

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

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WELCOME TO THE BABAO ANNUAL REVIEW 2003

Welcome to another edition of the BABAO Annual Review. In this year's Review, James Steele has provided important updates on the DCMS working group and the progress of the Church Archaeology and Human Remains Working Group. The committee will, no doubt, continue to keep us updated on developments as they occur. Margaret Clegg reports that the membership of BABAO is both increasing and diversifying. This trend is certainly reflected in the contributions received for this year's Review, which includes forensic anthropology and primatology as well as biological anthropology and archaeology. Likewise, we have received reports on projects and workshops as far a field as Australia and Rwanda. Most of this Review, however, reflects the make-up of the majority of the membership, consisting of research updates, departmental reports, excavation news, and skeletal analysis, undertaken in the UK. Contributions of particular interest include the research updates by Bill White and Rebecca Redfern at the Museum of London. Thanks to all those who've contributed, it's much appreciated, and a particular thanks to Chris Knüsel who has consistently provided detailed accounts of the BABAO meetings over the last five years. I hope that you all find this Review as interesting to read as I have to edit— though perhaps not quite so laborious!

Becky Gowland
Editor

ASSOCIATION NEWS

British Association for Biological Anthropology and Osteoarchaeology Annual Report

by James Steele (Chair), University of Southampton

The BABAO has continued to grow in 2003. Membership trends are healthy, and the very successful autumn Annual Conference demonstrated an increased breadth of interests among the active membership. These now include many areas of biological anthropology, as well as osteoarchaeology.

The main external challenge faced by the Association during 2003 related to retention policies for human skeletal remains that are currently, and/or will in future be the subject of scientific study. The DCMS Working Group on Human Remains in museum collections published its report in November. The Working Group favours facilitation of repatriation to claimant communities of human remains obtained from overseas between 1500 and 1947. Key to their findings was the issue of consent (in an explicit analogy with the debate about retention of human tissue samples following the Alder Hey Inquiry). A number of recommendations are made for legislative and regulatory changes that would permit museums to return remains, and that would ensure transparency and consistency in the handling of claims for return. This will form the basis of a consultation document to be

published early in 2004. Needless to say the BABAO will submit a response.

I am dismayed to see this debate so often cast as one between science and ethics, as though the scientific case lacked an ethical foundation. On the contrary, there is a profound ethical implication in any statement of the value of continuing study of human remains, in the interests of the advancement of scientific knowledge and public understanding of human evolution and variability. This point has been made repeatedly by Sir Neil Chalmers (Director of the Natural History Museum), who was the principal dissenting voice on the DCMS Working Group. We need to continue to make this case in dialogue with claimant communities and their intermediaries, in the hope of achieving greater mutual understanding. This is, however, a task on an international scale.

Meanwhile, policy for retention of human remains of domestic origin has been the focus of the Church Archaeology and Human Remains Working Group, convened jointly by Joseph Elders and Simon Mays, and which is expected to put its draft report out for consultation in April 2004. Preliminary indications are that the issues will be seen as less contested, and that a compromise may be proposed by the Church of England involving – where appropriate – the long-term retention for study of excavated skeletal remains from Christian burials, in suitably-refurbished disused church property. We shall await this Working Group's findings with keen interest. The Association has made a submission, and of course, will ensure that we are involved in further rounds of consultation as the Working Group's policy recommendations are debated.

We shall also continue to monitor individual museums' retention policies for recently excavated material, in the post-PPG16 era. In this context, the case for long-term retention of human remains from archaeological sites – and curation is one of the key functions of the museum sector, if also a costly one – must hinge on the demonstration that 'preservation by record' cannot be achieved in a single bout of recording and of sampling for analytical procedures. This is the point that also informs the claims for retention that we have put to the two Working Groups.

Coincidentally, in 2003 the Association has revived its proposal to compile an up-to-date database of curated skeletal remains recovered from British archaeological sites. The Committee decided that the best way forward was to formulate a template for such a database, to invite eligible members to submit bids for grant funding to implement it, and to underwrite (from reserves) 'reasonable costs' of maintaining the database for the first five years after the grant has expired. The template is a fusion of that used by Simon Mays in developing an earlier, English Heritage-funded database of remains from English sites, with that developed by Charlotte Roberts and Margaret Cox in the course of researching their recent book on health and disease in Britain (see members publications).

We expect that the first such bid will be submitted in the first half of 2004, and we very much hope that it will be successful. We can also look forward to the publication in 2004 of the BABAO document on standards for skeletal recording. It looks like being another interesting year ahead!

Finally, I am glad that some members have raised the issue of accreditation, and specifically of how the Association might support practitioners in osteoarchaeology by some form of validation of credentials. This is an issue that was discussed by the Committee at a very early stage in the BABAO's existence. It is right that we should explore ways of supporting the validation of practitioners, since one of our Constitutional aims is to "improve standards in all aspects of the study of the biological remains of past and present peoples". However, our Constitution also indicates very clearly that membership of the BABAO should be open to all those interested in biological anthropology and osteoarchaeology. The best way

forward without compromising our properly broad criteria for membership would seem to be liaison with the Institute of Field Archaeologists in defining and validating the relevant IFA 'Area of Competence', and we will write to the IFA to explore the possibilities during 2004.

I would like to thank on the Association's behalf, all those Committee members, past and present, whose experience and hard work enables the BABAO to continue to thrive. A particular thank you must go to Rebecca Gowland for her able editing of this Review! Please do not hesitate to contact me if you would like to get more involved yourself, and also if there is any issue which you would like the Committee to address on your behalf.

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 2003, for the first time we had 210 active members. This is an increase over last year of 25 members (approx increase of 14%). Seventy-five percent of existing members renewed their subscription in 2003. We seem to have had more success at retaining student members, with only 42% of those not renewing last year being students.

We recruited 71 new members during 2003 and have had six new members so far this year (2004). 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 two US members, two Australian members and one from each of the following: India, Brazil and South Africa.

MEMBERSHIP CATEGORIES	PERCENTAGE OF MEMBERSHIP
Students	26%
Academics	15%
Osteologist/bone specialists	11%
Anthropologists/archaeologists	10%
Researchers	6%
Teachers	2%
Retired	1%
Medical	1%
Work in Museums	1%
Forensic specialists	2%
Work in Unit	2%
No occupation supplied	6%
Other	18%

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.

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

wide range of occupations and affiliations gives the Association a lively and interesting membership.

This year I have instituted payment by standing order and so far 15% 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

BABAO Managing Committee Call for Nominations

by Holgar Schutkowski

By the end of September 2004 the following posts on BABAO Managing Committee will be available:

POST	PRESENT MEMBER
Publicity Secretary	Darlene Weston
General Secretary	Holgar Schutkowski

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, 30th July. A list of nominations will be sent out to the members with the Agenda for the Annual General Meeting.

PEOPLE

SUE BLACK: was appointed Chair of Anatomy and Forensic Anthropology at the University of Dundee.

MARGARET CLEGG: was appointed as Research Fellow at the Department of Archaeology, University of Southampton.

MARK COLLARD: was appointed as Lecturer in Palaeoanthropology at the Department of Archaeology, University of Sheffield.

SARAH JOHNS AND SCOTT LEGGE: were recently appointed as lecturers at the Department of Anthropology, University of Kent.

JESSICA PEARSON: was appointed as a Lecturer in Bioarchaeology, University of Liverpool.

NEWS AND PROJECT UPDATES

News from the British Museum

by Margaret Judd

During the past 10 years, the Department of Ancient Egypt and Sudan at The British Museum and Sudan Archaeological Research Society, in collaboration with the National Corporation of Antiquities and Museums in Sudan, have excavated numerous cemeteries in Central Sudan. The skeletal material ranges from the Mesolithic to the Medieval Period. The Sudanese join us in encouraging bioarchaeologists to take an interest in Sudan and Nubia, an area rich in unexplored archaeology and bioanthropology. While much of the analysis is in process, some of the collections are now available for research. Application details can be found at <http://www.thebritishmuseum.ac.uk/aes/aesrestud3.html>

The following skeletal collections are available:

The Wendorf Skeletal Collection

The Wendorf Skeletal Collection was excavated during the 1963-65 field seasons during the UNESCO High Dam salvage project. Brief field notes, slides, negatives, photographs and correspondence are available, but the original skeletal analysis notes and data are not included with the archive. Because the collection was not systematically sorted or assessed, a thorough procedure was required to produce a detailed catalogue entry for each individual. The new catalogue provides a comprehensive methodology of the analytical protocol; raw data collection notes; concordance tables comparing Anderson's original 1968 age and sex assessment of the collection; and quantified preservation inventory tables. We intend to publish this catalogue in the near future.

Two groups from Jebel Sahaba and Tushka form the bulk of the Wendorf skeletal collection. The Jebel Sahaba collection contains 24 females and 19 males over 19 years of age, in addition to three unaged and unsexed adults. The skulls were reconstructed immediately after excavation and, therefore, craniometrics are possible although some of the elements have slumped over the years and require conservation, which is an ongoing project. The dentition is in excellent condition. The long bones shafts are reasonably preserved, but the epiphyses sustained damage during excavation. The remaining postcrania are fragmentary and in the case of the ribs and vertebrae, nearly nonexistent. There are remains of 13 children ranging from foetal to 15 years, but the bones are extremely fragmentary. The collection is particularly suited to analyses of the dentition, habitual activity and robusticity. One skeleton was radiocarbon dated in 1988 to 13,740bp +/- 600 [Pta-116]; recent efforts to obtain recent AMS radiocarbon dates were unsuccessful.

Tushka was excavated from 1964-66 and skeletons were recovered from cemetery, Site 8905, Locality A. These individuals are very fragmentary and in many cases a soil matrix adheres to the bone, which

requires extensive conservation. This collection consists of six male and three female adults, one child, and one mixed context of one female and two males.

The North Dongola Reach Survey

The majority of the North Dongola Reach skeletons (n = 57) were excavated from two Kerma period cemeteries dating from ca. 2500-1750 BC. Nine of the individuals were juveniles and in a poor state of preservation, while the skeletal remains of the adults vary from poor to good. Although many of the bones are broken, particularly the skulls, much information remains to be retrieved. Journal articles have been published in *IJO* and *JAS* and a detailed skeletal report is available in: M Judd (2001) *The Human Remains, in Life on the Desert Edge*, Volume 2. London: Sudan Archaeological Research Society. Pp. 458-543. (or BAR International Series 980 (2)).

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The Wellcome Osteological Research Database Project at the Museum of London

by Bill White

At the beginning of 2004 newspaper accounts that the Museum of London was to rebury 17000 to 20000 human skeletons were greeted with alarm, disbelief and anger. Not least, by staff in the Museum of London itself, who had no knowledge of any such plans. It is now known that the reports were not based upon interviews or official press releases, but merely an off the cuff remark by the Museum's Director that was surgically separated from its context during over-enthusiastic third-hand reporting.

On the contrary, the Museum of London is committed to the long-term curation of a unique assemblage, the largest collection of scientifically excavated and documented human skeletal remains from any urban centre in the world. This huge archive has accumulated during rescue excavations in the London area performed chiefly during the last 30 years. It encompasses all periods from Roman through to the early nineteenth century and represents an invaluable resource for addressing population-based research questions and hypotheses across a range of disciplines.

One drawback has been that the material is not well known internally or externally. That is to say that for a large proportion of the sample, funding for analysis to publication level has not been available, or that for skeletons recorded to different standards some years ago the reports must be regarded as out of date. Accordingly there is a vital need for this large group of skeletons to be analysed or re-analysed, as appropriate, and for the results to be disseminated to the wider academic populace. It is still the case that this sample of diachronic significance is not widely known. The Museum owes a debt to Brian Connell both for articulating the problem and for inaugurating the remedial process.

Just a few years down the line we are now grateful to be in the position of having secured a Project Grant (No GR070479AIA) from the Wellcome Trust to record about 5000 of the said skeletons, in large samples derived from a variety of London sites, directly onto an Oracle relational database. The intention is that the resultant database be searchable *via* its own website. The design of the recording system by Brian Connell

and Peter Rauxloh is based on the skeletal recording sheets developed by the former to supersede the Museum's earlier but increasingly unwieldy recording scheme. Brian's comprehensive and rational scheme for data capture was a crucial factor in persuading the appropriate committee of the Wellcome Trust to award the grant. The direct electronic recording itself inevitably accelerates the data capture process and the traditional paper recording forms are effectively a curiosity of the past so far as the Museum is concerned.

Recording of the skeletons commenced toward the end of 2003 and involves four osteologists working simultaneously. The Project also requires the attention of an archaeologist working part time on the stratigraphical input to the database and IT specialists who will be working as necessary on the interrogative aspects of the database and inputting, as they are rolled out, the interpretive internal reports that ultimately will guide remote researchers to the site sample(s) of period, character and size of interest to them. It is the intention that from the Autumn of 2006 (probably earlier for certain cemetery sites within the project) the Wellcome Osteological Research Database will be available over the internet. Post-doctoral students or supervisors of post-graduate students across the globe will be able to interrogate the database directly for skeletal data to be used in their own projects, in diverse fields including palaeodemography, palaeopathology and epidemiology, urbanisation, environment, population variation, diet, genetics, etc. Alternatively, they will be able to identify London sites with particular characteristics of choice and apply online to come to London and work directly upon the chosen skeletal sample(s) within the Museum itself.

The Museum of London in turn has responded by setting up the embryonic Centre for Human Bioarchaeology, with the expectation that three years hence it will have accommodation for a larger number of human osteologists than those currently working there. As promised by us in last year's Annual Review to the 30 or more students and researchers from the 20 universities who already knew of the Museum's holdings, working under the somewhat disadvantageous conditions in the Museum's Rotunda Store is also now a thing of the past! In contrast to the false gloomy prediction in the press, these are exciting and stimulating times for the Museum. During a comparable programme, data from the enormous electronic recording phase for the Spitalfields Market (St Mary Spital) Project (see the report below) will be entered compatibly. In due course these data, text and images will also be made available for online searching. The Museum's commitment to the curation of its large human bone archive, of vast scientific importance, is a matter of record.

Reports to the contrary were based on a misunderstanding of the search for a solution to a cognate problem, viz. the long-term storage of the human remains with a full regard to questions of ethics and respect. The latter is something that the Museum of London is pursuing actively. The solution, however, will be something other than the forecast permanent reburial under a 70% Christian rite and perhaps provides a timely warning not to believe everything one reads in the papers.

The Spitalfields Market Project

by Rebecca Redfern

The osteological analysis of the medieval cemetery began in September 2003. Brian Connell, Amy Gray-

Jones, Rebecca Redfern and Don Walker are undertaking this work. At present, only a small proportion of the cemetery has been analysed and currently no synthesis has taken place.

The osteological data is being recorded directly onto an Oracle relational database at the Museum of London Specialist Services. This database will enable the team to analyse the data efficiently and permit detailed statistical analyses.

To date, the range of pathology found has been very diverse and a few rare diseases have been identified. The range of infectious disease includes tuberculosis, syphilis (amongst both adults and children) and osteomyelitis. A number of congenital developmental defects are present, including: facial clefting, neural tube defects, kyphoscoliosis and congenital dislocation of the hip. Osteoarthropathies observed include osteoarthritis, DISH, rotator cuff injuries and ankylosing spondylitis. Circulatory diseases identified include Scheuermann's disease, Perthes disease and hypertrophic osteoarthropathy. A wide range of trauma has been recorded, including: appendicular and axial fractures, sharp weapon trauma, trepanation and myositis ossificans. Neoplastic changes, including osteomas and ossifying fibromas have also been observed. Amongst the metabolic diseases present are cases of cribra orbitalia and a possible case of scurvy. Other diseases identified so far include a possible case of a crystal deposition disease calcium pyrophosphate dihydrate, Pagets disease and ochronotic arthropathy. The analysis is expected to take three years and will result in a monograph of the findings. In the short-term, we intend to present interim results at forthcoming conferences.

Forensic Archaeology in Australia

by Soren Blau

Forensic archaeologists are increasingly employed in Britain and North America to assist in the search and recovery of material evidence and human remains from disaster and crime scenes. In Australia, however, the potential for archaeologists to assist at crime and/or disaster scenes has not yet been fully recognised. In August 2003, Soren Blau (Flinders University/Adelaide University) coordinated the Australian-Forensic Archaeology Recovery (Aus-FAR) Foundation Workshop, which brought together professional archaeologists and representatives from emergency and forensic services to discuss the ways in which forensic archaeologists can contribute to the search, location and recovery of human remains and other evidence from disaster and crime scenes in Australia.

A total of 26 people attended the workshop over two days. The first day consisted of a series of formal presentations, followed by an informal discussion group on the second day. Apart from Tasmania, Queensland and the ACT, all states and territories were represented.

The presentations covered a diverse range of subjects and laid the foundations for an energetic and interesting open discussion on day two. The workshop created a forum, which for the first time in Australia allowed different, yet overlapping, disciplines dealing with forensic excavations to come together to augment their practice.

PROFESSION/AGENCY	NO.	PAPER PRESENTED
Archaeologists (some with	16	Yes x 3

anthropological expertise)		
Anthropologist	2	Yes
Soil scientist	1	No
Fire Service	1	Yes
South Australia Police (Physical Evidence)	3	Yes
Australian Federal Police (Physical Evidence)	2	No
Emergency Management Australia	1	Yes
Total	26	

The workshop resulted in a decision to develop a formalised database of names of professional archaeologists, which will be circulated to forensic and emergency services. This register will provide emergency and forensic services with a list of qualified professional archaeologists, which, in the event of an emergency, can be called upon for their expertise. Details of the workshop and the development of a register were discussed in a paper presented at the Australian Disaster Conference, National Convention Centre, Canberra 10-12th September 2003 (Blau 2003).

BLAU, S. (2003). One chance only: Investigating the use of archaeology in search, location and recovery at disaster scenes. *Australian Disaster Conference*. (<http://www.ema.gov.au/disasterconference>).

Studies on Skeletal Pathology of the Mountain Gorilla Extended to Rwanda

by John and Margaret Cooper

On a recent visit to East and Central Africa, we were able to follow-up studies on the skeletal pathology of the mountain gorilla (*Gorilla beringei*). This work commenced in 1993-94 when we were based at the Centre Vétérinaire des Volcans (CVV) in Rwanda and the research was then extended to museums in Europe and South Africa. Following a visit to the Institute of Primate Research (IPR) in Kenya in August 2002 we spent most of the time at the Mountain Gorilla Veterinary Center (MGVC), the successor to the CVV, in Ruhengeri, at the foot of the Virungas in Rwanda.

We had access to a substantial number of skulls, skeletons, and separate bones from mountain gorillas, some dating back several years, and were able to examine these for pathological lesions. Those detailed included healed fractures, exostoses and periostitic changes, arthritis and a range of dental diseases. The findings are being collated at present and will form the basis of a more extensive study of skeletal and other material from mountain gorillas in the three range states (Rwanda, Uganda and the Congo). The information obtained should provide valuable information about background pathology of the species and may throw light on factors that can affect its morbidity and mortality. It is also hoped to link the findings with observational and clinical studies on gorillas in the field.

We are most grateful to the Federation of Zoological Gardens of Great Britain and Ireland for their support for this visit, to the Mountain Gorilla Veterinary Center and to the Morris Animal Foundation for providing facilities for the study and to those Rwandans and others who helped us in these initial investigations.

A full report will be produced soon and in due course the findings of the study will be published. Further information is available from the addresses below:

John E. Cooper, DTVM, FRCPath, FIBiol, FRCVS and

Margaret E. Cooper, LLB, FLS

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

John and Margaret Cooper are also currently editing a book entitled 'An Introduction to Veterinary and Comparative Forensic Medicine' to be published by Blackwells in 2004. If members wish to find out more information then contact them at the above address.

VIEWS

The Reburial Debate: A Historical and Doctrinal Perspective

by Philippa Patrick

(Institute of Archaeology, University College London)

In the light of the ongoing debate about the reburial of archaeological human remains, and in particularly comments within the recent Times article (*Museum bones 'should have a Christian burial'*; The Times, 6 January 2004) regarding reburial of the skeletal collections held in the Museum of London (see Bill White's article-Ed), it is interesting to consider, scientific arguments aside, whether the current state of affairs would have concerned the medieval people who comprise the bulk of the collection.

One of the arguments put forward by supporters of reburial is that remains should be given a Christian burial because the deceased would have expected to remain interred until the final judgement. Is that really the case however? The extent to which you could expect to rest in peace for eternity was largely determined by one's measure of wealth. Those who could afford it could pay for burial in a more 'exclusive' setting, such as inside a church (Harding 1993). If buried in a graveyard, one could purchase a monument that would not only serve as a memorial, but on a more practical level, would also demarcate their burial and prevent later graves from encroaching on the burial plot; although even these could be removed from their original position (Hadley 2001:147). Most people took their chances with a standard burial and less elaborate means of demarcating the grave plot. If comparisons are drawn between various medieval Christian cemeteries and the Jewbury cemetery where there was little or no inter-cutting of graves, it might even be argued that the Christians of the time were not unduly worried about the idea of having their grave disturbed (Daniell 1997:146).

Medieval attitudes towards burial were, in practice, fairly pragmatic. Although the ideal situation was for the body to remain interred until the Last Judgement, and this was often depicted in the public art of the period, there was another dimension to the situation. There were various provisions within the doctrine of the time dealing with the eventuality of the body being exhumed, dispersed, eaten by fauna, and generally fragmented. Homilies described processes of decomposition and dispersal in graphic detail, yet

reassured people that by some means or another, the body would spontaneously reassemble for the final judgement. From the late twelfth century in particular there was a great deal of discussion to this effect, and with it came a curious trend for art depicting the regurgitation of people and parts thereof, by creatures who had swallowed them (Bynum 1995 117ff & plate 2).

Partial or complete exhumation of remains was a relatively common occurrence in the medieval period. The existence of charnel houses and charnel pits associated with medieval churches and cemeteries testify to a practical response to disturbance of remains, and efforts to deal with problems of overcrowding in cemeteries. Certainly in the medieval past, it would have been inconceivable that cemeteries would be destroyed on the scale they are being today. Subsequent religious changes, both in the form of the Reformation in the 16th century, and consequent dissolution of the monasteries, and in terms of an increasing modern secularisation of British society causing some churches to become redundant (Rodwell 1989:41-44), would not have been foreseen. However, cemeteries were in use for a long period of time, and would inevitably be subject to some degree of overcrowding. The old made way for the new; the remains re-dispersed in various ways.

The museum stores could be seen as the charnel houses of the past, with a systematic means of curating the exhumed bones of the dead, while the mass burial pits that would be the only economically viable option for reburying thousands of human skeletons might parallel the jumbled charnel pits excavated on medieval sites: the mixed, disarticulated remains of the deceased, stripped of their individuality. In many ways, then, these scenarios might not have been totally unfamiliar concepts to our deceased, but the latter in particular would probably not have been desirable.

The issue of overcrowding has recently been raised by the government with regard to modern cemeteries, and has roused considerable media interest ('Double-decker' graves planned for packed cemeteries; The Independent, 16 January 2004). To a medieval person, the idea that space was limited and plots might be reused or encroached upon would probably not have been surprising or shocking (Parker Pearson 1999:184), yet it does seem to come as a surprise in the modern day. This begs the question of whether we are, to an extent, pinning modern anxieties to archaeological problems, under the pretence of empathising with past peoples. Are critics of curated human remains, and proponents of reburial in fact reflecting their own fears of being dug up and studied, when they accuse those who support the study of human remains of being selfish and unethical? Some of the comments made by Hedley Swain in the Times article ("The people making decisions should ask themselves whether they would feel comfortable about their bodies being dug up one day and stuck in a cardboard box.") might suggest this is the case.

If we were to give a 'Christian burial' to medieval skeletons, it is very difficult to know what kind of a burial that should in fact be. Although at a superficial level, a 'Christian burial' is a fairly simple concept, in practice we have little more idea of what ritual would be appropriate for medieval Christians, than we have with regard to Pagan ritual. A burial ritual under the auspices of the Church of England would be inappropriate, since it post-dates the medieval period. Even an attempt at a Catholic burial could prove to have elements that were, by medieval standards, heretical. Medieval Christianity was a complex religion full of fragmentation and variety in terms of localised beliefs and ritual (Pluskowski & Patrick 2003), and many scholars of various disciplines make the mistake of approaching it using the 'background knowledge' of their own Christian upbringing. In reality, it is necessary to acknowledge the 'otherness' of medieval forms of Christianity compared to that practiced in the modern day.

The reburial debate will no doubt continue for some time, and it is inevitable that its ultimate conclusion will not be able to wholly satisfy all the interested parties. The issues involved are complex, and although it is easy to set out an idealised scenario of 'Christian reburial' for archaeological remains, in practice the idea is not as simple as it seems. There may be objections in some corners to bodies being kept in cardboard boxes, but is that any worse than patronising the dead with a guilt-fuelled, inaccurate burial rite?

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- Online copies of the newspaper articles mentioned can be found at:
<http://www.timesonline.co.uk/article/0,,2-953356,00.html>
http://news.independent.co.uk/uk/this_britain/story.jsp?story=481736

PALAEOPATHOLOGY

Database of Major Congenital Conditions and Neoplastic Disease

by Trevor Anderson

I am updating my database on congenital and neoplastic conditions and would be grateful if members could forward me details of any cases that they have discovered. I am particularly interested in examples that have been reported but not yet published and cases that have been published in local journals. Could you please also include the following information, if available:

- Age and sex of the involved individuals
- Archaeological time period of the skeletons
- Size and demography of the total sample under study

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Pathological Cases

by Trevor Anderson

In 2000 archaeological excavation by Northamptonshire Archaeology uncovered 278 well-preserved medieval skeletons, associated with the Augustinian abbey of St James' in Northampton. Almost 92% (n255) of the skeletons are adult. Females represent only 14.1% of the adult sample. Approximately, a fifth of all the aged adults (48/250) died before the age of 30 years and c. 30% (76/250) were over the age of 40-45 years. Apart from one young child, a 1-2 year old, the children buried in the cemetery are older than seven years. The absence of all infants, as well as the vast majority of young children and females, suggests that we are dealing with a monastic, rather than an open lay cemetery. The sample displays a very high frequency of bone pathology, including seventy-seven adults with bones fractured during life. This coupled with several cases of chronic infection, as well as erosive joint diseases and congenital problems, support the view that we are dealing with patients from the known monastic infirmary. The following three cases appear to be unique in British palaeopathology

Case 1: A Pathological Mandible

A 35-45 year old male (SK 3191) dated to the earliest phase of the cemetery displays marked periosteal reaction on both mandibular rami. The right external ramus presents with a reaction which is standing proud and spares only the medial and inferior borders and the coronoid and head. This equates with the origin of the masseter. The internal ramus displays a minor periosteal reaction, involving most of the surface. The left ramus displays a marked periosteal reaction, externally, involving the medial portion of lower half and extending medially below the origin of the buccinator. Roughened irregular bone extends along the mandibular body to the region of the first molar. The internal surface presents with similar irregular bone with porous, fine trabeculae. Radiography of both rami shows very faint areas of increased density.

The periosteal reactions appear to represent either an inflammatory response, or possibly an infective process. The bilateral nature of the reaction negates trauma and neoplasm. The morphology of the new bone, standing proud of the original surface, supports a periosteal reaction. The absence of internal involvement is confirmed by the radiographic findings and also by the normal weight of the bone. The fact that the medial (internal) as well as the lateral (external) bone surfaces are involved does not support a reaction secondary to injury or damage to the masseter or buccinator. Nor does the new bone equate with the location of the salivary glands.

The bilateral external reaction equates with the origin of the masseter, which suggests that abnormal muscle loading may be responsible. However, there is no evidence for bruxism; abrasion or abnormal attrition and the temporomandibular joints do not show any signs of abnormality or degeneration. Consideration was given to traumatic myositis ossificans, a condition that is frequently associated with acute trauma but can also occur due to repetitive strain (Gesichter & Masewitz, 1938). However, the roughened appearance is atypical to the smooth dense bone overgrowths which are normally seen in this condition (Mann, 1993). It is possible that the reactive bone represents a non-specific infection. The bilateral nature, the lack of marked bone destruction and

absence of peripheral foramina, means that a diagnosis of a specific infection such as actinomycosis cannot be upheld (Resnick & Niwayama, 1981: 2199-2200).

Although I have examined c. 2000 archaeological skeletons I have never seen a similar mandibular reaction. The hope that colleagues may find the case interesting and be able to offer a diagnosis for this unusual pathology has prompted this short note.

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Case 2: A sagittal cleft or "butterfly" vertebra

A mature male (SK 3043) displays absence of most of the twelfth thoracic vertebral body. The large (31 x 26mm) smooth-edged defect spares the vertebral border and right and left dorsal vertebral body. Thus the involved area equates with the vertebral centrum rather than the vertebral body. The affected bone is solidly fused to its superior neighbour by smooth dense new bone. The a-p radiograph of TV12 shows marked collapse and smooth concavity of superior and inferior surfaces as well as increase in coronal body width. The radiograph also indicates convexity of the superior face of the first lumbar vertebra as well as marked convexity of the inferior face of the eleventh thoracic vertebra. The lateral radiograph of the TV12 body shows the typical "butterfly" appearance of the defective body and collapse of the fused vertebra into the defect. The dry bone and radiological appearance is diagnostic of a rare congenital defect, a sagittal-cleft vertebra (Barnes, 1994: Fig 3.1). The cleft occurs due to failure of the notochord to regress in the developing vertebral segment (Müller *et al.*, 1986; Tsou *et al.*, 1980). Only a single bone is directly affected. However, the morphology of the adjacent vertebrae indicates that compensatory changes have occurred. In addition, there is pathological kyphosis of the lower thoracic spine. Several cases are known from America (Barnes, 1994: 38). Sadlermuit Eskimos present with an extremely high prevalence (7%: 18% of children; 5% of adults), as well as rare multiple presentation of the defect (Barnes, 1994: 38). Possibly, this is evidence for a familial influence exaggerated by genetic isolation (Barnes, 1994: 38). However, this appears to be the first British example of a butterfly vertebra.

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Case 3: Brucellosis

The lowest lumbar vertebra of a young adult male (SK 3232) displays a localised cavitation of the superior surface. The defect (maximum dimensions: 22 mm coronally; 8mm sagittally) is restricted to the region of the annulus fibrosus and internally presents with a porous and irregular contour. The defect is well defined, with smooth concave border just dorsally to the inner margin of the annulus fibrosus. New bone formation, marked osteophytic lipping, surrounds the anterior

border of the lesion. The radiographic evidence indicates that the defect presents with a well-defined peripheral sclerosis. No other vertebrae display similar cavitations or marked osteophytic lipping.

Such an appearance, localised vertebral epiphysitis, suggests an infective process, or possibly recent trauma. However, the localised nature negates Scheuermann's disease (Scheuermann, 1920) and the lesion is dissimilar to reported vertebral end plate injuries (Maat & Mastwijk, 2000). Isolated ventral cavitation affecting the lumbar spine is highly suggestive of brucellosis (Capasso, 1999; Etxeberría, 1994). Indeed, the radiological evidence of peripheral sclerosis, known as the sign of Pedro-Pons, supports the diagnosis (Etxeberría, 1994). In addition, the new bone formation, confined to the site of the lesion, is also seen in brucellosis (Aufderheide & Rodríguez-Martín, 1998: 192).

Brucellosis is transmitted to man mainly via infected goats or sheep (*Brucella melitensis*); cattle (*B. abortus*) or pigs (*B. suis*) (Resnick & Niwayama, 1981: 2162; Seaton *et al* 2000: 420-421). It takes its name from Sir David Bruce, a British army surgeon who first identified the bacterial cause of the disease, which was then known as Mediterranean or Malta Fever (Spink, 1978: 424). It is a rare disease in Britain today, with only c. 20 reported cases per annum (Seaton *et al* 2000: 421). However, some thirty years ago, prior to the testing and slaughtering of diseased cattle, several thousand people were affected each year in Scotland (Grist *et al* 1987: Fig.9.12). Symptoms associated with chronic brucellosis include lassitude, headache, pain, sweats and lower back pain (Weatherall *et al.*, 1990: 5.261). Fatal cardiovascular complications may also develop (Weatherall *et al.*, 1990: 5.261).

The individual also displayed widespread enamel hypoplasia and cribra orbitalia. Suggesting that he suffered from poor childhood health and iron deficiency. The latter may be related to the chronic infection. This appears to be the first evidence that brucellosis was present in British skeletal material. It is possible that he followed an occupation, which involved close contact with affected animals, such as that of a farmer or a butcher.

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POSTDOCTORAL RESEARCH

(NB. Further information relating to post-doctoral research is included in the relevant departmental reports).

How Brains Became Minds: New Research Project at Southampton and Liverpool Universities.

by Margaret Clegg

The Universities of Southampton and Liverpool were awarded British Academy Centenary Project funding in June 2003. This multidisciplinary project, entitled 'From Lucy to Language: The archaeology of the Social Brain', is being lead by Professor Clive Gamble in Southampton and Professor Robin Dunbar & Professor John Gowlett in Liverpool. The Southampton team includes Professor Gamble, Dr James Steele, Dr Yvonne Marshall, Dr John McNabb and Dr Sonia Zakrzewski, as well as social psychologist Dr Mark Van Vugt.

The main aim of the project is to investigate in evolutionary terms exactly how and when hominid brains became human minds. The project will bring together archaeologists, evolutionary psychologists, social anthropologists, sociologists and linguists to reconstruct our ancestors' social lives and behaviour from the archaeological evidence of bones and tools. New models developed for understanding primate behaviour can now be applied to the hard evidence of our ancestors to help us understand how our brains have enlarged three-fold during the course of human evolution.

I joined the project in September 2003 as a Research Fellow. My Research Fellowship is based in Southampton and I am working with Dr. James Steele investigating the scaling of cranial nerves in primates and the implication of this for the evolution of speech. We are constructing a comparative metrical database of primate cranial nerves. This will allow us to identify any scaling relationships between the cranial nerves and with both other CNS regions and life history parameters. Any deviation from allometry in the scaling of these nerves in particular species may relate to possible adaptive specialisations. This latter is particularly important in respect of any deviations from scaling trends found in *H. sapiens*. If such deviations exist they may indicate a possible adaptive relationship to the motor control required for speech. We also hope to determine hard tissue markers for the cranial nerves, this will allow us to test hypotheses regarding the evolution of such motor control in earlier hominid species.

Research at the Department of Human Biology, University of Cape Town, South Africa

by Isabelle Ribot

Two research projects have been initiated in collaboration with Prof A.G. Morris at the Department of Human Biology (UCT, South Africa). Both of them are dealing with *The skull morphology of Later Stone Age and Iron Age Southern Africans in a historical perspective*. As the morphology of two prehistoric samples originating from Malawi and South Africa was compared with modern sub-Saharan Africans, it allowed us to suggest whether there was a change or continuity of populations through time on both inter-regional and intra-regional levels.

1) According to multivariate craniometrics,^{2,3} prehistoric Malawians (eg., Hora, Chencherere) appear very similar to each other. They also fit well within the variation of modern West Central Africans, but they do not show clear affiliation with KhoiSan. These facts support that they could have a common origin with West Central Africans rather than a clear KhoiSan ancestry as previously thought.

2) The second research project was also initiated with the same methodological approach as the previous one, but it was applied on other skeletal materials and with different objectives⁴. Still additional analyses (radiocarbon dates, isotopic analyses) are necessary with Prof J. Sealy (Department of Archaeology, UCT, South Africa). Through craniometric and stable isotopic analyses of archaeological human skeletons from KwaZulu/Natal, we investigate population changes associated with the beginning of a settled agricultural way of life. So far, observations are consistent with the hypothesis of replacement of Later Stone Age hunter-gatherers by Iron Age agriculturists, in which the Later Stone Age populations remain as part of the new gene pool.

A **Museological project** funded by the Royal Museum of Central Africa (Brussels, Belgium) will be achieved at Lubumbashi (DRC) for 14 days (01.02-14.02.04). Its objective, which is complementary to the present research at UCT, is to re-organize the Late Iron Age skeletal collections of the Upemba Valley (excavated by J.Nenquin & P. de Maret) and collect some additional craniometric data. The latter will also help to better understand the morphological variation of other Iron Age populations from regions close to Southern Africa.

¹ RIBOT, I. (2002) *Cranio-mandibular variation in sub-Saharan Africa: sexual dimorphism, geography, ecology and history*. PhD dissertation. Cambridge: University of Cambridge.

² RIBOT, I. AND MORRIS, A. (2003), Identity of prehistoric South-Central Africans: attempting a craniometrical approach in the light of sub-Saharan African diversity. *33rd Conference of the Anatomical Society of Southern Africa (ASSA)* (Golden Gate, 7-11 April 03): 85 (abstract).

³ MORRIS, A., RIBOT, I. AND CONSTANT, D.A. (to submit) Identity of prehistoric South-Central Africans: attempting a craniometrical approach in the light of sub-Saharan African diversity. *American Journal of Physical Anthropology*. 35pp.

⁴ RIBOT, I., MORRIS, A., SEALY, J. AND MAGGS, T. (2004) Patterns of human variation in KwaZulu/Natal region through the Later Stone Age and Iron Age: preliminary craniometric and paleodietary interpretations. *Biennial Meeting of Southern African Association of Archaeologists (Kimberley, 4-8 April 04)*.

Isotope Research at the University of Durham

by Susan Hughes

SUSAN HUGHES, a post-doctoral research scientist at the University of Durham, is working on a NERC funded project to better define the nature of the 5th century Anglo-Saxon invasion of England with isotopic analysis.

Oxygen, strontium, and lead isotopes of human tooth enamel have been analysed from two early Anglo-Saxon burial populations in southern England, Berinsfield and Eastbourne. Preliminary results indicate that most individuals from Berinsfield represent a local population while those from Eastbourne are bi-modally distributed.

Hughes is also investigating lead uptake and variability in the tooth enamel of pre-metallurgical (Neolithic) peoples across Britain to develop a baseline of natural lead ingestion. The individuals examined were collected from Quaterness (Orkney Islands), the Hazleton North long barrow (Cotswolds), and southern Wales. This baseline will be compared to the lead levels in modern children taking part in the Avon Longitudinal Study of Parents and Children (ALSPAC) in Bristol to evaluate how well lead contaminants are being controlled in the modern environment.

DEPARTMENTAL REPORTS

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

by Christopher Knüsel

GENERAL:

The Biological Anthropology Research Centre (B.A.R.C.) was inaugurated in May (funded by the Wellcome Trust) with a reception, two-day conference, and dinner that included a fascinating (and humorous) look at the origin of the story of the "Flying Dutchman" by Professor George Maat (Leiden)

The **Keith Manchester Teaching Laboratory** was inaugurated in May in a ceremony attended by Keith and Ann Manchester

Professor Donald Ortner, Visiting Professor, published the revised and up-dated second edition of his seminal book *Identification of Pathological Conditions in Human Skeletal Remains*. Academic Press (Elsevier), Amsterdam

Research Assistant Andy Holland launched the B.A.R.C. website. Andy's time and expertise was made possible through an AHRB Museums and Galleries Commission Grant. The initial parts of the human remains database can be viewed at <http://www.barc.brad.ac.uk/>

Ms. Amy Dapling and Ms. Katherine Nixon, second-year students in the Department, successfully completed student placements in the B.A.R.C. and added greatly to the human remains database under the Department of Archaeological Sciences' Placement Scheme

Christopher Knüsel was named as the External Examiner for Southampton's M.A. in Osteoarchaeology

After completing her M.Phil. in Medical Art at the University of Manchester, co-supervised by Caroline Wilkinson and Christopher Knüsel, Caroline D.

Needham is now employed at the Unit of Art in Medicine, Faculty of Medicine, Dentistry and Nursing, University of Manchester, where she applies herself to a wide range of projects. Some of the Unit's work can be viewed at: <http://www.biomed2.man.ac.uk/biology/artinmed/teaching.html>

A team consisting of Anthea **Boylston**, Darlene **Weston**, and Alan **Ogden** placed second in "Oldies but Goodies: Challenging Pathology Cases from Past Workshops" at the Paleopathology Meeting in the Annual Workshop organised by Don Ortner and Bruce Ragsdale

The B.A.R.C. hosted 34 participants during the two-week 5th Biennial European Palaeopathology Short Course, in conjunction with Professor Donald Ortner, Department of Anthropology, Smithsonian Institution, Washington D.C.

The B.A.R.C. was also host to 23 participants for the 2003 session of the week-long Forensic Archaeology Short Course

POST-DOCTORAL RESEARCH:

Following the award of her Bradford Ph.D. thesis, *Lead and strontium isotope compositions of human dental tissues as an indicator of ancient exposure and population dynamics (2002)*, Janet **Montgomery** was granted a NERC Postdoctoral fellowship to investigate the use of teeth as geochemical archives. She took up the post at Bradford in October 2003 and her research will look at human tooth biomineralisation and its implications for studies that use strontium and lead analysis of teeth to examine exposure, migration and diet in modern and archaeological people.

She has recently been awarded a grant to investigate diet, migration and settlement in the Western Isles and Scotland in collaboration with Dr. Mike Parker-Pearson, University of Sheffield, Tim Neighbour, CFA Archaeology, and Dr. Jane Evans and Carolyn Chenery at NIGL, Keyworth. This builds on the most successful case study from her thesis which explored Viking and Iron Age migration to the Isle of Lewis, the first part of which was recently published in the *Journal of the Geological Society* Vol. 160(5), pages 649-653, *Sr isotope evidence for population movement within the Hebridean Norse community of NW Scotland*, Montgomery, Evans and Neighbour (2003).

After being awarded his Ph.D. on the taphonomic survival of hair in archaeological contexts, Andrew **Wilson** became a Wellcome Trust Post-Doctoral Research Fellow in Bioarchaeology to continue his research on hair from archaeological and forensic contexts. Andy has been much in the news for his recent work on rail pioneer Robert Stevenson's hair and the potentially drug-related reason behind his premature death.

PHD RESEARCH:

Isla **Fay** (AHRB-funded and co-supervised by Dr. Carole Rawcliffe, Department of History, UEA) organised two sessions on the history and palaeopathology of leprosy ('The Experience of Leprosy in the Middle Ages') for the International Medieval Congress (IMC) at Leeds (17 July 2003). The sessions were sponsored by MEDICA. This July, the IMC have accepted a session on 'Health Culture, Medicine, and Wellbeing in the Later Middle Ages', which again attempts to unite the disciplines of the history of medicine and palaeopathology.

Mandy **Jay** (University of Bradford-funded) was interviewed about her research on the Wetwang Slack population for the Science page published in the *Independent* 14th January 2004. She also published a response to a reader's enquiry regarding Iron Age diet in *Living History* magazine, July 2003, and currently serves as a member of the magazine's 'Expert Panel'.

Gundula **Müldner** (AHRB-funded) received the BABAQ Student Paper Prize for her paper "Stable Isotope Evidence for Medieval Diet in England: Telling Us What We already Know?", which she presented at the Southampton meeting.

Jill **Rhodes** (AHRB-funded) attended the American Association of Physical Anthropologists (AAPA) meeting in Tempe, Arizona, U.S.A., and presented a poster entitled 'The biomechanics of warrior activity: repetitive, strenuous unimanual activity and its role in skeletal adaptation'. She received funding from the Francis Raymond Hudson Award and the Andy Jagger Award to cover costs for attending this conference. She also conducted research on the Terry collection, Smithsonian Institution, Washington D.C., and acted as a demonstrator for 5th Biennial European Palaeopathology Short Course and Forensic Archaeology Short Course in August and September, respectively.

Marianne **Schweich** (University of Bradford and Government of Luxembourg-funded) took up a sessional teaching post in the Institute of Ancient History and Antiquity, University of Birmingham, teaching a final-year osteoarchaeology module. She also demonstrated for the Palaeopathology Short Course, presented a poster at AAPA meetings and at the International Union of Anthropological and Ethnological Sciences meeting in Florence on her in-progress doctoral work on stature and body proportions in past human populations.

Rebecca **Storm** (self-funded, part-time) participated in Palaeopathology Short Course as a demonstrator and presented a poster at BABAQ

CONTRACT RESEARCH:

It has been another busy year for the Contract Service of the Biological Anthropology Research Centre. Anthea Boylston and Alan Ogden completed their work on 150-200 individuals from Norton Priory in collaboration with Lynn Smith, curator of the Norton Priory Museum, and archaeologists from Oxford North. This has involved a fascinating project to construct a medieval herb garden at the Priory, using the herbs which would have been available in the twelfth century for the palliation of the diseases found on the skeletons, i.e. leprosy, tuberculosis, Paget's disease and DISH. BBC Wales filmed this project for the *Hidden Gardens* series, and Chris Beardshaw visited the laboratory in Bradford to link our research with the construction of the garden. Darlene Weston and Anthea Boylston completed the assessment of over 1,100 skeletons from Hereford Cathedral, and this has resulted in the Cathedral providing funding for the analysis phase of the project that will keep us busy in 2004. Alan Ogden reported on a small number of burials from a post-medieval cemetery at Tallow Hill in Worcester. What they lacked in numbers, they made up for in the extraordinary number of pathologies that were noted. Darlene Weston examined a small sample from Wellington Quarry, an Iron Age site in Herefordshire. She also assisted Bob Pastor in his analysis of an interesting case from the forensic science service, and the West Yorkshire, North Yorkshire, and Northumberland Police have consulted us on various occasions over the last year (prepared by Anthea Boylston).

REPORTS:

Boylston, A. & Ogden, A.R. *The Human Remains from Norton Priory Excavations, 1971-1978*. Norton Priory Museum.

Ogden, A.R. *Skeletal Report for the Tallow Hill Excavation*. Worcestershire Historic Environment & Archaeology Service.

Ogden, A.R. *Skeletal Report on the Human Remains from Bronze Age Sidon*. Antiquity Authority of Lebanon.

DISSERTATIONS SUBMITTED IN 2003 FOR THE MSc IN HUMAN OSTEOLOGY AND FUNERARY ARCHAEOLOGY

Bishop, N. (2003). Warfare in European and North American Prehistory: A Palaeodemographic Perspective

Blackwood, L. (2003). A Study of Fracture Patterns in Children Aged from Birth to Two Years of Age Who Were Initially Admitted to Hospitals in England, Scotland, and Wales with Subdural Haematoma

Booth, S. (2003). Stable Isotope Analysis and Interpretation of the Human Remains Excavated at Ferrybridge Henge 2001-2002

Bunting, Z.L.Y. (2003). Sexual Dimorphism of the Sub-Adult Occipital

Falys, C.G. (2003). Re-Evaluation of a Skeletal Ageing and a Skeletal Sexing Technique Using the St. Bride's Documented Skeletal Collection

Francis, V. (2003). My Bones are Smitten Asunder...While Mine Enemies... Cast Me in the Teeth...: Investigating the Relationship between Dental Fractures and Cranial Injury

Jarrell, H. (2003). Injury and Treatment of the Pectoral Girdle in Two Medieval Populations

Kropf, E. (2003). Interment of Special People in the Upper Palaeolithic? A Study of the Palaeopathology and Mortuary Behaviour of Anatomically Modern Humans in Eurasia

McGovern, C.H. (2003). Evidence of Infanticide in Anglo-Saxon Communities?

Pureepatpong, N. (2003). Dental Enamel Hypoplasia and Cribra Orbitalia: Effects of Stress Indicators on Growth Performance in the Medieval Population of Raunds, Britain

Vaughn, C.S. (2003). Fluctuating Asymmetry in Relation to Health and Longevity in Human Skeletons

White, K.E. (2003). The Archaeology of Intersex and Gender

Department of Archaeology, University of Sheffield.

by Andrew Chamberlain

NEW APPOINTMENTS

The Department of Archaeology appointed Mark Collard (currently an assistant professor in the Department of Anthropology, Washington State University, USA) as Lecturer in Palaeoanthropology. Mark will contribute to existing undergraduate and postgraduate teaching programs and will direct a new MSc course in Palaeoanthropology to commence in September 2004. Details of the new course are available at <http://www.shef.ac.uk/uni/academic/A-C/ap/courses/palanth.html>.

PHD THESES EXAMINED

Recently examined doctoral theses include:

Ziggy Parras: The Biological Affinities of Cyprus in the Chalcolithic and Bronze Age: A Regional Dental Non-Metric Approach

Brooke Magnanti: Computer Visualization, Annotation and Databasing of Human Skeletal Remains (joint project with Department of Forensic Pathology)

Patrick Mahoney: Human Dental Microwear During the Hunter-Gatherer to Agricultural Development in Northern Israel.

Tim Thompson: The Examination of the Effects of Heating, Burning and Cremation on the Skeletal Parameters of Human Identification (joint project with Department of Forensic Pathology)

DISSERTATIONS SUBMITTED IN 2003 FOR THE MSc IN HUMAN OSTEOLOGY AND FUNERARY ARCHAEOLOGY

Anna Beck, The evaluation of unknown medieval cemetery sites to establish if they are associated with a hospital

Luke Burton, Sexual dimorphism in a sample of Homo erectus crania

Sara Cherubin, Cross-section geometric properties and length asymmetry in the clavicle: are they correlated?

Philip Culleton, What is the nature of change in the rituals surrounding death during the Neolithic and Mesolithic and how does it relate to economic changes in society?

Anna Engberg, Bones, bread and honey: dental disease at the Anglo-Saxon cemetery at Blackgate, Newcastle upon Tyne

Nicola Fraser, Facilitating the detection of non-accidental trauma in juveniles through skeletal survey

Kristi Grinde, Dietary differences between late Anglo-Saxon urban and rural populations as evidenced by dental macrowear

Francis Nino-Ruiz, Musculoskeletal stress markers of the upper limb.

Ioulia Papadimitriou, Sex determination based on long bone circumference. The Anglo Saxon population of Blackgate

Liesbeth Tryzelaar, Histological study of the destruction of bone at the Royal Mint site.

Samantha Woodward, A comparison of the functional and structural differences between the hands of four hominid species.

ANTHROPOLOGICAL DISSERTATIONS SUBMITTED IN 2003 FOR THE MSC IN BIOMOLECULAR ARCHAEOLOGY

Christos Economou, Behind the north wall of sleep: microbial degradation of foetal and neonatal bone, with a case study from Bolsover.

Roz Gillis, A study of the development of lactose tolerance, as an example of nutritional genetic adaptation to domesticated animal products.

Kyungcheol Choy, Microscopic analysis of digested bone in simulated experiments.

Forensic Anthropology Activities at the Medico-Legal Centre, Sheffield.

by Anna Williams

The Medico-Legal Centre in Sheffield has been a hive of activity this year. The Forensic Anthropology Group's research interests have expanded considerably. We were awarded a \$1.13 million research contract by the US government-sponsored by the FBI- to investigate evidential facial comparison. This project will develop new tools for establishing whether the face of an offender in a CCTV image is or is not the same as the possible suspect, and will develop measures of the "uniqueness" of faces. The tools will be available to all investigators, including the prosecution and defence.

We are also the co-ordinators of ICARIS: the International Centre for Advanced Research in Identification Science, which is a £59K EPSRC-funded research network involving 14 academics at seven UK universities. Additionally, we have been awarded a £15K Royal Society Research Grant for the investigation of facial reconstruction from MRI.

In recognition of our achievements, the University of Sheffield has officially awarded us Research Centre status for our activities. The group now forms the core of the University of Sheffield Research Centre for Human Identification (RCHI), which involves collaboration with academics in most faculties of the University, including Medicine, Pure Science, Engineering and Law.

There has also been much change in the students' research activities. Two members of the Anthropology Group have successfully completed their PhDs and moved on to exciting employment, making much needed space for the influx of eager new students.

Brooke Magnanti, having successfully finished her PhD on Macroinformatics: the Application of Informatic Methods to Records of Human Remains, is now working for a spinout company of Imperial College doing informatics. Her recent presentation on Decomposition and Identification in South Yorkshire, which she gave at the BAHID conference in Sheffield was very well received. She can be contacted at methylsalicylate@yahoo.com.

Tim Thompson passed his PhD on the influence of burning on the human skeleton, and is now working for Kenyon International Emergency Services, where he is involved in organising this year's conference on Disaster Response: Challenging Myths and Improving Reality, to

be held in February 2004. He can be contacted at tjthompson@hotmail.com.

The existing PhD students, Anna Williams and Stephanie Davy, continue their research. Anna's research is focussed on estimating the time elapsed between fracture and death, through the histological and immunohistochemical quantification of fracture healing. It is hoped that the improved accuracy and precision provided by these methods should have important applications in forensic cases, especially those concerned with child abuse. She expects to finish her PhD in September 2004. Her email address is annaw1677@hotmail.com.

The main goal of Steph's research is to develop and apply new techniques to the field of forensic facial reconstruction in an effort to make the practice more reliable. Her research will incorporate the extrapolation of in vivo facial tissue depths and facial features from MRI data in order to present a more accurate database of information than that which is currently in use, as well as new methods in 3D computerised reconstruction. Her email address is senatordavy@gorebels.net.

Two new research students were welcomed into the Medico-Legal Centre at the beginning of this academic year. Jan Bikker has just started a PhD in disaster victim identification. Jan's research will include the development of a database for the ante-mortem and post-mortem comparison of missing persons and human remains in mass fatality incidents, with emphasis on recent developments in biomedical imaging and methods of human identification. His email address is j_bikker1@hotmail.com.

Talal Mohammed is a new Kuwaiti PhD student who is studying Y-chromosome polymorphisms in populations of the Gulf. He can be contacted at poet_143@hotmail.com.

The group looks forward to welcoming Xanthe Mallett to the Anthropology team in January, when she will be joining us to undertake a PhD in facial comparison.

Forensic and Bioarchaeological Sciences Group, Bournemouth University

by Mary Lewis

This year has seen the development of the **Forensic and Bioarchaeological Sciences Group** within the School of Conservation Sciences, making us distinct from the Archaeology, Heritage and Environment Group to which we were previously affiliated.

Both of our Masters courses have undergone an extensive review over the summer and now reflect the very specialist nature of forensic archaeology and anthropology, with a much greater emphasis on the international arena, where many of our graduates are employed. We are also delighted to be able to welcome Dr Tal Simmons to our group. Tal is a forensic anthropologist, originally from Western Michigan University, and a diplomat of the American Board of Forensic Anthropologists (ABFA). Tal has worked on Missions in Guatemala, Bosnia, Kosovo and Sri Lanka.

Following its success in December 2002, the Inforce Foundation will also be hosting its annual conference at

Bournemouth in April where several papers will discuss their recent mission to Iraq.

POST-DOCTORAL RESEARCH

LOUISE LOE is working with Margaret Cox examining peri-mortem modification of human bone from UK prehistoric sites. Her research is focusing upon methodological issues and applying these to selected samples curated by various institutions.

PHD RESEARCH

GAILLE MacKINNON is examining the sequelae of torture on skeletal material in cases of abuses of human rights, war crimes and genocides.

BRIAN DEAN is examining microstructural age related change to human dentition in a UK archaeological sample of known age at death.

DELIA SARGENT is assessing the variables responsible for the formation and variability of the neonatal line.

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

MARIA JELACA TAVAKOLI is continuing her MSc research to PhD level and is examining the relationship between vertebral size, stature and robusticity in modern populations for forensic identification.

LINDA O'CONNELL has almost completed her assessment of the relationship between pelvic shape and size and degenerative disease of the spine.

ZACH JOHNSON has just begun his research into forensic knowledge management for investigations of genocide and mass disasters.

AMY ZELSON MUNDORFF is another new student examining the role of the forensic anthropologist in acts of terrorism and mass disasters with specific reference to the events of 9/11 and the Twin Towers, NY.

ANTHROPOLOGY DISSERTATIONS SUBMITTED IN 2002-3 FOR THE MSC FORENSIC ARCHAEOLOGY

SARAH CAMPBELL (2002) The Identification and recovery of trace elements of human remains from empty graves.

KARINA CRAIG (2002) An evaluation of skeletal effects of the HIV/AIDS infections and its potential in individuation.

SHARNA DALEY (2002) An evaluation of the potential of multiple sclerosis as an identifying factor in forensic cases.

ALISON EVANS (2002) An evaluation of the effect of sport on the immature skeleton and its potential for individualization.

MARK GOODWILL (2002) The potential for using the skeletal complications of cystic fibrosis as individuating criteria.

AYESIA MARKLAND (2003) Strontium/Calcium and Zinc/Calcium ratios in pregnant and lactating females from archaeological samples.

CYNTHIA PAQUIN (2002) An assessment of the condition of cerebral palsy and its associated treatments as an individuator.

GARETH ROBERTS (2003) Bayonets: their design, manufacture and use and the subsequent injuries to the human skeletal system.

VICTORIA ROWE (2003) An assessment of the condition of, and treatments for, multiple sclerosis on the human skeleton as an individuator.

BRUCE RUNIONS (2002) The forensic anthropologist in Canada; opportunities and constraints.

CHAD SAILSBURY (2003) A macroscopic and microscopic study identifying diagnostic signatures from household tools with an emphasis on the identification capability of a control group.

JULIE SANTAROSSA (2003) A macroscopic assessment of the nature of pre-cremation trauma on cremated bone.

NIKLAS SODERHOLM (2003) Gunshot Wounds in the Human Skull.

MARIA JB TAVAKOLI (2002) A forensic approach to estimation of human robustness and stature: a study based on measurements of the lumbar (L-4 and %) and Sacral (S1) spine.

ANTHROPOLOGY DISSERTATIONS SUBMITTED IN 2002-3 FOR THE MSC FORENSIC AND BIOLOGICAL ANTHROPOLOGY

MARNI COLLINS (2003) An assessment of the effects of diseases of the thyroid and parathyroid glands upon the human skeleton and their potential for individuation.

PAUL DUFFY (2003) The aetiology of bony morphological variations at muscle attachment sites

SARAH HACKMAN (2003) An investigation of the effects of epilepsy on the skeleton with a view to identifying an individual.

STIAN HAMRE (2003) Bilateral asymmetry as a means of reassembling commingled human remains: a study of the long bones of the upper and lower limbs.

CLAIRE HAYNES (2002) A palaeopathological and clinical study of the manifestations caused by syphilis with emphasis placed upon the congenital form.

ILONA O'DONNELL (2002) An investigation of the radiographic features of rickets and infantile scurvy with reference to a lower class population from industrial London.

PAMELA STEGER (2003) The mastoid sinuses and their potential in comparative radiology for forensic anthropology

CAOIMHE NI THOIBIN (2002) An evaluation of the skeletal effects of professional/vocational ballet dancing and its potential in individuation.

GIOVANNA M VIDOLI (2002) A re-evaluation of the role of tooth diameter measurements in sexual dimorphism with specific consideration of twelve to nineteen year olds in Dorset, England.

Department of Archaeology, University of Durham

by Charlotte Roberts

CURRENT RESEARCH

New research includes the analysis and interpretation of **30 skeletons from St Guthlacs Priory**, Hereford. Dr Keith Dobney was awarded a Bioarchaeology University Award this year, the only one given in 2003.

Continuing research includes **Evaluating archaeological immigration, population dynamics and lead exposure by isotope geochemistry** (N.E.R.C funded, Andrew Millard, Paul Budd, Susan Hughes, Charlotte Roberts, Sam Lucy (see www.dur.ac.uk/p.d.budd/isogeochem/ for more details)), and co-ordinating the British involvement in the U.S based project **History of health in Europe: palaeolithic to the present** (Charlotte Roberts).

PHD RESEARCH

There are currently 9 PhD students in 'biological anthropology' researching a wide variety of subjects a comparison of health in early Medieval Germany and England, Anglo-Saxon health, the use of Geographical Information Systems to explore health in past Britain, isotopic, osteological and historical approaches to health and migration, and the use of, and interpretation of, musculo-skeletal stress markers. See www.dur.ac.uk/Archaeology/staff/CAR/ for details.

Marie-Catherine Bernard recently successfully defended her PhD: *Tuberculosis: a demographic and social study of admissions to a children's sanatorium (1936-1954) in Stannington, Northumberland*. Tina Jakob (German and English Early Medieval Health), Anwen Caffell (The Use of GIS to Explore Health in Past Britain) and Mark Trickett (Isotopic, osteological and historical studies of health and migration) are due to submit their PhDs this academic year.

MSC PALAEOPATHOLOGY

I was on sabbatical for part of the 2002-3 academic year so there were two MSc Palaeopathology students. Their thesis titles were:

Mawe, A.: Disabling consequences of chronic conditions today and in Late Medieval England.

Papapalekanos, A: Living in an urban environment: lifestyle implications on a Late Medieval population from York with a focus on maxillary sinusitis

FUTURE CONFERENCE

The 15th **Paleopathology Association European Meeting** will be held at the University of Durham and hosted by the Department of Archaeology on the 11th-15th August 2004. We hope to be able to follow up the success of the 14th European Meeting held in Coimbra, Portugal last year and welcome all BABAO members. For further information please contact Dr Charlotte Roberts, Department of Archaeology, University of Durham, Durham, DH1 3LE (tel: 0191-334-1154, Fax: 0191-334-1101, email: c.a.roberts@durham.ac.uk, or have a look at the conference website www.dur.ac.uk/ppa2004.conference or email: ppa2004.conference@durham.ac.uk).

by Sonia Zakrzewski

POST-DOCTORAL RESEARCH

MARGARET CLEGG joined the department in the summer to take up a Research Fellowship associated with the British Academy Centenary Project (*From Lucy to Language: The Archaeology of The Social Brain*). She has written a report about this project elsewhere in the Review. The results of Margaret's project 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. ARGYRO NAFPLIOTI is studying population movements and differences in social stratification between the islands in Greece by comparison of osteological and material culture markers. She is working with Joanna Sofaer-Derevenski, Yannis Hamilakis and Sonia Zakrzewski. CARINA BUCKLEY is working with James Steele and Sonia Zakrzewski and is studying the life history of *Homo erectus*, in particular the evolution of a childhood phase of development. KRISTIN OMA is working with Joanna Sofaer-Derevenski and Yannis Hamilakis, and is looking at the relationship between humans and animals in southern and central Europe. This project has developed from her previous interests in the depiction and burial of animals in association with human remains in Scandinavia. ANNE MACKLIN is nearing completion of her PhD, working with David Peacock, assessing an Arab skeletal sample from Quseir on the Red Sea coast in Egypt.

LIFE AFTER PHD

MARYANNE TAFURI has now returned to Italy following successful completion of her PhD research (*Marrying in and eating out. Diet, Mobility and Social Dynamics in Middle Bronze Age Italy. Trace element analysis at Sant'Abbondio (Pompeii, Italy)*).

DISSERTATIONS APPROVED FOR THE MA IN OSTEOARCHAEOLOGY 2002-3

JOHN BERNAL – Measuring Variation in the Neolithic Human Bones from the Orkney Islands.

KERRY HARRIS – Animal Sacrifice, Feasting and Status: A Zooarchaeological Analysis of Social Practice at a Mycenaean Sanctuary Site.

DAVID HIGGINSON – Upper Limb Pathology in Great Apes.

PAUL WESTRON – The Performance of Feasting.

JOANNA WILSON – Peak Bone Mass & Bone Loss in the Second Metacarpal: Analysis of Two Late Roman Populations from Colchester and Winchester.

**Department of Archaeology,
University of Southampton**

Institute of Archaeology and Antiquity, University of Birmingham

by Megan Brickley

RESEARCH

Work has started on the NERC funded project, being carried out in collaboration with **Simon Mays**, on skeletal indicators of vitamin D deficiency in adults and juveniles and **Rachel Ives** has been appointed as research assistant on the project. The majority of the material used during this research came from the post-medieval cemetery excavation at St. Martin's Birmingham. Analysis of the human bone from St. Martin's and production of the site report continued this year, with skeletal analysis being completed early in the year by **Helena Berry**, who has moved on to a management position with Bradford NHS Trust, and **Gaynor Western** who moved on to work at the Centre for Human Bioarchaeology, Museum of London. **Megan Brickley** has been awarded AHRB research leave this year to complete the publication of the human bone from St. Martin's and the report writing is now in its final stages. The report will be published by Oxbow Books and be available later in 2004. Unfortunately, despite offers from two British universities to house the collection the human bone excavated from St. Martin's, the remains have now been re-buried.

PHD RESEARCH

Rebecca Redfern is now writing up her PhD and has transferred to part time study to enable her to take up an appointment with Museum of London working on the human bone from Spitalfields Market.

Summary of Current Osteological Research at the Institute of Archaeology, UCL

by Lawrence Stewart Owens

The Institute of Archaeology continues to teach a series of bioarchaeologically-oriented courses at the undergraduate and graduate level, in addition to a flourishing research programme for Masters and Ph.D. students. Research is currently underway on middle Palaeolithic to late mediaeval remains in locations as diverse as the UK, mainland Europe, the Levant, the Greek Islands, China and Egypt. Research areas include human population biology (Scott Haddow - "Dental Morphological Analysis of Roman Era Burials from the Dakhleh Oasis, Egypt"), ancient economy (Peter Popkin - "The Society and Economy of Iron Age Transjordan: a Contextualised Zooarchaeological Analysis"; Anna Clement - "Dental Wear in Neanderthals and Modern Humans"; Lisa Yeomans - "A zooarchaeological and historical study of the animal-based industries in post-medieval London 1500-1700") and a range of mortuary data analyses. Wellcome Trust Senior Research Fellow Dr Daniel Antoine, working in collaboration with Professor Simon Hillson, is currently analysing collections of London osteological material for his

postdoctorate, entitled "Did the Great Famine of AD 1315-1323 have a detectable effect on the growth of people who experienced it as children?". For further information about the Institute, current research, and the courses on offer, visit (www.ucl.ac.uk/archaeology).

NEW COURSES

Dundee University

In October of 2003, Sue Black was invited to accept a Chair in Anatomy and Forensic Anthropology at Dundee University. Dundee intends to promote high quality educational programmes and research developments in a variety of forensic fields and will cap the student numbers to ensure that only a small number of highly selected students are accepted. Their aim is to start this process with forensic anthropology and then expand quickly into a variety of other specialised forensic fields that are not currently receiving appropriate attention.

From September of 2004, the University of Dundee will be offering an undergraduate training course in forensic anthropology. Entrants in year 1 will follow a solid educational grounding in biomedical sciences and will not begin to specialise until year 2. In association with other topics they will undertake a course in human tissues and bone biosciences including bone physiology, biochemistry and biomechanics. Full specialisation occurs in their third year when they undertake full body dissection and specialise in bone growth, development and identification. The honours year concentrates on the more specialised areas of forensic anthropology and the techniques and current research in the field, not forgetting appropriate legal and investigative matters. Students will be encouraged to continue into a Masters programme in human identification where they will be introduced to all the multivarious facets of the human identity. With formal support from a variety of institutions and professional and governmental bodies, Dundee University is advanced in the process of developing a centre for education and research in the advanced forensic sciences.

Sue Black, Dundee University

Imperial College London

A BSc course has been established to teach palaeopathology and medical history to medical students at Imperial College London. The first year the course is to be held is 2003/4. It will involve not only conventional educational sessions at the college itself, but also visits to museums, manuscript libraries and excavations, to integrate the methods used to study disease and its treatment in the past. While Imperial College does not have an archaeology department as such, it does curate a world-renowned pathology collection and many of these are dry bone specimens. A significant proportion of the illustrations in Ortner and Putschar's standard text are taken from this collection, which is an amalgamation of the collections of the former Westminster, Charing Cross and St. Mary's Medical Schools.

At present there are very few medically qualified people actively involved in palaeopathology in Britain, while this is common in so many other

countries. It is hoped that this course will encourage more British medical practitioners to develop an interest in osteoarchaeology and palaeopathology, and so broaden the experience and expertise of those who go on to join the profession in the future.

Piers Mitchell, Imperial College

Department of Anthropology, University of Kent

Dr Sarah Johns and Dr Scott Legge have recently been hired by the Department of Anthropology, University of Kent. They are currently developing a BSc in Biological Anthropology, which will be running by October 2004.

Institute of Archaeology, UCL

As well as offering a MSc in Forensic Science, a new MSc in Skeletal and Dental Bioarchaeology is commencing in 2004. This particular programme allows students to explore a range of topics involving the study of bones and teeth from archaeological sites. It will offer optional courses in the Institute of Archaeology and the Departments of Anthropology and Biology.

Roxanna Ferlini, UCL.

POSTGRADUATE RESEARCH ABSTRACTS

ALVARO ARCE: The Health of the Anglo-Saxons in Britain: Were they healthier than the Romans and the late medieval people? (PhD, University of Durham).

The aim of this research is to study the health of the Anglo-Saxons (450 AD-1066 AD) in Britain and compare the results with the health of the Romano-British (55 BC - 450 AD) and late medieval (1066 AD - 1600 AD) people. A close look at the palaeopathological literature on health in ancient British populations shows that health may have improved during the Anglo-Saxon or early medieval period. For example: Carious lesions decreased, from 7.5% in the Roman period to 4.3% in the early medieval period and rose to 5.7% during the late medieval times. Another example is the mean stature through time in Britain. During the Roman period males and females seem to have reached a mean stature of 169 cm and 159 cm, respectively, but during the Early medieval period stature increased to 172 cm for males and 161 cm for females; during the Late medieval times stature decreased to 171 cm and 159 cm, respectively. Taller stature is usually associated with good health (Roberts and Cox, 2003).

The possible reasons for the presence of this suggested improvement in health has not been clearly studied in detail yet. To attempt to resolve this question, an extensive comparison between these three periods of time is being undertaken. Key themes in palaeopathology are being considered during each period to try to identify the possible reasons for this phenomenon. Themes such as the living environment (local and general), the economy and diet, travel, migration, trade, contact, working/occupation, care and

treatment of disease, social status, etc especially during the early medieval period in Britain are being taken in consideration to propose the reasons for improvement in health during this period. Palaeopathological conditions being considered to explain health differences are stature, metabolic disease such as anaemia (cribra orbitalia), tibial periostitis, enamel hypoplasia, vertebral stenosis. The results from this research will be published to contribute to our understanding of health and disease, and their implications for social, economic and political development during the early medieval period in Britain.

For any comments and queries please contact at:
Alvaro L Arce. BA, MSc, PhD Candidate, Department of Archaeology, University of Durham, Science Site, South Road, Durham, DH1 3LE, England, Email: a.l.arce@durham.ac.uk

JESSICA BECKETT: Regional Interactions through Burial Ritual; Burial Practices and Worldviews in the Neolithic Burren of County Clare, Ireland (PhD, University of Cambridge)

Jessica Beckett, under the supervision of Dr. John Robb, is undertaking her research for the PhD in the taphonomy of human remains from three megalithic tombs in western Ireland. The goal of the research is to assess, through an integration of taphonomy, bioarchaeology, and social archaeological theory, the burial practices of earlier Neolithic societies in Ireland and to understand how societies used burial in socially significant ways. These methods can further our understandings of these societies by revealing who, how many, and what types of people were buried, an interesting component to megalithic studies given the belief that not everyone in a community was buried there. We can also determine the history of the bones themselves, to reveal what types of burial rites were taking place and the potential treatment/manipulation of the dead occurring at these sites.

The Parknabinnia chambered tomb, Poulabrone portal tomb, and Poulawack Linkardstown-type cairn are located on the Burren, in County Clare, Ireland within 3 kilometres of each other. Carleton Jones of NUI Galway excavated Parknabinnia from 1998-2001. With permission from the National Museum of Ireland the remains were transported to Cambridge for further analyses. The MNI is approximately 18 representing males, females, adults and sub-adults. The remains are highly fragmented and disarticulated. They date from 3,600- 2,800 cal BC. Anne Lynch excavated Poulabrone from 1986-1988. The remains are located at the National Museum of Ireland in Dublin. I carried out a taphonomic analysis in the summer of 2003, by permission of Anne Lynch. The MNI is approximately 22 with similar representation of individuals as Parknabinnia. The remains are also highly fragmented, disarticulated, and disturbed. They date from 3,800- 3,200 cal BC. Poulawack was excavated in 1934 by H. Hencken. These remains are located at the Peabody Museum of Harvard University in Massachusetts. With permission of the Peabody, I carried out the taphonomic analysis of the human remains from this site in October 2003. There are approximately 19 individuals, with a mixture of secondary, primary, individual, and collective burials. The Neolithic component dates to 3,600- 3,300 cal BC, with further Bronze Age use from 2,000- 1,500 cal BC. These remains are also highly fragmented in the case of the collective and cremated burials, with equal representation of males and females, adults and subadults for all periods.

REBECCA CRAIG: The Patterning of Human Remains at Iron Age Sites and their Relationship to Funerary

Behaviour (Ph.D. Department of Archaeological Science, University of Bradford)

Haselgrove *et al.* (2001) highlight a larger human remains resource than previously appreciated for Iron Age Britain. As this is our most direct point of contact with Iron Age people, it is crucial that these remains are exploited to the full (Haselgrove *et al.*, 2001:12) if we are to gain insight into their mortuary practices, ideology and social attitudes. The 'pit-burial' tradition of central southern Britain, demands particular attention and will form the focus of this project. While full interments are present in the archaeological record, this tradition is also characterised by isolated bones and disarticulated remains. Compared to cemeteries found in other regions of Britain, these human remains are prominent due to a perceived lack of formal inhumation treatment. This project is directed toward achieving a better understanding of these remains and their context through a fragmentation and taphonomic study of the skeletal remains from these sites.

Reference:

Haselgrove, C., Armit, I., Champion, T., Creighton, J., Gwilt, A., Hill, J.D., Hunter, F., and Woodward, A. 2001. *Understanding the British Iron Age: An Agenda for Action*. Trust for Wessex Archaeology, Salisbury.

ISLA FAY: Health and Disease in Medieval Norwich (Ph.D. Co-Supervised between, the University of Bradford and UEA)

The thesis considers civic or 'public' measures for the preservation of health, as well as individual attempts to stave off sickness. By combining historical, palaeopathological, archaeological and art historical methods, I am taking a 'long view' of the development Norwich's self-promotion as a healthy city. This has involved looking at the burial context of individuals suffering from diseases that were thought to be 'contagious' by contemporaries, the reception of texts concerning prophylactics and the cause of disease, the association between disease and poverty/status in the civic archive, and establishing the topography of healthy and unhealthy locations in the city.

ANNE MACKLIN: The Excavations and Analysis of the Muslim Necropolis of Quseir al-Qadim, Egypt. (PhD, University of Southampton)

This study concerns the excavations and subsequent analysis of human remains from a 14th-15th century Mamluk cemetery on the Red Sea coast of Egypt. While the majority of the research revolves around the examination and bioarchaeological analysis of the human remains, much of the background examines Islamic theological influences of not only aspects of death but also on the life of the individual. This is a unique study, which looks at the Islamic faith and its ideologies of life and death and how the Quran and the Islamic way of life dictate above and below ground mortuary practice.

LAWRENCE STEWART OWENS: The Application of Dental Anthropology to Population Dynamics, Economy and Health in the Prehispanic Canary Islands (recently passed PhD, Institute of Archaeology, UCL)

This is a dental anthropology study of prehispanic (pre. 1400 AD) societies in the Canary Islands, comprising the analysis of morphology (ASUDAS dental scoring

system) and pathology (dental caries and hypoplasia; cranial trauma) to elucidate information about population biology, diet and health. The study was configured temporo-spatially, employed demographic variables, and was contextualised using archaeological, ecological and historical data. An MNI of 896 individuals was studied using these methods. Biologically, the Canarians appear to have been temporo-spatially homogenous; except for minor fluctuations probably caused by influxes from the mainland, the island populations were probably always socially interlinked and were not therefore a series of isolates (as previously believed). The marked cultural diversity in the archipelago is therefore more likely to be the result of promulgating socio-political autonomy (at certain points at least) rather than involuntary socio-cultural isolation. Dental pathology suggested a diet intermediate between agriculture and foraging, with a relatively low caries rate that was probably linked to the consumption of dairy produce. There were some differences between the sexes, although the exact significance of this is unclear, but little evidence for temporal trends. While there was considerable variability in economic signatures, probably partially dictated by ecology and environment, there appears to have been considerable leeway in the manner that Native Canarians configured their lives. Populations were generally healthy, with the highest prevalence of hypoplasia being found in densely-populated islands that may have been vulnerable to economic stress linked to the islands' erratic climatic regime. Individuals from all islands show a hypoplasia peak in late childhood and early adolescence, possibly reflecting social maturation/independence. Health did not differ conspicuously between the sexes, and there was no significant temporal trend in hypoplasia prevalence. Cranial trauma was very common and spatially variable in the Canarian archipelago, with higher overall prevalence in densely populated islands. Males possessed higher prevalence of trauma than females, but there was no temporal trend. Judging from the appearance and distribution of the lesions, much of the trauma seems to have been caused by inter-personal conflict. This study provides an array of information concerning Native Canarian lifestyle and behaviour, and has implications for the development of Canarian archaeology, general island archaeology and also the study of how ecology and sociality can determine pattern and process in human adaptation.

PETER POPKIN: The Society and Economy of Iron Age Transjordan: a Contextualised Zooarchaeological Analysis (PhD, Institute of Archaeology, UCL)

This research is an investigation of the social and economic organisation of Iron Age Transjordan through a contextualised analysis of the faunal remains from two small fortified town sites. Inter- and intra-site analysis of the faunal remains from both sites will be carried out with the aid of the Pie-Slice statistical package which performs quasi log-linear analysis and correspondence analysis on groups of three variables (e.g. species, context and element) indicating relationships, where they exist. Current models of Iron Age Transjordanian state organisation will be tested using current theories of animal production, consumption and distribution through the analysis of the faunal remains.

JILL RHODES: Humeral Torsion and Activity-Related Change in the Human Upper Limb and Pectoral Girdle: A Biomechanical Investigation and Social Implications (PhD, Department of Archaeological Sciences, University of Bradford)

The pattern of osseous changes in the skeleton can be used to identify habitual movements associated with the performance of specific tasks. The impetus of this project is to quantify degrees of humeral torsion and other osteological indicators of activity in the pectoral girdle and upper limb and compare them with an increasingly informative clinical sports medicine literature of lateral asymmetry (from hand preference) connected with activity in more recent people. Using this base of knowledge, it will then be possible to reconstruct through analogy probable movement patterns and ranges of activities in individuals from historical archaeological contexts. The methods employed include osteological measurements to quantify humeral architecture, robusticity, articular shape and size, and muscularity. Biomechanical analysis of humeral cross-sectional properties was conducted on a sub-sample of males from the Later Medieval period who had sustained weapon trauma, as well as a comparative sample drawn from among cloistered ecclesiastics and the wider medieval community. Comparative samples include an urban Medieval Priory, two rural populations, a sample of infirm individuals from a medieval *leprosarium* and later almshouse, as well as a modern cadaver-based sample and non-human primate species.

Results show statistically significant differences in humeral torsion both between and within population samples and identify this trait as a form of adaptation to differences in mechanical loading. Biomechanical analysis has identified significant differences in humeral diaphyseal shape (I_x/I_y) between blade-injured groups, which indicates differences in the direction of mechanical loading, as well as statistically significant differences in robusticity (J) between blade-injured groups and the comparative sample indicative of differences in the level of mechanical loading. The results of this research demonstrate that individuals who had sustained weapon trauma have skeletal manifestations associated with long-term strenuous use of their upper limbs that likely relates to extended pre-adolescent training with weapons, long before the creation of a standing army.

MARIANNE SCHWEICH: **Stature, Body Proportions, and Social Inequality in European Archaeological Populations (PhD, Department of Archaeological Sciences, University of Bradford)**

Stature and body proportions of humans are influenced by factors of the natural environment, such as climate, altitude, and latitude. However, since humans are cultural animals, bio-cultural factors, such as social, economic, and political status, and their effect on general health and nutrition, have a noticeable influence on stature and body proportions. These bio-cultural factors leave a distinct signature on the human physique, which has been demonstrated in modern populations, and is observable in archaeological skeletal material.

Populations from sites such as known *leprosaria* and medieval hospitals, rural and urban parish cemeteries, monastic cemeteries, and victims from the battle of Towton in A.D. 1461, are analysed and compared to very high status individuals, such as the medieval emperors Charlemagne, Heinrich IV, Heinrich V, and Queen Beatrix of Brabant, as well as modern population averages. The data from the archaeological populations are viewed within their environmental, cultural, social, and economic context, to test for effects of social distinctions in state-level societies, effects of peasant life on growth attainment, and how the transition from less centralised early medieval societies to later medieval states affected growth. First results show a relationship between socio-economic status and body proportions, weight-to-height ratio, sexual dimorphism and general stature from Roman times to

the post-medieval period. Stature and body proportions from human skeletal remains provide a time depth by which to study socio-economic inequality, thus extending documentary sources of more recent date.

REBECCA STORM: **Fluctuating Asymmetry: Potential Applications in Osteology (PhD, Department of Archaeological Sciences, University of Bradford)**

Asymmetrical relationships have been found in all aspects of nature. From the intricate shape of snail's shells through to the directional aspect of molecular biology, it is realized that these naturally occurring asymmetries will further many fields of scientific research. Asymmetries are also found in the human skeleton. Of the three forms of asymmetry—fluctuating, directional and anti-symmetry— it is fluctuating asymmetry that is the most useful in detecting and understanding the osseous changes that are influenced by biomechanical, environmental, and genetic factors. The purpose of the current study is to create a database of skeletal asymmetries from 111 measurements— taken from the cranium, mandible, clavicle, scapula, humerus, radius, ulna, 4th metacarpal, sacrum, *os coxae*, femur, tibia, calcaneus, talus and the 1st metatarsal— to understand the implications and uses of fluctuating asymmetry to infer handedness, congenital abnormalities, health and disease, sexual diversity, and evolutionary changes documented in human skeletal populations.

EXCAVATIONS OF HUMAN REMAINS 2002-2003

Excavation in the Bowl Hole Early Medieval Burial Ground, Bamburgh, Northumberland. A summary of the 2003 Season

by Sarah Groves and Philip Wood.

Following the success of the 2002 season of excavation, the Bamburgh Research Project undertook further excavation in the Bowl Hole during July and August of 2003. The aims of the 2003 season were to assess the damage to the site caused by erosion and cattle that have recently been introduced to the site and to explore the extent of the cemetery.

During the 2003 season a total of 19 complete or substantially complete skeletons, 7 heavily eroded skeletons and 3 very incomplete skeletons were excavated. In addition, two empty graves that appear to have been previously excavated were also identified. This brings the total number of individuals excavated over the past six seasons to 53, from a total of 75 identified graves.

While the majority of the individuals were buried with their heads to the west, there was a wide variety in the precise orientation of the graves and in the position of the bodies in the graves. As in previous seasons, some individuals were buried with grave goods and animal bones. The majority of the graves are

shallow, some being partly within the topsoil and many show signs of erosion. However a number of graves are significantly deeper, and in all but one case the deeper burials cut through the shallow burials. This variation in depth is currently believed to be the result of erosion during the life of the cemetery, probably the result of storms removing layers of windblown sand from the site.

Some of the graves are arranged in rough rows, seemingly respecting earlier burials. There are however a small number where graves have disturbed earlier burials, but where the new burial has been placed in such a way to avoid substantial damage to the earlier burial. This practice could be accounted for by differential erosion through the site (obscuring some graves but not others, and the direction of east from sunrise varying through the year). However, some or all cases could be the deliberate digging of new graves through older, visible graves, reflecting for example status or family ties.

Full osteological analysis of the 2003 skeletal material has not yet been done, so these results are based on observations in the field on unwashed material. As in previous seasons, both adults and children were excavated, ranging from newborn infants to apparently elderly adults. The adults appear to have been robust with few signs of trauma, disease and malnutrition. The pathological changes observed in the field include bifid first ribs, a possible block vertebra, possible kidney or gallstones, or tapeworm cysts and dental caries and tooth loss. The most unusual condition observed was a possible case of pulmonary hypertrophic osteoarthropathy in an adolescent individual, represented by woven bone on all the long bones and many other elements.

In general, the results from 2003 have confirmed and extended our knowledge and theories concerning the site. The stature and low levels of disease and malnutrition in the skeletal material suggest that the individuals were part of a high status group, possibly the thegns and other aristocrats serving the royal court at Bamburgh. This theory is supported by the results of isotopic analysis of the dental enamel, suggesting that many of the individuals buried in the cemetery did not grow up in Bamburgh.

We plan to continue excavation in the Bowl Hole this summer, to try to further define the extent of the cemetery and examine the damage that has been caused by erosion, tree roots and a fence put through the cemetery. We also hope to undertake geophysical survey and field-walking over the areas around the cemetery, particularly the area of the burial mounds to the west, to better understand this burial ground in its wider context.

See www.bamburghresearchproject.co.uk for more information about the project

Human Skeletal Remains Excavated or Analysed by Field Archaeology Specialists Ltd in 2003

*By Malin Holst (previously Project Officer with Field
Archaeology Specialists Ltd, since December founding
Director of York Osteoarchaeology Ltd)*

FISHERGATE HOUSE, YORK
In 2000-2001, Field Archaeology Specialists (FAS) carried out excavations at Fishergate House in York, which led

to the discovery of a medieval cemetery. The site was located to the south of the Gilbertine Priory of St Andrew's (Fishergate), excavated in the mid 1980s, which had produced over 400 medieval burials. At Fishergate House, 244 medieval skeletons were excavated, together with four Roman cremation burials. Although the cemetery was not recorded historically, a wall that separated the precinct of the monastery from the cemetery was discovered by FAS during excavations at the adjacent site of Blue Bridge Lane.

The character of the skeletal assemblage is unlike that from the Gilbertine Friary and is indicative of a parish cemetery, with a proportion of 46% children. Pathological findings include one case of leprosy, several cases of tuberculosis and severe weapon trauma. Stress indicators and evidence of inflammatory lesions are widespread. The osteological analysis was completed during 2003 and the results will be published together with the archaeological findings in 2004. The skeletons are curated by Charlotte Roberts at the University of Durham.

YORK MINSTER, YORK

One of the major projects last year was the re-assessment of the York Minster skeletal collection, excavated between 1966 and 1986, on behalf of the York Archaeological Trust. The aim of the assessment of a sample of the skeletal remains was to determine whether it would be worthwhile to osteologically analyse the whole collection. The skeletal assemblage had undergone haphazard analysis in the past, which largely consisted of cranial metrics. The collection is thought to date to the medieval and post-medieval periods and contained high status individuals, including the Archbishop and Chancellor of England, William Greenfield (†1315). The small sample analysed contained individuals of all ages and both sexes, many of whom had identifiable pathological conditions. Notably, the individuals from York Minster suffered much less from stress indicators than other medieval populations from York, but showed more evidence for age-related conditions, such as tumours and degenerative joint disease.

NOSTERFIELD QUARRY, NORTH YORKSHIRE

Between 2001 and 2003 FAS excavated a number of burials, substantial pit alignments and round and square barrows, as part of an ongoing watching brief at Nosterfield Quarry. A cremation cemetery dated to the Middle Bronze Age was discovered and included urned and unurned burials. Two unusual inhumations probably represent secondary interments of two adult females, following exposure of the body and collection and burial of the surviving bones in pits. Recently, a male skeleton was discovered, which had been interred in the ditch of a square barrow and is thought to date to the Middle Iron Age.

GARGRAVE, NORTH YORKSHIRE

Archaeological Services WYAS excavated a number of unusual burials at Gargrave in July and September 2003. Six burials were excavated at the site, including two females who were interred on top of one another. The upper female was interred in a crouched position on her back, indicative of binding, while the lower skeleton was in a flexed position. Additionally, a further female had been interred in a crouched position, but in this case, the skeleton was prone. The skeletons are currently undergoing radiocarbon dating, which may aid funerary interpretation.

FERRYBRIDGE, WEST YORKSHIRE

Archaeological Services WYAS undertook advance archaeological works at Ferrybridge as part of the A1 Darrington to Dishforth DBFO project during 2001 and 2002. It was found to be a multi-period site, dating from the Neolithic to the late medieval period. The majority of features encountered were prehistoric and

included hengi-forms, timber circles, barrows and pit alignments, as well as Iron Age and Romano-British structures, enclosures and fields. Twenty-two inhumations and thirteen assemblages of cremated bone were recovered, which dated from the Neolithic to the late medieval period. Notably, funerary rituals differed considerably, even within the same period. The skeletal analysis revealed a mixed population of children and adults of both sexes. Although limited evidence for pathological manifestations was observed, the considerable quantity of traumatic lesions in this population was unusual and suggested that these individuals had endured a hazardous lifestyle.

Museum of London Specialist Services: Summary of Skeletal work during 2003

by Natasha Powers

This year has seen large-scale changes at the Museum of London with Specialist Services taking on four new osteologists. Three are working exclusively on the medieval assemblage from the cemetery of St Mary Spital, Spitalfields, whilst the Wellcome Trust funded, Centre of Human Bioarchaeology at the Museum itself required a further three new staff. This project has also seen Bill White moving to the Museum as Curator of Human Remains.

In the spring, Margaret Gowen and Co. Ltd approached us to analyse two assemblages from Co Meath, Republic of Ireland. The smaller of these comprised 7 adults and 9 juveniles, including a number of neonates, from an early medieval/medieval cemetery. The larger assemblage is still undergoing analysis, with a report due at the end of the year, but will total over 200 burials of all ages and sexes. It also includes at least three decapitations and one example of sharp force (weapon) cranial trauma.

Other inhumations analysed include: two Iron Age burials and a quantity of disarticulated bone (MNI 9) from RAF Fairford, 3 Romano-British burials from London and a further 8 from Gloucestershire, 8 Saxon individuals from Lundenwic (including two neonates from well deposits) and 90 individuals, dating from the Roman period through to the 19th century, from Guildhall Yard in the centre of the City.

A cremation, previously on display at Colchester museum, was analysed and several others from excavations in east London assessed, the latter as part of a project to collate and integrate site data from the 1980's.

The analysis of post-Medieval burials from St Pancras, excavated by Pre-Construct Archaeology and managed by Gifford's and Partners, continued and is currently at assessment report stage. The assemblage consisted of several hundred burials from a relatively short time span from the late 18th to early 19th centuries. Prior to reburial, a wealth of pathological data was collected from the, generally very well preserved, remains. Biographic information from a number of named burials, including French émigrés and wealthy native Londoners is also being collated. In addition, there were burials associated with the nearby workhouse, evidence of autopsies and suspected anatomical dissections.

Osteologists have also been (professionally!) involved in several police cases and provided identification advice to both the City and Metropolitan forces. They also

helped to establish the archaeological nature of a burial found on a construction site in Northamptonshire.

Finally, an anthropomorphic lead coffin was discovered during the clearance of the crypt of St. Andrews' Holborn and museum specialists called in to aid in conservation of the coffin. Osteological examination of the remains was carried out to try and provide clues to the identity of the individual and samples were also sent for C14 dating. Unfortunately it has not proved possible to identify the burial, though the nature of the coffin and circumstances of the burial indicate a wealthy occupant.

MoLAS are about to begin excavation in the vicinity of an Anglo-Saxon cemetery, but as yet no human remains have been discovered.

Excavation and Analysis of Human Skeletal Remains by AOC Archaeology Group

by Melissa Melikian

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AMERICA STREET, LONDON BOROUGH OF SOUTHWARK
This Roman cemetery site (*n.* 163) was excavated by AOC in 2000-2001 (see Annual Review 2002). Post excavation analysis was completed on the finds and skeletal material. The findings will be published in the spring as an AOC Archaeology Group monograph.

BRENCHLEY GARDENS, MAIDSTONE, KENT
A watching brief was conducted in July 2003 after human remains were discovered at this site during the laying of electric cables. A total of 73 inhumations were recorded, the majority of which were post-medieval and associated with the cemetery attached to St. Faiths Chapel. The majority were buried in an extended, supine position on a west-east alignment. There was a notable concentration of infant burials in the western part of the cemetery. Five individuals were located separately in a discrete area some way to the west of the main group. These have been dated to the late medieval period. The inhumations were recorded before immediate re-burial at the site.

FREMLIN WALK, MAIDSTONE, KENT
AOC Archaeology is undertaking a long term excavation (2003-present) of this site in Maidstone prior to construction of a shopping centre. Excavations have revealed 8 Roman inhumations and one post-medieval burial. The Roman inhumations are on a number of different alignments buried either supine or crouched. Two individuals had associated grave goods; one had a copper alloy ring and shale bracelet on the right hand/arm and another was buried with hob-nailed boots covering the lower legs. The post-medieval burial is rather enigmatic. The burial was that of a juvenile and was aligned west-east (suggesting it is a Christian burial). The coffin was a wooden, tapered coffin and from this design we know the burial dates after 1660, when the design came into use. Placed on top of the coffin, in the skull and chest area, was an oval wooden vessel. It is thought the vessel would have contained salt (Julian Litten, *pers. comm.*). This practice was thought to take the sins away and is well documented. It is some what unusual that the burial was isolated and not within a churchyard or cemetery. The skeletal remains have yet to be assessed or analysed.

MANRESA HOUSE, ROEHAMPTON, LONDON BOROUGH OF WANDSWORTH

In the winter of 2003 AOC Archaeology carried out a watching brief during the exhumation of a recent cemetery. The cemetery was associated with a Jesuit training college, the first interment was on 4th September 1867 and that last was on 29th June 1962. A total of 108 bodies and 82 headstones were recorded. The people who were buried at the site consisted of 73 ordained priests, 26 brothers and 4 priests in training. Included in the ordained group were Archbishop Alban Goodier and Bishop Charles Gordon. The Jesuits had instructed that no invasive examination of the remains take place. As a result, and the fact soft tissue was present, no osteological recording was carried out.

Human Skeletal Remains Excavated or Analysed in Suffolk 2003

by Sue Anderson (Finds Manager, Suffolk C.C. Archaeology Service)

Very few burials have been excavated in Suffolk in the past year. A few fragments of human bone were recovered from pits during excavations at an Iron Age/Roman site in Mildenhall, and this site also produced seven inhumations in poor condition. Evaluation at a site on the outskirts of Ipswich identified a previously unknown Middle Saxon cemetery, the future of which is still to be decided. The few skeletons excavated as part of this work have not yet been studied.

Despite the lack of new discoveries, more work was done on the analysis of human remains from the county than in previous years.

An isolated burial from a rural site close to Bury St. Edmunds was dated to the Middle Saxon period by C14. Although the shallow interment — in the upper fill of a ditch — had been affected by ploughing, the rear of the skull was intact and showed four distinct unhealed cuts. No cuts were seen elsewhere on the body, but the torso and hands were poorly preserved.

Four other possible murder victims were found at Flixton Quarry, as reported last year. These were analysed for inclusion in a forthcoming TV programme ('Tales of the Living Dead'). Three of the four had unhealed cuts, and at least two had been decapitated. Radiocarbon dating places them in the early Roman period.

Another decapitation burial, in this case with the head between the legs, was one of three inhumations and a large quantity of disarticulated bone excavated at Brandon in 2002. The burials were assumed to be Roman, but carbon dating of the most intact individual, buried face down but not decapitated, suggested a medieval date. One of the individuals had suffered from acromegaly.

One prehistoric and nine Roman skeletons from a site on RAF Lakenheath were studied. They showed a high prevalence of dental disease and the normal stresses and strains of rural groups. One female may have suffered from rheumatoid arthritis, although the evidence was not conclusive.

A large group of skeletons (115 individuals) in good condition was excavated from Franciscan Way and Wolsey St., Ipswich in 1990 and 2002-3. They are probably post-medieval, although some may be related to the nearby Franciscan Friary. The recently excavated group was analysed, and it was decided to re-analyse the 1990 group to the same standards. The group was not a normal population, with only 20 juveniles, none of which was under the age of 6 years. The adults were dominated by men (1 male to 0.2 females), although sexing was difficult in some cases, and the majority of individuals died in young or middle-age. Some of the skeletons showed negroid characteristics. There were some unusual pathologies, including Reiter's disease, an avulsion fracture of a femur and a vertical fracture of a patella. Traumatic injuries and stress lesions were common. Unusually, in a group which appears to be late, there were two cases of leprosy. Documentary evidence for this cemetery is patchy, but there is some suggestion that it could have served a nearby sailors' hospital or the town gaol, burials from which included two 'pirates' with French and Arabic-sounding names. The presence of a manacled skeleton is further evidence for a prison burial, or potentially for the burial of slaves.

Summary of the Reports Produced by Jackie McKinley 2002-2003

2002			
Site	Date	Summary	Org.
Hyde End Farm, Brimnpton, Berks.	MBA	Inverted urned burial (dual), rpd in grave fill	Reading Uni.
Battlesbury Bowl, Warminster, Wilts.	IA	u/b bone 21 contexts inc. 6 inh. burials, 1 artic. leg & redep. disarticulated bone from pits (excarnation)	WA
Alcester, Oxfordshire	RB	rede. u/b bone from 2 individuals	WA
St. Mary's Stadium, Southampton	MAS	7thC: 18 urned cremation burials with rpd; 35 inh. burials (poor pres.) 8thC: 8 inh. burials	WA
Yeovilton, Somerset	LRB	10 coffined inh. burial 1 rpd	WA
Barford Road, St. Neots	Neo. EBA M- LBA	u/b redep. ass. with long barrow, 5 individuals urned cremation burial	WA

		5 unurned cremation burials with rpd	
Roundway Down, Wiltshire	E-MBA	3 inh. burials & parts 2 redep. 5 cremation burials; multiple burials in single grave	Exeter Uni.
Park Lane, Croydon	Post-R EAS	inh. burial (chalk lined) 20 inh. burials (poor pres.) 3 creation burials; 1 unurned, 2 urned)	WA
Totterdown Lane, Horcott, Glouc.	RB	1 urned cremation burial, 5 unurned burials; u/b redep. bone	TVAS
Carsington Pasture, Derbyshire	?LBA	Large urned cremation burial redep. u/b infant	Time Team
Chelmsford, Essex	LBA	rpd	WA
Claypit Lane, Westhampnett, Sussex	EBA MBA	1 urned cremation burial 5 urned cremation burials + ass. deposits	WA
Vine Street, Uxbridge	?	contained (?boxed) cremation burial + rpd	AOC (London)
Streamline Garage, King St., Lancaster	MRB	6 unurned cremation burials + rpd; ?2 cenotaphs	Lanc Unit
Chichester Rd., Selsey, W. Sussex	LIA	1 cremation-related deposit	TVAS
Marsh Farm Quarry, Warwickshire	M/L RB	1 cremation-related deposit	Warwickshire CC
2003			
Hyde St., Winchester	RB	3 ERB, 2LRB cremation burials; 4 urned, 2 unurned;	WA
Mockbeggar Lane, Ibsey, Hants.	EBA ?LBA	unurned dual cremation burial (2 males) single cremation grave, 12 individuals	TVAS
Wises Lane, Borden, Kent	LIA/ ERB	22 cremation-related contexts inc. 1 urned burial, 4 unurned burial & 4 rpd	TVAS
Kerricks Farm, Duncow, Dumfries & Galloway	LBA	1 urned & 21 unurned cremation burial	Northern Archaeological Ass.

Llandegai, Gwynedd	L.Ne o.	1 unurned cremation burial (triple) & scatters	Bangor Uni.
Wheathampstead, Herts.	RB	2 unurned cremation burials; very rich grave goods	Verulamium Mus.
Roundstone Lane, Angmering, W. Sussex	MBA RB ?	3 very truncated cremation-related contexts 1 cremation grave, 1 individual in 2 vessels ?rpd/?unurned cremation burial + rpd	Arch. SE
Canterbury Road, Hawkinge, Kent	ERB	1 urned cremation burial	Arch. SE
Glebe Farm, Brough, Notts.	L.Ne o/ER B LRB	cremation-related context (crc) unurned cremation burial	Trent & Peak
Glebe Farm, Brough, Notts.	EBA	3 unurned cremation burials + 2 crc	City of Lincoln Arch. Unit (CLAU)
Langford, Notts.	E-MBA	11 crc inc. 6 urned burials (50% dual); ?cenotaphs	CLAU
Anchor St., Lincoln	RB	3 rd C; urned cremation burial	CLAU
Churchover-Newbold Pipeline, Warwickshire	Neo. & ?	redeposited & unurned cremation burial	Warwickshire CC

CONFERENCE REPORTS

Review of the Fifth Annual Conference of the British Association for Biological Anthropology and Osteoarchaeology (BABAO)

(University of Southampton, 5-7th September 2003)

by Christopher Knüsel

The represents the fifth such review I have present review keyed for the Newsletter. This uninterrupted string allows me to report that the organisation saw a step-change in its fortunes at this year's meeting. The Southampton meeting was the best-attended and most representative meeting that I have had the pleasure in which to participate since the inception of the Association. Sonia Zakrzewski, James Steele, and their red-shirted team did much to increase the purview of the organisation, with an ecumenical blend of human biology, palaeoanthropology, palaeopathology, zooarchaeology, forensic anthropology/archaeology and osteoarchaeology, all finding platform and voice in the course of the meetings. This broader substance represents a maturity that was only an aspiration when the Association was formed, now nearly six years ago. Given the crowded nature of the organisational terrain that the fledgling association entered, this is rapid progress. There are more meetings—international, national, regional and subject-specific—occurring more often, in a greater number of venues, than ever before, so this is a fitting tribute to the determination, foresight, and perseverance of the Organising Committee and membership over a relatively short period of time.

Sonia Zakrzewski opened the conference at 2.10 p.m. on 5 September 2003. The first session on *Agency and Osteology in Social Archaeology*, organised by Rebecca Redfern, included a series of papers that addressed the risk of fractures among mariners buried at the Greenwich Naval Hospital in contrast to those interred in the Spitalfields crypt (Dawn Galer), status from grave inclusions and a multi-factorial osteological approach to activity in the Norton, Cleveland, Anglo-Saxon population (Sarah Groves), engendered roles at the Early Archaic Windover Site in Florida, U.S.A. (Christine Hamlin, read by Redfern), highly orchestrated burial practices in Irish Neolithic tombs (Jessica Beckett), after which Rebecca Redfern followed up with an excellent paper on the occurrence and prevalence of violent injuries at Iron Age Maiden Castle. These studies not only reflected the discipline-wide proclivity to complement case-study approaches with analyses at the population level, but also a more recent encouraging trend to blend the representativeness of human remains with metric and macroscopic analysis to obtain social information.

The second session of the first afternoon, *Fragmentation of the Body: Comestibles, Compost, or Customary Rite?* picked up on this theme to address the phenomenon of fragmented remains on archaeological sites and the behaviours implicated in their deposition. The papers demonstrated a heavy concentration on the methods required to locate, record, and analyse human remains, as well as the means by which to interpret and place in context the results of such studies. The material considered in the first three presentations derives from some of the most imposing prehistoric monument types excavated to date, including: a large Late Bronze Age enclosure of Velim Skalka, Czech Republic (Alan Outram and Christopher Knüsel); the Neolithic

causewayed enclosure of Hambledon Hill, Dorset (Jackie McKinley); and the long barrow of Burn Ground, Gloucestershire, one of the dense Neolithic clusters of such monuments known as the Cotswold-Severn Group (Martin Smith). In each of these the speakers demonstrated the complex nature of mortuary rites at these sites. The fragmentation processes included, variously, primary burial and secondary rites involving selection of skeletal elements (Burn Ground), possible defleshing (Hambledon Hill), and disturbance of primary interments and non-normative burial (Hambledon Hill, Velim Skalka), as well as the processes leading to the deposition of human remains mixed with those of animals and weapon-related trauma (Velim Skalka).

These site-specific papers were matched by those of Louise Loe (on the diagnostics of peri- and post-mortem modification of bone), John Robb (on a computer simulation of bone loss in the repeated use of a Neolithic tomb), Silvia Bello (on the frequency of preservation of human skeletal elements under differing conditions of burial), and Kathryn Holmes, Kate Robson-Brown and Matthew Collins (where one might hope to find good bone preservation, where heat and high temperatures do not precipitate collagen breakdown that leads to bone decay). It is salutary to note that this session concerned the behavioural implications of material that not all that long ago was deemed to be of little or no value and was often abandoned, either on site or, more fortunately, in the deep storage of museums and other organisations.

If the previous session developed the theme of the importance of older collections when placed in the context of new questions, the next, on Saturday morning, considered new techniques and samples to provide insight into old questions. In *Chemistry in Osteoarchaeology*, the presenters addressed themselves to the two main uses of chemical analyses of human remains; diet from nitrogen and carbon isotopes and migration from oxygen and strontium isotopes. Gundula Müldner's contribution demonstrated the extent to which dietary isotope analysis can contribute to within-sample population differences in meat consumption, showing how the late medieval men found in the battle of Towton mass grave, although a mixed group, seem to have derived their dietary protein from terrestrial animals, while other near contemporary groups seem to have included more fish in their diets. Paul Budd and co-workers showed that—especially—oxygen isotopes can be recovered even from cremated remains to shed light on the role of migrants in the make-up of populations, while strontium isotopes are more capable of revealing aspects of regional movement of individuals. This oral presentation, along with the poster presentations of Hughes et al. and Tatham et al., demonstrate the ability to identify first-generation migrants that bear on the question of the contribution and intensity of migration to the make-up of the Post-Roman period population.

In a study reminiscent of those now classic studies of the advent and spread of a maize-based diet in the Americas, Jon Le Huray's poster contribution to the session showed the influence of millet, a C4-plant, on the La Tène population of Kutná Hora-Karlovy, Czech Republic. His analyses suggest dietary status differences. In his second, oral presentation, Jon demonstrated the extent of mineral take-up in these samples, using LA-ICP-MS (Laser Ablation Inductively Coupled Plasma Mass Spectrometry). His work clearly demonstrates that trace mineral studies are greatly hampered by the amount of non-biogenic mineral that is incorporated into bone from the surrounding soil and that there is uniform diagenetic change across individual specimens. In a synthetic summary paper of what we know to date, Holger Schutkowski turned his attention to the role of bone chemical analyses to elucidate the speed of subsistence transitions in three prehistoric regions: the Levant, southern Scandinavia, and northeastern North America. He contrasted the

apparently rapid adoption of maize, a ceremonial food, in the last of these with what have been traditionally understood as the more gradual transitions in the other two regions. He argues that this gradualist model is no longer tenable in the face of bone chemical evidence and that each of these transitions was full-scale and rapid once initiated.

The later Saturday morning and afternoon sessions of the conference expanded into some traditional disciplinary areas of research that have been more poorly represented at previous Association conferences. In *Primates and Hominid Evolution*, Margaret Clegg and Sonia Zakrzewski brought together an excellent series of papers from across the subject matter of the discipline. The papers dealing with non-human primates included both behavioural studies and comparative anatomical ones. In the former, Nicholas Newton-Fisher's study of dyadic relationships in adult male chimpanzees in the Budongo Forest, Uganda, revealed that although group size is correlated with the extent of social grooming, this relationship is more complex when viewed from an individual perspective within such groups. In groups with a strong social hierarchy, grooming was traded for support in agonistic competition, but in those groups with a weaker hierarchy, grooming was often more equally reciprocated.

Turning to the comparative anatomical papers, Todd Rae's presentation addressed the still unresolved, though much hypothesised question of the pneumatization of the primate cranium. His comparative morphological study of the face of monkeys, who lack paranasal sinuses, and apes, who possess them, reveals that macaques are the only exception to this general morphological rule. Rae argued that this broad and diverse group of monkeys regained this trait during the course of evolutionary change based on its absence in *Victoriapithecus*, which split off from the main hominoid/catarrhine lineage some 16 million years ago. At the moment, paranasal sinuses appear to have no function, but their presence, if not their size, is useful as a phylogenetic marker.

Claire Imber, in her paper on robusticity and rugosity of the human post-cranial skeleton, looked at the relationship between robusticity indices of long bones and the development of their soft tissue attachment sites (Musculo-Skeletal Markers). She found that robusticity and rugosity weakly co-vary in populations. Robusticity, though, was more closely linked to sex and lifestyle similarities than was rugosity. Next, Leslie Aiello and co-author Will Harcourt-Smith asked the lingering and fundamental question of just how many forms of bipedalism evolved in the hominid lineage. From their analysis of preserved pedal elements of STW 573 (the 'little foot', attributed to *A. africanus*), OH 8 (attributed to *Homo habilis*), and AL-288-1 (Lucy's foot, *A. afarensis*), the presenters concluded that the morphological variation was greater than one would expect if only one type of locomotion had evolved. In light of this study, it seems that Russell Tuttle's original statement that the Laetoli footprints could not have been made by *A. afarensis* seems even more prescient today—with improved analyses and more fossils—than when he made this assessment nearly two decades ago. In the last two papers of this late morning session, Carina Buckley demonstrated that from the perspective of palaeodemography *Homo erectus* was K rather than R-selected, while William Davies and co-authors made the case that the increase in the number of radiometrically dated sites correlates with palaeoclimatic fluctuations recorded in the Greenland ice-core data (GRIP). These researchers interpret their data as relating to population expansion in warmer interglacials and population contractions, or even bottlenecks, that appear to occur during the colder conditions of glacial maxima.

The afternoon *Biological Anthropology* session opened with Sarah John's study on reproductive

strategies in women. Her research challenges the popularly held view that teenage pregnancy results from perceived economic benefits— from the state or otherwise. In her sample of 759 women (of 1,782 women contacted via questionnaire, a 45.9% response rate), teenage motherhood is better explained by a different perception of the life course and may be a rational response to an unstable environment. In another potentially policy-informing study, Stanley Ulijaszek discussed his research showing a link between grandparental investment and obesity in the Cook Islands. In the past 30 years, Island Polynesians have become the most obese populations in the world as a result of their participation in the global economy. In the economically modernising Cook Islands, obesity correlates with the number of grandparents contributing to the welfare of children.

In the remaining two papers of the session, Simon Mead and co-workers from the MRC Prion Unit in the Institute of Neurology, UCL, presented evidence that elderly Foré people of Highland Papua New Guinea may benefit from prion gene heterozygote advantage that confers resistance to prion diseases, such as Creutzfeldt-Jakob Disease. These researchers suggest that these elderly people may have a higher prevalence of this genetic predisposition as a result of having participated in endocannibalistic funerary ceremonies that increased the likelihood of survival in the Kuru epidemics early last century. Lastly, Gustavo Barrientos and colleagues presented their study of population changes in the Pampas of Argentina using viscerocranial morphometrics and radiocarbon dates to gauge population history. These researchers argue that the populations in this region experienced several population expansions and contractions over the course of the last 12,000 years. These results are similar to those of Davies et al. and Schutkowski (reviewed above), who also present evidence that changes in human population history appear to be much more saltational (as previously argued by Steven J. Gould and Niles Eldredge for palaeontological speciation events) than they are gradual affairs.

This past year's conference played host to two short open sessions. The first of these was on Saturday afternoon and Piers Mitchell opened the session with an introduction to the research opportunities provided by the thousands of skeletal remains excavated from the site of the ancient city of Caesarea, in modern-day Israel. He noted that despite 30 years of on-going excavation and extensive cemeteries covering periods from the foundation of the city in the Roman period through the successive Byzantine, early Islamic, Crusader and late Islamic periods, only a single short paper has been published on the material to date.

Annia Cherryson's presentation drew on her study of skeletal representativeness to argue that 25-50% of early medieval (600-1100 A.D.) burials from Wessex had been disturbed in the succeeding 1,000 years. She attributes this high level of disturbance to the development of urban centres and resulting crowding of burials towards the end of her period of interest, that out-weighted Church prescriptions that aimed to maintain an unsullied burial. The final paper in this session was the only podium presentation on palaeodemographic aspects of medieval populations. Rebecca Gowland and Andrew Chamberlain used Bayesian statistical techniques to examine the palaeodemographic profile of the burials from the Royal Mint Site, East Smithfield, London, a cemetery dating to the summer of 1349 A.D. and the historically-recorded date of the first visitation of the Black Death to these shores. The analyses substantiated the archaeological contextual information that the Royal Mint population resulted from the passage of a highly infectious disease with high mortality.

The second open session on Sunday morning focussed on palaeopathology. Anthea Boylston discussed six cases of the still enigmatic and poorly understood Paget's Disease (Sir James Paget's "osteitis

deformans”) from the cemetery associated with the medieval Augustinian Priory of Norton in Cheshire. The high prevalence of this disease, just outside Lancashire, a county which records some of the highest frequencies of the disease in England today and in the recent past—which has not been found to date at all in Scandinavia, Asia or the Americas— suggests that there may be a familial link to the aetiology of this, the second-most common bone disease today, after osteoporosis. Anthea’s description and differential diagnosis of the lesions present in these individuals serves as a model for such work and its successful dissemination.

Two further palaeopathology papers featured palaeoepidemiological approaches to dental caries (Anwen Caffell) and endocranial lesions in children (Mary Lewis). In Anwen’s study, G.I.S. was employed to map medieval (500- 1100 A.D.) prevalence rates for caries in England from published studies. Her on-going study indicates that there was an increase in the frequency of caries in the Late Medieval period, and females had a higher prevalence than did males at this time, perhaps as a reflection of the introduction of refined flours and cane sugar. In addition, she found that coastal groups had lower prevalence rates than those buried further inland, which might reflect the preventive influence of fluoride in coastal water sources. Mary’s paper concerned the prevalence and aetiology of bone forming deposits— plaques, hair-on-end extensions of the diploë, and ‘capillary’ extensions that are found on the endocranial surface— seen relatively frequently in children from archaeological populations. Possible aetiologies include inflammation, haemorrhaging, and infection caused by tuberculosis or meningitis, but seem to preclude a relationship to metabolic diseases such as scurvy and rickets.

Two papers in the open session dealt with facial reconstruction. Caroline Wilkinson’s presentation concerned the blind comparison of portraits of the deceased that decorate the Roman-period (1st-2nd centuries A.D.) sarcophagi of Egypt’s Fayoum Depression with the face reconstructed from the viscerocranial skeleton of the deceased individual found within them. This study used all three currently practised techniques of facial reconstruction— tissue depth, morphological, and three-dimensional— to reveal three very good likenesses and two that were not as good. In a more recent application, Davy and colleagues from the Department of Forensic Pathology, University of Sheffield, employed virtual reality three-dimensional imaging used in computer generated images similar to those seen in *Shrek* and *Tomb Raider* to aid facial reconstruction. This more rapid technique of facial reconstruction has been applied to several archaeological and as yet unsolved forensic cases, with some promising results.

In a session entitled *Mummies and Mummification*, speakers addressed themselves to the various types of fleshed, semi-fleshed, or once-fleshed and possibly displayed human remains encountered in the archaeological record. Rosalie David of the Manchester Mummy Project outlined some of the accomplishments made by that Project over the last 30 years— from early dissection and the pioneering use of non-invasive exploration and imaging, to more recent aDNA and chemical studies of the mummification process and, most recently, epidemiological studies of schistosomiasis and the search for a vaccine against this disabling parasitic disease. Professor David highlighted the work of the International Ancient Egyptian Mummy Tissue Bank, the goal of which is to add to the already 1,000 tissue samples from Egyptian mummies contributed from the world’s various repositories. Next in this session, Bill White drew on a thoroughly engaging mix of the factual information and more general observations, such as the preservation of Ötzi, the Ice Man, was due to adipocere formation for some body parts, rather than desiccation. In summary, Bill drew attention to the multi-factorial means by which

bodies may preserve and that these processes may be acting simultaneously in a single corpse. Convenor of the session, Heather Gill-Robinson, drew attention to the 1,500 spontaneous bog bodies that have been reported, only 40 of which have been studied to date. She emphasised the great potential for research that these presented, given new techniques and more frequent scientific study.

Lastly in this session, Mike Parker-Pearson described the results of his excavations at Cladh Hallan, on the island of South Uist, one of the Western Isles of Scotland, where his team (who were co-authors on this paper) uncovered the remains of Bronze Age round-houses. In a mortuary rite reminiscent of those practised in the early Neolithic of the Near East and Anatolia, the once inhabitants of this site had buried individuals beneath the floors of these structures. Radiocarbon dating of the cranium, mandible, and post-cranial remains of one of the burials produced different dates for these skeletal parts. In fact, the burial appears to have been a composite of at least three separate individuals. Through the application of a variety of techniques, Mike and his co-authors argued that these individuals had been curated after death and deposited after having been exposed above ground for some time before eventual burial.

Student presentations numbered some 27 podium and poster contributions. The quality of these presentations continues to remain high and, as a result, the Association awarded three student prizes this year, instead of the more customary two. John Bernal (Southampton) received the first prize for his poster, entitled “Diversity within the Orkney Islands’ Neolithic Human Skeletal Material: What Does It Mean?” Sarah Tatham (Leicester) with Jane Evans and Carolyn Chenery (NERC Isotope Geosciences Laboratory) captured the second prize for their poster presentation, entitled “Using Isotopes to Determine Population Variation in Anglo-Saxon Rutland.” Gundula Müldner (Bradford) received the podium presentation award for her model contribution, entitled “Stable Isotope Evidence for Medieval Diet in England: Telling Us What We already Know?” What these and many of the other presentations shared were a holistic and well-informed and inspired approach to pertinent questions and the successful marshalling of data to answer them. The expanded number of poster presentations at this past year’s conference meant that they were divided among four themes: palaeopathology, human diversity and variability, forensic anthropology, and archaeological case studies. This form of presentation remains vital to the success of the organisation’s conference. This reviewer thought the attempt to highlight the linked posters through small oral presentations in some of the sessions was an interesting and innovative feature of the meetings in Southampton, although it was only partially successful due to its unfamiliarity. Perhaps further forays in this direction could make this a standard feature of poster presentations at future meetings.

The association took the fundamental decision to alter the name of the organisation during the AGM, held early on Saturday evening. The change involved only the preposition found in its title— the ‘of’ was changed to ‘for’. To many, this may seem a trivial, somewhat pedantic alteration, but the change indicates a fundamental attitude of the Association— as expressed by many at the AGM— namely that the organisation wishes to appeal to all those interested in biological anthropology and osteoarchaeology, whether they be professional or not.

Much the greater part of the discussion at the AGM concerned the Department of Culture, Media, and Sport’s delayed report on the repatriation of non-British material held in British repositories, as well as further threats to buried remains posed by projects such as the Channel Tunnel rail-link. The Association— mainly through the efforts of James Steele, in his capacity as Chair, has been actively participating in the debates. It seems that these issues will become of even greater

importance and concern in the short-term, especially with regard to Christian cemetery burials those of early modern date, which have occasionally been deemed of little anthropological or archaeological interest because of the relative ubiquity of historical documents for this period. The importance of this material for revealing aspects of health and well-being during one of the greatest socially and environmentally transformative processes in human history– the Industrial Revolution– should not be lost. Apart from historical questions relating to the period, the processes of that transition are on-going ones active in the modern global economy, and this material becomes especially important for understanding the inherent influences on more recent human populations making the transition to industrialised and commercial manufacturing in many parts of today's world. Despite the vastly increased numbers of remains coming from this period, non-study of them is the equivalent of denying the importance of material dating to the Agricultural Revolution of the Neolithic, another process that remains vibrant to this day in some parts of the world.

Throughout the presentations, those delivered from both the podium and in the one-on-one poster sessions, this reviewer was impressed by the extensive use of collections that, in some cases, were excavated 30 years or more ago and are now receiving research attention for the first time. Many of these studies occur at the hands of not only well-established scholars, but also from the increasing new breed of students educated in the fundamentals of osteological analysis within a coherent archaeological framework. This is a testament to the efforts in teaching and supervision of university staff, hardworking and willing students, and better working relationships between excavators, professional units, museum curators, and osteologists. The benefits of these relationships continue to improve the acuity with which we perceive the past, its peoples, their social relations, and the practices that supported them. I could not adequately finish this review without, once again, acknowledging the broad purview of the Southampton meetings, an obvious result of substantial and largely hidden effort.

Review of the Meeting that Accompanied the Inauguration of the Biological Anthropology Research Centre

**(Department of Archaeological
Science, University of Bradford)**

by Christopher Knüsel

It is not often that one participates in the creation of a new research unit, but the inauguration of the Biological Anthropology Research Centre presented one such opportunity on May 24th and 25th in Bradford with 80 people in attendance. It also had the feel of an event worthy of record. With funding from the SRIF (*Science Research Investment Fund*), and as part of the transfer of the Department of Archaeological Sciences from its old home in the Horton A Building to a newly refurbished Victorian mill, the Phoenix Building, the biological anthropology group is the happy recipient of new and improved research laboratories and teaching premises. In order to mark this occasion, Holger Schutkowski, with funding from the Wellcome Trust, organised a conference to commemorate the official opening of the B.A.R.C. The conference featured short presentations from the B.A.R.C. members, followed by

those contributed by invited speakers. The combination tapped the whole range of biological anthropology.

Professor Pollard, Pro-Vice Chancellor for Research and Innovation at Bradford, provided the opening address, which included a reflection on the recent history of the Department of Archaeological Sciences within the context of the changes seen in higher education in the last 15 years. In a keynote address that followed, Professor Don Brothwell presented a fascinating and informative look at the development and history of biological anthropology in the United Kingdom with the occasional glance at the situation of the discipline as it has developed in North-western Europe. Only Don's academic breadth of knowledge and long experience could have informed the history he revealed. From Don's slides, many of which featured younger versions of familiar faces, and others which put faces to familiar names, it was clear that Don's career has spanned some of the most important developments in the discipline– and, moreover, Don had played an active part in a host of them.

A series of short papers by B.A.R.C. members followed Don's magisterial treatment. Christopher Knüsel led off a sequence based around the B.A.R.C.'s research in human osteology and palaeopathology. Chris looked at politically portentous transitions in the archaeological record and some of their skeletal manifestations. Darlene Weston's presentation followed with research on the Black Death and the Hereford Cathedral Close Cemetery that forms a major research contract currently being undertaken in the Unit. Anthea Boylston then presented her work on Paget's disease sufferers from medieval Norton Priory, Cheshire, and she was followed by Alan Ogden, who presented an engaging look at his current research on teeth and jaws from archaeological assemblages. Bob Pastor presented a paper on the taphonomic aspects of anaerobic conditions that encouraged soft tissue preservation in the 19th-century crypt at the Queen Street Methodist Mission, Huddersfield, West Yorkshire. Holger Schutkowski and Mike Richards then presented on their current research concerning dietary reconstruction from bone collagen isotopes. Holger presented a food-web analysis on the human remains recovered from the 12th-century medieval village of Medenheim, 15 km, north of Göttingen in Germany. Mike's presentation moved further back in time to look at earlier hominid diet from his analyses of European Neanderthals and anatomically modern humans, which revealed the Neanderthals to be 'super-carnivores', apparently subsisting on an almost exclusively meat diet.

The presentations were followed by tours of the Department and the unveiling of a plaque, which dedicates the new osteology teaching lab to Keith Manchester, henceforth the *Keith Manchester Laboratory*. This is a fitting tribute to the enormous and indelible contribution Keith Manchester has made to the Department's research and teaching culture over more than two decades. After Keith's very enjoyable acceptance speech that drew on memories of the events that led to his involvement at Bradford, the creation of the Calvin Wells Laboratory, and the establishment of the first lectureship in palaeopathology in the U.K. (that of Charlotte Roberts), the participants were welcomed to a wine reception in the staff common room, hosted by the Department of Archaeological Sciences.

The recently refurbished Midland Hotel, a truly grand building attesting to the wealth and status of 19th-century Bradford served as the venue for the conference dinner. George Maat, a friend and colleague from Leiden, with his usual eye for detail, sense of occasion, cross-cultural flair, and good humour spoke on *The Flying Dutchman and the Shipwreck of the Amsterdam, offshore near Hastings*. In a fitting end to his dinner speech, George presented the B.A.R.C. with a fine and resplendent bottle of Bergerac– of the kind that went down near Hastings.

The following morning's session was opened with an invitation from Carl Heron, Dean of the School of Archaeological, Geographical, and Environmental Sciences. Leslie Aiello started the contributed papers with a presentation entitled "Why hominids still matter to our modern understanding of human evolution." She described the advances that have made the study of earlier hominids central to the discipline of biological anthropology. It is clear from her presentation that new insights that flesh out phylogenetic relationships are coming increasingly from studies of DNA (that seems to exclude Neanderthals from direct ancestry to modern humans), but also from more subtly nuanced understandings of growth and maturational differences of earlier ancestors and more recent humans (*Homo ergaster*, for example, possessed a life-course different from our own).

In a shift in focus and approach, John Robb's presentation, "The Body Politic" then went on to discuss the place of skeletal evidence within social theory. An interplay of osteological markers and material symbols combine to create hybrid social and biological entities that act as agents in the past. So, for example, violence creates a social definition— an axe, as a weapon, becomes a male symbol and, likewise, a good death might mean burial in the village, while a deviant death might be equivalent to exposure in a ditch.

In "Ecology, Culture and Disease", Don Ortner considered information on the environment that one can obtain from human remains, in this instance from skeletal disease. Don identified fluorosis (common in water with a heavy fluorine content, like those of Iran and India) and hypothyroidism (cretinism produced from iodine deficiency, common in areas lacking this element in their soils and water, such as Alpine mountains) as two such conditions.

In Rick Steckel's contribution, "Biological Measures of the Standard of Living", characterised three approaches to the standard of living in the past, including a behavioural approach employed by psychologists, health-based approaches used by demographers, and the material wealth approach of economists. More recent approaches to the question of living standards have tended to consider health and well-being to a much greater extent, with assessments based on measures of morbidity and public health that reflect the quality of life. This shift in emphasis gives renewed importance to historical records that contain data that can be used to assess health and well-being and the information on growth, health, and longevity that can be derived from the study of human remains.

In her paper, "Forensic Anthropology Serving Justice" Sue Black emphasised that forensic anthropology is more than a simple application of skeletal biology due to the legal requirements imposed by the criminal justice system. She provided a history of the human rights system with the Geneva Conventions. Ultimately, the role of forensic anthropology in these affairs is that its practice allows people to be given back their names. This noble desire, though, should be tempered by a measure of certainty in the assessments being made.

In Richard Smith and Jim Oeppen's contribution, entitled "How Social Status Affects Mortality over the Long Term", the presenters looked at the contribution to understanding historical demographic trends through the use of peerage records, archival materials that span 500-700 years. Their research has demonstrated the importance of maternal mortality for increased life expectancy in the 18th century. A reduction in maternal mortality occurs across all groups regardless of wages or status differences at that time. Their research reveals the health consequences of parity for women, and these appear to have been universal across all groups, regardless of wealth or status.

The next two papers contributed by Louise Humphrey and Gabriele Macho, entitled "Enamel

Traces of early Life Events" and "The Fossil Evidence of Seasonality: Direct and Indirect Evidence of Environmental Changes", respectively, revealed the use of the developing dentition for understanding aspects of the interaction between growth and development and the environment. Based on the presence and sequence of lines of enamel hypoplasia with respect to the neo-natal line in the remains of infant dentitions, Louise demonstrated that human weaning practices were not a single event but gradual. Gabriele used the same types of hypoplastic lines present in the teeth of earlier African hominids to demonstrate that the climate in which these species evolved did not change dramatically and that climate does not seem to have played a role in speciation events. What does seem to be the case, however, is that with time, an extended dry season emerged during the course of human evolution. In these conditions both brain and body size increased in hominids in an allometric fashion, but that the increase in body size in Paranthropines without a concomitant increase in brain size seems to have ended in extinction of this long-lived hominid lineage.

In "What Remains to be Detected? Mathew Collins reviewed research on the factors contributing to the preservation of human remains, noting that humans, due to their unusual gut bacteria, have a higher prevalence of microbial attack that leads to poor preservation. Given this relationship, then, remains that have been excarnated, those of neonates (who do not possess these bacteria), and thermally altered remains should preserve best. Mathew also suggested that an increased understanding of protein degradation would allow this process to be used to date material, perhaps up to as much as 10 million years old.

In the next presentation, "Ancient and Modern DNA as Tools for Understanding the Human Past", Martin Richards reviewed some of the advances made in the study of DNA of modern and archaeological-retrieved material. In his thorough review, Martin noted some of the pitfalls in this area of endeavour, but also some of the successes. Amongst the latter is evidence of Han expansion to North China, some 2,000 years ago, and that recent work on the Neolithic expansion suggests that perhaps there was a 15 to 20% genetic contribution coming from the Near East with subsequent acculturation of indigenous populations. He also noted the progress made on a modern global mtDNA database with roughly 29,000 sequences thus far collected.

In the final paper, "Isotopes and Human Migration: Case Studies in Biogeochemistry", Douglas Price, presented a fascinating example of how bone chemistry and, specifically, strontium isotopes in tooth enamel, can be used in conjunction with osteological analysis to identify migrants in the archaeological record of Mesoamerica. In two fascinating examples using this technique, Douglas was able to demonstrate that migrants played a significant role in the social politics of the Mesoamerican polities.

The discussion that followed these presentations considered broad issues such as the place biological anthropology holds in the institutional terrain. The answer at the moment is that it is maintained in a disparate range of academic departments, research and field units. Diverse institutional affiliation hinders communication and, sometimes, the disparate branches lose contact with one another. Is sustained unity possible within biological anthropology and, indeed, anthropology as a whole? Will a unified anthropology develop, perhaps following the four-field approach that contributed to the expansion and higher profile of the discipline in North America? Will this develop in Britain, even as some North American departments split asunder? These issues should be ones that influence future conferences and organisational structures and their functions.

More particular issues were also discussed, including questions that relate to the existence and role of autoimmune buffering in females. An increasing

Paleoanthropology and modern human populations of the Eastern Mediterranean.

by Anastasia Tsaliki

The congress was organised under the auspices of the President of the Hellenic Republic, the Ministry of Culture, the Ministry of Health & Welfare, and the General Secretary of Research & Technology. The Collaborating Institutions included the Hellenic Anthropological Association (<http://anthrop.med.uoa.gr/>), the Museum of Anthropology at the School of Medicine, University of Athens, the Laboratory of Anthropology at the Dimokreition University of Thrace, the Laboratory of Biological Anthropology, University of Athens, and the Anthropological Association of Friends of the Museum of Anthropology. The participants included: biologists, anthropologists, palaeontologists, medical doctors, GPs and dentists. There were only a small number of archaeologists and palaeopathologists. Despite the increasing interest in palaeopathology, there is, as yet, no formal academic training in this subject in Greece.

The first day of the congress was devoted mainly to Human Evolution and Skeletal Anthropology. Interesting papers included the subjects of "Earliest Homo dispersal: Who, why, when and where" by W. Henke, the "New Fossil Hominid evidence from the cave-site of Apidima, South Peloponnese, Greece" by Th. Pitsios, and the "Handling of lithic resources and territories in the Palaeolithic at the Mani peninsula: the example of Apidima" by G. Kourtessi-Philippaki. G. Koufos announced the finding of a new "Hominoid primate *Ouranopithecus macedoniensis* from the late Miocene of Macedonia, Greece", all the characteristics of which indicate that it could be considered a primitive ancestor of *Australopithecus*. Other presentations that day dealt with a review of the Neanderthal taxonomy (K. Harvati, St. Frost, K. Mc Nulty), the evolution of Human intelligence (M. Tsilivakos and M.J.

Papagrigorakis), "New evidence on headshaping in Greece and Cyprus" (K. Lorentz and S. Manolis), stable isotope analysis from human and animal bones from the Late Bronze Age cemetery of Aghia Triada at the area of Ilida (E. Petroutsas, M. Richards, S. Manolis), and "Non-metric dental crown traits of an ancient population from the cemetery of Kotzia square in Athens" (V. Zafiri). M. Maniati presented the results of a preliminary investigation of ancient human diet in Greece with the combined use of morphological observations and isotope analysis. A paper by K. Moraitis, C. Eliopoulos, Ch. Spiliopoulou and S. Manolis focused on the methods and challenges regarding the assessment of ethnicity from the skull from a forensic perspective.

On Saturday 22nd November, the morning session focussed on palaeopathology. G.P. Lyritis made an interesting oral presentation entitled "Humbled bones - From the skeletal genesis to the paradigm of Utah", while L. Konstantinou talked on osteoarthritis in the early medieval population of Straubing in Germany. K. Merdenisianos and E. Momferatou presented "A case of cranial osteopetrosis from Medieval Rhode", however, some palaeontologists argued that it could have actually been fossilised cranial remains. Other papers included one on dental pathology in a skeletal sample from classical Piraeus (M. Tsilivakos and M. Petritaki) and one discussing findings of chronic osteomyelitis from the medieval cemetery of St. Mark's church in Rhodes island (K. Mavragani, P. Kapralos, Th. Pitsios). Two of the most interesting papers of the session were a case of syphilis from the 18th-19th c. (A. Lagia, J. Grigoropoulou, N. Kontoyannis, L. Karali, and S. Manolis) and a paper by Ph. Charlier on human physical anomalies from Prehistory to Late Imperial Time. A. Tsaliki and F. Takis's paper "Disease and Deformity as Factors of Fear and Social Exclusion: The case of two Vampire Burials" discussed two unusual burials from the island of Lesbos, which had three long bent iron spikes associated with the inhumations. According to folklore these finds suggest burial rites for the transformation or the destruction of 'vampires'. The macroscopic and radiographic skeletal study confirmed the presence of deformities and/or diseases, which could have played a role to the necrophobic treatment of the individuals after death.

The first afternoon session of the day discussed the presentation of the Egyptian mummies curated at the Anthropological Museum. Two of the four papers addressed the big issues of treatment and return of human remains (R. Vaswani and H. Kilmister) and of the ethics of their handling, conservation and display (E. Polychroniadou). On another note P. Themelis, excavator and Prof. in Archaeology who had investigated the infamous "Kaeadas" several years ago, announced new research on the site together with Assoc. Prof. in Anthropology Th. Pitsios and his team. According to historical tradition, criminals, prisoners of war and infirm infants were believed to have been thrown into the deep pit of Kaeadas by the Lacedaemonians (i.e. the ancient Spartans). However, recent preliminary research (24-26 October 2003) at Kaeadas confirmed the absence of any infant bones. A great number of skeletal remains have been found at the site, but seem to belong mainly to young males aged 18-35 years.

The rest of the afternoon and evening sessions focused on research of modern populations, on development and ageing, and on population diversity. The poster session comprised mainly modern biological and medical themes. Finally, the programme of the last day, Sunday 23rd, included papers of a philosophical perspective on the theme of "Science and Religion" and a useful session on the system of teaching, the digital databases, and the role of physical anthropology in education.

It was an interesting congress overall, which covered many aspects and applications of biological anthropology to Greece and the Mediterranean area, both past and present. It also revealed an increasing

Greek interest in palaeopathology. However, as Professor K. Zafeiratos pointed out, palaeopathology is at risk of becoming a 'hobby' in Greece, practised by unqualified individuals from the circles of biology and medicine without special training and who, unlike archaeologists and palaeontologists, have no experience of the dry bones and the nature and effects of taphonomic and environmental bone degeneration processes.

FORTHCOMING CONFERENCES

Paleoanthropology Society Meeting

Date: March 30-31st 2004.
Venue: Montreal, Canada

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

British Association for Biological Anthropology and Osteoarchaeology

6th Annual Conference – 10th-11th September,
2004

The 6th Annual Conference will be jointly hosted by the Department of Archaeology and the Department of Anatomy at the University of Bristol.

Venue: Comparative Morphology Centre, University of Bristol, Southwell Street, Bristol BS2 8EJ

CALL FOR PAPERS AND SESSION PROPOSALS
Deadline for session proposals - **Friday 19th March 2004**

Offers of sessions, papers or posters should be sent to Kate Robson Brown, Dept of Archaeology,
43 Woodland Road, University of Bristol BS8 1UU (Tel (0117) 9546060; Fax (0117) 9506001;
E-mail: kate.robson-brown@bristol.ac.uk)

See Flyer for Further Details

15th Paleopathology

Association European Meeting

Will be held at the **University of Durham** and hosted by the **Department of Archaeology** on the **11th-15th August 2004**.

We hope to be able to follow up the success of the 14th European Meeting held in Coimbra, Portugal last year and welcome all BABAO members.

For further information please contact **Dr Charlotte Roberts**, Department of Archaeology, University of Durham, Durham, DH1 3LE (tel (from end of March 2003): 0191-334-41154, Fax (from end of March 2003): 0191-334-41101, or email: c.a.roberts@durham.ac.uk).

THE ARCHAEOLOGY AND ANTHROPOLOGY OF GENOCIDE

**A Joint Meeting of the Inforce Foundation
and the Centre for Forensic Science,
Technology and Law, Bournemouth
University**

5th-7th April 2004

Registration details are posted on
www.inforce.org.uk/conferences.htm or
alternatively available from: Judy Geldart, Inforce
Foundation, Centre for Forensic Science,
Technology & Law, Bournemouth University,
Talbot Campus, Poole, Dorset BH12 5BB, UK.
Closing date - **5th March 2004**.

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Venue: Tampa, Florida

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European Anthropological Association

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Human Variability: A Bridge Between Science and Humanities

Date: 1st-5th September 2004

Venue: Komotini, Greece

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Warren Mr Brian, *Retired*

Watt Dr Iain, *Retired Consultant radiographer*

West Dr Richard, *Retired Paediatrician*

Weston Ms Darlene, *University of Bradford, Experimental Officer in Biological Anthropology*

Westron Mr Paul, *Field Archaeologist and Archaeozoologist, Part-time MA Osteology*

White Mr Bill, *Museum of London Specialist Services, Human Osteologist*

Wilkinson Dr Caroline, *University of Manchester, Facial Anthropology*

Williams Miss Anna, *Forensic Anthropologist and PhD student*

Witkin Miss Annsofie, *Osteoarchaeologist*

Wood Ms Gaynor, *Archaeologist*

Wright Professor Richard, *Retired Professor of Anthropology*

Zakrzewski Dr Sonia, *University of Southampton, Lecturer*