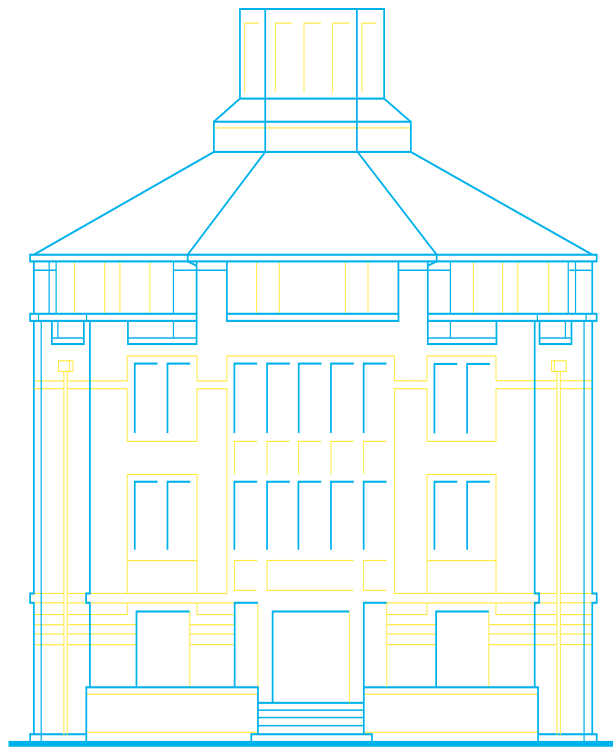




McDonald Institute for Archaeological Research

Annual Report 2004–2005



I am delighted to present this my first Annual Report as Director of the McDonald Institute. In 2004–2005 the Institute has continued its dual role of facilitating the research of Cambridge's extraordinarily diverse archaeological community, and of attracting outstanding new talent to maintain the process of intellectual renewal and questioning that is the hallmark of a world-class research activity.

The Report conveys the very wide range of projects and individual research being supported by the Institute, in the laboratory and in the field. The establishment of a new laboratory for isotope research (to investigate a wide variety of problems of diet and migration using chemical signatures in skeletons), with the appointment of Dr Tamsin O'Connell as a Wellcome Trust Fellow, is a particularly significant addition to the Institute's research portfolio.

Our publications have continued to include major excavation monographs that have set a gold standard of quality for the discipline, the third volume on Professor Ian Hodder's excavations of the famous Neolithic settlement of Çatalhöyük in Turkey breaking new ground with its combination of hard copy text and an accompanying CD with specialist data.

Meanwhile, throughout the year the building has hummed with research meetings of every kind from set-piece conferences to ad hoc meetings of graduate students, one of the typically stimulating occasions I attended being Richard Klein's 'masterclass' debate with graduate students the morning after his McDonald Lecture.

One of the major issues engaging the Management Committee during the year has been the positioning of the Institute within the developing financial and management structures of the University, in particular in relation to the new resource allocation model, though all parties can see the benefits of the Institute being fully embedded within the strategic plans of the Faculty of Archaeology and Anthropology and of the School of Humanities and Social Sciences within which the Faculty is located.

Graeme Barker (Director)

Events

The Sixteenth McDonald Lecture

The major public event in the Institute's diary this academic year remained as always the McDonald Lecture. Our speaker on 1 December 2004 was Professor Richard G. Klein of the Department of Anthropological Sciences, Stanford University. Professor Klein — an expert on the origins of modern humans — spoke about his work in southern Africa and has provided the following summary of his lecture.

Modern Human Origins: Abrupt or Gradual?

The fossil record suggests that modern human anatomy evolved in Africa between 160 and 50 ky ago, when the sole inhabitants of Eurasia were the Neanderthals and other equally non-modern people. However, the earliest modern or near-modern Africans were behaviourally (archaeologically) indistinguishable from their non-modern, Eurasian contemporaries, and it was only around 50–40 ky ago that a major behavioural difference developed.

Archaeological indications of this difference include the oldest indisputable ornaments (or art broadly understood); the oldest intentional burials that suggest ceremony or ritual; the oldest evidence for routine use of bone, ivory, and shell to produce formal (standardized) artefacts; greatly accelerated variation in stone-artefact assemblages through time and space; and hunting-gathering innovations that promoted significantly larger populations. As a complex, the novel traits imply fully modern cognitive and communicative abilities, or more succinctly, the fully modern capacity for culture.

The competitive advantage of this capacity is obvious, and preliminary dates suggest it appeared in Africa about 50 ky ago and then successively in western Asia, eastern Europe, and western Europe, in keeping with an African origin. Arguably, the development of modern behaviour depended on a neural (genetic) change broadly like those that accompanied yet earlier archaeologically-detectable behavioural advances. The hypothesis of a neural change can be tested by isolating genes that underlie modern cognition and determining when they achieved their modern form.

The Vote of Thanks was moved by the Pro-Vice-Chancellor (Special Responsibilities), Dr Kate Pretty, and the lecture was followed by a reception at the McDonald Institute and by the annual McDonald Dinner which was held this year at Downing College.



Professor Richard Klein at the reception following the Sixteenth McDonald Lecture: (from left to right) Chris Scarre, Graeme Barker, Richard Klein, Martin Millett, Martin Jones.

Seminars

The McDonald Institute Seminar Room was once again the venue for lectures, seminars 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.

On 16 June 2005, Professor Nikolaas van der Merwe of the University of Cape Town, South Africa, gave a lecture at the McDonald Institute entitled 'The Diets of Early Hominins in Africa'. His visit was part of a joint Royal Society/British Academy initiative, sponsoring leading South African academics to lecture in the UK during 2005. Professor van der Merwe is a distinguished archaeological scientist, who is best known as the initiator of the field of palaeodietary studies using light stable-isotope analysis. He was the inaugural holder of the Landon T Clay Chair of Scientific Archaeology at Harvard University, before returning to the University of Cape Town in 2000 as Professor of Natural History. His lecture in Cambridge provided an elegant summary of the current state of knowledge of early hominin diet. Based on his recent findings using carbon and oxygen isotopic analyses of tooth enamel, he suggested that early hominins relied far more heavily on C4 plant foods such as tubers and savannah grasses than anyone has so far considered. He ended on a provocative note (as he freely admitted!), postulating that sedges and tubers were of great importance, resources that hitherto have been overlooked, and then challenged others to build on his work, to find ways of identifying 'invisible' plant resources in the palaeontological and archaeological record.

McDonald Institute Lunchtime Seminars 2004–2005

TAMSIN O'CONNELL	<i>Palaeodietary reconstruction using isotopic analysis: the importance of modern control studies</i>
LESLEY MCFADYEN	<i>Quick architecture: the construction of Neolithic long cairns in southern England</i>
GRAEME BARKER	<i>How did modern humans colonize Island Southeast Asia? Some inferences from the Pleistocene archaeology of the Niah Cave, Sarawak</i>
ALISON GASCOIGNE	<i>The water supply of Islamic Tinnis: public amenities or private investments?</i>
MARSHA LEVINE	<i>Chinese chariot horses and the evolution of horse husbandry</i>
IAIN MORLEY	<i>Hominid evolution and the emergence of musical capacities</i>
DIANE LISTER	<i>The genetics of wheat and barley domestication and the spread of agriculture</i>
CHRISTOPHER EVANS	<i>'Total archaeology' (interpretative modesty) and landscape modelling: David Clarke's Great Wilbraham excavations</i>
LILIANA JANIK	<i>Moving images, cognition and the visualization of the past</i>
JOAN OATES	<i>The Tell Brak sustaining area survey</i>

Conferences

Bones for Tools — Tools for Bones (23 October 2004)

This conference, organized by Krish Seetah and Niels Andreasen, drew together new methodological and theoretical perspectives relating to the acquisition of meat and the lithic tools used for all aspects of processing this essential resource. Stone tools must surely have found their naissance in the early hominin need to disarticulate animal carcasses; the specifics of dismemberment acting as the underlying catalyst for the development and advancement of tool manufacture. The development of lithic tools, while advancing beyond being used solely for meat, have nonetheless had an immense impact on the way meat has been viewed and exploited. Without the development of projectile weapons and specific butchery implements the array of species humans hunted might not have developed as it did. Beyond this, the development of such tools is likely to have impacted on cognitive, cultural and economic aspects of human advancement. Knowledge of butchery and implement technologies was a key aspect of this conference, focusing not only on material procurement and tool manufacture, and how this might link to archaeology, but also on how the desire to exploit meat impacted on the development of the tools themselves. The conference was split into two sessions; the first was a series of papers aimed at drawing on an eclectic mix of contributions to advance the theoretical. The afternoon session incorporated a pragmatic, hands-on approach with demonstrations of flint knapping and stone-tool butchery. Participants were given an opportunity to put into practice what had been demonstrated. The flint-knapping workshop was led by the renowned knapper John Lord who proved ideal for teaching this rare skill.



John Lord giving a demonstration of flint knapping at the Bones for Tools — Tools for Bones conference.

Defining Social Complexity: Approaches to Power and Interaction in the Archaeological Record (11–13 March 2005)

This conference, organized by Sheila Kohring and Stephanie Wynn-Jones, provided a forum for the reconceptualization of the term complexity, going beyond the structuring principles typically equated with complex society. Significance was given to socio-political structures, the use and manipulation of power, past and present, and social structures as manifest through material culture. Rather than consensus, the conference goal was to recognize the choices made individually, communally and politically in the creation of the historically-contingent phenomenon of complex society. Key topics of discussion included:

- *complexity and power*: issues of hierarchy and heterarchy in the creation of social inequalities and political organization;

- *complexity through material culture*: the value of material culture in creating and signifying social complexity;
- *networks of socio-economic interaction*: social relations as a mechanism to explore complexity.

The conference utilized the internet to promote the topical discussion of these goals and papers were volunteered on-line after the conference to continue discourse among the almost 90 international participants (<http://www.arch.cam.ac.uk/complexity/>). An edited volume is currently under consideration incorporating a selection of papers presented at the conference.

Breaking and Shaping Beastly Bodies: Animals as Material Culture in the Middle Ages (19 March 2005)

This conference, organized by Aleksander Pluzkowski, set out to explore the archaeology of medieval animal use. Places were quickly filled following the conference's announcement, and on the day itself the seminar room of the McDonald Institute was completely full. The conference was opened by Professor Terry O'Connor and concluded with remarks from Professor Pam Crabtree, both leading figures in the field of zooarchaeology whose primary interests lie in the medieval period. Presented papers covered a diversity of topics, representing the complete chronological range of the Middle Ages from the Anglo-Saxon and Viking periods through to the Reformation. Although many speakers hailed from the UK, we were very privileged to hear papers from Italian, Romanian and American colleagues. Papers from the conference have been reviewed and will be published by Oxbow in an edited volume with the same title as the conference in spring 2006.

Connected Space (14–15 May 2005)

The McDonald Institute provided a forum for a dynamic interdisciplinary debate about the nature of space. The conference was coorganized by Lesley McFadyen (McDonald Institute) and Matthew Barac (Department of Architecture). Contributors included Chris Scarre, Emma Beadsmoore, Mark Knight, Duncan Garrow, Vedia Izzet and Lesley McFadyen from Archaeology; Jane Rendell, Carolyn Steel, Peter Carl, Jay Gort, Pete Manfield and Debby Ray from Architecture; Victor Buchli, PocketVisions, Raymond Lucas and Trevor Marchand from Anthropology; Linda McDowell and Ann Varley from Geography; Tim O'Riley and Paula Orrell (representing Lucy Orta) from Fine Arts; Elizabeth Shove from Sociology; Debra Benita Shaw from Cultural Studies. The conference addressed innovative strategies for thinking, reading and making space. Papers located their studies in regions as far afield as South Africa and Kazakhstan, and closer to home in Britain and Ireland; in time frames that stretched from 10,000 years ago to the present day, from hunter-gatherer societies to urban dwellers. Connections were forged between sociology and archaeology through discussion of the construction of kitchen extensions for domestic appliances in modern British suburbia and the cutting of pits for pots and worked flint in Neolithic British settlements. Between architecture and anthropology new approaches to interpretation emerged, in comparing the ways that shanty-town life is domesticated in coffee-table books as 'shack chic' in Cape Town, and how Mongolian yurt openings are represented in the light-fittings of city flats in Kazakhstan. Sponsorship was gratefully received from the McDonald Institute, the Department of Architecture, the Department of Archaeology and the Centre for Research in the Arts, Social Sciences and Humanities.

Simulations, Genetics and Human Prehistory? A Focus on Islands (28–31 July 2005)

As the principal outcome of the project 'Knowability of Archaeogenetics: Computer Modelling of Prehistoric Populations' funded by the Alfred P. Sloan Foundation, this symposium on simulations, genetics and human prehistory was held at the Institute and organized by Shuichi Matsumura, Peter Forster and Colin Renfrew. This was possibly the first meeting to include specialists in simulations and molecular genet-



Simulations conference participants: (Back row) Henry Harpending, Felix Riede, Charles Higham, Daniel Falush, Maru Mormina, David Phillipson, John Terrell, Ian Wilson, Paul Mellars, Pedro Soares, Stephen Shennan, Colin Renfrew, Chris Tyler-Smith, Mark Beaumont, Phillip Endicott, Christopher Gillson, Laurent Excoffier, Mark Thomas, Anthony Edwards, Stephen Oppenheimer; (Third row) Bill Amos, Yali Xue, Denise Carvalho-Silva, Tatiana Zerjal; (Second row) Nicholas Ray, Andrea Manica, Robert Griffiths, Naruya Saitou; (Front row) Rosalind Harding, Erika Hagelberg, Shuichi Matsumura, Bryndis Yngvadottir, Peter Forster.

ics as well as archaeologists to evaluate the outcomes of demographic simulations. Presentations ranged from recent timescales (settlement of Madagascar) to deep prehistory (initial human colonization of the world). Speakers expressed satisfaction that genetic simulations contain explicit assumptions (such as environmental factors, chronology and population size) that archaeologists can directly reject or confirm. A small workshop was also held on the day following the symposium where Professor Henry Harpending (Utah) provided simulated DNA data and where the workshop participants took up the challenge of reconstructing the true answer, each using their own method. The outcome of this symposium will appear as a McDonald Institute monograph.

Rethinking the Human Revolution: New Behavioural and Biological Perspectives on the Origins and Dispersal of Modern Humans (7–10 September 2005)

This conference, sponsored jointly by the McDonald Institute and the American School of Prehistoric Research (Harvard), was organized by Professor Paul Mellars, Professor Chris Stringer (Natural History Museum, London), Professor Ofer Bar-Yosef (Harvard University) and Dr Katie Boyle. The sessions were held in the McCrum Lecture theatre of Corpus Christi College. The conference was conceived largely as a sequel to the earlier, very successful ‘Human Revolution’ conference held in Cambridge in 1987. In all, 45 international speakers gave presentations at the meeting, covering topics ranging from the most recent DNA



Professor Paul Mellars leading a 'Rethinking the Human Revolution' conference session in the McCrum Lecture theatre, Corpus Christi College.



Geneticists Peter Forster and Svante Pääbo at the 'Rethinking the Human Revolution' conference.

and skeletal evidence for modern human origins in Africa, through the archaeological records of Africa, Asia and Europe, to some recent perspectives on 'singing Neanderthals' and other aspects of recent human cognitive evolution. The discussions at the meetings were predictably spirited, but generally good humoured. The conference dinner in Corpus Christi College was honoured by the presence of the Vice-Chancellor and Professor Robert Dewar. The papers from the meeting are now being collected and edited for publication it is hoped as a McDonald Institute research monograph.

Image and Imagination: Material Beginnings (13–17 September 2005)

This conference, the first of the Templeton 'Roots of Spirituality' project symposia, was concerned with the global prehistory of figurative representation and involved nearly 30 participants from around the world (its remit is outlined in more detail in the general overview of the Templeton 'Roots' project on page 40). In addition to papers from Professor Colin Renfrew (greater-than-life-size figures), Dr Iain Morley (hand-representations in the Upper Palaeolithic) and Dr Chris Scarre (later European Prehistory), contributions included papers on the archaeological record of areas as diverse as Central America (Professor Rosemary Joyce), the Middle East (Professor Mary Voigt), equatorial Africa (Dr Benjamin Smith), and Australia (Professor Robert Layton). The papers were united by a focus on the early incidence in each area of figurative representation. In addition to anthropomorphic representation this was also taken to include zoomorphic and therianthropomorphic (combined) imagery, in parietal art and in the round. Full papers were submitted in advance thus allowing the emphasis of the meeting to be on open discussion. As part of the discussion process, the symposium concluded with sessions instigated by anthropologist Dr Paul Wason, theologian Professor LeRon Shults, and the remaining members of the advisory committee, Dr Richard Lesure, Professor Lynn Meskell and Dr Koji Mizoguchi. Contributing participants were Dr Paul Bahn, Dr Douglass Bailey, Dr Dušan Borčić, Professor Donald Broom, Professor Richard Burger, Dr John Chapman, Ms Sharri Clark, Dr Elizabeth DeMarrais, Dr Biserka Gaydarska, Professor Robert Hinde, Professor Rosemary A. Joyce, Dr Ian Kuijt, Professor Robert Layton, Dr Richard Lesure, Dr Li Liu, Dr Lambros Malafouris, Professor Lynn Meskell, Dr Koji Mizoguchi, Dr Iain Morley, Professor John Onians, Professor Colin Renfrew, Dr Chris Scarre, Professor LeRon Shults, Dr Robin Skeates, Dr Ben Smith, Professor Jiří Svoboda, Professor Mary Voigt, Dr Paul Wason. Dr Evangelos Kyriakidis was also a welcome participant in discussion.

People

Director

My first day as Director of the McDonald Institute began with a welcoming party hosted by the outgoing Director Professor Colin Renfrew at Jesus College. It was a lovely occasion for me, and typical of the enormously warm welcome I experienced in the succeeding months — in the Institute, the Department of Archaeology, the rest of the Faculty of Archaeology and Anthropology, St Johns College (which I have rejoined as a Professorial Fellow, having studied as an undergraduate and research student there) and the wider University. I am particularly grateful to the staff of the McDonald Institute for their support in easing me into the job, to Dr Chris Scarre as Deputy Director most of all (and if I am really stuck I can semaphore across the courtyard to Professor Renfrew for advice!). One pleasurable birthday we celebrated in November was the tenth anniversary of the opening of the McDonald building. Seeing the breadth and vitality of the staff and postgraduate research community gathered to enjoy the birthday cake; the notices in the background of a host of forthcoming lectures, workshops, seminars, and conferences; and all the McDonald publications for sale in the foyer — the *Cambridge Archaeological Journal* and the many Monographs; I was forcefully reminded of the remarkable impact the McDonald Institute has had since its inception on archaeology at Cambridge, and on the archaeological community at large.

I have spent much of the year meeting first the McDonald research groups and Research Fellows but then as many as possible of the rest of Cambridge's 50+ academic staff researching in archaeology, in order to discuss their current research and future plans. The immediate context of this has been the preparations we are making, like all departments in all HE institutions throughout the UK, for the 2008 Research Assessment Exercise, but it has also served a wider purpose in helping me understand the extraordinary richness and diversity of our archaeological community. The Department has broken me in very gently to undergraduate and postgraduate teaching. I had a great time taking the first-year field class to Wessex with Chris Chippindale (in appalling weather), and I also had the pleasure of taking some supervision groups in St Johns, something I had last done as a final-year PhD student in 1971–72.

The highpoint of the year for me in terms of my academic career was the award of the Dan David prize for my work in

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Graeme Barker

- 2004 (with C.O. Hunt, H.A. Elrishi, D.D. Gilbertson, J. Grattan, S. McLaren, F.B. Pyatt & G. Rushworth). Early Holocene environments in the Wadi Faynan, Jordan. *The Holocene* 14.6, 921–30.
- 2004 (with G. Gillmore, D. Gilbertson, J. Grattan, C. Hunt, S. McLaren, B. Pyatt, R. Mani Banda, A. Denham, P. Phillips, & T. Reynolds). The potential risk from ²²²radon posed to archaeologists and earth scientists: a reconnaissance study of radon concentrations in excavations and archaeological shelters in the Great Cave of Niah, Sarawak, Malaysia. *Ecotoxicology and Environmental Safety* 60(2), 213–27.
- 2004 (with S. McLaren, D.D. Gilbertson, J.P. Grattan, C.O. Hunt & G.A.T. Duller). Quaternary palaeogeomorphologic evolution of the Wadi Faynan area, southern Jordan. *Palaeogeography, Palaeoclimatology, Palaeoecology* 205, 131–54.
- 2005 (ed. with D. Gilbertson & T. Reynolds). The human use of caves in Peninsular and Island Southeast Asia: research themes, in *The Human Use of Caves in Peninsular and Island Southeast Asia*, eds. G. Barker & D. Gilbertson. (Special Number of Asian Perspectives 44.) Honolulu (HI): University of Honolulu Press, 1–15.
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Graeme Barker (cont.)

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- 2005 (with T. Rasmussen). *Etruskové*. Prague: Nakladatelství Lidové Noviny. [Translation of *The Etruscans*, Oxford: Blackwell.]

Chris Scarre

- 2004 Choosing stones, remembering places: geology and intention in the megalithic monuments of western Europe, in *Soils, Stones and Symbols: Cultural Perceptions of the Mineral World*, eds. N. Boivin & M.-A. Owoc). London: UCL Press, 187–202.
- 2004 Displaying the stones: the materiality of ‘megalithic’ monuments, in *Rethinking Materiality: the Engagement of Mind with the Material World*, eds. E. DeMarrais, C. Gosden & C. Renfrew). Cambridge: McDonald Institute for Archaeological Research, 141–52.
- 2005 (ed.). *The Human Past: a Textbook of World Prehistory*. London: Thames & Hudson.
- 2005 *Les Monuments Mégalithiques de Grande Bretagne et d’Irlande*. Paris: Errance.

Janine Bourriau

- 2005 (with D. Aston, M.J. Raven & R. van Walsem). *The Memphite Tomb of Horemheb Commander-in-Chief of Tut’ankhamun III: The New Kingdom Pottery*. London: Egypt Exploration Society.

Harriet Crawford

- 2005 Dawn of civilization, in *The Looting of the Iraq Museum, Baghdad*, eds. M. Polk & A. Schuster. New York (NY): Abrams, 50–66.
- 2005 Turning a blind eye. *Museums Journal* 105, 16–17.
- 2005 Destroying history. *Art Quarterly* (Autumn), 50–53.

Robert Dewar

- 2005 (with D.K. Agarwal, J.A. Silander, A.E. Gelfand & J.G. Mickelson).

landscape archaeology in Mediterranean, desertic, and tropical environments. This was the fourth year of the prize, which is awarded each year by the Dan David Foundation for work in disciplines concerned with the past, present, and future. Archaeology was the ‘past’ discipline identified for the 2005 prize. I shared the prize with Professor Israel Finkelstein of Tel Aviv University, who has written probably the most intellectually robust work in biblical archaeology and is also excavating the astounding multi-period tell site of Megiddo (recently made a World Heritage Site by UNESCO). The award ceremony in Tel Aviv in May was a hugely enjoyable occasion in the presence of the President of Israel, with the academic formalities interspersed with opera, ballet, percussion, and more besides. Ten per cent of the value of the Dan David Prizes is reserved to provide bursaries for doctoral students, and it was a particular pleasure for me that the successful applicants included one of our own doctoral community, Francesca Fulminante.

In terms of my personal research, I finally delivered to Oxford University Press *The Agricultural Revolution in Prehistory: Why Did Foragers Become Farmers?* This has been a large and long-running project, and bringing it to closure was greatly aided by Katie Boyle’s tenacity in tracking down the final elusive photographs. One surprisingly enjoyable task I took on for a forthcoming book celebrating the 300th anniversary of the Society of Antiquaries was researching and writing the history of the Society, and evaluating its impact, over the period 1950–2000. It has also been very stimulating working with Marsha Levine on the AHRC-funded horse domestication project. The main focus of my research this year, though, has been coordinating the Niah Cave Project, the reinvestigation since 2000 of the archaeology of the Niah Caves in Sarawak (Malaysian Borneo) by a large inter-disciplinary team drawn from research institutions in Australia, the Philippines, Sarawak, Singapore, and the USA as well as the UK. 2004–2005 was the final year of my grant from the AHRC funding work on the finds from the original 1950s and 1960s excavations by Tom and Barbara Harrison. The major task with this grant has been pioneering work by Drs Philip Piper and Ryan Rabett on the foraging behaviours of the anatomically-modern humans using the cave c. 40,000 years ago. Another component of the project this year has been the first systematic study of the pottery from the huge Neolithic cemetery in the cave by Dr Patrick Daly, also a member of the McDonald Institute holding a British Academy Reckitt

Fellowship. In March I spent time with them in Sarawak, an occasion for me also to discuss with Sarawak Museum the final publication of the project and future fieldwork possibilities. In April I organized a special session devoted to the Niah work at the Archaeological Sciences conference at the University of Bradford. Niah was also the subject of the John Mulvaney Lecture I delivered at the Australian National University in Canberra and of the Mayerstein lecture at the University of Oxford in June. Later that month I organized a workshop at the Institute, funded by the British Academy, of as many of the team members as I could assemble to update ourselves on the work in progress as part of the process of preparing for the final monographs on the project. It was a particular pleasure to welcome Dr Barbara Harrison to the workshop; now in her eighties, she has been hugely supportive of the project and an invaluable source of advice. The year ended with the publication of a special number of *Asian Perspectives* on the theme *The Human Use of Caves in Peninsular and Island Southeast Asia* co-edited by myself and my project collaborator Professor David Gilbertson, presenting half a dozen papers on the Niah work alongside comparative work elsewhere in the region.

My external activities included my final year as President of the Prehistoric Society; chairing BASIS (the British Academy's Board for Academy-Sponsored Institutes and Societies); and serving on the Managing Committee of the Arts and Humanities Research Board/Council (the Board became a Research Council on 1 April), the British Academy's Committee for Southeast Asian Studies, the Oxford Radiocarbon Accelerator Dating Service Steering Committee, and the Council of the Cambridge Antiquarian Society. I was also busy as the Senior Academic Editor of the Manuals in Archaeology series of Cambridge University Press. A significant new responsibility was my appointment in December as Chair of the Archaeology Sub-Panel for the 2008 Research Assessment Exercise.

Deputy Director

When this academic year began I had no idea that it would be my last full year as Deputy Director of the McDonald Institute, but in June 2005 I was offered a Chair in Archaeology at the University of Durham which I shall be taking up on 1 January 2006. This is obviously a wonderful opportunity for me but I

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Robert Dewar (*cont.*)

Topical deforestation in Madagascar: analysis using hierarchical, spatially explicit, Bayesian regression models. *Ecological Modelling* 185, 105–31.

Graeme Lawson

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- 2005 Ancient European lyres: excavated finds and experimental performance today, in *Ancient Greek Music in Performance: Proceedings of the Symposium 'Performing Ancient Greek Music Today', held by the Austrian Academy of Sciences Commission for Ancient Literature, Vienna 29 September–1 October 2003*, eds. S. Hagel & C. Harrauer. Vienna: Der Österreichischen Akademie der Wissenschaften, 93–120.
- 2005 Tuning and tradition: the earliest Northumbrian bagpipe chanters and their relationship to the study of archaeological bone pipes. *Archaeologia Aeliana* 5th Series, 34. Society of Antiquaries of Newcastle upon Tyne.

John MacGinnis

- 2004 Temple ventures across the river. *Transeuphratène* 27, 29–35.
- 2004 Servants of the Sun God: numbering the dependents of the Neo-Babylonian Ebabbara. *Baghdader Mitteilungen* 35, 27–38.

Joan Oates

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Jacke Phillips

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- 2004 Islamic pottery of the Middle Nile, in 'Fifty Years in the Archaeology of Africa. Themes in Archaeological Theory and Practice. Papers in honour of John Alexander', eds. L. Smith, P. Rose, G. & S. Wahida. *Azania* 39, 58–68.
- 2005 Entries on 'Egyptology, from Herodotus to the 20th century', 'Predynastic Egyptian and Nubian history', 'Unification of Upper and Lower Egypt', 'Kerma and

shall miss my colleagues at the McDonald Institute, and I have a particular debt of gratitude to the core staff (Deborah Parr, Colin Lomas, Dora Kemp and Liz Farmar) whose assistance has made running the Institute so much easier during recent years. The McDonald Institute has come a long way since it began life, housed in a rented office above the shops in Sidney Street!

The early months of the academic year were taken up with the follow-on to the excavations at Prissé-la-Charrière. The summer 2004 season was the tenth at this important site, and the last in which a British team participated. The detailed records of the dry-stone structures, and of the inhumations lifted in October from the intact passage grave, will provide the basis for a monograph report that looms large in my schedule for 2006. My other work in northwest France also continues, with a book on Neolithic landscapes in Brittany that is due to be delivered to Oxford University Press in a few months' time. One objective of this work is to review French material within the perspective of current British research agendas on Neolithic monumentality and landscape. In November 2004 I spoke about the evidence for direct cross-Channel contacts (or rather their tenuousness) during the Neolithic period at the autumn meeting of the Neolithic Studies Group in London. Then in May 2005 I participated in the 'Going over' conference organized by Alasdair Whittle at Cardiff University, with a paper on the Neolithic transition in western France and the origin of megalithic monuments.

In the early months of 2005 I made two separate visits to Portugal to discuss the possibility of starting a field project there that would begin next summer. We received a warm welcome from Dr Luiz Oosterbeek at the Instituto Politécnico de Tomar and I am most appreciative of the scientific and logistical help that he and his colleagues have offered us. The first of these visits, in March 2005, coincided with the 'Artrisk' conference (funded by an EU grant) at Mação in central Portugal at which I delivered a paper on 'Consolidation, reconstruction and the interpretation of megalithic monuments'.

Two publication projects of very different kinds have come to fruition during the course of the year. The first is a short book written for the French publisher Errance on the *Monuments mégalithiques de la Grande-Bretagne et Irlande* which appeared in May 2005. There are plans to produce an up-dated English edition in the near future. The second publication project was alto-

gether different in scale: the textbook on world prehistory *The Human Past* which was published by Thames & Hudson in North America in March and in June in the UK. This 750-page tome brings together over 20 regional experts to provide an authoritative multi-authored introduction to world archaeology. It has already received endorsements from a number of prehistorians and we hope it will become the leader in its field.

My final event of the academic year was the conference 'Image and Imagination: Material Beginnings', for which I was both a speaker and co-organizer (along with Colin Renfrew, Iain Morley, Lynn Meskell, Richard Lesure and Koji Mizoguchi). The meeting brought together researchers from Europe, Asia, Australia and the Americas to discuss the relationship between the materialization of images, especially those of an anthropomorphic nature, and the development of human spirituality (see p. 8). The conference was funded by a grant from the John Templeton Foundation, and the proceedings will be published in a future volume in the McDonald Institute Monograph series.

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; Mrs Elizabeth Farmar Secretary to the Deputy Director; and Mr Colin Lomas Assistant to the Deputy Director with special responsibility for accounts and for the Institute buildings. Mr Steve Fishpool continued to take care of the cleaning. The publication programme was ably handled by Miss Dora Kemp with assistance from Mrs Farmar and under the overall responsibility of the Deputy Director. Conference arrangements were managed by Dr Katie Boyle whose role has expanded to including the editing of some of the proceedings. Dr Boyle has also been acting as a research facilitator within the Institute, identifying potential sources of funding and disseminating information about them.

Researchers employed on individual projects are referred to in the reports which follow. The Illicit Antiquities Research Centre and the Human Population Genetics Project remain the two core Institute research projects, employing Dr Neil Brodie and Ms Jenny Doole (IARC) and Dr Peter Forster and Dr Mim Bower (Molecular Genetics). The McDonald Institute also houses research and administrative staff supported by externally fund-

PUBLICATIONS

Jacke Phillips (*cont.*)

- Egyptian Nubia' and 'New Kingdom Egypt and the colonisation of Nubia', in *Encyclopedia of African History*, ed. K. Shillington. London: Fitzroy Dearborn, 399–403, 408–10, 479–80, 762–3.
- 2005 The murals of Baganart. *Minerva* 16(1), 37–9.
- 2005 The last pharaohs on Crete: old contexts and old readings reconsidered, in *Aegeans in Central and Eastern Mediterranean: Proceedings of the 10th International Aegean Conference/10e Rencontre égéenne internationale*, eds. R. Laffineur & E. Greco. EMPORIA, Athens, Italian School of Archaeology, 14–18 April 2004 (Aegaeum 25). Leuven, 455–61.
- 2005 Review of M.S. Drower, *Letters from the Desert: the Correspondence of Flinders and Hilda Petrie* (Oxford: Aris & Phillips, 2004). *ASTENE Notes & Queries* 24, 8.

Colin Renfrew

- 2004 (ed. with C. Gosden & E. DeMarrais). *Substance, Memory, Display: Archaeology and Art*. Cambridge: McDonald Institute.
- 2004 Art for archaeology, in Renfrew, Gosden & DeMarrais (eds.), 2004, 7–34.
- 2004 Ankäufe durch Museen: Verantwortung für den illegalen Handel mit Antiken, in *Illegale Archäologie?*, eds. W.-D. Heilmeyer & J.C. Eule. Berlin: Weissensee Verlag, 61–75.
- 2004 Thoughts on the impact of the Swiss accession to the 1970 UNESCO Convention, in *Not for Sale*, ed. M. Kimmich. Berne: British Council-British Embassy, 8–10.
- 2004 (with A. Gormley). A meeting of minds, art and archaeology, in *Material Engagements: Studies in Honour of Colin Renfrew*, eds. N. Brodie & C. Hills. Cambridge: McDonald Institute, 9–30.
- 2005 The duration of the Cycladic cemeteries: the case of Akrotiraki on Siphnos, in *Praktika tou B'*

PUBLICATIONS

Colin Renfrew (*cont.*)

Diethnous Siphnaikou Symposiou.
Athens: Syndesmos Siphnaikon
Meleton vol. 1, 43–60.

- 2005 (ed. with E. DeMarrais & C. Gosden). *Rethinking Materiality: the Engagement of Mind with the Material World.* Cambridge: McDonald Institute.
- 2005 Towards a theory of material engagement, in DeMarrais, Gosden & Renfrew (eds.), 23–32.
- 2005 (ed. with P. Bahn). *Archaeology, the Key Concepts.* London: Routledge.

Laurence Smith

- 2005 Nubia: relations with Egypt (seventh to fourteenth centuries), in *Encyclopedia of African Archaeology*, ed. K. Shillington. New York (NY): Fitzroy Dearborn, 1158–9.
- 2005 Contributions of scientific analysis to the study of pottery distribution in eastern Africa: case studies of the Nubian medieval period, in *Fifty Years in the Archaeology of Africa: Themes in Archaeological Theory and Practice*, eds. L. Smith, P. Rose, G. Wahida & S. Wahida. (Papers in honour of John Alexander.) *Azania* 39, 305–23.
- 2005 (with J.D. Bourriau, Y. Goren, M.J. Hughes & M. Serpico). The provenance of Canaanite amphorae found at Memphis and Amarna in the New Kingdom: results 2000–2002, in *Invention and Innovation: the Social Context of Technological Change II, Egypt, the Aegean and the Near East, 1650–1150 BC*, eds. J. Bourriau & J. Phillips. Oxford: Oxbow Books, 57–80.
- 2005 (with D.Q. Fuller). The prehistory of the Bayuda: new evidence from the Wadi Muqaddam, in *Nubian Studies 1998: Proceedings of the Ninth Conference of the International Society of Nubian Studies, August 21–26, 1998*, ed. T. Kendall. Boston (MA): Northeastern University, 265–81.

ed projects: notably the Çatalhöyük team (Ms Shahina Farid and Mrs Katerina Johnson), the Amarna project (Dr Pamela Rose) and the Tell Brak project (Helen McDonald, Carlo Colantoni).

Arrivals

Several new research personnel were appointed by the McDonald Institute during the course of the year. The first, Dr Tamsin O'Connell, joined the McDonald Institute on 1 October 2004 as a Wellcome Trust Fellow working on the isotopic reconstruction of human palaeodiet. This is a five-year position that will then be transferred to a permanent University Lectureship in the Department of Archaeology. The work of the Genetics Laboratory was strengthened in November 2004 with the appointment of Dr Harriet Hunt as Research Associate studying the agricultural origins of broomcorn millet. An account of the work of the Population Genetics Laboratory is given elsewhere in this report (pp. 26–9).

Dr Alison Gascoigne had held a British Academy Reckitt Travelling Fellowship in 2003–4 but in October 2004 was appointed to a three-year British Academy Post-Doctoral Research Fellowship. This will enable her to continue her work on Islamic period archaeology in the Egyptian delta. In succession to Dr Gascoigne, Dr Patrick Daly was awarded a Reckitt Travelling Scholarship in October 2004, held at the McDonald Institute, to enable him to complete his study of early ceramic assemblages from the Niah cave and other sites in Southeast Asia. Also associated with the Niah cave project were Dr Phil Piper and Dr Ryan Rabett, who transferred to the McDonald Institute from the University of Leicester to complete the work funded by Professor Barker's two-year AHRB grant. Two further project-related researchers were appointed in 2005: Dr Iain Morley in January, to work on the Templeton-funded 'Roots of Spirituality' project (to May 2007); and Dr Lambros Malafouris in April, as Research Associate in Cognitive Archaeology. Dr Morley played a key role in the organization of the conference 'Image and Imagination' that was held at the McDonald Institute in September 2005 (pp. 8 & 40). Dr Malafouris's position is supported by money from the Balzan prize awarded to Professor Lord Renfrew in 2004. Last but not least it is our pleasure to report the arrival of Ms Denise Schreve as secretary (part-time) to the 'Roots of Spirituality' project. Ms Schreve joined the McDonald Institute on 1 October 2004.

Departures

Alongside our welcome to new members of staff we have also to record the departure of three of our researchers. In April 2005 Ms Helen McDonald left the McDonald Institute to take up a position in the Oriental Institute at the University of Chicago. Ms McDonald had worked at the McDonald Institute for several years and has been instrumental in the preparation for publication of two of the Tell Brak monographs (volume 1: *The Mitanni and Old Babylonian periods* and volume 2: *Nagar in the third millennium BC*), and of the third and final volume that is shortly to appear. We wish her every success in her new post. Another departure was that of Dr Lesley McFadyen who had been appointed to a Post-Doctoral Fellowship in Cognitive Archaeology for a period of two years from 1 February 2003. Dr McFadyen resigned her Fellowship to take up a 13-month lectureship at the University of Leicester from 1 September 2005. Last but not least, in August 2005 Dr Marco Madella, who had for several years been a leading researcher in the George Pitt-Rivers Laboratory, was appointed ICREA Research Professor in Environmental Archaeology, funded by the Spanish Council for Scientific Research (CSIC) at the University of Barcelona.

Fellows

The non-salaried Fellows of the McDonald Institute continued to play a valued part in the research life of the McDonald Institute during the year. There was one addition to the existing list: the previous Director of the Institute, Professor Lord Renfrew, was appointed a Fellow for a period of two years from his retirement on 1 October 2004. Three of our earlier Fellows had their appointments extended, Professor Anthony Snodgrass to 1 February 2008, and Dr Harriet Crawford and Dr Graeme Lawson to 1 June 2008. The Fellows of the Institute have been engaged on a wide range of projects during the year. These include fieldwork in the Near East (Harriet Crawford in Kuwait, John MacGinnis in eastern Turkey, Joan Oates in Syria) and in Sudan (Laurence Smith). Janine Bourriau has continued her study of Egyptian ceramics, Graeme Lawson his work on early musical instruments, and Anthony Snodgrass his preparation of the Boeotia fieldwork monograph. Robert Dewar works on rainfall and agriculture in the western Pacific, Caroline Malone on British and Central Mediterranean prehistoric sites, Anna Muthesius on early silks from Sinai, and Kate Spence on architecture and symbolism in ancient Egypt. Colin Renfrew continued to work with the project 'Modelling Prehistoric Populations' funded by the Alfred P. Sloan Foundation (see p. 26). With a grant from the Templeton Foundation he initiated the 'Roots of Spirituality' Project (see pp. 8 & 40) and using funding from the 2004 Balzan Prize he initiated a project on 'Material Engagement Theory' with the participation of Dr Lambros Malafouris. He was accorded the title of Honorary Professor at the University of Science and Technology, Beijing and also became Chairman of Council of the British School of Archaeology at Athens.

PUBLICATIONS

Anthony Snodgrass

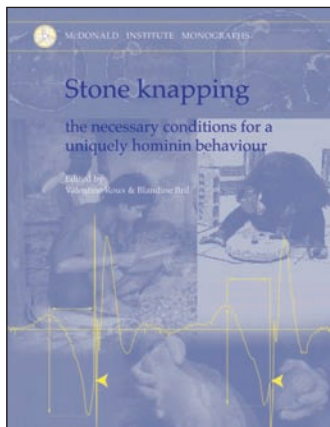
- 2004 A Classical man of action (Anthony Snodgrass remembers Nick Hammond). *Ad Familiares* 27, 111–12.
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- 2005 The Parthenon Marbles as an architectural issue. *Medelhavsmuseet* 2, 152–6.

Kate Spence

- 2004 The three-dimensional form of the Amarna House. *Journal of Egyptian Archaeology* 90, 123–52.
- 2004 Royal walling projects in the second millennium BC: beyond an interpretation of defence, in 'Egypt's Invisible Walls', by B. Kemp *et al.* *Cambridge Archaeological Journal* 14(2), 259–88.

Publications Office

The Publications Office continues to thrive and has been particularly productive this year. Four new volumes have been printed since the last report including *Inhabiting Çatalhöyük: Reports from the 1995–99 Seasons* (volume four in the Çatalhöyük series edited by Ian Hodder), *Rethinking Materiality: the Engagement of Mind with the Material World* edited by Elizabeth DeMarrais *et al.*, *Substance, Memory, Display: Archaeology and Art* edited by Colin Renfrew *et al.*, a lavishly-illustrated full-colour work including contributions from artists Antony Gormley and Simon Callery, and *Dwelling Among the Monuments* edited by Colin Richards which



focuses on his excavations at Barnhouse on Orkney. In addition five more major volumes are nearing completion and due to be printed in the next couple of months — *Stone Knapping: the Necessary Conditions for a Uniquely Hominin Behaviour* edited by Valentine Roux & Blandine Brill, *Changing Materialities at Çatalhöyük* and *Çatalhöyük Perspectives* volumes 5 and 6 in the Çatalhöyük series respectively, and two volumes on the Haddenham project *A Woodland Archaeology: Neolithic Sites at Haddenham* and *Marshland Communities and Cultural Landscape from the Bronze Age to Present Day* by Christopher Evans & Ian Hodder. After assessing the market demand, *Cognition and Material Culture* edited by Colin Renfrew & Chris Scarre (originally published in 1998) was digitally reprinted.

The workload of the Institute's Production Editor, Dora Kemp, is considerable. At present no fewer than 23 new volumes have been accepted by the Managing Committee, 10 of which are in hand. With the RAE exercise fast approaching the expectation is that things will only get busier. In the light of this a new focus on the marketing of the publications has been initiated by Liz Farmar with the aim being to increase sales and establish an even higher profile for the Institute and in the long term to facilitate an expansion of its publication program.

The *Cambridge Archaeological Journal* remains a flagship journal in the field of cognitive archaeology. Articles this year ranged in subject from Neolithic chambered tombs in western France to *Bu* shell arrangements on the Island of Badu, Torres Strait. A measure of the journal's overall success is reflected in the fact that in 2006 it will be expanding to three issues a year to appear in February, June and October. This will give authors a faster turnaround time and thus make the journal even more attractive as an outlet for publishing their research.



As usual the Publication Office also produced two issues of *Culture Without Context* (see p. 19) for the Illicit Antiquities Research Centre.

Finally it is on a sad note that we bid farewell to our Editor, Dr Chris Scarre, as he leaves the Institute for a Professorship in Durham. Dr Scarre has been an invaluable asset not only to the Publications Office as Editor but also to the Institute as a whole, having been its Deputy Director from its inception. His clear and concise approach to writing and editing papers across a wide variety of subjects and his dedication to the publication program has made the journal and the monograph series a key initiative of the McDonald Institute. The publications team would like to express our sincere gratitude for all he has done and we wish him all the best in the future.

Substance, Memory, Display: Archaeology and Art

edited by Colin Renfrew, Chris Gosden & Elizabeth DeMarrais

Contemporary art and modern archaeology are increasingly seen to share much common ground yet their interactions have yet to be fully investigated. This innovative volume explores key themes, including the role of display in art, in the practice of archaeology and in daily life, and the material transformations which underlie the physical reality of the archaeological record as much as the creative processes of the contemporary artist.



Learning to Be (1992) by Antony Gormley. Photo by Colin Renfrew.

Prominent practising artists Simon Callery and Antony Gormley each contribute chapters considering the role of materiality and embodiment in their own work, exploring issues that are directly relevant to current archaeological thinking. They are joined by archaeologists actively involved with visual approaches, including Anwen Cooper, Christopher Evans, Steven Mithen, Joshua Pollard, Nicholas Saunders, Aaron Watson and the editorial trio. The book is lavishly illustrated in colour.

Hardback | £45/US\$90 | ISBN 1-902937-24-4 | vi+170 pp. | 286 x 220 mm | 107 col. ills.

Publication date December 2004

Çatalhöyük Series Volume 4



Inhabiting Çatalhöyük: reports from the 1995-99 seasons

by Members of the Çatalhöyük teams
edited by Ian Hodder

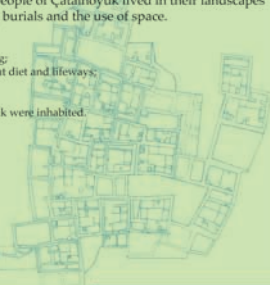
The Neolithic site of Çatalhöyük in Turkey has been world famous since the 1960s when excavations by James Mellaart revealed the large size and dense occupation of the settlement, as well as the spectacular wall paintings and other art that was uncovered inside the houses. Excavations in the 1990s by Ian Hodder and an international team of archaeologists have gradually revolutionized our knowledge of this renowned Neolithic settlement. The present volume focuses on how the people of Çatalhöyük lived in their landscapes and includes studies on the environment, burials and the use of space.

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Editor: Ian Hodder, Çatalhöyük Research Project - Project Director, Dunlevy Family Professor, Department of Cultural and Social Anthropology, Stanford University, California, USA.



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Illicit Antiquities

The Illicit Antiquities Research Centre (IARC) had a busy and fruitful year and at the same time, Jenny Doole — who went on maternity leave in March — gave birth to a daughter in April. In spite of being at half strength for the second part of the year, staff of the IARC continued to attend many international conferences and lecture both in Cambridge and elsewhere. In February 2005, Neil Brodie presented a paper at the conference ‘International Legal Dimensions of Art and Cultural Property’ held at the Vanderbilt University Law School, Nashville, USA. Throughout the year he also lectured at the Universities of St Andrews, Durham and Bournemouth and University College London in Britain and at the University of Oslo in Norway. Jenny Doole delivered lectures for the Museum Studies Department at the University of Leicester and for the US Students Abroad Program in Cambridge.

Two issues of *Culture Without Context* were published this year which included — along with its extensive ‘In the News’ sections — articles focusing on the debate surrounding the Schøyen Collection in Norway which contains 12,500 manuscripts from around the world including some 1400 Buddhist manuscripts from Afghanistan.

The IARC again taught a module on the Department of Archaeology’s MPhil Archaeological Heritage and Museums course. Its PhD students are working hard on their studies. Morag Kersel continued to make progress on her PhD on the legal market for antiquities in Israel. She is also Adjunct Professor at the University of Notre Dame, Indiana, lecturing in their London study-abroad program and co-editor of the Antiquities Market section of the *Journal of Field Archaeology*. Both she and Gordan Lobay supervised for the undergraduate Heritage module for the Department of Archaeology, Cambridge. Gordan Lobay — whose PhD focuses on the market for Italian antiquities — also worked for a few months as Editorial Assistant for the McDonald Institute Publication Office.

From February to April the IARC was joined by Dr Craig Forrest as visiting fellow from the University of Queensland, and in April was visited by Colonel Mathew Bogdanos of the US Marines who led the official US investigation of the 2003 sack of the Baghdad Museum.

STAFF: Neil Brodie, Jenny Doole
Fellows: Colin Renfrew, Peter Watson (Honorary), Craig Forrest (Visiting)
PhD students: Morag Kersel, Gordon Lobay, Claudia Mascino-Murphy

PUBLICATIONS

Neil Brodie

- 2004 Illicit antiquities: the theft of culture, in *Heritage, Museums and Galleries: an Introductory Reader*, ed. G. Corsane. London: Routledge.
- 2004 Jüngste Entwicklungen in Großbritannien, in *Illegale Archäologie?*, eds. W.-D. Heilmeyer & J.C. Eule. Berlin: Weißensee, 165–74.

Neil Brodie & Jenny Doole

- 2004 *Culture Without Context* Autumn 2004.
- 2005 *Culture Without Context* Spring 2005.

Morag Kersel

- 2005 (with C. Luke). A retrospective and a look forward: a decade of cultural property protection. *The Journal of Field Archaeology* 30(2), 191–200.
- 2005 (with C. Luke). Selling a replicated past: power and identity in marketing archaeological replicas. *Anthropology in Action. Journal for Applied Anthropology in Policy and Practice* 11(2/3), 32–43.



Laboratories

George Pitt-Rivers Laboratory for Bioarchaeology

The George Pitt-Rivers 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 Manon Savard's research on agricultural origins and spread in the woodland edge sites of Southeast Turkey and northern Iraq; Scott Martin's research on the early spread of maize agriculture in northeast America, and David Beresford-Jones's research into the historical ecology of the south coast of Peru. Research has continued in South America (Grimaldo) and Greece and Cyprus (Margaritis), Hungary (Kulcsarne-Berzsényi) and Britain (Ballantyne, Simmons, De Vareilles). Phytolith projects continue in South Asia, Africa, and South America (Madella).

Our research effort has been greatly enriched by a number of expansions in the Institute's activities, in particular the establishment of a palaeo-isotopic programme under Dr Tamsin O'Connell (see p. 30), and a series of studies on the archaeogenetics of domesticates (see p. 26). Many of the Institute's projects now span a number of scientific groups, and this is particularly the case with bioarchaeology. The phytolith isotope project and Dolní Věstonice project (see p. 35) closely integrates the work of the bioarchaeology, geoarchaeology and isotope laboratories,



The 'Domestication of Europe' project team track down a remote spelt wheat plot in Asturias, northern Spain.

PUBLICATIONS

Martin Jones

- 2005 Ecological archaeology, in *Archaeology, the Key Concepts*, eds. C. Renfrew & P. Bahn. London: Routledge, 85–9.
- 2005 Environmental archaeology, in *Archaeology the Key Concepts*, eds. C. Renfrew & P. Bahn. London: Routledge, 79–84.

Rachel Ballantyne

- 2004 A cross-disciplinary investigation of Iron Age pit deposition in 'Evaluation survey and excavation at Wandlebury Ringwork, Cambridgeshire, 1994–7,' ed. C. French. *Proceedings of Cambridge Antiquarian Society* XCIII, 15–66, 53–7.
- 2004 Islands in wilderness: the changing medieval use of the East Anglian peat fens, England. *Environmental Archaeology* 9(2), 189–98.
- 2005 Plants and seeds, in *The Saxon and Medieval Settlement at West Fen Road, Ely: the Ashwell Site*, eds. R.W. Mortimer, R. Regan & S. Lucy. (East Anglian Archaeology Report 110.) Cambridge: Cambridge Archaeological Unit, 100–12.
- 2004 (with B. McEvoy, M. Richards & D.G. Bradley). The *longue durée* of genetic ancestry: multiple genetic marker systems and Celtic origins on the Atlantic façade of Europe. *American Journal of Human Genetics* 75, 693–702.

David Beresford-Jones

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

Liliana Janik

- 2004 Silent feminist contribution to archaeological comthought, in *The Archaeologist: Detective and Thinker*, eds L.B. Vishniackiy, A.A. Kovalev & O.A. Scheglova. St Petersburg: St Petersburg University Press, 198–204.

PUBLICATIONS

Liliana Janik (cont.)

2005 Refining social relations — tradition, complementarily and internal tension, in *Mesolithic Studies*, eds N. Milner & P. Woodman. Oxford: Oxbow Books, 176–94.

Brigitta Kulcsarne-Berzsényi

2004 (with G. Kovács). Az ember környezetre gyakorolt hatása Százhalombatta-Földvár bronzkori lelőhely területén (Human impacts at Százhalombatta-Földvár Bronze Age Tell Site), in *A táj változásai a Kárpát-medencében: Viz a tájban, Környezetkímélő Agrokémiaért Alapítvány*, ed. Gy. Füleký. Gödöllő, 399–401.



First-year student Katie Johnson supervises her Czech colleagues at the Dolné Věstonice flotation unit.



and the ‘Domestication of Europe’ and ‘Origins of Millet Farming’ projects (see p. 26) integrate the work of the bioarchaeology and archaeogenetics laboratories.

A number of our colleagues are moving forward in their academic careers. After many years building up our expertise in phytolith and charcoal analysis, Marco Madella has accepted a research professorship at ICREA/CSIC in Barcelona, where he will be developing and expanding their archaeological base, at the same time as continuing a number of research collaborations with Cambridge. Scott Martin and Manon Savard have taken up teaching posts in North America and David Beresford-Jones has won a post-doctoral fellowship to move to the next stage of his Peruvian research. Ellen Simmons has moved from her analyses for the Cambridge Archaeological Unit to set up her own bioarchaeological consultancy in Sheffield. Claudia Grimaldo has taken up a graduate scholarship at Manchester University to investigate the archaeogenetics of maize. We wish them well, and welcome our new colleagues Anne De Vareilles and Xinyi Liu.

STAFF:

Professor Martin K. Jones (Laboratory director)
Dr Liliana Janik (Laboratory manager)

Post-doctoral researcher:

Marco Madella

Affiliated researchers:

Alan J. Clapham
Anne De Vareilles
Claudia Grimaldo
Ellen Simmons

PhD students:

Rachel Ballantyne
David Beresford-Jones
Brigitta Kulcsarne-Berzsényi
Evi Margaritis
Scott W.J. Martin
Laura Motta
Manon Savard
Hanna Zawadzka



A wide variety of forms grew within a single spelt field.

Charred almonds from Hallan Çemi (Turkey). Michael Rosenberg, 1994

Grahame Clark Zooarchaeology Laboratory

The 2004–2005 academic year saw important changes and developments in the Grahame Clark Laboratory. Preston Miracle was away for the better part of the year on sabbatical leave in Santa Cruz, California. He is continuing with analyses of Middle Palaeolithic to Historic faunal assemblages from a number of sites in Croatia (Pupićina, Vešanska, Nugljanska Caves). Jessica Rippengal oversaw the continuing growth of the comparative collections and is overseeing a major reorganization of lab, including a partial dismantlement of the ‘bone board’ to create space for taphonomic and synoptic collections.

Other researchers from the laboratory have examined zooarchaeological assemblages, whether in Cambridge or abroad, from many parts of the world, including Turkey (Meece), Poland (Seetah), Malaysia (Rabett, Piper), Britain (Seetah), Serbia (Orton), Egypt (Payne), Syria (Legge), the Mediterranean region (Farr) and Croatia (Legge). Congratulations to laboratory members who have recently submitted PhD dissertations and survived their vivas. Lisa Marlow assembled an impressive data base of European Pliocene to Middle Pleistocene faunal assemblages (palaeontological and archaeological) and examined the impact of geography and hominins on faunal composition over time. Maša Amatt (Dr Amatt by the time this appears in print) successfully defended her dissertation on the material properties of bone and bone-artefact production and is now working with Dr Marsha Levine on the AHRB-funded project ‘Palaeopathology and the Origins and Evolution of Horse Husbandry’ (see p. 41). Former laboratory member Dr Iain



Categorizing pig phalanxes (Ryan Rabett 2005).

PUBLICATIONS

Preston Miracle

- 2004 (with S. Forenbaher & T. Kaiser). Pupićina Cave pottery and the Neolithic sequence in northeastern Adriatic. *Atti del Museo Civico di Storia Naturale, Trieste* XIV, 61–102.
- 2004 (with A. Balbo & D. Komšo). Geoarchaeological survey of Čepičko Polje and part of its hydrological basin (Istria, Croatia): report on the first field season. *Histria Archaeologica* 33(2002), 265–76.
- 2004 (with D. Borić). Mesolithic and Neolithic (dis)continuities in the Danube Gorges: new AMS dates from Padina and Hajdučka Vodenica (Serbia). *Oxford Journal of Archaeology* 23, 341–71.
- 2005 Late Mousterian subsistence and cave-use in Dalmatia: the zooarchaeology of Mujina Pećina, Croatia. *International Journal of Osteoarchaeology* 15, 84–105.
- 2005 Excavations at Pupićina Cave: preliminary results of the 1999, 2001 and 2002 field seasons. *Histria Archaeologica* 34(2003), 5–37.
- 2005 (with S.F. Forenbaher). The spread of farming in the eastern Adriatic. *Antiquity* 79, 514–28.
- 2005 (with D. Komšo). Test excavations in Molinarska Draga (NE Istria, Croatia). *Histria Archaeologica* 34(2003), 39–59.

Katie Boyle

- 2005 Chasse au phoque à la fin du Néolithique à Er Yoch (Houat, Morbihan). Melvan. *La Revue des Deux Îles* 2, 9–25.
- 2005 Late Neolithic seal hunting in southern Brittany: a zooarchaeological study of the site of Er Yoch (Houat, Morbihan), in *The Exploitation and Cultural Importance of Sea Mammals*, ed. G.C. Monks. Oxford: Oxbow, 77–94.

Helen Farr

- 2005 (with J. Robb). Substances in motion: Neolithic Mediterranean trade, in *The Archaeology of Mediterranean Prehistory*, eds. E.

PUBLICATIONS



Helen Farr in the Grahame Clark Zooarchaeology Laboratory.

Morley has taken up a research fellowship at Darwin College and is on the 'Roots of Spirituality' project (see pp. 8 & 40), while Dr Dušan Borić rejoins Cambridge as part of the Leverhulme 'Changing Beliefs about the Body' project. Helen Farr is writing up her doctoral thesis on travel and maritime circulation of obsidian in the Neolithic central Mediterranean. She is also a collaborator in the setting up of a new survey and excavation project at a maritime archaeological field school on the Isle of Wight.

STAFF:

Dr Preston Miracle (Laboratory director)
 Jessica Rippengal (Zooarchaeology and Chief technician)

Research students (2004–2005):

Maša Amatt	David Orton
Jessia Beckett	Pippa Payne
Helen Farr	Krish Seetah
Lisa Marlow	Jo Wilson
Stephanie Meece	

Associated researchers (2004–2005):

Katie Boyle	Iain Morley
Tony Legge	Philip Piper
Marsha Levine	Ryan Rabett

Helen Farr (cont.)

Blak & A.B. Knapp. Oxford: Blackwell Publishing.

Philip Piper

- 2004 (with K. Ki-Kydd). Identification of morphological variation in the humeri of Bornean primates and its application to zooarchaeology. *Archaeofauna* 13, 85–95.
- 2005 The small vertebrate remains, in *The Saxon and Medieval Settlement at West Fen Road, Ely*, eds. R. Mortimer, R. Regan & S. Lucy. Cambridge: EAA.

Ryan Rabett

- 2004 The ones that come ready-made: the use of *Sus* tusks as tools at prehistoric coastal sites in Malaysia. *Archaeofauna* 13, 131–43.
- 2004 (with J. Cameron, N. Chang, K.M. Domett, C.F.W. Higham, T.F.G. Higham, D.W. Mather, D.J.W. O'Reilly & R.Thosarat). *The Origins of the Civilization of Angkor*, vol.1: *The Excavation of Ban Lum Khao*. Bangkok: The Thai Fine Arts Department.
- 2005 The early exploitation of Southeast Asian mangroves: bone technology from caves and open sites. *Asian Perspectives* 44(1), 154–79.

Krish Seetah

- 2004 Meat in history. *International Journal of Food History* 2, 19–33.
- 2005 Butchery as a tool for understanding the changing views of animals, in *Just Skin and Bones? New Perspectives on Human–Animal Relations in the Historic Past*, ed. A. Pluskowski. (British Archaeological Reports S1410.) Oxford: Archaeopress, 1–8.
- 2005 Multidisciplinary approach to Romano-British cattle butchery, in *Integrating Zooarchaeology*, ed. M. Maltby. Oxford: Oxbow, 111–18.
- 2005 Book Review: Mondini, M. & S. Munoz, 2004. *Colonisation, Migration and Marginal Areas*. Oxbow. *Archaeological Review of Cambridge* 20.1, 149–51.

Charles McBurney Geoarchaeology Laboratory

Although no new PhD researchers joined the laboratory in 2004, both existing and new research projects around the world have seen further development.

Two MPhil students undertook geoarchaeological dissertation projects. Federica Sulas explored the use of a geoarchaeological approach to investigating the Aksumite agricultural landscape in northern Ethiopia; and Heejin Lee conducted micromorphological analyses of house-floor deposits from two prehistoric settlement sites in western Sicily, the Bronze Age site of Mokarta and the Iron Age site of Monte Polizzo. Julie Miller prepared two fabulous posters on her joint project with Charles French on Holocene riparian landscape change in New Mexico with the US Rocky Mountain Research Station (USDA Forest Service) to take to the geoarchaeology session of the Association of American Geographers conference in Denver in March, 2005. Unfortunately, this project was cancelled mid-stream in the early spring of 2005 by the U.S. government and our partner, Dr Richard Periman, made redundant. It is now a question of re-configuring this project with new collaborators, in particular French's former research student, Dr Melissa Goodman-Elgar, who is based at the University of Washington, Pullman. Congratulations are due to Fraser Sturt who has just begun a new lectureship in maritime archaeology at the Department of Archaeology at Southampton, and a former researcher in this laboratory, Dr Jenny Heathcote, who has been appointed English Heritage's Regional Scientific Advisor for East Anglia as from April 2005.

New projects were initiated in Brazil and Wiltshire. The former project by Manuel Arroyo-Kalin is using micromorphological analysis to investigate the formation of dark earth deposits associated with shifting agricultural settlements in the Amazon basin. The latter project is a geoarchaeological survey and palaeo-environmental analysis of the River Avon valley between the great Neolithic henge sites of Durrington Walls and Stonehenge in collaboration with Professor Mike Parker Pearson, Dr Mike Allen and Dr Rob Scaife (see p. 33).

New fieldwork plans are being formulated for geoarchaeological surveys: in the Benta valley of Hungary with Tim Earle of Northwestern University and Gabriella Kovacs to investigate the

PUBLICATIONS

Charles French

- 2005 (with G. Ayala). Erosion modeling of past land use practices in the Fiume di Sotto di Troina valley. *Geoarchaeology* 20(2), 149–67.
- 2005 (with G. Ayala). Introduction (to special issue). *Geoarchaeology* 20(2), 91–2.
- 2005 Analysis of soil deposits at Barnhouse and Maeshowe, in *Dwelling Among the Monuments: Excavations at Barnhouse and Maeshowe*, ed. C. Richards. Cambridge: McDonald Institute, 371–80.
- 2005 (with H. Lewis, with contributions by R. Scaife & M. Allen). Archaeological and palaeoenvironmental investigations of the upper Allen valley, Cranborne Chase, Dorset. *Geoarchaeology* 20(2), 109–34.
- 2005 (with F. Pryor). *Archaeology and Environment of the Eton Landscape*. (East Anglian Archaeology 109.) Peterborough: Fenland Archaeological Trust.
- 2005 (with G. Kovács). Reconstruction of the former environment and investigation of human activity at Százhalombatta-Földvár Bronze Age tell settlement, in *Százhalombatta Archaeological Expedition (SAX) Annual Report 2*, eds. I. Poroszlai & M. Vicze. Százhalombatta, 125–34.

Andrea Balbo

- 2004 (with P. Miracle & D. Komšo). Geoarchaeological survey of Čepičko Polje and part of its hydrological basin (Istria, Croatia): report on the first field season. *Histria Archaeologica* 33(2002), 265–76.

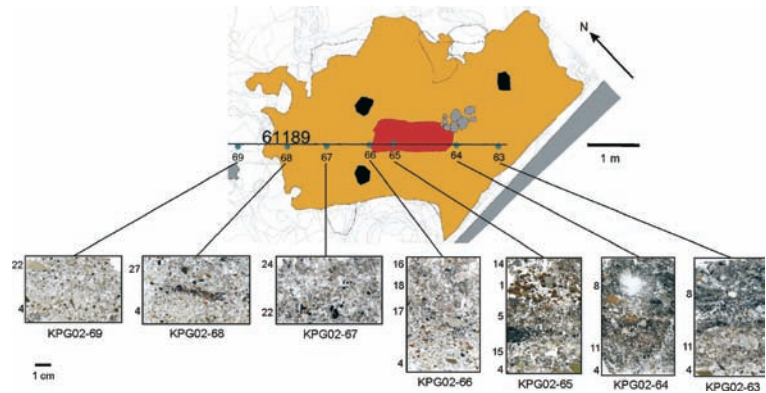
Karen Milek

- 2005 Methodologies: soil micromorphology, in *A Norse Farmstead in the Outer Hebrides: Excavations at Mound 3, Bornais, South Uist*, ed. N. Sharples. Oxford: Oxbow, 35–6.
- 2004 Trench F: the occupation of the kiln/barn (F/D): soil micromor-

PUBLICATIONS

Karen Milek (cont.)

- 2005 phology, in *A Norse Farmstead in the Outer Hebrides: Excavations at Mound 3, Bornais, South Uist*, ed. N. Sharples. Oxford: Oxbow, 98–104. (with N. Sharples & H. Smith). Trench F: the occupation of the kiln/barn (F/D): discussion, in *A Norse Farmstead in the Outer Hebrides: Excavations at Mound 3, Bornais, South Uist*, ed. N. Sharples. Oxford: Oxbow, 115–16.
- 2005 (with I. Simpson, J. Barrett & K. Milek). Interpreting the Viking Age to medieval period transition in Norse Orkney through cultural sediment analyses. *Geoarchaeology* 20(4), 355–77.



Transect of micromorphology samples across house A302 at Kaupang, Norway. Post-depositional bioturbation and leaching of the archaeological sediments had made it difficult for the excavators to distinguish the limits of floors (tentatively indicated in yellow). Thin-section analysis identified multi-laminated floors southeast of the central hearth (red), a storage area northwest of the hearth, and the edge of the house between samples 67 and 68.

impacts of tell settlements and their economy on the loessic landscape; in the Aksum area of Ethiopia with the Universities of Naples and Boston and Federica Sulas to examine the pre-Aksumite agricultural soils and the subsequent erosion record; in the Tell Brak area in northeastern Syria with Tony Wilkinson and Miranda Semple to establish the record of alluviation and land use; in southern Chile with Manuel Arroyo-Kalin; and the central part of Portugal with Professor Chris Scarre, in both these latter cases to investigate how subsistence agriculture functioned in these increasingly semi-arid landscapes.

Karen Milek, whilst completing her PhD, continued her collaboration with the University of Oslo on the Viking Age project at Kaupang, Norway (with Charles French) and has completed a major micromorphological analysis of the midden and floor deposits for publication. In the summer of 2005, Karen directed the International Field School in North Atlantic Archaeology, and co-directed excavations at the tenth-century farmstead at Vatnsfjörður, in northwest Iceland.

Ann-Maria Hart, whilst continuing to work on her PhD, completed soil analyses of the effects of Bronze Age barrow mound building on old land surfaces in Denmark at Skelhøj 2, Skelmantle 1 and Skelhøjcore 1. This research project will contribute to her aim of developing a set of criteria by which to gauge the preservation of organic material on archaeological sites both within Britain and Denmark.

Lastly, Andrea Balbo has continued his geoarchaeological and palynological investigations of polje Čepić in Istria, Croatia, through further fieldwork and analyses in Bergen and Cambridge. New sites have been discovered of both Upper Palaeolithic or the Aurignacian at Ivšiče (p. 43), and an open-air Mesolithic site at Kostadini.

STAFF: Dr Charles French (Laboratory director), Julie Miller (Senior research technician)

PhD students: Manuel Arroyo-Kalin, Andrea Balbo, Ann-Maria Hart, Gabriella Kovacs, Karen Milek, Miranda Semple, Fraser Sturt

MPhil students: Heejin Lee, Clea Paine, Ekaterina Papagiannis, Federica Sulas

Affiliated researchers: Nicole Boivin, Helen Lewis (University of Oxford), Laurence Smith

Glyn Daniel Molecular Genetics Laboratory

Modelling Prehistoric Populations (Peter Forster, Shuichi Matsumura & Colin Renfrew)

The initial human colonization of pristine areas is one focus of the genetics laboratory, where in 2005 we addressed the questions of which routes our early ancestors took when leaving Africa 60,000 years ago (in collaboration with Paul Mellars), how Scandinavia was repopulated after the Ice Age (work with Preston Miracle and Felix Riede), and from where the ancestors of the Malagasy set out across the Indian Ocean to settle Madagascar within the last 2000 years (with Robert Dewar).

A generous grant from the Sloan Foundation is funding our computer-simulation project, led by Colin Renfrew and Shuichi Matsumura, on calculating prehistoric demography using modern DNA sequences. We held a conference on the subject, and included the novelty of a 'blind-test' workshop chaired by Henry Harpending (Utah) (see p. 6). Professor Harpending provided artificially-simulated DNA data and challenged 14 experts to reconstruct his artificial history each using their favourite methods. Such quality-control exercises are the rule in forensic genetics and in structural-protein chemistry, and may provide a template for other fields in future.

Archaeogenetics of Horse Husbandry (Mim Bower)

This year sees the continuation of our projects on the archaeogenetics of horse husbandry in Eurasia with our data base expanding to include horses from the Baltic region and Eastern Europe (via E. Barrett and L. Quilter) and China (via Dr M. Levine).

Hypothetical routes along the Indian Ocean coastline that could have been taken by early humans emigrating out of Africa. The oldest human traces outside of Africa and the Levant are at Lake Mungo in Australia (>46,000 years old) and in the Niah Cave of Borneo (>45,000 years ago). New mtDNA data, from Malaysians and aboriginal Andaman islanders, suggest that human settlements appeared along the Indian Ocean coastline 60,000 years ago (Forster & Matsumura 2005).



PUBLICATIONS

Peter Forster

- 2005 (with M.E. Hurles, B.C. Sykes & M.A. Jobling). The dual origin of the Malagasy in Island Southeast Asia and East Africa: evidence from maternal and paternal lineages. *American Journal of Human Genetics* 76, 894–901.
- 2005 Comment on recent work in computational linguistic phylogeny. *Language* 81, 2–3.

Peter Forster & Shuichi Matsumura

- 2005 Did early humans go north or south? *Science* 308, 965–6.

Felix Riede

- 2005 To boldly go where no (hu)-man has gone before. Some thoughts on the pioneer colonisations of pristine landscapes. *Archaeological Review from Cambridge* 21, 20–38.

CONFERENCES (selection)

Peter Forster: Invited Speaker at the World Summit on Evolution, Galapagos Islands, 9–12 July 2005, University of San Francisco, Ecuador.

Shuichi Matsumura, Peter Forster and Colin Renfrew: Organisers of 'Simulations, Genetics and Human Prehistory — A Focus on Islands' McDonald Institute, 29 July 29–2 August, 2005.

PUBLICATIONS

Mim Bower & Shuichi Matsumura

2005 (with M. Spencer, R. Nisbet & C. Howe). How many clones need to be sequenced from a single forensic or ancient DNA sample in order to determine a reliable consensus sequence? *Nucleic Acids Research* 33, 2549–556.

PRESENTATIONS

Mim Bower

2005 The Archaeogenetics of Horse Domestication. Dorothy Russell Havemeyer Foundation Workshop for Horse Genetic Diversity, Poland.

PRESENTATIONS

Diane Lister, Mim Bower & Martin Jones

2005 The Domestication of Europe Consortium: the Cambridge partner. Paper presented at the May 2005 meeting of consortium advisors, University of Manchester.



Maša Amatt collecting horse hair with the help of Wang Hao (of the Baoji Bronze Museum) and Li Gang (a villager), who is holding the horse. Samples from Guan Mountain steppe (Long County, Shaanxi) were collected by Marsha Levine, with the assistance of Maša Amatt. This work was facilitated by Mr Tian Yaqi (Deputy Professor at the Shaanxi Archaeology Institute). Permission to export the hair to the UK would have been impossible without the help of Professor Li Shuicheng (Department of Archaeology, Peking University) and Professor Jiao Nanfeng (Director, Archaeology Institute of Shaanxi).

Further sampling trips to collect hair for genetic analysis from local breeds of horses in Eastern Europe and the Far East are scheduled for this autumn and early spring next year. These will allow us to explore many more questions surrounding the past history of horses including the origins of domestic horses in ancient China in a collaborative project with Dr Marsha Levine.



Attending the Havemeyer Workshop for Horse Genetic Diversity in Poland afforded a fantastic opportunity to study wild Konik horses in their natural environment.

Recently, the horse archaeogenetics project has received a boost owing to the generosity of the Isaac Newton Trust, allowing us to explore whether remote, isolated populations of horses preserve the genetic signature of extinct horse populations. This crucially-important piece of research will give us the tools to expand our sample data base to cover areas of the world where many horse breeds have disappeared, some only in the past 50–60 years. Our sample sets from China and Georgia (former USSR) allow us to explore this question and are already generating interesting results. These will be supplemented with samples we will collect from street ponies in India.

In addition, we are pleased to announce the start of a new Horse Racing and Betting Levy Board funded project on genetic variation in thoroughbred horses, which has received a great deal of media attention. This marks the beginning of a two-year collaboration with Professor Matthew Binns of the Royal Veterinary College, London and Paula Jenkins at The Natural History Museum. The McDonald Institute team will be examining the genetic make-up of, among others, the famous Thoroughbred sire Eclipse, who died in 1789. Eclipse is descended from The Darley Arabian, one of the three Thoroughbred founding stallions. The articulated skeleton is located in the Royal Veterinary College museum and we have obtained samples for analysis from this and other key individuals in the development of the Thoroughbred horse.



Diane Lister (right) and Emmanuelle Bonnaire (University of Paris) collecting mud bricks which contain cereal material from a collapsed building from c. 1900 in the Pirin Mountains, southwest Bulgaria.



Triticum dicoccum (emmer wheat) from the Percival Collection, University of Reading, collected in the 1920s. Professor John Percival collected an extensive range of wheat landraces from around the world, and his collection is an important source of historical material for the 'Domestication of Europe' project.

The Spread of Wheat and Barley Cultivation across Europe

(Diane Lister)

This exciting and wide-ranging consortium project entitled 'The Domestication of Europe' 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 tetraploid wheats obtained from genebanks, historic collections and archaeological sites. In the McDonald Institute, this research is being carried out by Dr Diane Lister, in association with Dr Mim Bower and Professor Martin Jones. This project is part of an NERC-funded consortium in collaboration with the Faculty of Life Sciences, University of Manchester; the Departments of Archaeology, University of Cambridge and University of Sheffield; and NIAB (formerly the National Institute of Agricultural Botany), Cambridge.

Our remit at Cambridge University is to collect historical samples of tetraploid wheat (*Triticum* spp.; emmer, rivet and durum) and barley (*Hordeum vulgare*), dating from early medieval times to the mid twentieth century. In the past year, Dr Lister has collected a range of material from many European countries including herbarium material held in botany collections in Poland, the Netherlands and the UK (nineteenth and early twentieth centuries); and material from mud bricks, daub and smoked blackened thatch from historic buildings (thirteenth to early twentieth centuries) in the UK, Bulgaria and Germany. We are currently optimizing techniques suitable for the analysis of ancient DNA from these materials in collaboration with Professor Chris Howe,

Department of Biochemistry, University of Cambridge. Using these methods we can determine the extent of DNA preservation in these plant materials from different contexts and varying ages.

We are exploring a set of DNA markers, including microsatellites and retrotransposons, in association with colleagues at NIAB and the University of Manchester, who are analyzing modern landraces and archaeological material, respectively. By mapping these DNA polymorphisms in cereals across space and time we are 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.

The Origins and Spread of Domesticated Broomcorn Millet (Harriet Hunt)

I joined the Glyn Daniel Laboratory in November 2004 to work on this project in association with Professor Martin Jones, funded by the Leverhulme and Wellcome Trusts. We are using molecular genetic techniques to elucidate the ancestry of this early East Asian crop, collaborating with a number of individuals and organizations, including the Vavilov Institute, St Petersburg, Russia and the Millennium Seed Bank Project, Kew. This year we have built up a collection of accessions of extant landraces of broomcorn millet (*Panicum miliaceum*) and wild species in the same genus. The Cambridge University Botanic Garden is providing facilities to grow up plants from these seed collections for DNA analysis.



Harriet Hunt in the laboratory preparing millet plants for DNA extraction.

Current work is exploring a range of genetic loci for polymorphisms, using both sequencing and fingerprinting approaches. Polymorphic loci will then be used to reconstruct a phylogeny of landraces, to test the hypothesis that broomcorn millet was domesticated in China's Huang He valley and spread westwards to Europe via the Central Asian steppe. Concurrently, a phylogenetic study at the genus level is being undertaken to establish the relationships between this crop, the Indian congener little millet, and other *Panicum* species.

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

PhD students: Anne Holden & Felix Riede

MLitt student: Karin Haack

Affiliated researcher: Matthieu Vizuete-Forster

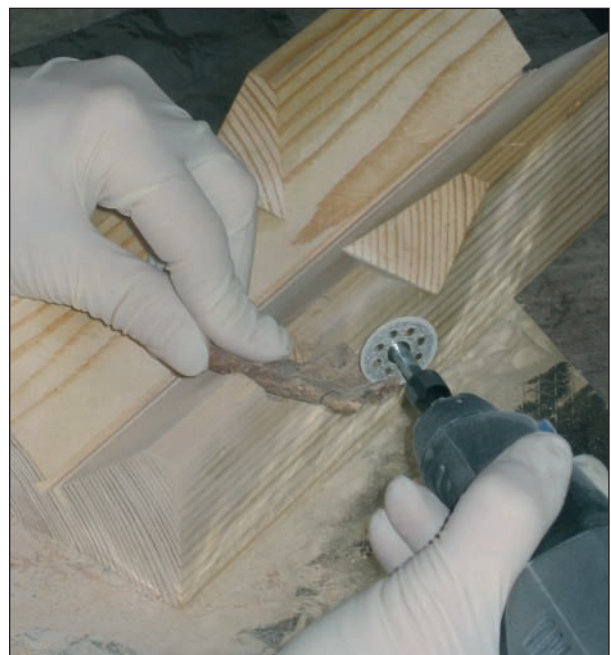
Palaeodiet Laboratory

At the beginning of this academic year, Dr Tamsin O'Connell joined the McDonald Institute as the recipient of a Wellcome Trust University Award in Bioarchaeology. Tamsin had previously worked with Professor Robert Hedges in the Palaeodiet Group at the Research Laboratory for Archaeology at the University of Oxford. Her remit in Cambridge is to establish a palaeodiet laboratory, undertaking isotopic analyses of bone collagen and other materials for palaeodietary and palaeoenvironmental studies.

The preparation laboratory is housed in the Chemistry lab adjacent to the George Pitt-Rivers laboratory. Isotopic analyses are carried out in conjunction with Earth Sciences, as a joint bid to NERC with Earth and Plant Sciences was successful, enabling the purchase of two new isotope-ratio mass spectrometers, which are housed in the Godwin Laboratory. After 9 months, the laboratory infrastructure and equipment is now in place, and up and running, and the mass spectrometers commissioned.

Several projects are already underway. Tamsin's main focus is on the question of the effect of dietary protein levels on an individual's isotopic values. This work is a development of her work when she was in Oxford, but with the focus shifted to humans rather than animals. A technician will be joining the McDonald in the autumn to assist in this project.

Another project is examining the diet of Bronze and Iron Age salt miners of Hallstatt in Austria using two complementary methods, in conjunction with Professor Klaus Oeggl of the Institut für Botanik der Leopold-Franzens-Universität Innsbruck and funded by the Austrian National Science Foundation. Isotopic studies of human and faunal bones carried out here in the McDonald Institute will provide a lifetime-scale indica-



Tamsin O'Connell sampling a fox mandible from the site of Dolní Věstonice for isotopic analysis.



Isotope-ratio mass spectrometer in the Godwin Laboratory.



tion of the miners' diets, particularly the protein component. In contrast, studies of fossilized coprolites, together with botanical analyses of soils will show short-term dietary input, in particular plant consumption. This will be the first time that such palaeodietary analyses have been compared and contrasted.

Together with Dr Marco Madella (of the Department of Archaeology and now ICREA Research Professor in the Department of Archaeology and Anthropology at the Spanish Council for Scientific Research in Barcelona), Dr Roland Bol of the BBSRC's Institute of Grassland and Environmental Research and Professor Melanie Leng of NERC's Isotope Geosciences Laboratory, a project has been initiated to develop oxygen isotope analysis of plant phytoliths. Funded jointly by the McDonald Institute and NERC Scientific Services, the team are comparing the oxygen-isotope values of phytoliths recovered from soil and those extracted directly from plants growing in the same soil. The long-term goal of such research is probe the utility of plant phytoliths as a robust record of palaeoclimate.

A collaboration with Dr Preston Miracle on the Pupićina Cave project has led to an MPhil project on the isotopic ecology of this Mesolithic hinterland site. The results were presented at the Meso 2005 conference in Belfast in September 2005 by Clea Paine, who is continuing her graduate studies as a PhD student from October 2005.

Tamsin O'Connell is also part of the consortium of scientists working on the Dolní Věstonice project under the leadership of Professor Martin Jones. The aim is to study this famous Gravettian site using a whole range of scientific techniques, most of which are rarely applied to Palaeolithic period. In conjunction with phytolith and archaeobotanical studies, isotopic analyses of faunal remains at the site will allow us to gain a detailed palaeoenvironmental picture.

Projects

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 2004–2005, the McDonald Institute also provided research space for the preparation of reports on field survey in Boeotia, on excavations at Kilise Tepe in Turkey, and laboratory work on horse palaeopathology.

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 2005, grants totalling £82,000 were awarded to 19 projects, ranging widely in time and space from rock-cut churches of Ethiopia to the ecological impact of the north European Crusades. Accounts of several of these projects are given here; others have been described in previous Annual Reports.



Projects supported by the McDonald Institute for Archaeological Research.

Durrington Walls Environs Project: Initial Findings in the Avon Valley

CHARLES FRENCH

As part of the new and extensive programme of excavations at Durrington Walls by Professor Mike Parker Pearson and colleagues, a geoarchaeological and palaeo-environmental investigation was launched of the associated River Avon valley between Durrington Walls and the purported end of the Stonehenge Avenue in West Amesbury, some 8 km downstream.



The floodplain east of Durrington Walls which contains at least three palaeochannels, with the later prehistoric channel visible as a dark brown soil mark (just to the right of the modern channel).

What was the vegetational development and contrasting land use of the chalklands on which Stonehenge and Durrington Walls were built in the later

Neolithic versus the adjacent river valley? Were there any specific impacts on the immediate environs caused by the construction of Durrington Walls at its riverside location? Are there recognizable activities going on in the Avon floodplain associated with the use of the adjacent henge monuments? In addition to these issues, the nature and intensity of colluviation occurring on the adjacent downland and the vegetational sequence in this part of Wessex during the Holocene will be examined and compared with the upper Allen valley of Cranborne Chase, which has already seen similar work. During the excavations of the eastern entranceway and southern circle of Durrington Walls in August–September 2005, a series of auger transects to construct the sedimentary history of the valley and cores for palynological analysis were made in the Avon floodplain immediately to the east of Durrington itself, and also to the south at West Amesbury.

Although the results of the pollen and radiocarbon assay are not yet available, a number of new discoveries are already evident. First, there appear to be at least three inter-cutting Holocene palaeochannels in the Avon floodplain immediately to the east of the Durrington Walls henge. The earliest and largest of these, probably of Late Glacial and Mesolithic age, is situated closest to the chalk scarp beneath Durrington itself. Following this there is evidence for disruption of the remaining woodland on the adjacent downland and some higher-energy water flow flushing out parts of the floodplain. This was accompanied by more intensive human activity adjacent to the Durrington Walls henge. There is then a return to low-energy reed marsh on the edges of the floodplain, and the river shifted slightly southeastwards. In the later prehistoric and earlier historic periods calcareous silt colluvium or hillwash, up to 2 metres in thickness, accumulated over the lower 50 metres of the adjacent downland slope to the north.

At West Amesbury to the south of the present-day river, a substantial freshwater lagoonal lake has been discovered at exactly the location where the projected line of the Stonehenge Avenue would meet the floodplain. Sediments suggest a low-energy flow, and pre-date a historic period channel infilled with reed peat and colluvially washed-in silt sediments. If this lake is of prehistoric origin, it may in part explain the route

taken by the Stonehenge Avenue, it may connect with other watercourses, and thus is an unusual and therefore important part of this earlier prehistoric landscape.

The buried soils within the Durrington henge indicate a distinct sequence of events. When the henge was constructed in the third millennium BC, the earlier Holocene soil had already been transformed from a thin, woodland, brown earth soil to a rendsina under pasture. Along the outer edge of the henge bank facing the river to the east a series of extensive midden deposits accumulated directly on the buried soil. These middens were primarily composed of wood ash and pottery, flint, bone, and antler of the later Neolithic, and had numerous arrangements of stakeholes and occasional hearths within them suggesting dwellings. This may have been a workmen's village of the people actually erecting the monument. Both during and after construction, the dry valley that occupies the central third of the henge and drains southeastwards towards the river, occasionally acted as a winterborne stream, truncating the buried soil in the valley bottom. This truncation may well have been enhanced by human activities associated with the henge and southern post circle. Subsequently, the land within the interior seems to have become relatively stable and a new pasture rendsina augmented by small colluvial additions re-formed in the dry valley bottom. Then, in later prehistoric and historic times, up to 2 m of chalky colluvial hillwash accumulated, two substantial flint cobble layers correspond to two phases of major soil/landscape disruption.



A section through the eastern arc of the Durrington Walls henge bank showing the chalk rubble bank slip and midden material on the turf line of the Neolithic land surface.

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The later prehistoric and historic periods colluvial profile above the Southern Circle, in the interior of Durrington Walls.

Once the pollen, soil and dating assessments have been completed, a much clearer picture should emerge as to the place of Durrington Walls in its Avon valley context.

My collaborators on this project were Professor Mike Parker Pearson (Sheffield), Professor Julian Thomas and Dr Colin Richards (Manchester), Dr Josh Pollard (Bristol), Dr Mike Allen of Wessex Archaeology for the molluscan analyses and Dr Rob Scaife of the Department of Geography, University of Southampton for the palynological analyses.

Dolní Věstonice/Pavlov: Exploring the Seasonal Behaviour of Gravettian Communities MARTIN JONES & TJEERD VAN ANDEL

Our first field season at Dolní Věstonice got underway this July in collaboration with Professor Jiří Svoboda, and with the support of the D M McDonald Grants and Awards Fund. The project arose directly out of questions raised through the Stage Three Project about the ecology and seasonality of Gravettian communities in Moravia. These are the first human communities to leave unambiguous evidence of built spaces around permanent hearths, and within them, sculpted human and animal forms, fired-clay technology, weaving, and musical instruments. The Stage Three Project data indicated that they were also ecologically equipped to press unusually far into low temperature zones, and this aspect of their lives forms the focus of our project.

For the first time, a cluster of Gravettian hearths was comprehensively floated and sieved, and smaller samples taken for phytolith analysis, all by a marvellously dedicated team of Cambridge and Brno students. The plant remains from these samples will be investigated by David Beresford-Jones and Marco Madella. Over 100 soil monoliths were extracted for a microstratigraphic studies by Clea Paine and Lenka Lisa. The animal bones are being classified by Miriam Nývltova Fišáková, in conjunction with two molecular studies; a project exploring isotopic ecology has been initiated by Tamsin O'Connell, and a palaeodemographic study of Old World megafauna is being undertaken in the ancient DNA laboratory of Ian Barnes.



Professor Jiří Svoboda (far left) and Dr Tamsin O'Connell (far right) discuss how best to sample a mammoth bone for isotopic measurements. These will cast light in the ecology and mobility of the mammoths. Archaeozoologist Miriam Nývltova Fišáková, and Cambridge student Katie Johnson look on.



Next year we shall undertake a similarly intensive fieldwork season at the more northerly Moravian site of Předmostí, and plan a modest sampling of a third site, Petrkovice. The combined data from these sites will generate an unparalleled bioarchaeological and geoarchaeological data set to address central questions about the ecology of early modern humans in the northern latitudes.

The 2005 excavation team at Dolní Věstonice.

Forager-farmer Encounters in the Balkans: Spatial Distribution of the Lepenski Vir Culture (Serbia) DUŠAN BORIĆ

This project focuses on the spatial distribution of Mesolithic–Neolithic sites (c. 10,000–5500 cal BC) in the hinterland areas of the Danube Gorges of the north-central Balkans. One of the main aims to understand the nature of cultural contact and exchange between the fisher-forager populations found along the Danube banks in the Danube Gorges and the first Early Neolithic farming societies, known as the Starčevo–Körös–Criș pottery complex, that appeared in the surrounding areas of the Balkans from c. 6500–5500 cal BC.



View of the excavation area at the Early Neolithic site of Aria Babi above the site of Lepenski Vir.



Entrance to Tabula Traiana cave.

An extensive survey of the area and test-pit excavations of cave and rockshelter deposits and open-air sites in the Danube Gorges hinterlands were initiated in the autumn of 2004. During the 2005 field season, more extensive excavations have been carried out at the newly-discovered open-air Early Neolithic site of Aria Babi, situated on the Kosobrdo hill (315 m asl), which overshadows the eponymous site of Lepenski Vir, in the Upper Gorge of the Danube. Here, the project hopes to illuminate interdependencies between these two contemporaneous settlements characterized by different ecological habitats while situated in close proximity. The project has a unique opportunity to provide good empirical data about the supposed interaction and transformation of two culture groups whose origins, ideologies, religious and subsistence practices might have differed considerably.

A cave site has also been investigated further downstream the Danube in this region, close to the place with a Roman inscription, known as Tabula Traiana. The cave has yielded Pleistocene and Holocene deposits with human occupation presently dated to the final Upper Palaeolithic phases and the Iron Age. A late Palaeolithic fireplace was excavated with associated flint artefacts as well as numerous animal bones. Ibex dominates the hunted game, while Danubian species of fish (including sturgeon) were also exploited during this early period. This sequence contributes to an understanding of hunter-gatherer transformations in this region in a diachronic perspective. This is an ongoing project by Dr Dušan Borić (University of Cambridge) and Dr Milos Jetic (University of Belgrade).



Dušan Borić and colleagues drawing a section in Tabula Traiana cave.

Ethiopian Rock Churches at Lalibela and Elsewhere DAVID PHILLIPSON

The McDonald Institute is supporting research by Professor David W. Phillipson FBA on early Christian churches in Ethiopia, the most notable of which are the famous rock-cut churches at Lalibela. Professor Phillipson is the University's Professor of African Archaeology, and Director of its Museum of Archaeology & Anthropology. In 2005 he was awarded the Frensd Medal of the Society of Antiquaries of London for his work on the archaeology of early Christianity.

The Ethiopian state of Aksum was one of the first nations in the world formally to adopt Christianity, c. AD 340. Professor Phillipson, with support from the McDonald Institute, directed major excavations at Aksum during the 1990s. His current research seeks to establish a chronology for Ethiopian churches, demonstrate their local and wider affinities, and to clarify their connections with ancient Aksum. Preliminary results suggest that many churches, including several at Lalibela, are significantly older, and that there was much stronger continuity between ancient Aksum and medieval Ethiopia than previously believed.

Support from the British Academy, the McDonald Institute and the British Institute in Eastern Africa will permit Professor Phillipson to make a two-month visit to Ethiopia early in 2006 to investigate additional churches and to check results obtained on earlier visits. A detailed fully-illustrated monograph is in preparation.



The richly-painted interior of Beta Maryam, Lalibela.



The church at the mountain-top monastery at Debra Damo, to which access may be gained only by climbing a rope up a vertical cliff, is probably one of the oldest buildings still standing in Ethiopia, retaining many features of Aksumite architecture.



The rock-cut church of Beta Emmanuel at Lalibela, probably carved in about the tenth or eleventh century, retains many features of Aksumite architecture from several hundred years earlier.

The Niah Caves Project: Zooarchaeological Analysis PHILIP J. PIPER & RYAN J. RABETT



Niah Cave.

able for the purposes of species identification and furnished us with a suitable sample of leaf-monkey and macaque dentition to create a dental-wear sequence. This we are now employing to help reconstruct the age structure of leaf-monkey and macaque populations in the archaeological remains from Niah; a line of evidence that is shedding light on the procurement strategies of those camping there during the late Pleistocene and especially across the Pleistocene–Holocene transition, when arboreal prey numbers show significant increase.

The early part of 2005 was spent conducting further comparative analysis, first at the Natural History Museum, Tring and then at the Chelonian Institute, Florida, as we turned our attention from mammals first to identifying bird and then turtle and tortoise remains from the Niah assemblage. Both ventures proved to be highly successful and will make important additional contributions to the final re-constructed picture of game-hunting and trapping from both the West Mouth and Lobang Hangus entrances to Niah.

During March and April we returned to Sarawak to complete the small amount of data-entry work that was outstanding and to return all of the material we had sorted and catalogued back into the Museum storage facilities. In the period since returning to the UK from Kuching, all efforts have been turned to the matter of mining the large data base we have created over the past eighteen months and to writing-up our findings for publication as part of the two Niah Caves Project volumes currently in preparation. Separate, specialist papers on the fauna from Niah will also appear in publication as a forthcoming special issue of the *International Journal of Osteoarchaeology*.

After the best part of six months working at the Sarawak Museum, Kuching, during 2004 and the near completion of data collection, our travels in connection with the Niah Caves Project at the end of last year and beginning of 2005 were a little closer to home. During late November and early December we took a second trip to Holland to complete analysis of the remaining vertebrate remains (principally primate) from Niah held at the Museum Naturalis, Leiden. During this visit we once again took full advantage of the Museum's extensive collection of Southeast Asian mammalian comparative specimens. These proved invaluable



Ryan Rabett and Philip Piper taking radiocarbon samples at West Mouth, Niah.



Two generations of Niah Cave bone specialists: (from left to right) John Krigbaum, Earl of Cranbrook, Barbara Harrisson, Philip Piper, and Ryan Rabett.

The Lismore Island Landscape Project SIMON STODDART

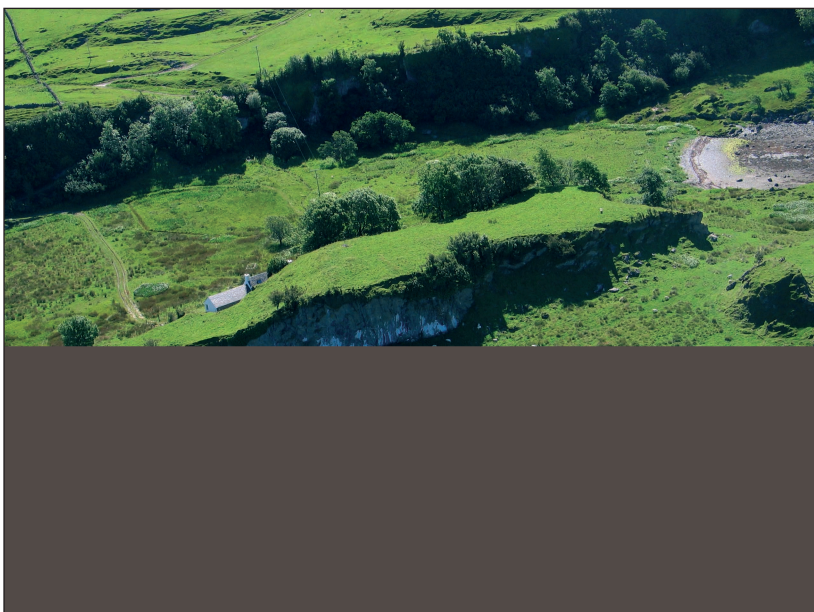
Lismore is a small island some 15 km long and up to 2 km wide covering some 22 sq. km off Oban in western Scotland. The project has been set up with the financial support of the McDonald Institute and Historic Scotland to study field monuments which date between the first millennium BC and the first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

In the second of two major field seasons, work during July 2005 was focused on five sites to assess a range of surface morphologies: the broch of Tirefour, a double enclosure near St Moluag's Chair, a later enclosure near St Moluag's cathedral, a ditched enclosure and a fort near Coeffin Castle. The results dating from the Neolithic to the post-medieval have clarified considerably the life histories of these sites.

A second season of work on the broch of Tirefour concentrated on the entrance to the monument. Intriguing structural details of the entrance were uncovered, including the drystone foundations interwoven with the fissures of the bedrock and the probable pivot hole of the gate. A distinctive Roman fibula set within the foundations has provided an interim date for the remodelling of the entrance, until samples of the considerable quantities of faunal remains have been submitted for radiocarbon dating. Later bronze finds show that use of the monument continued well into the twelfth century AD.



Coeffin fort from the northwest. (Photo: Paul Pattison.)



As a complementary fieldwork approach, Paul Pattison of English Heritage and Rupert Housley of Glasgow University are providing valuable insights into the built and natural environment which surround the sites, by detailed GPS recording and pollen analysis respectively.

Tirefour broch from the northwest under excavation. (Photo: Paul Pattison.)

The Roots of Spirituality IAIN MORLEY

The Roots of Spirituality project, funded by a grant from the John Templeton Foundation secured by Professor Renfrew, commenced research at the start of the 2004–2005 academic year. The aim 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. Since its inception, the project has employed a secretary (Ms Denise Schreve) and Research Associate (Dr Iain Morley, who is also a Research Fellow of Darwin College).

The first symposium was held in the McDonald Institute from 14–16 September 2005, entitled ‘Image and Imagination: Material Beginnings. The Global Prehistory of Figurative Representation’ (p. 8). This was convened by Colin Renfrew and Iain Morley, with the assistance of an advisory committee comprised of Chris Scarre (McDonald Institute), Richard Lesure (UCLA), Lynn Meskell (Stanford) and Koji Mizoguchi (Kyushu), each of whom also contributed academically as participants. This first symposium took a world view on early figuration, considering the earliest and then subsequent occurrences of figurative representation in different regions, including Europe, Mesoamerica, South America, Africa, India, China, the Near East and Australia. It is in the development of figurative representation (anthropomorphic imagery, as well as zoomorphic and therianthropic — combined — imagery) that we expect to find the roots of religious iconicity. Some such representations may also relate to notions of ancestors — a different dimension of spirituality — and some may relate to portraits of living individuals, linked with the formation of new ideas of personal identity. This is a major and rich area for research, strongly rooted in the archaeological record, which leads directly to many questions in the archaeology of ritual and religion. Each of the 28 invited participants contributed a full paper in advance, which was pre-circulated, allowing participants to consider the



Richard Lesure conversing with Robert Hinde at a reception for the ‘Image and Imagination’ conference.

PUBLICATIONS

Iain Morley

- 2005 The long-forgotten melody? Music in the Mesolithic, in *Mesolithic Studies at the Beginning of the 21st Century*, eds. N. Milner & P. Woodman. Oxford: Oxbow.
- 2005 Review of *Braindance* by Dean Falk. *Archaeological Review from Cambridge* 20(1), 153–5.

papers before the symposium. It was thus possible for the three days of the symposium to be structured around discussion of the contributions, summaries of which were presented.

These papers are currently being collated to form a monograph, to be edited by Colin Renfrew and Iain Morley, which has been accepted for publication by the McDonald Institute. The project is also now in the process of formulating the focus of the next symposium, to take place in 2006, which is likely to concern the earliest evidence of units of measure, as a theme within wider conceptions of the world and cosmology.

Horse Palaeopathology MARSHA LEVINE

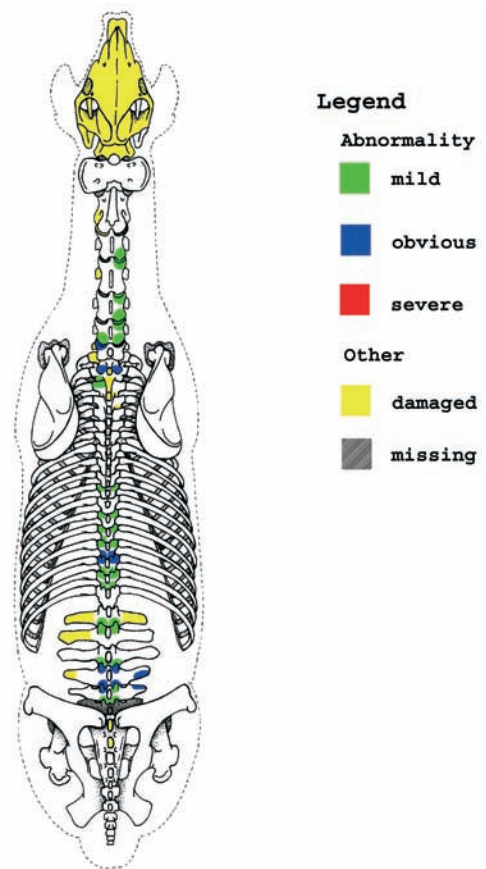
The overall objective of this project, which is funded by the AHRC and the Isaac Newton Trust, is to identify osteological differences between riding, traction and free-living horses, resulting from their different life ways, in order to further our understanding of the origins and evolution of horse 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; Dr Maša Amatt, as Technician, and Katherine Whitwell, FRCVS, as consultant veterinary pathologist.

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. We therefore hypothesize 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. Various other researchers have discussed pathologies which they associate with the use of horses and cattle for traction and riding. Baker and Brothwell were instrumental in developing an awareness of the potential of this approach for archaeozoology. However, although there are reasonably numerous case studies of individual pathologies, there is very little in the way of systematic analyses. This is not surprising. Such research is very time consuming and expensive.

The core of this project is to systematically compare horses from a variety of different populations with different life-ways. We are examining samples of complete skeletons from three populations of modern horses. Our control samples so far comprise twelve free-living Exmoor ponies; nine Lithuanian

M191 is the highest ranking of all the Qin tombs excavated at Sun Jia Nan Tou. This grave had three coffins, one inside the other, with the extended corpse within the innermost coffin. Bones of a horse and the skeleton of a dog were also found within the burial. Six human sacrifices were placed in coffins in niches in the walls of the grave.



Chinese chariot horse skeleton, showing schematically the location and severity of bony changes.





Pit 3, chariot A at the cemetery site of Sun Jian Nan Tou (Fengxiang, Shaanxi Province).

Sun Jian Nan Tou (Fengxiang, Shaanxi). Professor Jiao Nanfeng (Director, Archaeology Institute of Shaanxi) facilitated our work in Fengxiang. Mr Tian Yaqi, Head of the Yong City Archaeological Team (Fengxiang County) is the field archaeologist responsible for the excavation of the chariot horses we studied during the autumn of 2004. He kindly provided us with skeletons, information and excellent working conditions.

Dr Linas Daugnora, Head of the Department of Anatomy and Histology at the Lithuanian Veterinary Academy, Kaunas, is providing the project with modern traction skeletons. During June 2005, Dr Levine went to Kaunas, where she studied three medieval horse skeletons.

Dr Mark Holmes (Department of Clinical Veterinary Medicine, Cambridge) and Dr Maria Otchir-Goriaeva (Kalmyk Institute of Humanitarian Research, Russian Academy of the Sciences) are collaborating with us on a saddle-pressure study, the purpose of which is to improve our understanding of the very distinctive abnormalities often associated with the Early Iron Age, Scytho-Siberian horses.

draught horses, and two British riding ponies. The archaeological samples include Scytho-Siberian riding horses that wore pad saddles and medieval horses that wore frame saddles, as well as Chinese chariot horses. The results of this project should help us to better understand the osteological material from settlement sites relevant to the origins and evolution of horse husbandry.

Our main collaborator in China is Professor Li Shuicheng (Department of Archaeology, Peking University, Beijing). He arranged with the Shaanxi Archaeology Institute, Xi'an, that we be given permission to study twelve chariot horse skeletons, dating to the early Spring and Autumn Period (seventh century BC), from a cemetery site called



Marsha Levine teaching Chinese student, Song Yanbo, who was assigned to work on the project.

Hunters and Herders in Istria, Croatia PRESTON MIRACLE

Dr Preston Miracle directed post-excavation analyses of Palaeolithic materials excavated by the 'Pupićina Cave Project' during four weeks in the summer of 2005 in Labin, Croatia. Significant progress was made in the analysis of Late Upper Palaeolithic faunal and lithic remains from Pupićina, Vešanska, and Nugljanska Caves. As in previous study seasons, Miracle's zooarchaeological team included a healthy mix of research students (D. Orton from Cambridge, S. Radović from Zagreb), recent Cambridge undergraduates (P. Spry-Marques), and graduates from other universities (C. Stimpson



Ivšišće with Učka Mountain in background.

from York). Darko Komšo (Archaeological Museum of Istria) and Paolo Pellegatti (research student at UC Berkeley) completed work on Upper Palaeolithic lithic assemblages and lithic raw material sourcing. Andrea Balbo (research student at Cambridge University), as part of his PhD research, led a small team of 3–4 archaeology students in the testing of three open-air lithic scatters located in vineyards on the southwestern margin of former Čepić lake.



Frankoli excavating: Pia Spry-Marques and Chris Stimpson.

The most significant discovery was Ivšišće, which yielded an important collection of Aurignacian-type artefacts. This is the first site of its kind in Croatia, Slovenia and north-eastern Italy; the site certainly warrants more extensive excavation. Two Mesolithic sites, Frankoli and Kostadini were also tested. The latter yielded a substantial assemblage of lithic artefacts, including all stages of lithic reduction and geometric microliths made using the microburin technique.

These sites attest to the importance of the palaeolake and marshland for prehistoric hunter-gatherers in the region and the archaeological potential of open-air sites in karstic environments. The final surprise of the field season was a fine 'malvazija' white wine (bronze medal of Istria winner) made from grapes grown on the Kostadini site, revealing an underappreciated contribution of the Mesolithic!

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