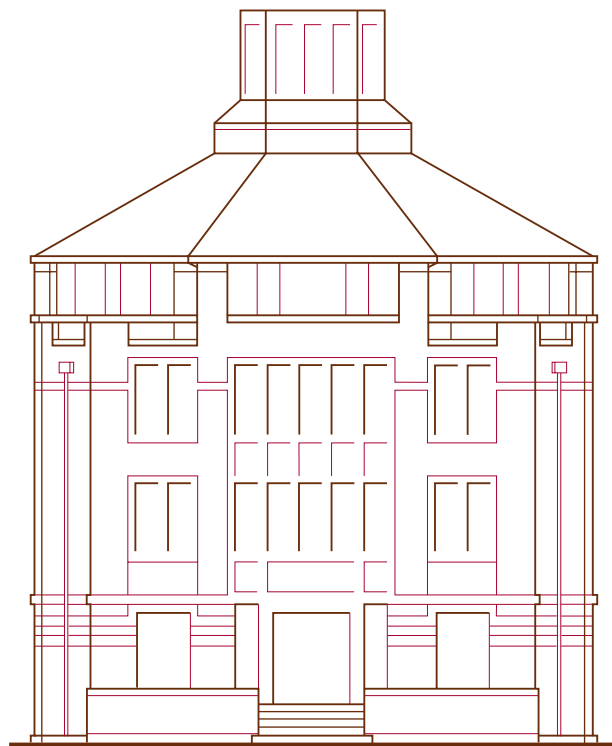




McDonald Institute for Archaeological Research

Annual Report 2005–2006



The 2005–2006 academic year has been typically busy for the Institute, with a rich programme of projects, academic meetings, visitors, and publications. A particular high point was the Institute's Illicit Antiquities Research Centre winning the Archaeological Institute of America's 2005 prize for Outstanding Public Service Award. Maintaining the momentum of the academic programme has involved unstinting commitment from all of the core staff particularly with Dr Chris Scarre's translation at the end of 2005 from Deputy Director of the Institute to a Chair in Archaeology at the University of Durham. This was a signal coup for his career that we all celebrate, but a serious loss for the Institute: Chris had been Deputy Director since the Institution's foundation in 1990, and the success of Institute's academic programmes, the smooth running of its administration, but perhaps especially the collegiality of its academic community, owes an enormous amount to him. We certainly owe him a profound debt of gratitude, and wish him well for the next phase in his academic career.

In addition to the seventeenth McDonald Lecture delivered in November by Professor Tjeerd van Andel, the high points of the lectures, meetings, and seminar programme included 'The Cognitive Life of Things' meeting organized by Professor Colin Renfrew and Dr Lambros Malafouris in April, funded by the Balzan Foundation, and the 'Measuring the World and Beyond' meeting in September organized by Dr Iain Morley and Professor Renfrew, funded by the Templeton Foundation. The themes of both meetings would have been especially dear to the Institute's benefactor Dr D.M. McDonald, and both were typical of the cross-disciplinarity that the Institute fosters so well. The publications programme has seen a number of significant research monographs published including two major field reports on excavations at Çatalhöyük, two volumes on the Haddenham Project, and three thematic volumes, Archaeoacoustics, Stone Knapping, and Phylogenetic Methods and the History of Languages.

As the list of lunchtime seminars given by McDonald researchers (p. 4) and the range of grants awarded (pp. 34–45) demonstrate, the research interests of the community range widely in time, space, theoretical stance, and methodological approach, but some of the underpinning themes include the development of cognitive complexity, including spirituality; relations between people and environment; the origins of farming and of urbanism; and the role of material culture in signifying personhood. To illustrate the intellectual diversity of the research community with just one of these themes — the origins of farming and pastoralism — work has included: genetic studies of plants in Europe and Asia; archaeozoological studies of faunas in Europe, Central, East, and Southeast Asia, and North Africa; excavations of key sites at the hunting/farming transition in southeast Europe, Turkey, and China; artefact and cemetery studies in Southeast Asia; geoarchaeological investigations in Britain, Chile, Croatia, and Portugal; rock-art surveys in Finland and Siberia; and studies of ancient DNA in central European Neolithic populations, with results published in Science that generated considerable interest in the scientific community and media.

Finally, it is a great pleasure to welcome a new Fellow into our community, Robert Anderson, formerly Director of the British Museum.

Graeme Barker (Director)

Events

The Seventeenth McDonald Lecture

The major public event in the Institute's diary this year was the McDonald Lecture held on 16 November 2005 in the Mill Lane lecture rooms. Our speaker was Professor Tjeerd van Andel, Honorary Professor in Earth History, Quaternary Science and Geo-archaeology at the Department of Earth Sciences, University of Cambridge. Professor Van Andel provides a summary of his lecture below.

A MATTER OF CHOICE — PREHISTORIC HUMAN RESPONSES TO MAJOR ENVIRONMENTAL CHANGES

TJEERD H. VAN ANDEL

Modern humans encountering unknown threatening conditions, a drastic global warming maybe, feel sure that matters can be put right. Prehistoric humans had few options: tolerate, find novel ways to cope, or be resigned to extinction. Three case histories illustrate the choices faced by prehistoric human beings and how they responded to major environmental challenges. They raise questions but conceal any answers.

The last Glaciation: run, adapt or perish?

The last Glaciation was not cold throughout. A long warm period from 60,000 to 40,000 years ago allowed Neanderthals and Modern Humans, who had reached Europe some 45,000 years ago, to settle far north. When the final cold phase began, both withdrew from central northern Europe towards France and the Crimea where both met their end. *The retreat was slow, 8 km/year SW and 12 SE for Neanderthals and Modern Humans alike. Why?*

Other Modern Humans chose northern Europe and developed the right hunting practices and a suitable culture. Their arctic mode of living was very successful. *What made them opt for a survival method so different from that of the others?*

Lake dwellers in a karst landscape: staying put?

Coastal northern Greece is a karst landscape with many closed basins rich in fauna and flora chosen by Neanderthals for their living. Their pattern of sites suggests repeated use of known locations where from 120,000 to 30,000 years ago they were sure of finding needed resources. Throughout this long time their lithic technology hardly changed at all. *Evidence for a non-materialistic culture analogous to that of Australian Aborigines or Patagonian Indians? Why?*

Getting control but not enough?

The transition from hunter-gathering to farming, a clear step beyond which the road to a modern world, dependable food supplies, artists, kings and wars is open.

Agriculture appeared in the Middle East and spread to Anatolia between 12,000 and 10,000 years ago. There it reached a high level of development. However, around 8000 years ago a brief but cold arid climate wiped the farmers out, and shortly boatloads of Anatolian refugees arrived in empty Greece seeking arable land. One wave settled on the floodplains of large rivers where water was reliable and the soil fertile. Having made the right choice, they were successful. Another wave landed wherever on the Greek coast arable land was available. They found good soils but little water in a summer-dry climate prone to years of severe drought and the colonies grew very slowly.

Real expansion came only about 3500 to 4000 years after their arrival when advanced farming methods arrived. *What was the reason for such a long delay before human control began to take hold?*

Seminars

The McDonald Institute Seminar Room was once again the venue for lectures, seminars, meetings and conferences throughout the year. These included the regular series of McDonald Institute Lunchtime Seminars (every second Wednesday in term-time) by researchers connected with or supported by the Institute, and the Thursday afternoon Garrod Research Seminars organized by the Department of Archaeology.

The Institute also hosted other regular seminar groups such as the American Archaeology, Asian Archaeology, and Cognitive Archaeology Groups and the Medieval Archaeology seminars. Other events included a seminar by the Egypt Exploration Society, the University SMUTS Memorial Fund graduate discussion sessions and master classes, and meetings of the Leverhulme Project, the George Pitt-Rivers Laboratory for Bioarchaeology, the Museum of Archaeology and Anthropology, the NERC consortium and the Domestication of Europe consortium.

This year the Seminar Room's technical facilities were greatly enhanced by the installation of a new ceiling-based projection system to aid computer powerpoint presentations.

McDonald Institute Lunchtime Seminars 2005–2006

BARRY KEMP	<i>Investing in religion at Akhenaten's Amarna</i>
JOHN MACGINNIS	<i>Excavating a provincial capital of the Assyrian Empire</i>
DUŠAN BORIC	<i>Forager–farmer encounters in the Balkans: new research in the Lepenski Vir culture zone</i>
LAURA PRESTON	<i>Exploring local identities in the Bronze Age Aegean: the Kastri Cemetery Project</i>
MARC VANDER LINDEN	<i>Some may know how to kill a dragon, but what about how to drink a beer? Archaeological and philological approaches to drinking and feasting in Later European prehistory</i>
CAMILLA BRIAULT	<i>High fidelity or chinese whispers? Quantifying ritual change in the Bronze Age Aegean</i>
PETER FORSTER	<i>Ancient DNA from the first European farmers in 7500-year-old Neolithic sites</i>
MARSHA LEVINE	<i>Horse palaeopathology: fashioning an analytical tool</i>
GABRIELE CIFANI	<i>Settlements as evidence of ethnicity: the Tiber Valley in pre-Roman times</i>
SHUICHI MATSUMURA	<i>Computer simulations of the Neolithic transition in Europe</i>
LILIANA JANIK	<i>The origins of shamanism: rock art and the world's 'oldest religion'</i>
HARRIET HUNT	<i>From DNA to social ritual: the significance of sticky millet</i>



McDonald Institute Managing Committee: (left to right) Professor Martin Jones, Professor Martin Millett (chair), Mrs Liz Farmar (secretary), Professor Paul Mellars, Dr Kate Pretty, Professor Julian Dowdeswell, Sir Tony Wrigley, Professor Graeme Barker; (unable to attend) Professor Nicholas Postgate; Professor Marilyn Strathern.

Visits

On 23 November the Cambridge Antiquarian Society had a very successful visit to the Institute. The group of forty-five members of the Society toured the buildings, visited the laboratories and met researchers and members of staff. The tour was followed by a wine reception in the Coffee Room.

In April, Professor Li Shuicheng (Department of Archaeology, Peking University, Beijing) was a visitor at the McDonald Institute as part of his ongoing collaboration with Dr Marsha Levine and Professor Graeme Barker on Bronze Age chariot horses. During the course of this visit Professor Li gave a talk entitled: 'The history and present situation of research into the chariot and horse in China: the archaeological evidence'. He additionally gave a brief summary of some of his other research projects. His visit was funded by the Sino-British Fellowship Fund (British Academy).

Professor Yuan Jing, the chief archaeozoologist at the Institute of Archaeology, Beijing, paid a short visit to the McDonald Institute as the guest of Dr Marsha Levine and Professor Graeme Barker in May in connection with a new collaborative project in which they will carry out joint investigations of Shang dynasty horses from Anyang (c. thirteenth century BC). During his visit Professor Yuan gave a talk entitled: 'The origins of Chinese domestic animals: new research developments'.

Bettina Bader, from the University of Vienna, came on a British Academy Overseas Visiting Fellowship (July–September) to analyze the cemetery material (c. 2160–2055 BC) from an early excavation at Sedmen in Egypt.

Workshops

Culture and Nature in Japanese and European Archaeology: Recent Approaches and Future Directions

A one-day workshop was held on Saturday 17 June at the McDonald Institute for Archaeological Research, in conjunction with the Sainsbury Institute for the Study of Japanese Arts and Cultures, on the theme of culture and nature in Japanese and European archaeology, organized by Patrick Skinner (Cambridge) and Simon Kaner (Sainsbury Institute). A series of presentations addressed differences and similarities in the cultural construction of the nature–culture divide in the European and Japanese traditions. A number of approaches were proposed to understand if and how humans in a variety of past cultural contexts understood the distinction between nature and culture, and what, if any, impact this understanding had on the practices and behaviours that shaped the archaeological record. Topics included the archaeological correlates of spatial patterning in cave bear behaviour (Patrick Skinner, University of Cambridge); anthropological approaches to nature and culture in America and Great Britain (Kathryn Harriman, University of Aberdeen); the nature–culture divide in medieval European archaeology (Aleks Pluskowski, University of Cambridge); recent approaches to the interface between the reconstruction of prehistoric cultural landscapes and seasonality studies in Japan (Junzo Uchiyama, Research Institute for Humanities and Nature, Kyoto); underwater archaeology of the Early Modern period in Japan and Korea (Barbara Seyock, University of Munich); the perception and use of stone sources in Jomon Japan (Ilona Bausch, University of Leiden); the shift towards culturalism within Yayoi period imagery (Jane Oksbjerg, SOAS); and the development of enclosed settlements in Yayoi period Japan (Tristan Arbousse-Bastide, University of Rennes).

Conferences

The McDonald Institute continued to host a number of international conferences throughout the year on a diverse range of topics which included English Heritage on archaeological dating, the 7th Cambridge Heritage Seminar, a Balzan Project conference entitled ‘The Cognitive Life of Things’, and the Templeton Project’s conference ‘Measuring the World and Beyond’.

The Cognitive Life of Things: Recasting the Boundaries of the Mind (7–9 April 2006)

The Cognitive Life of Things was the subject of a cross-disciplinary international symposium co-organized by Professor Lord Colin Renfrew and Dr Lambros Malafouris, at the McDonald Institute, Cambridge (from 7–9 April 2006). The conference, funded by the Balzan foundation, was the first of the ‘Material Engagement’ project symposia in cognitive archaeology (see also p. 48) aiming to address questions such as: How do materiality and the body shape the mind in different contexts and timescales of human activity? How is human thought built into and executed through things? Can things really be parts of the machinery of thought? What is the role of the brain in our embodied engagements with things? This, no doubt, challenging task was met with success through a series of innovative papers covering topics extending from the cognitive dimensions of Holocene stone tools and the ‘exographic’ symbolic technologies of more recent periods, to the latest autonomous robotic devices and intelligent environments. At the theoretical level discussions centred upon the notions of extended, embodied, and distributed cognition. Moreover, through various case studies, contributors illustrated the analytic potential of new methods and experimental techniques ranging from functional neuroimaging and digital cognitive ethnography, to the application of minimalistic artificial life simulations and optimization models in artefact evolution. Contributors included Professor Chris Gosden, Dr Carl Knappett, Professor Clive Gamble,

Dr Fiona Coward, Mr Niels Johannsen, Professor Colin Renfrew and Dr Lambros Malafouris from Archaeology; Professor Andy Clark and Dr Mike Wheeler from Philosophy; Professor Edwin Hutchins, Professor Don Norman, Professor Merlin Donald, Professor Charles Goodwin, Professor Tom Ziemke and Professor David Kirsch from Cognitive Science; Professor Tim Ingold, Dr Amiria Henare, Dr Martin Holbraad, and Dr Sari Wastell from Anthropology. Discussants were psychologist Professor Nicholas Humphrey and neurologist Professor Alastair Compston. Professor Richard Harper from Microsoft Research was also a welcome participant in discussion. The structure of the symposium, including pre-circulation of papers among the participants, allowed extensive discussion and stimulated interaction and debate. These papers are currently being edited by Colin Renfrew and Lambros Malafouris, for publication, it is hoped, by the McDonald Institute.

Measuring the World and Beyond:

the Archaeology of Early Quantification and Cosmology (13–16 September 2006)

The second of the Templeton ‘Roots’ project symposia was held this year on the subject of the archaeology of early quantification and cosmology. It involved nearly 30 contributors and discussants from around the world (its remit is outlined in more detail in the general overview of the Templeton ‘Roots’ project p. 51). In addition to papers from the organizers, Professor Colin Renfrew (Measurement: comments and themes) and Dr Iain Morley (Conceptualizing quantification before settlement), contributions included papers on the archaeological record of areas as diverse as Central and South America, the Middle East, Europe, and India, as well as consideration of aspects of human cognition of measurement and counting. In addition to terrestrial measurements such as length and mass, this also extended to measurement and conceptualization of time, cycles and the attendant cosmological and celestial considerations.



‘Measuring the World and Beyond’ participants: Front row) John Justeson, Mark Kenoyer, Iain Morley, Anna Michailidou, Peter Biehl, Michael Jansen; 2nd row) LeRon Shults, Denise Schmandt-Besserat, Anthony Aveni, Jeremy Begbie; 3rd row) Helen Farr, Kate Spence, Gary Urton, Saburo Sugiyama, Xinyi Liu; 4th row) David Brown, Colin Renfrew, Lambros Malafouris, Paul Wason; Back row) John Clark, Lorenz Rahmstorf.

Each of the contributors submitted full papers in advance, which were electronically pre-circulated, and a bound copy of these was presented to each participant at the symposium. This allowed the emphasis of the meeting to be on open discussion, rather than on the extended presentation of the arguments that had been circulated in advance. As part of the discussion process, the symposium concluded with sessions instigated by theologians Professor Jeremy Begbie and Professor LeRon Shults. Professor Mark E. Lewis and Professor Charles Stanish also contributed valuable papers, although they were unable to attend in person, and Mr Xinyi Liu, Professor Nicholas Postgate, and Professor Robert Hinde were welcome regular participants in the discussion. Ms Pamela de Condappa provided much valuable assistance throughout the symposium.

Science Week

The McDonald Institute took an active role in this year's University-wide Science week. Exhibitions — designed to fit within the theme, *Humans' Imprint on the Planet* — were set up collaboratively by the McDonald Institute, the Department of Archaeology and the Cambridge Archaeological Unit. They were well attended and greatly appreciated by the public. The displays were:

- **THE ANSWER LIES IN THE SOIL:** People's impact on their landscapes — in Switzerland, Czech Republic, Iceland, Syria, Croatia, Britain, New Mexico, USA (Dr Charles French, Julie Miller, Dr Gillian Wallace, Cleantha Paine, Karen Milek, Miranda Semple, Andrea Balbo and Ann-Maria Hart);
- **PLANTS, PEOPLE AND FOOD:** Ancient plant remains under the microscope can reveal a wealth of information about how people lived, and how they kept alive (Professor Martin Jones, Dr Lila Janik, Dr David Beresford-Jones, Brigitta Berszenyi and Nisha Doshi);
- **THE ORIGINS OF HORSE DOMESTICATION:** Comparing the life histories of modern free-living ponies, ancient and modern riding horses, ancient Chinese chariot horses and modern draught horses from their skeletons (Dr Marsha Levine and Chris Stimpson);
- **HOW OLD IS THAT DNA?:** Comparing ancient DNA from archaeological specimens with DNA from living populations helps us understand where an animal might have come from in the past, and who its closest living relatives are (Dr Mim Bower and Dan Leighton);
- **HOW MILK BECAME GOOD FOR US:** Many humans around the world are not able to drink milk as adults because they cannot digest milk sugar (lactose), as babies can. Britain is just one of the exceptions; here, many adults have



Andrea Balbo demonstrating thin-sections of Swiss lake sediments to members of the public at Science week March 2006.

retained the ability to digest lactose as a result of selection during prehistory, resulting in a genetic trait that causes continuous production of lactase in the body — the substance necessary to digest lactose (Karin Haack);

- **STICKY GENES...:** Many cereals, including rice, maize and barley, have special 'sticky' varieties caused by differences in the DNA sequence. Researchers are carrying out biochemical tests to look for sticky types of millet — an ancient cereal from East Asia which was used to make the world's oldest noodles! (Dr Harriet Hunt and Xinyi Liu);
- **FAUNAL REMAINS FROM THE GRAND ARCADE:** Skeletons of a cow and a foetal calf from the Grand Arcade excavations in central Cambridge (Dr Preston Miracle and Chris Swaysland);
- **THE GRAND ARCADE:** A poster display and Powerpoint projection of the latest excavations on the site of the proposed Grand Arcade (Alison Dickens).

People

Director

My second year as Director has been exceptionally busy, because Chris Scarre's departure from the Deputy Directorship for a Chair in Archaeology at the University of Durham on the 31 December was followed the next day by my assuming the Headship of the Department of Archaeology alongside the Directorship of the Institute. In the ensuing months I have been extremely fortunate to have had the unstinting support of Dr Katie Boyle as Acting Deputy Director, and of Archaeology's Departmental Secretary Jane Woods, in helping me fulfil the two roles.

My research during the year has concentrated on three ongoing projects: the colonization strategies of modern humans in Southeast Asia; the nature of, and possible reasons for, the transition from foraging (hunting and gathering) to farming as a global process; and the complexity of the process of desertification in arid lands. Work at Niah Cave (Sarawak, Borneo) has provided remarkably rich evidence for the complexity of the strategies developed by modern humans 45,000 years ago to cope with rainforest. My transitions to farming book (*The Agricultural Revolution in Prehistory: Why Did Foragers become Farmers?*) is a global multi-disciplinary review of one of the great research questions for prehistorians, arguing against current orthodoxy that farming was invented in a few major centres and then spread to intervening areas by relatively simple processes of population movement. The desertification study in Jordan (the Wadi Faynan Landscape Survey), the results of which are currently being assembled as a monograph, confronts current theories envisaging rather simple processes of cause and effect between climate and land use on the one hand, and between the desert and the sown on the other. Like the rainforest work it has resonances for the present, in this case regarding the future of dryland societies in the context of global warming. In February I visited Libya to discuss with the Libyan antiquities authorities the resumption of fieldwork in the Haua Fteah cave, excavated by Dr Charles McBurney of Cambridge's Department of Archaeology c. 50 years ago, and in September I led a small team to visit the site and its environs to formulate detailed plans for future fieldwork. In May I spent ten days in the Kelabit Highlands of Borneo with a team from the Universities of Belfast, Cambridge, Leicester, and Manchester, to conduct a pilot study for a planned study of the long-term history of rainforest settlement integrating archaeology, anthropology, and palaeoecology.

PUBLICATIONS

Graeme Barker

- 2005 Agriculture, pastoralism, and Mediterranean landscape in prehistory, in *The Archaeology of Mediterranean Prehistory*, eds. E. Blake & B. Knapp. Oxford: Blackwell, 46–76.
- 2005 Burial rituals of prehistoric forager-farmers in Borneo: the Neolithic cemeteries of Niah Cave, Sarawak. *Expedition* 47.3, 14–19.
- 2006 *The Agricultural Revolution in Prehistory: Why Did Foragers Become Farmers?* Oxford: Oxford University Press.
- 2006 The archaeology and heritage of the Sahara, in *The Libyan Desert: Natural Resources and Cultural Heritage*, eds. D. Mattingly, S. McLaren, E. Savage, Y. al-Fasatwi, & K. Gadgood. London: Society for Libyan Studies, 9–26.
- 2006 (with D. Mattingly). Out of Africa: approaches to the landscape archaeology of the North Africa desert, in *Territoires et Paysages de l'Âge du Fer au Moyen Âge: Mélanges Offerts à Philippe Leveau*, eds. A. Bouet & F. Verdin. Bordeaux: Ausonius, 185–96.
- 2006 (with P. Daly & P. Newson). Impacts of imperialism: Nabataean, Roman and Byzantine landscape in the Wadi Faynan, southern Jordan, in *Space and Spatial Analysis in Archaeology*, eds. E.C. Robertson, J.D. Seibert, D.C. Fernandez & M.U. Zender. Albuquerque (NM): University of New Mexico Press & Calgary: University of Calgary Press, 269–77.
- 2006 (with R. Rabett & P. Piper). Bones from Hell: preliminary results of new work on the Harrison faunal assemblage from the deepest part of Niah Cave, Sarawak, in *Uncovering Southeast Asia's Past. Selected Papers from the 10th International Conference of the European Association of Southeast Asian Archaeologists*, eds. E.A. Bacus, I.C. Glover & V.C. Pigott. Singapore: National University of Singapore Press, 46–59.

PUBLICATIONS

Chris Scarre

- 2005 (ed. with G.F. Scarre). *The Ethics of Archaeology: Philosophical Perspectives on the Practice of Archaeology*. Cambridge: Cambridge University Press.
- 2005 (with J. Roberts). The English cemetery at Surat: pre-colonial cultural encounters in western India. *The Antiquaries Journal* 85, 250–91.
- 2006 (ed. with G. Lawson). *Archaeoacoustics*. (McDonald Institute Monographs.) Cambridge: McDonald Institute for Archaeological Research.
- 2006 Sound, place and space: towards an archaeology of acoustics, in *Archaeoacoustics*, eds. C. Scarre & G. Lawson. (McDonald Institute Monographs.) Cambridge: McDonald Institute for Archaeological Research, 1–10.
- 2006 Consolidation, reconstruction and the interpretation of megalithic monuments. *Arkeos* 16, 13–44.

Janine Bourriau

- 2006 Technology in the pottery of the Middle and New Kingdoms: an underrated tool in the archaeologist's armoury, in *L'Apport de l'Égypte à l'Histoire des Techniques: Methodes, Chronologie et Comparisons*, eds. D. Meeks, B. Mathieu & M. Wissa. (Bibliothèque d'Étude 142.) Cairo: The French Institute of Archaeology, 31–43.
- 2006 (with M. De Meyer, L. Op de Beeck & S. Vereecken). The Second Intermediate Period and early New Kingdom at Deir al-Barsha in *Ägypten und Levante*, XV, ed. M. Bietak. Vienna: Österreichischen Akademie der Wissenschaften, 101–29.
- 2006 (with A. Bellido, N. Bryan & V. Robinson). Egyptian pottery fabrics: a comparison between NAA groupings and the 'Vienna System', in *Timeline: Studies in Honour of Manfred Bietak*, vol. III, eds. E. Czerny, I. Hein, H. Hunger, D. Melman, A. Schwab. Leuven: Peeters, 261–92.

Alongside a range of undergraduate and postgraduate teaching and PhD supervision, I have been involved at University level in a variety of tasks, one of the most important being a General Board review of teaching and research in the study of the Ancient Near East, a field of enquiry in which the McDonald Institute has a long-established interest. My major external involvement has been serving on the Council of the Arts and Humanities Research Council, which has also involved me in a variety of subsidiary responsibilities — serving on its Audit Committee, its postgraduate training review group, and its review group of the Arts and Humanities Data Service. Chairing the Archaeology Sub-Panel for Archaeology for the 2008 Research Assessment Exercise was another significant task during the year. In November I was a member of an international review group assessing the quality of archaeology teaching and research at the University of Leiden in the Netherlands, and in the spring I served as one of the external assessors in the appointment of Oxford University's Professor of European Archaeology (Professor Chris Gosden, succeeding Professor Sir Barry Cunliffe).

Deputy Director

Michaelmas term 2005 was my last as Deputy Director of the McDonald Institute and Editor of the *Cambridge Archaeological Journal*. The final issue of *CAJ* to appear under my editorship was published in October, and as founder-editor I was delighted that the Institute has secured the services of such an able successor as John Robb. We had already agreed with Cambridge University Press, who publish *CAJ* on behalf of the Institute, that the journal would move from two issues to three in 2006, and it is John who has headed that change, ably supported as always by Liz Farmar and Dora Kemp. My thanks also go to Dora and Liz for their assistance in developing the McDonald Institute monograph series, which since its first volume in 1995 has grown to become a successful venture reflecting the wide interests and research agendas of the McDonald Institute.

After 15 years at the McDonald Institute, my final months there were naturally occupied with arrangements for the transition. There were also continuing discussions with the University over the structural changes within the University administration and the way that an endowed institution such as the McDonald Institute can most appropriately operate within such a structure.

The end of 2005 also marked another major change for me as after a long period directing field projects in France (notably the ten-year programme at Prissé-la-Charrière) it was during the Michaelmas term that I finalized plans for a new fieldwork project in Portugal. The first season of excavation at the Anta da Lajinha, funded by a grant from the British Academy, eventually took place in July 2006 and was supported by palaeoenvironmental analysis by Charles French, Marco Madella and Will Fletcher. I am grateful to the McDonald Institute for providing the base from which to develop this new project, as well as their support for my research in earlier years. One of these earlier projects, a study of tomb monuments in the English Cemetery at Surat (western India) was published in December 2005; another, a conference on acoustics and intentionality in archaeological structures, was published as a McDonald Institute monograph in May 2006.

Core Staff

The core staff of the Institute has remained as in previous years, with Mrs Deborah Parr as Chief Secretary and Secretary to the Director for most of the year (see p. 13); Mrs Liz Farmar as Secretary to the Managing Committee and personnel administration; and Mr Colin Lomas as Assistant to the Deputy Director with special responsibility for accounts and for the Institute buildings. Mr Steve Fishpool, who continued to take care of the cleaning of the Institute buildings, passed his NVQ and BICSc exams in 'Cleaning and Support Services' in August 2006.

The publications programme — under the overall responsibility of the Director — was ably handled by Miss Dora Kemp (Production Editor), and Mrs Liz Farmar (Administrator and Marketing Manager) (see p. 15). Miss Dora Kemp received her 'Introductory Certificate in First Line Management' awarded through the Institute of Leadership & Management. Liz Farmar attended workshops specifically aimed at marketing in academic publishing and received further training from a marketing communications consultant with specific experience in marketing within a University environment. Miss Dora Kemp and Mrs Liz Farmar also continue respectively as Production Editor and Secretary to the *Cambridge Archaeological Journal* working together with the new editor, Dr John Robb and a new deputy editor Dr Nicholas James (see p. 15).

PUBLICATIONS

Harriet Crawford

- 2006 Mesopotamia and the Gulf: the history of a relationship. *Iraq* LXVII.2 2005, 41–6.

Graeme Lawson

- 2006 (ed. with C. Scarre). *Archaeoacoustics*. (McDonald Institute Monographs.) Cambridge: McDonald Institute for Archaeological Research.
- 2006 Large scale-small scale: medieval stone buildings, early medieval timber halls and the problem of the lyre, in *Archaeoacoustics*, eds. C. Scarre & G. Lawson. (McDonald Institute Monographs.) Cambridge: McDonald Institute for Archaeological Research, 85–94.
- 2006 (with F. D'Errico). The sound paradox: how to assess the acoustic significance of archaeological evidence? in *Archaeoacoustics*, eds. C. Scarre & G. Lawson. (McDonald Institute Monographs.) Cambridge: McDonald Institute for Archaeological Research, 41–57.
- 2006 Sites, landscapes and 'portable antiquities': the nature and value of context in the music-archaeological record, in *Studien zur Musikarchäologie V: Musik-archäologie im Kontext. Archäologische Befunde, historische Zusammenhänge, soziokulturelle Beziehungen*, eds. E. Hickmann, A.A. Both & R. Eichmann. (Orient-Archäologie, Band 20.) Rahden, Westf.: Verlag Marie Leidorf, 3–14.

John MacGinnis

- 2005 Archaeological investigations at Ziyaret Tepe, 2003–4. *Anatolica* 31, 19–68.
- 2006 Further evidence for intercity co-operation between Neo-Babylonian temples. *Journal of the Royal Asiatic Society* 16(2), 127–32.

Joan Oates

- 2006 (with D. Oates). Tripartite buildings and early urban Tell Brak, in *Les espaces syro-mésopotamiens: dimensions de l'expérience humaine au Proche-Orient ancien*. Brepols.

PUBLICATIONS

Joan Oates (*cont.*)

- 2006 Review of M.S. Rothman & B. Peasall, *Tepe Gawra: the Evolution of a Small Prehistoric Center in Northern Iraq* (Philadelphia (PA): University Museum). *Antiquity* 79, 973–4.

Colin Renfrew

- 2005 (with N. Brodie). Looting and the world's archaeological heritage: the inadequate response. *Annual Review of Anthropology* 34, 343–61.
- 2006 (ed. with P. Forster). *Phylogenetic Methods and the Prehistory of Languages*. (McDonald Institute Monographs.) Cambridge: McDonald Institute for Archaeological Research.
- 2006 Inception of agriculture and rearing in the Middle East. *C.R. Palevol* 5, 395–404.
- 2006 Museum acquisitions: responsibilities for the illicit traffic in antiquities, in *Cultural Heritage and the Antiquities Trade*, eds. N. Brodie, M.M. Kersel, C. Luke & K.W. Tubb. Gainesville (FL): University of Florida Press, 245–57.

Anthony Snodgrass

- 2005 Lesser breeds: the history of a false analogy, in *Ancient Colonisations: Analogy, Similarity and Difference*, eds. H. Hurst & S. Owen. London: Duckworth, 35–58.
- 2005 The Parthenon Marbles as an architectural issue. *Medelhavsmuseet: Focus on the Mediterranean* 2, 151–6.
- 2006 *Archaeology and the Emergence of Greece*. Edinburgh: Edinburgh University Press.

Marc Vander Linden

- 2005 Identity and change: the inception of the Bell Beaker phenomenon in the central Mediterranean area, in *Elements of Being: Mentalities, Identities and Movements*, eds. D. Hoffmann, J.S. Mills & A. Cochrane. (British Archaeological Reports International Series 1437.) Oxford: BAR, 85–95.
- 2005 Reconstruire, à quoi bon? Le point de vue de l'archéologie, in *Modèles*

Conference arrangements were managed by Dr Katie Boyle who, in addition to acting as research facilitator with a view to identifying potential funding sources, took on certain extra financial and administrative responsibilities from January 2006 (in the absence of a Deputy Director) as well as the arrangement of seminars.

Researchers employed on individual projects are referred to in the reports which follow. The Illicit Antiquities Research Centre (p. 18) and the Human Population Genetics Project (p. 27) were two of the core Institute research projects, employing Dr Neil Brodie and Ms Jenny Doole (IARC) and Dr Peter Forster and Dr Mim Bower (Archaeogenetics). The McDonald Institute also houses research and administrative staff supported by externally-funded projects, notably the Çatalhöyük team (Ms Shahina Farid and Mrs Katerina Johnson) (p. 45), the Amarna Project funded by the Egypt Exploration Society (Dr Pamela Rose), the Tell Brak project jointly funded by the McDonald Institute and the British Institute in Iraq (Joan Oates and Augusta McMahon) and several projects funded by the Templeton Foundation (Dr Caroline Malone, Dr David Barrowclough, Professor Colin Renfrew, Dr Iain Morley, Dr Ryan Rabett, Dr Liliana Janik).

Arrivals

Several new research personnel were appointed by the McDonald Institute during the course of the year. In January 2006, Dr Camilla Briault arrived from University College London for the two-year post of Junior Research Fellow in Cognitive Archaeology to investigate ritual transmission in the Aegean Bronze and Early Iron Age. Also in January Dr Ryan Rabett started his project 'Regionalism in the development of modern human behaviour' funded by the Templeton Foundation 'Emergence of Biological Complexity' programme. Chris Stimpson also arrived in January 2006 to act as technician for Dr Marsha Levine on the Horse Palaeopathology project (see p. 46).

Other new personnel included Dr Marc Vander Linden who was a Visiting Fellow as part of a post-doctoral year funded by the Fondation Philippe Wiener – Maurice Anspach (Université Libre de Bruxelles). He analyzed early European literary occurrences of drinking and feasting in order to assess the implications of these historical sources for archaeological reasoning. Furthermore, he pursued his previous research on the cultural and social dynamics of the third millennium BC in Europe, in particular the Corded

Ware and Bell Beaker cultures. In October 2005, Gabriele Cifani took up his two-year Marie Curie Fellowship in the Department of Archaeology and Visiting Scholarship at Magdalene College studying advanced approaches to the landscapes of central Italy (<http://www.arch.cam.ac.uk/tyrrhenian/>). In September 2006, he undertook successful fieldwork at Grotte di Castro on Lake Bolsena in preparation for a major new project in collaboration with Dr Simon Stoddart.

In June 2006 Dr Paul Heggarty took up his position as Leverhulme Research Fellow, for a three-year research project with Professor Renfrew on Languages and Origins in Europe. His arrival brings a historical linguist to the Institute, continuing our traditional role as a leading player in the multidisciplinary 'new synthesis' at the interface of archaeology, linguistics and genetics. Dr Heggarty has since set up the research project (website at www.languagesand-peoples.com), attended the Genes and Languages Conference at Santa Barbara, California, in September 2006, and is now finalizing a major article on Archaeology and Language in the Andes.

Departures

A number of key personnel left the Institute this year, most notably the Institute's Deputy Director of 15 years, Chris Scarre, who took up a post as a Chair in Archaeology at the University of Durham (see p. 10). A farewell party in his honour was held on 14 December 2005. Also in December 2005 Maša Amatt resigned her position as technician to the Horse Palaeopathology Project for an appointment as Development Officer for Christ's College Cambridge. In September, Deborah Parr — the Secretary to the Director — after 6 years of exemplary service, left for a promotion as Research Administrator for the charity Cancer Research UK based in the newly built Cambridge Research Institute offices at Addenbrookes Hospital Cambridge. From the Glyn Daniel Archaeogenetics Laboratory, Dr Shuichi Matsumura moved on to a post-doctoral position on fish genetics based in Berlin and Vienna, and Dr Peter Forster accepted an appointment as Senior Lecturer in Forensic Science at Anglia Ruskin University, Cambridge.

Fellows

The non-salaried Fellows of the McDonald Institute continue to play a valuable part in the research life of the Institute. This year saw a welcome addition to the existing list, namely Robert Anderson a former Director of the British Museum who was given a three-year fellowship from 1 January 2006 to 31 December 2009. The Fellows

PUBLICATIONS

Marc Vander Linden (cont.)

- linguistiques et idéologies III: 'Indo-européen'. Les Indo-Européens et le modèle comparatif indo-européen dans les sciences humaines*, eds. F. Doyen & S. Vanséveren. Bruxelles: Ousia.
- 2006 *Le phénomène campaniforme dans l'Europe du 3ème millénaire avant notre ère. Synthèse et nouvelles perspectives*. (British Archaeological Reports International Series 1470.) Oxford: BAR.
- 2006 For whom the bell tolls: social hierarchy vs social integration in the Bell Beaker culture of southern France. *Cambridge Archaeological Journal* 16(3), 317–32.



Chris Scarre receiving farewell gifts at his leaving party 14 December 2005.

have been engaged in a wide range of projects. Harriet Crawford has undertaken fieldwork in Kuwait and Robert Dewar pursued his studies on rainfall and agriculture in the western Pacific. Janine Bourriau has had a busy year giving lectures on Egyptian ceramics in Sorbonne, Brussels and at the Metropolitan Museum of Art, New York, as well as participating in fieldwork in Egypt at Saqqara, Buto and Memphis. Graeme Lawson's research continued to focus on themes related to the origins and transmission of musical traditions: on the nature of tuning and tonality and their representation in the archaeological record; on the taphonomy of music-archaeological surfaces, especially of bone pipes with finger-holes; and on the earliest British and European stringed instruments (in particular the challenges to conservation and interpretation posed by two remarkable new grave finds, from Prittlewell in Essex and Trossingen in Baden-Württemberg). John MacGinnis continues his work in eastern Turkey at Ziyaret Tepe (see p. 40), Caroline Malone received a grant from the Templeton Foundation to study the art and architecture of Maltese temples (see p. 50), and Anna Muthesius carried out her research on early silks from Sinai.

Professor Colin Renfrew continues to supervise 'The Roots of Spirituality' project (John Templeton Foundation, see p. 51), 'The Material Engagement' project (Balzan Foundation, see p. 48) and, since June, the 'Languages and Origins in Europe' project (Leverhulme Trust). The Alfred P Sloan Foundation project 'Knowability in Archaeogenetics' was concluded this year and the publication on the 'Simulations' conference is in press. In January Professor Renfrew left for a ten-week visit to UCLA as Cotsen Visiting Scholar and in May–June conducted excavations at Dhaskalio Kavos, Keros. In 2006 he was elected a foreign member of the Russian Academy of Sciences, was awarded a Litt.D. (*honoris causa*) at the University of St Andrews and became a Foreign Member of the American Philosophical Association. In November 2005 he lectured in Washington at the American Anthropological Association. He was keynote speaker at the 'Art in the Land' conference co-organized by Glasgow School of Art and Glasgow University (31 March to 2 April).

Laurence Smith continues his excavation work in the Sudan (see p. 42) and Anthony Snodgrass spent much of the year in the final preparation of the volume *Testing the Hinterland*, the first in the series of publications of the Boeotia Survey which is to be published as a McDonald Institute Monograph. This is now at proof stage. The next volume, on the city site of Thespiiai, is also far advanced and a field visit was made in August 2006 to finalize certain observations on the ground.

Kate Spence returned from maternity leave to full-time work in February and over the spring and summer concentrated on completing and writing up two studies as articles. The first is an architectural analysis of palace architecture at el-Amarna, focusing on the nature of the interaction between king and courtier within a variety of architectural settings. The second is a detailed study of foundation deposits associated with the temple of Hatshepsut at Deir el-Bahri, Luxor. In this she showed that the plan of the temple was altered a number of times prior to construction of the temple in its final form and that these alterations reflect complex and changing relationships with the natural topography and built environment of the site, further offering insight into the political intentions of the temple's designers. Kate Spence has also written a chapter on architecture for a forthcoming book *The Egyptian World*, edited by Toby Wilkinson (to be published by Routledge), and she contributed a paper to the recent McDonald conference 'Measuring the World and Beyond: the Archaeology of Early Quantification and Cosmology'.

Publications Office

Cambridge Archaeological Journal

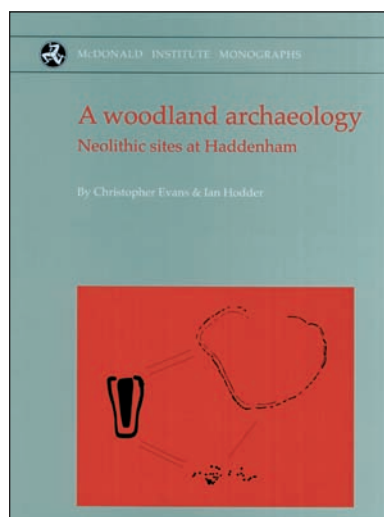
The *Cambridge Archaeological Journal* underwent three notable developments in 2006. First, editorship passed from Chris Scarre to John Robb, assisted by Nicholas James; the transition was extremely smooth, thanks to the systematic way in which Chris had run the journal and to the excellent organization of Liz Farmar and Dora Kemp.

Secondly, with Volume 16 (2006) *CAJ* grew from two to three issues per year; as each issue is slightly shorter, the overall page increase is about 20%. To date, submissions have kept pace with the expansion, and we expect the editorial health of the journal to remain strong.



Finally, for the first time, a special supplementary issue to accompany the February 2007 issue (17.1) will be published; this is a collection of papers edited by Alasdair Whittle marking the completion of an extensive redating and reanalysis programme for Neolithic long barrows in southern Britain, a research work important not only to British prehistorians but for general theoretical reasons as well. This special supplementary issue was made possible through a subvention to Cambridge University Press of around £5000 from English Heritage.

The journal's circulation remains strong, though (as for most journals) figures from Cambridge University Press reveal a clear shift from traditional print-based subscriptions to electronic access, particularly via institutional consortia.



Monograph Series

This past year has been an exceptionally busy one for the Publications Office. As well as producing three issues of the *Cambridge Archaeological Journal* — both in print and on-line (see above) — the office has published seven monographs on a variety of topics: *Stone Knapping: the Necessary Conditions for a Uniquely Hominin Behaviour* edited by Valentine Roux & Blandine Brill; volumes 5 and 6 of the Çatalhöyük series, *Changing Materialities at Çatalhöyük* and *Çatalhöyük Perspectives* by Members of the Çatalhöyük teams and edited by Ian Hodder (co-published with the British Institute at Ankara); two volumes arising from the Haddenham Project — which were made possible through a generous grant from English Heritage — *A Woodland Archaeology: Neolithic Sites at Haddenham* and *Marshland Communities and Cultural Landscapes from the Bronze Age to Present Day* both edited by Chris Evans & Ian Hodder; *Archaeoacoustics* edited by Chris Scarre & Graeme Lawson; and *Phylogenetic Methods and the Prehistory of Languages* edited by Peter Forster & Colin Renfrew. The latter two volumes originated from conferences held at the McDonald Institute.

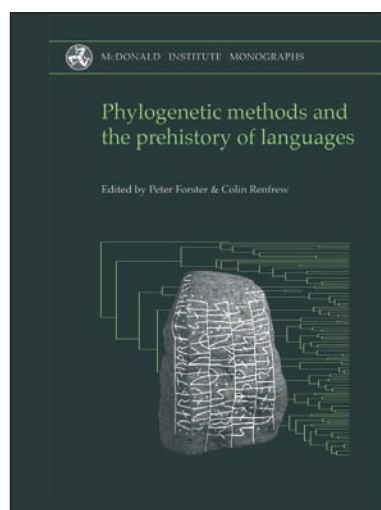
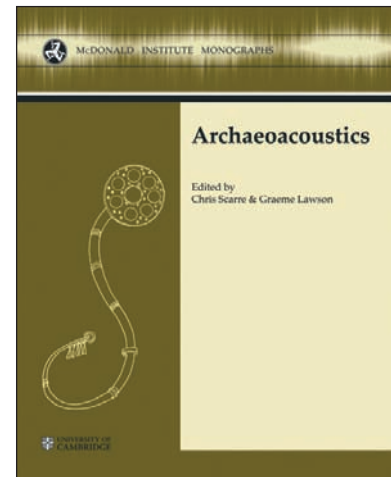
Furthermore four major volumes stemming from the research of Institute members are nearing completion: volume 3 which will complete the Çatalhöyük series entitled *Excavating Çatalhöyük: South, North and KOPAL Area Reports from the 1995–99 Seasons*; volume 1 of the Boeotia Project *Testing the Hinterland: the Work of the Boeotia Sur-*

vey (1989–1991) in the *Southern Approaches to the City of Thespiai* by John Bintliff, Phil Howard & Anthony Snodgrass; volume 1 of the TEMPER Project *Mediterranean Prehistoric Heritage: Training, Education and Management*; and the two-volume lavishly illustrated 800-page report by Nicholas Postgate and David Thomas on their excavations at Kilise Tepe, Turkey.

Other projects underway include the *Nostratic Dictionary* by Aharon Dolgopolsky which will be published in a searchable CD format, and the monograph *Ὀριζων* arising from the Cycladic Conference held at the Institute. In addition the Publications Office produced another issue of *Culture Without Context* for the Illicit Antiquities Research Centre (p. 19) and arranged a digital reprint of *Prehistoric Steppe and the Horse*. The Production Editor, Dora Kemp, also designed and produced leaflets and other promotional material to enhance the new marketing initiative organized by Liz Farmar (see below).

With the ever-increasing workload, the Production Editor expanded the operation by seeking extra help in several ways: a part-time editorial assistant, Jenny Marshall — a former archaeology undergraduate — was employed from March–September 2006. This began as a purely secretarial role but after a period of training Miss Marshall was typesetting the substantial Boeotia Project volume. She is now studying for an MPhil in Near Eastern Archaeology at the University of Durham. In addition freelance typesetters, proofreaders and indexers were engaged for the Haddenham Project volumes, and the *Nostratic Dictionary*.

Several major volumes are currently in the pipeline including volumes on the Gozo, Niah Cave, and Templeton projects as well as major conference works such as the Human Revolution and Simulations, Genetics and Human Prehistory. It is expected that the trend towards an increasing number of volumes accepted for publication will continue thus reflecting the success of the Institute's publication programme.



Monograph Marketing

The marketing of the monographs has expanded over the last year to include a number of new initiatives which we hope will raise awareness and boost sales; results so far are very encouraging. Alongside the usual book reviews and entries in the catalogues of our distributors, Oxbow Books, promotional leaflets have been mailed to named academics working in the appropriate specialism and to libraries and institutions worldwide. Our books have also been submitted and accepted for entry on the bibliographic data bases of various learned societies, research centres and journals, thus drawing the books to the attention of potentially very large audiences. Press releases have been sent to the media with success: *Phylogenetic Methods*, for example, has been discussed in two radio shows in Germany

and has been requested for use in features by a number of scientific journalists. Electronic marketing is becoming a very useful marketing tool, having immediate impact and the obvious cost advantage. The marketing department is building lists of email addresses of individuals, booksellers and institutions with a potential interest in the series to whom email shots with news on forthcoming publications can be sent.

McDonald Institute Monograph Series

- Ancient Interactions: East and West in Eurasia*, edited by Katie Boyle, Colin Renfrew & Marsha Levine £45/US\$80; ISBN 1-902937-19-8
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- Dwelling Among the Monuments*, edited by Colin Richards £40/US\$80; ISBN 1-902937-18-X
- Examining the Farming/Language Dispersal Hypothesis*, edited by Peter Bellwood & Colin Renfrew £50/US\$85; ISBN 1-902937-20-1
- Excavations at Tell Brak, vol. 1: The Mitanni and Old Babylonian Periods*, by David Oates *et al.* £45/US\$80; ISBN 0-9519420-5-0
- Excavations at Tell Brak, vol. 2: Nagar in the Third Millennium BC*, by David Oates *et al.* £95/US\$150; ISBN 0-9519420-9-3
- Excavations at Tell Brak, vol. 4: Exploring an Upper Mesopotamian Regional Centre*, edited by Roger Matthews £75/US\$135; ISBN 1-902937-16-3
- Explaining Social Change*, edited by John Cherry, Chris Scarre & Stephen Shennan £35/US\$70; ISBN 1-902937-23-6
- Hunter-gatherer Landscape Archaeology: the Southern Hebrides Mesolithic Project*, edited by Steven Mithen £88/US\$150; ISBN 1-902937-12-0
- Inhabiting Çatalhöyük: Reports from the 1995–99 Seasons*, edited by Ian Hodder £60/US\$100; ISBN 1-902937-22-8
- Klithi: Palaeolithic Settlement and Quaternary Landscapes in Northwest Greece*, edited by Geoff Bailey £24.95/US\$39.98; ISBN 0-9519420-2-6
- Late Prehistoric Exploitation of the Eurasian Steppe*, by Marsha Levine *et al.* £40/US\$70; ISBN 1-902937-03-1
- Marshland Communities and Cultural Landscapes*, edited by Chris Evans & Ian Hodder £35/US\$75; ISBN 1-902937-32-5
- Material Engagements*, edited by Neil Brodie & Catherine Hills £35/US\$70; ISBN 1-902937-26-0
- Modelling the Early Human Mind*, edited by Paul Mellars & Kathleen Gibson £30/US\$50; ISBN 0-9519420-1-8
- Neanderthals and Modern Humans in the European Landscape*, edited by Tjeerd H. van Andel £35/US\$70; ISBN 1-902937-21-X
- Neolithic Orkney in its European Context*, edited by Anna Ritchie £45/US\$70; ISBN 1-902937-04-X
- On the Surface: Çatalhöyük 1993–95*, edited by Ian Hodder £40/US\$70; ISBN 0-9519420-3-4
- Phylogenetic Methods and the Prehistory of Languages*, edited by Peter Forster & Colin Renfrew £20/US\$40; ISBN 1-902937-33-3
- Prehistoric Steppe Adaptation and the Horse*, edited by Marsha Levine, Colin Renfrew & Katie Boyle £45/US\$80; ISBN 1-902937-09-0
- Rethinking Materiality*, edited by Elizabeth DeMarrais, Chris Gosden & Colin Renfrew £45/US\$95; ISBN 1-902937-30-9
- Star Carr in Context*, by Paul Mellars & Petra Dark £40/US\$70; ISBN 0-9519420-4-2
- Stone Knapping*, edited by Valentine Roux & Blandine Brill £35/US\$70; ISBN 1-902937-34-1
- Substance, Memory, Display: Archaeology and Art*, edited by Colin Renfrew *et al.* £45/US\$90; ISBN 1-902937-24-4
- Towards Reflexive Method in Archaeology: the Example at Çatalhöyük*, edited by Ian Hodder £25/US\$45; ISBN 1-902937-02-3
- Traces of Ancestry*, edited by Martin Jones £30/US\$60; ISBN 1-902937-25-2
- Trade in Illicit Antiquities*, edited by Neil Brodie, Jenny Doole & Colin Renfrew £25/US\$45; ISBN 1-902937-17-1
- A Woodland Archaeology: Neolithic Sites at Haddenham*, edited by Chris Evans & Ian Hodder £35/US\$75; ISBN 1-902937-31-7

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- America Past, America Present: Genes and Languages in the Americas and Beyond*, edited by Colin Renfrew £30/US\$50; ISBN 1-902937-01-5
- The Nostratic Macrofamily and Linguistic Palaeontology*, by Aharon Dolgopolsky £20/US\$36; ISBN 0-9519420-7-7
- Nostratic: Examining a Linguistic Macrofamily*, edited by Colin Renfrew & Daniel Nettle £30/US\$54; ISBN 1-902937-00-7
- Time Depth in Historical Linguistics*, edited by Colin Renfrew, April McMahon & Larry Trask £50/US\$80; ISBN 1-902937-06-6

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Illicit Antiquities

PUBLICATIONS

Neil Brodie

- 2005 Gullalder for gravrøvere. *Museum-snytt* 53(1), 12–15.
- 2005 The geophysical surveys, in *The Laconia Rural Sites Project*, by W.G. Cavanagh, C.B. Mee & P. James. London: British School at Athens.
- 2005 A future for our past: symposium for redefining the concept of cultural heritage. *International Journal of Cultural Property* 12, 1–7.
- 2005 Regulation of the trade in cultural objects: historical and social perspectives. *Vanderbilt Journal of Transnational Law* 38, 1051–66.
- 2006 The illegal trade in antiquities. *Kunst und Recht* 1, February–March, 26–8.
- 2006 An archaeologist's view of the trade in unprovenanced antiquities, in *Art and Cultural Heritage Law for the Twenty-first Century: Policy and Practice*, ed. B. Hoffman. Cambridge: Cambridge University Press, 52–63.
- 2006 An outsider looking in: observations on the African 'art' market, in *Safeguarding Africa's Archaeological Past*, ed. N. Finneran. (British Archaeological Reports, International Series 1454.) Oxford: Archaeopress.
- 2006 Smoke and mirrors, in *Who Owns Objects?*, eds. E. Robson, L. Treadwell & C. Gosden. Oxford: Oxbow, 1–14.
- 2006 Introduction: transforming values, in *Archaeology, Cultural Heritage, and the Trade in Antiquities*, eds. N.J. Brodie, M. Kersel, C. Luke & K.W. Tubb. Gainesville (FL): University Press of Florida, 1–24.
- 2006 Iraq 1990–2004 and the London antiquities market, in *Archaeology, Cultural Heritage, and the Trade in Antiquities*, eds. N.J. Brodie, M. Kersel, C. Luke & K.W. Tubb. Gainesville (FL): University Press of Florida, 206–26.
- 2006 (with C. Luke). Conclusion: the social and cultural contexts of antiquities collecting, in *Archaeology, Cultural Heritage, and the Trade in Antiquities*, eds. N.J. Brodie, M. Kersel, C. Luke & K.W. Tubb

Through the early part of the year Neil Brodie worked with Anemon Productions of Greece, the University of the Aegean and the Cypriot Department of Antiquities to design and construct a mobile, interactive exhibition that describes the history and contemporary realities of archaeological looting. *Η Κλοπή της Ιστορίας (History Lost)* opened in Nicosia to favourable reviews in June and moved to Athens in September. It is scheduled for display at several regional museums in Greece, and museums in other European countries have expressed an interest in taking the exhibition. There are also plans to publish a book based on the exhibition's content.

In January the IARC was honoured to receive the Archaeological Institute of America's Outstanding Public Service Award for raising awareness about 'the problem of looting and its connection to the illicit antiquities trade through public education and media campaigns'. The AIA recognized the IARC as being 'unique in the world and has had a major impact in its ten years of existence'. Neil Brodie travelled to the AIA's Annual Meeting in Montreal to receive the award.

Neil Brodie worked with BBC Radio 4 in July and August preparing a programme that looked back at the plunder of the Iraq National Museum in 2003, and investigated what has happened since. He also presented the programme, which aired in September, and was positively reviewed in the *Guardian*.

In addition to administration and news gathering, during 2006 Jenny Doole redesigned and programmed the IARC website. It went on-line in September. She also digitized the IARC's extensive collection of photographic images.

In October, Neil Brodie was an invited speaker at New York University's 'Strategies for the Future of Culture' conference in Dresden; in November at the Hamline University/National Park Service seminar 'Preserving the World's Heritage Resources' Workshop at Cumberland Island, Georgia, and back at Cambridge in June at the CRASSH conference 'Art Theft: History, Prevention, Detection, Solution'. He was also a visiting lecturer at Bournemouth University. Jenny Doole lectured at the University of Leicester and for the US Students Abroad Program in Cambridge. IARC staff again taught a module on the Department of Archaeology's MPhil Archaeological Heritage and Museums course.

Morag Kersel ended her four years' association with the IARC in June after being awarded the degree of PhD for her dissertation 'License to Sell: the Legal Trade of Antiquities in Israel'.

Peter Watson was interviewed extensively following the publication of his eye-opening new book, *The Medici Conspiracy*, which chronicles the illegal trade in Italian antiquities.

In June Erin Stevens of the United States Military Academy at Westpoint joined the IARC for a four-week internship. She was studying the theft and destruction of cultural heritage in Iraq.

STAFF

Neil Brodie, Jenny Doole

Honorary Fellows: Colin Renfrew, Peter Watson

PhD students: Morag Kersel, Gordon Lobay



The latest issue of Culture Without Context.



The new IARC web site designed by Jenny Doole.

PUBLICATIONS

Neil Brodie (cont.)

(eds), Gainesville (FL): University Press of Florida, 303–19.

Neil Brodie & Jenny Doole

2005 *Culture Without Context* Autumn 2005

2006 *Culture Without Context* Spring 2006.

Neil Brodie & Morag Kersel

2006 (ed. with C. Luke & K.W. Tubb). *Archaeology, Cultural Heritage, and the Trade in Antiquities*. Gainesville (FL): University Press of Florida.

Neil Brodie & Colin Renfrew

2005 Looting and the world's archaeological heritage: the inadequate response. *Annual Review of Anthropology* 34, 343–61.

Morag Kersel

2006 From the ground to the buyer: a market analysis of the trade in illegal antiquities, in *Archaeology, Cultural Heritage, and the Trade in Antiquities*, eds. N.J. Brodie, M. Kersel, C. Luke & K.W. Tubb. Gainesville (FL): University Press of Florida, 188–205.

Colin Renfrew

2006 Museum acquisitions: responsibilities for the illicit traffic in antiquities, in *Archaeology, Cultural Heritage, and the Trade in Antiquities*, eds. N.J. Brodie, M. Kersel, C. Luke & K.W. Tubb. Gainesville (FL): University Press of Florida, 245–57.

Peter Watson

2006 (with C. Todeschini). *The Medici Conspiracy: the Illicit Journey of Looted Antiquities*. New York (NY): Public Affairs.

2006 Convicted dealers: what we can learn, in *Archaeology, Cultural Heritage, and the Trade in Antiquities*, eds. N.J. Brodie, M. Kersel, C. Luke & K.W. Tubb. Gainesville (FL): University Press of Florida, 93–7.

Laboratories

PUBLICATIONS

Charles French

- 2005 Micromorphological studies, in *Sutton Hoo: a Seventh-century Princely Burial Ground and its Context*, ed. M. Carver, and contribution in Chapter 10 to *Environment and Site Formation*. London: The British Museum Press, 384–9, 363–79.
- 2006 The dykeside investigations: micromorphological analysis, 39–41, and The long barrow: micromorphological analysis, in *A Woodland Ecology: Neolithic Sites at Haddenham*, eds. C. Evans & I. Hodder. (McDonald Institute Monographs.) Cambridge: McDonald Institute for Archaeological Research, 39–41, 78–81.
- 2006 Barrow investigations: the buried soils, and HADV enclosure: soil micromorphology, in *Marshland Communities and Cultural Landscapes*, eds. C. Evans & I. Hodder. (McDonald Institute Monographs.) Cambridge: McDonald Institute for Archaeological Research, 21–4, 100–105.

Andrea Balbo

- 2006 People and wetlands in the open karst of Istria, Croatia. *PAST. Newsletter of the Prehistoric Society*. London: UCL, April 25.
- 2006 (with D. Komšo & P. Miracle). Prehistory of the open karst, further discoveries from the geoarchaeological survey of Polje Čepić, Croatia. *Histria Archaeologica* 35, 31–40.

Ann-Maria Hart

- 2005 *Nature's Airtight Containers in Bronze Age Denmark: Iron Pans and Preservation*. Australian Archaeological Association and Australian Institute for Maritime Archaeology Conference 2005: The Archaeology of Trade and Exchange. <http://www.aaa-aima-2005.conf.uwa.edu.au/program/sessions/in-situ-preservation>.

Gabriella Kovács

- 2004 Reconstruction of the former environment and investigation of

Charles McBurney Geoarchaeology Laboratory

People and jobs

This year witnessed several research students completing their PhDs and laboratory members securing good jobs. Dr Helen Lewis has taken up a lectureship in environmental archaeology at University College, Dublin, for which many congratulations! Karen Milek completed her PhD as well as a comprehensive study of an early Viking structure at Kaupang in Norway amongst a number of other projects (of Quoygrew, Orkney, the medieval site of Reykholt in west Iceland, and the Viking Age shieling of Pálstofir in east Iceland). She undertook new excavations at the tenth-century settlement of Vatnsfjörður in northwest Iceland this past summer and directed the field school there for the Institute of Archaeology. Ann-Maria Hart has also completed her PhD on using iron as a proxy for degradation in burial environments. Gabi Kovács has completed her role in the EU-funded project, The Emergence of European Communities, and has taken up a curatorial position in the 'Matrica' Museum in Százhalombatta, Hungary. This museum will soon house purpose-built geoarchaeological and palaeobotanical laboratories, a first for Hungary. Andrea Balbo had a EU-funded studentship to continue his geoarchaeological and palynological investigations of the Polje Čepić in Istria, Croatia, based at the University of Bergen in the autumn of 2005. The preliminary age-depth model reveals that the relative amount of sediments deposited in the lake increased threefold after c. 4000 BP with people living in the area cultivating the steepest slopes surrounding the polje. Miranda Semple took part in a number of fieldwork expeditions in Syria, namely at Tell Brak, Hammoukar and Tell Leilan, where she was involved with both off-site geoarchaeological survey and on-site investigations of the use of space. Clea Paine and Heejin Lee embarked on new PhD programmes of geoarchaeological research. Clea is involved in new fieldwork with Professor Martin Jones and Professor Jiří Svoboda at the Gravettian sites of Dolní Věstonice and Předmosti in the Czech Republic and is investigating human–climate relationships, the palaeosol sequence and *in situ* hearths. Heejin took part in large rescue excavations of Gulwha ri, Ulsan city, and Yongjung dong, Cheonan city, south Korea, and is investigating how these Bronze Age agrarian settlements were making the transition to paddy-field agriculture.

Project news

The laboratory director, Dr Charles French, having stepped down from being Head of Department at the end of December 2005, em-



The fourth-millennium BP shell midden site at Punta Santa Ana, southern Chile.

barked on a number of new collaborative projects in southern Patagonia, northern Ethiopia, central Portugal and Hungary, in addition to continuing work in the Avon River valley of Wiltshire.

With the support of a Chile Projects award from the Centre of Latin American Studies, and through a partnership with the Centre of Quaternary Studies of the Universidad de Magallanes, Manuel Arroyo-Kalin and Charles French were invited by Manuel San Román and Flavia Morello to visit the Magallanes region, in southern Chile, to conduct a first round of sampling for the geoarchaeological study of sites and landscapes. Magallanes, first studied by Junius Bird in the 1930s, is an important region to understand the terminal Pleistocene process of human peopling of South America. Among the sites sampled are Punta Santa Ana (see figure above) and Pizzulic, two early shell middens dated to approximately 6000 BP, as well as Cueva de los Chingues, a cave site in the Pali Aike steppe region with Late Pleistocene and Late Holocene occupations. At present, samples for these sites are being prepared for micromorphological and geochemical analysis. During 2007 further fieldwork is planned to study archaeological sediments and soils in the Tierra del Fuego archipelago, led by Flavia Morello.

New fieldwork also began in the Aksum area of northern Ethiopia under the auspices of Professor Rudolfo Fattovich of the University of Naples with Federica Sulas and Professor Marco Madella (Institucio Catalana de Recerca i Estudis Avancats, Barcelona). A number of soil and erosion sequences were identified of pre-Aksumite and Aksumite times which suggest relative stability in the landscape until early Aksumite times when widespread soil erosion and valley alluviation began (see figure, next page), no doubt associated with the combination of relative population explosion and the uptake of vegetation and land for arable cultivation. Federica Sulas will be developing this model in her PhD research.

In the Maçao region of the upper Tejo valley of central-eastern Portugal, initial assessment geoarchaeological and palaeoenvironmental fieldwork also began with Professor Chris Scarre (University of Durham), Professor

PUBLICATIONS

Gabriella Kovács (cont.)

human activity at Százhalombatta-Földvár Bronze Age tell settlement, in *SAX, Százhalombatta Archaeological Expedition, Annual Report 2-Field Season 2000–2003*, eds. I. Poroszlai & M. Vicze. Százhalombatta: Matrica' Museum, 125–34.

- 2005 A talajmikromorfológia környezet-történeti és régészeti alkalmazása [Environmental historical and archaeological application of soil micromorphology], in *Környezet-történet 2006 [Environmental History 2006]*, ed. M. Kázmér. Budapest: Hantken Kiadó, 41–2.

Helen Lewis & Charles French

- 2006 Soil micromorphology, in *The Archaeology of the Wallingford Bypass 1986–92*, by A.M. Cromarty, A. Barclay, G. Lambrick & M. Robinson. (Monograph 22.) Oxford: Oxford Archaeology: Thames Valley, 194–6.

Helen Lewis & Giedre Motuzaitė Matuzevičiūtė

- 2005 (with F. Menotti, Z. Baubonis, D. Brazaitis, M. Higham, M. Kvedarcicius & E. Pranckenaite). The first lake-dwellers of Lithuania: Late Bronze Age pile settlements on Lake Luokesas. *Oxford Journal of Archaeology* 24, 381–403.

Giedre Motuzaitė Matuzevičiūtė

- 2005 Moderniu metodu panaudojimas Luokesu poliniu gyvenieciu tyrimams. *Lietuvos Archeologija* 26, 105–10.

Federica Sulas

- 2005 (with L. Phillipson). Cultural continuity in Aksumite lithic tool production: the evidence from Mai Agam. *Azania* XL, 1–18.



A view northeastwards from Beta Giyorgis down the colluvially infilled May Leto valley, near Aksum, northern Ethiopia.

Marco Madella (Icrea, Barcelona) and Dr Will Fletcher (University of Bordeaux), funded by the British Academy and hosted by Professor Luiz Oosterbeek, Instituto Politecnico de Tomar. Here recent extensive forest fires in 2003–4 have revealed a number of Neolithic tomb and settlement sites. Very little is known, however, about landscape development and change in the fourth and third millennia BC. Although recent landscape alteration, management and infilling made the initial survey difficult, a very long-term organic sequence of the earlier-mid-Holocene was discovered on the southern bank of the Tejo River which holds out great potential for beginning the decipherment of this landscape, and a number of tributary valley infill sequences will be explored next year.

Geoarchaeological survey with Gabi Kovács and palynological analyses by Dr Pal Sumegi (University of Szeged) began in the Benta valley of central Hungary under the auspices of Professor Tim Earle (Northwestern University) on US National Science Foundation funding. This project aims to investigate the impacts of Bronze Age tell settlements and their economy on this loessic landscape, and has so far identified a number of palaeo-channel systems with good waterlogged remains surviving, and a series of smaller tell sites and their associated palaeosols in the valley have been sampled for micromorphological analysis.

The continuing, McDonald Institute and AHRC funded, geoarchaeological and palaeoenvironmental fieldwork in the River Avon north around Amesbury, Wiltshire, and the micromorphological investigations of the Durrington Walls and Woodhenge excavations are reported on page 38.

Conferences

Staff and researchers alike attended a number of conferences over this past year. Notable amongst many was the director giving the keynote address to the first Developing International Geoarchaeology conference in St John's, New Brunswick, on sustaining agricultural systems in the semi-arid landscapes of southern Spain, highland Yemen and New Mexico, and delivering a paper at the Land and People memorial conference for Professor J.G. Evans in Cardiff. The director and the laboratory will be hosting the next Developing International Geoarchaeology conference here in Cambridge, 18–21 April 2007. Laboratory members have attended soil micromorphological workshops in London at the Institute of Archaeology, the AEA meeting in Krakow, where Karen Milek presented a paper on the environmental evidence from the Viking Age site of Pálstoftir, Kárahnjúkar, E Iceland, and another paper on the geoarchaeological evidence for landscape impacts of economic intensification in Norse Orkney at the Nordic Culture in Viking Age and Medieval Times conference at Hólar University, Iceland, and Julie Miller attended the recent Association for Environmental Archaeologists geoarchaeology conference in Exeter.

STAFF

Director: Dr Charles French; **Senior research technician:** Julie Miller

PhD students: Manuel Arroyo-Kalin, Andrea Balbo, Ann-Maria Hart, Gabriella Kovács, Heejin Lee, Karen Milek, Clea Paine, Miranda Semple, Fraser Sturt, Federica Sulas

MPhil students: Lisa Kimball, Sarah Lyne, Giedre Motuzaite Matuzeviciute

Affiliated researchers: Dr Nicole Boivin (LCHES, Cambridge), Dr Helen Lewis (University of Oxford/now University College, Dublin), Dr Lenke Lisa (EC Marie Curie Fellow), Professor Marco Madella (Icrea, Barcelona), Dr Laurence Smith, Dr Gillian Wallace, Dr Ken Hamilton (Norfolk Archaeology)

Grahame Clark Zooarchaeology Laboratory

Grahame Clark Laboratory members had a very busy year with research being undertaken on material from many types of sites around the world.

Dr Preston Miracle started a new field project 'The Palaeolithic of Northern Bosnia', with a survey season in the spring and excavation season in the summer of 2006. This project is a collaboration with the Dobož Museum and Office for the Protection of Cultural Monuments, Banja Luka, with fieldwork supervised by Tonko Rajkovača (Cambridge Archaeological Unit) and lithics analyzed by Dr Terry Hopkinson (University of Leicester). The spring survey season produced over 70 lithic scatters, and test excavations in the summer revealed intact Upper Palaeolithic layers at two of them, and a potentially older occupation at a third locale. Unfortunately, from the point of view of the Clark Laboratory, bone was preserved only in Neolithic and Bronze Age contexts. Nevertheless, the preliminary results of this new project are already contributing to our understanding of Palaeolithic landscapes on the edge of the Pannonian Basin. Dr Miracle continued his analyses of Palaeolithic faunas from Croatia, including work on Mujina Cave (Mousterian), Vindija Cave (Mousterian and Upper Palaeolithic), Šandalja Cave (Upper Palaeolithic), and Vešanska Cave (Late Upper Palaeolithic). Results of the Vindija analysis were presented at the UISPP congress in Lisbon (with co-author Dr Dejana Brajković); the site is famous for remains of late Neanderthals associated with Upper Palaeolithic artefacts. A pattern of systematic badger butchery (carcass dismemberment and defleshing), perhaps from ritual consumption, at Šandalja Cave was presented by him at the ICAZ Conference in Mexico City. Research and publication of results from his field research in Istria (Pupićina Cave and other sites) continue and are best exemplified by the first monograph *Prehistoric Herders in Istria (Croatia): the Archaeology of Pupićina Cave*, vol. 1 (Archaeological Museum of Istria, Pula). Dr Miracle is also directing the project 'The Palaeolithic and Mesolithic Body' within the Leverhulme Research Programme 'Changing Beliefs of the Human Body' (see p. 49). Working with Dr Dušan Borić (project post-doc), he is examining mortuary and iconographic evidence of the changing treatment of human and animal bodies in three different regions — western Asia, the Danube Gorges, and southern Scandinavia. Dr Miracle will be on leave in 2006–2007 to pursue this research.

PUBLICATIONS

Preston Miracle

- 2006 ((ed.) with S. Forenbaher). *Prehistoric Herders in Istria (Croatia): the Archaeology of Pupićina Cave*, vol. 1. Pula: Archaeological Museum of Istria.
- 2006 Neolithic shepherds and their herds in the northern Adriatic Basin, in *Animals in the Neolithic of Britain and Europe*, eds. D. Sarjeantson & D. Field. Oxford: Oxbow Books, 63–94.
- 2006 Introduction to the Pupićina Cave Project, in *Prehistoric Herders in Istria (Croatia): the Archaeology of Pupićina Cave*, vol. 1, eds. P.T. Miracle & S. Forenbaher. Pula: Archaeological Museum of Istria, 1–30.
- 2006 (with S. Forenbaher). Excavations at Pupićina Cave, in *Prehistoric Herders in Istria (Croatia): the Archaeology of Pupićina Cave*, vol. 1, eds. P.T. Miracle & S. Forenbaher. Pula: Archaeological Museum of Istria, 63–122.
- 2006 (with L. Pugsley). Vertebrate faunal remains at Pupićina Cave, in *Prehistoric Herders in Istria (Croatia): the Archaeology of Pupićina Cave*, vol. 1, eds. P.T. Miracle & S. Forenbaher. Pula: Archaeological Museum of Istria, 259–399.
- 2006 (with M. Amatt). Bone and antler artefacts from Pupićina Cave, in *Prehistoric Herders in Istria (Croatia): the Archaeology of Pupićina Cave*, vol. 1, eds. P.T. Miracle & S. Forenbaher. Pula: Archaeological Museum of Istria, 401–15.
- 2006 (with E. Laurie & M. Poje). Terrestrial and marine molluscs from Pupićina Cave, in *Prehistoric Herders in Istria (Croatia): the Archaeology of Pupićina Cave*, vol. 1, eds. P.T. Miracle & S. Forenbaher. Pula: Archaeological Museum of Istria, 417–27.
- 2006 (with S. Forenbaher). Changing activities and environments at Pupićina Cave, in *Prehistoric Herders in Istria (Croatia): the Archaeology of Pupićina Cave*, vol. 1, eds. P.T. Miracle & S. Forenbaher. Pula:

PUBLICATIONS

Preston Miracle (cont.)

- Archaeological Museum of Istria, 455–81.
- 2006 (with S. Forenbaher). Pupičina Cave and the spread of farming in the eastern Adriatic, in *Prehistoric Herders in Istria (Croatia): the Archaeology of Pupičina Cave*, vol. 1, eds. P.T. Miracle & S. Forenbaher. Pula: Archaeological Museum of Istria, 483–530.
- 2005 (with G. Jambrešić & K. Miculinić). Pleistocene fauna from the Cave Pečina na Brehu (Istria, Croatia). *Naturhistorische Gesellschaft Nürnberg Abhandlung* 45, 145–56.
- 2005 (with S. Forenbaher). Neolithic and Bronze-Age herders of Pupičina Cave, Croatia. *Journal of Field Archaeology* 30, 255–81.

Helen Farr

- 2006 Seafaring as social action. *Journal of Maritime Archaeology* 1, 85–99.

Tony Legge

- 2006 Animals remains, in *A Woodland Archaeology: Neolithic Sites at Haddenham* (Haddenham Project vol. 1), eds. C. Evans & I. Hodder. (McDonald Institute Monographs.) Cambridge: McDonald Institute for Archaeological Research, 172–4 (Chapter 3: The Long Barrow) & 312–13 (Chapter 5: The Causwayed Enclosure).

Stephanie Meece

- 2006 Review of Michael Balter's *The Goddess and the Bull, Çatalhöyük: an Archaeological Journey to the Dawn of Civilization*. *Archaeological Review from Cambridge* 21.1.
- 2006 (with N. Russell). Animal symbolism at Çatalhöyük, in *Çatalhöyük Perspectives: Themes from the 1995–99 Seasons*, ed. I. Hodder. (McDonald Institute Monographs.) Cambridge: McDonald Institute for Archaeological Research, 209–30.

Mrs Jessica Rippengal has been continuing to update the comparative and archaeological collections and redesign the lab to include a synoptic collection of the major faunal elements. She has also been acting as faunal consultant for the Higher Education Field Academy (HEFA), organized by Dr Carezza Lewis. HEFA is a University of Cambridge widening-participation programme to develop enthusiasm, confidence and skills for university study aimed at young people from families with little or no experience of higher education, via a structured course involving independent completion of original archaeological investigation and reporting. The techniques used in the programme are also being introduced to Part 1 undergraduates, including small excavations of selected gardens in Great Shelford to investigate the archaeology of occupied areas.

Professor A.J. Legge and Krish Seetah will be coordinating Part 2 and MPhil zooarchaeology teaching in 2006–2007 while Preston Miracle is on research leave. Professor Legge has spent the field season in Croatia, in association with, amongst others, the University of Rochester (USA), the Šibenik Museum and the Drniš Museum. He has been excavating a site near Pokrovnik where fieldwalking showed that surface finds of Neolithic pottery and flint were distributed over an area of several hundred metres. Five trenches revealed organized stone structures of Neolithic date at less than 30 cm below the turf. Pottery, bone finds and



Dr David Bulbeck (Australian National University) and Professor Mokhtar Saidin (Universiti Sains Malaysia) working in the Grahame Clark Laboratory, identifying, recording and packing human remains from Gua Cha ahead of their repatriation to Muzium Negera, Kuala Lumpur.

charred seeds were abundant, all being retrieved by comprehensive sieving and flotation. The upper levels of the site yielded bone remains from the Danilo cultural phase, with Impressed Ware in the lower levels, a little above the site bedrock. Preliminary indications are that the fauna was very similar in the two major cultural episodes, with domestic mammals dominating over wild mammal remains. The bone remains from both Danilo and Pokronik were very similar both in the species represented and the proportions of species found. It seems probable that the arrival of farming in this arid region had a devastating impact on the local fauna, and such environmental indications as the fauna provides speak of a very open landscape.

Dr Ryan Rabett and Lisa Marlow have compiled a fine-grained archive of the entire McBurney Collection of archaeological materials from the multi-period site of Haua Fteah, Libya, held in the Museum of Archaeology and Anthropology under the curatorship of Ann Taylor. Sara Robinson (Zooarchaeology, MPhil), amongst others, has been able to use this new data base to research her dissertation topic this year. Dr Rabett has also been over-seeing the analysis and repatriation of a large assemblage of 'Mesolithic–Neolithic' human and animal remains from the rock-shelter site of Gua Cha, in Malaysia, with Mohd Mokhtar Saidin, the Director of the Centre for Archaeological Research, Malaysia (Universiti Sains Malaysia) and David Bulbeck, a biological anthropologist from the Australian National University, who both visited the lab in February 2006 to study the skeletal remains of ~22 individuals. Along with several other members of the lab, Dr Rabett is involved with the Niah Cave Project and has spent the last year writing up his zooarchaeological and bone technology contributions. In February he was granted an award from the Templeton Foundation's 'Emergence of Biological Complexity' initiative to research his project 'Regionalism in the emergence of modern human behaviour', which is comparing animal subsistence strategies and technology in Southeast Asia against trends and traits observed in Eurasia and Africa during the Late Pleistocene. Additionally he has been working on forthcoming publications, including a co-edited special issue of the *International Journal of Osteoarchaeology* on the Niah Cave fauna.

Lindsay Lloyd-Smith is continuing his PhD research focusing on the cultural origins, character and development of Later Prehistoric societies across maritime Southeast Asia (c. 5000–2000 BP) by comparing a detailed contextual analysis from two burial sites at the Niah Caves (Sarawak, Eastern Malaysia), with a review of all published data on burials from the wider region of Island South Asia.

Krish Seetah has had a very busy year organizing sessions for ICAZ (Cut Mark Research: New and Old World Perspectives on Advances in Butchery Analysis), TRAC (A Zooarchaeological Approach to Romanization: Cross-cultural Synthesis or One-Way Traffic) and the EAA (Animals and Alimentation: the Material Culture

PUBLICATIONS

Ryan Rabett

- 2006 (with P. Piper & G. Barker). Bones from hell: preliminary results of new work on the Harrison faunal assemblage from the deepest part of the Niah Cave, Sarawak, in *Uncovering Southeast Asia's Past: Selected Papers from the 10th International Conference of the European Association for Southeast Asian Archaeologists*, eds. E.A. Bacus, I.C. Glover & V.C. Piggott. Singapore: National University Press, 46–59.

Krish Seetah

- 2006 The Middle Ages on the block: animals, guilds and meat in medieval Britain, in *Breaking and Shaping Beastly Bodies: Animals as Material Culture in the Middle Ages*, ed. A. Pluskowski. Oxford: Oxbow, 18–31.
- 2006 A zooarchaeological contribution to biological anthropology, in *Proceedings of the 6th Annual BABAO Conference*, eds. K. Robson-Brown & A. Roberts. Oxford: BAR.
- 2006 (with A. Pluskowski). The animal bones from the 2004 excavations at Stari Bar, Montenegro, in Stari Bar, in *The Archaeological Project 2005: Preliminary Report, All'Insegna del Giglio*, ed. S. Geliche. Florence, 97–111.



Jo Wilson studying human skeletal remains from a Jesuit seminary, Cape Verde.

of Animals in Diet and Cuisine) as well as working as a faunal specialist on excavations in Thwing (Dir: Martin Millett), Nonantola, Italy (Dir: Diego Calaon) and Malbork, Poland (Dir: Aleks Pluskowski). He has also finished his PhD and has been appointed Co-ordinator for the course 'Working with Archaeological Materials' for the Cambridge Institute for Continuing Education.

Stephanie Meece is currently writing up her PhD dissertation and is also working on research projects in India and Turkey as well as presenting two papers at the EAA in Krakow, Poland this September.

Helen Farr is also in the final stages of her

PhD, although she still found time to co-organize another 'Land and Sea' conference at Southampton University. These conferences led directly to the launch of a new journal by Springer, *The Journal of Maritime Archaeology*, and Helen is a member of the editorial board.

Natalie White started her PhD last October and has given papers at TRAC (Cambridge) on 'Catering for the cultural identities of the deceased: potential and problems' and at the EAA (Poland) on 'Animals, alimentation and the cultural identities of the living and the dead in Roman Britain'. Natalie has co-edited two forthcoming publications, 'The materiality of death', *ARC* Issue 23.1 with Alice Stevenson and the *Proceedings of the Sixteenth Annual Theoretical Roman Archaeology Conference*, Cambridge 2006 with Ben Croxford, Roman Roth and Nick Ray. Along with Krish she has also been on Professor Martin Millett's excavation at Thwing, East Riding, Yorkshire.

David Orton has spent much of the last six months in Serbia, continuing his research on the fauna from two Late Neolithic sites. He also joined the Çatalhöyük faunal team for a month's fieldwork in July, and attended the International Council for Archaeozoology conference in Mexico City, presenting a paper entitled 'False dichotomies? Wild and domestic in the later Neolithic Balkans'.

Jo Wilson is in the process of completing her PhD on 'The Social Role of the Elderly in the Early Bronze Age of Central Europe'. She is also currently involved in analyzing the human skeletal remains from excavations of a Jesuit seminary and chapel in Cape Verde.

STAFF

Laboratory director: Dr Preston Miracle

Zooarchaeology and Chief technician: Jessica Rippengal

Research students (2005–2006): Maša Amatt, Helen Farr, Lindsay Lloyd-Smith, Lisa Marlow, Stephanie Meece, David Orton, Pippa Payne, Krish Seetah, Patrick Skinner, Natalie White, Jo Wilson

Associated researchers (2005–2006): Katie Boyle, Tony Legge, Iain Morley, Philip Piper, Ryan Rabett, Chris Stimpson

Glyn Daniel Archaeogenetics Laboratory

The archaeogenetics laboratory continues to host a diverse range of projects. A number of human genetics projects have come to fruition in the last year, while research on domesticated plants and animals constitutes another key strand of the lab's activities, with ongoing work on wheat, barley, millet and horses (see project summaries below). The laboratory's two PhD students completed their dissertations this year: Felix Riede on the earliest Late Glacial re-colonization of southern Scandinavia (an archaeological and genetic study using quantitative methods borrowed from evolutionary biology) and Anne Holden on mitochondrial haplogroups in African populations. Anne has now taken up a four-year postdoctoral position at the University of Berkeley, California, where she will be developing her African interests studying the evolution of dental development in primates. Karin Haack successfully defended her MLitt thesis on lactose intolerance. Other departures from the laboratory include Dr Peter Forster and Dr Shuichi Matsumura who have recently moved on to take up positions elsewhere (see p. 13).

The Spread of Cereal Cultivation across Europe

DIANE LISTER

'The Domestication of Europe' project is investigating the spread of cereal cultivation from its origins in Southwest Asia into and through Europe during the Neolithic by the analysis of DNA polymorphisms in landraces of barley and emmer wheat obtained from genebanks, historic collections and archaeological sites. This project is funded by a NERC consortium grant and involves the McDonald Institute, the Universities of Sheffield and Manchester, and National Institute of Agricultural Botany, Cambridge. In the McDonald Institute Dr Diane Lister is analyzing historic materials which include herbarium specimens, old seed collections, and straw from historic buildings (thatch, daub and insulation) which date from medieval times until the mid twentieth century. It has been shown that the distribution of extant landraces of barley and emmer wheat across Europe is patchy, and that historic landrace material is able to fill in the gaps, not only in space, but also in time, adding necessary time depth to the genetic patterns seen in modern landraces.

Barley (Hordeum vulgare) from 1932, part of a collection of historic cereals held at the LBBZ Plantahof, Landquart, Austria. Such historic cereal materials are being analyzed by Diane Lister for the Domestication of Europe project.

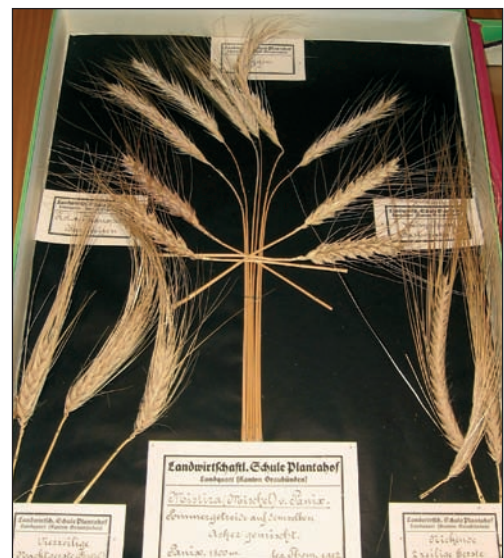
PUBLICATIONS

Mim Bower

- 2006 (with A. McGahern, C.J. Edwards, P.O. Brophy, G. Sulimova, I. Zakharov, M. Vizuete-Forster, M. Levine, S. Li, D.E. MacHugh & E.W. Hill). Evidence for biogeographic patterning of mitochondrial DNA sequences in Eastern horse populations. *Animal Genetics* 37(5), 494–7.
- 2006 (with A.M. McGahern, C.J. Edwards, A. Heffernan, S.D. Park, P.O. Brophy, D.G. Bradley, D.E. MacHugh & E.W. Hill). Mitochondrial DNA sequence diversity in extant Irish horse populations and in ancient horses. *Animal Genetics* 37(5), 498–502.

Peter Forster

- 2005 (with W. Haak, B. Bramanti, S. Matsumura, G. Brandt, M. Tanzer, R. Villems, C. Renfrew, D. Gronenborn, K.W. Alt & J. Burger). Ancient DNA from the first European farmers in 7500-year-old Neolithic sites. *Science* 11 vol. 310(5750), 1016–18.
- 2006 (with C. Renfrew). *Phylogenetic Methods and the Prehistory of Languages*. (McDonald Institute Monographs.) Cambridge: McDonald Institute for Archaeological Research.



Diane has been interested in determining the degree of DNA preservation in various historic materials and hence their usefulness in such genetic studies. DNA extraction from straw has proved to be very difficult partly owing to inhibitors found in materials such as animal dung which is often used in daub, and smoke blackening found in medieval thatch; grain from old seed banks and herbarium specimens, however, are proving to be a very good source of relatively undamaged DNA which can be analyzed by a wide range of genetic markers including microsatellites and retrotransposons. By mapping these DNA polymorphisms in cereals across space and time the project is addressing a number of fundamental questions pertaining to the spread of agriculture in Europe during the Neolithic, including the routes by which these cereals spread and the impact of environmental barriers on the transition to a farming society.

Archaeogenetics

PETER FORSTER & SHUICHI MATSUMURA

The archaeogenetic research highlight this year was the successful analysis of ancient DNA from the first farmers in Europe 7500 years ago. The 24 human remains from the LBK culture in Germany, Austria and Hungary strikingly showed that a quarter of these farmers contained a particular mtDNA type called N1a, which today is extremely rare anywhere in the world, usually no more than 0.2 per cent. The team's simulations show that the drastic drop in these farming types over the past 7500 years demonstrate that the first farmers successfully spread their culture across Europe but, in the long run, not their genes. This teamwork combined the strengths of the project's collaborators in Mainz under the leadership of Dr Joachim Burger, and the expertise of the McDonald Institute archaeogeneticists, generously funded by the Sloan Foundation. The results were published in *Science*, who regally hosted Dr Forster and colleagues at a press conference in Frankfurt to present the paper.

Another archaeogenetic project continues the study of the prehistory of equid species, where one crucial aspect is the determination of the DNA mutation rate (the genetic equivalent of the radiocarbon clock). Regular academic exchange between Cambridge and the project's German collaborators is enabling considerable progress towards establishing the molecular clock as a useable tool for reconstructing horse and other equid prehistory.



Harriet Hunt with millet plants in the University Botanic Garden glasshouses.

In other work, Peter Forster co-edited with Colin Renfrew *Phylogenetic Methods and the Prehistory of Languages* published by the McDonald Institute which arose from the Language Phylogenetics symposium held at the McDonald Institute in July/August 2004 (see p. 16). In the monograph Dr Forster compiles and analyzes Germanic language data, concluding that English as a separate branch predates the departure of the Romans from Britain.

The East–West Millet Project

HARRIET HUNT

A theme linking a number of research projects in the McDonald Institute is the domestication of plants and animals in the under-explored region of the Eurasian steppe, from Eastern Europe through Central Asia and China. One such crop is millet, which thrives even in the harsh environmental conditions that characterize much of the region. The East–West Millet Project, led by Dr Harriet Hunt and Professor Martin Jones, is exploring the domestication history of broomcorn millet, addressing questions regarding its wild ancestry,

geographical origins and routes of spread across the continent. In prehistory, millet was well-suited for cultivation by semi-nomadic pastoralists, tying the project in with the work on horse husbandry led by Dr Mim Bower and Dr Marsha Levine.

Genetic polymorphism is a key tool in tracking the history of cultivated plant species. Harriet Hunt, funded by a Wellcome Trust Bioarchaeology Research Training Fellowship, is continuing the development of genetic markers whose variation constitutes a signature of the past geography of this crop. The project has benefited from its ongoing collaboration with Professor Christopher Howe in the Department of Biochemistry to introduce additional techniques into the lab, including microsatellite studies and gene cloning. Exciting new avenues of

investigation have also opened up through longer-distance collaborations — the team is currently developing the potential of nuclear microsatellite markers in millet together with Christian Tobias from the USDA Western Regional Research Center in Albany, California. A project on the genetics of the ‘sticky starch’ phenotype in millet has also been initiated in collaboration with Dr Kay Denyer from the John Innes Centre in Norwich. ‘Sticky’ cereals have particular cultural significance in East Asia, and this project has the potential to trace this phenomenon from its molecular fundamentals to its selection by human societies.

The archaeogenetic work is being complemented by study of the archaeobotanical remains from early Neolithic sites, carried out by PhD students based in the George Pitt-Rivers Bioarchaeology laboratory. Xinyi Liu is examining sites from northern China at which millet has been recovered, in collaboration with Professor Zhijun Zhao (Archaeological Institute, Chinese Academy of Social Sciences). It has been a pleasure to welcome several leading Chinese bioarchaeologists, including Professor Zhao, to Cambridge this year. The team looks forward to continuing its collaboration with them, with fieldwork planned in northern China for September 2007. Giedre Motuzaitė, whom the lab welcomes in autumn 2006, will be focusing her PhD research on Neolithic sites in Ukraine, another little-studied area implicated in early millet cultivation. These different strands of the project will link together to illuminate our understanding of early agriculture across this vast region.

The Archaeogenetics of Horse Husbandry

MIM BOWER

In the final year of this project (funded by the Isaac Newton Trust and the McDonald Institute), models were made of the relationships between mitochondrial DNA of isolated populations and regionally specific breeds of horses across central and east Asia to study past human interaction with horses. This year, thanks to the team of collaborators (Elizabeth Barrett and Lisa Quilter, Suffolk; Bryan Hanks, University of Pittsburgh; and Maria Otchir-Goriaeva, Russian Academy of Sciences), the data set has been expanded into south and east Asia, including horses from India, Kalmykia, China and Mongolia. The project is now searching for phylogenetic and biogeographic patterns in the data with colleagues in the Department of Biochemistry, Cambridge and School of Biological Sciences, Liverpool. In a collaboration with groups in University College Dublin



Xinyi Liu with the Sanzuodian excavation team on survey work in Chifeng, Inner Mongolia: (from left to right) Professor Zhizhong Guo, Shuguo Li, Xinyi Liu, Li Huang, Mr Wang.



Marwari and Kathwari horses are central to Indian culture. This, and the work of the team's collaborator Raghvendra Singh Dundlod, Secretary General of the Indigenous Horse Society of India, has led to the preservation of these very ancient breeds. In some areas these horses are dressed in their finest, with hennaed feet, and invited as honoured guests to 'dance' at traditional weddings.

characterizing genetic variation in thoroughbred horses. The lab's contribution to this project is to identify the genetic type of historic thoroughbreds, including famous race winners such as Eclipse, Polymelus and Hype- rion, using a variety of DNA markers both mitochondrial and nuclear. This project is now halfway through and has been generating exciting results. The team has been finding that DNA preservation in these historic samples is excellent, and this allows the exploration of more of the genome than is possible in older samples. This opens the way for comparisons between living genetic studies of traits described by nuclear DNA, for example tracing inherited diseases back through time, an area particularly pertinent to thoroughbred horses, which are prone to serious genetic defects.

Post-Black Death 'Improvement' in Animal Husbandry

The lab is pleased to announce the start of a joint British Academy funded project with Richard Thomas of the University of Leicester. The project is a pilot study to investigate the potential of nuclear DNA microsatellite markers in archaeology. The team will be exploring whether nuclear DNA can be used to compare medieval populations of cattle from Dudley Castle, West Midlands. These cattle populations show a marked increase in size over time and it will be interesting to see if this represents 'improvement' via a change in the management of the cattle or the introduction of new stock.

STAFF

Postdoctoral researchers: Mim Bower, Peter Forster, Harriet Hunt, Diane Lister, Shuichi Matsumura

PhD students: Anne Holden, Felix Riede; **MLitt student:** Karin Haack

Research technician: Matthieu Vizuete-Forster

and Trinity College Dublin, it has been possible to demonstrate an east-west pattern beginning to emerge in Eurasian horse population data, suggesting that horses from Europe and central and east Asia have been isolated from each other for some time. The data the lab has generated over the past year more than doubles that of the team's previous analyses. Crucially, thanks to this project and its collaborations, a good sample coverage has been established for many of the regions which are known to be important for ancient human/horse interactions. This coverage will allow for further exploration of the east-west pattern and in particular, the identification of the genetic signatures of domestication and subsequent husbandry of horses.

Genetic Variation in Historic Thoroughbred Horses

Last year saw the start of a collaborative project with Matthew Binns, Royal Veterinary College, London and Paula Jenkins, Natural History Museum, London, on



Dominique Rogers, Conservator and Deborah Walker, Curator, Royal Veterinary College Historical Collection, sample the skeleton of Eclipse.

George Pitt-Rivers Laboratory for Bioarchaeology

The George Pitt-Rivers laboratory continues its research into the exploitation of plant resources from the Palaeolithic through to the historic periods in diverse regions of the world. Over the last academic year, a number of projects have reached a successful conclusion, including Evi Margaritis's research into Hellenistic agriculture and the management of vine and olive. Research has continued in China (Xinyi Liu), Hungary (Brigitta Kulcsarne-Berzsényi) and Britain (Rachel Ballantyne, Anne De Vareilles). Phytolith projects continue in South Asia, Africa, and South America (Marco Madella). In South America, David Beresford-Jones continues his principal research into past human impact upon the landscape in the lower Ica Valley of Peru under a British Academy Postdoctoral Fellowship. Doctoral research by Rachel Ballantyne with Cambridge Archaeological Unit is developing a methodology for relating fine debris to human lives. Her study focuses upon the Roman Fenland, but the results will affect the interpretation of charred plant assemblages more widely.

Two of the core projects within the lab's activities are the Moravian Gate Project (p. 44) and the East–West Millet Project (p. 28), both of which are collaborative efforts involving a number of laboratories within the Institute, as well as international collaborations. In addition to the archaeogenetic element of the East–West Millet Project, fieldwork along a potential Neolithic millet corridor has included work in Inner Mongolia with colleagues from the Chinese Academy of Social Sciences (Xinyi Liu), with Canadian colleagues at Lake Baikal (Xinyi Liu and Liliana Janik), cuisine of fisher-hunter-gatherers of prehistoric Japan (Liliana Janik), and with Lithuanian colleagues on the northern margins



PUBLICATIONS

Martin Jones

- 2006 (ed. with A. Fabian). *Conflict: Papers from the 20th Darwin Lecture Series*. Cambridge: Cambridge University Press.
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- 2006 (with E. Margaritis). Beyond cereals: crop-processing and *Vitis vinifera* L. Ethnography, experiment and charred grape remains from Hellenistic Greece. *Journal of Archaeological Science*.
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Rachel Ballantyne

- 2006 Narratives of food procurement and cultural identity in Roman Britain. *AIA 107th Annual Meeting Abstracts* 29, 47.
- 2006 Plant remains, in *Between Broad Street and the Great Ouse: Waterfront Archaeology in Ely*, by C. Cessford, M. Alexander & A. Dickens. (East Anglian Archaeology Monograph 114.) Cambridge: Cambridge Archaeological Unit.
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David Beresford-Jones

- 2005 The tree of life. *Planet Earth National Environmental Research Council Magazine* Summer.

Not a plant in sight! Relict canal in the abandoned landscape of the Samaca Basin, South Coast Peru.

of the Black Sea (Giebre Motuzaitė Matuzevičiūtė). Over the next three years, the lab aims to build up a complimentary data set of archaeological records to complement the archaeological models developed by Harriet Hunt.

The millet project is typical of an increasing trend for close cross-lab interaction, bringing together botany, zoology, genetics, geoarchaeology and isotopic analysis, and this year weekly cross-lab meetings have been held to encourage this very productive interaction.

STAFF

Laboratory director: Professor Martin K. Jones

Laboratory manager: Dr Liliana Janik

Post-doctoral researcher: David Beresford-Jones

Affiliated researchers: Alan J. Clapham, Anne De Vareilles, Marco Madella

PhD students: Rachel Ballantyne, Brigitta Kulcsarne-Berzsényi, Xinyi Liu, Evi Margaritis, Scott W.J. Martin, Laura Motta, Manon Savard



Sagan-Zaba, Lake Baikal, state of Irkutsk, Russia.



Rock art at Sagan-Zaba.



Liliana Janik undertaking flotation of archaeobotanical samples at Lake Baikal.

Palaeodiet Laboratory

In its second year, the isotope laboratory continues to thrive, with a mix of in-house and collaborative projects, covering archaeology, palaeoclimate, biogeography and animal ecology.

Disruptions occurred in the middle part of the year when the Godwin Laboratory, where all the analytical equipment is housed, moved from one side of Downing Street to the other. The new home, in Earth Sciences, is closer and more spacious, and since June, everything has been progressing smoothly.

As part of the on-going Moravian Gate project under the leadership of Professor Martin Jones, the lab has analyzed fauna from the Gravettian site of Dolní Věstonice, dating to about 25 ka BP, to gain a picture of the ecological setting, as well as the diet of the Gravettian humans. Isotopic measurements of a wide suite of fauna indicate that large herbivores were important in the human diet and not, as previously thought, just mammoths.

In collaboration with Dr Mike Brooke, Department of Zoology, isotopic analyses are being used to assess the rat predation rates on several endangered bird species, of the petrel family, on Henderson Island in the Pacific. Isotopic analyses are gaining in popularity in ecological as well as archaeological studies, since both fields require objective assessments of an individual's dietary intake, without being able to ask them what they are eating.



Tamsin O'Connell at work in the new Godwin Laboratory facilities in the Department of Earth Sciences.

PUBLICATIONS

Tamsin O'Connell

- 2005 (with J. Birchall, T.H.E. Heaton & R.E.M. Hedges). Hydrogen isotope ratios in animal body protein reflect trophic level. *Journal of Animal Ecology* 74, 877–81.
- 2005 (with B.T. Fuller, J.L. Fuller, N.E. Sage, D.A. Harris & R.E. Hedges). Nitrogen balance and ¹⁵N: why you're not what you eat during nutritional stress. *Rapid Communications in Mass Spectrometry* 19, 2497–506.
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As well as the larger projects, a number of smaller research projects have been carried out in the lab by undergraduates and graduates as part of their degrees. Collaborations with groups as diverse as the Trinity College Dublin, the Natural History Museum in London, and the Cambridge Archaeological Unit have resulted in work on the biogeography of Holocene Irish bears, sex differences in diet in an early twentieth-century Belgian cemetery, and diet and status within Anglo-Saxon sites in East Anglia.

STAFF

Laboratory director: Tamsin O'Connell

Grants and Awards

The McDonald Institute provides working space for a number of projects which typically spend two or more months annually in the field. Other project rooms are allocated to teams that are preparing results of excavations for publication. Among the active field projects located at the McDonald Institute are those at Amarna in Egypt, Çatalhöyük in Turkey, and Tell Brak in Syria. During the academic year 2005–2006, the McDonald Institute also provided research space for the preparation of reports such as those on field survey in Boeotia, on excavations at Kilise Tepe in Turkey, laboratory work on horse palaeopathology, and the Leverhulme ‘Changing Beliefs of the Human Body’ project.

In addition the Institute supports field projects and certain other research initiatives through its annual allocation of grants from the D M McDonald Grants and Awards Fund. The Advisory Committee meets in February or March every year to consider applications to the fund from Cambridge-based researchers. In 2006, grants totalling £80,900 were awarded to 19 projects, ranging widely in time and space from the archaeology of Deccan routes in India to political development and agency in the Calchaquí Valley, Argentina. Accounts of several of these projects are given here.



Projects supported by the D M McDonald Grants and Awards Fund.

Forager–Farmer Encounters in the Balkans: Spatial Distribution of the Lepenski Vir Culture (Serbia)

DUŠAN BORIĆ

This year's field season began in April and on the very first day resulted in the discovery of a Mesolithic burial on a bank of the Danube at a place called Vlasac. Although the initial plan was to survey the region of the Danube Gorge's hinterlands in present-day Serbia, the unexpected discovery of preserved Mesolithic–Early Neolithic levels at Vlasac necessitated a change of plan. Vlasac was partially excavated in 1970–71, before the site was submerged by the Danube owing to the creation of an artificial lake for a hydroelectric dam. The site is located 3 km downstream from the famous site of Lepenski Vir.

After positively identifying archaeological levels at this site, the decision was made to excavate the most endangered portion which is constantly being eroded away by the river. At the same time, this was a unique chance for a revision excavation of a Lepenski Vir culture site. The first burial was found under a thin layer of beach pebble next to the eroded section of the current river bank. There were several hundred pierced pharyngeal teeth of carp in the burial. It is likely that these were sewn to some kind of dress along with a number of beads made of the marine species of snails *Cyclope neritea*, which came to the region from distant areas of the Mediterranean or Black Sea. In addition, a flint arrowhead was found on the pubic bone, which suggested a possible cause of death.

Several metres away a dug-in feature was discovered that contained seven consecutive burials one on top of the other. They were the remains of adults, children and neonates. The place chosen for these interments was an abandoned trapezoidal building. The last burial had stone plaques covering the head and pelvis. Placed on top of the stone plaque which covered the pelvis was a red deer skull with antlers and a disarticulated child's skull. This structured deposition marked the final use of this burial location, which was subsequently covered



A limestone bead bracelet adorning a child in a group burial at Vlasac.



The latest inhumation (c. 6200 cal. BC) in the group burial discovered at Vlasac.

by large blocks of stone. Early Neolithic pottery was found on top of these stones, indicating that there is no major stratigraphic or chronological gap between the final act of closing this burial location and the arrival of the 'Neolithic package' to the site. This dating can be reinforced by the appearance of *Spondylus* beads in the upper levels of the burial tomb. *Spondylus* finds appear in the region with the beginning of the Neolithic and might have arrived here through exchange. This richness of data offers a new way of seeing discoveries from old excavations at this site while opening up new and exciting research venues for the question of Mesolithic–Neolithic interactions.

Understanding Power Relations and Social Practice: Community Development in the Calchaquí Valley, Argentina

ELIZABETH DEMARRAIS

With the support of the McDonald Institute from 2003–2006, the Calchaquí Valley Project has completed four years of excavations, architecture study, and site mapping in the archaeological site of Borgatta. The project, directed by Elizabeth DeMarrais in collaboration with Kevin Lane, is investigating changing power relations and the nature of leadership, as well as ritual practice in the site of Borgatta during the period before the Inka conquest (AD 1000–1450). Other Cambridge-based participants in the research have included Claudia Grimaldo, Emma Pomeroy, Fraser Sturt, and Marina Baralle.



Photograph from a mountain overlooking the site of Borgatta, Argentina; patio groups cover the colluvial fan on both sides of the wash, with the maize fields visible in the distance.

In this mountainous, semi-arid region of northwest Argentina, pre-Hispanic inhabitants built and occupied agglutinated residential compounds in sites near irrigated agricultural lands. The team's excavations have uncovered infants buried in plain cooking pots as well as in funerary urns decorated with elaborate anthropomorphic and zoomorphic designs, placed under the floors of residences. Other evidence of daily activities includes tools and debris indicating food preparation and cooking, weaving, ceramic production, and bronze metallurgy. Laboratory analysis of these materials has now begun in earnest.



A funerary urn decorated with geometric motifs.

Recent excavations have further revealed that ritual activities involving burial of infants were important focal activities for the members of a household. In contrast, little evidence was uncovered to indicate that political activities integrating larger numbers of people took place at the settlement. Material evidence for higher-status individuals, or leaders, is also surprisingly limited in scope.

Despite the large size of Borgatta's densely settled residential sectors (covering 30 ha), household compounds (or 'patio groups') were the primary setting for ritual practices, as well as for feasting. Our findings challenge the assumption that hierarchy and 'top-down' political leadership necessarily develop as communities grow in size and complexity. As a consequence, alternatives to hierarchy — such as models of heterarchy (in which power may be decentralized, flexible, or shared) — hold significant explanatory potentials that deserve further exploration in sites such as this one in the south Andes.

An Analysis of the Earthenware Ceramics from the Secondary Cave Mouths at the Niah Cave Complex, Sarawak, East Malaysia

PATRICK DALY

A grant from the McDonald Institute facilitated the analysis of an important collection of earthenware ceramics held in the Sarawak Museum in Kuching, East Malaysia. The funding was used to bring out and host three archaeologists, Patrick Daly, Franca Cole, and Jędrzej Majewski, for three months while they worked on the material in Sarawak. This was a continuation of efforts initially funded by the British Academy to analyze earthenware ceramics from the main West Mouth at Niah, which has been the centre of attention for the Niah Cave Project, directed by Professor Graeme Barker. The funding from the McDonald Institute was used to expand the scope of the work to include additional material from surrounding cave mouths. This was essential as the West Mouth, while yielding a very rich and extensive assemblage of earthenware, was largely a burial site during the ceramic phases.



Ceramics at Niah during the Sarawak Museum excavations (copyright Sarawak Museum).

The team conducted detailed analysis on all of the ceramic material from the Lobang Angus site at the Niah Cave complex, which yielded significant material culture. In conjunction with colleagues working on other material from the same site, they were able to contextualize the ceramics from the museum stores. The results from the ceramics analysis demonstrated very different types of behaviour than what was known from previous explorations at the West Mouth, and have expanded the team's understanding of social life in the Niah area during the later Holocene.

The results from this fieldwork are an important contribution to the earthenware ceramics reference collection for this region of Island Southeast Asia. Currently, the main body of the research is being prepared for inclusion



Ceramics from Niah during analysis 50 years later, Archaeology Section, Sarawak Museum.

within the two-volume Niah Cave project monographs to be published by the McDonald Institute. This will include the core of the data, and a comprehensively illustrated reference chapter, including typological and other analysis. This work will be the first well-published study of earthenware ceramics from Borneo, and a major addition to the regional literature. Several papers are being prepared to present the key findings of the research to the international archaeological community, and the team's work contributed towards an exhibition at the Sarawak Museum on earthenware ceramics.

Durrington Walls, Woodhenge and the Associated River Avon, 2006: the Geoarchaeological Study

CHARLES FRENCH

In the 2006 field season, geoarchaeological attention was focused on completing the augering survey on the eastern side of the modern River Avon between Bulford and the A303 highway and sampling for micromorphology the Neolithic structures revealed in the area excavations on the exterior side of the henge bank around the eastern entranceway and the bank profile exposed at Woodhenge.

The River Avon augering survey

In the 2005 field season, the earlier prehistoric palaeo-channel was identified 35 m to the east of the Durrington Walls' eastern entranceway. Palynological assessment by Rob Scaife suggests that this is the

main prehistoric channel, and this significant profile is currently being intensively analyzed for pollen and the vegetational story and radiocarbon assay. Briefly, the story so far is that in the earlier Holocene the valley bottom was a low marshy area with periodic/seasonal outwash with pine and birch on the surrounding downland, which quickly became dominated by a mixed deciduous woodland composed mainly of oak, elm and hazel by about 8050–7260 cal BC. Subsequently within the Neolithic period (or post-5000 BP), there is a major hiatus with an increase in valley sedimentation and a marked vegetational change to fewer trees and shrubs but evidence of lime trees, a more open downland with grasses and herbs and substantial evidence of anthropogenic activity, and a wet floodplain environment, generally open with sedges and alder on its margins.

The mission this year was to trace the location and extent of this channel about 1.5 km downstream to the A303, and to determine the location of the palaeo-channel in the Neolithic at the Undercliff just outside the eastern entranceway to the henge. Accordingly, a series of eight hand-augered transects were made by the Dr Charles French and Dave Norcott with auger holes normally spaced at 20 m intervals. Three palaeo-channels were identified. The earliest and main prehistoric channel is just about visible on the modern ground surface, often given away by tell-tale signs of reed peat adhering to the tree-throw holes (see figure above). It was a gently meandering river situated within a broader braid plain under deposits of redeposited hillwash and alluvial materials. Most significantly, the present river at the Undercliff must be in the same position as the main prehistoric channel as no other channel deposits were evident in the floodplain to the southeast except for a shallow and hillwash infilled precursor channel to the present river. This much later palaeo-channel is consistently located on the eastern edge of the present river course and is most probably the late historic channel, probably of no more than a few hundred years ago. The palynological results from these profiles should provide a comprehensive picture of prehistoric vegetational change in this part of the Avon valley, and will be further augmented by the analysis of the lagoonal lake found last year in the floodplain within West Amesbury, about 2.5 km downstream.

Durrington Walls

Sampling this year focused on the structures revealed on the exterior side of the henge bank, as well as on the midden deposits and buried soil profiles. In addition, the colluvial sequence within the interior of the henge



Reed peat adhering to the tree-throw holes is indicative of the main prehistoric river channel evident in this location on the eastern bank of the present River Avon near the A303 highway.

was described and dated through archaeological means to later prehistoric, Roman and medieval times. Most significantly, six well-defined sub-square post and stake-built later Neolithic structures with central hearths and chalk 'slurry' floors were revealed on the outer lower edge of the Durrington henge bank (see figure on right). These probable house structures of this shape and period are exceptional in the British Isles and moreover are extremely well preserved. Initial preparation of the floor block samples taken for thin section micromorphology suggests that these chalk 'slurry' floors may exhibit several phases of use and renewal at least two examples.



A view of the house structures on the exterior/eastern side of the henge bank immediately to the north of the eastern entranceway (with permission of Professor M. Parker Pearson).

The micromorphological analyses of the buried soil and overlying colluvial sequences from the 2004 and 2005 excavations of the Southern Circle within the henge and the eastern entranceway area were completed. The analyses suggested that the pre-henge soil, both beneath the bank and associated with the Southern Circle, is a calcitic fine sandy loam rendzina which exhibits signs of having undergone some limited physical disturbance. A well-developed turf is present beneath the henge bank, but appears to be missing from the soil profile at the Southern Circle. Here, the slight disturbance evident in the palaeosol profiles may possibly indicate turf removal, possibly associated with site construction activities, and/or limited ploughing taking place prior to the building of the monument. These scenarios are in striking contrast to that for the entranceway area to the henge in the dry valley which is devoid of contemporary soil formation.

Woodhenge

The excavation through the southeastern edge of Woodhenge afforded the chance to sample the surviving palaeosol beneath the bank and immediately adjacent to the area previously investigated by Evans & Wainwright (1979). As within the interior of Durrington Walls, the buried soil profile beneath the bank is a very thin rendzina with variable presence/absence of a turf line. This soil (and indeed snail) evidence of a long-established grassland environment by the third millennium BC would appear to be the overriding story for this area of the Wessex chalk downland.

The future of the project

As Professor Mike Parker Pearson was successful in obtaining a large AHRC research grant earlier in 2006 to fund further archaeological investigations of the Avon valley, Durrington Walls, Woodhenge, Stonehenge and the Stonehenge Avenue until 2010, further on- and off-site palaeo-environmental and soil micromorphological investigations will now be possible under the auspices of the Stonehenge Riverside Project (Parker Pearson *et al.* 2004).

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Ziyaret Lower Town Project

JOHN MACGINNIS

Ziyaret Tepe lies on the Tigris approximately 60 km east of Diyarbakir in southeastern Turkey. In historic terms this was the northern border of the Assyrian empire. Assyrian presence in the region has been known of since the discovery of the 'Kurkh Monoliths' (stelae of the Assyrian kings Ashurnasirpal II and Shalmaneser III) in 1861, but prior to the international response to the planned construction of the Ilusu Dam almost no archaeological fieldwork had been conducted in this area. Morphologically, the site consists of a large central mound surrounded by a lower town which is predominantly Assyrian. The aim of this project is to investigate and document the remains of the lower town. After five seasons of excavation (2000–2004) the team has just completed its second of two study seasons and writing up of this first phase is well advanced. The results of these campaigns have been excellent, uncovering remains from the very end of the Assyrian empire. To date work has exposed a gateway on the eastern edge of the town (Area D), a section through the city wall together with an area of housing built up against it (Area K) and a complex of high-status buildings southwest of the main mound (Area G). The last has been particularly productive. These buildings were constructed around courtyards paved with beautiful mosaics made from black and white river stones, they contained numerous pithoi (with capacities in excess of 800 litres) and, most dramatically, an archive of cuneiform texts (see figure below). This archive is of exceptional interest. It appears to date from 611 BC, i.e. in that very short window between the fall of Nineveh in 612 and the final collapse of the empire two or three years later. Such a discovery is unparalleled. Beyond the team's wildest dreams, excavation at Ziyaret really is bringing new understanding of this cataclysmic event in world history.

Looking to the future, the project is now entering a second phase of work at Ziyaret. After a brief but welcome respite, work on the construction of the dam has resumed with completion expected in 2012 or shortly thereafter. The team is now planning to conduct fieldwork in three-year cycles comprising two seasons of excavation followed by a study season. Specific aims for the 2007 season are: 1) to resume operations in Area G in order to work on the unexcavated (western) half of the monumental buildings; 2) continuing the work in Area K in order to both extend the exposure of the lower-status housing and further our knowledge of the construction



Tablets from the end of the Assyrian Empire.



Plan of the Area G architecture, Ziyaret lower town.

history of the city wall; and 3) to excavate an area lying on the city wall to the west of this which showed up in the resistivity survey in 2004 and would appear to be a gate complex. The team anticipates excellent results from this work and looks forward to this next phase with every expectation of making discoveries of fundamental importance as the project continues to have the immense privilege of uncovering the rich potential of this marvellous site.

Ethiopian Rock Churches at Lalibela and Elsewhere

DAVID PHILLIPSON

Professor David Phillipson FBA was awarded a grant in support of his ongoing research on early Ethiopian churches. This project represents a development from Professor Phillipson's excavations at Aksum between 1993 and 1997 conducted under the auspices of the British Institute in Eastern Africa with substantial support from the McDonald Institute. Increasing evidence is emerging for strong cultural continuity between ancient Aksum and medieval Ethiopia, this being particularly marked in ecclesiastical matters, Ethiopia having been only the second nation in the world officially to adopt Christianity.



The rock-hewn church of Giyorgis at Lalibela in its mountain setting. The church, probably of thirteenth-century date, rises from a large pit, approached by a deep cutting.

With additional support from the British Academy and from Gonville & Caius College, Professor Phillipson spent ten weeks in Ethiopia early in 2006. After visiting Aksum to inspect and advise on conservation and museum-development measures being implemented under World Bank auspices, he undertook five weeks' intensive fieldwork examining churches — both built and rock-hewn — in the Tigray and Amhara regions, recording and checking details noted previously, as well as taking photographs to illustrate a monograph currently in preparation. Much new evidence was recorded which will contribute to the establishment of a chronology and to the demonstration of links with ancient Aksum. When requested, Professor Phillipson provided informal advice to the ecclesiastical, regional and national authorities on conservation and visitor-management issues.



The church of Giyorgis, like most of those investigated by Professor Phillipson, continues in regular use, and visitors must remove their shoes on entering.



Many of the ancient Ethiopian churches are richly decorated. This painting of an angel is at Ganata Maryam in Amhara region.

Suakin Project 2004–2006: Archaeological Study and Conservation at a Port on the Red Sea, Sudan

LAURENCE SMITH

Suakin lies on the Red Sea coast of Sudan about 40 miles south of present-day Port Sudan. It has been suggested as the site of a Hellenistic port (Evangelon Portus), and is recorded historically as being the main port for the Sudan from the fifteenth to early twentieth century AD, with trade contacts extending to south and east Asia. The Project is being carried out under the Sudanese National Corporation for Antiquities and Museums and the Red Sea State, with collaboration between personnel from Cambridge, (Laurence Smith, Michael Mallinson and Jacke Phillips), Ulster, Los Angeles, Khartoum and the British Institute in Eastern Africa.

Previous seasons' work has included the clearance and part restoration of the main diwan (reception room) of the Khorshid Effendi House and the revealing of sub-structures of earlier seventeenth- and eighteenth-century date, together with an earlier quayside, at the Beit el-Mufti. A survey of the Shafa'i Mosque was carried out in preparation for conservation. Investigations were continued on Condenser Island to try to recover evidence of Hellenistic or Roman occupation. Although medieval gubbas (domed tombs of holymen) and rock-cut cisterns were found, subsequent excavation only yielded material considered to derive from the late nineteenth century.

In 2006, work was continued on the Town Island and on the mainland. Following excavations at the Beit el-Pasha in 2004 which provided the first clear evidence of dwellings pre-dating the recently up-standing houses, two further trenches near the house were excavated. These contained much post-medieval cultural debris, but also revealed post-holes from two circular timber structures of different periods, considered to pre-date the seventeenth century on the basis of pottery. A survey of the remaining historic buildings on the mainland settlement (the Geyf) was undertaken. This was extended to the remains of the late nineteenth-century defensive works which shielded the Geyf and its approaches. Pottery included European 'china' and stonewares imported during the later nineteenth to early twentieth century AD, and glazed earthenwares likely to be of Islamic origin. The Beit el-Pasha excavations produced sherds of porcelain and celadon, currently identified as being from China, Vietnam or Thailand, dating between the later fifteenth and sixteenth centuries AD.

A separate project, undertaken in conjunction with the 2006 Suakin season, involved a brief survey in the area of Aqiq, south of Suakin, with a view to future work to investigate whether this could have been the ancient port of Ptolemais Theron. A rectangular structure apparently built of re-used material consisting of fluted column drums and rectangular blocks was noted at Adobana. Three standing stones and a series of Islamic-period graves were recorded at Umm Makban and at Derheib respectively. The seasons at Suakin have not confirmed the identification of the site with Evangelon Portus. However, they have successfully demonstrated that strata dating from the pre-Ottoman period are likely to be extant, whilst the pottery has confirmed the extent of the trade network into which the port was linked. No ancient remains were noted in the immediate vicinity of Aqiq, but the presence of a structure with elements in a Classical style at Adobana is confirmed.



Suakin Town Island and Geyf, showing sites investigated (surveyor: H. Barnard).

The Lismore Island Landscape Project

SIMON STODDART

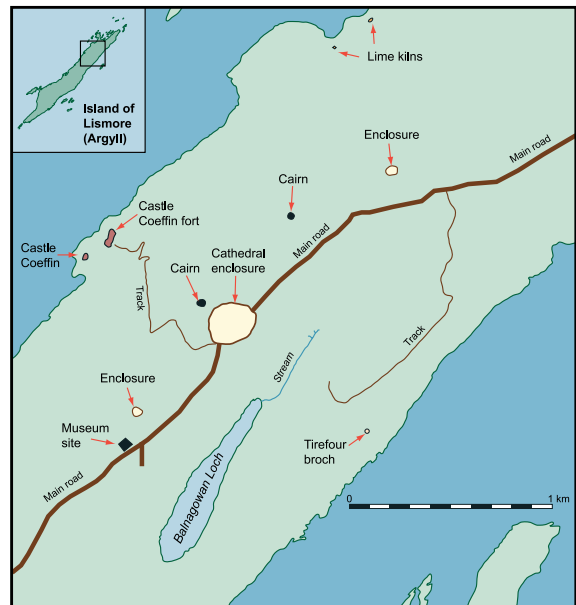
Lismore is a small island some 15 km long and up to 2 km wide covering some 22 sq. km off Oban in western Scotland. The project has been set up with the financial support of the McDonald Institute and Historic Scotland to study field monuments which date between the first millennium BC and the first millennium AD in order to place them in their environmental and political context.

The project has now moved into a study and publication phase concentrating on the detailed reconstruction of the central part of the island in three key areas: topography, environment and resources. The detailed topography is being reconstructed by GPS rectification of the 1:6000 aerial photographic survey of the island. Paul Pattison (English

Heritage) has undertaken intensive survey around the six excavated monuments to place them in context. Rod Salisbury (SUNY Buffalo) is rectifying the aerial photographs to provide digital topography for the insertion of the palimpsest of new details of the developing landscape. The environment is under study by Rupert Housley and Jennifer Miller (Glasgow University). Promising samples have been undertaken of the three principal lochs on the island (one is central to the detailed survey area), to present an understanding of the vegetational changes of the island in the post-glacial period. A pilot study of the samples has been sponsored by Historic Scotland and is already suggesting different lacustrine histories for the north and south areas of the island. In a complementary study, Jennifer Miller is investigating the actual vegetational resources employed in the principal excavated site of Tirefour. The archaeobotanical remains suggest that the use of trees is headed by alder and cereals by barley and oats. One of the major strengths of the excavated evidence is the relatively large faunal assemblage for a Scottish settlement site, greatly assisted by the limestone geology of the island. David Orton, Rhiannon Mayon-White, Lisa Marlow and Sara Robinson and Krish Seetah have combined forces to undertake the work, supplemented by isotopic analysis coordinated by Tamsin O'Connell. The assemblage is headed by cattle (37%), sheep/goat (22%) and pig (22%), with a substantial contribution of red deer (11%). One

surprising find is a bear metacarpal which may have accompanied a pelt to the island.

The objective is to achieve a multi-scaled understanding of this island population through changing social and political configurations. In the course of 2007 it is planned to provide a synthesis of these results drawing on the work of Matthew Brudenell (field observation), Ewan Campbell (artefacts), Caroline Malone (field direction), Megan Meredith (field observation), David Redhouse (computing/field observation) and Fraser Sturt (field observation) in addition to those already mentioned.



Plan of the central area of the island.



Dr Rupert Housley near the Balnagowan loch.

The Moravian Gate Project

MARTIN JONES

The corridor between the Carpathian Mountains to the east, and the Bohemian Plateau to the west has been a major route of access throughout human history, connecting the Danube Basin with the North European Plain. Particularly during cold episodes, it has also served as a wind tunnel, capturing deep accumulations of loess, which in turn trap the Upper Palaeolithic sites that have allowed the project team to embark on an intensive bio-archaeological analysis of early cold-climate human ecology.

In 2005, the project members implemented an intensive sampling programme at Dolní Věstonice. This year the same strategy was implemented at Předmosti, right at the opening of the Moravian Gate. It had largely been exposed in the late nineteenth century, when the bones of thousands of mammoths came to light, along with numerous artefacts and items of elegantly carved mammoth bone, as well as an important collective burial. The project's excavation was on two of the few remaining fragments of this Upper Palaeolithic landscape, one preserved beneath the cemetery, and the other on the outskirts of the modern settlement.

In addition to collecting samples for sedimentological, bioarchaeological and isotopic analysis, a great number of bones of mammoth were exposed as well as many other herbivores and carnivores. Team members also found some new examples of decorated bone.



Becky Farbstein discovering decorated bone at Předmosti.



Opening of Předmosti open-air museum.

In conjunction with the project, the City of Přerov raised funds to erect an open-air museum over the excavation, which had its formal opening at the beginning of October. The local governors, the regional culture ministry, and crucially, the local school, will ensure that the management of their unique Palaeolithic heritage is embedded within the Předmosti community's life.

Community Structure at Çatalhöyük: Some Results from the 2006 Season

IAN HODDER

There is a lot of variation in the size of buildings at the 9000-year-old Neolithic site of Çatalhöyük, central Turkey, but the project team has never been able to correlate this variation in size with variation in status or ritual elaboration. During the 2006 season Building 49 — an extremely small one — was again worked on. This building had in earlier campaigns given every indication of considerable elaboration owing to the discovery of large numbers of horn cores and figurines. This year the impression was strengthened by the presence of several layers of geometric painting on the walls. This painting is similar to that found in nearby Building 1 indicating a local style within the settlement. The site appears to be divided into housing sectors with differences in architectural detail between different areas. Within these sectors and areas, there seem to be groups of 3–6 houses centred on special ‘ancestral’ houses that last longer and have more burials than others. There is much replastering of the walls and floors in Building 49 indicating that the house was lived in for a very long time. There are probably burials yet to be found beneath the platforms. Building 49 is possibly of some special significance and may prove to be one of the more important ‘ancestral’ houses.



Overall view of Building 59 at Çatalhöyük.

Nearby in the 4040 Area in 2006 something very different was excavated — a huge building but with far less evidence of special significance. The number of storage bins in Building 59 (see figure above) is not outside the range of other buildings at the site, including rather small ones. The central-east platform has a brilliant red dado on the lowest part of the wall running along the platform but this is quite a common feature (see figure below). A building of such size and careful construction might have been thought to be high status, but in fact the building lacks some of the indicators that we have come to associate with significant social status at Çatalhöyük. For example, it seems to have had a relatively short life as relatively few floor layers had existed. In addition, the retrieval pits had no burials, and there were no hollows in the surfaces of platforms that might have indicated sub-floor burials. The most important buildings at Çatalhöyük tend to be those that have most burials and last longest. There seem to have been strong constraints on the development of differentiation at Çatalhöyük. Community structure involved horizontal divisions, and some focus on different relations to ancestors, but there was little differentiation in terms of production and storage.



Shahina Farid in front of a red-painted dado on the wall by the east central platform in Building 59.

Acknowledgements

The project works under the auspices of the British Institute of Archaeology at Ankara, with a permit from the Turkish Ministry of Culture and Tourism. The project is grateful to the Director General of Monuments and Museums, Orhan Düzgün and to our temsilci Yaşar Yılmaz. The project's sponsors are Koçbank, Boeing, Shell, Merko, Thames Water, IBM. Its institutional partners are Selcuk University, Cambridge University, Stanford University, University College London, The Museum of London, Polish Heritage Council, Poznan University, Istanbul University, Middle East Technical University (Ankara). In the US funding comes from the John Templeton Foundation, the Global Heritage Fund, Stanford University, the Kress Foundation and the Martha Joukowsky Foundation. Other support is provided by the Friends of Çatalhöyük and the Turkish Friends of Çatalhöyük, and we are grateful as ever to Jimmy and Arlette Mellaart. Special thanks are extended to Ömer Koç for his continued support of the project.

Other Projects

Palaeopathology and the Origins and Evolution of Horse Husbandry

MARSHA LEVINE

The overall objective of this project (funded by the AHRC and the Isaac Newton Trust) is to identify osteological differences between riding, traction and free-living horses, resulting from their different life ways, in order to further our understanding of the origins and evolution of horse husbandry.

Professor Graeme Barker became Principal Investigator of this project in 2004 when Professor Leo Jeffcott (formerly of the Department of Clinical Veterinary Medicine, Cambridge) took up a post in Australia. Professor Jeffcott continues to participate in the project as a collaborator. In addition to the PI, the core UK project team comprises Dr Marsha Levine as Senior Research Associate and Katherine Whitwell, FRCVS, as consultant veterinary pathologist. Mr Chris Stimpson replaced Dr Maša Amatt as technician in January 2006.

The basic premise of this project is that the horse did not evolve in nature to carry people or loads on its back, to pull vehicles, or to plough. The project team has therefore hypothesized that carrying out these kinds of activities over an extended period of time could result in the development of bony changes, which may or may not actually be pathological.

In order to test this hypothesis it was necessary to develop a method of describing, recording and analyzing bony changes – not just pathologies – which could be related to the horse's way of life: for example, whether it was a free-living pony, a draught horse or a riding horse. Following upon earlier work carried out by Jeffcott and Whitwell, the team decided to develop a grading system for all the parts of all anatomical elements most likely to provide information about life style. It is the project's intention that this method should eventually be accessible to anyone with an interest in using it; that its results be repeatable; and that it be a useful research tool.

In order to develop this method, horses of different ages from a variety of different populations, with different life-ways, have been systematically compared. Modern controls comprise complete skeletons of Exmoor ponies, Lithuanian draught horses, and British riding ponies. Archaeological samples include Scytho-Siberian (Early Iron Age fifth–second centuries BC) riding horses that wore pad saddles and medieval Turkic horses (c. tenth century AD) that wore frame saddles, as well as Chinese chariot horses (c. seventh–fifth century BC).

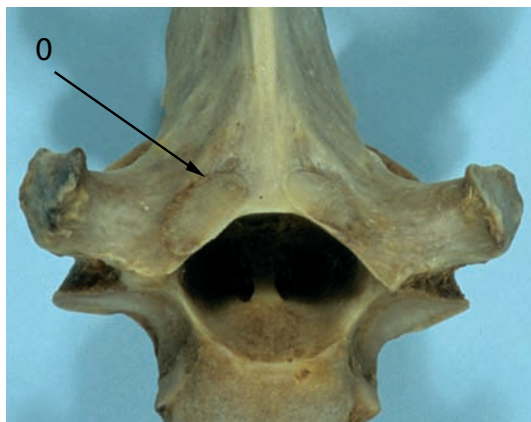
The project's main collaborator in China is Professor Li Shuicheng (Department of Archaeology, Peking University, Beijing). Other collaborators include Dr Mark Holmes (Department of Clinical Veterinary Medicine, Cambridge) and Dr Maria Otchir-Goriaeva (Kalmyk Institute of Humanitarian Research, Russian Academy of the Sciences).

PUBLICATIONS

Marsha Levine

- 2005 Domestication and early history of the horse, in *The Domestic Horse: the Origins, Development and Management of its Behaviour*, eds. D.M. Mills & S.M. McDonnell. Cambridge: Cambridge University Press, 5–22.
- 2005 (with K.E. Whitwell & L.B. Jeffcott). Abnormal thoracic vertebrae and the evolution of horse husbandry. *Archaeofauna* 14, 93–109.
- 2006 MtDNA and horse domestication: the archaeologist's cut, in *Equids in Time and Space: Proceedings of the 9th International Conference of Archaeozoology (Durham)*, ed. M. Mashkour. Oxford: Oxbow, 192–201.
- 2006 Xunhua Ma De Qiyuan Yanjiu [Investigating the origins of horse domestication]. *Tulufanxue Yanjiu [Turfanological Research]* 2002(2), 31–44. (In Chinese.)
- 2006 (with A. McGahern, M.M. Bower, C.J. Edwards, P.O. Brophy, G. Sulimova, I. Zacharov, M. Vizuete-Forster, S. Li, D.E. MacHugh & E.W. Hill). Evidence for biogeographic patterning of mitochondrial DNA sequences in Eastern horse populations. *Animal Genetics* 37, 494–7.

Grading bony changes: thoracic vertebrae (ThV) - cranial medial facets



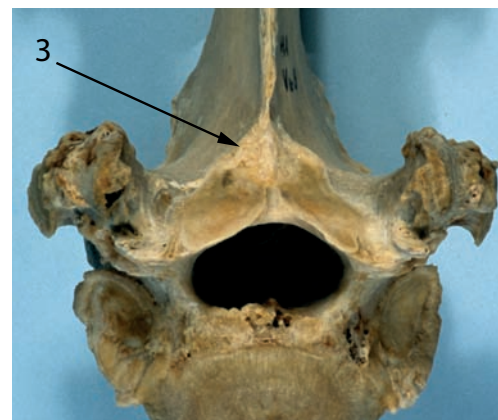
Grade 0 = no changes
(ThV 4; Exmoor pony; c. 10 yrs; cranial view)



Grade 1 = very slight changes
(ThV 3; Exmoor pony; c. 4 yrs; cranial view)



Grade 2 = mild changes
(ThV 14; Exmoor pony; 3.5 yrs; cranial view)



Grade 3 = moderate changes
(ThV 9; Lithuanian traction horse; c. 28 yrs; cranial view)



Grade 4 = severe changes, but no intervertebral fusion
(ThV 14; Lithuanian traction horse; c. 28 yrs; cranial view)



Grade 5 = intervertebral fusion
(ThV 17-18; Lithuanian traction horse, c. 28 yrs.; dorsal view, T17 at the top)

Horse thoracic vertebrae: the development of a grading system to assess changes connected with the use of the horse as a work animal.

Material Engagement

LAMBROS MALAFOURIS

The Material Engagement project, funded by the second part of the Balzan prize awarded to Professor Colin Renfrew in 2004, commenced research in 2005 with the appointment of Dr Lambros Malafouris as a Research Fellow in Cognitive Archaeology. The project has two major research components. The first component is focused around a series of international symposia in the field of cognitive archaeology organized by Professor Colin Renfrew and Dr Lambros Malafouris. The first of these symposia, entitled 'The Cognitive Life of Things: Recasting the Boundaries of the Mind', was held at the McDonald Institute from 7–9 April 2006 (see p. 6). The next symposium, entitled 'The Sapient Mind: Archaeology Meets Neuroscience', is currently being organized by Professor Colin

Renfrew, Professor Chris Frith (Department of Imaging Neuroscience, UCL), and Dr Lambros Malafouris to be held at the McDonald Institute, from 14–16 September 2007. The aim of this second meeting is to bring together archaeology and neuroscience in order to examine in common some important questions about human 'cognitive becoming' that can be seen as emerging at the interface between cognitive/social archaeology and cognitive/social neuroscience. Alongside the organization and publication of the above symposia, the second major research component of the Balzan project pertains to the development Material Engagement Theory (MET) as the new theoretical foundation for cognitive archaeology. The Material Engagement approach is essentially an interdisciplinary research framework grounded upon the hypothesis of the constitutive intertwining of brains, bodies and things. This framework challenges the dominant 'all in the head' view of human cognition by being systematically concerned with figuring out the causal efficacy of material culture in the long-term development of human intelligence. The basic premise of this project is taking material culture seriously into the study of mind and thus transforming cognitive archaeology to an active and indispensable component of contemporary cognitive sciences.

A positive step to the above end was the election of Dr Lambros Malafouris to join the 'European Platform for Life Sciences, Mind Sciences, and the Humanities' organized by the Volkswagen Stiftung. The aim of this research initiative is to establish a number of small interdisciplinary teams of young European academics, working at the interface between the cognitive neurosciences and the humanities, that will be supported to pursue pilot research projects in a working phase of two years. The selected group of researchers has undergone scientific peer review and, at a first stage, was invited to take part in a three-day workshop in Berlin (from 11–13 October 2006). The object of Dr Malafouris's research project, *Tools for a Plastic Mind*, is to explore how the new information of neuro-imaging can be effectively embedded, understood and utilized within the wider context of tools and cognitive artefacts that delineate the long-term socio-technical boundaries of the human cognitive map as these can be observed in the early archaeological record.



The Cognitive Life of Things conference participants (left to right). Front row: Don Norman, David Kirsch, Charles Goodwin, Niels Johannsen; On stairs: Colin Renfrew, Carl Knappett, Amiria Henare, Mike Wheeler, Fiona Coward, Lambros Malafouris; Back row: Iain Morley, Andy Clark, Merlin Donald, Edwin Hutchins, Tom Ziemke, Matt Grove, Alastair Compston, Richard Harper, Martin Holbraad, Nicholas Humphrey.

Changing Beliefs of the Human Body: Comparative Social Perspective

JOHN ROBB & DUŠAN BORIC

The Leverhulme Research Programme 'Changing Beliefs of the Human Body: Comparative Social Perspectives' is a five-year, cross-disciplinary initiative, based at Cambridge University, which addresses the question of why and how humans change what they believe about the human body. In all societies, the body poses existential questions such as how to understand the relationship between a living social person, integral in some sense, and a corpse coming apart into its constituent materials. Bodies are not only a central topic in understanding any society; they are also one of the few topics for which comparative study of changing beliefs is possible. The research programme as a whole is an experiment in the possibility of cross-disciplinary discourse in any academic field. Moreover, the project strives to be a contribution to the tradition of cutting-edge archaeological theory in Cambridge.

The project includes five parallel studies of how beliefs about the human body have changed at critical moments in European prehistory and history:

- How were human bodies defined differently over the trajectory between Upper Palaeolithic and Mesolithic foragers and Neolithic farmers (Dušan Borić, Preston Miracle and John Robb);
- Why and how did cremation, a novel way of transforming dead bodies, sweep quickly across much of Europe in the Later Bronze Age (Katharina Rebay and Marie-Louise Stig Sørensen);
- How did the Classical Greek conceptualization of the human body, shown not only in painting and sculpture but also in medical and philosophical writings and practices, differ from earlier understandings? (Jessica Hughes, Robin Osborne and Simon Stoddart);
- How did the 'Modern body' emerge between the seventeenth and nineteenth centuries in Britain? (Annia Charryson, Zoë Crossland and Sarah Tarlow);
- What becomes of the modern Western notion of persons defined by integral, bounded bodies when the borders of the body are breached through new medical technologies such as transplants? (Maryon McDonald and Marilyn Strathern).

The project started in January 2005 and ends in January 2009. It will result in several published volumes and a museum exhibition to open in 2008 as the centre-piece presentation for the 800th Anniversary celebrations at the Cambridge University Museum of Archaeology and Anthropology (organized by Anita Herle, Amiria Henare and Mark Elliott). In 2005 and 2006, with the Royal Anthropological Institute, a series of three symposia were co-organized: 'Genomics' (18 April 2005), 'Social Bodies' (27 September 2005) and 'Past Bodies' (13 January 2006). In 2006, a session 'Acting and Believing: an Archaeology of Bodily Practices' was organized for the Society for American Archaeology Annual Meetings in San Juan (28 April 2006) and a session 'Knowledge, Belief, and the Body' for the 12th Annual Meeting of the European Association of Archaeologists in Krakow (19 September 2006).

The project's members are based in the Faculty of Archaeology and Anthropology and the Faculty of Classics at Cambridge University, and in the School of Archaeology and Ancient History at Leicester University. The McDonald Institute provides vital logistic support. More information about individual projects and the list of forthcoming and previous events and publications can be found on the web site: <http://www.arch.cam.ac.uk/lrp/intro.html>.

Project members: Dr Dušan Borić, Dr Zoë Crossland, Annia Charryson, Dr Mark Elliott, Dr Amiria Henare, Dr Anita Herle, Dr Jessica Hughes, Dr Maryon McDonald, Dr Preston Miracle, Dr Katharina Rebay, Professor Robin Osborne, Dr John Robb, Dr Marie-Louise Stig Sørensen, Dr Simon Stoddart, Professor Marilyn Strathern, Dr Sarah Tarlow

Cambridge Templeton Project

CAROLINE MALONE

A new phase of research on the art and architecture of the Maltese Temples, following on from the long-running Gozo Project, was conducted by McDonald scholars and researchers from Cambridge, supported by a grant from The Cambridge Templeton Consortium entitled 'Explorations into the Conditions of Spiritual Creativity in Prehistoric Malta'. The remarkable megalithic temple structures were constructed between 3600 and 2500 BC, forming complex cult centres that were the focus of sophisticated art and cult. This new study aims to establish the relationship between internal and external spaces in the temples and funerary sites, using archive records and on-site survey to reconstruct how they functioned within developing ritual activity and cult. A variety of digital apparatus was employed, so that each doorway, step, floor, barrier hole, altar, engraving and other defining element were mapped fully, together with details of original findspots of art objects. 360-degree 'Quicktime' studies of internal rooms and external facades, digital scans and survey, as well as more traditional drawings and photographs have compiled a comprehensive archive.



Quicktime studies undertaken by Michael Anderson at Hagar Qim.

Few of the Temple sites are well known, since much clearance took place in the nineteenth century, but nevertheless, careful study of archives in the National Museum of Archaeology have thrown considerable light on the original locations of structures and the figurative sculpture that characterizes early Malta. Comparison between the archives of the 1915–17 Tarxien excavations and the work at the Brochtorff-Xaghra Circle excavated from 1987 to 1994 by Malone, Stoddart, Trump and colleagues from the National Museum and University of Malta have shown important patterns and associations. Initial findings suggest that the arrangement of space and access to it, in both temples and hypogea, meant that early Maltese religion was much more structured and repetitive than previously thought. Built elements such as libation holes, hearths, altars, huge stone bowls, oracle holes and portholes are routinely located in the same positions, with the emphasis on repeated laterality, so that activities on the right and the left seem to be part of the strict adherence by this early religious community. The research aims to catalogue both the structures and the ritual paraphernalia of art and objects, and a detailed, illustrated study will be published as a result of the research, together with the proceedings of a conference devoted to Cult and Context, which will take place in Cambridge in December 2006.



Interior of Hal Saflieni, where additional 360-degree studies have been made of the numerous internal spaces

Acknowledgements: The Templeton Foundation; and Heritage Malta and the National Museum of Archaeology for generous assistance during fieldwork in May and June 2006.

The Team: Michael Anderson, David Barrowclough, Matthew Brudenell, Katherine Cooper, Jason Gibbons, Caroline Malone, Laura Pretsell, David Redhouse, Simon Stoddart, Fraser Sturt.

The Roots of Spirituality

IAIN MORLEY

The 'Roots of Spirituality' project, funded by a grant from the Templeton Foundation and run by Professor Colin Renfrew and Dr Iain Morley, continued research during the 2005–6 academic year. The aim of the project is to investigate aspects of human behaviour manifest in the archaeological record which give indications of the early occurrence and development of aspects of religious practices and belief. This research is focused around a series of symposia, the second of which was held in the McDonald Institute from 13–16 September 2006, entitled 'Measuring the World and Beyond: the Archaeology of Early Quantification and Cosmology'.

The aim of the symposium was to consider, on a cross-cultural basis, the origins and early development of counting and of measurement in a number of different areas of the world, using the available archaeological evidence. The construction of measurement systems implies the construction of new means for recognizing and engaging with the material world, and in a broader sense for cognizing and explaining the world. It is in this process that both aspects of spirituality and the more specific conceptions of early religions must emerge. The symposium took a world view on early quantification, considering early occurrences of quantification and cosmological activities in different regions, including Europe, Mesoamerica, South America, India, Mesopotamia, and Egypt. Foci of the symposium included consideration of the early incidence of measures of mass, length, volume, units, number, counting and computation as well as architecture, planning and design. Discussion then went on to transitions from terrestrial measure to concepts of time, cycles, and the attendant cosmological considerations of the celestial and supernatural.



Cubical stone weights, Harappan period.

Francesco d'Errico, Henry de Lumley, Merlin Donald, Christopher Henshilwood, David Lewis-Williams, Paul Mellars, Steven Mithen, Iain Morley, Colin Renfrew, Jane Renfrew, Paul Taçon, Wentzel van Huyssteen and Keith Ward, and is to be published by Cambridge University Press.

PUBLICATIONS

Iain Morley

- 2006 Moustierian musicianship? The case of the Middle Palaeolithic Divje babe I bone. *Oxford Journal of Archaeology* 25(4), 317–33.
- 2006 Archaeological implications of intentionality in hunter-gatherer music, in *Archaeoacoustics*, eds. C. Scarre & G. Lawson. (McDonald Institute Monographs.) Cambridge: McDonald Institute for Archaeological Research, 95–105.
- 2006 Name that tune: a review of *The Singing Neanderthals* by Steven Mithen. *Cambridge Archaeological Journal* 16(1), 101–3.

The papers presented are currently being collated to form a monograph, edited by Colin Renfrew and Iain Morley, to be published by the McDonald Institute.

In addition, Colin Renfrew and Iain Morley are completing editorial work on the volume generated from the 2005 symposium, entitled 'Material Beginnings: a Global Prehistory of Figurative Representation', to be published as part of the McDonald Institute Monograph series in 2007. They are also editing a volume concerning Palaeolithic evidence for innovation in creative behaviours, entitled *Becoming Human: Innovation in Material and Spiritual Cultures*. The latter includes contributions from Jean Clottes, Meg Conkey,

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