

**BRITISH ASSOCIATION FOR BIOLOGICAL ANTHROPOLOGY
AND OSTEOARCHAEOLOGY
ANNUAL REVIEW**

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Welcome to the BABAO Annual Review 2004.....	4
Association News.....	4
ANNUAL REPORT.....	4
MEMBERSHIP REPORT.....	5
UK ACCREDITATION OF PROFESSIONAL ARCHAEOLOGISTS AND ARCHAEOLOGICAL SPECIALISTS.....	6
GUIDELINES TO THE STANDARDS FOR RECORDING HUMAN REMAINS.....	7
BODIES THE BRITISH AND IRISH ON-LINE DATABASE INDEX TO EXCAVATED HUMAN REMAINS.....	7
PUBLIC POLICY: RESPONSES TO CONSULTATIONS.....	8
BABAO SMALL GRANTS SCHEME.....	8
THE ASSOCIATION FOR ENVIRONMENTAL ARCHAEOLOGY (AEA).....	8
BABAO MANAGING COMMITTEE CALL FOR NOMINATIONS.....	10
People.....	10
News and Project Updates.....	10
NEW GUIDELINES FOR THE TREATMENT OF HUMAN REMAINS EXCAVATED FROM CHRISTIAN BURIAL GROUNDS IN ENGLAND.....	10
THE WELLCOME OSTEOLOGICAL RESEARCH DATABASE AT THE MUSEUM OF LONDON – ONE YEAR ON.....	11
THE NEW HUNTERIAN MUSEUM AT THE ROYAL COLLEGE OF SURGEONS, LONDON.....	12
INTERNATIONAL STUDIES CONTINUE ON THE PATHOLOGY OF THE MOUNTAIN GORILLA.....	13
Palaeopathology.....	13
PPA NEWSLETTER – NEW WEB RESOURCES COLUMN.....	13
PATHOLOGICAL CASE: A RARE PARIETAL APERTURE - AN ABNORMAL VASCULAR FORAMEN?.....	14
Departmental Reports.....	16
SCHOOL OF ARCHAEOLOGY AND PALAEOECOLOGY, QUEEN'S UNIVERSITY BELFAST.....	16
INSTITUTE OF ARCHAEOLOGY AND ANTIQUITY, UNIVERSITY OF BIRMINGHAM.....	16
CENTRE FOR THE HISTORY OF MEDICINE, UNIVERSITY OF BIRMINGHAM MEDICAL SCHOOL.....	17
FORENSIC AND BIOARCHAEOLOGICAL SCIENCES GROUP, BOURNEMOUTH UNIVERSITY.....	18
BIOLOGICAL ANTHROPOLOGY RESEARCH CENTRE, DEPARTMENT OF ARCHAEOLOGICAL SCIENCES, UNIVERSITY OF BRADFORD.....	20
THE UNIT OF ANATOMY AND FORENSIC ANTHROPOLOGY, SCHOOL OF LIFE SCIENCES, UNIVERSITY OF DUNDEE.....	22
DEPARTMENT OF ANTHROPOLOGY, UNIVERSITY OF DURHAM.....	23
DEPARTMENT OF ARCHAEOLOGY, UNIVERSITY OF DURHAM.....	23
RESEARCH CENTRE IN EVOLUTIONARY ANTHROPOLOGY AND PALAEOECOLOGY, SCHOOL OF BIOLOGICAL AND EARTH SCIENCES, LIVERPOOL JOHN MOORES UNIVERSITY.....	25
FACULTY OF MEDICINE, IMPERIAL COLLEGE LONDON.....	25
PALAEOHEALTH AND DIET AT READING.....	25
DEPARTMENT OF ARCHAEOLOGY, UNIVERSITY OF SHEFFIELD.....	26
DEPARTMENT OF ARCHAEOLOGY, UNIVERSITY OF SOUTHAMPTON.....	27
New Courses.....	28
FORENSIC AND BIOARCHAEOLOGICAL SCIENCES GROUP, BOURNEMOUTH UNIVERSITY.....	28
Postgraduate Research Abstracts.....	28
Excavations of Human Remains 2003-2004.....	31
EXCAVATION AND ANALYSIS OF HUMAN SKELETAL REMAINS BY AOC ARCHAEOLOGY GROUP.....	31
UNIVERSITY OF BRADFORD/BARC: OSTEOARCHAEOLOGY CONTRACT SERVICE.....	32
MUSEUM OF LONDON AND SPECIALIST SERVICES/CENTRE FOR HUMAN BIOARCHAEOLOGY.....	33
SITES EXCAVATED BY THE NORFOLK ARCHAEOLOGICAL UNIT WITH HUMAN REMAINS.....	33
POULTON RESEARCH PROJECT.....	35

Conference Reports.....35

REVIEW OF THE SIXTH ANNUAL CONFERENCE OF BRITISH ASSOCIATION FOR BIOLOGICAL ANTHROPOLOGY AND OSTEOARCHAEOLOGY, BRISTOL 10-11 SEPTEMBER 2004 35

15TH EUROPEAN MEETING OF THE PALEOPATHOLOGY ASSOCIATION, DURHAM, U.K. 10TH-14TH AUGUST 2004..... 36

Forthcoming Conferences.....37

PALEOANTHROPOLOGY SOCIETY..... 37

THIRTY-SECOND ANNUAL PALEOPATHOLOGY ASSOCIATION MEETING..... 37

74TH ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF PHYSICAL ANTHROPOLOGISTS 37

WARFARE AND VIOLENCE IN PREHISTORIC EUROPE..... 38

16TH PALEOPATHOLOGY ASSOCIATION EUROPEAN MEETING..... 38

EUROPEAN ANTHROPOLOGICAL ASSOCIATION 15TH INTERNATIONAL CONGRESS..... 38

BRITISH ASSOCIATION FOR BIOLOGICAL ANTHROPOLOGY AND OSTEOARCHAEOLOGY 38

VISUALISING PAST ENVIRONMENTS: NEW DIRECTIONS IN PALAEO-LANDSCAPE STUDIES 39

AEA2006, UNIVERSITY OF EXETER, 28TH - 30TH MARCH 2006 "NOVEL ENVIRONMENTAL ARCHAEOLOGY: INTEGRATING NEW LINES OF EVIDENCE AND RETHINKING ESTABLISHED TECHNIQUES" 39

Members Publications (2003-2004)..... 41

Obituary..... 43

Membership List..... 44

Grant Award Application 2005..... 47

WELCOME TO THE BABAO ANNUAL REVIEW 2004

Welcome to the sixth edition of the BABAO Annual Review. It contains extensive reports of members' news, of archaeological projects, of museum and university activities, of conferences and of members' publications, all of which testify to the good health of the field.

In addition, there are summaries of new and continuing Association initiatives, including responses to consultations; exploration of mechanisms for professional accreditation; the BABAO-sponsored skeletal database project; our new small grants scheme; and our new collaborative link with the AEA.

We hope that you will enjoy reading about all of this, and that you will continue to support the Association in 2005!

ASSOCIATION NEWS

British Association for Biological Anthropology and Osteoarchaeology Annual Report

*by James Steele (Chair), University of
Southampton*

It is very good to be able to record the publication of the Association's recording guidelines document, and also to record progress in implementing the Association-sponsored skeletal database project (see articles below).

The Association has built a very welcome active link with the Association for Environmental Archaeology, with each Executive Committee represented by one of its members at meetings of its counterpart. We have agreed reciprocal membership rate discounts on attendance at each Association's conferences, and we have agreed to organize a series of joint sessions on themes of common interest at each other's annual meetings (see also David Robinson's article, below). We have also explored policy issues of common interest, most notably that of professional accreditation.

The Association was involved in a number of public policy consultations in 2004, relating to burial law and to the criteria for retention for scientific study of historic human remains. The joint English Heritage/Church of England working group has produced an excellent Guidance document which seems to address the needs of each of the principal stakeholders (see Simon Mays' news item, below). It is less clear whether the DCMS consultation exercise will achieve a similar feat, although there are at least some indications that the licensing regime proposed in the original Palmer Report will not now be implemented.

The Association continues to be involved in issues relating to professional standards. One issue raised by a member at the 2003 BABAO AGM concerned the possibility that competent human osteologists were being undercut on contracts by inexperienced tenderers, to the detriment of standards in this field. The Committee's view then was that the BABAO should not seek to establish its own accreditation mechanism (either through a Register, or through a new category of Membership), because of the implementation costs and the financial liability that would ensue if this was to be done with any credibility. However, the Association has been providing leadership in defining standards of work in our field (for example, see Guidelines, below), and it is appropriate that we should explore mechanisms for implementing them. The AEA has similar concerns about standards in competitive tendering, and has also historically taken a similar view to BABAO's on its own role in accreditation.

It is the statutory duty of the local archaeological curators - the local authority and national parks archaeologists - to ensure that mitigation work done under the auspices of PPG 16 is carried out to the required professional standard. One option would therefore be to begin a dialogue about this issue with the curators.

As another route to be explored, David Robinson (Chair, AEA), Peter Hinton (Director, IFA) and I met in late 2004 to consider the IFA's own involvement in accreditation of specialists. Other accreditation schemes do of course now exist, such as the proposed NVQ-equivalent qualification of the Archaeological Training Forum, and National Occupational Standards for Archaeology (www.torc.org.uk/nos/index.asp).

There is also the ILT scheme for academic archaeologists (www.heacademy.ac.uk).

It was agreed that the BABAO and AEA committees would canvas their membership for level of interest in an IFA-managed accreditation scheme. Any such scheme would require Association involvement, to the extent that a pool of experienced specialists would be needed for its actual implementation. I can see genuine merits in such a scheme, not least because it might enable us to look more closely at the mechanisms available for monitoring career progression and for providing mentoring in the immediately post-degree phase of a specialist's professional development. I can also see merit in tracking developments in the establishment of accreditation protocols in the archaeological profession at large, as we determine an appropriate level of response in our own field. David Robinson and I have prepared a consultation note (reproduced below and in the AEA's current newsletter). Please take the time to respond to it, whatever your feelings may be on this matter. I would be delighted to hear your views, by email or letter.

Finally, it is a great pleasure to recognize once again the hard work of the BABAO's Executive Committee. Thanks are due to outgoing members Becky Gowland, Margaret Judd and Darlene Weston for their service to the Association, and to Holger Schutkowski and Jackie McKinley for agreeing to serve another term in the posts of Secretary and Treasurer, respectively. May I draw your attention to the Call for Nominations (below). Please feel free to contact me informally if you would like to discuss standing for election, or other opportunities that exist for serving the Association. I would be very happy to hear from you.

British Association for Biological Anthropology and Osteoarchaeology Membership Report

*by Margaret Clegg (Membership Secretary)
University of Southampton*

This has been a very good year for membership of the association. In 2004, we have again reached the magic 200 members. Seventy-five percent of

existing members renewed their subscription in 2003. We seem to have had more success at retaining student members with only 40% of those not renewing last year being students. We recruited 43 new members during 2004 and have had 7 new members so far this year (2005).

Overseas subscriptions stand at 32 representing 15% of the membership, a large increase in our international presence. Our overseas members come from Canada (10), Europe (14) including Ireland, Sweden, Norway, Greece, Germany, Hungary, Spain and the Netherlands. We also have 2 US members, 2 Australian members and 1 from each of the following, India, Brazil and South Africa.

As in previous years we have a diverse range of interests and occupations among our members. I have included a table below showing a breakdown of some of the larger membership categories, as described by the members themselves.

Membership categories	Percentage of Membership
Students	29%
Academics	16%
Osteologist/bone specialists	8%
Anthropologists/archaeologists	14%
Researchers	6%
Teachers	3%
Retired	1%
Medical	1%
Work in Museums	1%
Forensic specialists	2%
Work in Unit	2%
No occupation supplied	2%
Other	15%

In the category of other occupations is included such diverse professions as librarians, administration, anatomy technician writer and funeral director.

The wide range of occupations and affiliations in the association's membership gives us a lively and interesting membership.

This year I have instituted payment by standing order so far 19% of the membership have taken up this option of paying subscriptions. I am also hoping to introduce payment by credit card as an option on the Website in the near future.

If anyone has any questions regarding membership then please contact me at the address

inside the front cover of the review or you can e-mail me at: M.Clegg@soton.ac.uk

UK Accreditation of Professional Archaeologists and Archaeological Specialists

A joint BABAO-AEA initiative

In recent months the Management Committees of the Association for Environmental Archaeology (AEA) and the British Association for Biological Anthropology and Osteoarchaeology (BABAO) have been looking closely at the subject of accreditation of professional archaeologists and archaeological specialists in the UK. This has been in response to two main stimuli:

- queries from members working in commercial archaeology who are interested in accreditation in a professional capacity, as a mechanism that would help maintain standards in contract work;
- actions, consultation and policy statements by UK Heritage agencies (English Heritage, CADW, Historic Scotland, and Environment & Heritage Agency for Northern Ireland), in response to the voluntary code of conduct agreed in the *European Convention on the Protection of the Archaeological Heritage (Revised)*, Valetta, 1992.

Our activities so far have involved several meetings with representatives of the Institute of Field Archaeologists (IFA) and of English Heritage's Department of Policy and Communication. Members of the latter are currently involved in producing a paper of recommendations on the subject to be presented and discussed later in the year. These recommendations if accepted will be applied to archaeological work funded and or managed via the national agencies. It is expected that there will be a knock-on effect reaching the commercial sector. The likely mechanisms for accreditation are either to set up a new accreditation body or to adapt and use existing procedures operated by the IFA.

There are plans for an initial accreditation process involving peer review and according to a number of appropriate professional categories.

Accreditation will then be reviewed at regular intervals (probably 5 years), when applicants will be required to demonstrate that they have maintained and developed their professional expertise.

Discussions were held with the IFA as they are presently the main body involved in accreditation in the UK and, as already mentioned, seem likely to play a central role in one form or another in future accreditation processes. The AEA & BABAO do not see themselves as able to be responsible for accreditation and all the associated legal implications.

Following on from discussions with the IFA the management committees of the AEA and BABAO and the IFA Council have agreed to carry out a pilot exercise to examine accreditation more closely. In particular we will be examining accreditation categories and the special requirements associated with these. An attempt will also be made to look at costing the exercise – how much money would be needed to set up the accreditation process and what it is likely to cost to become accredited and maintain accreditation? Which accreditation categories are appropriate and practical – generalists (e.g. project managers, environmental officers etc.) and specialists (e.g. human osteologists, archaeozoologists, etc.)? On which criteria should accreditation be based? How should it be carried out – how can it be made quick, easy and unbureaucratic while maintaining its effectiveness? Both organisations have already declared their willingness to provide a pool of specialists willing to be involved in the peer review process.

The next step in the pilot exercise is to consult BABAO and AEA members. What are your views on the subject of accreditation? We are interested in responses both from UK and non-UK members. Experiences from similar exercises in other countries can be invaluable in identifying the problems and pitfalls and also in pinpointing how the process can be made as effective as possible for the least investment of time, money and bureaucracy.

Please respond to James Steele (BABAO members, email: tjms@soton.ac.uk) and/or David Robinson (AEA members, email: DavidEarle.Robinson@english-heritage.org.uk).

Guidelines to the Standards for Recording Human Remains

INSTITUTE OF FIELD ARCHAEOLOGISTS PAPER NO. 7

Editors: Megan Brickley and Jacqueline I McKinley

It is very good to be able to record the publication in 2004 of these guidelines, written by the Association and published in collaboration with the IFA. Their usefulness was already evident from references in several presentations at the September Annual Meeting. Congratulations and thanks are due to the editors and the contributors for all their hard work.

The contents are listed below. A PDF version is available from the IFA, and is also archived on the Association web site.

Contents

- 1 Introduction *Megan Brickley*
- 2 Compiling a skeletal inventory: articulated inhumed bone *Megan Brickley*
- 3 Compiling a dental inventory *Brian Connell*
- 4 Compiling a skeletal inventory: cremated human bone *Jacqueline I McKinley*
- 5 Compiling a skeletal inventory: disarticulated and co-mingled remains *Jacqueline I McKinley*
- 6 Guidance on recording age at death in adults *Linda O'Connell*
- 7 Guidance on recording age at death in juvenile skeletons *Megan Brickley*
- 8 Determination of sex from archaeological skeletal material and assessment of parturition *Megan Brickley*
- 9 A note of the determination of ancestry *Linda O'Connell*
- 10 Metric and non-metric studies of archaeological human bone *Don Brothwell and Sonia Zakrzewski*
- 11 Guidance on recording palaeopathology *Charlotte Roberts and Brian Connell*
- 12 Recording of weapon trauma *Anthea Boylston*
- 13 Sampling procedures for bone chemistry *Mike Richards*
- 14 After the bone report: the long-term fate of skeletal collections *Simon Mays*
- Bibliography
- Appendix 1 Infant skeletal record sheet
- Appendix 2 Juvenile skeletal record sheet
- Appendix 3 Adult skeletal record sheet
- Appendix 4 Juvenile skeletal inventory
- Appendix 5 Adult skeletal inventory

BODIES The British and Irish On-line Database Index to Excavated human remains

*by Charlotte Roberts and Andrew Millard
University of Durham*

The BABAO committee has long identified the need for a database of excavated human remains from the British Isles. In 2003 the committee drew up a draft specification for the content of a database, and we agreed to write a proposal for AHRB funding.

Human osteologists, physical anthropologists and archaeologists currently have great difficulty when they wish to discover what human remains have been excavated in Great Britain and Ireland, whether they have been studied, if they are curated and where they might be. This project seeks to remedy the problem with a freely accessible on-line database of excavated human remains from archaeological sites.

We propose a collaborative project to develop a database of human remains from archaeological sites in England, Wales, Scotland, Northern Ireland, the Republic of Ireland and the Isle of Man. This will provide a valuable resource for resident and foreign academic researchers from undergraduates to professors seeking to locate and access human remains germane to their research questions. It will also enable the state agencies which manage archaeological resources to know what has been excavated, to identify gaps in knowledge (e.g. by period or funerary context) and thus to place new or proposed excavations in a better context.

In the summer of 2003 we circulated a preliminary outline to about 30 individuals and organisations including the national museums and state heritage organisations of the five countries as well as universities we knew to hold significant osteological collections. Based on comments on this outline, we drafted an AHRB Resource Enhancement Scheme application for this project, which was further revised following comments from BABAO members, and submitted to the autumn 2004 AHRB deadline. It can be viewed online at:

http://www.dur.ac.uk/a.r.millard/BODIES/AHRB_Draft.html

Although if funded this project will be run from Durham University, we intend that it should be an open project, co-operating with, and primarily for the benefit of, human osteologists throughout the British Isles.

Public Policy: Responses to Consultations

In 2004 the Association, through its Executive Committee, responded to the following consultations:

- Church Archaeology and Human Remains Working Group (see Simon Mays' news article, below);
- Home Office Consultation on Burial Law Reform;
- DCMS Care of Historic Human Remains Consultation.

The Association's original submissions to the CAHRWG and to the DCMS Working Group are archived on the web site. Our subsequent and detailed response to the DCMS consultation document was circulated on the Email List, and has also been archived on the web site.

The CAHRWG has now published its conclusions as an English Heritage Guidance document (*Guidance for Best Practice for Treatment of Human Remains Excavated from Christian Burial Grounds in England*, 2005), and this is available on the EH and CofE's web sites (see Simon Mays' article, below).

The DCMS has not yet published its response to the consultation exercise, although this is expected in early 2005. The Association will continue to monitor and respond to developments in this policy debate, through its Executive Committee.

BABAO Small Grants Scheme

by Sonia Zakrzewski

In October 2004 the BABAO committee approved funding for a series of small project grants which

are available, by competition, to ALL members of the association. A copy of the application form is found in the Annual Review and upon the association website.

Each year two grants will be awarded, of not more than £500 each. These grants may be used to support research in biological anthropology and osteoarchaeology, both to undertake the research directly, and to commission specialist services required in the course of the research project. They may NOT be used to fund conference attendance. Specialist equipment required to undertake a project is unlikely to be funded unless it is highly specific to the research project, and, if this is the case, the applicant must also demonstrate that the funds could not reasonably be obtained from other sources (such as the developer).

The closing date for receipt of applications for the current year is 15th May 2005. Applications must be sent by post to the committee, care of Dr Sonia Zakrzewski, BABAO Project Grants, Department of Archaeology, Avenue Campus, Highfield, Southampton, SO17 1BF. Grant proposals will then be reviewed by the Association's Executive Committee and two grants of up to £500 will be awarded. Notification will be given to the applicant, the BABAO e-mail list and the BABAO webpage.

Grant winners are expected to present their research at the BABAO conference in the year following the award (so 2005 grant winners are expected to give either a paper or a poster at the 2006 conference). Publication of the research in the conference proceedings is also expected.

Guidance for completion of the application form is to be found on the BABAO web site.

The Association for Environmental Archaeology (AEA)

by David Robinson (Chair, AEA)

The Association for Environmental Archaeology (AEA) is very pleased to have established formal links to BABAO. The management committees of the two organisations have already been working closely together on several matters including the question of Accreditation of Archaeological

Specialists (see elsewhere in this Newsletter) and joint sessions are currently being planned for upcoming BABAO and AEA conferences in London and Exeter. We look forward to collaborating in many other areas in the future.

The 1970s saw a great expansion in the application of methods drawn from the natural sciences to archaeology. Many of the specialists involved came from non-archaeological backgrounds – having typically been trained in natural and earth sciences. The AEA was formed in 1979 and provided a very welcome forum for communication between diverse groups of people working in environmental archaeological research. Osteoarchaeologists played a central role in the foundation of the Association, for the “Gang of Four” environmental archaeologists based at the Institute of Archaeology in London who were instrumental in its inception included Don Brothwell and Simon Hillson (the others were Geoff Dimbleby and Nick Balaam). Further impetus came from York, where Allan Hall, Harry Kenward and Andrew Jones were attempting to bring together environmental archaeologists in the North of England. They linked to the AEA and started the Newsletter which later developed into the journal *Circaea* (in which they were subsequently joined by Terry O'Connor), the forerunner of the AEA’s present journal *Environmental Archaeology*.

The AEA recently celebrated its 25th Anniversary with a very successful conference held on the Federsee at Bad Buchau, Southern Germany. As was made abundantly clear at this conference, much has changed in the intervening period. There have been great developments in education and training. Environmental archaeology is now regularly found on the curriculum of most university departments offering courses in archaeology, producing a new generation of environmental archaeologists. Moreover, there have been great advances in the integration and synthesis of archaeological and environmental archaeological data and a blurring of many of the boundaries between them. Throughout there had been a basic recognition of the importance of understanding the relationships between people and their environment.

The Association now has nearly 400 members and although the organisation is still very much UK-centred, the proportion of overseas members is continually expanding. Presently, about 66% of members are UK-based, 24% are from the rest of

Europe, with the remainder distributed elsewhere around the world.

The Association publishes a journal *Environmental Archaeology: The Journal of Human Palaeoecology*, producing two issues a year covering a wide range of topics within the field, from methodology to synthesis and theory. A quarterly Newsletter is also distributed to members containing information about forthcoming events, current research and latest publications for example.

Two conferences are held each year - the main conference usually lasts 2-3 days and the proceedings are generally published – and there is a one-day meeting, where the emphasis is on work in progress. This year the one-day meeting, with the title “Environmental Archaeology in Landscape Archaeology”, is being held in Winchester on the 31st March and the main conference will be held in Hull in September.

Perhaps the easiest way to gain an insight into our organisation and the benefits we offer members is to visit the AEA website: <http://www.envarch.net>.

As a BABAO member you are entitled to a range of offers from the AEA. For example, we are frequently able to offer books at a reduced price and you will be entitled to register for AEA conferences at discounted members’ rate. Perhaps you might also consider becoming a member and receiving a subscription to our journal. Membership is open to all with an interest in *Environmental Archaeology* – further details on the website.

We look forward to continued close collaboration in future.

Dr David E. Robinson (AEA Chair)
Archaeological Sciences
English Heritage
Fort Cumberland
Portsmouth PO4 9LD
UK

BABAO Managing Committee Call for Nominations

by Holger Schutkowski
University of Bradford

By the next AGM in September 2005 the following posts on BABAO Managing Committee will be available:

Post	Present member
Chair	James Steele
Membership Secretary	Margaret Clegg
Representative from a Professional Organization	Simon Mays

Existing post holders may stand for re-election. The duration of service is three years. Nominations must be proposed and seconded, and contain a personal statement of maximum 100 words by the Nominee. Nominees, proposers and seconders must be BABAO members. Please, send nominations to the General Secretary (h.schutkowski@bradford.ac.uk) by Friday, 29th July. A list of nominations will be sent out to the members with the Agenda for the Annual General Meeting.

PEOPLE

Jo Buckberry: appointed Experimental Officer in Biological Anthropology, Biological Anthropology Research Centre, Department of Archaeological Sciences, University of Bradford

Margaret Judd: appointed Assistant Professor, Department of Anthropology, University of Pittsburgh

Mary Lewis: appointed Lecturer, Department of Archaeology, University of Reading

Louise Loe: appointed Lecturer, Forensic and Bioarchaeological Sciences, University of Bournemouth

Linda O'Connell: is now a Senior Lecturer in Forensic and Biological Anthropology, University of Bournemouth

Jill Rhodes: appointed Associate in Research, Department of Biological Anthropology and Anatomy, Duke University, North Carolina, USA

Charlotte Roberts: promoted to Professor, Department of Archaeology, University of Durham

Martin Smith: appointed Research Assistant, Institute of Archaeology & Antiquity, University of Birmingham.

Tim Thompson: appointed Lecturer, Unit of Anatomy and Forensic Anthropology, University of Dundee

Darlene Weston: is now at the Max Planck Institute for Evolutionary Anthropology, Leipzig

NEWS AND PROJECT UPDATES

New guidelines for the treatment of human remains excavated from Christian burial grounds in England

by Simon Mays
English Heritage

Although England has been spared the sometimes polarised debate sparked by human remains in other countries, notably in Australasia and North America, this has meant that many ethical issues associated with the treatment of human remains have tended to remain implicit and poorly articulated. Most archaeologists and other professionals involved in excavation, study and archiving of human remains are conscious of the need to afford the dead respectful treatment and avoid offending religious or secular sensibilities, but standards for best practice specific to the English context have yet to be codified. This prompted English Heritage and the Church of England to convene a working group to produce a guidance document. The working group included representatives of the Church, archaeological and museum organisations, and the Home Office. Its remit covered burials from Christian contexts in England dating from the 7th – 19th century AD, including both churchyards in current use and disused burial grounds.

The working group has now produced a guidance document, published in late January 2005, summarising its deliberations. The document describes the current legal framework for the treatment of human remains and makes recommendations for best practice within this framework. It attempts to balance ethical considerations based on Christian theology against the recognised legitimacy of scientific study of human remains, while being aware of public attitudes concerning the disturbance of, and scientific work on, human remains. The report provides practical guidelines for the treatment of human remains in fieldwork projects, summarising the legal, ethical and scientific considerations pertinent at each particular phase of work, from project planning to archive deposition.

A major practical recommendation made by the working group is that a standing national advisory committee be set up jointly by English Heritage and the Church of England. This committee would comprise clergy, archaeologists and other professionals involved with human remains. It would be available to be called upon to offer advice on any aspect of the treatment of human remains from Christian burial sites, particularly in cases which are problematic or controversial.

The working group recognised that one area in which it may, on occasion, be difficult to reconcile different viewpoints is in long-term archiving of human remains. There may be instances when, from the scientific point of view, it is desirable that a collection of skeletal material should remain accessible for research, but other parties with legitimate interests, such as the Church or local public opinion, desire that remains be returned to consecrated ground. A possible solution in such cases may be deposition of remains in disused crypts or redundant churches; this might simultaneously satisfy desires for remains to be returned to consecrated ground but at the same time would, if suitable environmental controls were in place, ensure their physical integrity and continued availability to legitimate researchers. The document recommends that a working party, to succeed that which produced the guidance document, be set up to investigate further this option, looking particularly at funding and establishing proper working practices.

As well as providing guidance in the specific area of human remains from Christian burial sites, it is

hoped that the document will stimulate debate on best practice for dealing with remains from a wider range of contexts. Best practice can only be achieved by a balanced consideration which recognises the legitimacy of views whether based on religious faith, secular concepts of decency and respect for the dead, or on science. Collaborative initiatives between archaeologists and others with a legitimate interest in the treatment of human burials must surely be the way forward for tackling the complex array of issues raised by human remains.

Copies of the working group's document will be available from late January 2005 as a free download from the English Heritage (www.english-heritage.org.uk) or Church of England (www.cofe.anglican.org) websites.

The Wellcome Osteological Research Database at the Museum of London – one year on

*by Bill White
Museum of London*

The Centre for Human Bioarchaeology was launched officially in February 2004 and the first year of the Project has been marked by completion of the recording of the skeletons from the Royal Mint site. This is the largest sample included in the project (1034 skeletons, 616 of them from the Black Death trenches of 1348-9) and has been analysed in detail to current standards and recorded directly onto the electronic database. Following a trawl of material on loan to establishments throughout Britain, it has been possible to include skeletal remains from this site that had escaped all earlier recording since 1986. Therefore the current exercise ought now to be regarded as the definitive analysis for the Royal Mint site. Meanwhile, the recording of two further medieval sites and two of post-medieval date continue simultaneously. The Project is still on target for completion before the end of 2006.

Jelena Bekvalac, Lynne Cowal and Gaynor Western formed the inaugural team working on the Wellcome Trust-funded project. Sadly, Gaynor resigned but the team has been augmented since by the recruitment of Tania Kausmally and

Richard Mikulski. Meanwhile, Vanessa Bunton has left us, her work on the stratigraphic input, and the archaeological site summaries for the database, being completed.

In common with other interested parties the Museum of London participated in the multifarious consultation exercises throughout the year. With a total of 10 staff osteoarchaeologists performing research on over 12,000 of the c17,000 human skeletons curated by Museum, the responses co-ordinated by the Centre for Human Bioarchaeology were suitably robust.

In last year's Annual Review we were able to refute the suggestions that all 17,000 skeletons were to be reburied. This year interest in the core collection of sites of research value, if anything, has increased. External research on the Museum's curated human remains continued, with representatives of six different universities working in the Centre for periods from one to 13 weeks. This is close to the average over the past 5 years but the number of post-doctoral and postgraduate researchers signed up for 2005 already exceeds this total. A major aspect of our project is to publicise our skeletal holdings and attract scholars but this is happening ahead of time.

There has also been an increase in the thirst for knowledge on human remains by the museum-going public. Tours of the Centre for Human Bioarchaeology have attracted large numbers of participants. In particular, during the National Archaeology Days, 17-18 July, about 200 visitors passed through the Centre and 99 of them took the trouble to complete a questionnaire about their visit. They proved to be 100% in favour of the Museum retaining human skeletal remains for scientific research and were grateful for what they had learned from their visit. Interestingly, the approval rate for having human remains on display in the Museum's galleries was rather lower (88%), with 3% totally opposed to such displays. It may be argued that this is but a small sample and from a "captive audience" at that. What is significant is that there is no matching volume of protests at what we are doing nor of demands that the human skeletal remains be reburied. This could be because the local community is either more sophisticated or less sensitive than other parts of the UK or the rest of the world. It is far more likely that this relaxed attitude is typical of humanity as a whole and instead it is the likes of the DCMS Working Party

who are out of step, with their Majority Report recommendations.

The new Hunterian Museum at the Royal College of Surgeons, London

*by Jane Hughes
Audience Development Officer
Hunterian Museum, London*

Following major refurbishment work, the Hunterian Museum, London opened to the public on Saturday 12 February 2005.

The Hunterian Museum collections, brought together over four centuries by a cast of colourful characters including John Hunter, contain a fascinating mix of comparative anatomy and pathology specimens; complete skeletons, bones, skulls and teeth; dried preparations, corrosion casts and wax teaching models; historical surgical and dental instruments together with modern surgical instruments and technologies; as well as paintings, drawings and sculpture.

Over the last two years the museum has undergone a £3.2 million refurbishment to create new galleries and displays that allow visitors to explore the scientific, cultural and historical importance of the museum collections.

John Hunter's collection takes centre stage, with surrounding displays providing the historical context for his surgical and experimental work. Two new galleries explain the importance of the collections to the history of the College, science and the surgical profession and explore how the museum developed over the last two hundred years.

A dedicated gallery space contains many previously unseen treasures from the art collections and a new display features some of the extensive collection of historical surgical instruments.

On the upper floor a completely new exhibition - The Science of Surgery - will explore the development of surgical practice from the eighteenth century to the modern day, from the patient's as well as the professional's perspective.

A new gallery will contain a series of changing exhibitions, beginning with 'Saving Faces', a series of portraits of by Mark Gilbert, including pieces not previously shown in public.

The museum encourages the use of its' collections for research and teaching and has created a dedicated learning space as part of the Hunterian Museum redevelopment.

The MacRae Gallery - Room to Discover is a flexible space that will provide easy access to the collections for individual research, group study and practical tutorials. The space can also be used for seminars and small workshops. There is a range of equipment available to support hands-on use of the collections and taught sessions. This includes stereo- and light microscopes, micrometers, callipers and magnifiers, anatomical models and a data projector and screen.

In the coming months, the museum's database will be available on-line via a web OPAC. This will enable students and tutors to research and plan their visit to the museum in advance. The database uses internationally recognised thesauri and is easy to search using MeSH terminology and taxonomic names.

The Hunterian Museum is situated in the Royal College of Surgeons of England,
35-43 Lincoln's Inn Fields, London, WC2A 3PE.
It is open Tuesday – Saturday, 10am to 5pm.
Admission is free.

For more information on the Hunterian Museum or to book the MacRae Gallery contact Jane Hughes on 020 7869 6561, email: jhughes@rcseng.ac.uk or see the website: www.rcseng.ac.uk/services/museums

International studies continue on the pathology of the mountain gorilla

by Professor John E. Cooper School of Veterinary Medicine, University of the West Indies (UWI), St Augustine, TRINIDAD, West Indies

Ten years ago Professor John E. Cooper, Director of the Centre Veterinaire des Volcans, and his wife, Margaret, were evacuated from the genocide in Rwanda. In the weeks preceding their return to

Central Africa they started a study of pathological lesions in mountain gorillas using skeletons in museums in England.

A decade later that project continues and two scientific papers about the work are about to be submitted for publication. The study has also expanded to cover skeletal material in museums and collections in continental Europe, South Africa, Uganda and Kenya. It also now includes studies on non-skeletal material from gorillas especially skins and hair.

There are over 100 skeletons of mountain gorillas in the world's museums. They together with other material provide an opportunity for retrospective research on the pathology and diseases of this rare species. Many of the specimens are from animals that died or were killed decades ago and therefore provide valuable "baseline" data on the species – as well as possibly opening up possibilities for DNA and other molecular studies.

Further information about the study is available from the Coopers at the postal and e-mail addresses below. Offers of help are also welcome. This project is one that enables people to contribute to our understanding of the health of the mountain gorilla without ever setting foot in Rwanda, Uganda or the Congo!

John E. Cooper and Margaret E. Cooper, Makerere University, Faculty of Veterinary Medicine, Department of Wildlife & Animal Resources Management (WARM), P.O. Box 7062, Kampala, Uganda
Email: MUK_WARM@yahoo.com

Wildlife Health Services
PO Box 153, Wellingborough, Northants, NN8 2ZA. Email: NGAGI@compuserve.com
Overseas Email: NGAGI@vetaid.net

PALAEOPATHOLOGY

PPA Newsletter – new Web resources column

by Anastasia Tsaliki

I am the associate editor of a new column in the *PPA Newsletter* about useful web sites in palaeopathology and related disciplines, which

can be of value to senior scholars and students alike. Any of the following is more than welcome:

- names and links of web sites of osteological / palaeopathological / bioanthropological projects
- names and links of University / individual web pages with related material
- web addresses of related papers published online
- names and links of web sites of related journals, encyclopaedias, and dictionaries

Any help will be acknowledged.

Contact: Anastasia Tsaliki, Department of Archaeology, University of Durham, UK
Email: Anastasia.Tsaliki@durham.ac.uk

Pathological Case: A Rare Parietal Aperture - an abnormal vascular foramen?

by Trevor Anderson

A mature female Bronze Age skeleton from Broadstairs, Kent presents with a smooth edged cranial aperture on the left parietal bone, some 15mm posterior to the coronal suture and 9mm lateral to the sagittal suture. The almost circular aperture measures 7.5mm (antero-lateral – posterior-medial diameter) by 6.5mm (antero-medial – posterior-lateral diameter). The cranial vault is some 4mm thick at the site of the aperture and the foramen penetrates vertically. There is no evidence of any peripheral bone changes internally or externally. No other pathological lesions were noted on the cranial vault. There is a slight smooth concavity internally to the aperture. However, several other smooth depressions are present in the proximity of the sagittal suture. These depressions (arachnoid granulations) are perfectly normal findings and do appear to increase in number with advancing age (Williams & Warwick, 1980: 332)

The smooth edges of the aperture and the lack of any bone erosion does not support an infective process (Ortner & Putschar, 1985: Figs. 160-164,

232-239). In both metastatic carcinoma and multiple myeloma, multiple lesions would be expected (Strouhal, 1991; Wells, 1964). In the former, lesions would typically be small-medium sized with irregular “moth-eaten” edges (Strouhal, 1991). In the latter, small multiple “pepper-pot” lesions would appear to be “punched out” (Strouhal, 1991). There is no evidence of internal bone erosion that one would expect to see in cranial meningioma (Anderson, 2000: Fig. 5). There is no dry bone or radiological evidence of bone destruction that might occur in haemangioma (Ortner & Putschar, 1985: 377; Fig. 606). The small size of the foramen, as well as absence of any external scraping or cut marks does not support surgical intervention, such as trephination (Lisowski, 1967; Smrcka et al 2003; Steinbock, 1976: Figs. 16a,b,f). A healing depressed fracture would typically present with linear fissures and possibly some bone irregularity due to the reparative process (Boylston, 2000: Figure 4b-f).

A meningocele, a rare neural tube defect, will present as an isolated lesion, so-called cranial dysraphism (Barnes, 1994: 52). When the fronto-parietal region is involved the aperture occurs at the bregma (the junction of the coronal and sagittal sutures) (Barnes, 1994: 52). Also, due to the pressure and the pulsating nature of the herniated soft-tissue, the aperture is surrounded by a smooth, saucer shaped depression and by peripheral bony ridges (Barnes, 1994: Fig. 3.8; Stewart, 1975: Fig 1 right; Webb & Thorne, 1985). Neither of these diagnostic criteria is present in our case. The absence of a peripheral exocranial depression would also rule out an overlying epidermoid cyst (Barnes, 1994: 56).

It is well-known that the parietal bone may display non-pathological apertures just lateral to the sagittal suture (Hauser & de Stefano, 1989: Plate XII). However, such anatomical variants are typically small (1-2mm diameter) and invariably present on the posterior parietal, some 35mm anterior to the lambdoid bone (Hauser & de Stefano, 1989: 78; Plate XIIg). Much larger apertures, so-called permagna foramina are also known to occur at the same site (Boyd, 1930; Hauser & de Stefano, 1989: 78; Plate XIIIh). The parietal foramina are thought to transmit an additional blood vessel, connecting the occipital vein with the sagittal sinus (Hauser & de Stefano, 1989: 78).

The fact that the presented aperture does not appear to equate with a pathological process suggests that it may represent an atypically located parietal foramen. Possibly, the aperture may transmit an additional vein from the nearby sagittal sinus. Very interestingly two similar foramina at the same site, the anterior parietal, were noted on the aboriginal skull with the meningocele (Webb & Thorne, 1985). The circular foramina were located on the right and the left posterior edge of the pathological depression (ibid. Fig. 3). However, they were considered to be parietal foramina and not related to the meningocele.

No other definite British examples of an anomalous parietal foramen have been published. Interestingly, however, an Anglo-Saxon female from Kent presents with an abnormal occipital aperture (Anderson & Andrews, 1997: 230-232). In the latter, an almost circular foramen (diameter c. 5mm) was noted just anterior to the lambdoid suture, 14mm to the right of the lambda (Anderson & Andrews, 1997: Fig. 79). The edges of the foramen are slightly rounded off and the vicinity of the foramen is depressed. The surrounding external bone surface is heavily eroded post-mortem. It was considered that the eroded defect possibly represented a trephination although dysraphism and epidermoid cyst were considered as a differential diagnosis (Anderson & Andrews, 1997: 230-232).

The author would be most interested to hear of other published or unpublished examples of similar cranial apertures involving the anterior parietal bone.

References

Anderson, T. (2000) Congenital conditions and neoplastic disease. In: Cox, M. & Mays, S. (eds) *Human Osteology in Archaeology and Forensic Science*. (Greenwich Medical Media) London. pp. 199-226.

Anderson, T. & Andrews, J. (1997) The human bones. In: Parfitt, K. & Bruggmann, B. *The Anglo Saxon Cemetery on Mill Hill, Deal, Kent*. (Medieval Archaeology Monograph Series No 14) London. Appendix II: 214-239.

Boylston, A. (2000) Evidence for weapon-related trauma in British archaeological samples. In: Cox, M. & Mays, S. *Human Osteology in Archaeology*

and Forensic Science. (Greenwich Medical Media Ltd) London pp. 357-380.

Hauser, G. & de Stefano, G.F. (1989) *Epigenetic variants of the Human Skull*. (E. Schweizerbart'sche Verlagsbuchhandlung) Stuttgart.

Lisowski, F.P. (1967) Prehistoric and early historic trepanation. In: Brothwell, D.R. & Sandison, A.T. *Diseases in Antiquity*. (C.C. Thomas) Springfield pp. 651-672.

Ortner, D.J. & Putschar, W.G.J. (1985) *Identification of Pathological Conditions in Human Skeletal Remains*. (Smithsonian Institution Press. Contributions to Anthropology Number 28) Washington.

Smrcka, V., Kuželka, V., Melková, J. (2003) Meningioma probable reason for trephination. *International Journal of Osteoarchaeology* 13: 325-330.

Steinbock, R.T. (1976) *Paleopathological Diagnosis and Interpretation. Bone Diseases in Ancient Populations*. (C.C. Thomas) Springfield

Stewart, T.D. (1975) Cranial dysraphism mistaken for trephination. *American Journal of Physical Anthropology* 42: 435-437.

Strouhal, E. (1991) Myeloma multiplex versus osteolytic metastatic carcinoma; differential diagnosis in dry bones. *International Journal of Osteoarchaeology* 1: 219-224.

Webb, S.G. & Thorne, A.G. (1985) A congenital meningocele in prehistoric Australia. *American Journal of Physical Anthropology* 68: 525-533.

Williams, L. & Warwick, R. (eds) (1980) *Gray's Anatomy*. 36th ed (Churchill-Livingstone) Edinburgh.

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DEPARTMENTAL REPORTS

School of Archaeology and Palaeoecology, Queen's University Belfast.

by Rick Schulting

Over the last year a number of projects dealing with aspects of dietary analysis have been completed or initiated. One of the main goals is to compare different indicators, which can be expected to provide information on human diet at different time scales.

Nick Beer in 2004 completed his MSc dissertation entitled An investigation into the diet of two Scythian period populations from southern Siberia, utilising stable isotope and dental palaeopathological analyses. The results of this study are being prepared for publication.

Rowan McLaughlin has begun his PhD research on the topic Dental Microwear Investigations into the Diets of Hunter-Gatherers and Early Farmers. The research will look at methodological issues with microwear analysis, and include experimental work. The main substantive focus will be on the Mesolithic-Neolithic transition, as well as variability in aspects of diet within each period.

Svetlana Svyatko will begin PhD research in October on the topic Palaeodietary analysis of prehistoric populations from the Minusink-Khakass Basin, South Siberia, which will involve a multi-proxy approach using stable isotope and dental palaeopathological analyses to tackle the question of the importance of pastoralism through time on the Siberian steppes.

Institute of Archaeology and Antiquity, University of Birmingham.

by Megan Brickley

RESEARCH

Work on the NERC funded project, being carried out in collaboration with Simon Mays, on skeletal

indicators of vitamin D deficiency in adults and juveniles has finished. The project produced some excellent results not only increasing the number of indicators of vitamin D deficiency known to be found in juvenile skeletal remains, but also clearly identifying features relating to vitamin D deficiency (osteomalacia) in adult skeletal material. In total seven adults with evidence of osteomalacia were identified from individuals examined from St. Martin's Churchyard, Birmingham. A number of papers detailing the results of this research have been submitted to, and accepted by journals and over the coming year further results will be written up for publication.

During the academic year 2003/4 Megan Brickley was awarded AHRB research leave to complete the analysis of data on the human remains from St. Martin's Birmingham, and write up the results. Work on finishing the writing of the human bone report was completed last Easter, and the job of fully integrating all information relating to St. Martin's Churchyard has now been completed (excavation information, human bone results, textiles, archaeobotanical remains, small finds, documentary research etc.). The finished manuscript and data for the accompanying CD is about to be submitted to Oxbow. The report will be published as, Brickley, M. & Buteux, S. St. Martin's Uncovered. Excavations at St. Martin's Churchyard, Birmingham 2001. Oxford: Oxbow, and will be available at some point in the summer of 2005.

As a number of long-standing research projects have come to an end, work has just started on a three-year project to investigate taphonomic factors affecting British Neolithic human bone. Martin Smith has recently taken up the post of research assistant working on this project and has joined staff at the Institute of Archaeology & Antiquity, University of Birmingham.

PHD RESEARCH

Martin Smith has now submitted his PhD and has taken up a post as Research Assistant on the three year project funded by the Leverhulme Trust.

Centre for the History of Medicine, University of Birmingham Medical School

by Robert Arnott

Research and Teaching

The study of health, disease and medicine in the ancient world continues to play an important part in the teaching and research of the Centre. Teaching modules are available to students studying for the Intercolated BMedSc (History of Medicine) degree, the MPhil (History of Medicine) degree, the MA (Byzantine Studies) degree and a new postgraduate MSc (Ancient Medicine) is under development. The Centre also provides teaching for the Institute of Archaeology and Antiquity. Two new postgraduate students started their research in the field of the archaeology of medicine, bringing the total to five.

During the year the Director of the Centre, Robert Arnott was promoted to Reader in the History and Archaeology of Medicine. His research continues to be mainly in the field of health, disease and medicine in the Middle and Late Bronze Age societies of the Aegean and Anatolia.

Among new collaborative research projects, The Centre is currently developing one with the Department of Antiquity, University of Salzburg (Austria). Recent years have witnessed the establishment of historical disability studies, mostly based, however, within the last two centuries. This interdisciplinary research project, offers a unique opportunity to both examine the nature of a number of aspects of disability in the ancient world, with special emphasis on Greece, Rome and the Ancient Near East, from prehistory to late antiquity, by using integrated evidence based on the collaboration of a series of experts in their field. This timely collaborative initiative concerned with the development of early advanced complex societies, will not only offer new approaches to our understanding of the place of the disabled in antiquity but it can also be stimulating for present-day perspectives in disability studies and could lead to some new perspectives on the issue. This project will therefore utilise a very much wider range of evidence that is familiar to the researchers, which includes classicists, Assyriologists, ancient historians, archaeologists, medical historians and

palaeopathologists. The project has two phases. The project will include a systematic review of the textual, historical, archaeological and bioarchaeological evidence and the construction of a series of parallel databases covering the four areas of study, which will contain: (1) The textual, epigraphical and papyrological sources for the study of the disabled, including a prosopography of all known disabled individuals; and (2) The substantial archaeological (including iconographical, architectural and art historical) and bioarchaeological evidence, including an iconographical corpus.

Recent Conferences

Anatomical Knowledge in the Ancient World: from prehistory to Late Antiquity, 16-19 June 2004. This was also the First European Meeting of the Society for Ancient Medicine. The conference examined all aspects of anatomy from prehistory to Late Antiquity, with special reference to the Classical World (and its predecessors), Egypt, the Near East, the Indian Sub-Continent, Australasia and China. It was organised jointly with the Society for Ancient Medicine and sponsored by The Wellcome Trust. Seventy-eight participants from seventeen countries took part. The proceedings are to be published edited by Robert Arnott and Lesley Dean-Jones.

Forthcoming Conferences

The Centre will be organising and hosting in September 2007 an International Colloquium on Health, Disease and Medicine in the Prehistoric Aegean, with specific reference to Minoan and Mycenaean civilisations. The aim of the colloquium will be not only to expand our understanding in this field but also to allow researchers from various disciplines to meet and work together, particularly as a number of important developments have taken place in our understanding of health (and medicine) in the period, particularly through advances in the field of archaeological science. It is anticipated that this would also be of a multi-disciplinary character, with hopefully contributions from archaeologists, Linear B scholars, physical anthropologists (especially palaeopathologists), archaeological scientists, medical historians and others who have more of a general interest. The theme of the colloquium is broad enough to encompass all aspects of health and disease – such as health status, diet, public health and hygiene, water supply and sanitation, disease, trauma,

occupational health, medicine and surgery and other forms of healing. The First Circular will be sent out in April and will be available on the Centre's web site (see below).

Further details

Further details of the work of the Centre can be obtained from our website on <http://medicine.bham.ac.uk/histmed> or Robert Arnott, Director, Centre for the History of Medicine, The Medical School, University of Birmingham, Birmingham B15 2TT. Tel.: 0121-414 6804; Fax: 0121-414 4036; Email: R.G.Arnott@bham.ac.uk

Forensic and Bioarchaeological Sciences Group, Bournemouth University

by Linda O'Connell

The group was sorry to see the departure of Mary Lewis and Tal Simmons who have taken up posts at Reading University and the University of Central Lancashire respectively. We wish them both well in their respective careers. We are delighted to welcome two new members of staff, Ian Hanson and Ambika Flavel. Ian Hanson is an archaeologist and forensic consultant for the United Nations, the International Criminal Tribunal for the former Yugoslavia (UN ICTY), Fundación de Antropología Forense de Guatemala (FAFG) and Kenyon International Emergency Services. Ian joins the group as a Lecturer in Forensic Archaeology on our masters and undergraduate programmes. Ian is Senior Archaeologist for the Inforce foundation and worked in Iraq with them in 2003. Ambika Flavel is an archaeologist with extensive anthropological experience in forensic and humanitarian contexts. Ambika brings to the group several years of field and laboratory experience, including the exhumation of mass graves in the Ambrollos islands, Bosnia with ICTY, three years in Guatemala with the FAFG and work in Iraq with the Inforce Foundation in 2003. Ambika joins the group as Demonstrator in Forensic and Biological Anthropology. Louise Loe is now a Lecturer in Biological Anthropology and Linda O'Connell is now a Senior Lecturer in Forensic and Biological Anthropology. Congratulations are due to Linda for the recent successful completion of her PhD.

Inforce Foundation

The last year has seen the Foundation go from strength to strength in achieving its objectives and undertaking programme work. We have now completed version four of the Inforce Protocols (the principles of how to investigate mass graves and other scenes of deposition of multiple remains) and the first version of the Inforce standard Operating Procedures (the detail of how to investigate mass graves). These two documents comprise almost 140K words and 130 recording forms. They are now available in Arabic. We are grateful to Bournemouth University and the FCO for funding the development of these important documents.

Inforce has just completed the training of 34 Iraqi trainees in the investigation of mass graves. Trainees comprise medical doctors and forensic pathologists, police officers, archaeologists and radiographers. They have received two months of formal classroom/laboratory training followed by the location, excavation, recovery and analysis of remains from two simulated mass graves. The mass graves exercises were the first attempt to create such simulations in the complexity and scale employed and were highly successful.

We are likely to be conducting further training for Iraq and elsewhere in the near future. Field work has recently been successfully undertaken in Cyprus.

Inforce is planning a conference for December of 2005 – the main theme will be forensic training / capacity building with shorter sessions on forensic archaeology and anthropology. Please see our web site for details www.inforce.org.uk. The last year has seen some success in fund raising with a major donation and smaller donations being gratefully received.

RESEARCH

Current research projects include:

The use of laser scanning to record mass grave deposits (funded by HEFCE)

The use of archaeological geophysical survey techniques, data processing and analysis, especially in locating buried remains

The development of the electronic 'nose' for the detection of buried bodies (funded by EPSRC)

Modern chronic disease processes, their sequelae and the impact of surgical and pharmacological treatments upon hard tissues

The use of archaeological and anthropological methods in the investigation of genocide and the violation of human rights.

Peri- and post-mortem modification in prehistoric collections from UK sites, focusing on assemblages recovered from swallet burial environments (funded by HEFCE)

PhD research

KATHERINE BARLOW is continuing her assessment of the relationship between pelvic shape and size, age related changes to the pubic sacroiliac joints and known age at death.

BRAN DEAN continues his research examining microstructural age related change to human dentition in a UK archaeological sample of known age at death

IAN HANSON has started researching techniques and methodologies of archaeological excavation applied to forensic settings.

LINDA O'CONNELL successfully defended her PhD on the relationship between pelvic shape and size and degenerative disease of the spine

DELIA SARGENT is continuing to assess the variables responsible for the formation and variability of the neonatal line.

ANTHROPOLOGY DISSERTATIONS SUBMITTED IN 2003-2004 FOR THE MSc FORENSIC ARCHAEOLOGY

SAMANTHA BROWN (2003) An investigation of Lamendin's dental ageing technique on samples of varying antiquity.

VOULA KOKKALIS (2003) Wound ballistics: an examination and comparison of the expression of cranial terminal ballistics.

JESSICA KOSTER (2004) An assessment of the effect of cocaine abuse upon the skeletal

rhinomaxillary region and a comparative analysis between these effects and the skeletal consequences of certain infectious diseases and congenital conditions.

RACHEL MILLINGTON (2003) An examination of the skeletal effects of anorexia nervosa and bulimia nervosa and their potential in individualisation.

JOSEPHINE NAYSMITH (2003) An evaluation of the effects of traumatic spinal cord injury in the human body and its potential for individuation in the forensic context.

SARAH PORTEUS (2003) Reconstructing femoral length using a documented british caucasian sample.

MARIE REID (2003) Methods of defleshing human remains and their utilisation in forensic anthropological analysis.

PAUL SMITH (2004) Medical prosthesis and their forensic potential in the context of buried remains.

KRISTINE WATTS (2003) The effect of Down's syndrome on the skeleton.

ANTHROPOLOGY DISSERTATIONS SUBMITTED IN 2003-2004 FOR THE MSc FORENSIC AND BIOLOGICAL ANTHROPOLOGY

FRANCES BANNON (2003) an assessment of the conditions and treatments of scoliosis and kyphosis and their use as an individuator.

CHRISTOPHER BEECH (2003) A re-evaluation of visual sex indicators in the innominate bone on a modern and postmedieval series.

CHRISTIAN BERTHOLLE (2004) An investigation into the presence of skeletal markers in deafness.

GERALDINE CLARK (2003) An investigation into the formation of rootlet markings on bone.

MEGAN COTTER (2003) An evaluation of juvenile idiopathic arthritis, pharmacological treatments and the potential for individuation in forensic anthropology.

MELISSA FOX (2003) Individuation based on the skeletal manifestations of bone metastatic breast carcinoma and cytotoxic treatments.

HEDY JUSTUS (2003) An evaluation of the skeletal manifestations associated with diabetes mellitus and their potential for individuation.

VIRGINIA JENNINGS (2003) An evaluation of the skeletal manifestations of cleft palate and its treatments, and their potential for individualisation.

SAMANTHA JONES (2003) The effects of methylated spirits, dettol disinfectant and paint stripper on fly oviposition.

JOANNA LAVER (2004) A preliminary investigation into the degradation of blood in bone at recent post mortem, with possible applications for the estimation of time since death.

KARA MCCLEAN (2004) A review of bone formation and the implications for the carbon 14 dating method.

JENNIFER MERRICK (2003) Sexual dimorphism of the knee: can sex be assigned through measurement of the tibiofemoral angle produced at the knee joint?

JEAN O'CONNOR (2004) Skeletal maturation and a preliminary investigation of epiphyseal union of the knee: a radiographic method of age estimation for contemporary irish non-adult males and females.

SIMONE PETRIW (2004) An examination of the manifestations of rickets in bone and teeth and its use as an individuator in forensic anthropology.

MAGGIE PUDDEN (2004) Drowning deaths in Ontario: understanding the drowning event, recognising the patterns of taphonomy in human remains recovered from fresh water, and using these patterns to determine the submersion interval.

TAMARA ROITMAN (2004) The effects of Parkinson's disease and its treatments on the human skeleton and the potential of these changes to assist with individuation in a forensic context.

LAURA ROSSER (2003) Individuation based on the skeletal manifestations of bone metastatic breast carcinoma and cytotoxic treatments.

ROBIN RUTH (2003) An assessment and comparison of the roles and procedures of the forensic anthropologist in the repatriation of war dead, analysis of crime victims, and human identification in the united states of america.

DIANE WHITE (2003) An assessment of long-term blindness in modern populations and its effect on the skull.

ANGELA WHITWORTH (2003) A review of the literature to identify skeletal manifestations in trench foot.

THOMAS WRIGHT (2004) British anthropology and the practice of obtaining and maintaining collections of archaeological skeletal material for research purposes. a legal, social and philosophical approach.

Biological Anthropology Research Centre, Department of Archaeological Sciences, University of Bradford

by Christopher Knüsel

GENERAL HIGHLIGHTS:

Rebecca Gowland (St. John's College, Cambridge), Christopher Knüsel, Liv Nilsson Stutz (Department of Archaeology & Ancient History, Lund University), and Lola Bonnabel (Institut National de Recherches Archéologiques Préventives (INRAP), France) organised and convened the two-day session "The Social Archaeology of Funerary Remains" at the Xth Annual Conference of the Association for European Archaeologists, 8-9 September 2004, in Lyon, France.

The Max Planck Institutes in Germany have played into the careers of both Drs. Darlene Weston and Jo Buckberry. Dr. Buckberry joined the BARC as Experimental Officer in Biological Anthropology in October. She replaces Dr. Weston, who has moved to the Max Planck Institute in Leipzig, where she has already established a contract skeletal analysis service. Dr. Weston will continue to be affiliated with the BARC, where she is analysing the Late Medieval

Hereford Cathedral skeletal population with Alan Ogden and Anthea Boylston.

Dr. Buckberry brings research interests in early medieval funerary archaeology and osteology, specifically related to age determination from skeletonised human populations. Her recently completed PhD, entitled "A Cultural and Anthropological Study of Conversion Period and Later Anglo-Saxon Cemeteries in Lincolnshire and Yorkshire" was completed at the University of Sheffield in 2004. She continues her involvement in the international research project "The Basics in Palaeodemography: Calibration of Age Indicators in the Early Medieval Skeletal Sample of Lauchheim" co-ordinated by the Max Planck Institute for Demographic Research, Rostock, Germany.

Professor Donald Ortner (Smithsonian Institution) and Christopher Knüsel are organising the 7th Biennial European Palaeopathology Short Course that will take place from the 7th to the 19th of August 2005. They were successful in receiving a grant from the Institute of Bioarchaeology to support participant expenses to attend this two-week course (see advertisement elsewhere in this Newsletter).

Dr. Alan Ogden returned to the classroom twice in the last year, teaching MSc. students on the Musculo-Skeletal Anatomy module and Human Osteoarchaeology to both MSc. and final-year undergraduate students. Alan's contributions, which received rave reviews from students, provided Drs. Knüsel and Schutkowski with much appreciated respites for research.

Iraia Arabaolaza and Paola Ponce, recent MSc. Human Osteology and Palaeopathology graduates, have been employed with Anthea Boylston to analyse a 19th-century skeletal population from the Harrison Learning Centre, Wolverhampton.

PH.D. RESEARCH:

Rebecca Craig (self-funded, part-time) continues research on British Iron Age mortuary rites

Isla Fay (AHRB-funded and co-supervised by Dr. Carole Rawcliffe, Department of History, UEA) presented "Medieval Health Culture and the Evidence of Human Remains: Problems and Possibilities", European Association of Archaeologists Xth Annual Meeting, in Lyon, France, in September, and organized and

convened the session "Health Culture, Medicine and Well-being in the Later Middle Ages" at the International Medieval Congress, in July in Leeds, in which she also presented a paper entitled "Health and Disease in Medieval Norwich". Isla also served as co-convenor for the Inaugural Norwich-York Graduate Conference 2004 in June in York, and made a successful bid for AHRB funding for the Norwich-York Graduate Conference, to be held in Norwich in June 2005.

Vaughan Grimes (Leverhulme Trust-funded) continues his research on oxygen and sulphur isotopes for dietary and provenancing purposes.

Mandy Jay (University of Bradford-funded) continues her dietary isotopic research on the Iron Age Wetwang Slack burials.

Jonathan Le Huray (NERC-funded) received the student prize for his paper, entitled "Stable isotope analysis of bone collagen as a tool for examining dietary variation during the La Tène period in central Europe", at the Xth Annual Conference of the Association for European Archaeologists.

Gundula Müldner (AHRB-funded) has been appointed Lecturer in the Department of Archaeology at the University of Reading.

Jill Rhodes (AHRB-funded) completed her doctorate, successfully passed her viva with Drs. Holger Schutkowski and Steve Churchill, acting as internal and external examiners, respectively, and began a three-year post-doctoral position in the Department of Biological Anthropology and Anatomy, Duke University.

Marianne Schweich (University of Bradford and Government of Luxembourg-funded) organised and taught the undergraduate module "Past Human Health" at the Institute of Archaeology and Antiquity, University of Birmingham, during the academic year 2003/ 2004.

Rebecca Storm (self-funded, part-time) continues research in skeletal fluctuating asymmetry.

Alexandra Thompson (NERC-funded) has progressed to viva with her dissertation on ancient Egyptian diet.

Efrossini Vika (University of Bradford-funded, part-time) works on diet and diversity in Bronze Age Boiotia, Greece.

DISSERTATIONS SUBMITTED IN 2004 FOR THE MSc. IN HUMAN OSTEOLOGY AND PALAEOPATHOLOGY:

Arabaolaza, Iraia (2004). Degenerative Joint Disease: A Study of Two Medieval Archaeological Populations and Possible Related Physical Activities.

Blackburn, Amanda (2004). Bilateral Asymmetry in the Upper Limbs of Juveniles from Raunds Furnells.

Davies, Geoffrey W. (2004). Did Infectious Agents Contribute to a Skew towards Neonates in Early Scottish Cattle Bone Assemblages?

Elatta, Husna T. (2004). Jebel Sahaba: Archaeology, Osteology, and the Reconstruction the Culture of a Palaeolithic Nubian Site.

Parent, Kimberly (2004). Testing the Health Index Using a European Medieval Sample from Chichester.

Ponce, Paola (2004). A Study of Diffuse Skeletal Hyperostosis (DISH) in a Medieval Hospital from Chichester, Sussex.

Sandias, Michela (2004). Prevalence of Osteoarthritis and Biocultural Implications in Two Historic English Populations.

Stewart, Nicola (2004). Skeletal Sexual Dimorphism in Human Metacarpal Length.

Touchstone, Jennifer J. (2004). Detecting Micro-Structural Evidence for Osteoporosis in an Anglo-Saxon Population.

Dissertation Submitted in 2004 for the MSc. Forensic Anthropology:

Martin, J.E. (2004) Dental Abscesses, Granulomata and Cysts: Can We Distinguish Them in Skeletal Material

CONFERENCE PRESENTATIONS:

Staff have been very active in presenting their work at conferences in Britain and abroad, including the BABAO, the AAPA, the EAA, the PPA (European and American meetings), and a

number of specialist meetings on mediaeval topics.

TELEVISION APPEARANCES:

Ogden, A.R and Boylston, A. BBC Television appearance with Chris Beardshaw on "Hidden Gardens" a program dealing with the reconstruction of the herb garden at the Mediaeval Norton Priory, using the skeletal evidence of the diseases suffered by the 150 monks and others recently studied.

The Unit of Anatomy and Forensic Anthropology, School of Life Sciences, University of Dundee.

by Dr Tim Thompson

This past year has seen a great deal of excitement and development in the Unit of Anatomy and Forensic Anthropology. Prof Sue Black OBE has now been joined in Dundee by Dr Tim Thompson, and two new members of staff will be arriving early in 2005. As of Sept 2004, we began the country's first BSc in Forensic Anthropology – a course launched by the spokesman of ICMP Michael Portillo. We are currently putting the final touches to our second course, the MSc in Human Identification. Both courses form part of the pioneering Forensic Anthropology Career Foundation Path offered by the Unit. In order to support the new undergraduate and postgraduate courses the university has invested in a complete overhaul of our teaching spaces. We now have a brand new dissecting room, bone lab, designated library and offices. We are also delighted to be in the process of establishing the Scheuer Collection (the country's largest collection of juvenile skeletal material) here. The unit has developed a very strong relationship with the Crime Faculty and UK police forces resulting in a number of high profile forensic cases being directed to Dundee.

Further information on the Unit of Anatomy and Forensic Anthropology, and the courses that we offer, can be found at our website:

<http://www.dundee.ac.uk/biocentre/uafahome.HTM>

Postgraduate Students:

Fraser Pryde: *The changing face of anatomy in Scotland - with particular reference to the Scottish medical curriculum.* The purpose of this research is to aid analysis of the present condition of anatomy in Scotland and to predict which factors will be most influential to its development in the 21st century with particular reference to the Scottish medical curriculum.

Fraser successfully passed his viva for this 1-year MSc research project in November 2004.

Maureen Schaeffer: *Epiphyseal Union in Bosnian Sub-adults: analysis from a forensic and biological perspective.* Maureen is collecting data on epiphyseal union times observed in Bosnian sub-adults to provide age ranges specific to the Bosnian population. Her goal is to improve ageing precision, thereby furthering identification efforts in the Balkans. The morphological process of epiphyseal union will also be recorded and described.

Maureen commenced her PhD with us in September 2004.

Department of Anthropology, University of Durham

by Una Vidarsdottir

Current Research

The evolution and migration of modern humans around the Indian Ocean Rim.

Work is underway as part of the NERC funded project examining the evolution and migration of humans along the Indian Ocean Rim during the late Pleistocene. Trudi Buck, working with Dr Una Vidarsdottir, is undertaking the morphological side of this research for her PhD, utilising geometric morphometric techniques to study 3-D landmarks from the craniofacial skeleton. Population samples have been taken from museum collections of the relevant populations, including Andaman Islanders, Nicobar Islanders and Vedda. Geometric morphometric techniques consist of a suite of multivariate statistics that enable differences in craniofacial shape to be analysed. The techniques allow the study of shape variation independently

of size, preserve information about the geometry of specimens at all stages of the investigation and produce highly visual and easily presentable results. From the similarities and differences in craniofacial shape, insights into the possible evolutionary relationships between populations will be assessed. The results obtained from the morphometric analyses will then be compared and contrasted to dental and mitochondrial DNA data obtained from specimens from the same populations to assess the timing and location of possible migration routes. The dental and genetic analyses are being undertaken at the Natural History Museum and the University of Oxford respectively. The full data set will be compared to palaeogeographical studies of sea level and ecology to search for common patterns in the timing or location of change, allowing influential palaeoenvironmental factors to be identified.

Department of Archaeology, University of Durham

by Charlotte Roberts

Current Research

The following are current research students in the Department:

Alvaro Arce: The good health of the Anglo-Saxons

Francisca Alves Cardoso: A portrait of gender in two 19th/20th century Portuguese populations: a palaeopathological perspective

Sarah Groves: Status and activity in Anglo-Saxon adults using multiple indicators

Charlotte Henderson: A tripartite study of musculoskeletal stress markers

Janet McNaught: Clinical and archaeological study of Schmorl's nodes

Rosa Spencer: Testing hypotheses about DISH using stable isotope analysis and other methods

Anastasia Tsaliki: Investigation of extraordinary human body disposals with special reference to necrophobia

Tina Jakob submitted and was awarded her PhD in 2004 (and was appointed as a temporary lecturer at Durham for 2004-5), and Anwen Caffell and Mark Trickett submitted their PhDs at the end of September 2004; they both await their vivas:

Caffell, A.C. Dental caries in Medieval Britain (c.AD 450-1540): temporal, geographical and contextual patterns (NERC funded)

Jakob, T. 2004 Prevalence and patterns of disease in early Medieval populations: a comparison of skeletal samples from 5th-8th century AD Britain and Germany (self funded).

Trickett, M. Isotopic, osteological and historical studies of health and migration (NERC funded)

MSc Palaeopathology

The following students completed the MSc Palaeopathology in 2003-4 and undertook the following dissertations:

Bukowski, Julie: The biomechanics and palaeopathology of handwriting: a Medieval monastic example

Chapman, Lucy: Metabolic disease and stress indicators in Medieval Manchester

Fan, Julia: Implications for occupational stress and gendered division of labour in a late Medieval population from York

Gelman, Ashley: Family size in late Medieval Britain and increased incidence of skeletal manifestations of anaemia in women

Giannakopoulou, Pathenia: Rickets and scurvy in the sub-adult population of Fishergate House in York

Hurst, Joanna: Morbidity and diet in early medieval Britain: a comparison between a coastal population and an inland population

Macfarlane, Helen: The beginner's guide to the adult human skeleton. The creation and evaluation of an identification manual specifically designed for those with no previous osteological experience

Thomas, Julie: Maxillary sinusitis in the context of protic hyperostosis. A new perspective on

Fishergate House and Castledyke South populations

Vincent, Stefanie: Investigating child abuse in the archaeological record

Conference:

The 15th Paleopathology Association European Meeting took place at Durham in August 2004, supported by the Institute for Bioarchaeology, Archaeological Services, University of Durham, Northern Archaeological Associates and the Department of Archaeology. Around 130 delegates attended a scientific and social extravaganza, amidst monsoon weather conditions!

There were around 50 papers and 50 posters with sessions on population health, dental disease, trauma, infectious disease, metabolic and endocrine disease, complimented by a symposium on 'Bioarchaeology in Greece' and a memorial session to Aidan and Eve Cockburn. The latter symposium will be published by the *International Journal of Osteoarchaeology*.

Social events included a welcome to the University by Professor Alan Bilsborough and a plenary lecture by Keith Manchester in the Great Hall of Castle, a reception at our Oriental Museum, and a finale of a dinner and ceilidh dance in the Town Hall, with a welcome from the Mayor of Durham.

To complete the week many delegates took advantage of the arranged visit to Alnwick Castle on the Saturday. Although tiring for the Organising Committee, we think the delegates enjoyed themselves! Good luck to Greece who will be hosting the next European Meeting.

Grateful thanks are due to the Organising Committee: Alvaro Arce, Marie-Catherine Bernard, Lucy Chapman, Julia Fan, Ashley Gelman, Nia Giannakopoulou, Charlotte Henderson, Joanna Hurst, Tina Jakob (especially), Ken Jukes (website), Allison Percival, Julie Thomas, Anastasia Tsaliki and Stefanie Vincent.

**Research Centre in
Evolutionary Anthropology
and Palaeoecology, School of
Biological and Earth Sciences,
Liverpool John Moores
University**

by Laura Bishop

We're happy to announce that researchers in Evolutionary Anthropology at Liverpool John Moores University have been granted Research Centre status by the university. Many of us here are working on issues related to Evolutionary Anthropology and within the centre we have strong subgroups dedicated to research on fossil mammals and primate behaviour.

The initial membership of the Centre includes Filippo Aureli, Laura Bishop (co-directors), Richard Brown, Tom Clare, Silvia Gonzalez, David Huddart, Nicola Koyama, James Ohman, Hannah O'Regan, Alan Turner, Peter Wheeler and Dave Wilkinson. Our current research includes NERC-funded projects which are investigating the faunal context of the earliest human dispersals and early human sites in Mexico. Members are also investigating Kanjera South, Kenya, a Plio-Pleistocene archaeological site, examining bone assemblages from Holocene caves in Cumbria and carrying out research on primate behaviour in Costa Rica and Mexico.

The research centre is host to QUAVER, a new research group on Quaternary Vertebrates funded by the Quaternary Research Association (QRA). The first meeting of QUAVER will take place in March 2005 at Liverpool John Moores University. The group is intended to be a forum for anyone involved in Quaternary vertebrate research, to meet at least once per year and discuss recent research, collaboration, etc. One of the starting aims of the group is to create a database of sites and museum collections, to save time when trying to track down material for study. An e-mail discussion list has been set up and can be joined at: <http://www.jiscmail.ac.uk/lists/QUAVER.html>

If you're interested in being a member or attending the conference please check out the QUAVER website at <http://cwis.livjm.ac.uk/bie/quaver>

Or e-mail the secretary Hannah O'Regan (h.j.o'regan@livjm.ac.uk) for more details.

**Faculty of Medicine, Imperial
College London.**

by Piers Mitchell

The BSc. level course in palaeopathology remains one of the most popular of the optional medical school courses, being heavily oversubscribed. The twenty five students benefit from partnerships with the Museum of London Archeological Service and the British Library. Bill White (MoLAS) has kindly welcomed the students to visit his laboratories to experience the Spitalfields pathology, while study days at the British Library allow hands on education with original 12th-14th century medical manuscripts. Student projects focus on health in London during the 18th and 19th centuries through study of the college skeletal collection and historical evidence of the time.

A number of collaborative palaeopathology projects have been established between Imperial College staff and other units. We are working on one project with Gundula Müldner and Mike Richards at the Department of Archaeological Science at the University of Bradford. This employs stable isotope analysis to investigate variation in human and animal diet between five contrasting medieval sites in the Middle East. Another joint project, with Paul Budd at the University of Durham, is to investigate migration between Europe and the Levant with the crusades. Once we know which individuals were immigrants and which were locals, we can start to investigate any contrasts in health and social status between the two groups.

**Palaeohealth and Diet at
Reading**

by Mary Lewis

In 2004, the Department of Archaeology at the University of Reading began to develop research in Palaeohealth and Diet. This has involved establishing a dedicated osteology laboratory and the enhancement of existing equipment for the analysis of stable isotopes.

Skeletal remains from Hulton Abbey, Stoke-on-Trent are now curated at Reading with the kind permission of the Staffordshire Archaeological Trust, and further research into the diet and health of these Monks is currently underway. The Palaeohealth and Diet Research Group comprises Dr Mary Lewis and Dr Stuart Black (a specialist in radiometric isotopic and forensic analyses) including several research students and, from April 2005, Gundula Müldner will join the Department. Current research activities also include participation on The Climate, Water & Civilisation Project, a major multidisciplinary study (Leverhulme Trust) examining the relationship between climate, water availability and human activity in the Middle East and North Africa.

Department of Archaeology, University of Sheffield.

by Andrew Chamberlain

Research Grants:

Professor Mike Parker Pearson, Andrew Chamberlain and Mike Richards of the University of Bradford have been awarded a grant from the AHRB for The Beaker Isotope Project: Mobility, Migration and Diet in the British Early Bronze Age. This project aims to use stable isotope analysis of skeletal remains, in conjunction with studies of dental microwear and skeletal analysis of health and physique to examine mobility, diet and health status in a large sample of Beaker period burials from throughout Britain. The project is planned to start in the summer of 2005 and will continue for five years.

PhD Theses submitted in 2004

Department of Archaeology

EMMA-JANE GRAHAM. Burial of the urban poor during the Late Roman Republic and the Early Empire.

PhD Theses submitted in 2004

Department of Forensic Pathology

ANNA WILLIAMS. Estimating the trauma-death interval: a histological investigation of fracture healing.

Dissertations submitted in 2004 for the MSc in Human Osteology and Funerary Archaeology

PAMELA BOWLER. Cranial Sutures and Sexual Dimorphism in Modern Humans

CHRISTIE COX. Up in Flames: Romano-British Cremation Practices in North Eastern England

COLLEEN CUMMINGS. Dentition and diet in Post-Roman Britain: a Study of Caries Prevalence and Dietary Change from the Roman to Anglo-Saxon Periods

SUSAN DALE. Reconstructing Ritual and Inferring Ideological Structure: a Re-Examination of the Communities Who Entombed their Dead in Two Neolithic Long Cairns in Britain

LAURA HILL. Saw mark analysis

MAARIT KATILA. Assessing health and stress in Anglo-Saxon subadults using growth, cortical thickness and linear enamel hypoplasia

KATE MCLAUCHLAN. Determination of Sex by Discriminant Function Analysis of Pubic Bone Measurements

DENISE PANTZER. Paget's Disease: an Archaeological Survey in England

LAURA RAMOS. The Khabur Burials of Mozan

STEVE SCHLECT. Musculoskeletal Stress Markers: is Their Development Influenced by Repetitive, Strenuous Activity?

CARINA SUMMERFIELD. A Histological Study of Human and Animal Bone Diagenesis from the Site of Cladh Hallan in South Uist

LORRAINE WHITE. Pestilence or Punishment: Towards an Interpretation of Kilton Hill Burial Ground

LESLIE WILLIAMS. Pursuing the Course of the Four Horsemen: The Palaeodemography of Mass Mortality

Department of Archaeology, University of Southampton.

by *Sonia Zakrzewski*

POST-DOCTORAL RESEARCH

MARGARET CLEGG has been with the department as a Research Fellow associated with the British Academy Centenary Project (From Lucy to Language: The Archaeology of The Social Brain), studying the comparative morphology of primate cranial nerves. As the end of the Margaret's project approaches, and the serious number crunching and analysis continues, the results will be written up in collaboration with James Steele for publication and presented at several conferences over the next year.

PhD Research

There are several research students working within the department on osteological and anthropological topics. CARINA BUCKLEY, mainly working with James Steele, is nearing the completion of her study into the life history of *Homo erectus* and the effects of childhood stresses upon development. LISA CASHMORE, working with Sonia Zakrzewski, Margaret Clegg and James Steele, has been developing a methodology for assessing MSM in the hand, with a view to comparing primate and hominin material. In October 2005 she will switch to full-time candidature and will be funded through the British Academy Centenary Project (From Lucy to Language). KRISTI GRINDE has recently started a project, with Sonia Zakrzewski and Simon Keay, employing isotopic markers to assess mobility in an early Islamic assemblage from Écija in Spain. ARGYRO NAFPLIOTI is entering the final year of her research into population movements and differences in social stratification between the islands in Greece, combining both osteological and isotopic methods. She mainly has been working with Joanna Sofaer. KRISTIN OMA is working with Joanna Sofaer and Yannis Hamilakis, and is continuing her studies of the relationships, including spatial organisation relative to houses, between humans and animals in southern and central Europe.

DISSERTATIONS APPROVED FOR THE MA IN OSTEOARCHAEOLOGY 2003-4

LESLEY ADAMS - Age-Related Metacarpal Cortical Bone Loss as an Indicator of Osteoporosis: Evidence from Romano-British Females.

GILL COX - Treatment Of Trauma: What does the Evidence from Human Skeletal Remains and other Archaeological Evidence tell us about the management of Disease and Injury in Britain from the Roman to Medieval Periods?

HEIDI DAWSON - Keeping It In The Family: A Comparison of Skeletal Variation Within and Between Several Bronze Age Barrows from the Wessex Area.

MARTA DIAZ-ZORITA BONILLA - Comparative Analysis of a Sample Population from Valencina de la Concepcion (Seville, Spain)

ISABELLE FAULKNER-CORBETT - The Living and The Dead: The Relationship between the Chronological age and Dental age in Living Children and Archaeological Children.

ALISON MOORE - Romano-British Infant Burials at Villa and Rural Settlement Sites

CIARA TRAVERS - The Status of Children in Early Bronze Age Ireland

ALYSIA WESCOAT - TB or not TB? Tuberculosis Cases from Wharram Percy

JUDITH WHITE - What does the Zooarchaeological Analysis of the Faunal Remains from Fishbourne Roman Villa contribute to the Social Interpretation of the Site?

NEW COURSES

Forensic and Bioarchaeological Sciences Group, Bournemouth University

NEW UNDERGRADUATE PROGRAMMES

Two undergraduate degrees were introduced by the School of Conservation Sciences in September 2004. These are: BSc (Hons) Forensic and Crime Scene Science and BSc (Hons) Archaeological and Forensic Sciences. More details can be found at:

<http://www.bournemouth.ac.uk/conservation/Undergraduate.html>

POSTGRADUATE RESEARCH ABSTRACTS

Ph.D. Abstract

Linda Ellen O'Connell (2004; Forensic and Bioarchaeological Sciences Group, Bournemouth University) An initial evaluation of the relationship between human pelvic size and shape and the distribution, type and severity of vertebral degenerative disease in archaeological material

Keywords: bipedal adaptation; pelvic shape; pelvic dimensions; vertebral degenerative disease

In order to adopt an efficient bipedal posture and method of locomotion, the human skeleton has evolved a curved vertebral column and a stable, compact male pelvic girdle. Adaptive vertebral curves and the force of gravity render it susceptible to injury and degenerative change.

This study examines if there is any association between pelvic size and shape and the distribution, type and severity of vertebral degenerative disease. Four documented North-west European, middle-class skeletal samples from the eighteenth and nineteenth century were examined. Pelvic shape and size were recorded, the latter of which necessitated the measurement of 93 dimensions. The severity and distribution of

osteophytes, porosity and eburnation in the vertebral column were recorded.

Statistical analysis was undertaken of relationships between pelvic measurements and the sex and age at death of individuals as well as correlations between the measurements themselves. The relationship between pelvic shape and degenerative disease was also investigated. The correlation between measurements in the pelvis and disease were examined and a mechanism was created to display this relationship.

Results demonstrated that this sample exhibited significant dimorphic differences in pelvic measurements and pelvic shape between the sexes. Significant correlations were found between age and pelvic dimensions in five (33%) sacral, 29 (94%) innominate and four (25%) reconstructed pelvis measurements. Correlations were small but positive for both sexes in the sacrum and innominate. In the reconstructed pelvis, significant correlations were again small, but positive in females and negative in males, suggesting that although a larger pelvis may be selected for in older females, the opposite is occurring with males. This supports the theory of an evolutionary effect selecting for females with larger pelvises and males with more compact pelvises.

Statistical analyses of the relationship between pelvic shape and the severity or presence/absence of degenerative disease were limited and not deemed to have any statistical merit.

A 'signpost' configuration was created to graphically display results of correlations between individual measurements and disease. Results suggest that osteophytosis was the most common type of disease encountered and the superior and inferior body surfaces were the main areas affected, particularly in the lower half of the thoracic and lumbar regions. All correlations, except one, were positive, implying a positive association between those measurements and the degree of degenerative change. Patterning of the correlations was identified and discussed and statistical differences between correlations at levels of maximum and minimum curvature were examined for. Results suggest that particular pelvimetry plays a significant role in this at levels of maximum and minimum curvature.

Discriminant function analysis was employed to explore the predictive ability of combinations of

measurements to predispose to the development and severity of osteophytosis on the superior vertebral body surface. Contrived data was then used to test this model and was successful in predicting an expected level of expression of pathological change.

Ph.D. Abstract

Rhodes, J.A. (2004, University of Bradford, UK.; email: jillarhodes@hotmail.com). Humeral torsion and activity-related changes in the human upper limb and pectoral girdle: A biomechanical investigation and social implications.

Key Words: Humerus, behavioural morphology, humeral torsion, activity-related change, biomechanical analysis, robusticity, Towton, Fishergate, Mary Rose

ABSTRACT: This project investigates humeral torsion and activity-related change in the human upper limb. Increased humeral torsion angles have been identified in the professional throwing athlete and may be associated with strenuous activity. The nature of humeral torsion as an osteogenic response to the strain environment is investigated to identify its role in the behavioural morphology of the upper limb. These physical manifestations of strenuous physical activity provide an insight into the make-up of medieval armies prior to the establishment of standing armies.

Populations analysed include two blade-injured samples, Towton and a sub-sample of blade-injured men from the Priory of St. Andrew, Fishergate, York. The men from the Mary Rose, a Tudor warship are also investigated. Other samples analysed include the rural sites of Wharram Percy and Hickleton, the urban cemeteries from the Priory of St. Andrew, Fishergate, York, and the leprosarium of Sts. James and Mary Magdalene, Chichester, the modern cadaver-based Terry collection and non-human-primates, Gorilla sp., Pan sp., Pongo sp., and Macaca sp. Measurement of the humeral torsion angle and external measurements and indices of architecture, articulations and robusticity are employed. Cross-sectional geometric properties are investigated using CT imaging of the paired humeri from a sub-sample of blade-injured individuals and a comparative sample of those who were not. Bilateral

asymmetry is investigated to identify the role of plasticity within the humerus and to reveal aspects of limb dominance. The results are compared with non-human primate species to obtain insight into inter-species differences.

Results indicate the humeral torsion is not ontogenetically constrained, but is highly variable between and within populations, individuals and even between sides. Biomechanical analyses indicate that in the Towton population, humeral torsion may serve as part of a two-stage adaptation, in which the architecture is modified to enable greater biomechanical efficiency in distributing strain, reducing the need of increased cortical thickness. Changes in humeral torsion related to strenuous activity have been identified, although in the blade-injured samples it is decreased torsion angles, while in the comparative sample it is increased torsion angles that significantly correlate with limb hypertrophy. Humeral torsion appears to be influenced by other measurements of humeral architecture, specifically, the amount of anterior bowing and anterior curvature to the distal humeral shaft.

This work demonstrates the need for individual rather than population-based analyses, as the heterogeneity within population samples obscures individual variation in activity patterns. This analysis provides baseline data for typical populations of the Middle Ages. From this, it is then possible to investigate the individual within this baseline, to identify those who stand out from their samples through habitual, strenuous activity patterns. Movement patterns identified related to warfare include those consistent with the use of the longbow in the Towton sample and the use of a sword in the Fishergate blade-injured sample. These men, and those of the Mary Rose, appear to have either been selected for combat based on size, or benefited from a more nutritious diet during growth.

Ph.D. Abstract

Rachel Ives (continuing; Institute of Archaeology and Antiquity, University of Birmingham): Cortical Bone Dynamics and Metabolic Bone Disease in Post-Medieval Urban Collections.

A clearer understanding of metabolic bone disease has the potential to improve the understanding of past human health and culture. The aim of this

PhD research is to investigate the epidemiology of osteoporosis, vitamin D deficiency (rickets and osteomalacia) and vitamin C deficiency (scurvy) throughout a specific archaeological population (post-medieval urban). The metabolic bone diseases are inherently interlinked with lifestyle variables and have significant implications for the reconstruction of life in past populations. The pattern of disease presence within this archaeological environment will be established and consideration of the age and sex groups affected will improve interpretation of prevalence patterns and establish potential causative agents. A broad cross-section of post-medieval society will be examined including the lower middle classes (Christ Church, Spitalfields, London), a mixture of middle and working classes (St. Martin's, Birmingham), the lower classes (Farringdon Street, London) and a pauper cemetery (Redcross Way, London). The significance of differences in socio-economic status on environmental, dietary and lifestyle variables can be meaningfully interpreted in view of impact on metabolic disease presence. Macroscopic analysis of long bone bending deformities and porosity (rickets), abnormal cortical porosity and/or bone formation (scurvy) in juveniles, multiple stress fractures (osteomalacia) and osteoporotic fractures (distal radius, vertebrae and proximal femur) in adults is underway, as is radiological analysis of cortical bone growth and age-related bone loss. Where possible, back-scattered scanning electron microscopy is used to confirm the identification of vitamin D deficiency osteomalacia.

Ph.D. Abstract

Rosa Spencer (continuing; NERC-funded PhD, Dept. of Archaeology, University of Durham): Testing Hypotheses about DISH (Diffuse Idiopathic Skeletal Hyperostosis) using Stable Isotope Analysis and Other Techniques

Diffuse Idiopathic Skeletal Hyperostosis (DISH) is a complex disorder characterized by excessive bone formation on the spine with later fusion, and new bone formation at the sites of tendon, ligament and muscle attachments on the skeleton (Jankauskas 2003, Kiss et al. 2002, Mader 2002, Rogers and Waldron 2001). Its presence appears to increase with age, rarely appearing in those under 40 years of age, and is more prevalent in males than females (Rogers and Waldron 2001). Despite its presence in archaeological

populations, little is known about the causes of DISH although several theories have been postulated. Some believe that it is related to diet, obesity and diabetes (although the latter has been shown to have no correlation with DISH in recent studies – see Sencan et al. 2004, Daragon et al. 1995); that it may be inherited and that those who are ‘bone-formers’ will develop the condition (Rogers et al. 1997); or that it is somehow linked to monastic communities, as there seems to be a high prevalence rate at these sites (Waldron 1985).

The aim of my research is to test two of these predominant theories about the causes of DISH, diet and inheritance, by using carbon and nitrogen stable isotope analysis to look at a specific diet, and ancient DNA analysis to look at genetic relationships. I shall be using data from both monastic and nearby non-monastic populations in order to explore the link, if any, between monasticism and DISH. An additional question that will be addressed is why there appears to be a much lower prevalence of DISH amongst women than men. If possible, the isotope and genetic analysis will be supported by documentary evidence of diet and dental non-metric traits. It is hoped that the results of this research will help to confirm or refute the major assumptions that we have about DISH, contributing to a greater understanding of a disease that is prevalent in some archaeological populations and yet ill-understood.

References:

- Daragon, A; Mejjad, O; Czernichow,P; Louvel,JP; Vittecoq, O; Durr,A and Le Loet, X. 1995. Vertebral hyperostosis and diabetes mellitus: a case-controlled study. *Annals of the Rheumatic Diseases* 54:375-378.
- Jankauskas, R. 2003. The incidence of diffuse idiopathic skeletal hyperostosis and social status correlations in Lithuanian skeletal materials. *Int.J.Osteoarchaeology* 13:289-293.
- Kiss, C; Szilagy, M; Paksy, A and Poor, G. 2002. Risk factors for diffuse idiopathic skeletal hyperostosis: a case-control study. *Rheumatology* 41:27-30.
- Mader, R. 2002. Clinical manifestations of diffuse idiopathic skeletal hyperostosis of the cervical spine. *Seminars in Arthritis and Rheumatism* 32(2):130-135.

Rogers, J and Waldron, T. 2001. DISH and the monastic way of life. *Int.J.Osteoarchaeology* 11:357-365.

Rogers, J; Shepstone, L and Dieppe, P. 1997. Bone formers: osteophyte and enthesophyte formation are positively associated. *Annals of the Rheumatic Diseases* 56:85-90.

Sencan, D; Elden, H; Nacitarhan, V; Sencan, M and Kaptanoglu, E. 2004. The prevalence of diffuse idiopathic skeletal hyperostosis in patients with diabetes mellitus. *Rheumatology International* published online August 2004.

Waldron, T. 1985. DISH at Merton Priory: evidence for a "new" occupational disease. *Brit. Med. Journal* 291:1762-1764.

EXCAVATIONS OF HUMAN REMAINS 2003-2004

Excavation and analysis of human skeletal remains by AOC Archaeology Group

by Melissa Melikian
melissamelikian@aocarchaeology.co.uk

HUMAN REMAINS CALL-OFF CONTRACT, HISTORIC SCOTLAND

AOC Archaeology Group has been involved in a number of projects throughout Historic Scotland's Human Remains Call-off contract. The contract with AOC is designed to help Council and local Trust archaeologists deal with unexpected finds of human bones.

At Ackergill, near Wick, Caithness, rabbit activity and mechanical excavation on the site uncovered human bone. This was recovered by Caithness Trust during a walk-over survey. The bones are thought to derive from a pre-Viking Iron Age cemetery that was partially excavated in the 1920's. A MNI of three was established.

A cist was discovered on arable farmland at Howe Farm, Geroin, Harray, Orkney. The cist was damaged by heavy machinery. The cist contained the remains of a cremation burial; a discrete deposit of human bone with associated copper

alloy fragments was removed from the centre of the cist. The remains are that of a sub-adult aged between 15 and 18 years. Pyre goods were represented by a large amount of molten material adhering to the bone (cramp) and cremated animal bone. Radiocarbon dating of the cremation burial is being carried out. Other cists have been found in the area including; a cist containing an inhumation was found previously on the neighbouring knoll, which has been dated to 3000-2800 BC. Radiocarbon dating is being carried out.

Human bone was discovered during the excavation of a sewer trench on land adjacent to Littleferry Pier, Golspie, Sutherland. The remains were buried in a distinct cut orientated south-west/north-east. The body was supine with flexed arms and extended legs. The remains are of an adult female aged over 45 years at death. No dating evidence was found with the burial and consequently radiocarbon dating is being carried out.

At Noah's Ark Golf Centre, Perth a Late Neolithic to Early Bronze Age cist was discovered within the car-park during construction works. A deposit of human bones was uncovered at the northern end of the cist. This represented a crouched inhumation of an adult and the remains of a cremation burial. The cremation burial represents the remains of an adult male. Radiocarbon dating is being carried out to date the remains more accurately.

An excavation, walk-over survey and topographic survey was undertaken after human bone was discovered from an eroded sand dune at Sgaristadh Beag, Harris, Western Isles. Although the remains were fairly well grouped they were exposed and disarticulated. It is thought they originated from an eroded inhumation. The human bone represents the remains of a juvenile aged between seven and nine years at death. The burial was not associated with any dating evidence and consequently radiocarbon dating is being carried out.

At Western Castle Hill, Upper Boyndlie Farm, near New Aberdour, Aberdeenshire the remains of an urned cremation burial were discovered in a heavily eroded cist. The total burnt bone weighed 29g and was identified as human.

LANT STREET, LONDON BOROUGH OF SOUTHWARK

In November and December 2004, excavations at 52-56 Lant Street, SE1, revealed part of a substantial Roman cemetery. Approximately 88 inhumations and two cremations were discovered at the site. The majority of the burials were within coffins, the iron nails of which survived. A number of high status burials were found at the site. Most notable of these was an adult female in a chalk-packed coffin buried with two unusual glass vessels, a copper alloy box with bone inlay panels and a key on a silver necklace. Other grave goods found at the site included gold earrings, copper alloy jewellery, jet, coral and glass bead necklaces, hobnails, several complete ceramic vessels and coins.

Several of the inhumations appeared to be in earth cut graves without a coffin. Most interesting of these was a linear cut that contained four individuals; three adults and a child. These individuals were buried with some care and with ceramic vessel grave goods. Most unusual and we think unique to the UK is a cat that was buried in its own grave with an ornate copper alloy and glass necklace.

Preliminary dating of the finds and the presence of several chalk-packed graves suggests the cemetery was in use from the 2nd to 4th centuries. Other activity at the site included a Roman well, quarry pits and several ditches. The post-excavation work on the site has just commenced.

NEW VENUE, DUNSTABLE, BEDFORDSHIRE

In November and December 2004 AOC excavated part of a Roman cemetery situated off Watling Street (now the A5) in Dunstable. Seven inhumations and 24 cremation burials were recovered from the site. The inhumation burials were aligned east-west with the heads situated at the east end. Five of the individuals were buried supine, one was crouched and one was prone. The burials were earth cut graves with no evidence of coffins found. One burial contained a chalk 'pillow'. Only one inhumation burial contained evidence of grave goods in the form of a ceramic vessel. A total of 23 ofofFor the cremation burials 23 were in circular cuts burials and the remains were both urned and unurned. One of these burials contained evidence of a possible grave marker in the form of stake-hole and many. Many of the cremation burials contained votive

ceramic vessels of in varying forms. One of the cremation burials was in the form of a rectilinear feature contained multiple localised deposits of cremated human bone and pyre debris. A boar burial was also found at the site. The post-excavation assessment of the site has yet to commence.

University of Bradford/BARC: Osteoarchaeology Contract Service

by Anthea Boylston

The Contract Service has been kept fully occupied again this year. In March, Darlene Weston, Anthea Boylston and Alan Ogden began a study of more than 1,100 individuals dating to the Anglo-Saxon and Medieval periods. These were excavated in 1993 as a result of construction of the Mappa Mundi museum next to Hereford Cathedral and include a large number of victims of the Black Death. Alan Ogden completed a report on a small number of burials from North Cave for Humber Archaeology Partnership and is also continuing his study of the human remains from the British Museum excavations at Sidon. These number more than 50 individuals and include adult warrior burials with bronze axes and jar or threshold burials of infants and children. This has now covered four seasons and Richard Mikulski (now at the Museum of London) was our on-site osteologist in 2004. In October, Paola Ponce and Iraia Arabaolaza began work on the recording of 150 burials from the overflow cemetery of St Peter's Church in Wolverhampton for Birmingham University Archaeology Unit. These proved to be very interesting and provided strong evidence for the great difference that exists between pathological changes in post-medieval and medieval skeletons. We were delighted with the news that the Norton Priory Museum and Gardens had been short-listed for the 2004 Gulbenkian Museum of the Year Award. They eventually reached the last four and Alan Ogden and Anthea Boylston were invited to a party to celebrate as integral members of a multi-disciplinary team. Their paper on the six cases of Paget's disease from Norton Priory will shortly appear in the proceedings of the BABAO Southampton meeting. Anthea Boylston's report on the Roman burials from Kempston, which include 12 decapitations, was published this past

year as a BAR monograph entitled *Archaeology in the Bedford Region*.

Museum of London and Specialist Services/Centre for Human Bioarchaeology

by Natasha Powers

During 2004 work continued on the two major research projects being undertaken by the Museum of London and Specialist Services (the medieval assemblage from the cemetery of St Mary Spital, Spitalfields) and the, Wellcome Trust funded, Centre for Human Bioarchaeology.

Numerous assessment documents were produced on remains excavated by MoLAS before and during 2003/2004. Subjects included cremation burials from East London and the Old Kent Road, Roman burials from the centre of the City (Blossom's Inn and Paternoster Square) and Southwark (Union Street) and Saxons remains from Covent Garden. Post-medieval remains were uncovered at St. George-in-the-East and were studied in situ prior to reburial.

Perhaps the most intriguing assemblage excavated this year was a group of Roman burials from a marshy area to the north east of the City. Here, stratigraphic evidence indicates that burial was continuing along stream banks despite periodic (possibly seasonal) flooding that was disturbing earlier graves and spreading partially articulated remains over the cemetery area. This site may provide an alternative explanation for the Walbrook crania. Full analysis is anticipated in the autumn, following further excavations in the area.

A number of isolated Roman burials from the city were fully recorded including the unusual contemporary burials of two young males. They were lying in a flexed position, foot to foot, within a boundary ditch. One of these individuals had also been interred with a dog lying over his legs. The ditch dated from the early phases of occupation of the area under what is now Paternoster Square, and can be seen to echo rural burial practices elsewhere.

Beyond London, a quantity of Roman cremation burials, from the Milton Keynes area and associated with large vessel assemblages, were

assessed. Reports were completed on several cemetery groups from the Channel Tunnel Rail Link sites, including a Saxon cemetery at Cuxton, Kent. The Field Archaeology Unit of Essex County Council commissioned work on both prehistoric and Saxon cremation burials from the area where?. Finally the minute quantity of human remains from the Saxon chamber grave at Prittlewell was examined: a few small fragments of tooth crown having been recovered from samples during sieving by MoLSS processing team. This site will be the subject of a Time Team 'Special' later in the year.

Occasional forensic work has also continued with staff assisting in search, excavation and body recovery for the Metropolitan Police.

During 2005 work is due to be completed on post-Medieval burials from St Pancras Burial Ground (excavated by Pre-Construct Archaeology and managed by Gifford and Partners) and Old Church, Chelsea. MoLAS are currently involved in excavation work on Marylebone Cemetery and several city sites expected to yield small amounts of human remains. In addition to the Medieval Cemetery in Spitalfields, there is a sizeable sample of c. 150 Roman inhumations and cremation burials. These are currently being recorded and initial results imply the zonation of subadult burials (including neonates and foetal remains), an unusual demographic profile and surprisingly high fracture rate, especially amongst males. Possible 'family' groups have also been identified stratigraphically.

Sites excavated by the Norfolk Archaeological Unit with human remains

by Francesca Boghi

Osteological analysis on all the listed assemblages has been carried out at least to assessment level. If anyone would like more information about any of the sites they can contact me by e-mail: francescaboghi@britishlibrary.net

Snarehill Hall, Brettenham, Norfolk

Eighty-nine articulated skeletons, dating from the 11th-16th-century were excavated at the site of the disused parish church of Brettenham.. The

disarticulated assemblage contained a minimum of 65 individuals, including the remains of at least 28 additional individuals.

Jarrolds Whitefriars, Norwich, Norfolk

This excavation located burials associated with both the Carmelite Friary, in use between 1256 and 1542 and the Baptist Chapel of Priory Yard, in use between 1697 and 1875. The burials account for a minimum of 33 individuals (medieval) and 37 individuals (post-medieval). The disarticulated material comprised the remains of a minimum of 67 individuals.

Chapelfield, Norwich, Norfolk

A total of 9 contexts containing skeletal human remains were recovered from the bottom of a medieval well. The human remains consist of partially articulated remains from a minimum of 17 individuals, 6 adults and 11 juveniles. Several skinned cats were dumped in the well immediately prior to the human bodies.

Lifes Green, Norwich Cathedral Close, Norwich, Norfolk

A watching brief was conducted during the excavation of a 0.6m wide gas pipe trench at Lifes Green, within Norwich Cathedral Close, to the north-east of the north transept of the cathedral. The most significant finding was a north-south post-medieval coffin burial. Several clusters of undated disarticulated human remains, probably disturbed by previous service trenches, were also found nearby, indicating that this grave was not isolated.

Minstergate, Thetford, Norfolk

One sand body was recovered from this site. The totality of the remains were sampled and wet-sieved. A total of 915g of heavily fragmented bone was recovered. According to the dental development, the remains were those of a 10-15 years old child.

Croxton Road, Thetford, Norfolk

The human remains from this site consist of one articulated adult skeleton and a few other skeletal remains representing a second juvenile (10-15 years old) individual.

Ford Place Nursing Home, Thetford, Norfolk

The human remains recovered at Ford Place Nursing Home derived from the fill of a prehistoric shallow cut feature. They consisted of seven cervical vertebrae (6 found in articulation), a mandible and a small fragment of occipital bone found nearby. The bone was in good condition, though fragmented post-mortem. The remains were those of a minimum of one individual, a possibly male adult (> 20 years).

Waxam Barn, Waxam, Norfolk

The human remains recovered at Waxam Barn derived from a supine, roughly north-east to south-west medieval burial with the right arm partially flexed at the elbow and the other limbs extended. The remains consisted of a few bones (310g) from the pelvis, upper and lower limbs of an adult skeleton.

Bacton, Norfolk

The analysis of the fill of urn from the site of Nova Scotia Farm, revealed the presence of cremated human remains from a minimum of one adult of indeterminate sex. No pathological conditions were observed. The remains consisted of 70 g of predominantly white and finely fragmented bone, exhibiting extensive surface changes such as cracking and warping.

Bayfield, Norfolk

One roman burial was recovered during an evaluation at Bayfield. The skeleton was that of a mid adult (35-50 years) male individual.

Heacham, Norfolk

One east-west adult inhumation burial and a small assemblage of disarticulated remains were uncovered during building work and were recorded as part of a watching brief. The remains accounted for a minimum of five individuals, two adults and three juveniles (0-5 years)

Wymondham Abbey, Wymondham, Norfolk

A total of 21 contexts containing skeletal human remains were recovered during an archaeological evaluation at Wymondham Abbey including articulated remains from 5 discrete inhumation burials, disarticulated remains from 15 contexts and a small assemblage of unstratified human

bones. The material ranges in date between Late Saxon and Post-medieval.

Roydon Ring Ditch, Roydon, Diss, Norfolk

The analysis of the fill of urn [147] from the site of Roydon Ring Ditch, revealed the presence of cremated human remains from a minimum of one adult of indeterminate sex. The remains consisted of 1505g of finely fragmented bone, exhibiting extensive surface changes such as cracking and warping, but only minor colour variations.

Moor Drove, Hockwold, Norfolk

The remains of a minimum of three skeletons of perinatal age were recovered at Moor Drove within a settlement site provisionally dated to the 3rd century AD.

Poulton Research Project

by Steve Crane

The Poulton Research Project is an independent archaeological research project, initially based around the remains of a Cistercian Abbey at Poulton, between Chester and Wrexham. Since the start of the project in 1995, evidence has been found for multi-period occupation of the site, from the Neolithic through the Bronze Age to Roman and Medieval.

During 2004, more than 60 skeletons were excavated from the site of a medieval chapel graveyard, to add to the 100+ which have been excavated from the same area during previous seasons. In addition to the normal volunteers and summer students, much of this work was undertaken by Cheshire Police CSIs (Crime Scene Investigators), who have been undergoing training in archaeological investigation and excavation techniques.

This skeletal material from Poulton now forms a significant collection, which appears to be representative of a late medieval rural population. This collection is being exploited by a new collaboration between the Project and Jessica Pearson, Lecturer in Bioarchaeology at the University of Liverpool. Several research topics have already been discussed, and 57 skeletons have been transferred on loan to Liverpool.

Only 100m away from the chapel but dating from a much earlier period, excavation of a Bronze Age ring ditch has revealed considerable quantities of cremated human bone. Unfortunately the bone fragments discovered so far are too small for meaningful analysis, but investigations in the ring ditch will continue in 2005.

References:

Carpenter, R.J. and Crane, S.A. 2003 Analysis of Human Skeletal Material from the Poulton Research Project: 1995-2002.

http://srs.dl.ac.uk/arch/poulton/poulton_skeleton_report_v0_91.pdf

Carpenter, R.J. and Crane, S.A. 2004 Awakening the Dead.

http://srs.dl.ac.uk/arch/poulton/awakening_the_dead_v3_01.pdf

CONFERENCE REPORTS

Review of the Sixth Annual Conference of British Association for Biological Anthropology and Osteoarchaeology, Bristol 10- 11 September 2004

by Holger Schutkowski

The 6th BABA O conference was jointly hosted by the Departments of Archaeology and Anatomy of the University of Bristol. Organised into seven sessions under four subheadings, including a contribution from the Department of Anthropology at the University of Kent at Canterbury, complemented by poster displays, the meeting, again, demonstrated the broad range of scientific inquiry represented by our association and the quality of contributions it is able to attract.

Day One started off with a keynote lecture by Fred Spoor (and Meave and Louise Leakey) on new hominin fossils of the Koobi For a formation east of Lake Turkana to set the scene for a morning session on Evolutionary Anthropology. The session was devoted to two specific aspects comprising the evolution and development of the skull and the comparative primate context. The

first part covered topics as varied as craniofacial morphology and variation, the temporal and inner ear region, mastication, and enamel prism orientation; the second part was no less diverse, addressing genetic regulation of aggressive behaviour, ontogenetic change of the pelvis, and the relationship of trauma and activity patterns.

The afternoon was shared between a session on Human Behavioural Ecology and Osteoarchaeology Part One. Including behavioural ecology into the conference program added a much welcomed facet of biological anthropology, and introduced theory-led research questions applied to both extant and past populations. Albeit seemingly disparate, the coverage of issues related to parental investment and reproductive strategies, auxology and child health fit in well with the overall attempt to elicit awareness for broader conceptual frameworks.

The first Osteoarchaeology session was arranged around palaeodemography and focussed on new avenues and techniques towards improving our understanding of demographic processes such as migration, population history and basic pre-requisites such as age-at-death estimation.

This overall theme was continued on Day Two with two further sessions, dedicated to skeletal peri- and post mortem modification and burial practices, respectively. Modification was discussed from the viewpoints of microstructural and overall taphonomic alterations, instructively supplemented by an introduction to butchering techniques and the marks they leave on the bone. The final part of the Osteoarchaeology theme demonstrated the importance of an integrated approach to the appreciation of complex mortuary behaviour.

The scientific program concluded with a session organised in memory of Juliet Rogers and was devoted to a number of palaeopathological issues, both diagnostic (e.g. infectious disease, trauma) and with a view towards the wider meaning of pathological skeletal alterations, in particular in relation to medieval and 19th century urban life. Jonathan Musgrave finally invited us to accompany him on a journey through forty years of bones studies.

Traditionally, BABAO conferences conclude with awarding the student prizes. This year for the first time they were issued in memory of Jane Moore. The first prize went to Ursula Paredes-Esquivel

(with Gabriele Macho and John Quinn) of Liverpool; the runner-up was Rebecca Griffin (with Matthew Collins) of York. Both prize-winning contributions are testament to the vibrancy, quality and breadth of research activities in our field. Being able to sustain this year after year at our meetings is very encouraging. Our sincere thanks therefore go to Kate Robson Brown and Alice Roberts (plus Sarah Johns for external input) and all helpers for putting together an inspiring program and for their warm hospitality.

Paper titles and names of speakers can be found in the Conferences section of the BABAO website (www.babao.org.uk)

15th European Meeting of the Paleopathology Association, Durham, U.K. 10th-14th August 2004.

by Megan Brickley

The 15th bi-annual European Meeting of the Paleopathology Association held in Durham this summer was well attended, with almost 150 delegates and guests from 25 different countries it really was an international meeting. There were 48 papers and 51 posters including those from the one-day Sungir meeting, which was held the day before the PPA started. The Sungir day proved to be an excellent opportunity to learn more about this fascinating Palaeolithic Russian site, from those who have been involved in its study.

The first session of the main Paleopathology Association meeting, Studies of Population Health, was packed with papers on populations in Russia, Spain, Hungary and Britain as well as a paper from Rick Steckel dealing with results from the Western Hemisphere health project. The number and quality of contributions to this session demonstrated that there has been a genuine move away from a focus on case studies in paleopathology. This move was also reflected in later sessions of the conference. Although there were sessions devoted to Dental disease, Trauma, Infectious, Metabolic and endocrine disease, and a Miscellany session packed with interesting contributions, many of the papers took a more biocultural approach to their subject. Most authors examined the impact of the conditions being discussed at a population level and

incorporated wide-ranging evidence from archaeological and historical sources to build up a fuller picture of patterns of health in the past. Papers that did focus on a case or cases were clearly aimed at giving other researchers the diagnostic tools to investigate a condition in future research. These papers were also very well presented. There were clear explanations and illustrations of the features that could be recorded in archaeological bone, alongside clinical examples and discussion about how better diagnosis and recording of the condition in question would help future investigations of past populations.

On Friday morning Chryssi Bourbou chaired a session she had organised on Studies of Bioarchaeology in Greece. Papers in this session focused on a range of time periods and sites, as well as presenting research on specific conditions such as trauma and developmental defects. The paper by Della Collins Cook offered a very cautionary tale regarding the diagnosis of pathology in fragmented human bone from Franchthi Cave, Greece. However, the issues raised in this paper would apply to all assemblages of disarticulated bone.

The last session of the conference was the Aidan and Eve Cockburn Memorial Session and was attended by members of the Cockburn family. The session contained a range of papers from friends and colleagues of the Cockburn's. This fascinating range of papers was a fitting tribute to the work of Aidan and Eve and a superb end to the conference.

In addition to the academic sessions, Charlotte Roberts had also arranged an excellent social programme. With a wine reception at the beautiful Oriental museum on Wednesday and the conference dinner on Friday being held at the splendid Town Hall in Durham. The dinner was followed by a Ceilidh, with music and dancing lessons by the Northern Lights. Enthusiastic participation by most delegates (I'm not sure what the collective noun for dancing paleopathologists is) ensured a fun and memorable evening.

FORTHCOMING CONFERENCES

Paleoanthropology Society 2005 Annual Meeting Information

The annual Paleoanthropology Society meeting will be held Tuesday and Wednesday, April 5 and 6 in Milwaukee Wisconsin in conjunction with the American Association of Physical Anthropology convention. The meeting will take place at the Milwaukee Hilton City Center Hotel, 509 West Wisconsin Ave.

For further information:
<http://www.paleoanthro.org>

Thirty-Second Annual Paleopathology Association Meeting

The Annual Meeting of the Paleopathology Association will be held in Milwaukee, Wisconsin on Tuesday and Wednesday the 5th and 6th April 2005. This meeting will, as usual, precede the Annual Meeting of the American Association of Physical Anthropologists. The venue is the Hilton City Center Hotel, Milwaukee, Wisconsin.

For further information:
<http://www.paleopathology.org/meeting.html>

74th Annual Meeting of the American Association of Physical Anthropologists.

The 74th annual meeting of the American Association of Physical Anthropologists will be held in Milwaukee, Wisconsin, from Wed., April 6 to Sat., April 9, 2005

For further information:
<http://www.physanth.org>

Warfare and violence in prehistoric Europe

A conference organised by the School of Archaeology and Palaeoecology, Queen's University Belfast, to be held on May 27-29, 2005

Recent archaeological findings, particularly of human remains showing trauma, have raised questions concerning the prevalence and importance of warfare and violence in prehistoric Europe. While Europe has a rich database upon which to draw for a study of the extent and contexts of prehistoric violence (real and symbolic), different languages and research traditions have tended to lead to fragmentation of the evidence. The intention of this conference is to bring together a group of researchers investigating different aspects of prehistoric violence, from the Mesolithic to the Iron Age, and including consideration of skeletal trauma, weaponry, architecture, iconography, and settlement patterns. To what extent do these various lines of evidence corroborate or contradict one another? What variation can be detected in the extent and contexts of violence across space and time? And how can we integrate evidence for violence into our narratives of prehistoric lives?

Speakers include Ian Armit, Pia Bennike, Detlef Gronenborn, Anthony Harding, Chris Knüsel, Simon James, Margaret McCartney, Jonathan McCormick, Jim Mallory, Roger Mercer, Barry Molloy, Jörg Orschiedt, John Robb, Rick Schulting, David Smith and Nick Thorpe.

Registration information at:
<http://www.qub.ac.uk/arcpal/events.htm>

For queries contact:
Ian Armit i.armit@qub.ac.uk
or Rick Schulting r.schulting@qub.ac.uk

16th Paleopathology Association European Meeting

Meeting Hosted By: Dr Sotiris K. Manolis

Venue: Department of Animal & Human Physiology, Faculty of Biology, National &

Kapodistrian University of Athens, Greece

Dates: Tuesday 22nd August to Saturday 26th August 2006

For further information:
<http://multimedia.biol.uoa.gr/16ppa/>

European Anthropological Association 15th International Congress

"Trends and Challenges in Anthropology"

September 1 - 4 (Budapest, Hungary)

Further info: Prof. Eva Bodzsar
e-mail: bodzsar@ludens.elte.hu

British Association for Biological Anthropology and Osteoarchaeology

7th Annual Conference
2nd - 3rd September, 2005

Venue: the Museum of London.

Offers of sessions, papers or posters should be sent to Bill White at the address below.

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Visualising Past Environments: new directions in palaeo-landscape studies

Wetland Archaeology and Environments
Research Centre, Department of Geography,
University of Hull

8th-10th September 2005

The artist's reconstruction of an archaeological site, its inhabitants, and its landscape, has long been an important 'product' of studies of the past, summarising the work of a wide range of different specialist researchers, and acts as a powerful communication tool for non-specialists. The recent surge in availability of powerful computers, fancy graphics packages, GPS surveying equipment, and Geographical Information Systems have all led to the production of increasingly sophisticated reconstructions of past landscapes, whether as 'artists impressions', interactive visualisations or maps, which are now widely found on TV, the internet, in popular literature and posters for schools, and in museums.

Do these tools allow for a more 'objective' and reliable reconstruction of the past, or are they no more than artists impressions using novel tools? Reconstructing the pattern of past landscapes, the natural and cultural mosaic of vegetation, habitat, land-use and resources, and the ways in which people interacted with and moved through them, has always been an implicit part of our work as Environmental Archaeologists. In this meeting, we hope to explore the many ways in which we get from field data or sample to reconstructed landscape, and whether the new technology is helping, distracting from, or largely irrelevant to the interpretation and communication of our findings. We welcome papers relating to any stage in the process, from the collection, analysis and interpretation of single-proxy samples to production of final summarising reconstructions, as well as case studies or examples of the environmental archaeology of palaeo-landscapes.

The meeting will be preceded by a one-day workshop on the POLLSCAPE approach to reconstructing past vegetation patterns from the pollen record. (see e.g. Sugita et al. 1999, Bunting et al. 2004), drawing on the work of the PolLandCal Network

(<http://www.geog.ucl.ac.uk/ecrc/pollandcal/index.htm>). The workshop will consist of a mixture of lectures to introduce the theories underlying the approach and practical sessions with the user-friendly software suite developed in Hull. Workshop costs will be on the order of £50 (to be confirmed), to include lunch, notes and software. Places are limited, and will be allocated on a first come first served basis, so please email m.j.bunting@hull.ac.uk to register your interest.

This is the first call for abstracts; the deadline for abstracts is May 15th 2005. These should be a maximum of 300 words long, include a clear informative title, and indicate whether the contribution is offered as a poster or oral presentation. . Please send electronic abstracts to:

m.j.bunting@hull.ac.uk

or paper versions to:

AEA Conference 2005
Wetland Archaeology and Environments
Research Centre
Department of Geography
University of Hull
Cottingham Road
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Preliminary Conference Announcement

AEA2006, University of Exeter, 28th - 30th March 2006 "Novel Environmental Archaeology: Integrating New lines of Evidence and Rethinking Established Techniques"

The AEA is dominated by specialists that deal with a fairly traditional set of environmental evidence: animal bones, seeds, pollen, insects, soils etc. There has been a massive growth in new methods for telling us about past diet, health and environment, however. Biomolecular techniques such as pottery residue analysis and dietary isotope studies are moving well beyond their initial development stage and are having a major impact on the discipline. However, these

researchers are not well represented in the AEA. It is also clear that human bone specialists have much to share with both environmental and biomolecular specialists and the AEA and BABAO have been moving towards much closer co-operation.

This conference has the aim of bringing all these interested parties together. It is about embracing new techniques and moving towards better integration of methodologies.

Within this conference we are proposing a joint session between the AEA and BABAO that deals with an issue that effects the study of both human and animal remains: palaeopathology. This osteological topic is integrally linked to both diet and environment. The session title is:

'Palaeopathology: social, environmental and evolutionary perspectives'?

Beyond this session, it is hoped that this conference will have much to offer BABAO members, who will be able to register at AEA membership rates. Please watch out for future announcements!

Contact: Alan K. Outram, Department of Archaeology, SoGAER, University of Exeter, Laver Building, North Park Road, Exeter EX4 4QE UK
Email: A.K.Outram@exeter.ac.uk

MEMBERS PUBLICATIONS (2003-2004)

- Anderson, T. (2004a) An unusual medieval mandibular pathology. *Archives of Oral Biology* 49: 331-335.
- Anderson, T. (2004b) The treatment of the feet in Anglo-Saxon England. *The Foot* 14: 38-41.
- Anderson, T. (2004c) The treatment of the feet in Medieval England. *The Foot* 14: 61-67.
- Anderson, T. (2004d) Medieval pedal infections. *The Foot* 14: 77-79.
- Anderson, T. (2004e) Dental treatment in Anglo-Saxon England. *British Dental Journal* 197: 273-274.
- Anderson, T. (2004f) Dental treatment in Medieval England. *British Dental Journal* 197: 419-425.
- Anderson, T. (2004g) The human bone. in: Wilson, R.J.A. & Caruana, I.D. (eds) *Romans on the Solway*. (Cumberland & Westmorland Antiquarian & Archaeological Society) Kendal.
- Anderson, T., O'Connor, S. and Ogden, A.R. (2004). An early eighteenth-century denture from Rochester, Kent, England. *Antiquity* 78: 858-864. (ISSN: 0003 598X)
- Anderson, T., O'Connor, S., Ogden, A.R. (2004) An early eighteenth century elephant ivory denture from Rochester, Kent. *Antiquity* LXXVIII: 856-862.
- Beja-Pereira A, Luikart G, England PR, Bradley DG, Jann OC, Bertorelle G, Chamberlain AT, Nunes TP, Metodiev S, Ferrand N, Erhardt G (2004) Gene-culture coevolution between cattle milk protein genes and human lactase genes. *Nature Genetics* 36: 106-106
- Boghi, F. and Roberts, C.A. (2004) The cremations (3801-3805). In M. Dawson: *Archaeology in the Bedford region*. British Archaeological Reports British Series 373. Bedfordshire Archaeology Monograph Series 4. Oxford, Archaeopress, pp. 315-321.
- Boylston, A. (2004). Palaeopathology – Roman inhumations from Kempston, in: Dawson M. (ed) *Archaeology in the Bedford Region*, pp. 322-50. British Archaeological Reports, British Series, 373. Archaeopress, Oxford. (ISBN: 1-84171-628-6)
- Boylston, A. and Roberts, C.A. (2004) The Roman inhumations. In M. Dawson: *Archaeology in the Bedford region*. British Archaeological Reports British Series 373. Bedfordshire Archaeology Monograph Series 4. Oxford, Archaeopress, pp. 322-350.
- Boylston, A., Novak, S., Sutherland, T., Holst, M., Coughlan, J. and Knüsel, C. (2004). Archaeology and anthropology of medieval warfare: an investigation of burials from the Battle of Towton, AD 1461. *Medieval History Magazine* 10: 50-7. (ISSN: 1741-2285)
- Brickley, M. & McKinley, J. (eds.) (2004). *Guidance to Standards for Recording Human Skeletal Remains*. Institute of Field Archaeologists / British Association of Biological Anthropology and Osteoarchaeology: University of Reading. ISBN 0948-393-88-2.
- Brickley, M. Mays, S. & Ives, R. (2004) An investigation of the range of skeletal indicators of vitamin D deficiency in adults and juveniles. *Supplement to American Journal of Physical Anthropology* 123 S38: 68.
- Budd, P., Millard, A., Chenery, C., Lucy, S. and Roberts, C.A. (2004) Isotope evidence for archaeological immigration and residential mobility in the U.K. *Antiquity* 78:127-141.
- Hazelwood L, Steele J (2004) Spatial dynamics of human dispersals - Constraints on modelling and archaeological validation. *Journal of Archaeological Science* 31: 669-679
- Hiller JC, Collins MJ, Chamberlain AT, Wess TJ (2004) Small-angle X-ray scattering: a high-throughput technique for investigating archaeological bone preservation. *Journal of Archaeological Science* 31: 1349-1359
- Knüsel, C.J. (2004). Review of Arnott, R., Finger, S, and Smith, C.U.M. (eds.) *Trepanation: History, Discovery, Theory* (2003, Swets and Zeitlinger Publishers, Lisse, The Netherlands). *International Journal of Osteoarchaeology* 14: 151-153. (ISSN: 1047-482X)
- Knüsel, C.J. (2004). Review of Crow, T.J. (ed.) *The Speciation of Homo sapiens*. (2002 British Academy, London). *International Journal of Behavioral Development* 28(3): 275-278. (ISSN: 0165-0254)
- Knüsel, C.J. and Outram, A.K. (2004). Fragmentation: the zonation method applied to fragmented human remains from

- archaeological and forensic contexts. *Environmental Archaeology: The Journal of Human Palaeoecology* 9(1): 85-97. (ISBN: 1 84217 097 X; ISSN: 1461-4103)
- Lewis ME & Ritty G (2003) Endangered Children: the personal identification of children in forensic anthropology. *Science and Justice* 43(4): 201-209
- Lewis, M.E. (2003) A comparison of health in past rural, urban and industrial environments. In P. Murphy & P. Wiltshire (eds.). *The Environmental Archaeology of Industry*. Symposia of the Association for Environmental Archaeology of Industry No. 20. Oxford: Oxbow Books.
- Lewis, ME (2004) Endocranial lesions: their distribution and aetiology. *International Journal of Osteoarchaeology* 14(2): 82-97.
- McEwan JM, Mays S, Blake GM (2004) Measurements of bone mineral density of the radius in a medieval population. *Calcified Tissue International* 74: 157-161.
- Melikian M (2004). An archaeological watching brief of the exhumation of the Jesuit Cemetery at Manresa House, Roehampton. *London Archaeologist*, Summer 2004, Volume 10, No. 9, 230-233.
- Mitchell, P.D. (2004) Evidence for elective surgery in the Frankish states of the Near East in the crusader period (12th-13th centuries). In: *Gesundheit-Krankheit: Kulturtransfer Medizinischen Wissens von der Spätantike bis in die Frühe Neuzeit*. Ed. K.P. Jankrift & F. Steger. Cologne: Böhlau-Verlag, pp.121-38.
- Mitchell, P.D. (2004) *Medicine in the Crusades: Warfare, Wounds and the Medieval Surgeon*. Cambridge: Cambridge University Press [293 pages, 15 illustrations].
- Mitchell, P.D. (2004) The palaeopathology of skulls recovered from a medieval cave cemetery at Safed, Israel (thirteenth to seventeenth century). *Levant* 36: 243-50.
- Montgomery, J., Evans, J.Powesland, D. and Roberts, C.A. (2004) Continuity or colonization in Anglo-Saxon England? Isotope evidence for mobility, subsistence practice, and status at West Heslerton. *American Journal of Physical Anthropology*
- Ogden, A.R. (2004) . Burials excavated at Sidon 2001-2003. *Archaeology & History in the Lebanon* 20: 58-59.
- Ogden, A.R. (2004). Sidon, Burial 27 Skeletal Report. *Archaeology & History in the Lebanon* 20: 30.
- Ogden, A.R. and Schutkowski, H. (2004). Human remains from Middle Bronze Age burials at Sidon, Lebanon: the 2001 season. *Levant* 36: 159-166. (ISSN: 0075-8914)
- Roberts, C.A. (2004) General Medicine. In B. Fargan (ed): *The 70 great inventions of the ancient world*. London, Thames and Hudson, pp. 255-9.
- Roberts, C.A. and Connell, B. (2004) Palaeopathology. In M. Brickley (ed): *Guidelines to the standards for recording human remains*. Reading, Institute of Field Archaeologists Paper 7, pp. 34-39.
- Roberts, C.A., Knüsel, C.J., and Race, L. (2004). A foot deformity from a Romano-British cemetery at Gloucester, England, and the current evidence for *Talipes* in palaeopathology. *International Journal of Osteoarchaeology* 14(5): 389-403. (ISSN: 1047-482X)
- Schweich, M. and Knüsel, C. J. (2004). Physical Variation in Past Populations, In Bodzsár, É.B. and Suzanne, C. (eds.) *Physique and Body Composition: Variability and Sources of Variation*. Biennial Books of the European Anthropological Association 3: 173-181, Eötvös University Press, Budapest. (ISSN:1586-3468, ISBN: 963 463 7027)
- Smith, D. Brickley, M. & Smith, W. (eds.) (2005). *Fertile Ground: Papers in Honour of Professor Susan Limbrey*. Oxbow Books: Oxford. (contains 1 chapter by Brickley).
- Smith, M. & Brickley, M. (2004). Analysis and interpretation of flint toolmarks found on bones from West Tump Long Barrow, Gloucestershire. *International Journal of Osteoarchaeology* 14:18-33.
- Steele J, Gkiasta M, Shennan S (2004) The Neolithic transition and European population history - a response. *Antiquity* 78: 711-713
- Tsaliki, A. (2003) Study of Ancient Skeletal Remains from Greece and Cyprus. In S. Lucy (ed.) *Universities of Durham and Newcastle-upon-Tyne Archaeological Reports 2001/2002* 24: 71-75
- Tsaliki, A. (2004a) Animal and Human Bones in Archaeological Assemblages: Problematics and Identification [in Greek, with English abstract]. *Archaeologia & Technes* 92: 83-88
- Tsaliki, A. (2004b) Spine Pathology and Disability at Lesbos, Greece. *Paleopathology Newsletter* 125, March 2004, 13-17.

OBITUARY

Leslie Jane Moore, *physical anthropologist, born 27 August 1962; died 28 March 2004.*

When Jane Moore first fell ill, about two months before her untimely death in March 2004, she was working on the concluding chapter of her PhD thesis. To get this far had been a long and hard battle, both with the data and with herself, but aggressively-metastatic skin cancer prevented her from completing the work. Jane's doctoral research at University College London (UCL) investigated what both genetics and craniometrics can tell us about the relationships and history of modern and ancient populations of Sudan.

Born in 1962, Jane grew up in Little Rock, Arkansas. As an archetypal tomboy she very much enjoyed exploring the wilderness that was part of the family farm in western Arkansas; experiences that shaped her eagerness for fieldwork in later years. Her father, a neurosurgeon with interests in all things anthropological, was a major influence, laying the basis for Jane's eventual career choice. Initially, however, she only briefly attended university. Full of energy and wanting to be independent, she embarked on a successful business career in medical database management. She moved to San Francisco, and lived the 1980s boom years to the full. But in the end there remained the question whether this was truly what she wanted to do with her life. Consequently, she went back to university in the early 1990s, working shifts on the maternity ward of UCSF hospital to fund her studies. In 1994 she graduated from the University of California at Berkeley with a BA in anthropology. During that time she did projects in palaeopathology and taphonomy, in part during a summer internship at the Smithsonian Institution under Donald Ortner. In the last year Jane was taught by Jean Jacques Hublin, who invited her to participate in his 1994 summer fieldwork in Zafarraya, southern Spain. This is where we met, with the result that she moved to London later that year.

At Berkeley Jane had reviewed the literature on the taphonomic conditions for the survival of DNA in bone and teeth. Now she wanted to pursue this further, and for a year she worked under Erika Hagelberg at the University of Cambridge, to learn the practicalities of DNA extraction and sequencing. At the same time she made contact with Peter Andrews at the Natural History Museum in London, and he allowed her to use specimens that were part of his long-term taphonomic experiments (Moore, 1996). Spring 1996 proved a roller coaster, combining the diagnosis of malignant melanoma, albeit at the time without apparent metastases, and the award of a National Science Foundation Graduate Research Fellowship. The latter enabled her to start her PhD research at UCL, with Chris Dean and Mark Thomas as her supervisors in the Anatomy and Biology departments, respectively.

After some further exploration of the topic of DNA preservation (Moore, 1997; Thomas and Moore, 1997), Jane had the opportunity to work on DNA samples of modern Sudanese populations. The idea arose that the Y chromosome information could be combined with the evidence from craniometrics to investigate the large diversity in a country that forms an interface between Arabic and sub-Saharan African cultures and populations. How do modern populations in

Sudan relate to each other, and could the findings best be explained by models of regional biological continuity, or migration? Associated questions concerned the relationship between extant populations and those representing past Nubian cultures, and how the evidence from the two different approaches, genetic and morphological, compare.

In practice, Jane had taken on two projects that proved complex to integrate. Analysis of the genetic samples made rapid progress, and she could present preliminary results at a conference in Khartoum in 1998, and at subsequent occasions (Moore, 2000). However, it soon became clear that osteological collections matching the genetic samples do not exist. Instead, she found crania from regions of Uganda, Kenya and Ethiopia, which could arguably be used as proxies for peripheral northern and southern Sudanese populations. In addition, she sampled three Nubian populations, which gave the opportunity to assess models of regional continuity. She found that genetic and multivariate morphological analyses are consistent in showing broad north-south differences (Moore, 2002). Moreover, both suggest that migrations played a substantial role in the population history of the Sudanese region.

Setbacks with getting her projects organised, and various health problems hindered progress of her work over the years. However, that did not hold her from using her infectious enthusiasm and organisational skills to make things happen. She ran a most successful weekly seminar series for the Evolutionary Anatomy Unit at UCL, arranged free textbooks and journal subscriptions to aid physical anthropology in Sudan, was editorial associate for the *Journal of Human Evolution*, and established an on-line backpackers bulletin board, which is now used daily by many people to exchange worldwide travel information.

Over the years she keenly participated in palaeontological and archaeological fieldwork in Olorgesailie and Kanapoi (Kenya), and she was in the process of organising her own excavations in Sudan, in collaboration with her colleagues in Khartoum. That, she felt, would both help answer questions arising from her doctoral work, and stimulate anthropological research in Sudan done by the Sudanese. It was not to be. A life too short, but well lived.

Fred Spoor

Moore LJ (1996) Differential preservation of DNA in faunal material from Wales: investigating the taphonomy of DNA. *American Journal of Physical Anthropology Supplement* 22:172.

Moore LJ (1997) Preservation of DNA in teeth. *American Journal of Physical Anthropology Supplement* 24:173.

Moore LJ (2000) Y chromosome diversity in modern Sudan. *American Journal of Physical Anthropology Supplement* 30:231.

Moore LJ (2002) Morphological and molecular variation in ancient and modern Sudan. *American Journal of Physical Anthropology Supplement* 34:115.

Thomas MG and Moore LJ (1997) Preparation of bone samples for DNA extraction: A nuts and bolts approach. *Biotechniques* 22(3): 402.

The first annual Jane Moore Prize for outstanding student contribution to a BABAO conference was awarded at the Bristol meeting in September 2004.

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Grant Award
Application
2005

Compliance with the Data Protection Act 1998

In accordance with the Data Protection Act 1998, the personal data provided on this form will be processed by BABAO and may be held in a computerised database or in manual files.

RESEARCH PROPOSAL

1. Name of applicant

Address for correspondence

Title:
First name:
Surname:

Postcode:
Tel no:
Email:

2. Present position

Present appointment and employer (If student, please indicate degree in progress, name of supervisor and institution)

3. Details of grant requested

Title of project (not more than 15 words)

Sum requested
to the nearest
£

4. Project summary

Information on your research project may be placed upon the BABAO website. Please use this space to provide a description of your research in a way that could be used for a general – i.e. non-expert - readership. (Maximum 100 words.)

5. Project information

Please provide concise details of your planned research project in the following boxes in order that the research validity and potential of your project can be assessed. (Maximum 500 words in each box.)

<p>Research question(s) or problem</p>	
<p>Aims & objectives</p>	
<p>Research methods</p>	
<p>Timetable (Research is expected to be presented at the BABAO conference [either as a paper or poster] in the year following the award.)</p>	
<p>Dissemination of Research (in addition to publication in BABAO conference proceedings)</p>	

6. Ethical aspects of the proposal

a) Are there any ethical implications arising from the proposed research? See instructions in Annual Review.

Yes No

If yes, please give details below of what they are and how you intend to address them.

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7. Budget summary

Give a summary of the total costs that will be incurred; then complete the detailed breakdown below.

Summary	Cost (£)
Travel and subsistence	
Equipment	

Please itemise and justify expenditure requested for travel and subsistence, and equipment and materials.

Description	Justification	Cost (£)

8. Signature and date

If funded, I agree to complete the intended research within the BABAO timeframe, and will provide a break-down of my spending to the BABAO committee.

Signature of applicant		Date	
Signature of supervisor (for student applicants)		Date	

All applicants must be members of BABAO by 1st April in year of submission.

Closing date for applications: 15th June.