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

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WELCOME TO THE BABAO ANNUAL REVIEW 2001

Once again, I'd like to welcome you to another edition of the BABAO Annual Review. I would also like to thank all the contributors to this publication who, as always, have left me with very little to do as an Editor! The later arrival of the Review this year has been made in an attempt to co-ordinate its release with the membership subscription letters and I hope this arrangement will continue in the future.

The Review contains all the usual information in addition to several reports on the activities of the Association this year, including our last conference. Photographs taken by Marie-Catherine Bernard at Durham are now on the web site!

Sadly, this edition also contains an obituary to Juliet Rogers by her friend and colleague Tony Waldron. We shall all miss her.

ASSOCIATION NEWS

British Association of Biological Anthropology and Osteoarchaeology Annual Report

*By Megan Brickley (Chair), University of
Birmingham*

The last year has been the busiest yet for myself and the rest of the managing committee. The association has faced, and successfully dealt with a range of issues initiated within the association and externally.

Considerable progress has been made on the issue of standards in recording of human skeletal remains in Britain. Analysis of the results of the questionnaire sent to all members formed the basis of presentations at the symposium on the subject at the annual conference held in Durham. The session was well attended and generated considerable discussion. As a result of discussions a working group was established, and the progress of the group is detailed in fuller report later in this year's Annual Review.

Other serious issues that we have had to address relate to the holding of human remains in government funded institutions, after the government established a working group to investigate holding of such material and repatriation of human remains. The association was invited to attend a meeting of the working party to give our views on the value of such material and issues relating to repatriation and make a written submission. Full details of this work are given later in the Annual Review by Margaret Cox, who represented BABAO.

BABAO also gave assistance to our Israeli colleagues who have been experiencing difficulty obtaining consent to study human skeletal remains from all time periods. On behalf of the association I wrote a number of letters to individuals with influence in this sphere, setting out the type of access to human skeletal material permitted in Britain. These letters have been acknowledged, but how successful they will be in securing access to archaeological human remains even for brief analysis is unclear.

The annual conference was well attended, this year 110 people registered making it the biggest yet. Thanks and congratulations are due to Charlotte Roberts, Andrew Millard and all of the other helpers at Durham. The changes in the constitution were ratified at the AGM (hence a free months membership of BABAO this year with the moving of the renewal date to February 1st). Two new committee members were elected, Holger Schutkowski as secretary and Darlene Weston as publicity officer, both from the University of Bradford. I was re-elected for one further year so members should start to consider the issue to a new Chair before this year's AGM, which will be held at the conference hosted by the University of Sheffield. Many thanks for all the hard work they have contributed is due to those members of the committee who stood down this year, Margaret Cox, Chris Knusel and Charlotte Roberts.

In the current climate of uncertainty regarding the future of studies of human remains from all spatial and temporal contexts, the work of an association like BABAO is increasingly important. I would like to take this opportunity to welcome new members and thank existing members for their continued support for the association.

British Association of Biological Anthropology and Osteoarchaeology Membership Report

*By Linda O'Connell (Membership
Secretary), University of Bournemouth*

As the Association enters its fourth year, I am pleased to report that we currently have a total of 185 members. Since our inception, 248 individuals have been members (125 originally in 1999; 57 additional in 2000; 62 additional in 2001; and four additional in 2002), although not all of these have chosen to renew through the years. Renewal rates are remaining fairly constant, with 78 (62%) of original 1999 members and 41 (72%) of original 2000 members choosing to renew for the year 2001.

Overseas subscriptions total 14 and represent 8% of the membership. Although this is not a particularly large number, it is a distinct improvement on 1999's percentage (1.6%) and comparable with 2000's (8%). These members hail from Australia (1), Canada (3), USA (4) and Europe 6 (Ireland 2, Greece 1, Sweden 2, and Switzerland 1).

As in previous years, our membership is composed of individuals engaged in a wide variety of occupations/affiliations. Students (37%) represent the main bulk of the membership with 23% of these specifying postgraduate status and the remainder being non-specific. Academics comprise the next group (16%), closely followed by those individuals describing themselves as biological anthropologists/osteologists/osteoarchaeologists/human bone specialists (14%). Archaeologists account for 6% of the membership, with an additional 6% also listing human bone analysis amongst their skills. Individuals from medical and related disciplines comprise a further 4% and 3% describe themselves as researchers. Only 2% of people are forensic practitioners of one sort or another. An additional 3%, although retired, still have an active interest in the field. A further 2% are involved in museum work and 3% represent other occupations, such as the police, administration, librarians, fashion design and a funeral director/embalmer. Three percent of subscribers did not provide details of their occupation or affiliation.

It is very pleasing to see such a diverse number of skills and expertise represented in the membership. Additionally, it is also particularly refreshing to receive subscriptions from private individuals as well as those working within professional organisations, universities and archaeological units.

If anyone has any questions regarding membership, then please do not hesitate to contact me (my address is on the front cover).

PEOPLE

SOREN BLAU: has been appointed as Lecturer in Forensic Archaeology at the School of Conservation Sciences, University of Bournemouth. Soren was previously a research fellow at the Australian National University, Canberra.

CORINNE DUHIG: is now lecturing on the Forensic Archaeology and Anthropology for the Forensic Sciences degree course at Anglia Polytechnic University.

MARY LEWIS: has been appointed as Lecturer in Forensic Archaeology at the School of Conservation Sciences, University of Bournemouth. mlewis@bournemouth.ac.uk

JOHN ROBB: has moved to the Department of Archaeology, University of Cambridge. jer39@cam.ac.uk

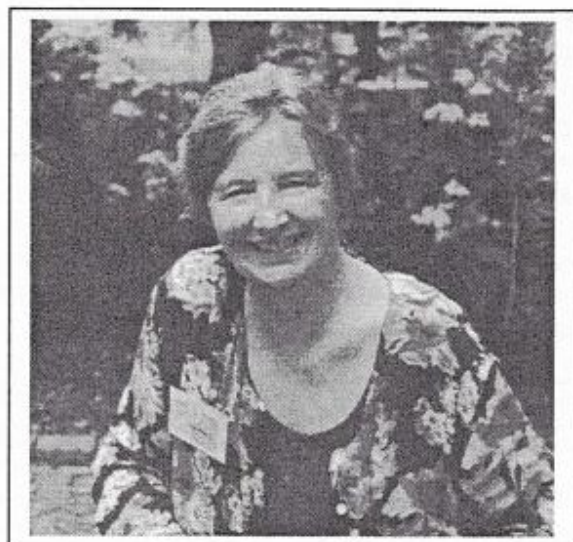
MICK WYSOCKI: has moved to the University of Central Lancashire to lecture in Forensic Science.

SONIA ZAKRZEWSKI: has taken up a post-doctoral research position at the Department of Archaeology, University of Durham.

Juliet Rogers, 1940 – 2001

By Tony Waldron

Juliet Rogers was recognised internationally as one of the leading experts on joint disease in human remains. She was greatly helped in her palaeopathological work by being part of the Rheumatology Unit of the Bristol Royal Infirmary where she received much support from her clinical and radiological colleagues.



Juliet was from a medical family, both her father and grandfather had been doctors in the West Country and she qualified in medicine at Bristol in 1965. From childhood she had been interested in archaeology, however, and she was launched into her career as a palaeopathologist when asked to look at some bones unearthed at a dig she was on. In 1975 she was invited to join the Rheumatology Unit where she stayed until ill health forced her to take early retirement in July last year.

For several years Juliet's main work centred on the three thousand or so skeletons recovered from St Peter's Church at Barton-on-Humber, and both she and the site became well known through the many papers she published on the material, and the lectures which she gave both in Britain and abroad. She was regularly invited to speak overseas and it was a great source of regret to her when she had to refuse offers to travel as she became increasingly unwell.

Juliet had many other interests outside palaeopathology – history, cooking, wine, walking, bird watching and gardening to name just some. She was always somewhat diffident about her achievements although she did not suffer fools – of whom she encountered a few – and would give them short shrift. On the other hand, she was very encouraging to those who wished to enter the field, giving generously of her time and expertise. There are many students who will look back at the time they had with her with affection and pleasure. She was fun to be with and meetings will not be the same without her.

Before she died, Juliet was preparing her magnum opus, the report on the Barton skeletons, but the responsibility for completing this work has had to

be assumed by others who will wish to prepare a fitting tribute to her memory.

Those who had the great pleasure of knowing and working with Juliet will miss her terribly and the loss to palaeopathology is probably irredeemable.

NEWS AND VIEWS

Cranial Identification - A Request for More Data.

By Richard Wright, University of Sydney

This note is a request for more measurements to expand the reference data in CRANID - a cranial identification package (Wright, 1992).

Originally the data in CRANID included only individuals assembled by W.W. Howells (1973, 1989). The reference data has now been expanded to include samples of: Beduin (data supplied by Marta Lahr); Lachish Palestinian Iron Age, Indian subcontinent, and Poundbury Romano-British (data supplied by Robert Kruszynski, Natural History Museum); and London Medieval from Spitalfields Market (measured by myself, and access granted courtesy Chris Thomas and Bill White of MoLAS).

CRANID uses 29 measurements. These are linear measurements selected from the 57 variables defined by Howells. The 29 measurements are: GOL, NOL, BNL, BBH, XCB, XFB, AUB, ASB, BPL, NPH, NLH, OBH, OBB, JUB, NLB, MAB, ZMB, SSS, FMB, NAS, EKB, DKB, WMH, FRC, FRS, PAC, PAS, OCC, OCS. These measurements are now available for a total of 2,802 individuals. They represent human groups drawn from the geographical areas signified, or implicit, on the accompanying dendrogram.

CRANID is an identification program - identification in the sense that it retrodicts the geographical origin of a person's ancestors in the so-called ethnographic present. The analytical methods of identification fall under the general heading of discriminant analysis. For an account of the various methods of discriminant analysis see Krzanowski and Marriott (1995).

The program first applies canonical variates analysis to the 29 measurements. This procedure maximises the morphological difference between the groups and can be thought of as a principal components

analysis of groups. Canonical variate scores of individual crania are then computed.

Using these scores, the identification of an *unknown* individual cranium proceeds by one or both of two distinct methods of discriminant analysis:

(a) **linear discriminant analysis:** measures the distance of the unknown from canonical variates group means and computes the probabilities of the unknown computing each of the groups in turn; in computing these probabilities linear discriminant analysis makes parametric assumptions about the data;

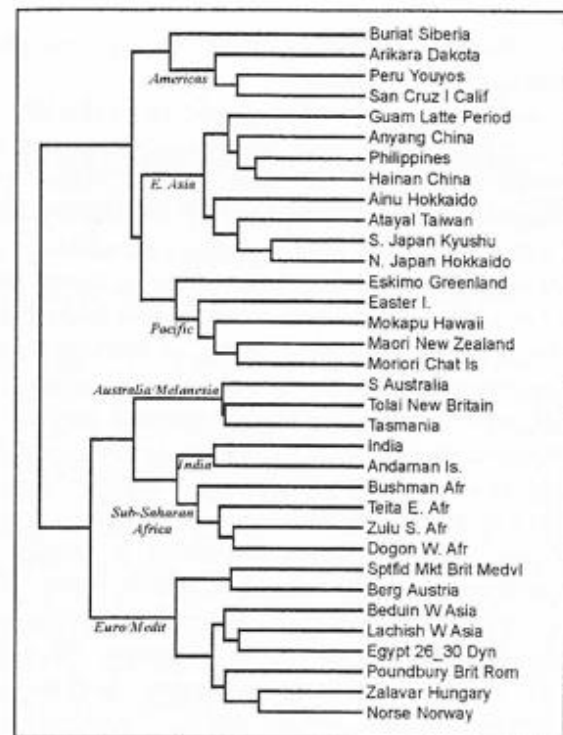
(b) **nearest neighbours analysis:** reports the *nearest neighbours* of the unknown in the hyperspace of canonical variates scores; it makes no assumptions about the data; all that the analysis is doing is reporting which of the 2,802 crania are most like the unknown in terms of morphology; it seems that this computer intensive approach has not previously been applied to morphological data, but it is widely used in computerised pattern recognition (Devijver and Kittler, 1982).

Readers who are sceptical of the discriminating usefulness of cranial metric data are referred to the accompanying dendrogram. It is the result of a cluster analysis (Ward's method) of the average canonical variates scores for groups, with the scores for sexes pooled. The patterns in this dendrogram are derived entirely from cranial measurements. They accord so well with general ethnological belief that scepticism about the discriminating usefulness of cranial metric data is surely unwarranted.

As examination of this dendrogram will show, there are still spatial and chronological gaps in the data. In particular it would be useful to have more samples from western Europe. If sufficient samples become available, with good spatial and chronological coverage, it should be possible to create a European version of CRANID.

A suitable additional sample will contain 80 or so crania, divided approximately equally as to sex. Although all 29 variables are not needed for the identification of an unknown (though it is better if all 29 are available) they are all required for samples that are to be added to the reference data.

Please address any suggestions about availability of crania and/or measurements to Richard Wright: email richwrig@tig.com.au or richwrig@hotmail.com. Also address to Richard Wright any requests for identification, using the existing reference data, of unknown or problematical crania.



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News from Museums

by Bill White, Museum of London

In last year's Annual Review I remarked, with a degree of naiveté, that the issue of Repatriation of human remains appeared to have abated. Instead, what happened was that the Government announced that the DCMS were intending to investigate curated collections of human remains, 'Cultural property: return and illicit trade' (subsequently a working group was to be set up to deal with the vexed issue, dealt with elsewhere in

this Review), therefore there was a prevailing attitude of 'wait-and-see'.

Meanwhile, there were unwelcome initiatives on another front, in the wake of the Alder Hey Hospital scandal. As the result of the Inquiry every hospital in which post-mortem examinations are performed, and every hospital or museum that holds collections of preserved human body parts, were required to provide details of holdings to the Department of Health. This is being done in order that organs retained without proper authority can be identified and returned to patients or their relatives. Donations under the Anatomy Act 1832 are exempt but, it is unclear yet whether there will be an agreed 'cut-off' date, earlier than which it would be considered too difficult to establish status. The museums most likely to be affected are the medical schools' pathology museums, of course. Now not only will they continue to receive spurious and frivolous demands for the return of skeletons and preserved organs but these claims must be seen to be investigated fully and openly. A minority of claims will prove to be genuine and justified, in which case the museums expect the specimens to be de-accessioned without argument, of course.

On a happier note several museums are planning to upgrade facilities and improve access to human skeletal collections. At the Natural History Museum this will mean the temporary closure of the Palaeontology Department, for about two years, between now and 2004. During this time there will be no guaranteed access to the human bone collections and various areas will be out of bounds for six months at a time but news on the progress of the Refurbishment project will be available on a page of the website: <http://www.nhm.ac.uk/palaeontology/index.html>. Similar improvements but, on a less disruptive timetable, are planned for the Duckworth Laboratory, University of Cambridge, whereas ideas have been solicited for an analogous projected refurbishment of several of the Museums at the Royal College of Surgeons of England, including the Odontological Museum and the Wellcome Museum of Anatomy.

As announced last year, the first stage in the opening of the London Archaeological Archive Research Centre (LAARC) has come about. This is a new facility at Mortimer Wheeler House, an out-station of the Museum of London at 46 Eagle Wharf Road, London N1 7EE (nearest Underground Station: Old Street), open 9 am to 9 pm daily, with some Saturday opening by appointment. Although applications to perform

research should be sent to LAARC, the circumstances for examining human bone from archaeological excavations in the London region are different in that the human skeletons are in a store beneath the Museum of London in the City itself (nearest Underground Stations: Barbican and St Paul's). Further improvements, leading ultimately to an on-line search facility of the vast skeletal catalogue, are continuing.

BAHID British Association for Human Identification

By Sue Black, University of Glasgow

The British Association for Human Identification held its inaugural meeting at Glasgow University of 6th October 2001 with close to 200 delegates attending.

The aim behind this new Association is very simple. Identification of the deceased is integral to the success of many forensic investigations and, as science develops, so the complexity of information that can be retrieved from the deceased increases, resulting in the unavoidable requirement of multidisciplinary teams. The days of the pathologist being able to provide all that the officer requires to solve his investigation are consigned to the annals of history books and popular crime novels.

A typical identification team may include some, or indeed all, of the following specialities which are technically supportive to forensic medicine: forensic pathology, forensic anthropology, forensic odontology, forensic radiology, facial anthropology (reconstruction, superimposition etc.), DNA analysis, entomology, palynology and environmental profiling, forensic archaeology and of course you try to run any identification team without properly trained pathology technical support! In addition of course, the investigating officer will likely involve many of the forensic science support subjects e.g. fingerprints, fibre analysis, serology, toxicology etc. Before long, the list of expertise involved in a case can be staggering! Perhaps then it is little wonder that major investigations claim a huge police budget, but so the pressure to solve the case is proportionally weighty and the SIO deems that he/she has to throw everything they have at the problem. If each of these specialities operates in isolation, how much more difficult is the task of unification in a forensic case? The answer is of course obvious.

There has previously been no forum available for each of these disciplines to come together and share information, appraise overall procedures and just network. It is hoped that with the establishment of BAHID there will be a real opportunity to facilitate development and closer co-operation between disciplines. A full appreciation of the multi-faceted nature of the expertise available can only achieve a better understanding of what procedures and methodologies need to be implemented to achieve our objectives as well as understanding the value of the evidence we are gathering and assessing its limitations. A success story has already arisen from the inaugural meeting where it was brought to our attention that there was a need for speciality information to be made available to SIO's and this document will be in place with the National Crime Faculty by the end of this year. Awareness of capabilities and limitations has to be the key to successful multidisciplinary identification teams and it is our sincere determination to continue to develop the support and co-operation that is clearly desired, and has indeed been intimated, by our investigative authorities.

Membership of BAHID is open to all who have a *bona fide* interest in the subject of human identification. At present we have close to 100 members and they come from all spheres of the scientific community in addition to Home Office officials, military personnel, police and other judicial and investigative officers. Membership costs have been kept to a minimum to encourage membership and we also actively seek student participation. Our main means of communication is via a members only website, although there will be a facility to join on-line.

The aims of BAHID are simple, to promote the development and interaction of the individual specialities that congregate under the large parental umbrella of human identification, and to facilitate continued education in our subjects whilst encouraging sound practice and professional standards of excellence.

Further information can be obtained through the website or by contacting Dr Sue Black, Secretary on info@bahid.org.

Written Submission to the Working Group on Human Remains prepared on behalf of BABAO

by Margaret Cox, Bournemouth University

The Editor has asked me to write a short piece on BABAO's report to the WGHR submitted late last year and how it evolved. As you will be aware the process has been rather long and drawn out and at present we have no idea of when the Working Group will submit their report and recommendations. The WGHR was set up as a consequence of the Select Committee Report on Cultural Property (2000). The Group comprised a mixed group of individuals ranging from staff employed by museums (at a range of levels but including the Director of the Natural History Museum). No archaeologist or anthropologist has been directly involved and despite our best efforts to remedy this situation our protestations carried no weight.

The deadline for written submissions was late November 2001, and schedules were thrown somewhat when, at short notice, we asked to make an oral submission two weeks prior to the deadline for the submission of the written report. This, unfortunately, seriously impaired our ability to circulate the draft report widely for feedback. Despite that, a considerable number of experienced members of BABAO did make significant recommendations and contributions. My brief was not to represent my views on the subject of repatriation (which some of you will know well and which deviate somewhat from the final recommendations in our written submission) but to represent BABAO and our subject as best we saw fit. Megan Brickley was very much involved in this whole process and attended (providing much needed moral support) the oral presentation at the DCMS. This proved a useful exercise as the WGHR were able to identify issues that we had not considered in any detail and about which they wanted more specific information. Our major shortfall at that stage was in talking meaningfully, and in any detail, about the contribution made to our subject by the study of contested material, held in museums, most of which represents populations from North America and Australia. Neither of us had ever worked on such material so following the presentation, which was well-received, we sent frantic emails and calls to appropriate colleagues who provided additional material at the eleventh

hour and we achieved the deadline for submission of our report comprising some thirty-three pages of text.

The purpose of this short article is to inform members of BABAO of the topics included in the report and the recommendations. As ever, the contents page is informative and this is followed by the recommendations arising from the information and discussion in the document. A large number of colleagues contributed to the document in various but valuable ways and they are acknowledged in the final section.

Contents

In order to inform members about the structure of the report, and areas included, the specific areas discussed are listed below:

- 1.0 INTRODUCTION
- 2.0 PRINCIPAL FACTORS FOR CONSIDERATION
- 2.1 Changing socio-political and ideological parameters
 - 2.1.1 Changing professional and educational backgrounds
- 2.2 Scientific development
- 2.3 The study of archaeological assemblages and specimens
 - 2.3.1 Human evolution and hominid development
 - 2.3.2 Palaeodemography
 - 2.3.3 Palaeopathology
- 2.4 Historical research
- 2.5 Forensic applications
- 2.6 Medical and clinical applications
- 2.7 The UK as a world-leading centre of research
- 2.8 Public interest and awareness
- 2.9 NAGPRA and issues of ethics in the origin of samples
 - 2.9.1 Short term curation and reburial of UK assemblages
 - 2.9.2 Conclusions
- 3.0 Recommendations
- 4.0 Acknowledgements
- 5.0 Bibliography
- 6.0 Appendix I - BABAO constitution

Recommendations

This section gives the recommendations that our submission made *verbatim*.

1. In light of the information contained in this report and the weight of expertise and experience that the report represents, BABAO considers it appropriate that the WGHR support its recommendation for the retention of all human

remains currently curated within UK institutions and museums.

2. Should the outcome be different from that recommended in 3.1, and the WGHR decide to recommend the repatriation of some specimens or collections currently held within our museums, we make the following recommendations:

- If the WGHR decide that it is appropriate to repatriate remains to legitimate descendant groups we recommend that this should only be permitted if the claimant group can demonstrate a legitimate claim to the material that is beyond reasonable doubt and based upon biological ancestry.
- In such cases, the descendant group must also be able to guarantee curatorial policies and resources that will ensure the following:
 - That the material remains readily accessible and available to legitimate researchers from around the world.
 - That the remains are curated in a manner that will not compromise their research potential (i.e. cultural practice that will prevent further analysis e.g. anointing the remains with oils and smoking, the first of which will jeopardise the potential for general biomolecular analysis and the second for C¹⁴ dating).

Furthermore, it is a matter of considerable concern to BABAO that a decision to repatriate some remains could be misinterpreted by planning and development control officers, and developers. Hypothetically, in light of such a decision it is not inconceivable that when considering forthcoming development schemes (on sites that will yield human remains). Such a decision might be interpreted in such a way as to allow developers to gain planning consents without the requirement for the human remains to be subject to an appropriate archaeological response. This could result in the loss of materials, information and scientific opportunities with human remains being exhumed and reburied or cremated without an adequate programme of analysis and curation, as is required by PPG 16. In light of the potential loss of unique scientific resources, we make the following recommendation:

- That BABAO have the opportunity to review and comment upon the WGHR's findings prior to publication in order that we might

assess the possible impact of any such form of words within such contexts as the planning and development arena.

3. BABAO also considers it appropriate that the WGHR should recommend that a policy be developed and adopted within the UK considering the future of all unexcavated archaeological human remains within the UK. Such a policy should be developed out of broad based and full consultation with all legitimate interest groups. Those groups would include representation from such interests as archaeology, anthropology, museums, medicine, forensic science, the history of medicine and disease, the law and representatives from relevant religious and other cultural organisations.

4. We would like end this report by respectfully restating the point made in the letter, written by the author of this report, to Professor Palmer (dated 18th June 2001). It continues to be unfortunate that the WGHR contains no member who is directly involved in the archaeology and analysis of human remains. Such specialists have a legitimate interest in the outcome of the Group, and much relevant expertise and knowledge that would only serve to enhance the ability of the Group to arrive at findings that represent a balance of opinion of those directly.

Acknowledgements

BABAO remains grateful to the WGHR for permission to make both an oral and a written submission and for considering our submission as a part of their process of review. The author of this article is grateful to those members of BABAO who made suggestions as to the content of the report; some of these were adopted almost word for word and others para-phrased as appropriate. These were: Bill White (MoLAS), Doctors Simon Mays (English Heritage), Sue Black (University of Glasgow), Louise Humphrey (Natural History Museum), Mary Lewis (Bournemouth University), Andrew Millard (University of Durham) and Andrew Chamberlain (University of Sheffield) and Professors Don Brothwell (University of York) and Chris Stringer (Natural History Museum). She is also grateful to those who have commented upon earlier drafts: Doctors Megan Brickley (University of Birmingham), Charlotte Roberts (University of Durham), Sue Black (University of Glasgow) and Linda O'Connell (Bournemouth University). Professor Tim Darvill (Bournemouth University) is also thanked for his useful comments. Judy Geldart supported the author as her PA in researching various aspects of the submission and for printing and binding the draft and final submissions.

Guidance and Standards for the recording of human skeletal Remains

by Megan Brickley, University of Birmingham

Since the founding of BABAO the issue of standards in all aspects of work on human skeletal remains, particularly recording has been of concern to our members. Over the past year the managing committee have devoted a considerable amount of time to these issues, which fall into three closely related sub-sections:

- Excavation
- Recording
- Reporting

The only area currently dealt with in Britain is the excavation of human skeletal remains (*IFA Technical Paper 13*, Roberts and McKinley 1993).

A questionnaire relating to all aspects of working with human remains, from excavation to reporting and undertaking research, was sent to all members to try and ascertain exactly where people felt guidance and information on standards were required. The impression gained from responses received was that people did want some kind of standards relating to recording and reporting on human remains, but what these should be was far less clear. Many people were using information contained in the American publication, *Standards for Data Collection in Human Skeletal Remains*, Buikstra and Ubelaker 1994. However, although it was felt to be useful this publication was written in a very different political and academic climate to that in Britain.

What members seem to be looking for is in fact a guidance document to provide a framework for their work. This is particularly true of newer specialists, especially when working in isolation in a commercial environment. Responses to the questionnaire made it clear that our members are working on an incredible variety of material, from disarticulated Neolithic bone to articulated individuals of known identity from the 19th century. The range of research and commercial projects under which this work was being undertaken was enormous and two key points emerged. Firstly, issue of recording could not be dealt with in isolation and needed to be addressed alongside concerns relating to excavation and report writing. Secondly, producing standards in terms of telling people exactly what they must record would not be helpful, rather a guidance document the had

provision for the wide range of work undertaken in Britain was required.

Work is most advanced on issues relating to writing of reports and the document *Guidance for the Production of Assessments and Analytical Reports on Human Remains* by Simon Mays, Megan Brickley and Natasha Dodwell is now nearly complete. The document will be produced later this year as a joint English Heritage BABAO publication.

At the start of November 2001 a small working group met over a weekend to discuss the production of a second document with the provisional title of *Standards and Guidance in Recording of Human Remains*. Those present were Anthea Boylston, Megan Brickley, Don Brothwell, Brian Connell, Simon Mays, Jackie McKinley, Linda O'Connell and Charlotte Roberts although contributions were received from many other individuals. All present had prepared presentations on different aspects of recording of human remains from a variety of situations and the meeting enabled a lot of useful discussion to take place.

The document is now at the stage of first draft and will be circulated more widely later in the year for wider discussion. Members of the working group have already been in contact with the IFA with regard to producing the document as a joint BABAO IFA publication. The document will primarily be aimed at those individuals working on commercial projects where recently excavated human bone is being recorded. Research projects, especially on previously recorded material will have slightly different priorities, but it is hoped the document will still be useful to researchers.

Finally, it is hoped that once the documents on recording and report writing have been produced, an updated version of IFA Technical Paper 13 will be created, providing a series of linked documents giving comprehensive guidance on all aspects of dealing with human remains. As ever the comments of members are welcomed and anyone wishing to comment on any of the proposed documents should get in touch with me.

CURRENT RESEARCH PROJECTS

Request for Information

By Paul Harris, University of Birmingham

I am a postgraduate student at the University of Birmingham, studying Practical Archaeology. I am currently analysing ways in which human remains are recorded in the field and I am comparing different recording sheets from organisations across the country.

I would be grateful if members of BABAO could forward their various recording forms to: Mr Paul Harris, 71 Winnie Road, Selly Oak, Birmingham B29 6JU.

Department of Archaeology and Prehistory, University of Sheffield.

By Andrew Chamberlain

Human Osteology Training and Research:

ANDREW CHAMBERLAIN has received an AHRB Innovation Award for the research project *Estimating Age at Death from Human Skeletal Remains Using Bayesian Inference*. The grant is to employ a post-doctoral research associate for one year, and the position will be advertised in January 2002.

ANNIA CHERRYSON has commenced a PhD on the topic *Anglo-Saxon Burial Practices, 600 AD to 1100 AD in Wessex*. She will be working under the supervision of Dr Dawn Hadley, Lecturer in Historical Archaeology.

Dissertations submitted in 2001. MSc in Human Osteology and Funerary Archaeology:

ESTIBALIZ ALDEKOA-OTALORA - Buccal dental microwear analysis in prehistoric and modern British human groups.

ANGHARAD BABER - The extraction, amplification and sequencing of the apolipoprotein E gene from formalin fixed brains.

CERIDWEN V. BOSTON - A comparative study of long bone growth and stress markers: prevalence from the skeletal remains of the Late Anglo-Saxon populations of Blackgate and Raunds.

MIA BRONÉ - Gender and health in Anglo-Saxon Britain.

SHARON CLOUGH - Deviancy in death. An investigation into unusual burials in the Anglo-Saxon and Medieval periods.

BRIAN DEAN - Epiphyseal fusion as an age indicator: a Bayesian approach.

DEREK EVANS - Death: the expanded unauthorised biography.

STUART MILBY - Sexing immature skeletal remains using morphological features on the mandible and the ilium: a test of Holger Schutkowski's 1993 method.

CATHERINE SARAH PARADOSKI - Infanticide in archaeology: possible suggestions for more reliable methods of determination.

Field Projects:

For the last three years Andrew Chamberlain, Dawn Hadley and Glyn Davies (with valuable support from PhD students Jo Buckberry and Donna Rogers) have conducted research and training excavations in North Lincolnshire with the aim of investigating small non-churchyard cemeteries that are believed to date to the Late Anglo-Saxon period. The research project has focused on selected villages distributed along the major routeway of Ermine Street between Lincoln to the River Humber. Despite the inconvenience caused by the foot and mouth disease outbreak, the 2001 season of excavation in the village of Whitton revealed a cemetery with high-status burials, perhaps indicating the location of a previously unrecorded monastic site. We intend to return to Whitton next summer to continue archaeological investigations on the cemetery site

Peoples in Transition: The Ghanaian Bioarchaeology Project

*By Lawrence Stewart Owens and Derek Watson
Institute of Archaeology, UCL*

Previously, an insufficiency of excavation projects, adequate dating and research has impeded understanding of socio-economic change in the Ghanaian Late Stone Age (LSA) and Iron Age periods. A multidisciplinary research project – recently developed by DW – aims to address these deficiencies. Pre-eminent amongst these is the manner in which economic shifts between hunting-and-gathering and agro-pastoralism affected human behaviour and health, and the nature of interplay between groups of different socio-economic and cultural affiliation. Unfortunately, human remains – arguably the best resource for addressing these

questions – are excessively rare in the African tropics in general.

Recent excavations in a series of rock-shelter sites in the Brong Ahafo region of Central Ghana have uncovered several fragmentary human skeletons associated with LSA “Kintampo” (3500-3000 BP) material culture. These remains are currently under study at the Institute of Archaeology, UCL. Analyses to be carried out include standard and non-standard osteometrics, palaeodemography, dental morphology, dental metrics and dental pathology. Data derived from this study will contribute towards the construction of a temporospatial framework from which further questions concerning Ghana's prehistoric population biology, economy and health may be addressed.

Comments or suggestions about this project are welcome, and should be directed to the lead author at (L.Owens@ucl.ac.uk).

Boundary Conditions for Paleopathological Inference

John Robb, Cambridge University

The relation between true disease prevalence and palaeopathology rates is far from transparent. Palaeopathology rates are influenced by many factors, including sample preservation and bias, the age structure of the population (as in the “osteological paradox”, Wood *et al.* 1992), the age-related probability of contracting the disease, the age-related probability of forming a palaeopathologically visible marker, the length of time such a marker lasts before resorbing, and whether or not the disease actually contributes to the risk of death. The effect of these factors cannot really be understood through archaeological investigation of real samples, but unless we understand how they work, we have no way of knowing whether palaeopathology rates in a given sample actually represent disease prevalence realistically or result from the combination of extraneous factors.

This research uses computer simulation modelling to explore the interaction of these factors and their effect on palaeopathology rates. Simulation allows one factor to be varied while others are controlled; in effect we can take the same population with the same disease prevalence and see what difference dying at an earlier or later age makes, and so on. Results to date suggest that palaeopathology rates

are relatively robust for some conditions and deceptive for others. It is hoped to develop guidelines for interpreting palaeopathology rates and for providing the archaeological and demographic information needed to calibrate and interpret them reliably.

Laser ablation study of elemental variation within dental enamel

By John Robb, Cambridge University, Mary Anne Tafuri, University of Southampton, Kym Jarvis and Jo Greenwood, NERC ICP-MS Facility, University of Kingston.

How does the chemical composition of dental enamel vary within a tooth? This question is important for a several reasons. Methodologically, if chemical composition varies much within a tooth, chemical analyses of dental enamel will need a standard method to record or sample specific locations. Micro-sampling might also be useful to control for diagenesis. Theoretically, variation in tooth enamel over the growing period might be a way to investigate changes in diet or residence during childhood. This exploratory study uses laser ablation to find out. A laser coupled to an ICP-MS machine provides data on the chemical composition of enamel at locations controlled to within 10 microns; transects of samples across tooth sections provide diachronic data. In pilot studies so far, we have found that the chemical composition of enamel does vary significantly in ways which might be useful to detect weaning (especially through strontium) and other environmental conditions.

CALL FOR PAPERS:

Fifth British Association of Biological Anthropology and Osteoarchaeology Annual Conference

Date: 14th and 15th September 2002
Venue: University of Sheffield

Closing date for session topics is 28th February 2002. Closing date for papers is the 30th June, 2002

FORTHCOMING CONFERENCES

Paleoanthropology Society Meeting

Date: March 20-24th 2002.
Venue: Adam's Mark Denver Hotel, Colorado

Visit the Paleoanthropology website for details.
www.paleoanthro.org/meeting.html

From Urban Penalty to Global Emergency: Current Issues in the History of Tuberculosis. Society for the Social History of Medicine Spring Conference.

Date: 23-25 March 2002
Venue: Holiday Inn Sheffield-West

Sessions include:

- * Cultural history of tuberculosis
- * Bovine tuberculosis
- * Therapies and vaccines
- * TB after streptomycin
- * TB and race

For further information contact:

Centre for Humanities Research, Mundella House, Sheffield Hallam University, Collegiate Crescent, Sheffield, S10 2BP.

<http://www.shu.ac.uk/schools/cs/cr/chr/tb/>

Twenty-Ninth Annual Paleopathology Association Meeting

Date: 9-10 April 2002
Venue: Adam's Mark Hotel, Buffalo, New York.

As in previous years, this meeting is concurrent with the annual meeting of the Human Biology Association, immediately preceding the annual meeting of the American Association of Physical Anthropologists. The PPA Scientific Program will

be organised by PPA vice-president David S. Weaver (Department of Anthropology, PO Box 7807, Wake Forest University, Winston-Salem NC 27109-7807; tel: 336-758-5275; fax: 336-758-5116; weaver@wfu.edu).

2002 Workshop Information:

A workshop entitled "Presenting Effective Papers and Posters" is being organized by Elizabeth Miller and Brenda Baker. This session is being offered on behalf of the Student Concerns Committee. The session will focus on aspects of presenting successful podium and poster presentations. We anticipate that the workshop will be scheduled for Tuesday morning, April 9, 2002.

For membership information contact: Rose A Tyson, San Diego Museum of Man, 1350 El Prado, Balboa Park, San Diego, CA 92101, USA.

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

71st Annual Meeting of the American Association of Physical Anthropologists.

Date: 10-14 April 2002
Venue: Buffalo, New York

If you wish to present a poster/paper you need to be a member of the AAPA. As usual the meeting will be held in conjunction with the Human Biology Association, Paleopathology Association, American Association of Anthropological Genetics, American Dermatoglyphics Association, Dental Anthropology Association and the Primate Biology and Behaviour Interest Group. The deadline for papers/posters was in September 2001.

For further information visit their website at: www.physanth.org **or contact:** Dr Philip Walker, Department of Anthropology, University of California, Santa Barbara, Sta. Barbara, CA 93106. Walker@sscf.ucsb.edu.

American Society of Primatologists

Date: 1-4 June, 2002
Venue: Oklahoma City, OK

For further information contact:

Dr Janette Wallis, Dept. Psychiatry & Behavioral Sciences, University of Oklahoma, Health Sciences Center, PO Box 26901, Oklahoma City, OK 73190. Email: janette-wallis@ouhsc.edu

International Meeting on aDNA

Date: 21-25 July, 2002
Venue: Jerusalem

The conference will consist of key-note lectures, presented papers, posters, round-tables and workshops. Major concerns will be plant and animal domestication, ancient pathogens, ancient biomolecules other than DNA and cutting-edge technologies.

For further information contact:
Dna6@md.huji.ac.il

The XIV European Meeting of the Paleopathology Association

Date: 27-31 August 2002
Venue: Coimbra, Portugal

Abstracts for papers and posters were due end of January 2002. Two prizes, the Bioanthropology Foundation prize for best student poster and the Eve Cockburn prize for best student oral presentation will be awarded and entrants are requested to submit their manuscripts in May 2002.

Further information is available from:
Eugenia Cunha and Ana Luisa Santos, Comissao Organizadora do XIV European Meeting of the Paleopathology Association, Departamento de Anthropologia, Faculdade de Ciencias e Tecnologia, Universidade de Coimbra, 3000-056 Coimbra, Portugal. Cunhae@pop.ci.uc.pt or the meeting website: <http://emppa2002.uc.pt>

International Conference on Holocene Environmental Catastrophes and Recovery

Date: 2-7 September 2002
Venue: Brunel University, West London

Four main themes include:

- * Geological catastrophes and their impact on society
- * Environmental causes of civilisation collapse
- * Biological impacts on societies
- * Climatological impacts on society

For further information contact:

Prof. Suzanne Leroy, Dept. Geography and Earth Sciences, Brunel University, Uxbridge, Middlesex, UB8 3PH, UK. Email: suzanne.leroy@brunel.ac.uk or visit: <http://www.brunel.ac.uk/depts/geo/Catastrophes/>

CONFERENCE REPORTS

3rd British Association of Biological Anthropology and Osteoarchaeology Annual Conference

by Christopher Knüsel, University of Bradford

The third annual meeting of the Association was held at the University of Durham and hosted by members Charlotte Roberts and Andrew Millard. The conference began with a Friday evening wine reception. Saturday morning's session, entitled '*Ecomorphology: Where Morphology Meets Behaviour*', organised by Christopher Knüsel (Bradford), Andrew Chamberlain (Sheffield), and James Ohman (Liverpool John Moores) and chaired by Holger Schutkowski (Bradford), brought together a series of papers concerning the way in which morphological structures are influenced by and can reveal information about the ecological circumstances under which they develop. The opening paper of the session by Gabriele Macho (Liverpool) and a later paper contributed by Mike Richards (Bradford) looked at the circumstances under which increased body and brain size developed in the hominid line. Macho's work on indications of developmental stress from the study of dental histological analysis of the teeth of browsers and grazers inhabiting the same habitats reveals that brain expansion in the *hominidae* does not appear to have occurred under conditions of increasing seasonality. Richards' isotopic analyses of Neanderthal diet demonstrate them to have been 'super-carnivores', who required perhaps as many as 5,000 kilocalories per day. Based on this substantial energy requirement, Neanderthal populations would

have been greatly affected by the extinction of the megafauna in Europe some 10,000 years ago.

Jim Ohman, Bill Sellers (Edinburgh and, shortly, Liverpool), and Andrew Gallagher (Liverpool) considered the amazingly complex ability of humans and their immediate ancestors to perambulate on only two limbs. Ohman examined the metabolic versus the mechanical rules governing limb development. Using a 'pattern formation hypothesis' he posited that gene arrays that determine the shape of the epiphyses are more important than the transduction of mechanical stimuli in determining the shape of femoral cross-sections. Through computer algorithms inspired by advances in artificial intelligence, Sellers aptly demonstrated that bipedalism is not only hard to model but is also hard for the species. Observe the relative ease with which young gazelles and chimpanzees learn locomotor skills and the delayed and hazard prone manner of young humans. Gallagher examined the locomotor capacities of the increasing number of earlier members of the Genus *Australopithecus*. Through comparisons of bonobo and other non-human primate body proportions and joint size measurements with those of *A. anamensis*, *A. africanus*, *A. afarensis* (such as 'Lucy', AL-288-1) the, as yet, unnamed Stw 431, he argued that changes in stature are more likely responsible for body proportional changes in these lineages than are locomotor differences among them. Jill Rhodes (Bradford) in a paper entitled 'A Humerus Tale', continued the analysis of the upper limb in a sample of robust individuals who perished at Towton in AD1461. Her research is designed to capture the relationship between joint and diaphyseal dimensions and architectural alterations that will allow insights into bilateral asymmetry and behaviour in more recent human population samples. Jill's presentation formed a nice transition from the somatic to the extra-somatic aspects of ecomorphology considered by Paul Pettitt (Oxford and, shortly, Bristol) and Andrew Chamberlain. In his efforts to develop a social archaeology for Upper Palaeolithic peoples, Pettitt considered ornamentation in Gravettian Upper Palaeolithic burials. While noting that Gravettian peoples were imitating designs found in nature in carved ivory pendants and mobiliary objects, Pettitt argued that they were not only using items of material culture for decoration, but were also accessorizing, enhancing and elaborating these objects' appearance and use. In a very engaging presentation, employing the double entendre of the expression 'Pulling Faces', Andrew Chamberlain brought the session full circle- to consideration of the influence of sexual selection on present-day behaviour and mate

choice. From the contrasting viewpoints expressed in this session, it is clear that the origins of modern humans may still be argued to be as much a product of behavioural changes and genetic drift as of shifts in the genetic underpinnings of morphological structures.

As Saturday afternoon approached participants anticipated the tension and mixed feelings generated by the continuing debate on the adoption of standard recording practices for human remains in Britain. Megan Brickley (Birmingham) chaired the session. Jacqui McKinley (Wessex Archaeology) and Natasha Dodwell (Cambridge Archaeological Unit) presented the results of surveys of Archaeological Units and organisation members, respectively. Their surveys revealed a picture of practices, training, and conduct that will inform discussions of a standards committee that will meet in a 'locked room' session in the autumn, the remit of which will be to develop an industry-wide standard recording practice. Charlotte Roberts then addressed the use of previously recorded data from the perspective of a book she and Margaret Cox (Bournemouth) are researching on the health of the British population through time. The amount one can say and the faith with which one can comment upon long-term trends in health from these resources is greatly hindered not only by the manner in which information is recorded and the wide range of formats used for reports. In a more narrowly focused presentation, Louise Loe (Bristol) described experiences with four samples she is using in her doctoral thesis.

Two papers followed which were directed at resolving the problems with basic recording and archiving. Brian Connell from the Museum of London Scientific Service up-dated the group on the preliminary work and nascent, yet very impressive recording strategy for the now more than 10,000 individuals recovered from the site of St. Mary Spital in London. Both Loe and Connell found that the ubiquitous shaded drawings of many archive reports disguised more than they presented and recommended a recording system that relied on the presence or absence of anatomical parts of whole bones, rather than on bone frequencies themselves. Brooke Magnanti from Sheffield's Medico-Legal Centre then finished the session with a presentation on the use of computer databases for the storage and easy retrieval of research results.

The poster session saw more than a doubling of the number from last year's meeting in Bradford. Some 20 posters were presented during the Sunday morning session chaired by Anwen Caffell (Durham). The posters represented the entire

spectrum of BABAQ's interests from biomolecular studies of treponemal disease (Bouwman and Brown, UMIST) to the artistic reconstruction of orthopaedic limb injuries (Needham, Manchester and Bradford). Don Brothwell (York) and Trevor Anderson (Canterbury Archaeological Trust) provided the keen eyes and professional acumen to adjudge this year's student poster competition. The first and second prizes went, respectively, to Marianne Schweich (Bradford) for her poster, entitled 'Stature and Body Proportions: Social Differentiation in the Last 2000 Years', and Annia Cherryson (Southampton) for hers, entitled 'Bones, Beads, and Buckles: A Study of Funerary Provision in the South Saxon Cemetery of Apple Down, West Sussex'.

Four areas of research endeavour characterised the Sunday afternoon session chaired by Mary Lewis (Bournemouth): forensic anthropology, trauma patterning analysis, population-based skeletal biology, and the physical anthropology of past human groups. In the realm of forensic anthropology, Martin Evison discussed the apparent decline of the Yorkshire Murder through a time-successive series of case studies dating from 1994 to the near present handled by Sheffield's Medico-Legal Centre. Tim Thompson, a doctoral candidate from the same institution, spoke on the laws and ethics that impinge on forensic work, noting that due consideration of these factors attests to forensic anthropology rapidly finding its place in the UK law enforcement landscape.

In the not too distantly related topic of skeletal trauma, Rick Schulting (Cardiff) regaled the audience with his and Mick Wysocki's (Central Lancashire) re-analysis (or analysis for many) of Neolithic crania from long barrows for evidence of traumatic lesions resulting from inter-personal violence. Their research findings transform interpretations of a Neolithic period peopled by peaceful farmers into one that was, it seems, much more violent than previously considered. Margaret Judd (British Museum), in her paper on recidivism or multiple trauma patterning in Sudanese Kerma populations (*circa* 2500-1500 B.C.), observed that male recidivists out-numbered females of a similar inclination, that most of these recidivists were less than 35 years of age at death, and that a proportion of their multiple injuries derived from inter-personal violence, perhaps as a result of Egyptian Pharaonic expansionism rife at this time. A small medieval rural community at Wing, Buckinghamshire, also suffered a considerable number of traumatic injuries, some 25% of adults, with five having sustained more than a single traumatic injury

(Tatham, Leicester). Anthea Boylston's (Bradford) contribution on the skeletal remains from the unusual funerary sample from the Romano-British site at Kempston, Bedford.

In another fine realisation of the potential of analysing older, curated skeletal material in the light of new and more focused research questions, Sonia Zakrzewski (Durham) considered the body proportions of ancient Egyptians in order to address questions of migration from Nubia to the Lower Nile Delta. She also applied a complementary craniometric analysis to aid her to distinguish whether or not improved nutrition and hygiene led to a transition to a more 'tropical African' body plan. In 'Postcards from the Appendix', Becky Gowland (Durham) argued that such studies are mired in an mutually deleterious science versus culture divide that sees 'osteological reports marginalised in funerary discussions'. This unfortunate practice means that too few studies exploit the ability of skeletal analyses to substantiate or refute interpretations of cultural data from the funerary context and *vice versa*.

I am sure that the Association will join this writer in extending its congratulations to those who made the Durham meeting such an enjoyable and intellectually stimulating experience.

**New Approaches to Medical
Archaeology and
Anthropology: Practitioners,
Practices, and Patients at
Magdalene College,
Cambridge, November 18,
2000**

By Christopher Knüsel, University of Bradford

This cross-disciplinary meeting, organised by Patricia Baker (Kent) and Gilly Carr (Cambridge and, now, Kent) brought together 12 medical historians, social anthropologists, archaeologists, and biological anthropologists to consider curative and remedial health practices of past and present societies. The topics covered included traditional Chinese medicine (Elisabeth Hsu, Cambridge, and Vivienne Lo, SOAS, now, Wellcome Trust, UCL), medical practices (Patty Baker, Kent) and notions of the power of curses in the ancient European world (Ralph Anderson, Cambridge), divination rites in Cameroon (Zeitlyn, Kent), the practices of modern

medical illustration (Starr, Wellesly College), the treatment and conceptualisation of tuberculosis in the past (Roberts, Durham) and diviners and shamans in the later European prehistory of Malta (Stoddart, Cambridge), at Stanway, Colchester (Crummy, Colchester Archaeological Trust), and in Iron Age Britain (Carr, Cambridge), as well as magic and ritualists in the Anglo-Saxon England (Knüsel, Bradford) and Iron Age Scandinavia (Blain, Sheffield Hallam).

Elisabeth Hsu and Christopher Knüsel acted as discussants of what was a fascinating look at the long view of medical practice and its development. What struck this reviewer most about these papers were the similarities in beliefs about illness and disease that characterise the diverse societies covered, but also the obviously variable types of treatment- from acupuncture to curse tablets- adopted to alleviate or produce human misery. Much of the evidence presented comes from the funerary record, and it seems likely that this domain, more than any other, will aid us to comprehend not only the appearance of disease and its prevalence, but also the reactions to and understandings of disease, its practitioners, its patients and their cures. The papers from this conference will be published by Oxbow Books and edited by Gilly Carr and Patricia Baker.

**Pathology Museums Group
Meeting at The Royal College
of Surgeons of England,
October 8th 2001**

by Rebecca Redfern, University of Birmingham

This short meeting was well attended by members of museums, academics, surgeons, and interested members of the public. It was opened by Mr Cooke, from the Conservation Unit at the RCS.

A range of papers were presented discussing various topics, from the treatment of infection by Dr. Brightman, to aspects of the history of sexually transmitted diseases by Dr. Waugh. Dr. Brightman's paper on 'The treatment of infection: past, present, and uncertain future', presented many relevant issues for palaeopathology, such as the range of treatments for tuberculosis, which included removal of the affected lung and surrounding ribs, and the standard of hygiene in early 'modern' hospitals.

Dr. Loudon's paper on 'Puerperal fever and the streptococcus', provided an interesting potted

history on the development of maternity hospitals and care of women from the eighteenth century onwards, as well as a discussion of prominent works which identified the cause of death for the afflicted, such as Semmelweis and Alexander Gordon. Dr. Waugh discussed 'Aspects of the history of sexually transmitted diseases, its relevance to pathology and surgery', and focused on syphilis, its identification and various investigations into its aetiology throughout time, although he did not venture into the Old/New World roots of the disease. Of particular interest was his use of primary sources to illustrate past perceptions of the transmission and aetiology of the disease.

Mr Richards' presentation on dental infections, was based upon his work in Whitechapel, London. This was of particular interest to the palaeopathologists who attended, as the cases were people who visited the clinic in the final stages of their infections. Mr Richards noted that unlike other dentists, the highest frequency of cases presented with an abscess. Illustrated cases included; draining lesions out of the mandible, which carried the risk of fracture, and lateral incisor infection causing cysts in the maxilla.

The final paper by Professor Smith on 'Zoonoses', was again very relevant to the study of disease in archaeological populations. This often complex interaction of hosts was well explained and illustrated. It highlighted the possible range of zoonotic diseases that may have afflicted a past population, such as yersiniosis, which is found today in pig workers.

This conference, although not immediately advertising itself to the palaeopathological community, is very interesting due to the use of medical history and clinical observance. It was well organised, and allowed the delegates to visit the Hunterian Museum and the Wellcome Museum of Anatomy and Pathology.

**Review of International
Congresses on the Evolution
and Paleoepidemiology of
Infectious Diseases (ICEPID-
4), "Peste: entre Épidémies et
Sociétés", Marseilles, France,
July 23-26, 2001**

by Christopher Knüsel, University of Bradford

The ICEPID-4 colloquium, "Peste: entre Épidémies et Sociétés", organised by Olivier Dutour, Michele Signoli, Dominique Chev , and Gilles Bo tsch, took place at l' Universit  de la M diterran e, Facult  de M decine, in sunny Marseilles, France. Since the 6th century B.C. when Phocaeans from Asia Minor established an important port, trading colony, and settlement at the mouth of Rh ne, Marseilles has long been associated with profitable commerce and lively culture but also with the ill effects of the long distance transmission of disease, most famously in 1720-1722 when plague ravaged the city and its environs. This outbreak has left its enduring legacy in painting, literary accounts, and the architecture such as the quarantine facilities developed on the Island of Frioul, which lies just outside the old port of the city of Marseilles. As with its predecessors, this fourth meeting of ICEPID drew scholars from many fields of enquiry, including social historians, anthropologists, archaeologists, biochemists, microbiologists, ecologists, medics, epidemiologists, public health officials, and art historians, to form a powerful synthesis of what we know about plague today and in the past. Some 90 oral communications and posters were presented over the four days of the conference.

Among the many important findings presented were the excavation of plague pits and burials from the 18th-century outbreak in Marseilles (Signoli and Dutour, Unit  d'Anthropologie, Facult  de M decine, Marseilles), and the isolation of part of the genetic sequence (the *pla*, plasminogen activator gene) of the plague bacillus, *Yersinia pestis*, from the pulp chambers of the teeth of these individuals (Aboudharam and colleagues, Unit  des Rickettsias, Facult  de M decine, Marseilles). The latter allows diagnosis of the disease in past populations, a result that has thus far alluded groups working with material from in the U.K. (Gilbert and Cooper, Oxford, and Prentice and colleagues, St. Bartholomew's and Royal London School of Medicine and Dentistry, London). Additionally, it seems more clear that plague does leave a signature in the palaeodemographic mortality profile in the populations through which it passes (Margerison and Kn sel, Bradford; Castex, Laboratoire d'Anthropologie, Bordeaux I) and that, today and perhaps in the past, it is not only a disease of crowding, but also one of poverty and disadvantage, exacerbated in many instances by warfare, with entire families succumbing in outbreaks in the L' le district of Marseilles (Degioanni, Unit  d'Anthropologie, Facult  de M decine, Marseilles)

and in 1593 Barton-on-Humber, England (Waldron, Institute of Archaeology, London), and those families living in poverty and with inadequate access to medical treatment (Chanteau and Rahalison, Institut Pasteur, Antananarivo, Madagascar). Local circumstances greatly influence the timing of outbreaks (i.e. their seasonality) and their virulence.

A disease that has become so intimately linked to the outbreaks of the second pandemic of 14th century and early modern Europe, plague continues to claim lives in as varied locations as the western United States (Hinnebusch, National Institutes of Health, Rocky Mountain Laboratories), where it has often been misdiagnosed; Vietnam (Dang Tuan Dat, Institute of Hygiene and Epidemiology of Tay Nguyen); Brazil (Paiva de Almeida and colleagues, Centro de Pasquisas Aggeu Magalhães); and in Madagascar, where researchers have recently identified new antibiotic resistant strains of the bacillus in modern sufferers (Chanteau and colleagues, Institut Pasteur, Antananarivo) through what appears to be an interspecies genetic transfer with the intestinal bacillus, *E. coli* (Hinnebusch, National Institutes of Health, Rocky Mountain Laboratories, USA, in collaboration with the Pasteur Institutes in Madagascar and Paris). It is now increasingly clear that there are many more animals than the black rat and the flea, that can act as vectors in the spread the disease among human populations (Duchemin, Institut Pasteur, Madagascar, among others).

Today, researchers surmise that the phylogenetic history of the plague bacillus, which evolved from *Yersinia Pseudotuberculosis* between 1,500 and 20,000 years ago (Guiyoule and colleagues, Institut Pasteur, Paris and Madagascar), is much more complicated than originally supposed, with perhaps two distinct strains- *orientalis* and *medievalis*- undergoing convergent evolution to produce the plague from the three geographically distinct and more heterogenous *antiqua* type (Achtman, Max-Planck Institut für Molekulare Genetik, Berlin). One of the two most telling comments made during the four days of the conference came from Mark Achtman in the Tuesday evening round-table discussion when he noted that we know almost nothing about the evolutionary history of bacterial infections, despite many decades of research on their identification and attempts to control them. The other came from Elisabeth Carniel of the Institut Pasteur, Paris, who warned that present research reveals just how viable the plague bacillus is, and like tuberculosis, that it is still very capable of once again breaking out in another pandemic in the future. It is through conferences such as these that we can begin to

prepare for such an eventuality by highlighting the important implications of studies of an older disease (in historical terms) in a world whose attention is diverted by newer and, seemingly, ever more intractable ones.

An excellent film, entitled *Autour La Peste*, had been produced by the C.N.R.S. (in French) that documents the research that has led to greater understandings of the 18th-century outbreak and would make an excellent addition to teaching and research on this subject under the scientific authorship of Olivier Dutour, Gilles Boëth, Michel Signoli, and Dominique Chev . The proceedings of the conference will be published and will, no doubt, provide an important, multidisciplinary panoply of the present state of our knowledge of the Plague.

¹ The film is available from: CNRS Diffusion, Vid oth que-Phototh que, 1, place Aristide Briand, 92195 Meudon Cedex, France, Tel: 01 45 07 56 86, Fax: 01 45 07 58 60, for 180 FF for private use and 250 FF for institutional use, with a 15.00 FF postage and handling fee for France and Europe and 25.00 FF for all other countries.

PHD TITLES & ABSTRACTS

LINDA FIBIGER: **Back in Action -A Study of Lumbar Spondylolysis as Activity-Related Lower Back Trauma (MSc Dissertation 2001, University of Bradford).**

Lumbar spondylolysis is an activity-related stress fracture of the *pars interarticularis*. Its diverse skeletal expression, frequency and relatedness to skeletal robusticity, asymmetry, degenerative vertebral changes and other traumatic lesions were examined in six skeletal assemblages from Britain. This included a 5th-6th century settlement, a 15th century mass grave, a 14th-17th century rural parish, a Medieval Dominican Friary, a Medieval leprosy hospital and an 18th-19th century crypt collection.

Morphological features of the defect demonstrated the potential for symptoms in at least 30.77 % of individuals with the defect. A detailed study of all lumbar vertebrae in one of the assemblages highlighted discrepancies between clinical prevalence rates for spondylolysis established through radiography and those resulting from direct osteological analysis of the lumbar region of the vertebral column.

Only the male Chichester group presented a sufficient number of individuals with spondylolysis (n=13) for valid statistical intra-population comparison. There was no statistically significant difference in robusticity, asymmetry, degenerative vertebral pathology and evidence of additional traumatic lesions between those affected with spondylolysis and controls without the defect. Prevalence of additional traumatic lesions in the overall spondylolysis group, however, was significantly higher than in the overall control sample ($\chi^2=11.730$; $p<0.005$).

The diverse skeletal expression of spondylolysis, its relationship with other traumatic lesions and sex-differences in its distribution emphasise the pivotal role of activity and mechanical factors in the occurrence of the defect. At present, the positive identification of repetitive habitual or strenuous activity patterns in osteological analysis remains elusive. The careful interpretation of activity-related, traumatic lesions like spondylolysis, however, can still contribute significantly to the understanding of biological, social and environmental mechanisms that influence skeletal health and morphology within a population.

MICHELLE MARSHALL: The Severity of Stress Indicators and their Effect on the Growth of Subadults from Raunds Furnells (MSc Dissertation 2001, University of Bradford).

This study compares the growth measurements of individuals who were deemed to be more stressed with individuals who were less stressed. It was hypothesised that the more severe, repeated and/or prolonged the stress an individual has undergone the more likely they are to show a deficit in growth. The occurrence of stress was assessed by the presence of certain skeletal markers. In total five stress indicators were examined and graded for severity. Each was totalled together to form a composite severity score. This score was compared to the growth measurements of individuals, which include stature, a cortical value and the six different long bone lengths.

It was determined that individuals who had a higher composite score values were of a shorter stature and had shorter bone lengths than individuals with lower composite scores. The cortical index measurement did not show any relationship to age or to the severity score.

Whilst not all of the results showed statistical differences between the severity score, there was indication that this method may be of future use. Further testing of this method would be required on different populations to determine that it is not just applicable to this sample. This study has helped

demonstrate there is a relationship between stature and frailty.

LAWRENCE STEWART OWENS: Of Lust and Limpets – biological affinities and economy in the prehistoric Canary Islands. (Institute of Archaeology, UCL).

At present, the nature of human biological relationships and economy in the prehispanic Canary Islands is poorly understood. Furthermore, the enormously variable ecology of the archipelago presents a range of challenges to human groups, and would seem to be an ideal forum for using biological/socio-economic dynamics to construct an adaptive synthesis for diverse environments. The present project employs a range of dental anthropology techniques to reconstruct aspects of human biological and economic adaptation in the Canarian archipelago, prior to the European invasions of the 15th century. For details of the techniques employed, see Owens (2001).

Preliminary results suggest temporospatial flux in population biology, with considerable differences between the islands, marked intra-insular diversity and variable relationships with Northern Africa. Higher levels of caries and low levels of wear – markers of an agricultural economy – were noted for Gran Canaria and Tenerife, while dentitions from the wetter (Gomera and Hierro) and desiccated (Fuerteventura and Lanzarote) islands showed a less agricultural pattern. However, as caries levels for the island group as a whole were relatively low, it seems that agricultural diets were supplemented by exploitation of natural resources where available. This notion receives support from large shell middens, comprised primarily of limpets and fish remains.

The foregoing indicates that the prehistoric inhabitants of the Canarian archipelago were both biologically and socio-economically diverse. As further results accumulate, it is anticipated that the effect of island ecology on human settlement and economy will become apparent.

Further Reading:

Owens, L.S. 2001. Population Biology, Health and Diet in the Prehistoric Canary Islands. *Papers from the Institute of Archaeology* 12: 100-104.

PHILIPPA PATRICK: “Greed, gluttony and intemperance”? Testing the stereotype of the ‘obese medieval monk’. (Institute of Archaeology, UCL).

This is a multidisciplinary research project, drawing together palaeopathology, history and art history in search of a holistic view of monastic lifestyle, and in particular whether more medieval monks were obese than their secular contemporaries.

It is often noted that there is a higher prevalence of DISH in monastic assemblages than in secular ones and previous research (Patrick, 2001) showed a trend towards higher crude prevalence rates for OA in medieval monks, as well as higher rates for OA affecting 'obesity-related' sites. The aim of this research is to establish a proxy for body mass index (BMI) and relate this to pathology using case control studies.

I shall be using skeletal collections held in the Museum of London, namely monks from St Mary Graces Abbey, Tower Hill, St Saviour's Abbey, Bermondsey, and Merton Priory. Secular control samples are derived from the Royal Mint site (Black Death cemetery and late secular burials) and Merton Priory (lay cemetery).

To complement the skeletal analysis will be a study of historical accounts about monastic lifestyle and of medieval depictions of monks, which may also shed light upon the obesity issue.

Literature Cited:

Patrick, P (2001) Prevalence and distribution patterns of osteoarthritis in medieval monks, with particular reference to obesity related osteoarthritis. Unpublished MSc Dissertation, UCL.

Any comments or advice would be gratefully received; my contact details are: Philippa Patrick, Institute of Archaeology, 31-34 Gordon Square, London WC1H 0PY p.patrick@ucl.ac.uk This research is supported by an AHRB research studentship. I shall soon be posting more information about my research onto my website: <http://www.pips-scriptorium.com>.

REBECCA REDFERN: A biocultural investigation of social and cultural change in Dorset, from the pre-post Roman period. Late eighth century BC to c. AD 500. (University of Birmingham)

This research aims to identify the 'newcomers' into Britain during this time frame, and differences between rural and urban health. Newcomers are referred to in the primary sources, and have been identified from cultural assemblages. This will be the first study to utilise bio-distance methods, isotopes and forensic anthropological methods in order to identify these people. It will provide an

insight into the 'real' makeup of a community over time, as well as providing information on the health status of the Iron Age population, their levels of health care, medical practices, and the extent to which the emphasis on violence noted in their material culture, is reflected in their remains.

This study will also provide an insight into the health of the legionaries stationed in Britain, as well as being able to chart the impact of increasing urbanisation upon the region and whether any health differences between 'natives' and 'newcomers' can be identified. It also postulated that the impact of the collapse of the Roman order and retreat from the urban centres will be able to be seen in the remains, as well as clarifying whether the Anglo-Saxons believed to be buried in Dorset before the retreat of the Romans can be identified.

It is hoped that this study will show the benefits of undertaking a biocultural approach in examining human remains, and by using a variety of methods will provide a new insight into this important time in British archaeological record.

MARY ANNE TAFURI: Trace elements and mobility in the Southern Italian Bronze Age (Department of Archaeology, University of Southampton)

This research uses multi-elemental analysis of human bone and dental enamel to investigate patterns of mobility at the Bronze Age cemetery of Sant'Abbondio in the town of Pompeii. After carrying out standard anthropological studies of the sample, which includes over 60 single burials, ICP-MS analysis was carried out at the NERC ICP-MS Facility (Kingston University); the ICP-MS technique is especially useful for collecting data on a wide spectrum of elements. The trace elements results show complex patterning, with multiple factors influencing bone composition. Metabolic processes set the juvenile samples apart from the adult samples. Within the adult samples, a few individuals with very different chemistry probably represent immigrants, and a tight cluster of young adult females with very homogeneous chemical values was buried in one area of the cemetery and hence probably represents a socially recognised group whose origin or lifestyle resulted in a distinctive biological signature. Research to clarify the social and biological interpretation of these patterns is ongoing.

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- Tatham, Sarah**
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- White, Bill:** Human Osteologist
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