’ anchors are overwhelmingly outnumbered by what appears to be a local type of pierced stone anchor. This would not be entirely unexpected and a scenario can be envisaged where trading goods from overseas were transhipped at the port onto local river boats and barges more suitable for sailing in the shallows and canals of the Nile Delta. While this almost certainly occurred, the evidence from the ships wrecked in port also offers an intriguing and
important possibility, that far from being almost the passive recipients of overseas trade goods, Egyptian mariners could have been far more actively involved in overseas commerce.

The preliminary survey work in the port basins of Heracleion-Thonis has revealed the presence of over 60 ancient wrecks. Once found, the upper mobile sediments around a wreck were removed and samples taken for radiocarbon dating and wood species analysis. This was of particular interest as it revealed that the majority of the wrecks were made with woods native to Egypt. The cleaning also revealed that the ships were built in a construction technique that has never before been archaeologically documented. At first glance, it appears that many of the larger Egyptian vessels in the assemblage were adapted for both sea and river voyages: they were strongly built and equipped both with a keel to withstand the rigours of sailing on the open seas but were also flat bottomed and thus equally at home in the Nile and its Delta. The presence of such seagoing merchant ships calls the supposed absence of Egyptian ships and sailors in modern accounts of trading during this period into question.

These initial observations and hypotheses will be put to the test in a new joint excavation and recording project by the Oxford Centre for Maritime Archaeology and the European Institute for Underwater Archaeology. Together we will be undertaking the full archaeological excavation, documentation and publication of a sample of the wrecks and anchors. We want to understand the full range of maritime life at the port and to reassess its wider significance. Our first season of excavation begins in 2011.
Reports of conflicts around the world make the evening news on a daily basis. While violence undoubtedly also featured in the past, documenting its prevalence and its significance is far from straightforward. Much of the evidence for Neolithic Europe is equivocal: stone axes and bows and arrows can function as tools as well as weapons; enclosures of the period are generally unsuited for defence, though there are some notable exceptions; and the limited pictorial representations for the period need not portray reality. Human remains, by contrast, provide direct evidence for actual conflict, but research has tended to focus on rare spectacular examples, leaving us with little overall understanding of the actual levels of violence in society overall, and its consequences.

A project, supported by the Leverhulme Trust, was initiated to provide a better sense of the overall proportion of individuals exhibiting violent cranial trauma in Britain, Ireland, Denmark, Sweden, Germany and France. The main objectives were to compare the incidence of both healed and unhealed injuries regionally, and chronologically, to identify who was most ‘at risk’ (mainly adult males?), and to use the shapes and locations of injuries to learn more about the kinds of conflicts represented, and the weapons used. By having the same researchers use the same criteria to identify injuries, evidence from across the study area was made directly comparable.

A total of over 2000 crania were examined over the course of the project, ranging in date from c.5500 to 2000 cal BC. A large number of previously unrecognized injuries were identified, while others that had been claimed in the literature were rejected as more recent damage. In some cases the nature of the weapon could be clearly seen from the shape of the injury, with wood and antler clubs, stone axes, and arrowheads being implicated. While there is a tendency for adult males to exhibit higher levels of cranial trauma in some regions, the overall results indicate that women and children were equally likely to be affected. In broad terms, it appears that between 7 and 12 per cent of crania exhibit injuries, with approximately twice as many healed as unhealed cases.

Numerous papers reporting the project’s preliminary findings have been given at national and international conferences. The proceedings of a conference held in Oxford in 2008 are in press with Oxford University Press, with publication anticipated early in 2012. Linda Fibiger, the research student funded through the project, successfully completed her D.Phil. in 2010, and has been awarded a Wenner Gren post-doctoral fellowship to bring several co-authored papers to publication together with the main investigator and other contributing researchers. While much has been accomplished, there is great potential for future research. Two pressing questions are whether or not the available collections for some areas – most notably Britain and Ireland – are biased by deriving mainly from funerary monuments (and if biased, is it towards or against violent injuries?), and what happens in the Bronze Age with the appearance of formal weaponry.

**Probable stone axe injury to right side of adult cranium from Late Neolithic site of Orrouy, France**

*(Institut de Paléontologie Humaine)*
Ancient towns were filled with life-size bronze and marble figures, and by the third century AD important cities of the Roman Empire could have over a thousand such statues. The habit of honouring rulers, notables and benefactors, as well as women and cultural heroes, with statues was a defining characteristic of the ancient Mediterranean world. Statues expressed relationships between rulers and cities, and articulated the benefaction-and-honour system of city politics. Statues also played a significant role in defining civic identity, and in framing and perpetuating a city’s collective memory. In the fourth to sixth centuries AD, the uniform statue practice of earlier imperial times was attenuated and changed drastically. By the mid-seventh century, the statue-habit, once ubiquitous, had completely disappeared from the Roman world. Not even in Constantinople were new statues set up.

The ‘Last Statues of Antiquity’ project has collected in a database all the evidence for statue honours set up in the period c.280–650 – that is, from Diocletian to the end, and from all regions of the empire, from Britain to Syria. The evidence consists of surviving statues, busts and heads, and inscribed bases. The database currently contains some 2500 such items.

Statue honours are tracers for a wide range of historical phenomena in ancient cities, and the different practices of the last period of their use reveal a lot about the changed social and political culture of late antiquity. The statues stood at the centre of a web of relations between honorands, honouring bodies and local communities. The main honorands in late antiquity were emperors, imperial office-holders such as governors, and local notables, and their costumed statue portraits define a whole changed political style. The database can generate macro-level statistics about differential practice across the whole empire, as well as close-up regional and contextual analyses of particular areas and cities. The database also documents precisely for the first time the full extent of recutting and redeployment of earlier bases, statues and portraits to make new honours. These reused monuments contain a paradox: they are and want to look like earlier statues, but they recombine the components in often quite ‘unclassical’ ways. The database allows interrogation of this rich and unpredictable body of material from archaeological, epigraphic and visual points of view. It will be an invaluable resource for historians, archaeologists and art-historians alike.

For further information, see http://www.ocla.ox.ac.uk/statues/

The project is funded by the Arts and Humanities Research Council and is directed by Professor R.R.R. Smith and Dr Bryan Ward-Perkins, with three researchers, Dr Ulrich Gehn, Dr Julia Lenaghan and Dr Carlos Machado. Close collaborators and colleagues in Cassino, Göttingen, Heidelberg, Helsinki, Paris and Vienna are contributing to the entry of different bodies of material in the database.

The Project began in January 2009 and will be completed in 2012.

The austere face and intense, sleepless gaze of a late antique benefactor of Ephesos. Marble bust of Eutropios, from Ephesos, cAD 400 (now in the Kunsthistorisches Museum, Vienna).

Statues and their bases. Reconstructions of statue monuments of two late antique governors set up at Aphrodisias in Caria, of Flavius Palmatus wearing a toga, cAD 500 (left) and of Oikoumenios wearing a chlamys, cAD 400 (right).
Explosive eruptions generate large ash plumes that disperse ash thousands of kilometres. Ash (tephra) deposited from these events forms discrete horizons in sedimentary archives, including archaeological sites and palaeoclimate records (terrestrial and marine cores). These marker layers are invaluable for precisely synchronizing the records in which they are found. Furthermore, if the eruption age is well determined they also help constrain the absolute chronology of the archives. The use of density extraction techniques has enabled recovery of even the microscopic glass shards that make up the ultra-distal eruption deposits. This has considerably extended the application of tephrochronology, and enabled archives 100s–1000s km apart to be linked. The use of these relative age markers enables the leads and lags in palaeoclimate to be investigated and also allows archaeological records to be directly integrated with regional palaeoenvironmental data.

Researchers in the tephrochronology group are working on numerous projects, which include:

- Tephrostratigraphy of the Lake Suigetsu SG06 archive from Japan. This high-resolution terrestrial palaeoenvironmental record contains numerous tephra layers. We are chemically characterizing the glass shards so we can identify the source volcano and eruption. Coarser deposits close to the volcano contain large crystals that can be dated using 40Ar/39Ar methods. These eruption ages are helping construct a detailed, high-precision chronology spanning the last ~120 krys. This chronology will enable this important Pacific palaeoclimate archive to be linked to others, improving our understanding of the mechanisms that drive rapid climate change.

- Chemically characterizing the tephra from Europe’s most productive volcano, Campi Flegrei, Italy. Ash from the numerous eruptions, including the large Campanian Ignimbrite and Neapolitan Yellow Tuff, is found in archives throughout the Mediterranean and at terrestrial sites extending up to Russia. Glass compositions will contribute to a database that is being constructed as part of the RESET project (details in this Report), which will contain compositional data for all major eruptions from European volcanoes. This resource will form the basis for distal tephra identification.

- Investigating whether microtephra are preserved in sediments within Vela Spila, Korčula, Croatia. The cave is an important archaeological site with evidence for occupation since the Upper Palaeolithic. Material that can be directly dated using radiometric methods is limited. Thus, we have sampled through the site with the aim to establish if any tephra are cryptically recorded within the sediments. Correlating these to eruptions from Italian volcanoes directly to the west will provide a detailed chronology for the site as well as promoting direct correlation with tephra-bearing palaeoenvironmental archives (i.e. Adriatic marine cores).

For further information on these projects, see the RHOXTOR website: http://c14.arch.ox.ac.uk/rhoxtor/

Most of these projects are funded through grants from the John Fell Fund from Oxford University Press and Oxford University.
Coarse proximal tephra – Ulleungdo U4 unit on the volcanic island off the Korean Peninsula (top left) and the same unit in the Lake Suigetsu SG06 archive from Japan (top right). Glass shards of a Campi Flegrei tephra in the Lago di Monticchio archive, Italy (bottom left) and some of the proximal Campi Flegrei eruption units that we have chemically characterized (bottom right).
Ancient Egyptian displays are amongst the most common and popular in museums around the world. In this context, the Pitt Rivers Museum’s large collection of over 11,000 Egyptian artefacts may not seem exceptional. Its character, however, is unique because of its relationship to the famous Victorian archaeologist and collector A.H.L.F. Pitt-Rivers who had very specific interests in cultural development and technology. Yet the Museum’s Egyptian collection has been largely unexplored by researchers, given the better-known collections at the Ashmolean Museum.

As an outgrowth of the Characterizing the World Archaeology of the Pitt Rivers Museum project, work on the Egyptian holdings has aimed to make the collection more widely known and used. To this end, it has sought not only to incorporate the Egyptian objects into more public talks and exhibitions, but also proactively to integrate the Museum’s collections within international research programmes. This includes, for example, the Multiculturalism and Multilingualism in Graeco-Roman Egypt online database project at the Katholieke Universiteit Leuven and Oxford’s own Egyptian Topographical Bibliography. In this manner, through continuing collaborative research and publication, new insights into both ancient Egyptian society and the collection’s history have been revealed.

Cases in point include the wide range of organic remains in the Museum, which have provided samples for a new series of radiocarbon dates using cutting edge techniques at the University of Oxford’s Radiocarbon Accelerator Unit. Such dates are contributing to an innovative project that will establish a new chronology for the origin of the ancient Egyptian state. Other objects currently being studied include a very rare 3500-year-old wooden fragment of a royal face and one of the oldest known bows from Egypt. Pitt-Rivers’ own Egyptian collection is also now the subject of a study into his interest in the cultures of the Nile Valley. Other aspects of the Museum’s collection presently being published include examples of the earliest known Egyptian-style artefacts made by experiment, allowing new insights into the history of experimental archaeology. Finally, the review of the Museum’s holdings has also illuminated an enormous, unpublished collection of unique Egyptian amulets procured in the 1920s and 1930s by Winifred Blackman, a pioneering anthropologist, Egyptologist and ethnoarchaeologist. These will form the basis for a new project seeking to understand the relationship between the disciplines of Egyptology, archaeology and anthropology and the role of female collectors in these subjects.

For further information, see Stevenson, A. 2010: Ancient Egypt in the Pitt Rivers Museum. *Egyptian Archaeology* 37, 41–4, and for the radiocarbon dating project, see http://c14.arch.ox.ac.uk/embed.php?File=egypt2.html
The John Fell Fund funded the initial examination of this collection, and the radiocarbon dating programme is supported by the Leverhulme Trust and is a collaboration between the University of Oxford, UCL and Cranfield University.

Royal image from New Kingdom Egypt, c.1500 BC, from Pitt-Rivers’ founding collection (PRM 1884.67.19).
NICK BARTON

AMY BOGAARD

FIONA BROCK


BARRY CUNLIFFE


(ed. and Introduction) 2011: History for the Taking? (British Academy), 7–12.

JANET DELAINE

PETER DITCHFIELD
SELECTED PUBLICATIONS


CEIRIDWEN EDWARDS
(with Campana, M.G., Whitten, C.M., Stock, F., Murphy, A.M., Binns, M.M., Barker, G.W.W. and Bower, M.A.) 2010: Accurate determination of phenotypic information from historic Thoroughbred horses by single base extension. Public Library of Science One 5, e15172.


CHRIS GOSDEN


DAVID GRIFFITHS


(ed. with Ashmore, P.J.) 2011: Aeolian Archaeology, the Archaeology of Sand Landscapes in Scotland (Edinburgh, Scottish Archaeological Internet Reports 48), http://www.sair.org.uk/sair48/

(with Harrison, J.) 2011: Settlement under the sand. Current Archaeology 253, April, 12–19.

HELENA HAMEROW


THOMAS HIGHAM

2011: European Middle and Upper Palaeolithic radiocarbon dates are often older than they look: problems with previous dates and some remedies. Antiquity 85(327), 235–49.


CHRISTINE LANE


JULIA LEE-THORP


(with Pellegrini, M. and Donahue, R.E.) 2011: Exploring the variation of the $\delta^{18}O$ and $\delta^{13}O$ relationship in enamel increments. Palaeogeography, Palaeoclimatology, Palaeoecology doi: 10.1016/j.palaeo.2011.02.023

(with Pollard, M.P. and Pellegrini, M.) 2011: Some observations on the conversion of dental enamel $\delta^{13}O$ values to $\delta^{18}O$, to determine human mobility. American Journal of Physical Anthropology 145, 499–504.
SELECTED PUBLICATIONS

PETER MITCHELL


OLIVER PRYCE


CHRISTOPHER RAMSEY


(with Lane, C.S., Blockley, S.P.E. and Lotter, A.F.) 2010: Tephrochronology and absolute centennial scale synchronisation of European and Greenland records for the last glacial to interglacial transition: A case study of Soppensee and NGRIP. Quaternary International http://dx.doi.org/10.1016/j.quaint.2010.11.028


**JESSICA RAWSON**


2010: Carnelian beads, animal figures and exotic vessels: traces of contact between the Chinese states and Inner Asia, c. 1000–650BC. *Archaeologia in China, Vol. 1, Bridging Eurasia* (published by the Beijing branch of the German Institute of Archaeology, Berlin), 1–42.


**LINDA REYNARD**


**MARK ROBINSON**


**RICK SCHULTING**


**BERT SMITH**

SELECTED PUBLICATIONS


ALICE STEVENSON

ANDREW WILSON
MAJOR GRANTS 2010–2011

ALISON CROWTHER
The East African agricultural transition: new archaeobotanical insights through starch analysis (British Academy)

CEIRIDWEN EDWARDS
Welcome Trust VIP Award (Wellcome Trust)

CHRIS GOSDEN
Persecution and survival: Oxford and the wartime experience of the Jewish refugee Paul Jacobsthal (Heritage Lottery)

CHRIS GOSDEN
Mellon Foundation Sawyer Seminar – Understanding human creativity: ecologies and practices of invention (Mellon Foundation)

CHRIS GOSDEN
Visiting professorship – Professor Ian Lilley (Leverhulme Trust)

CHRIS GOSDEN
EngLAID – Landscape and Identities: the case of the English landscape 1500 BC–AD 1086 (European Research Council)

MICHAEL HASLAM
Out of Africa, into South Asia: building a collaborative understanding of the earliest humans in India (British Academy)

MICHAEL HASLAM
Stone technology in Late Pleistocene India: a new perspective on the dispersal of Homo sapiens out of Africa (Arts and Humanities Research Council)

ROBERT HEDGES
Developing radiocarbon dating of bone amino acids: refining chronology and resolving dietary and reservoir effects (Natural Environment Research Council)

LINDA HULIN
Western Marmarica coastal survey (British Academy)

JULIA LEE-THORP
Building a better egg-timer? (Natural Environment Research Council)

JULIA LEE-THORP
Evaluating hunter-gatherer subsistence strategies in Late-Glacial Central Italy (Leverhulme Trust)

PETER MITCHELL
At the transition: resolving human/climate relationships across the Pleistocene/Holocene boundary in southern Africa (Leverhulme Trust)

MICHAEL PETRAGLIA
Out of Africa and into Arabia (National Geographic Society)

MICHAEL PETRAGLIA
Hominin dispersals and Palaeolithic archaeology at the Jubbah Palaeolake, Saudi Arabia (Leakey Foundation)

MARK POLLARD
Below the salt: a study of the human remains and associated material from the salt mine at Chehrabad, Zanjan, Iran (Arts and Humanities Research Council)

MARK POLLARD
Ancient Cholcis and the origins of iron: field investigations of the earliest iron working in western Georgia (British Academy)

MARK POLLARD
Chemical structure and human behaviour: a new model for prehistoric metallurgy (Leverhulme Trust)

OLIVER PRYCE
The Southeast Asian Lead Isotope Project (SEALIP): metallographic, EPMA, LA-ICP-MS, and MC-ICP-MS approaches to copper, bronze and lead exchange and long-distance social interactions (British Academy)

OLIVER PRYCE
The hunt for ancient metalworkers and the prehistory of the sub-Himalayan Silk Road in Nagaland, northeast India (National Geographic Society)

CHRISTOPHER RAMSEY
The origins of nationhood: a new chronology for the formation of the Egyptian state (Leverhulme Trust)

CHRISTOPHER RAMSEY
Towards a decadally-resolved radiocarbon calibration for the Last Glacial period (30,000–11,700 years ago) using New Zealand kauri (Agathis australis) (Natural Environment Research Council)

JESSICA RAWSON
China and Inner Asia (c.1000–200 BC): interactions that changed China (Leverhulme Trust)

NADINE SCHIBILLE
9th century Islamic glass from Samarra in the context of medieval Near Eastern glass production (British Academy)
Lectures and Seminars

Sponsored by the School or by members of staff, in addition to the normal lecture programme.

Lectures

26TH J.L. MYRES MEMORIAL LECTURE
3rd May  Professor R.R.R. Smith
Ancient Beards

CENTRE FOR ASIAN ARCHAEOLOGY, ART AND CULTURE SPECIAL LECTURES
21st October  Professor Dame Jessica Rawson (Merton College)
Current Issues in Asian Archaeology
10th May  Natalia Shishlina (Moscow Natural History Museum)
Bronze Age Pastoralism in the Eurasian Steppes

CLASSICAL ARCHAEOLOGY SPECIAL LECTURE
5th November  Dr Maria Lilimbaki-Akamati and Professor Ioannis Akamatis
Public and Private life in Alexander’s capital

KEBLE ARCHAEOLOGY LECTURE
12th November  Professor Albert Ammermann (Colgate University)
The First Argonauts: Towards the first sea-faring in the Mediterranean

MEYERSTEIN LECTURE
2nd June  Professor John Hunter (University of Birmingham)
Forensic archaeology: The archaeology of modern murder

O’DONNELL LECTURE IN CELTIC STUDIES
8th May  Professor Chris Gosden
Magic, Metals and Art in Iron Age and Early Roman Britain

OXFORD CENTRE FOR LATE ANTIQUITY SPECIAL LECTURES
13th October  Jean Pierre Sodini (Paris I – Sorbonne)
New results from Excavations at Qal’at Sem’an (1999–2010)
(with Seminar for Late Antique and Byzantine Studies)
29th October  Leslie Webster (British Museum)
The Staffordshire Hoard: Wealth, Art and Power in the Seventh Century
8th June  Tomas Hagg (University of Bergen)
Porphyry’s Plotinus from a biographical perspective

OXFORD AEGEAN SEMINARS
10th March  Dr Sinan Ünlüsoy (Troy Project, University of Tübingen)
Development and Decline of Early Bronze Age Troy
12th May
Dr Valasia Isaakidou
Biographical Bones and Symbolic Stones: Exploring Materiality in the Later Prehistoric Aegean

7th June
Professor Clairy Palyvou (University of Thessalonaki)
Akrotiri on Thera: A Bronze Age cosmopolitan harbour of the Eastern Mediterranean and some thoughts on its possible relations to Ugarit (with NearEastMed Archaeology Group)

9th June

OXREP/ERASMUS EXCHANGE SPECIAL LECTURES

20th June
Professor Oriol Olesti Vila (Universitat Autonoma de Barcelona)
New research on the production of Laetanian wine: From the amphora to the social landscape

21st June
Professor Oriol Olesti Vila (Universitat Autonoma de Barcelona)
The Roman occupation of the Pyrenees (Cerdanya Region): Cities, landscapes and gold mines

SUB-FACULTY OF ARCHAEOLOGY LECTURE

5th November
Zbigniew Fiema (University of Helsinki)
Madâ’in Sâlih (ancient Hegra): The excavations at the Nabatean-Roman site in the Saudi-Arabian Hijâz

OTHER SPECIAL LECTURES

14th October
Dr Lesley McFadyen (University of Porto)
Architecture as material practice: space, time and the Chalcolithic enclosure of Castelo Velho in the Alto Douro, Portugal

4th November
Chantal Conneller (University of Manchester)
From mammoth’s tusks to ivory beads: rethinking material/form relations

15th February
Dr Welmoed Out (Groningen, The Netherlands)
Selective use of wood for Dutch Mesolithic and Neolithic fish traps

Dr Nathan Schlanger (AREA – University of Paris)
Palaeolithic numismatics: From John Evans to Pitt Rivers

24th February
Dr Hamish Forbes (University of Nottingham)
So what about the Parthenon? Identity, monumentality, ethnicity and nationality in a Greek rural community

8th March
Professor Norman Hammond (Boston University)
Discovering the Ancient Maya

10th March
Professor David Lewis-William (University of the Witwatersrand)
Is it possible to study Upper Palaeolithic art?

20th May
Professor Paul Zanker (Pisa)
The Arch of Constantine as a Senatorial Monument
LECTURES AND SEMINARS

Seminars

ANCIENT ARCHITECTURE DISCUSSION GROUP
(CONVENOR: LUCY WADESON)

28th January  
Marc van de Mieroop (Colombia University)
*The city of Babylon: A semiotic analysis*

4th February  
Jennifer Wehby
*Understanding Ancient Builders – What can we learn from ancient walls?*

11th February  
Xavier Droux
*The emergence of funerary architecture in 4th millennium BC Egypt*

18th February  
Mark Wilson Jones (University of Bath)
*Cut from the same cloth? Commonality between architecture and votives in Greek sanctuaries ca 600 BC*

25th February  
Elizabeth Frood
*Temple Graffiti and social reshaping of sacred space in late New Kingdom Egypt*

4th March  
Anna Kouremenos
*Elite houses in Roman Crete: A study in emulative acculturation*

ASIAN ARCHAEOLOGY SEMINAR
(CONVENOR: MITSUKO ITO)

27th October  
Professor Craig Clunas
*Gender and Hybridity in the Kingly Ming Tombs*

1st November  
Professor M. Palanichamy (Yunnan University, China)
*The Northeast Indo-China corridor is the cradle for Asian human origins*

10th November  
Dr Oli Pryce
*The Southeast Asian Lead Isotope Project: Towards geochemical proxies for social interaction and the reconstruction of the regional economy c.1500 BCE to 500 CE*

24th November  
Dr Simon Kaner (Sainsbury Institute in Norwich)
*Dogu and the international significance of Japanese Archaeology*

26th January  
Professor Tatsuo Kobayashi
*Characteristics and Identity of Jomon*

9th February  
Kathryn Reusch
*Castration and Power Systems: An approach to understanding the persistence and prevalence of castration*

23rd February  
Dr Dorian Fuller
*Sticky rice or chapatis? An archaeological exploration of the selective movement of crops across the culinary frontiers of Asia*

9th March  
Dr Rod Campbell
*The Violence of Identity: Shang Rulership and the Trouble with the ‘Qiang’*

10th May  
Natalia Shishlina (Moscow Natural History Museum)
*Bronze Age Pastoralism in the Eurasian Steppes*

18th May  
Dr Robin Coningham (Durham University)
*Towards Archaeology Buddhism*

25th May  
Dr Ian Lilley (University of Queensland)
*New Engagements with Heritage: The results of a recent Oxford workshop*
### Lectures and Seminars

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<td>22nd November</td>
<td>Cameron Petrie (University of Cambridge)</td>
<td>At the edges of empire: western South Asia from the mid-1st millennium BC to the mid-1st millennium AD</td>
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<tr>
<td>26th November</td>
<td>Eivind Heldaaas Seland (University of Bergen, Norway)</td>
<td>Ships of the desert and ships of the sea: Palmyra and the Indian Ocean</td>
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<tr>
<td>29th November</td>
<td>Daniel Rogers (Smithsonian Institution, USA)</td>
<td>Trading in Power: Silk Roads</td>
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LECTURES AND SEMINARS

CLASSICAL ARCHAEOLOGY SEMINAR – FROM MINOS TO HERACLUS: LOCAL THEMES IN THE ANCIENT MEDITERRANEAN (Organizer: Dr Janet DeLaine)

17th January
Dr Lisa Bendall
Texts in contexts: the ins and outs of Mycenaean archives

24th January
Professor Irene Lemos
Why Lefkandi?

31st January
Dr Cathie Draycott
History and Heroa. What's happening at Xanthos in the mid-fifth century BC?

7th February
Dr Maria Stamatopoulou
The cemeteries of Pharsalos, Thessaly: New light on old finds

14th February
Dr Damian Robinson
Sailing across the 'Sea of the Greeks': The ships and anchors of Heracleion-Thonis, Egypt

21st February
Professor Andrew Wilson
Garamantian landscapes: irrigation and settlement in the Libyan Sahara

28th February
Dr Janet DeLaine
The House of Gove and Ganymede at Ostia: an urban paradigm revisited

7th March
Professor Bert Smith
The Last Statues of Aphrodisias

CLASSICAL ARCHAEOLOGY SEMINAR – THE ART AND ARCHAEOLOGY OF MACEDONIA (Organizers: Professor Irene Lemos and Dr Susan Walker)

2nd May
Professor Stelios Andreou (University of Thessaloniki)
Macedonia in the Late Bronze and Early Iron Ages

9th May
Dr Bettina Tsigarida (Archaeological Unit, Thessaloniki)
Macedonian Jewellery

16th May
Dr Hallie M. Franks (New York University)
Hunting Scenes on Hellenistic Paintings

23rd May
Dr Georgia Karamitrou-Mentessidi (Ephor Aiani)
Aiani and the upper Macedonia, Archaeological and Historical Research

30th May
Professor Chrysoula Saatsoglou-Paliadeli (University of Thessaloniki)
Vergina excavations by the University of Thessaloniki

6th June
Dr Stavros Paspalas (Assistant Director of the Australian Archaeological Institute in Athens)
The Cities of the Chalkidic Peninsula: From Archaic to Classical

GREEK ARCHAEOLOGY GROUP (Convenor: Dr Jane Anderson)

28th October
Alexandra Villing (British Museum)
Naukratis: The Greeks in Egypt

11th November
Dan Stewart (Leicester)
Archaeology, Topography and the Problem of Pausanius

25th November
Heather Jackson (Melbourne)
The Housing Insula at Seleukid Jebel Khalid on the Euphrates

3rd February
Naoise MacSweeney (Leicester)
The foundation of Colophon
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<tr>
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<tbody>
<tr>
<td>17th February</td>
<td>Thomas Mannack (Ashmolean Museum)</td>
<td>Divine pursuits in Southern Italy, meanings and change</td>
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<td>3rd March</td>
<td>Jack Ogden (The Gemmological Association)</td>
<td>Making it small in Ancient Greece: Gold jewelry in context</td>
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<td>5th May</td>
<td>Ellen Adams (KCL)</td>
<td>Peopling Minoan Crete</td>
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<td>19th May</td>
<td>Kate Cooper (Fitzwilliam Museum)</td>
<td>The art of displaying Greece and Rome. Have museums got it right?</td>
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<td>2nd June</td>
<td>Susan Turner (Reading)</td>
<td>Going through the motions? Making sense of death in representations of Greek funerary ritual</td>
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<tr>
<td>16th June</td>
<td>Caspar Meyer (Birkbeck)</td>
<td>Beyond the Polis: The archaeology of cult in the Bosporan Kingdom</td>
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**LATE ANTIQUE AND BYZANTINE ARCHAEOLOGY AND ART SEMINAR**
(Organizers: Dr Lukas Schachner and Dr Georgi Parpulov)

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<tr>
<td>21st October</td>
<td>Dr David Gwynn (Royal Holloway)</td>
<td>Archaeology and Heresy: Material Culture and the ‘Arian’ Controversy</td>
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<td>28th October</td>
<td>Dr Judith McKenzie</td>
<td>Who made the mosaics in the Great Mosque in Damascus?</td>
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<td>3rd November</td>
<td>Dr Elif Keser</td>
<td>Eighth-Century Churches of the Tur Abdin</td>
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<td>11th November</td>
<td>Javier Martinez</td>
<td>The Aqueduct of Reccopolis: The First Survey Season</td>
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<td>18th November</td>
<td>Foteini Spingou</td>
<td>Patronage and Public Image: Epigrams on Portraits of Emperor Manuel Komnenos</td>
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<td>25th November</td>
<td>Dr Chrysi Kotsifou</td>
<td>Life in a 10th-century Egyptian Monastery: Coptic Dipinti from the Monastery of John the Little in Wadi n’Natrun</td>
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<td>2nd December</td>
<td>Dr Tasos Papacostas</td>
<td>The Cult of the True Cross and the Architectural Setting of Pilgrimage in Byzantine Cyprus</td>
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<td>20th January</td>
<td>Professor Michael Vickers</td>
<td>Early Christian and Jewish Antiquities in Oxford from the Roman Catacombs</td>
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<td>27th January</td>
<td>Ebru Findik (Hacettepe University, Istanbul)</td>
<td>New finds from the Church of St Nicholas in Myra/Dene</td>
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<td>3rd February</td>
<td>Mark McKerracher</td>
<td>Agricultural development in Middle Saxon England</td>
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<td>10th February</td>
<td>Paul Hetherington</td>
<td>Fragile Gems: The Diaspora of Byzantine Enamels</td>
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<td>17th February</td>
<td>Mark Whittow</td>
<td>Reframing Early Medieval Byzantium: Archaeology for a New Agenda?</td>
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<td>24th February</td>
<td>Slobodan Curic (Princeton University)</td>
<td>Columns, Towers and Holy Men: Physical and Spiritual Aspects of Height in Late Antiquity and Byzantium</td>
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</table>
**LECTURES AND SEMINARS**

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<tr>
<td>3rd March</td>
<td>Elizabeth Montgomerie</td>
<td><em>Image of Time in Late Antique Floor Mosaics</em></td>
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<td>10th March</td>
<td>John Lansdowne</td>
<td><em>The 'New Jerusalem’ in fifteenth-century Florence</em></td>
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<td>5th May</td>
<td>Jeremy Johns</td>
<td><em>Artists and Christian Art in the Painted Ceilings of the Cappella Palatina, Palermo</em></td>
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<td>12th May</td>
<td>Mark Jackson (University of Newcastle)</td>
<td><em>Recent Excavations of the Byzantine Settlement at Kilise Tepe</em></td>
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<td>19th May</td>
<td>Angeliki Lymberopoulou (Open University)</td>
<td><em>Who, where, why and how? Four Basic Steps in Fresco Decoration from Venetian-Dominated Crete</em></td>
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<td>26th May</td>
<td>Bryan Ward-Perkins</td>
<td><em>Excavating 'Byzantine' Luna, 30 Years on</em></td>
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<td>2nd June</td>
<td>Richard Marks (Cambridge University)</td>
<td><em>'Afterlife' of the Icon of the Mother of God of Vladimir</em></td>
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<td>9th June</td>
<td>Helen Whitehouse</td>
<td><em>A Unicorn amidst the Birds and Beasts: An Unusual Drawing on an Oxyrhynchus Papyrus</em></td>
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<tr>
<td>16th June</td>
<td>Ioanna Christophoraki (Academy of Athens)</td>
<td><em>A Tale of Two Icons: St Martin and Madonna with St Francis</em></td>
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<td>23rd June</td>
<td>Peter Frankopan</td>
<td><em>Byzantine Sigillography</em></td>
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**MEDIEVAL ARCHAEOLOGY SEMINAR**

(Convenors: Professor Helena Hamerow and Dr Lesley Abrams)

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<tr>
<td>18th October</td>
<td>Gabor Thomas (University of Reading)</td>
<td><em>Recent excavations at Lyminge: Settlement, Community and Conversion in the Anglo-Saxon Kingdom of Kent</em></td>
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<td>1st November</td>
<td>Caroline Goodson (Birkbeck)</td>
<td><em>Imperial Villa to Monastic Village: Medieval Villamagna (Central Italy)</em></td>
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<td>15th November</td>
<td>Andy Norton (Oxford Archaeology)</td>
<td><em>Excavations at Oxford Castle: The discovery of Oxford’s western quarter</em></td>
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<td>29th November</td>
<td>David Score (Oxford Archaeology)</td>
<td><em>The Dorset Ridgeway Viking Mass Burial</em></td>
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<td>31st January</td>
<td>Dr Bryan Ward-Perkins</td>
<td><em>The Barbarian Invasions and the Last Statues of Antiquity</em></td>
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<td>7th February</td>
<td>Richard Morris</td>
<td><em>Lastingham. A Northern Monastery and its context, c.600–1100</em></td>
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<td>21st February</td>
<td>Anne Pedersen</td>
<td><em>New Developments and Interpretations at the Royal Site of Jelling, Denmark</em></td>
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<td>7th March</td>
<td>Aiden O’Sullivan</td>
<td><em>Early Medieval Dwelling in Ireland: Interdisciplinary perspectives and arguments between archaeology, early Irish history and palaeoenvironmental studies</em></td>
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NEAR EAST MEDITERRANEAN ARCHAEOLOGY GROUP
(CONVENOR: DR CATHIE DRAYCOTT)

27th January
Ian Rutherford (Reading)
Religious Interactions between Anatolia and the Aegean: What sorts of archaeological evidence might we expect to find?

10th February
Ali Cifci (Liverpool)
A New Model for the Socio-economic Study of Urartian Society

24th February
Christoph Bachhuber
Accommodating Foreignness at MBA Kültepe-Kanesh and LBA Bogazköy-Hattusa on the Anatolian Plateau

12th March
David Blackman
Minoan Seafarers, Egypt and the Levant

26th May
Lindy Crewe (University of Manchester)
Community interaction in Bronze Age Cyprus: global to local, and back again, at Kissonerga

9th June
Wolfgang Zwickel (Johannes Gutenberg Universitat, Mainz)
Ritual iconography in the East Mediterranean: The Iron Age II favissa at Yavneh, Israel

OXFORD UNIVERSITY ARCHAEOLOGY SOCIETY SEMINARS
(CONVENORS: JOHN WILLIAMS, ROBERT ANDREWS AND CHRIS FERGUSON)

18th October
Dr Roger White (University of Birmingham)
Britannia Prima

25th October
Dr Christopher Caple (University of Durham)
Nevern Castle

1st November
Dr Martyn Barber (English Heritage Aerial Survey)
Eugenics and the Origins of Aerial Survey

8th November
Dr Martin Bates (University of Wales, Lampeter)
The Evolution of the Roman Port of Dover

22nd November
Paul Booth (Oxford Archaeology)
Dorchester

29th November
Dr Zofia Archibald (Liverpool University)
Moonlight on the north Aegean: exploring magical knowledge

24th January
Sila Votruba (Ankara University)
Liman Tepe: A Late Bronze Age City in Western Anatolia and its Connections

14th February
Professor Chris Ramsey
Radiocarbon Dating: How interdisciplinary does Archaeology have to be?

21st February
Dr Peter Oakes
The relationship between Pompeian housing and non-elite life

28th February
Dr James Gerrard (University of Cambridge)
Crisis and ritual at the end of Roman London: The Late Roman hoard from Draper’s Gardens

7th March
David Rudling
The Barcombe and Beddingham Roman Villas, East Sussex

9th May
Paul Booth (Oxford Archaeology)
Gill Mill revisited: The evolving narrative of a Windrush Valley landscape
### LECTURES AND SEMINARS

**16th May**  
Dr Pete Bray (RLAHA)  
'It's life, Dr Childe, but not as we know it': Chemistry and the biography of early metal objects

**6th June**  
Dr Andrew Gardner (UCL)  
Archaeology, videogames and the public

**13th June**  
Professor Robin Lane Fox (New College)  
The Macedon Exhibition and the historian

**20th June**  
Dr Colin McEwan (British Museum)  
Inca Origins, Inca Myths: High altitude archaeology in the Andes

### PALAEOLITHIC AND QUATERNARY SEMINAR  
(Convenors: Professor Nick Barton, Huw Groucutt and Lisa Lodwick)

**14th October**  
Tobias Richter (University of Cambridge)  
Simple and complex hunter-gatherers in southwest Asia: Social evolution in the light of recent work in the Azraq Basin

**28th October**  
Paul Pettitt (University of Sheffield)  
The Palaeolithic origins of human burial

**11th November**  
Adrian Parker (Oxford Brookes University)  
Late Pleistocene environments and human occupation in SE Arabia – recent developments

**18th November**  
Mary Stiner (University of Arizona)  
A hypothesis about the division of labor among Neanderthals and modern humans in Eurasia

**25th November**  
Matt Pope (University College London)  
Lost in La Manche: Neanderthal Landscapes of the English Channel

**20th January**  
Tom Higham (RLAHA)  
Time of the Palaeolithic: New radiocarbon dating methods and their influence on the dating of the Middle to Upper Palaeolithic transition

**27th January**  
Pablo Arias  
Dwellings, workshops, ritual areas...? Towards an interpretation of human activity in subterranean environments during the Magdalenian

**3rd February**  
Bernard Wood  
Evolutionary context of the earliest hominins

**10th February**  
Michael Haslam  
Contact between archaic and modern humans: A view from India

**17th February**  
Robin Dunbar  
Why humans aren’t just great apes

**24th February**  
Isabelle de Groote  
Adaptation and its role in human evolution

**3rd March**  
Michelle Langley  
Patterns of modernity: Taphonomy, sampling and the Pleistocene archaeological record

**10th March**  
Nick Barton  
Modern humans and the origins of symbolic behaviour in prehistoric North Africa

**4th May**  
Paul Mellars (University of Cambridge)  
When did Modern Humans first reach India? Archaeological and genetic perspectives
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<tr>
<td>9th May</td>
<td>Rick Schulting</td>
<td>Where have all the people gone? New Research on Mesolithic Human Remains in Britain</td>
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<td>23rd May</td>
<td>Alex Pryor (University of Cambridge)</td>
<td>Anatomically Modern Humans and the Dansgaard-Oeschger events in Upper Palaeolithic Europe: An investigation using oxygen isotopes of faunal remains</td>
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<td>14th October</td>
<td>Mitch Hendrixson (University of Sydney)</td>
<td>Tales of Two Cities: Preliminary results of the Industries of Angkor Project, Preah Khan of Kompong Svay (10th to 15th centuries AD), Cambodia</td>
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<td>21st October</td>
<td>Julia Lee-Thorp (RLAHA)</td>
<td>Residence and landscape use amongst early hominins in the Sterkfontein Valley from strontium isotope rations in enamel</td>
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<td>28th October</td>
<td>Terence Clark (UCL)</td>
<td>Kwakwaka’wakw (Kwakiutl) Mariculture: Northwest Coast Clam Gardens and Traditional Resource Management</td>
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<td>11th November</td>
<td>Irene Good (RLAHA)</td>
<td>Below the Salt: Archaeological textiles from the Chehr mine, Iran</td>
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<td>18th November</td>
<td>Roger Doonen (University of Sheffield)</td>
<td>Applications of hand held XRF analysis in field archaeology</td>
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<td>25th November</td>
<td>Moira Wilson (University of Manchester)</td>
<td>Ceramic hydration dating techniques</td>
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<td>Helen Winton (English Heritage)</td>
<td>Archaeology from a distance? The role of aerial photography in landscape archaeology</td>
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<td>20th January</td>
<td>Hannah Russ (University of Bradford)</td>
<td>Big fish, little fish, cardboard box: Fish exploitation during the Late Pleistocene in Western Europe</td>
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<td>27th January</td>
<td>Rod Campbell</td>
<td>Bone working at the Great Settlement Shang: Preliminary Work on the Tiesanlu materials in its potential</td>
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<td>3rd February</td>
<td>Matt Sponheimer (University of Colorado)</td>
<td>The Diets of Early Hominins: Did we get it all wrong?</td>
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<td>10th February</td>
<td>Pablo Arias</td>
<td>A Journey into the Palaeolithic: Archaeological research at La Garma, northern Spain (1996–2010)</td>
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<td>Eelco Rohling (University of Southampton)</td>
<td>Climate variability over the last half million years, with emphasis on last glacial cycle and the Mediterranean</td>
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<td>24th February</td>
<td>Jamie Anderson</td>
<td>Testing the use of distal tephrochronologies in the North Atlantic: a case study from Vatnsfjörður, Iceland</td>
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<td>Tom Hoogervorst</td>
<td>Multidisciplinary evidence for early biological translocation in the Indian Ocean</td>
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LECTURES AND SEMINARS

3rd March
Gundula Mueldner (University of Reading)
*The 'Roman Diaspora' Project: Isotopic approaches to mobility in Roman Britain*

19th May
Professor Chris Gosden
*English landscapes and identities*

26th May
Dr Jane Kershaw
*Can we identify a Viking presence through metalwork?*

2nd June
Wendy Morrison
*Public and Private Identities in the Late Iron Age Thames Valley*