BRITISH ASSOCIATION OF BIOLOGICAL ANTHROPOLOGY AND OSTEOARCHAEOLOGY
ANNUAL REVIEW

EDITOR
MARY LEWIS
University of Durham

Membership details can be obtained from Linda O'Connell at: School of Conservation Sciences, University of Bournemouth, Dorset House, Talbot Campus, Fern Barrow, Poole, Dorset BH12 5BB.
Contributions for the Review concerning palaeopathological issues should be sent to: Trevor Anderson at Vichy House, 15 St Mary's Street, Canterbury CT1 2QL.
All other contributions for the Review should be sent to the Editor: Dr Mary Lewis, Department of Archaeology University of Durham, Durham DH1 3LE.

http://www.soton.ac.uk/~babao/

WELCOME TO THE BABAO ANNUAL REVIEW

Welcome to the second edition of the BABAO Annual Review. As always, it's been a pleasure to put these pages together, not least because I get to read everything first! The format of the Review is similar to the last. However, for the first time we have the inclusion of a 'Palaeopathology Section' which, to start it off, consists of four short articles by Trevor Anderson. When the publication of the Review was first discussed in 1999, it was proposed to merge it with the 'British Section of the Palaeopathology Association Newsletter.' Despite the noble efforts of its editors (Charlotte Roberts (date), Rebecca Nicholson (date) and Trevor Anderson()) the Newsletter suffered from membership neglect. Without contributions from its members, a newsletter will die. Judging from the response of our members I'm glad to report that the Review is still very much alive. Palaeopathology is a specialism of many of our members and I hope that this section will now flourish.

Happy Reading!
Mary Lewis, Editor

ASSOCIATION NEWS

British Association of Biological Anthropology and Osteoarchaeology Annual Report

By Megan Brickley (Chair), University of Birmingham

The past year has been very busy for the BABAO committee and progress has been made despite commercial contract deadlines, QAA and RAE pressures faced by the committee in their work outside the association. The web site is now established in a basic form (www.soton.ac.uk/~babao/index.htm) and ideas for development of this facility should be sent to James Steele at Southampton University. During the year, two of the original aims of the organisation have begun to be addressed.

Firstly, the establishment of a database and secondly looking at minimum standards of recording for modern human skeletal remains. A grant application was prepared and submitted to the British Academy by John Robb and Simon Mays to update and extend the list of human skeletal material held in Britain that Simon had previously complied. Unfortunately the application was not successful, but other forms of funding are being explored and will be pursued over the next year. If you have any views on the way such a database should be complied and made available for use please contact the committee so that we can ensure that any future application reflects your views.

Secondly, the issue of minimum standards was raised by members at the last AGM. Standards of treatment and recording of human bone are clearly areas that concern many of our members. Later this year we will be sending out questionnaires to individuals and organisations to gather information on current practice and the views of individuals and organisations on this subject. The results obtained from this survey will be presented in a discussion session on these issues at the next conference. Comments on the subject would be greatly appreciated and we would be interested to learn about members experiences of 'professional standards' from a range of fields.

The conference held at Bradford was well attended and the workshop on perimortem trauma in particular was very successful, which suggests that we should consider holding workshops at future conferences. It was decided that the 2001 conference will be held at Durham, and an offer to host the 2002 conference was received from Sheffield University.

Four new committee members were elected at this years AGM. Bill White from Museum of London replaces Louise Humphry as our representative from a museum. Natasha Dodwell from the Cambridge Archaeology Unit replaces Julie Roberts as the representative from a field unit. Two of the non-executive members, Simon Hillson and Andrew Chamberlain stood down and have been replaced by Andrew Millard from the University of Durham and Jim Ohman from Liverpool John Moores University. Mary Lewis stood down as joint publicity officer a job that Chris Knüsel will now do alone, but she will continue to edit the newsletter. I would like to thank the departing committee members for their hard work during the first years of the organisation and take this opportunity to welcome the new members.

British Association of Biological Anthropology and Osteoarchaeology Membership Report

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

A total of 184 subscriptions have been received in total, since the genesis of the organisation in the early part of 1999. One hundred and twenty five of these were secured in that year alone, with 59 new members subscribing in 2000. Of the original cohort of members joining in 1999, 70% have renewed their allegiance. This basically means that, as 2000 drew to a close, the society had 143 registered members.

Once again, a diverse number of occupations and affiliations are represented by members. The largest proportion of membership (34%), is made up by undergraduate and postgraduate students, with a similar percentage representing those individuals working within academia (17%) and those describing themselves as osteologists or human bone specialists (17%). Although archaeologists comprise 10%, one-fifth of these also specialise in osteology. Medical, nursing, and other health related disciplines account for a further 4%, and 2% of individuals reported working within the sphere of forensic anthropology. Other specialities, related to archaeology/osteology, account for 6% of members, with many of these acting in the capacity of research assistants/associates. Individuals from other fields (both employed and retired), who express a recreational interest in the subject, constitute the remainder of the membership.

Geographical distribution of members demonstrates a similar pattern to last year, with 92% of members located in the UK. The 8% of overseas members herald from the Republic of Ireland, North America, Brazil, Hungary, Sweden and Switzerland. Although the recruitment from abroad is marginally up on last year, the committee are still exploring various initiatives to promote further awareness of the association's aims, objectives and provisions overseas. This includes improvement, not only in advertising policies, but also in targeting of under-represented parties.

In the meantime, if anyone has any questions regarding membership, then please do not hesitate to contact me at: School of Conservation Sciences, Dorset House, Talbot Campus, Bournemouth University, Poole, Dorset. BH12 5BB.

NEWS AND VIEWS

Spitalfields ---- what's in a name?

By Bill White, Museum of London

Alister Crowley, magician, self-styled 'Great Beast' and poet, was born in Warwickshire, wrote modestly that it was "remarkable that one small county should have given England her two greatest poets, for one ought not to overlook William Shakespeare (1564-1616)". Thus it is with Spitalfields: one small area has produced arguably the two most important human bone assemblages excavated in the London region, the sites being a matter of a mere few hundred metres apart. Unfortunately, the term "Spitalfields" has been used rather indiscriminately with reference to both sites and this has led to confusion of these two great skeletal samples, perhaps to the detriment of the understanding of their respective qualities and characteristics.

The area of London concerned takes its name from 'St Mary Spital' (St Mary without Bishopsgate), the Augustinian Priory that stood on this site to the north-east of the City of London, outside the wall (Thomas, Sloane and Phillpotts 1997). The Priory was founded in 1197 and by the time of its refoundation in 1235 it had become also a hospital, in fact the largest medieval hospital in London. Following the Dissolution the buildings were destroyed and the land sold off. However, by the early eighteenth century the local population had grown to about 20,000, largely as the result of Huguenot refugees settling in the area, and there was a perceived need to provide a local church (Reeve and Adams 1993). Accordingly, the current building Christ Church Spitalfields, designed by Nicholas Hawksmoor, opened in 1729.

Although the clearance of the crypt of Christ Church Spitalfields preceded the large-scale excavation of St Mary Spital by some 15 years, sites on the periphery of the medieval hospital cemetery had been excavated during the early 1980s (indeed medieval burials had been disturbed during extensions to the Spitalfields Fruit and Vegetable Market in the 1920s and 1930s). These satellite sites are concealed by being named after the streets in which they were excavated. Thus, the excavations at Christ Church Spitalfields prefigured those at Spitalfields Market and were brought rapidly to publication.

The Christ Church Spitalfields excavation was the source of several superlatives, not least among them being the heroic nature of the crypt and vault excavation itself (Reeve and Adams 1993). During the period 1984-6 the coffined remains of 968 individuals (many with preserved soft tissue) were recovered ---a large sample even by subsequent "Spitalfields" standards. The burials dated from 1729 to 1852 and stimulated a wealth of research, much of it documentary in character and which was to be integrated fully into the project. The large sub-

sample of 383 individuals, with names and other demographic information known from deposition plates on coffins, proved invaluable in evaluating the available techniques for sexing and ageing human skeletal material. It was also possible to investigate osteological trends for up to three generations within known families (Molleson and Cox 1993). It is important to note that the sample is biased toward a particular occupation, that of silk weaving, and also that there is a majority contribution from an "ethnic minority", *viz* the descendants of Huguenot refugees (Cox 1996).

During the redevelopment of part of the disused Spitalfields fruit and vegetable market a large area of about 1.5 hectares was excavated. Certain architectural features were recorded but the bulk of the site furnished skeletons from the cemetery for the "sick poor" of London who had not survived their stay in the Hospital of St Mary. Apart from about 100 individuals from an unassociated Romano-British cemetery on the site a total c 11,000 medieval skeletons have been recovered --- the largest scientifically excavated and documented collection known in the world. Most occurred as discrete burials but over 3000 came from a series of pits, each containing from 20 to 50 victims of some as yet unidentified catastrophe (Connell 2000). The circumspection is the result of insecure dating: one feels that these must be victims of the Black Death but supporting evidence has not been forthcoming.

Post-excavation work has continued simultaneously on site. Semi-industrial scale processing (washing, drying, packaging and marking) was performed on the freshly-excavated skeletons and the team celebrated the washing of her one-thousandth skeleton by one long-standing processor. MAP2 Assessment of the processed bones likewise proceeded simultaneously on site and electronic data-logging means that appetite-whetting figures on the prevalence of palaeopathology will be available for the project design. The statistical information presented will represent minima only (Connell 2000).

Active research continues on the post-medieval sample from Spitalfields, whereas the larger sample of earlier date awaits analysis. Perhaps we should get accustomed to referring to them differently: the former as from Christ Church Spitalfields, the latter from Spitalfields Market --- although there will probably always be a lobby for "St Mary Spital".

References

Connell B 2000 Current Work at Spitalfields, London *BABAO Annual Review* Issue 1 , p8.

Cox M 1996 *Life and Death at Spitalfields 1700-1850*, CBA, York.

Molleson T and Cox M 1993 *The Spitalfields Project, Volume 2 - The Anthropology: the middling sort*, CBA Research Report 86.

Reeve J and Adams M 1993 *The Spitalfields Project, Volume 1 - The Archaeology: across the Styx*, CBA Research Report 85.

Thomas C, Sloane, B and Phillpotts C 1997 *Excavations at St Mary Spital, London*, MoLAS Monograph , No 1.

Two steps forward...one step back?

By Mary Lewis, University of Durham

Recent advances in archaeological science have opened the way for more sophisticated and precise information to be obtained from human skeletal remains. Funding bodies are more frequently providing money for studies into histological, DNA and stable isotope analysis to reveal information on diet, sex, isolate disease pathogens, and measure harmful toxins in past populations. Whilst we should applaud the fact that archaeologically derived human remains are finally being recognised as a primary source of information on past health, are we running before we can walk? There is still so much we need to understand about the basic appearance and aetiology of diseases in the skeleton.

Since the mid-eighties, researchers have recognised the importance of population studies over 'case-studies', using the information gathered from large numbers of skeletons to build up a picture of health in the past, employing both cultural and biological data within the context from which they were derived (the 'biocultural approach'). These studies have allowed us to examine the impact of major socio-economic changes, from the introduction of agriculture to the development of industrialisation. But the preferences of funding bodies make it harder to continue research into the macroscopic/radiographic features of disease, and add pressure to examine biomedical aspects. These methods are expensive, time-consuming and often destructive and as it is implausible to analyse large numbers of skeletons to build a picture of the population. We are once again reduced to small skeletal and even individual based results.

If we are to make full use of the current research climate we need to combine the biomedical and histological data with the macroscopic appearance of the skeleton(s) under study. For instance, Waldron and colleagues (1999) used the results of DNA analysis to evaluate the morphological

features of sex differences in fetuses from the Romano-British Villas of Beddingham and Bignor. Some researchers believe that the only way to diagnose conditions such as Paget's disease, or understand features like cribra orbitalia and new bone formation is to apply histological analysis. Perhaps, but until these features are related back to the macroscopic, larger questions into the aetiology of these lesions will never be answered. The frequency and demographic distribution of these conditions cannot be ignored in our attempts to understand them and this can only be achieved by enabling others to apply these findings more accurately to larger samples.

References:
Waldron T, Taylor G, and Rudling D (1999) Sexing of Romano-British baby burials from the Beddingham and Bignor villas. *Sussex Archaeological Collections* 137:71-79.

The Effect of Handling on Human Skeletal Remains

By Anwen Caffell, University of Durham

Much study has focused on the degradation of bone in the ground and it is widely accepted that the degree of preservation affects the amount and type of information gained from studying human remains. However, often overlooked and "just as harmful can be the hidden damage caused by poor packaging, bad handling practices and low grade storage" (Spriggs, 1989:39). It has long been suspected that the collections of human remains curated at the University of Bradford were suffering damage as a result of intensive handling, but the only evidence in support of this was anecdotal. Therefore, it was decided to investigate the degree and type of damage which can occur when collections are used for teaching, as improvements can only be implemented once the nature and extent of the problem is known.

The aims of the study therefore, were to:

- Investigate the development of physical anthropology teaching at Bradford
- Assess the pressures on skeletal material used for teaching
- Consider curation procedures already in place
- Recommend future directions for improvement.

PHYSICAL ANTHROPOLOGY TEACHING AT BRADFORD

Physical anthropology has been taught at the University of Bradford since the late 1970's. Since that time student numbers have increased, along with the number of courses taught at both undergraduate and Masters level, resulting in an overall rise in teaching hours from just 16 to 200 hours per year. Archaeological specimens are used in order to familiarise students with the range of variation present both within and between populations. The collections have also been used for short courses, dissertations, and by visiting researchers. Informal guidance on care was given and a guide on 'How to Pack a Skeleton' (designed by Mary Lewis) was displayed in the laboratories.

MATERIALS

Overall, a sample of forty skeletons was selected for this study. Thirty of these came from the cemetery of the later medieval leprosy hospital of St. James and St. Mary Magdalene, Chichester, West Sussex (Magilton & Lee, 1989), and ten came from the rural Anglo-Saxon cemetery at Raunds Furnells, Northamptonshire (Boddington, 1996). Twenty of the Chichester sample had been in the Department for 11 years, having been excavated in 1986/7, and these were named the "Old Chichester" group; ten of the Chichester sample were named the "New Chichester" group. Recovered during excavations in 1998 they had only been in the Department for a year. The Raunds sample had been in the department for 17 years.

METHODS

The use history of the skeletons was reconstructed giving a minimum use for each skeleton, which was used to divide them into different use groups (Heavy, Light and Non-Use). Absolute use is unknown and so the New Chichester material provided a control sample.

A comparison was made between the original records and the material in its present condition. Loss was assessed by comparing the current presence/absence of elements with that recorded on the original forms. The descriptions on the forms were used as a baseline for the condition assessment and original photographs were used where available. Fresh breaks, fresh surface damage, repaired breaks and failed repairs were all recorded. The criteria used to differentiate fresh breaks from those occurring in the ground included the lighter colour of fresh break surfaces compared to the surrounding cortex, the sharper angularity of the break edges and the lack of soil in the break surfaces or exposed trabeculae. The standard, adequacy, suitability and types of packaging materials used were also assessed, along with the order in which elements were packed.

RESULTS

Loss

Almost three-quarters (72.5%) of the skeletons recorded had lost elements, or parts of elements. Of this group 40% had lost large elements (or parts of

large elements), 42.5% had lost hand elements, 40% had lost foot elements and 32.5% had lost some teeth. When the data were divided into the different use groups it became apparent that more of the "heavy use" skeletons had lost elements (94.1%) compared to the "light use" group (76.9%) and the New Chichester group (30%), suggesting that loss of elements occurs more frequently with greater handling.

Overall 175 elements had been lost from an initial total of 3779 (including teeth). Again, more elements were lost from the heavy use group than from the other two groups. On the whole the proportions of teeth, hand and foot elements lost were greater than the proportions of large elements lost, although the proportion of large elements lost in the Chichester "heavy use" group was unexpectedly high. It is likely that small elements are lost accidentally as they can easily be overlooked on repacking material. However it is not so easy to overlook a large element, and so loss in this case must imply either return of the material to the wrong box or failure to return the material at all. As expected more single rooted teeth were lost as they are easily dislodged from the alveolar bone. Loose teeth were present in 29 skeletons (72.5% of the sample) and numbered 191 (31.2% of the initial number of teeth).

Surprisingly 62.5% of skeletons had gained elements. More hand and foot elements had been gained than large elements, and gain of elements was more common for Raunds than Chichester. Gain of elements may be the result of inadequate original recording where elements or fragments may be incorrectly identified. On correct identification the number of elements/fragments would increase from the original recorded. Gain could also occur if elements are mixed between skeletons.

Damage

More surface damage, breaks and repairs were noted in the "heavy use" group of skeletons, again suggesting that handling increases the risk of damage. Original photographs provided indisputable evidence of recent damage. There were also skeletons where the pathological lesions had become damaged, for example Chichester 80 where woven bone shed from the tibia had been kept. Breaks through the marking on bones were also good evidence for recent damage.

Repaired breaks were less common in the Raunds material, the use of adhesives in this collection being restricted to cranial reconstruction. When repaired breaks fail this can result in additional damage such as parallel breaks if the adhesive used is inappropriate. There was also a lack of cleaning of break surfaces prior to adhering resulting in poor alignment of the break fragments and distortion of the element. Additional problems noted with the use of adhesive included the presence of teeth glued back into the sockets (occasionally incorrectly). The presence of blu-tack™ and masking tape was noted on elements; blu-tack™ often being found in the tooth sockets, and masking tape used to reconstruct or label elements. Both substances damage the cortex of the bone, parts of it flaking off on removal of the substances, which also leave a sticky trace behind. Blu-tack™ is also radio-opaque so its use will impair future radiographs.

Packaging

The box and bag sizes used were sometimes found to be inadequate, and packaging materials were not always used for pathological specimens. In some cases two or more skeletons were packed per box, in other cases a single skeleton was packed in two (or even three) boxes. The former was a particular problem with the Raunds material, which was packed in unsealable and unlabelled bags, with loose labels inside. All bones and fragments of bones should be marked with the site code and skeleton number to reduce the risk of loss or mixing of skeletons, but this was not always the case. Fragile elements such as the cranium and maxilla should have been packed above the heavier more robust elements such as the lower limb bones, however fragile elements were frequently discovered packed in the base of the box.

LIMITATIONS

One of the main limitations of this study was the small sample size involved due to time constraints. Poor initial recording of skeletons resulted in insufficient detail to undertake a study of handling damage and this was compounded by the lack of pre-use photographs and radiographs. The use history reconstruction also suffered from a lack of information and so can only be regarded as an indication of the actual use undergone by the material.

RECOMMENDATIONS

The condition of skeletal material on arrival for curation depends on the burial conditions at the cemetery site, and on how well it was excavated and processed. Thorough and careful excavation and post-excavation processing of skeletal material is essential if material is not to be lost before it is even curated. There are numerous publications, which provide guidance on excavation and post excavation treatment of human remains (Bass 1987, Brothwell 1981, Buckley *et al.* 1999, McKinley and Roberts 1993, Spriggs 1989, Stroud 1989, Ubelaker 1989, White and Folkens 1991). A standardised condition assessment is recommended before material is used in order to record the elements present and their condition, yet this must bear in mind the practical considerations of recording large numbers of skeletons.

Inevitably handling material will cause damage, but it is possible to keep this to a minimum with adequate curation and detailed instruction of students in handling and packaging skeletal material. The care and management of collections should be integrated into the teaching of physical anthropology, along with an awareness of conservation issues. Ultimately, if these problems and recommendations are not attended to, the condition, and therefore value for teaching and research, of skeletal collections will inevitably decline. As a consequence, the justification for retention of skeletal material for curation and study will be difficult to support.

(*NB This paper will be published in full in the proceedings of the Williamsburg Conference, Nov 1999. 'Human Remains: Conservation, Retrieval and Analysis.' Ed.)*

References

Bass, W.M. (1987) *Human osteology. A field guide and manual.* Missouri: Missouri Archaeological Society.

Boddington, A. (1996) *Raunds Furnells. The Anglo-Saxon Church and Churchyard.* London: English Heritage.

Brothwell, D. (1981) *Digging up bones.* London: British Museum (Natural History).

Buckley, L., Murphy, E. and O' Donnabhain, B. (1999) *The treatment of human remains.* Technical Paper for Archaeologists. Irish Association of Professional Archaeologists.

Magilton, J.R. and Lee, F. (1989) The leper hospital of St. James and St. Mary Magdalene, Chichester. In C.A. Roberts, F. Lee and J. Bintliff (eds), *Burial archaeology. Current research methods and developments.* Oxford: British Archaeological Reports British Series 211, 249-265.

McKinley, J. and Roberts, C.A. 1993 *Excavation and post-excavation treatment of human remains.* Institute of Field Archaeologists Technical Paper 13. Birmingham: Institute of Field Archaeologists.

Spriggs, J. (1989) On and off-site conservation of bone. In C.A. Roberts, F. Lee and J. Bintliff (eds), *Burial archaeology. Current research methods and developments.* Oxford: British Archaeological Reports British Series 211, 39-45.

Stroud, J. (1989) The processing of human bone from archaeological sites. In C.A. Roberts, F. Lee and J. Bintliff (eds), *Burial archaeology. Current research methods and developments.* Oxford: British Archaeological Reports British Series 211, 47-49.

Ubelaker, D. (1989*) Human remains. Excavation, analysis and interpretation.* Washington D.C.: Taraxacum Press.

White, T. and Folkens, P. (1991) *Human osteology*. London: Academic Press.

Forensic Anthropology in the UK

By Sue Black, University of Glasgow

The face and future of forensic anthropology in the UK is about to change – and some might say 'not before high time'! Ours is not a new science, but in the UK we have somehow evolved into little more that a nebulous tangle of self-appointed experts. Therefore, the results of our endeavours are, not surprisingly, a very mixed bag of blessings. There are some outstanding practitioners who consistently produce quality work of the highest standing but there is also some very shoddy and amateur work being churned out under the guise of so-called experts with not a shred of credible forensic experience. Not only is it desirable to rectify this dangerous situation before monumental blunders occur, but it is critical to the future standing of the profession. Never has this been more appropriate than now, given that the field of forensic science is perceived as being somewhat 'sexy' and there are more and more people being encouraged to enter the subject. A palpable unease has been commented upon by many of the experts in our field and has, perhaps, fortuitously come at a time when the Home Office is thinking along similar lines for all aspects of forensic services.

On Monday 30th October 2000, the Council for the Registration of Forensic Practitioners (CRFP) formally opened its first register. Mr David Blakey CBE, Her Majesty's Inspector of Constabulary recently summarised the role of the CRFP. He said, 'It aims to promote high standards of forensic practice and enhance public confidence in the use of forensic science.' The CRFP is an independent body that aims to:

1. Publish a register of competent forensic practitioners.
2. Ensure through periodic revalidation that forensic practitioners keep up to date and maintain competence.
3. Deal with registered practitioners who fail to meet the necessary standards.

Initially, registration will be voluntary but it is anticipated that providers and users of forensic services will come to recognise inclusion in the register as an indication of both competence and experience. As such, if forensic anthropology is to be seriously considered as an area of expertise in this arena then we should certainly be aiming for inclusion in the register. However, the main problem is proving our competence as individual practitioners and registration will not be permitted by the CRFP until such proficiency can be demonstrated. It is essential therefore that a regulatory academic body manages the future development of forensic anthropology in the UK.

Amongst other functions, it should embrace the role of setting of professional standards, code of ethics, accreditation and disciplinary proceedings. To this end, a preliminary meeting to discuss the desirability of such an association took place in the Department of Forensic Medicine and Science, Glasgow University on 5th December 2000. Attending this meeting was Alan Kershaw (Chief Executive CRFP), Dr Louise Scheuer, Professor Margaret Cox, Dr Megan Brickley, Professor Don Brothwell, Dr Martin Evison, Dr John Clarke and myself. After some considerable discussion it was the unanimous opinion of the group that a professional body was the desired future direction for forensic anthropology and deemed essential in the current climate of Home Office initiatives. Whilst it should be appreciated that matters are at a very embryonic stage of maturation, we sincerely hope to have such an organisation incorporated and operational before the summer of 2001.

The CRFP operates 3 assessment panels of expertise – Medicine, Incident Investigation and Science. Forensic anthropology would naturally fall under the remit of the last of these and it is possible that it may sit comfortably under a larger umbrella heading of 'Human Identification'. It is envisaged that within this group may be other related disciplines such as facial reconstruction, facial recognition and perhaps even some aspects of DNA analysis. Assessment and accreditation would of course be subject specific.

The aim of the association will not be to keep people off the register - indeed quite the opposite. However we do need to regulate the continued competence of those who practice in the field. We need to encourage consistently high standards of work and develop a clearly structured career ladder that allows less experienced practitioners a more focused view on their progression and potential achievements in the field. Given my recent experiences in placing anthropologists with the British Forensic Team in Kosovo, I know that we already have an enviable body of expertise in the UK and I firmly believe that we can build upon this and set British standards for our science that are universally recognised and accepted.

Membership of the association will be open to anybody (UK and non-UK) who has a genuine interest in the field of forensic anthropology. Accreditation and career progression within that association, ultimately leading to registration, will be entirely at the discretion of the individual. There will be a frequently updated website that will keep all informed of jobs that become available, meetings and conferences, new publications, new legislation, courses that are available, studentships and a contact list for those who are registered with the CRFP.

If you would like to apply for membership then please contact me with basic information such as name and contact data and when we reach an appropriate stage of development we will forward an application form.

This is an exciting time for Forensic Anthropology in the UK and the timing is auspicious given the climate of current governmental developments. It is time to get our house in order and allow Forensic Anthropology to develop into a truly respected profession in the UK.

(Dr Sue Black can be contacted at: Department of Forensic Medicine and Science, University of Glasgow.)

Pathology Museums Group

By Martyn Cooke, Royal College of Surgeons, London

The Pathology Museums Group is based in London and consists of a wide spectrum of people, including doctors, technicians, archaeologists and other individuals with a scientific background. Our aim is to promote the conservation and use of pathology museums for education and research. Apart from the Royal College of Surgeons of England these collections tend to be maintained by medical schools and access to the general public is denied. Visits are limited to genuine scholars by appointment only.

The College Museum at Whitechapel is fairly typical with a collection of approximately 4000 specimens gathered together over the last 200 years. We have excellent examples of diseases such as advanced osteomyeltits, syphilitic osteitis and rickets, which are virtually irreplaceable.

Membership of the PMG is a modest £15 for which the applicant receives newsletters, invitations to scientific meetings and of course access to the various museum collections. Details may be obtained from the group secretary: Mr Martyn Cooke, The Conservation Unit, The Royal College of Surgeons of England, 35-43 Lincoln's Inn Fields, London, WC2A 3PN. Tel: 1071 973 2189.

News from Museums

By Bill White, Museum of London.

A major theme, so far as human skeletal remains in Museums are concerned, is the improvement of the condition of curation of collections and of access for research purposes. So far as the widely different types of holdings in the Museums of the Royal College of Surgeons of England, the Natural History Museum and the Museum of London are concerned

the aims are broadly convergent. Storage space is a commodity sought by all. The Museum of London is certainly the worst provisioned of all the above but the acquisition of a Heritage Lottery Grant of £1.1 million by the London Archeaological Archive Resource Centre will go far in improving the storage conditions, cataloguing, retrieval and access for several thousand human skeletons from sites in the London region and from all historical periods. This needs to be matched by bringing this material to a minimum level of reporting so that outsiders may learn of particular samples of potential interest to themselves. This includes compiling a searchable electronic database that can be updated continuously. In common with initiatives being made by other bodies it is intended that the catalogue be available on -line. The collection's catalogue would be available to be searched by keyword, theme or abstract and physical access would be free to scholars.

Viewed against such grand plans for facilitating access for research on human skeletal remains the Repatriation issue appears to have abated. This is unlikely to be the result of an outbreak of neo-rationalism with the new century. The lobby is merely quiescent and the renewal of its demands is to be expected.

Paleopathology Association Website

The PPA website (created by Anne Grauer) is now up and running and provides information on membership, meetings, highlights from the Newsletter and links to other useful sites.

http://www.paleopathology.org

News from Corinne Duhig.

Corinne completed her PhD in the summer and after a tour with the British Forensic Team in Kosova during the summer, has now set up as a freelance osteoarchaeologist and forensic anthropologist in a (currently) one-woman business called *Gone to Earth*. Two Anglo-Saxon cemeteries, one Roman-period (ish) site with cremations, numerous small sites and some major crime investigations are keeping her busy.

Human Remains and Archaeology Website

Sue Anderson has recently started a website on human remains and other archaeological subjects, including some of Sue's shorter unpublished reports and photographs of interesting specimens.

You can visit it at:
http://www.spoilheap.co.uk

(Sue would welcome any comments you may have on the site. Ed.)

PALAEOPATHOLOGY SECTION

A Newly Discovered Medieval Bladder Stone from Norwich

By Trevor Anderson, Canterbury Archaeological Trust.

During excavation a fragmented abnormal concretion was recognised in the pelvic cavity of a mature male skeleton (SK 43). In addition, the individual was suffering from chronic bone infection and widespread cranial porosis, suggestive of iron deficiency. The largest fragment was circular in shape, white in colour, with an irregular porous outer surface and eroded and friable internally. The central core was absent and only a thin outer skin was present. This suggests that the concretion had been built up in circumferential "onion skin" layers. It was estimated that, when intact, the object was *c.* 40 mm in diameter.

The appearance and the location of the abnormal concretion is diagnostic of a bladder stone. In an elderly male, stone formation may be related to benign prostatic hypertrophy. The fact that the involved individual was suffering from chronic bone infection and probable long term iron deficiency, supports the view that stone formation is related to lower social status and inadequate diet (Batty Shaw, 1970; Green & Batty Shaw, 1981).

Records of bladder stone disease occur in the "The Norwich Mayors' Court Book", which dates to 1593 (Batty Shaw, 1970). Until now, the earliest preserved stone, weighing 964gms, was one removed at the *post-mortem* of Anne Raisin in 1662 (Batty Shaw, 1979. In 18th-19th century, "Norfolk enjoyed the unenviable reputation of the highest incidence of bladder stone of any county in England" (Batty Shaw, 1979). At this time, their frequency at Norwich (1;21,000) was nine times greater than the national incidence (Batty Shaw, 1970). The stone was common in rural depressed areas whereas it was rare in the more affluent urban communities (Batty Shaw, 1970).

Very few British archaeological cases of bladder stone have been published. One, "the size of a walnut" was found many years ago in a Bronze Age burial (2000-700 BC) from Yorkshire (Mortimer, 1905). Two

possible bladder stones were found with dis-articulated human bone material, dark age or medieval in date, from a rural community on the Isle of Iona, Scotland (Wells, 1981). Both are "granular in texture" and one is "approximately spherical and 18.4mm in diameter" the other is " more irregular in shape and measures about 22.3mm" (Wells, 1981: 95; Fig 39). Examples have also been identified from a Dark Age cemetery in Somerset (Brothwell, 1967). The author wishes to compile a gazetteer of all known British calculi and would be glad to receive details of any other published or unpublished archaeological examples.

References

Batty Shaw, A. (1970) The Norwich school of lithotomy. *Medical History* 14: 221-259.

Batty Shaw, A. (1979) East Anglian bladder stone. *Journal of Royal Society of Medicine* 72: 222-228.

Brothwell, D. (1967) Evidence of endemic calculi in an early community. in Brothwell, D. & Sandison, A.T (eds) *Diseases in Antiquity.* (C.C. Thomas) Springfield pp. 349-351.

Mortimer, J.R. (1905) *Forty Year's Researches in British and Saxon Burial Mounds of East Yorkshire.* (London)

Wells, C. (1981) Discussion of the skeletal material. in: Reece, R. *Excavations in Iona 1964 to 1974.* (Institute of Archaeology Occasional Publication No 5) London pp.85-101.

Metaphyseal Fibrous Defects in Juveniles from Medieval Norwich

By Trevor Anderson, Canterbury Archaeological Trust

In 1998 archaeological excavation by the Northamptonshire Archaeological Unit at St Faith's Lane, Norwich uncovered 136 well-preserved medieval skeletons, associated with the nearby Franciscan church. The demographic profile indicates that children under the age of 8 years were excluded from the cemetery. Despite this, the sub-adult mortality, 32.4% (44/136), is extremely high. All the adults were sexed and the vast majority, 83.7% (n77), were male. As such, it is possible that the cemetery may have been predominantly for the clergy and for children being trained for the priesthood. This short note is to report on two juvenile skeletons (SK 79, Age: 12-15 years; SK 98: Age 15-17 years) which present with a well-defined cystic cavitation in the knee region.

An elongated ovoid smooth-edged eccentric cavitation is visible on the postero-medial aspect of the distal left femoral metaphysis (SK 79). The maximum dimensions are: length: 20mm; width: 7mm; depth: 6mm. Internally, the defect is bilocular. An ovoid smooth-edged eccentric cavitation is visible on the lateral aspect of the proximal right tibial metaphysis (SK 98). The maximum dimensions are: length: 20mm; width: 15mm; depth 7mm. Internally, the defect is multilocular with a smooth-surfaced lobulated floor. In both cases, there is no swelling or bone reaction in the region of the cavitations and radiology indicates that the border of the defects are well-demarcated with definite sclerosis.

The identical appearance of the two cavitations suggests that both are the result of the same disease process. The smooth edge of the defects, as well as the sclerotic margin, argues for a slow benign problem. The morphology, coupled with the sub-adult age and the location, at the growing end of the leg bones, all support a diagnosis of metaphyseal cortical defect. These defects, sometimes sub-divided into fibrous cortical defects if small; or non-ossifying fibroma if large and expansive (Marks & Bauer, 1989), are well-known in clinical medicine (Schajowicz, 1981: 449-460).

They are predominantly a condition of childhood, with the vast majority being discovered during the second decade of life (Schajowicz, 1981: 449-450). Less than 8% occurred after the age of 30 years (Schajowicz, 1981: 449-450). In otherwise healthy children, over half of the boys and almost a quarter of the girls may present with radiographic evidence for metaphyseal fibrous defects (Schajowicz, 1981: 450). The marked discrepancy between the child and the adult figures indicates that many of the defects undergo spontaneous regression.

As far as I am aware, these two cases, from one site in Norwich, are the first evidence that the condition existed in earlier British societies. This apparent rarity of the defects, in the palaeopathological record, is in strong contrast to the modern day clinical findings. The author would be pleased to receive information on any other palaeopathological examples of fibrous cortical defects.

References

Marks, K.E. & Bauer, T.W. (1989) Fibrous tumors of bone. *Orthopedic Clinics of North America* 20(3): 377-393 (see pages 380-381)

Schajowicz, F. (1981) *Tumors and Tumorlike Lesions of Bone and Joints.* Springer Verlag: New York pp. 449-460

Healed Cranial Weapon Injury from Medieval Coventry.

By Trevor Anderson, Canterbury Archaeological Trust

A disarticulated male skull, aged 30-40 years old displays a healed weapon injury to the left parietal.

The injury exhibits evidence of blade injury; depression fracture; missing cranial bone and cracking, radiating from the edges of the injury. The skull was found in the Chapel of St. Clement within St Mary's Cathedral, Coventry. The chapel, also known as Copston's Chantry was founded in 1299 and was desecrated and grave robbed at the Reformation.

A smooth-edged linear defect, 90mm in length, affects the left frontal and parietal bones. Posteriorly, a wide "V" shaped cleft, with a crack extending to the lambdoid suture is visible. A large triangular fragment (16mm deep and 11mm wide} of bone inferior to the blade injury is missing. A crack, curving posteriorly and extending to the temporal suture, extends from the base of the missing bone. Some 40mm superior to the blade defect, there is a smooth-edged arc-shaped depressed healed fracture. The fracture, some 55mm in length, runs posteriorly from the coronal suture. There is an area of bone missing between it and the blade injury. Internally, two sinuous cracks are visible. One corresponds to the highest portion of the arc of the depressed fracture. The other, bounded by the coronal suture, runs *c.* 10mm anteriorly from the suture. An intact portion of bone, running from the coronal suture, is present between the two injuries. The borders are solidly united to the blade injury and the fracture. A roughly circular area (diameter 12mm) of absent bone is visible just posterior to the coronal suture.

The "rounding off" and the smooth edges of the defect as well as new bone formation is evidence that healing has taken place and the injuries were not fatal. The nature of the linear defect suggests that two blows may have been delivered. One from an assailant facing the victim: wielding a blade sweeping downwards cutting into the left side of the skull vault. This injury is represented by the horizontal healed smooth-edged defect, directly behind the frontal bone and above the temporal bone. A second blow, downwards and administered from behind has caused the depressed fracture and flattening of the left parietal as well as the posterior linear defect, cracking and triangular area of missing bone.

Both blows have resulted in quite a wide linear defect suggesting that the weapon was a heavy sword or an axe. The extensive cracking, seen laterally and posteriorly to linear defects, as well as a triangular area of missing bone, also favour a heavy sword or axe injury. The greatest flattening and maximum depression, as well as internal cracking, occurs at the anterior portion of the depressed fracture. This supports the view that the blow was administered from behind, the greater momentum of the blade being the further from the assailant has caused the greater injury anteriorly.

The fact that he has survived without any evident infection suggests that perhaps he was injured in the early stage of the battle while the weapons were still relatively clean. Then, staggering around, with blood pouring from the serious injury, it is possible that a second blow from behind felled him. No longer a threat, he would be left for dead. After the battle he was found to be still alive and was rescued by his comrades.

Other examples of medieval blade injuries with evidence of healing are known from Chelmsford, Ipswich, Norwich and York (Brothwell & Browne, 1994: Fig 162c, 164; Boylston, 2000; Dawes & Magilton, 1980: 56, Plates VIIId-e; Mays, 1991; 46-48; Stirland, 1996). At both Ipswich and at Norwich, healed blade injuries occur in a similar location, the left parietal, to the present example (Mays, 1991: 46-48; Plate 18; Stirland, 1996: Fig. 4). In England, only one mass grave, with thirty-seven battle victims (Towton 1461), has been excavated (Fiorato *et al* 2001). Twenty-seven of the twenty-nine crania exhibit weapon injuries, one skull displayed fourteen separate blows (Boylston, 2000). Out of seventy blade injuries, four show evidence of healing (Boylston, 2000), indicating that battle scarred soldiers were, after a period of recovery, expected to fight again.

In the present case, based on the fact that cranial bone remodels slowly, it appears that the victim has survived for many years. As such, complications such as severe internal bleeding or meningitis, which would cause death within a few days, had been avoided. A clean glancing blow without deep internal penetration would be less serious than a deep penetrative puncture wound or blunt trauma with severe depression and comminution of bone fragments. The latter being more likely to result in neurological deficit. However, the body's reponse to the injury, marked inflamation at the injury site, probably led to immediate problems. The type of symptoms depending on the function of the underlying cerebral cortex. From the location of the injury, neurological symptoms would probably include: **Sensory loss** on the right hand side of the body involving touch, temperature and pain sensation. This would particularly affect the arm. **Motor difficulties** of the right arm, causing loss of power and later spasticity. **Higher language difficulty.** Particularly difficulty in finding words and in understanding complex sentences. **Visual impairment.** He would be unable to see anything in the lower right hand field of his vision (Quadrantanopia). **Epilepsy.** Intermittent generalised convulsions.

References

Brothwell, D.R. & Browne, S. (1994) Pathology. In: Lilley, J.M., Stroud, G., Brothwell, D.R. & Williamson, M.H. *The Jewish Burial Ground at Jewbury.* (York Archaeological Trust 12/3) York. pp. 457-494.

Boylston, A. (2000) Evidence for weapon related trauma in British archaeological samples. In: Cox, M. & Mays, S. (eds)

Human Osteology in Archaeology and Forensic Science. (Greenwich Medical Media) London. pp. 357-380.

Dawes, J.D. & Magilton, J.R. (1980) *The Cemetery of St Helen-on-the-Walls, Aldwark.* (CBA The Archaeology of York vol 12/1) London.

Fiorato, V., Boylston, A., Knüsel, C. (in press) *Blood Red Roses: The Archaeology of a Mass Grave from the Battle of Towton AD 1461.* (Oxbow Monograph)

Mays, S. (1991) *The Medieval Burials from The Blackfriars Friary, School Street, Ipswich, Suffolk (excavated 1983-85).* AML Rep 16/91

Stirland, A. (1996) Patterns of trauma in a unique medieval parish cemetery. *International Journal of Osteoarchaeology* 6: 92-100.

A Nineteenth Century *Post-Mortem* Specimen from Deal, Kent

By Trevor Anderson, Canterbury Archaeological Trust

Workmen digging service trenches on the western side of the East Barracks, Deal unexpectedly discovered human skeletal remains. The Barracks are on the site of the Naval Hospital which was purchased by the Admiralty in 1796 (Clayre, 1998). An incomplete and damaged skull of a young adult male was recovered. The upper portion of the cranial vault had been surgically removed, with numerous saw-marks, at differing angles, clearly visible. The calotte itself was not recovered from the limited excavation area. The skull was not a teaching specimen, as it displayed no evidence of polishing or typical patina of repeated handling. It appears that the vault had been removed as part of a *post-mortem*.

The *post-mortem* specimen, was recovered within the southern area of the Royal Naval Hospital burial ground and, as such, must date between 1812 when this parcel of land was purchased and the 1860's when the cemetery was falling into disuse (Clayre, 1998). It has been suggested that the patients were mainly British soldiers and sailors as well as a few Russian prisoners of war (Clayre, 1998). By the sixteenth century *post-mortems* or autopsies were not uncommon and numerous cases are recorded during the eighteenth century (Waldron & Rogers, 1987). However, archaeologically recovered examples similar to the present case have infrequently been reported.

References

Anderson T. (1999) Disarticulated human bones. In: Parfitt K *Archaeological Observations at East Barracks Deal.* (unpublished report prepared for Biddle & Biddle on behalf of clients) pp. 10-14.

Clayre B. (1998) *The Royal Marines Barracks Deal, Kent.* (unpublished report prepared for Biddle & Biddle on behalf of clients)

Waldron T, Rogers J. (1987) Iatrogenic pathology. *Journal of Paleopathology* 1: 117-129.

CALL FOR PAPERS:

Tenth Archaeological Chemistry Symposium, American Chemical Society

26-30th August 2001
Chicago, Illinois

The 10th Archaeological Chemistry Symposium will be held as part of the American Chemical Society Meeting in Chicago. Papers in all areas of chemistry, applied to the study of archaeological materials and chemistry employed to answer archaeological problems will be considered. Past symposia have included discussions of a wide range of instrumental methods of analysis applied to inorganic, organic and biological materials. Problems archaeology addressed by chemistry have included provenance, technology, dating, and population migration among others. Abstracts may be submitted through the ACES Electronic submissions system, http//acs.comfex.com/oasys.htm. The deadline for submission is April 27, 2001. If you do not have access to a computer to submit the abstract, contact the symposium organiser by April 15, 2001. Registration information will be available in June 2001 (see Chemical and Engineering News or http//www.acs.org/meetings.) For further information contact Kathryn Jakes, 1787 Neil Avenue, Columbus, OH 43210-1295. E-mail: Jakes.1@osu.edu.

FORTHCOMING CONFERENCES

70th Annual meeting of the American Association of Physical Anthropologists.

Date: 28-31 March, 2001
Venue: The Westin at Crown Centre, Kansas City, Missouri

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.

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.

Twenty-Eighth Annual Paleopathology Association Meeting

Date: 27-28th March 2001.
Venue: Kansas City, Missouri, USA.

As last year the *Cockburn Student Award* will be presented and you will need to contact Charles Merbs if you intend to compete. The prize includes one year free membership to the Association, free books and a $500 cash prize. In order to present a paper/poster you will need to be a member of the PPA. The deadline for papers/posters is the 31st January 2001 and abstracts must be no more than 100 words in length. Submissions should include the names of all authors and affiliations, name and address (including e-mail) of the corresponding author, preferred from of presentation (paper or poster) and if it is to be submitted for the Cockburn Student Award.

For further information please contact: Charles F. Merbs, Department of Anthropology, Arizona State University, Box 872402,Tempe, AZ 85287-2402 E-mail: charles.merbs@asu.edu

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

Computer Applications in Archaeology

Date: 25-29 April 2001
Venue: part of CAA 2001, Gotland, Sweden

The aim of this session will be to bring together archaeologists, anthropologists, osteologists, environmentalists, cultural Heritage Managers, human geographers and computer scientists to encourage communication between disciplines, provide a survey of current work in the field and to stimulate discussion and future progress.

Main themes will be:

* GIS applications
* CAD Applications
* GPS
* Survey and Mapping
* Database Applications
* Computer applications in Osteology
* Statisitics and quantative methods
* Virtual reality
* Cultural heritage management
* Archaeometry
* Digital image processing
* Internet applications

For further information please see their website at: http://caa.hgo.se/

ICEPID – 4 Plague: Epidemics and Societies

Date: 23-26th July 2001
Venue: Marseilles, France

The fourth International Congress on the Evolution and Palaeopathology of Infectious Disease will cover the following topics:

History of the disease and its treatment Archaeology and biological data Epidemiology and microbiology Representation of epidemics

The deadline for papers was in November 2000, but further details can be obtained from:

PESTE – INCIPID – 4, Michel Signoli
UMR 6578 CNRS, Universite de la Mediterranee, Facilitie de medecine, Secteur Centre 27, Boulevard Jean Moulin 13385, Marseille, Cedex 5, FRANCE.

e-mail: anthropobio@medecine.univ-mrs.fr

XVIth International Symposium on Morphological Sciences. '2001 an African Odyssey.'

Date: 22-26th July 2001
Venue: Sun City, South Africa

A conference hosted by the anatomical society of Southern Africa (includes human and veternary anatomists) and is open to all scientists involved in the teaching and research of anatomy. The deadline for papers was in November 2001.

For further information please contact:

Professor HB Groenwald, Scientific Secretiate, XVIth ISMS, Department of Anatomy, Faculty of Veternary Science, Private Bag X04, Onderstepocrt, 0110, Republic South Africa.

3rd British Association of Biological Anthropology and Osteoarchaeology Annual Conference

---

4th World Congress on Mummy Studies

Date: 4-10th September 2001.
Venue: Nuuk, Greenland.

Congress sessions will include:

- Greenlandic and Arctic archaeology and cultural history
- Greenland Arctic mummies
- Palaeopathology
- Conservation museology
- Applied technology/analytical methods
- Mortuary archaeology
- Mummification methods
- Bog bodies.

Deadline for registration, abstracts and payment is the 1st March, 2001.

For further information please contact: Mette-Astrid Jessen, Archivist E-mail: majnatmus@greennet.gl or Niels Lynnerup, Laboratory of Biological Anthropology, The Panum Institute, Blegdamsvej 3, DK - 2200 N, Copenhagen, Denmark. E-mail: N.Lynnerup@anthrolab.ku.dk

CONFERENCE REPORTS

Review of the British Association for Biological Anthropology and Osteoarchaeology Meeting in Bradford, September 1-3, 2000

By Christopher Knüsel, University of Bradford

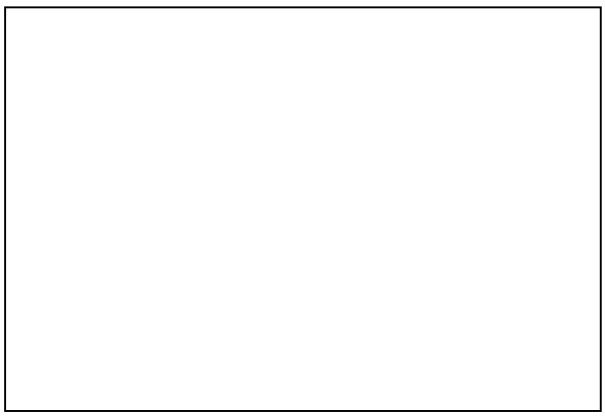
The second annual meeting of the British Association of Biological Anthropology and Osteoarchaeology met at the Unity Building, home to University of Bradford's College of Health Studies, from September 1st to the 3rd, and convened by this writer. From Carl Heron's (Head of the Department of Archaeological Sciences) opening greeting to the Sunday morning perimortem trauma workshop, the meeting served as a showcase of the depth, diversity, and increasing maturity of BABAO.

The opening session of this year's meeting included a series of papers addressing aspects of the skeletal biology and funerary archaeology of prehistoric populations. Andrew Chamberlain (Sheffield) spoke on the palaeodemographic patterning of human remains over the long time-span- from the Upper Palaeolithic to the 6th century AD - during which caves served as repositories for the dead in Britain. On a similar theme, John Robb (Southampton) discussed the use of taphonomic associations to unravel ritual treatment of human remains at Kunji Cave during the Bronze Age of Iran. Eileen Murphy's (Queen's, Belfast) paper related weapon-related trauma patterning in Iron Age (Scythian and Sarmatian) remains from Tuva, South Siberia, while Don Brothwell (York) discussed recent work with Pictish human remains at Tarbat, near Inverness, in Scotland.

The first of two afternoon sessions addressed the theme of new advances in osteoarchaeology and included papers by Andrew Millard (Durham) and Megan Brickley (Birmingham) on the determination

of age-at-weaning from nitrogen isotopic values in the remains of children from the 19th century London poorhouse. Paul Budd (Durham) and co-workers described their research in using lead isotopes from dental enamel to identify the migration of individuals in the past, specifically with regard to an individual interred at Stonehenge and a group of individuals similarly deposited during the Neolithic at Monk-up-Wimbourne, Dorset.

The Poster session ran as a separate afternoon session, which allowed all participants to attend the session without the necessity of having to miss podium presentations. The session included many younger researchers and the topics ranged from general treatments of the state of bioarchaeological research in Greece (Bourbou, Chania, and Tsaliki, Durham) to anatomical aspects of phalangeal side determination (Heilman and Case, ASU) and cranial form (Ribot, Cambridge), to refinements of age-at-death estimation (Buckberry, Sheffield) and sex assessment (Hodgins, Canterbury Archaeological Trust), as well as funerary and demographic themes such as the relationship between population density and the frequency of infectious lesions among Brazilian prehistoric shell-mound producing hunter-gatherers (Okumura, São Paolo). Jo Buckberry (Sheffield) and Isabelle Ribot (Cambridge) received the first student prizes presented by the organisation for their posters entitled, "Age-Related Changes on the Auricular Surface of the Ilium – Preliminary Results from a Revised Recording System" and " Identity of Archaeological Populations: A Craniometrical Study on a Few Late Stone Age and Iron Age Human Fossils from West and Central Africa", respectively.



Jo Buckberry (University of Sheffield) and Isabelle Ribot (University of Cambridge) collecting their poster prizes from Chris Knüsel.

Friday evening provided time for a wine reception hosted by the Department of Archaeological Sciences and Greenwich Medical Media, publishers of *Human Osteology in Archaeology and Forensic Science*, edited by Margaret Cox and Simon Mays. This book, which at writing has sold over 400 copies since it appeared in May, was the product of the prototype meeting at Bournemouth from which BABAO sprang in 1998. Simon Mays' reception address highlighted the importance of this volume for drawing together- under the same cover – an easily digestible view of the type of research and research questions that mark skeletal studies at the turn of the new millennium.

Saturday dawned bright and clear to welcome a day-long session, entitled "Human Remains: Excavation, Processing, and Collections Management", jointly organised between Helen Ganiaris of the Museum of London and Rob Janaway and Andrew Wilson of the Department of Archaeological Sciences, University of Bradford. This truly multi-disciplinary event covered the legal and health and safety concerns regarding the recovery and retention of human-derived material, good excavation and recovery practice in a contract environment, sampling and analysis, processing, condition assessment and record sheets, and handling and packing of human remains. As I sat at the back of the lecture theatre, I was pleased to see a good cross-section of the audience representing osteologists, conservators, finds managers, curators, and excavators.

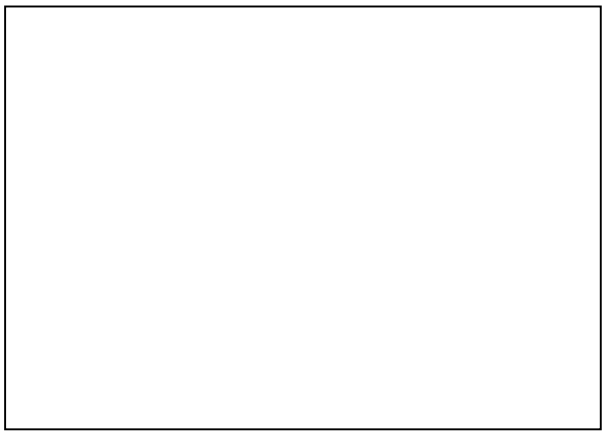
Paul Kneller (Bournemouth) lead off the session with a very thorough review of the health and safety issues surrounding work with human remains, noting that archaeologist do not come under current health and safety legislation unless they are dismantling walls or structures when they are covered by construction law. Paul's presentation, though, marks a significant step toward the creation of these much-needed guidelines. The following 11 papers can be roughly divided into those that covered excavation, recovery, and processing of human remains (Thomas, MoLAS; Powers MoLSS; Wilson, Lewis, and Janaway, Bradford), the curation of the remains for future study and teaching (Buglass, Humberside Archaeological Partnership; Ganiaris, Museum of London; Caffell (MoLSS) and Janaway, Bradford), and those concerning the analysis, reporting of, and publishing of research involving human skeletal remains (Schutkowski, Bradford and Roberts, Durham). One of the most salient points that marked this session for me included the obvious overlaps that exist among individuals that represent what are often considered separate concerns. If allied through shared concerns, these individuals can provide mutual support and a much more fruitful research, teaching, and exhibition environment that benefits both the living and the remains of the dead.

Other important points include the value of the on-site photographic record, the increasing use and

capacity of computer retrieval systems, and the importance of osteological training for excavators. The audience was also introduced to many new (and some tried and tested) excavation and on-site conservation strategies. Increasingly in the future, these altered strategies will allow more complete recovery and recording, in addition to more sophisticated analysis of past human populations from aDNA, isotopic, and trace mineral analyses of the human remains, accompanying buried artefacts, and the grave context. With the Spitalfields site now producing the remains of over 8,500 of London's medieval population, a harbinger of the opportunities that major urban redevelopment can bring, the measures considered in these papers are both timely and well-informed. I have no doubt that when published this series of papers will achieve the organisers' aim *to draw together a national consensus on procedures and lead to a document of best practice to assist archaeologists, osteologists, conservators, processors and curators working with archaeological human remains* as noted in the introduction to the session.

After a long, yet entirely stimulating day, the membership adjourned to a variety of the increasing number of pubs, curry houses, and restaurants that line the streets neighbouring the University to continue conversation and re-establish friendships. The conference meal took place in the once and now- once again, after refurbishment- grand railway hotel, the Victoria.

Anthea Boylston and this writer, with demonstration help provided by Jenny Coughlan and Malin Holst, organised the Sunday morning perimortem fracture and fragmentation workshop that drew over 40 interested persons. The workshop discussed the means by which to identify such fracturing in archaeological remains and reviewed the importance of this information to understanding violent trauma in human remains from archaeological and forensic anthropological contexts and in funerary rites involving fragmentation of the corpse before deposition.



Delegates at the trauma workshop, Calvin Wells Laboratory, Bradford.

On the Sunday after the BABAO meeting drew to a close, a number of delegates gathered to celebrate the reunion of past graduates from the joint Bradford and Sheffield MSc. course in Osteology, Palaeopathology, and Funerary Archaeology. The Course has produced some 150 graduates over its 10 years of existence. Over the three days of the conference about 50 of these graduates could be seen attending papers, giving papers and posters, and participating in the workshop with many more sending messages from as faraway as Canada, the United States, and Greece. Sarah Robinson, who was unable to attend due to a broken leg, thoughtfully included radiographs of her injured limb. The dissolution of the joint course anticipated the rise of two courses, one at Sheffield and another at Bradford. When the joint course was formed it was alone in the academic landscape of the United Kingdom. Today, similar courses are now offered at Southampton, Durham, and Bournemouth. Along with new 'green field' faculty appointments in the last few years at Birmingham, Southampton, Bournemouth, Durham, Sheffield, and Bradford, the number of these courses attest to the rise and increasing interest in skeletal studies in the United Kingdom. Coupled with the conspicuous media interest in human remains at present, these developments augur well for the health and vitality of this branch of biological anthropology in the future.

I will take this opportunity to thank those who worked before, during, and after the conference to make it a success: Dr. Mary Lewis (now at Durham University), John McIlwaine (Continuing Education Officer in the Department of Archaeological Sciences), Andrew Wilson (Doctoral Candidate in the Departments of Archaeological and Biomedical Sciences at Bradford, and Andrew Holland (MSc. Forensic Anthropology student). I also thank the session chairs, Holger Schutkowski (Bradford), Jim Spriggs (York Archaeological Trust), Simon Mays (English Heritage), William Lindsay (Natural History Museum), and Mark Pollard (Bradford), for helping to marshal speakers, questioners, and discussion throughout the meeting.

The International Network for the History of Leprosy (Group of Göttingen)

By Piers Mitchell, University of London

The International Network for the History of Leprosy (INHL) was founded in 1995 when a group of like minded researchers saw the need for more organised approach to the study of leprosy in the past. The conference they happened to meet at was in Göttingen in Germany and this explains the less formal alternative title for the INHL.

Since the original meeting in Göttingen, a subsequent meeting took place at the University of Rouen in France in June 1998. A range of scholars from across Europe presented papers on leprosy and leprosaria from both historical and archaeological viewpoints. The emphasis of this conference was the social impact leprosy had on populations in the past. The following year, in 1999, members attended the 3rd International Congress for the Evolution and Paleoepidemiology of Infectious Diseases (ICEPID) which took place at the University of Bradford, UK, since this was on the topic of leprosy. A further meeting took place at the University of Trier, Germany in December 2000 and papers are to be published in a forthcoming book.

Current coordinated research by members includes a definitive work on the location, history and archaeology of leprosaria in northern France during the Middle Ages. There is a yearly bulletin, published in English and French, outlining news of interest, relevant publications and members queries.

Publications
English and French language papers from the conference in Rouen have been published in September 2000 in Cahiers du GRHIS volume 11, entitled Lepreux et Sociabilite du Moyen Age aux Temps Modernes. The journal can be ordered for 95 francs from: GRHIS -UPRESA CNRS 6064, University de Rouen, Faculte des Lettres & Sciences Humaines, 76821 Mont-Saint-Aignan cedex, France. Fax:+33 /(0)2 35 14 80 67.

Each year a Bulletin is produced with news of relevant publications, conferences, seminars, theses, fieldwork, web sites and members requests for information and collaboration.

Membership
Those interested in joining the INHL can contact: Dr.Piers Mitchell, INHL Editor, 2 Milton Mansions, Queen's Club Gardens, London W14 9RP, p.mitchell@clara.co.uk

Membership is free. Please give your name, title and address, any recent publications, conference presentations, fieldwork and work in progress in the field of leprosy. Copies of the 2000 Bulletin are available on request.

PHD TITLES & ABSTRACTS

ANWEN CAFFELL **Application of Geographical Information Systems (G.I.S.) to Studying Disease in Archaeological Populations.** Department of Archaeology, University of Durham.

This research project explores the use of standard GIS methods employed in medicine and medical geography today for the purposes of tracking the appearance, distribution and decline of disease in archaeological populations through time in Britain. There is much extant information available about the skeletal evidence for disease in populations in Britain but very little collation of data. These data are, for the majority, concerned with the Romano-British to late and post-medieval periods. There is a need to plot this information for Britain, to assess distribution patterns according to climate, geology, geography and other variables, which may affect the distribution of specific diseases at certain points in time. The application of GIS in this context has never been attempted before in Britain.

CORINNE DUHIG**: 'They are eating people here!' Skeletal indicators of stress in the Egyptian First Intermediate Period**. (Completed Summer 2000).

BROOKE MAGNANTI **Application of molecular modelling algorithms and database methodologies to the three-dimensional analysis of human skeletal remains** (provisional title). Forensic Science Centre, University of Sheffield.

JESSICA A PEARSON: **The stable isotope analysis of the human, animal and plantremains from the Early Neolithic site of Çatalhöyük, Turkey.**
Research Laboratory for Archaeology, University of Oxford.

The stable carbon ($\delta^{12}C$ and $\delta^{13}C$) and nitrogen ($\delta^{14}N$ and $\delta^{15}N$) isotope analyses being undertaken at Çatalhöyük are among the first to be applied to archaeological sites in the Near East. The ratios of these isotopes - expressed as $\delta^{13}C$ and $\delta^{15}N$ (respectively) and measured in parts per thousand (‰) - allow trophic levels to be plotted with subsequent elucidation of the relationship between the consumers and the consumed. This has been particularly successful for the identification and quantification of the contribution of marine and terrestrial resources during the Mesolithic/Neolithic transition in Europe.

This project is the first to undertake a systematic study of the food web at a site of human occupation that includes plant remains. It is hoped that the results of this research will provide evidence of status and gender differences indicative from diet, rather than from funerary practice and associated assemblages. Potentially, it could provide evidence for the dietary protein acquired from cattle in relation to other animal resources. Social practices such as extent of nursing and the age of weaning can also be elucidated with this method. In addition to the comprehensive analyses, which will be undertaken at this site, further analyses will be

systematically applied to other sites in the Near East to provide general evidence for resource exploitation and the potential social constructs in the early Neolithic of the Near East.

This research is funded by a Wellcome Trust Prize Studentship in Bioarchaeology.

JILL RHODES **A Biochemical And Social Investigation Into Past Behaviour Through Analyses Of Humeral Torsion And Other Activity Related Change In The Pectoral Girdle And Upper Limb.** Department of Archaeological Sciences, University of Bradford.

The pattern of osseous change 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 – size, orientation and shape of morphological features – in the pectoral girdle and upper limb and compare them with modern clinical sports literature of lateral asymmetry (from hand preference). 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. This type of research has the potential to reveal the advent and development of labour distinctions and craft specialisation and, in more recent periods, occupation. This study will take into consideration age-related changes and patterns of asymmetry that indicate shifts in the manner in which upper limbs were used.

Specific research questions involve whether or not humeral torsion is related to activity rather than being related to skeletal robusticity. It will answer questions of altered pectoral girdle and upper limb biomechanics through aspects of hypertrophy and atrophy of limb elements and their muscle attachments, in relation to torsion and bowing of the upper limb long bones. This project also allows for the investigation of the physical results of participation in medieval warfare and the development of full-time soldiering in the period immediately before the historically recorded advent of standing armies in the Late Medieval period.

MARIANNE SCHWEICH **Diachronic change in stature and body proportions in European Holocene populations.** Department of Archaeological Sciences, University of Bradford.

This research involves the analysis of diachronic changes in stature and body proportions in European populations from the Holocene to the present day. Stature is sensitive to external factors, such as environmental, social, economic, and political conditions, as well as health status of the individual and the population. Therefore, an analysis of mean statures within and between populations can provide quantifiable data concerning those external conditions in which a population was, or is, living. Body proportions are directly related to stature, since, for example, allometric changes in the distal lower limb segment or increase in relative sitting height contribute to overall stature. Moreover, body proportions themselves are thought to be influenced by the same external conditions that influence stature, perhaps even more so than stature itself. Therefore this research provides a biometric database for Holocene European populations, and one useful for further bioanthropological, sociocultural and historical studies.

I would be grateful for information about large, well-preserved European skeletal collections from within my time-frame. The address for correspondence is:
Marianne Schweich, Dept of Archaeological Science
University of Bradford, Bradford BD7 1DP

TIM THOMPSON **Examination of the effects of heating, burning and cremation on the skeletal paramaters of human identification** (provisional title). Forensic Science Centre, University of Sheffield.

ANASTASIA TSALIKI: **Investigation of extraordinary Greek human body disposals, with special reference to necrophobia**. University of Durham, UK

This research will (re-)examine *unusual* burials and other types of disposal of the ancient dead in Greece. The term 'unusual burials/disposals' includes, e.g. mass burials without obvious cause or historical documentation, primary and secondary burials in unusual places and/or positions by comparison to the ordinary burial customs of the cultural group or of the time period, segmental human skeletal remains accompanied or not by intense ritual activity and human skeletal remains found in features such as pits and wells.

The theoretical premise of this project is that the burial/disposal type and the physical condition of the skeleton often reflect status during life and social complexity. Therefore, an attempt will be made to explain these particular treatments of human remains, considering the burial customs our knowledge of ritual and superstitious beliefs (sacrifices, fear of the death and the dead - *necrophobia* -) the social factors (social ''purity'', crime, neonaticides, infanticides, senicides) the taphonomy of the remains, and the anthropological - biological data that will be provided by the skeletons

themselves. A comparative, ethnoarchaeological approach with related literature study mainly on Cyprus, Egypt, Etruria and Rome is also planned, so that a fuller understanding of these ancient interactive Mediterranean civilisations can be achieved.

If you know of cases of extraordinary burials in Greece, if you have excavated such a material and you would like to include it in this research, or if you have comments and questions, please feel free to contact me at the Dept. of Archaeology, South Road, University of Durham, Durham DH1 3LE, UK. Or: 117 Marias Hatzikiriakou str. Kallipolis 185 39, Piraeus, Greece jaguar2000@iname.com or Anastasia.Tsaliki@durham.ac.uk

TAUGHT COURSES

Palaeopathology Short Course

Organised by the
Universities of Bradford and Durham (U.K.)
in conjunction with the
Smithsonian Institution

Professor Donald Ortner of the Department of Anthropology, Smithsonian Institution, Dr. Charlotte Roberts of the Department of Archaeology, University of Durham, and Dr. Christopher Knüsel of the Department of Archaeological Sciences, University of Bradford announce the 5th European Palaeopathology short course that will take place from the August 20th to the 31st, 2000, at the University of Bradford. This course will again cover topics in the study of health and demographic characteristics of past human populations, including age estimation and sex determination, estimates of body proportion and stature from human remains, specific and non-specific infectious disease, degenerative joint disease, metabolic disease, congenital abnormality, stress indicators, dental disease, activity-related skeletal change, and the use of histological techniques in the differential diagnosis of ancient disease. For the first time, this course will also include a lecture on the use of ancient DNA to complement and extend the macro and microscopic analysis of palaeopathological conditions.

For further information and application forms, please contact: Dr. Christopher Knüsel, Calvin Wells Laboratory, Department of Archaeological Sciences, University of Bradford, Bradford, West Yorkshire, BD7 1DP, United Kingdom, Tel: +44 (0)1274 233534, Fax: +44 (0)21274 235190, E-Mail: c.knusel@bradford.ac.uk

MA in Medicine, Occupation and Health in Historical Perspective

School of Historical, Political & Sociological Studies, University of Exeter

The Centre for the History of Medicine was formed in 1997 to enhance the University's reputation for research within the field of medieval history and for the social study of contemporary medical and health-related activities. The school is strongly committed to graduate study and wishes to attract from a diverse a background as possible in order to encourage different perspectives and approaches.

One of the core issues facing any advanced society is the health and welfare of its population, including the quality of the working life which its citizens enjoy. In recent years, both academics and practitioners have become increasingly aware of the implications and medical consequences of physical and emotional stress within the workplace. This MA is the multidisciplinary study of the role of modern medicine and medical medicine in the workplace in an international context. It integrates the history of medicine and medical practice with contemporary issues in occupational health.

The programme is coordinated by Dr Joseph Melling and the teaching team includes Dr Mark Jackson, Dr Jonathan Barry, Prof. Barry Barnes, Prof. John Dupré and Dr Angelica Richardson.

For further information contact:
Dr Joseph Melling, Amory Building, Rennes Drive, University of Exeter, Exeter EX4 4QH. Tel: 01392 263297/264631 or e-mail: J.L.Melling@exeter.ac.uk or MedArch@exeter.ac.uk.

NEW BOOKS (1999-2000)

COX M, AND MAYS S, eds. (2000) *Human Osteology in Archaeology and Forensic Science*. London: Greenwich Medical Media Ltd.

CRAWFORD S (1999) *Childhood in Anglo-Saxon England*. Gloucestershire: Sutton Publishing.

KATZENBERG, A AND SAUNDERS, S (2000) *Biological Anthropology of the Human Skeleton*. New York: Wiley Liss.

SCHEUER L, AND BLACK S (2000) *Developmental Juvenile Osteology*. London: Academic Press.

MONOGRAPHS

RONEN, A & WEINSTEIN-EURON (eds) (2000) Towards Modern Humans: The Yabrudian and Micoquian 400-50k years ago. Proceedings of the Congress held at the University of Haifa, November 3-9, 1996. BAR International Series. £40.00

OESTIGAARD, T (2000) The Deceased's Life Cycle Rituals in Nepal: Present Cremation Burials for the Interpretation of the Past. BAR International Series. £31.00

KEATES, S.G. (2000) Early and Middle Pleistocene Hominid Behaviour in Northern China. BAR International Series. £56.00.

ATKINSON, J, BANKS, I & MACGREGOR (2000) Townships and Farmsteads: Rural Settlement Studies in Scotland, England and Wales. BAR British Series. £39.00.

KIMBALL, M (2000) Human Ecology and Neolithic Transition in Eastern County Donegal, Ireland. The Lough Swilly Archaeological Survey. BAR British Series. £25.00 with CD.

PUBLICATIONS (2000)

ANDERSON, T. (1999) Archaeological evidence for *os tibiale. The Foot* 9:201-202.

ANDERSON, T. (2000) Basilar clefting: a familial condition? *Ann Anat* 182: 583-87.

ANDERSON, T. (2000) A medieval Italian child with osteochondritis dissecans of the cuboid. *The Foot* 10: 216-18.

BAXTER, MJ, BEARDAH, CC., AND WESTWOOD, S. (2000) Sample size and related issues in the analysis of lead isotope data. *Journal of Archaeological Science* 27 (10): 973-980.

BOYLSTON, A, KNUSEL, C AND ROBERTS C (2000) Investigation of a Romano-British rural ritual in Bedford, England. *Journal of Archaeological Science* 27 (3): 241-254.

HAVERKORT, C.M. & D. LUBELL (1999). Cutmarks on Capsian human remains: Implications for Maghreb Holocene social organization and palaeoeconomy. *International Journal of Osteoarchaeology* 9(3), pp.147-169.

HEY G, BAYLISS A & BOYLE, A (1999) Iron Age inhumations at Yarnton, Oxfordshire. *Antiquity* 73:551-62.

LILLIE, MC. AND RICHARDS, M (2000) Stable isotope analysis and dental evidence of diet at Mesolithic-Neolithic transition in the Ukraine. *Journal of Archaeological Science* 27(10): 965-972.

MAYS, S (2000) Age dependant cortical bone loss in women from 18th and early nineteenth century London. *American Journal of Physical Anthropology* 112(3): 349-361.

MILES, AEW (2000) Two shoulder-joint dislocations in early 19th century Londoners. *International Journal of Osteoarchaeology* 10(2): 125-134.

MILES, AEW (2000) Developing stages of subacromial humeral impingement facets in the skeletal remains of two human populations. *International Journal of Osteoarchaeology* 10(3): 161-176.

MITCHELL, PD. (2000) The Evolution of Social Attitudes to the Medical Care of those with Leprosy within the Crusader States. *Cahiers du GRHIS* (Rouen) 11: 21-30.

MITCHELL, PD. (2000) An Evaluation of the Leprosy of King Baldwin IV of Jerusalem in the Context of the Mediaeval World. Appendix in: B. Hamilton. *The Leper King and his Heirs Baldwin IV and the Crusader Kingdom of Jerusalem*. Cambridge University Press: Cambridge. p.245-58.

MITCHELL, PD. AND STERN, E. (1999) Parasitic intestinal helminth ova from the latrines of the 13th century crusader hospital of St. John in Acre, Israel. Abstract. *Journal of Paleopathology* 11(2): 85.

NIELSEN-MARSH, C. AND HEDGES, REM. (2000) Patterns of diagenesis in bone I: The effects of site environments. *Journal of Archaeological Science* 27(12): 1139-1150.

NIELSEN-MARSH, C. AND HEDGES, REM. (2000) Patterns of diagenesis in bone II: Effects of acetic acid treatment and the removal of diagenetic CO_3^2. *Journal of Archaeological Science* 27(12): 1151-1159.

REID, DJ, AND DEAN, MC (2000) Brief Communication: The timing of linear hypoplasias in human anterior teeth. *American Journal of Physical Anthropology* 113(1): 135-139.

RICHARDS, M., HEDGES, REM., JACOBI, R., CURRENT, A. AND STRINGER, C. (2000) Gough's Cave and Sunhole Cave stable isotope values indicvate a high animal protein diet in the British Palaeolithic. *Journal of Archaeological Science* 27(1): 1-3.

ROBERTS, C (2000) Book review of The Cambridge Encyclopedia of Human Palaeopathology by A. Aufderheide and C. Rodriguez-Martin (Cambridge University Press). *Medical History* 44: 121-122.

ROBERTS C (1999) Disability in the skeletal record: assumptions, problems and some examples. *Archaeological Reviews from Cambridge* 15(2): 79-97.

ROBERTS, C AND BROWN, TA (2000) Book review of Digging for Pathogens edited by CL Greenblatt. *American Journal of Physical Anthropology* 112(2): 288-290.

SOFAER-DEREVENSKI, J (2000) sex differences in activity related osseeous change in the spine and the gendered division of labour at Ensay and Wharram Percy, UK. *American Journal of Physical Anthropology* 111(3): 333-354.

TAYLOR, C, WIDDISON, S., BROWN, I., YOUNG, D AND MOLLESON, T. (2000) A mwedieval case of lepromatous leprosy from 13h –14th centuey Orkney, Scotland. *Journal of Archaeological Science* 27(12)

TSALIKI, A., (2000) Environmental remains and burials from Neolithic and Chalcolithic Cyprus, http://www.ancientcyprus.ac.uk/papers/tsaliki1/page1.htm.

BONE REPORTS

ANDERSON, T. (1999b) The disarticulated human bones: Wetherspoons Coventry. In Thompson, P. *Archaeological "Watching Brief" Wetherspoons Public House "The Flying Standard" 2-10, Trinity Street, Coventry*. Coventry Museums Archaeological Unit Report No 99/50. pp. 4-14.

ANDERSON, T. (1999e) The cremated bone. In: Parfitt, K. A "Belgic" Cremation: Deal. *Archaeologia Cantiana* 119: 381-89 (pp. 386-7)

CUIJPERS, AGFM, CM. HAVERKORT, JM. PASVEER & W. PRUMMEL (1999). The human burials. In: J.C. Besteman, J.M. Bos, D.A. Gerrets, H.A. Heidinga & J. de Koning (eds.) *The Excavations at Wijnaldum. Reports on Frisia in Roman and Medieval Times. Vol.1.* A.A. Balkema/Rotterdam/Brookfield, pp.305-321.

MEMBERSHIP LIST

Allen, Debbi. Student
Anderson, Sue. Finds Manager
Anderson, Trevor. Osteoarchaeologist
Arnott, Robert. Lecturer and Head of the History of Medicine Research Group
Barker, Caroline. Archaeologist/Osteologist
Bekvalac, Jelena. Osteoarchaeologist
Bell, Austen. Postgraduate Student
Bell, Lynne. Wellcome Research Fellow
Birch, Wendy. Anatomy Technician
Bishop, Laura. Lecturer
Black, Sue. Forensic Anthropologist
Boghi, Francesca. Archaeologist/Osteologist
Boston, Ceridwen. MSc Student
Boylston, Anthea. Contract Worker
Brayne, Kate. Freelance Human Bone Specialist
Brickley, Megan. Lecturer, Birmingham University
Broehm, Cory. Student - University of Bradford
Broné, Mia. Student
Brothwell, Don. Archaeologist
Buckberry, Joanne (Jo). Student - University of Sheffield
Budd, Paul. Research Scientist and Consultant
Caffell, Anwen. Human Bone Processor, MoLSS
Chamberlain, Andrew. Lecturer
Chapman, Stanley. Retired, Leicester University
Cheek, Kate. Student - UCL
Clegg, Margaret. Postgraduate Student
Cole, Marianne. Student
Connell, Brian. Human Osteologist
Cox, Margaret. Professor of Forensic Archaeology and Anthropology (Bournemouth University)
Craig, Catherine. Archaeologist
Davis, Barry. Collection's Manager, Museums of the Royal College of Surgeons of England
Derry, Laura. Student
Dodd, Steven. Scenes of Crime Officer
Dodwell, Natasha. Osteoarchaeologist
Duhig, Corinne. Osteoarchaeologist / Forensic Anthropologist
During, Ebba. Lecturer
Evison, Martin. Lecturer
Ferllini Timms, Roxanna. Forensic Anthropologist
Foster, Martyn. Research Pathologist
George, Alison. Part-time student
Glade, Amber. Student - University of Durham
Gowland, Rebecca. Student
Graham, Janine. Administration/Data Input Clerk
Grauer, Anne. Associate Professor
Gray Jones, Amy. MSc Student
Halpin, Richard. Student
Harding, Celia. Archaeologist
Harrison, Karl. MSc student
Haverkort, Caroline. PhD student
Hawkesley, G. Retired
Higgins, Joanna. Archaeologist/MSc Student
Hillson, Simon. Reader in Bioarchaeology
Hodgins, Ian. GP
Hogarth, Jacob. PhD student
Holmes, Mandy. ATO Molecular Genetics
Holst, Malin. Osteological Contract Worker
Humphrey, Louise. Natural History Museum
Hunt, Veronica. Research Assistant
Hunter, Lisa. MSc Student

Ives, Rachel. Postgraduate student
Jakob, Tina. PhD Student
Judd, Margaret. Bioarchaeologist
Kausmally, Tania. Archaeologist/Osteologist
Keating, Denise. MSc Student
King, Sarah. Researcher - Biological Anthropology
Knüsel, Christopher. Lecturer in Biological Anthropology
Leach, Stephany. Osteoarchaeologist
Lewis, Mary. Research Associate - Durham
Lillie, Malcolm. Senior Palaeoenvironmentalist
Linton, Jessica. Student
Loe, Louise. Postgraduate, Department of Archaeology, Bristol
Logan, Samantha. Student
Lorimer, Daphne. Freelance Human Bone Analyst
Loudon, Bente. Teacher, PT Student: Postgraduate Diploma in Museum Studies, University of Leicester
Mackinnon, Gaille. Biological Anthropologist
Mahon, Pamela. MA Osteoarchaeology student
Márk, László. Osteochemistry, Osteoarchaeology andPaleoserology
Martinez Okumura, Maria. Student
Mays, Simon. Human Skeletal Biologist in AML, English Heritage
McNaught, Janet. Radiographer and research student
McEwan, Jan. University of Alberta
McKinley, Jacqueline. Project Officer (Osteoarchaeologist), Wessex Archaeology
Mifsud, Chas. Retired
Millard, Andrew. Lecturer
Mitchell, Piers. Wellcome Research Fellow
Moore, L. Research Associate
Morris, William. Police Officer (MSc Forensic Archaeology student)
Mortimer, David. PhD Student
Mortimer, Paul. Human Sciences Graduate
Mulcare, Charlotte. Student
Murphy, Eileen. Contract Osteoarchaeologist
Neave, Richard. Artist in Medicine and Life Sciences
Needham, Caroline. Student (MPhil Medical Art)
Nicoll, Louise. MSc Student
O'Connell, Linda. Lecturer / PhD Student
O'Regan, Hannah. PhD Student
Ohman, James. Senior Lecturer in Human Evolution
Old, Hazel. Podiatrist
Owens, Lawrence. Student
Patrick, Philippa. Cambridge Archaeological Unit
Pearson, Jessica. PhD student
Perreard, Genevieve. Doctorante
Pounder, Derrick. Forensic Pathologist
Powers, Natasha. Human Osteologist - MoLSS
Quinn, Judith. Archaeologist
Redfern, Rebecca. Student
Rhodes, Jill. PhD student
Robb, John. Lecturer
Roberts, Julie. Project Officer (Biological Anthropologist)
Roberts, Charlotte. University Reader
Roberts, Derek. Retired
Robson Brown, Kate. Lecturer in Human Origins
Roche, John. Bournemouth University
Sargent, Delia. Research Assistant
Schulting, Rick. Research Associate
Schutkowski, Holger. Reader in Biological Anthropology
Schweich, Marianne. PhD Student
Sibun, Lucy. Field Archaeologist / Osteoarchaeologist
Slater, Georgina. Student
Smith, Samantha. Physical Anthropologist/Archaeologist
Stainer, Hilary. Funeral Director/ Embalmer/ Osteoarchaeologist
Stallibrass, Sue. English Heritage Regional Advisor in Archaeological Science
Steele, James. Lecturer in archaeology
Stirland, Ann. Human Skeletal Biologist. Editor of IJO
Stock, Gwynne. Retired
Stockley, Laura. MSc Osteoarchaeology student
Storm, Rebecca. MSc Student
Sykes, Bryan. Professor of Human Genetics
Tafuri, MaryAnne. PhD Student
Teale, Catherine. Osteoarchaeologist MoLSS
Trafford, Pamela. Student
Trickett, Mark. PhD student
Tyrrell, Andrew. CILHI Forensic Anthropologist
Walker, Donald. Anthropologist
Walton Matthews, Helene. Student
Ward, Susan. Occupational Health Practitioner
West, Richard. Retired Paediatrician
Weston, Darlene. PhD Student
Westron, Paul. Field Archaeologist
White, Bill. Human Osteologist
Wroe, Matthew. Student Union Officr
Wysocki, Michael.Research assistant/Osteoarchaeologist
Zakrzewski, Sonia. PhD Student

Forthcoming from Oxbow Books

Blood Red Roses

The Archaeology of a Mass Grave from the Battle of Towton AD 1461

Edited by Veronica Fiorato, Anthea Boylston And Christopher Knüsel
With a foreword by Robert Hardy

In 1996 a mass grave believed to be from the Battle of Towton was discovered by chance. This provided the opportunity for the first archaeological excavation of a mass grave from an English battlefield and was the catalyst for a multi-disciplinary research project, beginning with the excavation of the grave, and then a study of the skeletal remains, the battlefield landscape, the historical evidence and contemporary arms and armour. The discoveries were dramatic and moving; the individuals had clearly suffered traumatic deaths and subsequent research highlighted the often multiple wounds each individual had received before, and in some cases after, they had died. The exciting forensic work was documented in the Channel Four programme in the series *Secrets of the Dead.* An important and controversial question that emerged was whether the soldiers had been killed in battle, or executed as prisoners in its aftermath. This volume publishes the excavation reports and subsequent research, revealing much information about how and in what circumstances the men died and the fighting techniques and weapons and armour employed. Also discussed are the wider implications of the discovery, both in terms of increasing our knowledge and understanding of what happened at Towton, and what it contributes to our knowledge of Medieval warfare.

Contents: Site discovery, context and excavation: The context of the discovery (*Veronica Fiorato*); The historical background to the battle and the documentary evidence (*Andrew Boardman*); The excavation and finds (*Andrea Burgess*); Recording the grave (*Tim Sutherland*); **The Human Remains**: The physical anthropology (*Anthea Boylston, Malin Holst and Jennifer Coughlan*); Health status (*Jennifer Coughlan and Malin Holst);* Dental health and disease (*Malin Holst and Jennifer Coughlan)*; Battle-related trauma (*Shannon Novak*); **Arms and Armour of the Fifteenth Century:** Weapons (*Graeme Rimer*), Archery (*John Waller*), Armour (*Thom Richardson*), Combat techniques (*John Waller*); **The Wider Implications of the Discovery:** The archaeological investigation of the battlefield (*Tim Sutherland*); How has the Towton project contributed to our knowledge of medieval warfare? (*Christopher Knusel and Anthea Boylston*); Battlefield protection and the current extent of archaeological research (*Veronica Fiorato*).

Published December 2000 in hardback, Priced £30 (special offer of £20 for orders before 31st March)

ORDER FORM. SEND TO: Oxbow Books, Park End Place, Oxford, OX1 1HN

Tel: 01865 241249; Fax: 01865 794449; email: oxbow@oxbowbooks.com

Please record an order for …….copies of Blood Red Roses and send it to me on publication (expected Dec 2000)

Postage and packing: UK customers please add £3.50; overseas customers will be charged postage at actual cost

Card number and expiry date (Amex, Mastercard, Visa, Switch)

…… Issue no (Switch) …….

Name ……

Address ……………………………………………………………………………………………………
……………………………………………………………………………………………………