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BRITISH ASSOCIATION FOR BIOLOGICAL ANTHROPOLOGY AND OSTEOLOGY ANNUAL REVIEW

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WELCOME TO THE ANNUAL REVIEW FOR 2012

By Jo Appleby

Welcome to the Annual Review for 2012. It has been another successful year for BABAO, with overall membership up to 456 despite the continuing financial troubles of the wider economy.

The annual conference in Bournemouth in September was no less than a triumph. Sarah Inskip has kindly provided us with a review of the conference, reminding us all both of the strong academic showing in the papers presented, and the very high standard of this year's cake!

May I take this opportunity to invite members to write reviews of other conferences they attend during the year for inclusion in the Annual Review. It provides an excellent opportunity to bring to the attention of BABAO members research that they might otherwise not hear about. If you find yourself at a conference with an osteological or biological anthropological bent, please consider writing about it. I will be in touch to hassle you all about this again in the autumn!

Finally, I would like to thank Keith Manchester for his moving personal obituary of Don Ortner, which you can read below. It is clear that Don will be sadly missed by many.

I wish you all a very successful year's research and look forward to seeing you in York in September.

ASSOCIATION NEWS

President's Column

By Piers Mitchell

I would like to start by thanking my predecessor in the president's post, Chris Knüsel for the tremendous job he did during his three years in charge. It has sometimes been said that in the first decade of its

existence BABAO has been a somewhat reactive organisation. However, Chris has turned it into a much more proactive organisation, initiating a great range of projects and activities that raise the profile of the association, educate the public, and also help its members. My one regret about his industrious nature is that this will now be a hard act to follow, as members will understandably compare the new guy with the last guy. However, I will do my best to claim as much credit as I can for those of his ideas that come to fruition on my watch.

BABAO is in the final stages of becoming a charity. We already do plenty of outreach and educational activities with the public (see below) that justify charitable status. This will allow us to avoid paying tax on some aspects of our income and so make us as cost efficient as possible. Many thanks go to our treasurer Gundula Müldner for her hard work on this.

On 5th July last year BABAO ran a stall at the London Anthropology Day in the British Museum, an event organised by the Royal Anthropological Society. Thanks go to Jelena Bekvalac, Stephanie Vincent, Shirley Curtis, Priscilla Ulguim and Alison Roe Atkin for their hard work on the day. The aim of the stall was to guide the A-level students attending as to the options and opportunities for study in the field of biological anthropology, without having any vested interest ourselves in where to study, or what fields to study. For 2013 we have been invited by the organisers to hold a workshop as well as a stall, and members of the committee are organising a stimulating session that hopes to keep teenagers' attention for at least 45 minutes (good luck to them).

The British Science Festival is to be held this year in Newcastle from 7-12th September and BABAO will be represented for the first time. The festival aims to bring science to the general public and the media through a range of educational events. BABAO will be hosting a debate entitled 'Plague and Pestilence: Which was the Most Important Infectious Disease to have Affected People in Britain in the Past'. We hope to hold future events to

bring awareness of different aspects of biological anthropology to the general public, and help increase their understanding of the fascinating field we all know and love. Let's hope our workshop will not be competing with Richard Dawkins or Jim Al-Khalili next door.

Trends in Biological Anthropology is the new BABAO book series to be published by Oxbow. This will be comprised of papers presented at the previous year's BABAO conference. All papers will be peer reviewed to ensure a high standard publication. The volume will be sent out to members as part of their subscription. Since only five papers were submitted following the Edinburgh 2011 conference, they are to be added to those from the Bournemouth 2012 conference and will be published together.

BABAO now funds the Database of UK Human Skeletal Collections. When complete, it will be available to all members. It is based upon the personal databases of members such as Charlotte Roberts and Simon Mays, augmented with information from past BABAO Annual Reviews and other sources. Thanks so much to Charlotte and Simon for selflessly donating these. At present it is hosted at Durham University and is being updated and checked by Tina Jacob. When it is ready for use we will let everyone know.

Two grants were awarded to BABAO members from the 17 applications received last May. The winner of the commercial grant was Louise Loe of Oxford Archaeology, and of the academic grant was Lisa Cashmore from Exeter University. We look forward to their presentations at the 2013 conference.

Following representation to the government from BABAO and many other organisations, the new 2012 Ministry of Justice forms licencing the excavation of human skeletal remains no longer includes reference to the reburial or application to extend the licence 2 years after excavation. This clearly facilitates the post-excavation analysis and long-term curation of archaeological human remains, ensuring their availability for future research.

We are in the process of setting up a better system for the on-line availability of osteological reports in the grey literature. Our publicity secretary and web-master Tim Thompson has been liaising with the archaeology data service (ADS) so they can host these reports as downloadable pdfs, but also have an effective keyword search system to allow us all to identify reports of interest more easily.

Now for conference news. Many thanks to Martin Smith, Karina Gerda-Radonic, Holger Schutkowski and their team for hosting the successful 2012 conference at Bournemouth. Next year's conference will be hosted by Malin Holst and the Archaeology Department at the University of York from 13-15th September. The 2014 conference is to be hosted at Durham University by Charlotte Roberts, Becky Gowland and Andrew Millard, from 12-14th September. The 2015 conference is to be hosted at the University of Sheffield by Dawn Hadley, Pia Nystrom and their team.

In recent years we have tried hard to hold conference sessions on all aspects of biological anthropology in order to make the association as inclusive as possible. While osteoarchaeology and palaeopathology are particular strengths of the organisation, at the past three conferences we have also held sessions on primatology, evolutionary anthropology, DNA and biomolecules, isotopes, and forensic science. The committee is keen to continue this theme of proactively inviting experts from every field of biological anthropology to present their work at the annual conference. In this way, the content of our conferences will genuinely start to reflect the title of our organisation.

Report from the Membership Secretary
By Stefanie Vincent

Membership numbers stood at 456 at the end of 2012, slightly increased from 411 in 2011. The makeup of our membership has remained consistent; waged and student members stand

at around 45% each, with unwaged members making up the remainder. A detailed breakdown of our membership can be obtained from the table below (please note, members can be in more than one category).

MEMBERSHIP CATEGORIES	
Students	204 (44.7)
Academics	61 (13.4)
Work in commercial sector	65 (14.3)
Anthropologist/archaeologist	32 (7)
Osteologist	46 (10.1)
Unemployed	28 (6.1)
Forensic specialists	24 (5.3)
Work in Museums	7 (1.5)
Medical	8 (1.8)
Retired	4 (0.9)
No information supplied	3 (0.6)
Other occupations	11 (2.4)

‘Other occupations’ covers a varied range of professions providing us with a dynamic and interesting membership. I would like to take this opportunity to encourage members to use the ‘change of details’ form available on the membership section of www.babao.org.uk to track changes in job titles, positions and affiliations in addition to personal details.

We recruited 78 new members during 2012, in comparison to 96 during 2011. The majority of these were UK residents (74%), with the remaining 26% representing overseas members.

In 2011 we introduced an introductory free membership for those joining late in the year (from October onwards, applicable to new members only). 11 of our new members joined during this period in 2012, although it is too early to establish if this is translating into an increase in paying members.

We currently have 99 overseas members who make up 21.7% of our total membership. The majority of our overseas members come from Europe (n=57), but we also have members from the Americas (n=31) and other areas including Australia, New Zealand and Japan (n=11).

Online payments increased in popularity during 2012 with 77% of the membership paying via standing order or Pay Pal. I can only encourage you to choose these paper and hassle free methods of paying your subscription.

Please do not hesitate to contact me if there are any questions regarding BABAO membership; either at the address inside the front cover of the Annual Review or through our website at www.babao.org.uk.

Report from the Student Representative

By Evilena Anastasiou

The Student Members of BABAO are a vital part of the organisation with a positive contribution to BABAO's various activities. Each year the student members have a dynamic presence in the Annual Conference, with podium and poster presentations on the latest developments in the discipline. At the same time, the student members are actively engaging with the organisation's social media.

The Student Member's Facebook group is a vibrant community, numbering more than 150 members. Within the group we exchange information about funding opportunities, upcoming conferences and workshops, museum exhibitions, new publications and new discoveries in the field.

Furthermore, the BABAO website now hosts a dedicated Student Hub, where there is information about relevant courses, useful presentation tips, as well as advice on career development. The Student Hub also hosts a Forum, where the student members can post information about themselves, their aspirations and particular interests within the broader discipline. The aim of the forum is to promote collaborations within the student community, by facilitating communication between BABAO's members. It is our hope that in the next few years the Student Hub will become a dynamic online platform, where the student members will be able to refer to regularly.

If you would like to become a part of the Student Facebook Group, visit our page at <http://www.facebook.com/groups/20007038661/?ref=ts> Alternatively, email me at ea333@cam.ac.uk to add you to the student members email group, which does not require a Facebook subscription. You can also send information to be posted on the Student Forum to either me or to our publicity secretary, Tim Thompson.

Do not hesitate to contact me with any questions or suggestions regarding the student members of BABAO, our activities, or our social media presence.

PEOPLE

In January 2013, Nivien Speith (University of Bradford/University of Exeter) was appointed Associate Newsletter Editor of the Paleopathology Association (PPA), taking over the post as Newsletter Editor from 2014. BABAO members are encouraged to submit any news about activities in palaeopathology that they would like to see distributed in the PPA quarterly newsletters, including research opportunities, projects, field schools, exhibitions or meetings to Dr Nivien Speith at nivien@mac.com

Fiona Coward has joined the School of Applied Sciences at Bournemouth University as Lecturer in Archaeological Science.

Laura Basell has joined the School of Applied Sciences at Bournemouth University as Senior Lecturer in Palaeoanthropology.

Lizzy Craig-Atkins will be leaving Bournemouth University to join the Department of Archaeology, University of Sheffield as Lecturer in Human Osteology from March 2012. We are very grateful to Lizzy for all that she has done during her time with us and wish her all the best for the future (from all the Team at Bournemouth).

In May 2012 Hayley Forsyth began a new freelance contract role as Project Co-ordinator for the Heritage Lottery Funded Eastbourne Ancestors Project run by the Eastbourne Museum Service. Eastbourne Ancestors is a community based project researching the skeletal remains and associated archaeological material within the collections of the Museum Service. Her contact details are:

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Project Co-ordinator: Eastbourne Ancestors
Eastbourne Museum Service
Eastbourne Borough Council
Town Hall
Grove Road
Eastbourne
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BN21 4UG
Tel: 01323 415398
Email: Hayley.Forsyth@eastbourne.gov.uk

The start of the year saw Brian Connell and Mike Henderson working at the Centre for Human Bioarchaeology alongside Jelena Bekvalac. At the end of July, Dr James Morris left MOLA to take up a lecturing post at UCLAN. Sadly, due to a downturn in work Brian Connell left MOLA after some 14 years during which he was instrumental in designing the database which is used by both MOLA and the Museum WORD project. In November, Natasha Powers was appointed as Research Coordinator, in addition to her role as Head of Osteology.

Don Walker appeared on Channel 4 and in the Observer presenting the results of research into mass burials found at St Mary Spital, East London. The story also made the front cover of Current Archaeology and has been nominated for their "Rescue excavation of the year" award!

NEWS AND PROJECT UPDATES

Professor Donald J. Ortner. A personal tribute.

By Keith Manchester

Occasionally in life we meet someone of quite extraordinary talent, who is making an outstanding contribution to knowledge, scholarship, and the enrichment of life. Charlotte Roberts and I met such a man in Don Ortner at the Palaeopathology Association European Meeting in Madrid in 1986. Sadly, Don died on April 29th 2012 after a short, but fulminating, illness. He died having achieved more than most of us do in our entire lifetime, but he was not in the fullness of his years.

Don's untimely death robbed the World of its greatest and most distinguished palaeopathologist.

Don and Joyce and their family became very dear friends of my wife Ann and me, and our family, and have been so for the past 26 years. It is therefore my honour to give this tribute to Don.

When Charlotte and I met him, he told us that he would like a hook to hang his coat on in Britain, and to undertake research. I suggested that the University of Bradford might be a suitable venue, and he eagerly accepted. The University appointed him to an Honorary Visiting Professorship in the Department of Archaeological Sciences, and so started a long, happy, and mutually fruitful relationship between Don, The Smithsonian Institution, and the University of Bradford. As a measure of the respect and gratitude which the University felt towards Don, he was awarded an Honorary Doctorate of Science of the University. It is ironic that on the day following Don's death, Bradford University appointed me to an Honorary Visiting Professorship in Palaeopathology. I hope that Don would approve of this academic succession.

Don and Joyce made annual visits to the University, staying for periods of up to three months to become integrated in the undergraduate and postgraduate teaching programmes in osteology and palaeopathology, and to undertake palaeopathological research. His contribution to both aspects was immense and highly valued and appreciated by our students, some of whom subsequently had

student attachments within The Smithsonian, under Don's tutelage and supervision. Wherever he was, he gave freely of his time and advice to students and fellow academics alike, explaining often quite complex palaeopathological matters in a succinct and intelligible way. He instilled in all the absolute need for accurate description in palaeopathology. He advised strongly against over-diagnosis, and always stressed the importance of an understanding of pathogenesis of palaeopathological lesions. Although he and I frequently had friendly academic disagreements, in these tenets we were of one accord.

During his 26 years of academic association with the University, he, with Charlotte's assistance, organised the, now famous, Short Courses at Bradford. He coerced local, national, and international experts into teaching on the Courses which became extremely popular, with worldwide participation. A component of the Courses, which was not scheduled but developed ad hoc, became known as Don and Keiths' Pony Show. He and I would discuss and disagree on diagnosis in a specific specimen; he would insist on diagnosis A and I would insist on diagnosis B, and neither of us would give an inch. A year or two later at the next Short Course, the same specimen would be placed before us. He would insist on diagnosis B and I on diagnosis A. Thus, we were both correct, albeit at different times!

I think that, as a result of my long obsession with the palaeopathology of leprosy, and the curation at Bradford of the Chichester Leprosarium skeletons, Don also became quite obsessed with leprosy, and he contributed much to the corpus of current knowledge. In Mycobacterial palaeopathology it has been remarked that Don and I were alter ego.

Don's publication record is immense, and the crowning glory was his book "Identification of Pathological Conditions in Human Skeletal Remains". A new edition was in preparation, and he honoured me by asking me to write the Forward to the volume. This has now all

halted, but my personal hope is that someone will adopt the mantle and see it through to completion for him.

Aside from academe, Don and Joyce, although American, were consummate Yorkshire Folk. In due course, Charlotte even provided them with Yorkshire passports of which they were very proud. Many a time Ann and I have been walking with them in the Yorkshire Dales, and waited whilst Don leaned on a dry stone wall to moo at a herd of cows. So fond was he of these animals that one cold morning the four of us were walking in Coverdale, and he stood in his wellies in a fresh steaming cow pat to warm his feet. He bought a sheep whistle which he was even known to blow in an academic meeting to draw his audience to heel. His favourite dog was the Border Collie, and he and Joyce had two such friends in Washington, and he delighted in attending Yorkshire sheep dog trials. Given time, I can imagine him in a flat cap and Barbour jacket taking part.

In our family, Ann's aged Lancastrian Aunt Lou addressed Don as "that big bug from America". He delighted in that, and often assumed the title when speaking at academic events. He was not proud, and he was not what Aunt Lou would have called highfalutin. He was an ordinary, quite extraordinary, man.

Don was a good friend, one of the best, to us all. He was a scholar without equal. He was a good and devoted family man, with a very devoted, supportive, and, if I may say so, extremely patient wife Joyce. He was a truly honest and honourable man, and the quintessential gentleman.

His life was untimely ended, but I thank God for having known him and for being privileged with his friendship.

Digitised Diseases: informing clinical understanding of chronic conditions affecting the skeleton using archaeological and historical exemplars

By Emma Brown, Andrew Wilson and Jo Buckberry, University of Bradford.

The *Digitised Diseases* project, led by Andrew Wilson, commenced on November 1 2011. The aim of the project is to produce a web-searchable 3D record of chronic diseases that affect the skeleton using archaeological and historical exemplars from world-renowned collections curated by the BARC and project partners Museum of London Archaeology (MOLA) and the Royal College of Surgeons of England (RCS). The project will result in the mass digitisation of pathological type-specimens using textured 3D laser scans of skeletal elements, with associated clinical descriptions. These will be supported by digitised x-radiographs, and scanned historic medical drawings, accounts and photographs.

Over the last year we have seen rapid progress as the project got underway. Initial problems with calibration of the 3D laser scanners were resolved with the construction of two bespoke scanning tables, weighing in at 120 kg each! These enabled a solid, stable surface for scanning resulting in reduced times for scanning and alignment whilst reducing noise in the process.

The project uses two FARO Quantum Arms with v3 lasers. The first is based in Archaeological Sciences at the University of Bradford, where the majority of the scanning is done. The second scanner is based in London, initially housed at MOLA where more than 300 specimens were scanned, photographed and described before it was moved to RCS in November 2012 for the next phase of the project.

The project employs an integrated team of specialists selecting and describing type specimens, digitally documenting and photographing the bones before the raw scan data is processed to include photo-realistic 'textured' models. Our team of texturers have

also produced a number of videos showing some of the finished 3D models available to view on the *Digitised Diseases* YouTube channel.

As of January 2013, 615 scans have been completed by the Bradford team. With the previous scans completed for the *From Cemetery to Clinic* project, the Bradford team have completed over 1000 scanned elements from the BARC collection, covering a wide range of pathological changes evident in the human skeleton. This year also saw the launch of the 3D Bones website, which brings together material from *From Cemetery to Clinic* and *Digitised Diseases*. This website will host the finished 3D models, associated radiographs, and documentation including site information and historical information associated with each specimen.

Links:

3D bones: <http://barc.sls.brad.ac.uk/3dbones/>
Twitter: @digitdiseases (hashtag #digitdiseases)
Facebook: www.facebook.com/digidiseases
Blog: <http://digitiseddiseases.wordpress.com>
YouTube:
<http://www.youtube.com/user/DigitisedDiseases>

**Chapel House Wood Ritual Landscape –
Research Project**

By Janet Fletcher

Chapel House Wood is part of a ritual landscape within the Yorkshire Dales National Park (YDNP) and the area under investigation at present comprises two burial cairns with earth-fast boulders around which are centred human remains, within one metre of the boulder in all directions.

Excavations here in 2004 by the local heritage group expected to find that this site was a lime burning kiln. It was therefore a surprise to them when human bone was identified post excavation. Unfortunately the context and relationship of this bone was not securely recorded

Initially asked to analyse and report on this bone, I reopened the site as the excavation Director in 2006 and the team has been digging here ever since with the very able assistance, since 2009, of postgraduate students from the University of Manchester KNH Biomedical Egyptology and Archaeology

Excavations continue to reveal human remains and the nature of the site, its stratigraphy and its position in the local, national and international archaeological landscape is intriguing. The ratio of sub adult to adult remains is (at the last count) 4:1 and all of the sub adult remains are deposited in discrete burial contexts, lined with small stones on the floor and sides and capped with a larger flat stone. These miniature cists are interesting features and may explain why the infant bone has survived in such a high ratio.

The 2012 season revealed that Burial Cairn 2, opened in 2010, was bidding fair to be as complex and interesting as Burial Cairn 1 with human remains focussed not around the boulder at the east of the site, but near a second earth-fast boulder to the west. A structure that appears to be a damaged 'cist' with associated sub adult remains is within the one metre range seen in Cairn 1, but a revetment to the north, two metres within the outer bank, suggests that this cairn may be of a different structure.

The 2013 season will begin on 3rd June taking the Manchester students again with many 'returners' from previous years and students who are so familiar with the site that they are drafted to supervisory duties. We are fortunate to have a range of skills from landscape archaeologist and pottery expert Debbie, my survey team Mike and Ray, and students Emily (bones) Karoliina and Sue (post ex and finds processing) and Steph (records queen).

We hope this year to acquire dates to confirm our suspicions (based on pottery and metalwork) that this is a multi-period site in use from Late Neolithic through to post Roman.

I have been fortunate in my connections; interest from the Outreach officer for YDNP, Catherine Kemp, means we can develop activities that engage local people with tangible evidence from their past. Leeds Museum and Galleries Discovery Centre Education Officer, Liz Knight, and Archaeologist Kat Baxter are very supportive and interested, in spite of picking the worst day of the week this season to visit and the difficult hike up the hill for a then heavily pregnant Kat (baby girl arrived in October).

I have reported on the unprovenanced human remains at the Discovery centre (the Disco) and the enthusiasm of the staff for engaging the community in West and North Yorkshire has been inspiring. As a result we have run CSI workshops for primary schools and introduced them to the remains of ancestors from both regions using the material from Chapel House Wood and the Discovery centre. Two open days for the CBA festival of British Archaeology turned into four due to high demand, and early summer will see adult courses on osteoarchaeology (details to be arranged) using this material and the newly acquired teaching skeleton that Liz is busy trying to sex so they can give it a name.

The most positive aspect of this partnership with the Disco has been the enthusiasm of the local population and a serious appreciation of archaeology and the value of keeping and studying human remains. As Liz Knight stated today, 'together we can change the world'; well, perhaps not quite so ambitious, but we certainly make people think.

The Heritage Lottery Funded Eastbourne Ancestors Project
By Hayley Forsyth

Eastbourne Ancestors is a Heritage Lottery Funded project run by the Eastbourne Museum Service.

The Eastbourne Museum Service has been awarded a grant of £72,000 by the Heritage Lottery Fund (HLF) for the Eastbourne

Ancestors Project. There are approximately 300 skeletons and cremations within the collection as well as numerous artefacts. The majority of the human remains are from the Anglo-Saxon period; the remainder of the collection includes material from the Roman, Bronze Age and possible Neolithic eras.

The aim of the project is to fully examine all the human skeletal remains in the collection from the Eastbourne area in order to produce a demographic profile of past populations. This will include full osteoarchaeological analysis as well as x-rays, 3D scans and facial reconstructions. Further scientific analysis using carbon 14 and isotope testing will be used to determine the age, origins and diets of a number of skeletal remains that we have little information about. In addition, a review of the archaeological and local history artefacts will also be included within the project to learn more about the people that once inhabited Eastbourne.

The Eastbourne Ancestors Project is working with local schools & colleges, universities, archaeological units, societies and councils. A number of workshops, events and lectures are underway and a symposium will be organised for next year. Fieldwork and excavations are ongoing to encourage community participation in archaeology; details of our third summer dig will be announced soon.

The Education Team have produced a teachers'/outreach pack, with another to follow, suggesting ideas and activities for the classroom and the Museum related to the project.

The Project will culminate in an exhibition, a guide and an academic publication.

You can follow our project below, or contact Hayley.Forsyth@eastbourne.gov.uk for details and to be added to our newsletter mailing list.

Facebook:

<http://www.facebook.com/EastbourneAncestors>

Twitter: @EBAncestors, @EBmuseums

Exhibitions and news from MOLA

By Natasha Powers

Running until 14th April 2013, *Doctors, Dissection and Resurrection Men* is a Museum of London exhibition featuring finds and research carried out by MOLA as part of our excavations at the Royal London Hospital, Whitechapel.

From the 19th July to 31st August 2012, the Florence Nightingale museum held an exhibition titled BONE. Alongside an x-ray of Sigmund Freud's head, a skull-shaped candle made for Marilyn Manson's wedding, and Florence Nightingale's pet tortoise 'Jimmy', were displayed a number of MOLA finds with some bone ice skates proving particularly popular.

Two Crossrail exhibitions were presented during 2012 which featured bioarchaeological studies and artefacts from the cemetery evaluation at Liverpool Street station.

Digitised Diseases

The human osteology team at MOLA have spent much of 2012 working on the JISC-funded "Digitised Diseases" project, in collaboration with University of Bradford and Royal College of Surgeons. The project is headed by Dr Andrew Wilson of the Department of Archaeological Sciences at Bradford and aims to produce an educational web resource featuring examples of disease from archaeological and museum collections. This will provide a searchable database of high resolution 3D scans of pathological bone lesions, many of which will be unfamiliar to medics due to advances in medicine and treatment. Work at MOLA has involved the selection, photography, description and laser scanning of bones from archaeological excavations in London. In December, the scanner was installed in the Museums and Archives department of the Royal College of Surgeons (RCS) where documented examples of disease from the collections are in the process of selection, description and scanning by the MOLA team and Carina Phillips,

Martyn Cooke and Emmy Bocage of the RCS. To date, the MOLA team have completed 352 scans and taken 19,864 photos!

Scans of rare examples of worked human bone from the Royal London Hospital can currently be viewed as animations on youtube:

https://www.youtube.com/watch?v=jH5c5jdUXZY&feature=player_embedded LINK

Poulton Research Project

By Ray Carpenter

The research and training excavation at Poulton in Cheshire (<http://www.poultonproject.org>) has continued, with 75 skeletons excavated from the area of the medieval chapel during the 2012 season. This brings the total excavated since 1995 to 627 articulated skeletons. The Project has again welcomed students studying a variety of osteology- and archaeology-related courses, who have been able to gain direct experience in both excavation and post-excavation treatment of human remains. In past years, those students have come from France, Hong Kong, China, Malaysia, Australia, Holland, Switzerland, USA, Spain and all parts of the UK.

From this year's crop of anomalies, along with the usual pathologies and trauma, we have:

A skeleton with a bifid rib.

A skeleton with congenital absence of the lateral incisors.

Two cases of lumbarisation

Our assemblage was examined this year as part of three external academic projects. An MSc student from the University of Edinburgh and an MSc student from Bradford used them as part of their dissertations and a PhD student from Winchester University for her thesis.

We have supported three MPhil students at Liverpool John Moores University in the current academic year. One student is undertaking a detailed study of the skeleton with the imbedded bodkin; another is performing a comprehensive study of the non-

metric traits and the last, a full palaeodemographic study. As part of these MPhils, we have secured funding for the radiocarbon dating of two significant skeletons.

In 2013 we will again try to obtain funding for the radiocarbon dating of a further set of carefully selected skeletons. This would enable us to confirm the period during which the graveyard was in use and provide valuable contextual evidence for the rest of the archaeological programme. We will publish our next report summarising the basic analysis (assessment of sex, age at death and stature) of all the skeletons up to the end of the 2012.

Thanks are due to the School of Natural Sciences and Psychology at Liverpool John Moores University, who have provided considerable help to the project in this and other areas. We also gratefully acknowledge our other academic collaborators in the School of Archaeology, Classics and Egyptology at the University of Liverpool.

Non-Conformist Chapel Crypt Survey at Sheffield General Cemetery

By Lauren McIntyre, Linzi Harvey and Tom Booth, University of Sheffield

In April 2012, members of the current postgraduate research team at the Department of Archaeology, The University of Sheffield (UK) conducted a two day survey of the post-medieval crypt underlying the Non-conformist chapel at Sheffield General Cemetery, Sheffield. The survey was commissioned by the Sheffield General Cemetery Trust, in partnership with the South Yorkshire Buildings Preservation Trust in order to ascertain the condition and extent of the Non-conformist subterranean crypt.

Investigation under the Non-conformist chapel found that the crypt comprised two subterranean floors, both of which had been sealed (with no access) since some time in the late 20th century. The substantial crypt is built in the Egyptian style in stone and handmade

red brick. The first floor covers a total area that is up to 23 m long and 9 m wide, and comprises a main central passage with a separate space at the north end and the south end, and a total of 12 adjacent vaults. Only one vault contained disturbed human skeletal remains, interred in the mid 19th century. These remains belong to three members of the Hadfield family, an important family with links to the Sheffield Company of Cutlers. Documentary evidence relating to the crypt records the names, ages at death and burial information for all three individuals. The second subterranean floor is only accessible by ladder, and comprised four separate spaces. A total of 5 non-ferrous or composite metal artefacts were recovered, including fragments of post-medieval *immortelles* recovered from two of the vaults.

For a copy of the full report (available as a pdf), please contact Lauren McIntyre (l.j.mcintyre@sheffield.ac.uk).

The Rothwell Charnel Chapel Project

By Jennifer Crangle, University of Sheffield

Holy Trinity Church in Rothwell, Northamptonshire houses one of only two surviving *in situ* ossuaries in England. In a 12th century chamber beneath the church are the skeletal remains of at least 1000 disarticulated individuals, dating to the Late Medieval Period. A new relationship is being established between the University of Sheffield Archaeology Department and Rothwell Church authorities, to enable a comprehensive osteological analysis of the bones and survey of the crypt to be professionally undertaken. This project has been established by Jennifer Crangle, assisted by Lauren McIntyre, Linzi Harvey, and Alison Atkin.

Current research conducted indicates that this site could be reclassified as a 'charnel chapel'; a deliberately built structure designed for housing disinterred bones, in which people could pray for the dead. Apart from some cursory analyses in the 20th century no systematic analysis of the remains or crypt has

been attempted. The key aims of the Rothwell Project are to sex and age all 800+ crania, establish patterns of dental and skeletal health, conduct an archaeological survey of the crypt, radiocarbon date a sample of the bones and work to prevent further degradation of the bones where possible. It is also hoped that annual trips to Rothwell can be organised for osteology and funerary archaeology students at the Archaeology Department. In the near future information regarding the Rothwell Project will be available via our departmental website.

MUSEUM REPORTS

Centre for Human Bioarchaeology, Museum of London

By Jelena Bekvalac
Curator of Human Osteology

It has been another busy and exciting year for the Centre and especially so for myself with the opening in October, as Lead Curator, of the exhibition *Doctors, Dissection and Resurrection Men*. Underpinning the exhibition were the excavations carried out by MoLA in 2006 as a consequence of development at the Royal London Hospital. The excavations revealed a cemetery that had been in use from 1825-1841 and provided a fascinating insight into a functioning 19th century hospital during a key point in social and medical history. The rich archives of the hospital also enabled a wonderful opportunity for the archaeological and historical record to complement one another so comprehensively. Available in tandem with the exhibition is the excellent monograph by Natasha Powers and Louise Fowler which was invaluable in preparation of the exhibition, as was their help.

My work programme for the year was predominantly taken over by all the preparations for the exhibition but it was a marvellous experience, I learnt a great deal and it was a super team to work with on the exhibition. It also enabled me to make contact and meet a vast array of knowledgeable, interesting and extremely generous people, all

kindly willing to offer assistance. On the preview day of opening, Julia Davidson (Assistant curator), Natasha, Louise and I became for a time media starlets! We were interviewed on numerous occasions for national and international radio, TV, newspaper and blogs. I even achieved an interview for Russian TV, luckily in English. The feedback so far has been very encouraging with positive reviews. One particularly to note is the feature in the January issue (274) of *Current Archaeology* 'London's body snatchers' by Dr Matthew Symonds.

In between the exhibition preparations, the Centre welcomed a number of visitors, including a medical student from Harvard wanting to learn more about diseases and observation of them in the bones, an author writing a fiction book about Southwark and Lambeth interested in the Cross Bones site, and an art group who spent an enjoyable time drawing the skulls in the teaching collection to get a clearer sense of the morphology and the variation in male and female skulls.

Three 'A' level students from Marlborough College, Tolworth Girls & 6th Form and Highams Park School spent a few days in the Centre as part of their work experience. They were all very enthusiastic and enjoyed their time learning about the skeletal material. Martha from Marlborough College was thrown in at the deep end when she came along after only being with us a couple of days for an outreach event 'Victorian Disease' at Museum of London Docklands. She proved to be a star and engaged with the public, using her biology knowledge and answering questions about the bones she had only just recently learnt herself.

Other fun outreach events were the Late Night at the LAARC (London Archaeological Archive and Research Centre) with the late night opening of the archive and a chance for visitors to have tours of the stores, learn about the wonders of skeletons as well as eat food from Roman recipes, marvellous combination! A visit to Oaklands primary school in November proved a big hit with the children, who were fascinated by the bones and

thoroughly enjoyed participating in mini excavations and identification of bones. I'm sure there will be a number of promising future Osteologists amongst them.

We were happy again to welcome students and researchers from national and international universities and institutions carrying out wide-ranging research topics on the skeletal assemblages, ranging from metric studies, disease pattern analysis, trauma and adult & sub adult investigations.

Talks, seminars and study visits were presented for different groups of students and researchers, including Westminster MA students (Museums, Galleries and Contemporary Culture), Michigan State University and Goldsmiths Arts and Politics students, which had good discussions in relation to the human remains and the exhibition. We were also pleased to be able to part of the NEH Seminar programme and welcome specialists from all over the world from a wide range of research backgrounds. I had the pleasure of giving talks at the Hendon Archaeological Society (HADAS) about the St Bride's crypt assemblage, Wandsworth Historical Society about Doctors, Dissection and Resurrection Men and the 47th LAMAS annual conference about the St Bride's crypt assemblage and lower churchyard assemblage.

I was fortunate to be able to go to the European PPA in Lille that was an interesting conference and had a moving tribute from Keith Manchester for Don Ortner. It was a pleasure to chair the first session of the Bournemouth BABAO conference and present a poster in collaboration with Gaynor Western on the digitally x-rayed material from Worcester Royal Infirmary. Rebecca attended the conference *Crossing Boundaries: ancient history explores its future, part II*, at the Faculty of Classics in Cambridge, providing more interesting information in her continuing innovative research on the Romans, collaboration research projects including the NERC funded PhD about diet, status and health in subadults from Roman London undertaken by Lindsay Powell at Durham

University and on-going plans for the redevelopment of the Roman Gallery.

The co-edited book: Clegg, M., Redfern, R.C., Bekvalac, J. and Bonney, H. (eds.), *Global ancestors: understanding the shared humanity of our ancestors*. Oxford: Oxbow Books will be out this year.

I would like to thank Brian Connell and Mike Henderson from MoLA who helped enormously while Rebecca was on maternity leave. We look forward to continuing to be involved in many and varied projects and welcoming more visitors and researchers to the Centre.

Museums of the Royal College of Surgeons of England

By Hayley Kruger, Carina Phillips, Martyn Cooke, Emmy Bocaegé and Milly Farrell

The Hunterian Museum

Flying in the face of London museum visitor figure trends across the Olympic year, the Hunterian has again increased footfall to nearly 72,000.

Our 2012 exhibition 'Anatomy of an Athlete' (13 March-21 December) worked with medical artists and professional athletes (three of whom later won gold) to focus on sporting injuries and their surgical solutions through 2D and 3D media, including film and an *écorché* wax torso created by Richard Neave.

The exhibition was complemented by a series of sports-themed events that attracted large audiences, including a half-day activities event where participants could have their gait analysed, experience the 'modern pentathlon challenge' (using Wii archery and a treadmill) and try their hand at knee arthroscopy on a simulator. A sports injury Q&A evening with experts from surgical and biomechanical fields also attracted a good-sized audience of around 100 people with a lively question session following the experts' presentations.

Schools were not overlooked and we were pleased to work with the Royal College of Pathologists to provide a medical ethics session entitled 'Your Body, Your Consent?' that encouraged sixth-form students to think about the wider issues behind organ and tissue donation, display of human remains, 'saviour siblings' and the concept of 'consent'.

We continue to offer 'Speech-to-Text' transcription on the majority of our lectures and spoken-word events so that deaf and hard-of-hearing visitors can participate fully. 2012 also saw the inauguration of an access consultation group (PACT) that will work jointly with us and our near neighbours the Soane over 2 years to ensure that appropriate changes are made to improve our offer to this audience.

Find out more about our public programmes at: www.hunterianmuseum.org

Hayley Kruger, Acting Head of Learning and Access; hkruger@rcseng.ac.uk

The Wellcome Museum of Anatomy and Pathology

The Wellcome Museum of Anatomy and Pathology has continued to increase its visitor numbers over the last year. This suggests word is spreading about the importance and uniqueness of the collections housed here. In addition to medical and surgical courses the museum continues to be used weekly for classes for the UCL Masters courses in Bioarchaeology and Forensic Archaeology.

It is hoped that 2013 will be the year that the anatomy and pathology catalogues can be accessed on-line. Currently this is not possible due to the modern date and sensitive nature of a majority of the specimens and all enquiries have to go through the museum curator. However, work is taking place to allow restricted access to these via the web. This will make it much easier to find out what is held in the collections and it is hoped this will lead to more research projects taking place involving the specimens.

This year will also see the introduction of dental pathology specimens on display. Thanks to some funding we will be able to display currently stored specimens demonstrating various pathologies including geminated teeth, fused crowns, supernumerary teeth, mulberry molars and enamel pearls. The specimens will be displayed with supporting information on the conditions and modern treatment.

To book a visit or for more information see: www.rcseng.ac.uk/museums/wellcome

Museum staff Carina Phillips, Emmy Bocaege and Martyn Cooke are all involved in the collaborative project Digitised Diseases with the University of Bradford and MOLA (<http://barc.sls.brad.ac.uk/digitiseddiseases/index.php>). Human paleopathological specimens from all the collections held by the RCS are in the process of being 3-D scanned; these include examples of acromegaly, ancephaly, hydrocephaly and microcephaly, which were not available in the collections at Bradford or MOLA.

The museums conservation department is working on a new conservation initiative called Endangered Specimens, Endangered Skills, to safeguard anatomy and pathology specimens and skill in caring for them. This has been generously supported by the John Ellerman Foundation and the Board of Trustees of the Hunterian Collection.

Historically, anatomy and pathology collections have played a significant part in medical education in the UK. However many of these collections suffered neglect towards the end of the last century, as they were used less often for teaching and research, and with their decline their documentation and the requisite preservation skills. Recent interest in object-based learning and practical teaching sessions has revived the use of pathology and anatomy collections, but there are fewer collections and staff available to facilitate this learning.

A major part of this project is to train enthusiastic individuals in the conservation of wet-preserved specimens through specialist lead workshops and tutorials. Individuals may be current stakeholders in similar collections, or at entry level; seeking specific skills in conservation and collections care to ensure their future employability. Training sessions will cover the maintenance of collections (specimens in glass jars as well as acrylic based collections), the conservation of preserved specimens and the preparation, fixation and preservation of new material. For more information please contact Emmy Bocaege ebocaege@rcseng.ac.uk.

To book a visit or for more information visit: www.rcseng.ac.uk/museums/wellcome

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Martyn Cooke, Head of Conservation; mcooke@rcseng.ac.uk
Emmy Bocaege, Assistant Conservator; ebocaege@rcseng.ac.uk

Museum Collections

Throughout 2012, osteological material from the Royal College of Surgeons Museums collections has formed the basis of several research projects. External studies relevant to the bioarchaeology community have focused on dental pathologies, skull morphometrics, sex assessment techniques, dental calculus analysis and hominid fossils.

2012 marked 100 years since the ‘discovery’ of human remains fraudulently claimed to be a new hominid species. The Piltdown Man hoax shocked the academic community when it was exposed in the 1950s as an elaborate fake. Given the significance of 2012 in this story, research led by University College London is attempting to unearth further details on the scandal that still resonates with such incredulity in present day. The RCS collections hold both casts of the cranium, mandible and tooth used in the forgery and archival material that documents the Piltdown story from

excavation to exposé. Further study is now being carried out on these archives and casts, the latter of which are now known to comprise of a modern human parietal, an orangutan mandible and a chimpanzee canine.

The Odontological Collection has once again contributed to bioarchaeological investigations in collaboration with institutions based both in the UK and overseas. Research focusing on DNA extracted from dental calculus began on the historical human crania in June 2012. This analysis was carried out by staff from the Australian Centre for Ancient DNA (ACAD) based at the University of Adelaide. Several teeth known to have belonged to an individual diagnosed with congenital syphilis were loaned to UCL archaeology department for CT scanning in mid-2012. This assessment aims to reveal the structure of the dental tissues in teeth affected by this condition. Finally, work instigated by RCS staff has focused on investigating a reoccurring metabolic bone disorder amongst the historical captive primate material. Several affected skulls were CT scanned earlier in the year to elucidate the underlying bone structure of this pathology. All of the research projects mentioned here are on-going and results are pending.

Cataloguing and re-storage of the Odontological Collection is due to finish in June 2013. We welcomed Pip Brewer to the team in July of 2012 who will be overseeing this project in its final stages.

For further information on the RCS Museums collections (Hunterian, Odontological, Microscopy, Fine Art, Surgical Instrument) please contact Milly Farrell, Acting Curator; mfarrell@rcseng.ac.uk

EXCAVATION AND ANALYSIS OF HUMAN REMAINS IN 2011

Osteology at AOC Archaeology Group *By Rachel Ives and Melissa Melikian*

This year AOC Archaeology has undertaken excavations and post-excavation work on

burials from multiple sites in England. Please contact us at London@aocarchaeology.com if you would like further information on any of the sites below.

Sober Hill, East Riding of Yorkshire (51091)

A crouched inhumation burial of an adolescent aged between 14 and 17 years was found at Sober Hill in East Riding. Processing of sample grave fills from the torso of the adolescent recovered bones from the torso and pelvis as well as complete long bones and hand bones of a foetus. Linear regression ageing of the tibia suggests the foetus had developed to 33 weeks (range 31 to 35 weeks) by the time of death. There was no gross evidence for skeletal pathology of the adolescent or the foetal remains but a more detailed analysis is due in 2013. Cremated human remains from a separate area of the site thought to be unrelated to the inhumation burial, were also found in an un-urned deposit at Sober Hill. These were highly oxidised and well-preserved with a good representation of skeletal elements present from one adult individual. Both burials are currently undated awaiting radiocarbon dating in 2013.

Melton West, East Riding of Yorkshire (51126)

Cremated human remains were also found at Melton West, East Riding, in two urned vessels that had been placed in the same grave cut. Each vessel contained one adult individual. The remains were highly oxidised and survived in relatively large fragments with no evidence for selective retrieval of bone elements. Pottery analysis suggests the cremation burials date to 1500-1150BC. A crouched inhumation burial of a child aged between nine and 12 years was also found with evidence of mild healed vitamin D deficiency rickets and a healed non-specific infection or a localised bone trauma over the tibiae. Minor calculus deposits were also present as was a peg lateral maxillary incisor. A broad Iron Age to Anglo-Saxon date for the burial was suggested from the excavation finds. Planned radiocarbon dating will help put the remains into their historical context.

Sandy, Bedfordshire (BEDFM2010.40)

We were on site for six weeks at Sandy, Bedfordshire, excavating part of a 3rd- to 4th-century Romano-British town with an associated cemetery. Human remains were first discovered at the site during 19th-century quarrying, but more of the burial ground was uncovered this year ahead of a new development. Twenty-nine burials of adults and adolescents were excavated, with several of the burials found wearing hobnails, decorative pins and a copper-alloy bracelet. Other burials had complete vessels and partial animal remains. The post-excavation assessment work will be starting in 2013.

Harper Road, London (HPZ10)

Post-excavation analysis was completed on 11 burials excavated from Harper Road, Southwark, London, which formed part of the 'Southern' Roman cemetery of Londinium and dates to the 3rd and 4th centuries. Ten of the burials were adults with only one adolescent found, aged 16-17 years. Nine burials were males, including the adolescent who had clearly dimorphic male traits; one burial was female and one was of undetermined sex. Interestingly, the adolescent and the female burial were found a short distance away from the remainder of the other burials, which clustered together. Pathological changes were present and included compression fractures of the vertebrae, rib fractures and a clavicle fracture. The adolescent had a spiral hairline fracture of the distal tibia which is often seen in toddlers today and which was in the early stages of healing at the time of death. Non-specific infectious changes were present on cranial and post-cranial bones of four individuals together with minor degenerative joint changes. Calculus deposits were consistently identified together with enamel hypoplasia across the burials. Publication of the findings is due in 2014.

St. John's School, Bethnal Green, London (PGV10)

Post-excavation analysis is continuing on 959 well-preserved skeletons (>25% skeletal completeness) from the 1033 burials excavated from St. John's School, Bethnal Green in 2011. These represent burials made in a

privately-owned un-consecrated cemetery between 1840 and 1855. A total of 20,000 burials were originally interred in the ground, which covered over seven acres. Seventy-one percent of the excavated burials were juveniles, reflecting the high rate of child mortality in Bethnal Green and the surrounding parishes, as well as possible social factors, such as the cost for burial or insights from the original cemetery organisation. Evidence for non-specific as well as specific infectious diseases, such as tuberculosis, are present in the sample together with metabolic conditions, including high numbers of vitamin D deficiency rickets as well as vitamin C deficiency scurvy. Developmental skeletal defects are also represented, including cleft palate, defects caused by separation failures of the centra and pedicle aplasia, as well as cervical ribs. More unusual pathologies are also present, including one child affected by an extensive spread of severe cranial lytic lesions that may represent Langerhans' cell histiocytosis (Letterer-Siwe form), although other causes such as severe tuberculosis need consideration. Examples of cranial autopsy are present in both the juvenile and adult sample as well as two cases of adult amputation. The adults also show evidence for trauma, particularly of the shoulder and elbow and joint diseases including an adult affected by bilateral fused bones across the left and right foot indicating rheumatoid arthritis. The results will provide a detailed insight into life within the parish and into contemporary burial practices and cemetery management.

Cotswold Archaeology

*By Jonny Geber, Environmental Officer
(Osteologist)*

The occasional fragments of human remains have been discovered during several excavations and evaluations undertaken by Cotswold Archaeology in the recent year. Remains from cemeteries and formal burials have, however, only been excavated and analysed from five sites:

Exeter Cathedral, Exeter, Devon

Archaeological works were undertaken in the grounds of the cathedral prior to the instalment of a gas pipeline. Disarticulated human remains were recovered from four contexts, and these comprised 290 bones from a minimum of 19 individuals; five non-adults and 14 adults. Pathologies observed include endocranial lesions, periostitis, osteomyelitis, trauma and enthesophytosis. The remains range in date from the early medieval to the post-medieval period.

Land North of Campden Road, Shipston-on-Stour, Warwickshire

An archaeological evaluation prior to development was undertaken on this site. One severely truncated inhumation burial, possibly redeposited, was discovered. The remains were poorly preserved, and all that could be asserted is that they derive from an adult individual. The burial is probably of Roman date.

Land Adjacent to Hanley Road, Malvern Wells, Worcestershire

A number of evaluation trenches were dug across this site. Two token cremation burials were discovered; both containing cremated remains of adults. The remains are probably of Middle Bronze Age date, but radiocarbon dates will be undertaken confirm this.

Hinkley Point, Somerset

Cotswold Archaeology undertook a large excavation on this site in 2012. A total of 24 inhumation burials and two cremation burials were discovered, all of Roman date. Several of the skeletons were decapitation burials. The remains, which were poorly preserved and very fragmented, have been analysed, but the report is yet to be written. Three of the inhumation burials were of neonates and the remainder all adults. Pathologies observed include degenerative joint disease, periostitis, metabolic disease and dental disease.

Howells Road, Tewkesbury, Gloucestershire

An excavation was undertaken on this site during the late spring and summer of last year. Two neonatal burials, and a disarticulated adult human bone, were discovered on this site. The

remains date to the Roman period, and appear to be funerary settlement interments.

GUARD Archaeology Limited

By Iraia Arabaolaza and Maureen Kilpatrick

Several excavations and subsequent post-excavation analysis were carried out in 2012 by GUARD Archaeology Limited on behalf of Historic Scotland's Human Remains Call-off Contract. The contract deals with human remains found outwith development sites, helping the local Authority's archaeologist.

Torbreck cist, South-West Inverness, NGR NH 64149 40441

An archaeological rescue excavation was carried out by GUARD Archaeology, when a prehistoric burial cist was discovered during landscaping works following the construction of a new access track in Cullaird Wood, south-west of Inverness. The cist located near Torbreck was excavated between the 19th and 23rd March 2012. The excavation uncovered a sub-rectangular stone-built cist containing the remains of a crouched individual with an associated Plain Urn vessel and six lithic fragments.

Post-excavation analysis of the human remains revealed a middle adult female (35-50 years). Dental disease in the form of periodontal disease and a peri-apical cyst were present and are probably symptomatic of poor oral hygiene and secondary to the moderate dental wear observed on most of the teeth.

Sannox Quarry, Isle of Arran, NGR NS015455

The discovery of cremated human remains and two short cists on the disused quarry by the estate owner and a local resident prompted an archaeological rescue intervention by GUARD Archaeology. The excavation revealed a short cist with cremated bone deposition, a Bronze Age food vessel and a flint knife and a second empty cist. The project was undertaken between 28th March and 5th April 2012.

Post-excavation analysis of the cremated remains revealed a minimum number of one

indeterminate adult individual with a possible button osteoma in a cranial fragment.

Wren's Egg, Blairbuy, Dumfries and Galloway, NGR NX 35960 42058

Archaeological investigations were carried out by GUARD Archaeology under the Human Remains Call off Contract on behalf of Historic Scotland at Blairbuy Farm, Dumfries and Galloway. The farmer had encountered a stone slab during ploughing on 29th March 2012; this was in fact the capstone of a stone cist burial. On further investigation (5th to 11th April 2012) and after the removal of the plough-soil overburden under archaeological supervision, two additional stone cists were found in close proximity to the first. One cist contained skeletal remains and no artefacts; the other two cists did not contain skeletal remains or artefacts.

Analysis of the human remains recovered from Wren's Egg revealed a child aged 3-12 years old, although a more specific age was obtained based on the dental development and eruption of 9.4 -12.2 years of age. Most of the permanent dentition was present and erupted, apart from the un-erupted third molars.

Two pathological manifestations were encountered on the skeletal remains: dental enamel hypoplasia and *cribra orbitalia*, both childhood stress indicators. The defects identified on the enamel indicated at least two episodes of stress, which occurred prior to the individual's death. The *cribra orbitalia* lesions were also healing at the time of death. Their presence certainly indicates possible poor living conditions and environmental stresses that the individual suffered in life.

Keas Cottage, Spinningdale, Highlands, NGR NH 6754 8934

A post-excavation analysis of the Early Bronze Age short cist crouched inhumation discovered at Keas Cottage, Spinningdale (near Dornoch) was carried out by GUARD Archaeology between 16th and 17th of May 2012. It revealed a middle adult female (35-50 years old) of gracile skeletal build and measuring 170.65m+/- 3.27 in stature. Slight wear was

recorded on the dentition, which was complete with all third molars present. No dental pathologies or calculus were identified. All the pathological manifestations encountered on the skeletal remains – spinal and costovertebral degenerative joint disease and associated conditions such as Schmorl's nodes and anterior lateral herniation – suggest an individual of old age with changes mostly concentrated on the lower lumbar spine. A possible congenital condition was also recorded on the sixth cervical vertebra, where bony protuberances were identified on both sides of the lamina.

12 Grove Street, Edinburgh, NGR NT 24342 73158

An archaeological assessment was carried out by GUARD Archaeology when human bone was unexpectedly discovered during landscaping work within the rear garden at 12 Grove Street, Edinburgh. Following its discovery the bone was initially recorded and collected by Lothian and Borders Police Force and assessed by the Virtual Anthropology Laboratory at Dundee University where it was deemed to be historical in date and not modern. GUARD Archaeology was then commissioned by Historic Scotland to assess the site for further human bone and to establish whether other archaeological features and/or deposits were present on site. This work revealed only several small fragments of human bone within the upcast soil around the bone deposition site and two possible pits which were only observed in the section soil profiles next to and near the deposition site. The bone found on site was disarticulated and represents the remains of more than one individual. No formal burial structure, such as a coffin or cist, was observed during the assessment work which may suggest that the bone was not in its primary burial location. More future work is planned to provide a date and possible reason as to why the bones were found at this location.

Kent Osteological Research and Analysis (KORA), University of Kent
by Chris A. Deter

The University-based commercial osteology unit has had a busy year. Working out of the research laboratory, KORA had several contracts that ranged from analysis of cremated remains to osteological examination of 30 skeletons. Our workshops were also successful this year and included a one-day Human Osteology course for staff at Wildwood Animal Park, and a weekend 'Bones and Burials' course for Swale and Thames Archaeology.

KORA (Deter, C., and Mahoney, P.) presented findings on the relationship between femoral bone growth and stable isotope values at the American Association of Physical Anthropologists meeting in Portland, Oregon. KORA research for the coming year will focus on skeletons from the Hythe Ossuary, and the Eastbourne Ancestors Project with Eastbourne Museum.

This year we received two small human skeletal collections (the Colin Renfrew collection and a Medieval collection from the Powell Cotton Museum). These will augment the curated skeletal collections in the research laboratory: North Foreland (Neolithic); South Dumpton Down (Bronze Age); Ozengell (Anglo-Saxon); St. Gregory's Cemetery and Priory (Medieval).

Museum of London Archaeology

*By Natasha Powers BSc MSc, MIFA, MCMI,
Head of Osteology*

The long-awaited report on the excavations in the medieval cemetery of St Mary Spital, East London (Connell et al 2012, price £28) examines over 5000 individuals uncovering evidence linking mass burial pits to the eruption of a tropical volcano. Unprecedented accuracy of phasing was achieved using a targeted programme of radiocarbon dating. Published to coincide with the exhibition of the same name, *Doctors, Dissection and Resurrection Men* (Fowler and Powers 2012, price £26) details an unusual assemblage of dissected human and animal bone excavated

from the grounds of the Royal London Hospital, Whitechapel in 2006. The buried population included at least 259 people who died between c 1825 and 1841. Dissection and autopsy was taking place alongside the vivisection of animals, including exotic species. A wealth of contemporary documentation enabled the examination of the day-to-day life of the hospital and the complex relationship between medical innovation and criminal activity. Excavations in the commercial Nonconformist burial ground at New Bunhill Fields, Southwark (Miles 2012, price £15) resulted in the study of 514 skeletons, providing a wealth of information about life and death in 19th-century Southwark. Extremely good preservation enabled the examination of floral tributes and burial clothing, whilst unusual ceramic dinner plates were found in one woman's coffin. Finally, the English Heritage funded text book *Disease in London, 1st–19th centuries: an illustrated guide to diagnosis* (Walker 2012, price £28) is designed for students and practitioners of osteology and palaeopathology, medical historians and forensic archaeologists. It includes more than 400 descriptions, photographic and radiographic images of disease and traumatic injury from the MOLA and MOL collections. To purchase MOLA publications see: <http://www.museumoflondonarchaeology.org.uk/Publications/>

Work carried out this year includes:

7 Giltspur Street (GSP08), Medieval, 101 inhumations: Excavations on the site of a medieval burial ground associated with the church of St Sepulchre recovered 101 inhumations. The church was originally founded as part of St Bartholomew's hospital, and was destroyed in the Great Fire of London in 1666. Initial assessment indicates over 90% of the group are adult, with a greater number of males than females. A variety of pathological conditions have been noted including possible Perthe's disease and tuberculosis. **Great St Helens (SHL90), Medieval, 1 individual (pre-MOLA backlog):** An adult right radius and ulna were recovered, showing evidence of the amputation of the

hand above the wrist. Successful healing had led to fusion of the two elements. **Old Royal Navy College, Greenwich (RNE05), Medieval/post-medieval, 6 inhumations:** The articulated skeletons, some accompanied by personal adornments, were orientated west-east, with their heads to the west. A small amount of disarticulated human bone was also recovered. Considering the size of the sample, a wide range of disease and injury was noted whilst a notable absentee was dental caries. **Hearn Street (UKP12), Post-medieval, 11 inhumations:** Human remains were discovered during the excavation of a cable trench and are likely to originate from a previously unknown Presbyterian cemetery dating from the late 18th/early 19th century group. Most of the burials were on NW/SE alignment. **New London Bridge House, London Bridge Street (LBN08), Late Roman, 4 inhumations:** The burials originated from the phase of the site between the demolition and subsequent robbing of a group of Roman buildings and the build-up of dark earth deposits. A collection of redeposited human bone was also recovered. **Harwell Science and Innovation Campus, Didcot, Oxfordshire (OX-HAR12), ?Saxon, 2 inhumations:** The remains of two adults (one male) were recovered from an east-west aligned ditch, and were associated with Saxon and Roman pottery and a possible Saxon iron key or girdle hanger. **Sipson's Farm (SIF10), ?Bronze-Age, 1 cremation burial:** highly fragmentary burnt bone was recovered and a small number of cranial fragments and a single fragment of humeral head could be identified, together with possible fragments of juvenile pig.

Analysis has also been completed on post-medieval remains from a Baptist cemetery at **Wakefield Street (WKF10)**; a Bronze-Age inhumation and cremation cemetery at **Andover (HA-RPY07)** and a middle Saxon cemetery from **Kingsnorth, Isle of Grain, Kent (KT-IGM10)**. The highlight of this latter project was an adult male with a peri-mortem weapon injuries slicing through his skull, and into his face and chest.

MOLA have also reported on cremated Saxon remains for Essex County Council FAU, Saxon inhumations and cremations from Cambridgeshire for Birmingham University and prehistoric cremations and inhumations for Albion Archaeology. As part of the project to investigate the richly furnished Saxon chamber grave from **Prittlewell, Southend** (excavated in 2003), human bone from previous excavations in the 1920s and 1950s, held in Southend Museum, was examined. A large collection of disarticulated bone was recovered from works within **Southwark Cathedral churchyard (SWC12)**, whilst more recent discoveries, yet to be examined, include two isolated and unusual Roman burials, one from within a well at **8-10 Moorgate (MOQ10)** and one from early fluvial deposits at **Bucklesbury House**. You can read more about these excavations on the project blog (<http://walbrookdiscovery.wordpress.com/>).

Work at **Principal Place (PPL11)** revealed part of the Roman Eastern Cemetery and included a rare *bustum* burial. Renovation works at **St Andrews Undercroft (UND12)** in the City revealed the brick roof of a burial vault, and the grave marker of William Ramsay, Secretary to the East India Company. Work also continues on the large post-medieval cemetery beneath modern Liverpool Street in advance of construction of a new ticket hall for Crossrail. The cemetery, known as the Bethlem Burial Ground or New Cemetery, was associated with the infamous 'Bedlam' hospital.

Zooarchaeology

The MOLA zooarchaeologists have completed a huge number of assessments and reports with some highlights including a massive 306kg of bone from Three Quays (TEQ10), featuring dumps of possible industrial waste from the City and a wide variety of wild birds. Excavation of a late Roman ditch at Kingsnorth, Isle of Grain, Kent (KT-IGN10) revealed two fragments of wing from an adult white-tailed eagle *Haliaeetus albicilla*. This bird was probably scavenging on the site. At Moorgate Telephone exchange (MTX11) several contexts contained roe deer, which may indicate high-status consumption, whilst at

Holborn Viaduct (HBO10), the evidence indicates a varied and good-quality diet with lots of marine molluscs, edible crab, lobster, marine fish, poultry (chicken, goose), rabbit (particularly) and good-quality cuts of young beef, lamb, mutton and pork.

Oxford Archaeology – Summary of work

By Louise Loe

Oxford Archaeology has enjoyed working on a variety of projects over the last year. A highlight has been the work we undertook at Stoke Quay, Ipswich, where we excavated over 1,000 Saxon and Medieval burials, encompassing c.90% of the cemetery that belonged to the Church of Saint Augustine (see below). Not only a remarkable site, but a remarkable project thanks to the excellent team of osteoarchaeologists and archaeologists that was deployed from Pre-construct Archaeology, Oxford Archaeology East and Oxford Archaeology South. It has been great to work with so many osteologists, including recently graduated Masters students, with such varied experience and such a broad skills base, on this project.

Fieldwork:

Stoke Quay, Ipswich

Oxford Archaeology's largest burials project this year was a joint venture with Pre-construct Archaeology, commissioned by Ramboll UK on behalf of ISG construction. It involved the excavation of 1,176 inhumations from the southern bank of the River Orwell, opposite the historic heart of Ipswich. Representing some 1200 years of continuous burial activity, the inhumations span the early to middle Saxon and Medieval periods, up until the dissolution. They include a Saxon barrow and accompanied burials, located on the river terrace slopes to the south of the site, and a large cemetery associated with the remains of the Church of St Augustine, to the north. Inhumations that were contemporary with and earlier than the church building - a simple Romanesque structure comprising a nave and an apse ended chancel - were found inside and outside its robbed-out walls. Further, some

burials may be associated with a putative wooden, Saxon church, identified from a series of post-holes nearby. The excavation was completed at Christmas and a programme of post-excavation assessment is now underway.

Swinton, Manchester

Oxford Archaeology is currently excavating burials at the site of the former Unitarian chapel and burial ground in Swinton, Greater Manchester. Working in partnership with Burial Ground Services for Peter Mitchell Associates, archaeological recording is being undertaken on all burials, but only those that pre-date 1900 are being brought back to Oxford Archaeology for full analysis (post-1900 burials are being immediately re-buried). The site was used for burial between 1863 and 1962, the chapel itself being demolished in 1984. Various records suggest that around 325 individuals may be buried on the site. This is likely to be the largest industrial period assemblage to be excavated from Greater Manchester and the most extensively documented group from north-west England.

Magdalen College, Oxford

A team currently excavating the site of Magdalen college's new library extension has recovered some 60 skeletons from the cemetery of St John the Baptist, the town's largest medieval hospital. Male, female and juvenile skeletons of all ages have been found, buried in neat rows, on an east-west orientation. It is expected that around 110 burials will be excavated in total during the course of the works.

Great Western Park, Didcot

Starting in 2011 and continuing throughout much of this year, excavations of a number of multi-period sites have been taking place on the outskirts of Didcot. To date, 11 Roman and eight middle Iron Age inhumations have been recovered, in addition to 10 deposits of burnt bone. Most of the inhumations were found along a corridor measuring approximately 280m long by 80m wide, running north-east to south-west along the alignment of a Roman track-way ditch.

Post-excavation analysis

Clay Farm, Trumpington

A large-scale excavation at Clay Farm, Trumpington, on the southern fringes of Cambridge revealed 16 articulated skeletons and disarticulated bone fragments from 16 contexts (pits and ditches), all provisionally dated to the Bronze Age, Iron Age and Early Roman periods. In addition, four deposits of burnt bone were recovered, including a high status Iron Age box cremation. All of this material is currently undergoing a programme of detailed analysis.

The majority of the disarticulated bone fragments comprise the poorly preserved remains of adults and at least one juvenile, recovered from the inner ditch of a Late Roman circular enclosure or monument. Cut marks, burning/charring and dry/wet bone breakage has been observed on some of the bones. In addition, some bones were found with five late Roman bracelets, large iron nails and butchered animal bones. Analysis continues, including a programme of radiocarbon dating.

Itter Crescent, Peterborough

Last month we began analysing eighteen neonates, one pre-term infant and a young child that were found in association with a remarkably well preserved Roman villa in Peterborough, excavated in 2011. A possible early Iron Age crouched burial, 12 Late Roman inhumations and a high status Anglo Saxon inhumation were also found and are now being examined. The Late Roman inhumations include 11 adults and one juvenile and date to a time after the villa had been abandoned. They had been buried within or close to the villa's robbed out walls.

Turner's Yard, Fordham

Analysis is underway on burnt and unburnt bone recovered during excavations on land adjacent to Fordham bypass. The bone includes a Beaker period inhumation and later (Collared Urn) urned cremation, recovered from the centre of two barrows; 21 deposits of burnt bone and an inhumation from the Beaker period barrow ditch. The latter, comprising a

short, narrow grave containing a skeleton that was lying in a supine position with its knees bent upward, is unusual because it had been cut into the initial basal silting of the ditch.

Southdown Ridge, Dorset

We have just completed the full analysis of 20 middle/late Iron Age and three Romano-British inhumations found in 2009 during archaeological investigations on the route of the Weymouth relief road. A range of pathological conditions was observed on the remains, including a relatively rare example of a compression fracture involving the hip of an adolescent. The fracture had resulted in premature fusion of the innominate bone and the proximal femoral epiphysis. Secondary to the trauma were OA and disuse atrophy, the latter indicated by a markedly more gracile bone shaft compared with the right femur.

Ridgeway Hill, Dorset

Also found during archaeological works on the Weymouth Relief road project were a total of 18 late Neolithic/Early Bronze Age and three Romano-British inhumations and 10 deposits of burnt bone on Ridgeway Hill. Full analysis of the funerary archaeology and osteology has now been completed and the results will be published this year (see below).

Mass Grave, Ridgeway Hill, Dorset

Post-excavation analysis on decapitated skeletons found in a mass grave, during works on the Weymouth Relief Road scheme, is nearing completion. The work, which has involved an in-depth isotopic study and detailed analysis of peri-mortem trauma and biological parameters, will be published as an Oxford Archaeology monograph later this year.

Fromelles, France

In April 2012 Louise Loe met with members of the identification commission at Australia House, London, in a continuing effort to identify some of the remaining unknown soldiers recovered and analysed by OA in 2009. The meeting led to the third annual Joint Identification Board which concluded with further identifications being made. To date, 211

Australian soldiers have been identified, 119 of them by name. A further two soldiers have been identified to the British army and 37 soldiers are currently unidentified. The next Joint Identification Board will be held this Spring.

Recent publications and publications in press

In addition to numerous grey literature reports (these are or will be uploaded into OA's digital library, which can be accessed at: <http://library.thehumanjourney.net>), several publications have appeared this year. The following list includes a selection and a more comprehensive list is on our web-site.

Allen, T., Donnelly, M., Hardy, A., Hayden, C., and Powell, K., Brown, 2012 *A Road Through the Past: Archaeological discoveries on the A2 Pepperhill to Cobham Road-Scheme in Kent*

Contains an account of burial archaeology and osteology on Bronze Age cremation burials, high status late Iron Age and early Roman burials and late Roman burials. This is the fifth site in Kent where bucket burials have been found, Aylesford, Swarling, Alkham and Westhawk Farm being the others. In addition, the high status Roman burials are the richest yet found south of the Thames and east of Hampshire, both in terms of pottery, metal vessels and other finds.

Brown, L. and Score, D., in prep. Excavations along the Weymouth Relief Road: Prehistoric and Roman activity at Southdown Ridge, Dorset, *Dorset Natur Hist Archaeol Soc Proc*. Includes osteology and burial archaeology on 20 Iron Age and three Roman inhumations.

Hayden, C. and Score, D., in prep. Excavations along the Weymouth Relief Road: prehistoric, Roman and Anglo-Saxon activity at Ridgeway Hill, Dorset, *Dorset Natur Hist Archaeol Soc Proc*.

Includes the osteology and burial archaeology on 28 late Neolithic/Early Bronze Age inhumations and deposits of burnt bone and three Romano-British inhumations.

Loe, L., Barker, C., and Wright, R., forthcoming, An osteological profile of trench

warfare. Peri-mortem trauma sustained by soldiers of the Great War, in Knusel, C. and Smith, M. (eds), *The Bioarchaeology of Human Conflict: 'Traumatized Bodies' from Early Prehistory to the Present*, Routledge.

This paper explores patterns of blast, projectile, sharp and blunt force trauma sustained by soldiers who fought and died in the Battle of Fromelles, 1916. Contributors include Piotr Drukier, Ambika Flavel, Mark Gibson, Stephanie Leach, Linda O'Connell and Helen Webb.

Lyons, A. 2011. *Life and Afterlife at Duxford, Cambridgeshire: Archaeology and History in a Chalkland Community* East Anglian Archaeology Report No. 141

Contains a burial and osteology report on Bronze Age, Iron Age and Roman burials.

McCarthy, R Clough, S Boyle, A and Norton, A 2012 The Baptist Chapel Burial Ground, Littlemore, Oxford *Post-medieval Archaeology* 46/2, 281-290

Rowland, S and Loe, L, forthcoming Excavations at St Hilda's Churchyard, Coronation Street, South Shields, Tyne and Wear, *Post-medieval Archaeology*

Details the analyses of funerary remains from c. 240 early to mid 19th century burials from St Hilda's churchyard. Contributors include Ceri Boston, Angela Boyle, Sharon Clough, Christine-Howard Davis, Caroline Raynor, Roisin McCarthy and Helen Webb.

Biddulph E and Welsh K, 2011 *Cirencester before Corinium. Excavations at Kingshill North, Cirencester, Gloucestershire*. Oxford Archaeology Thames Valley Landscapes Monograph No. 34, 65-68

Includes analysis of late Iron Age inhumation burials by A Zochowski, H Webb and cremations by S Clough

Biddulph E, Foreman S, Stafford E, Stansbie D and Nicholson R, 2012 *London Gateway. Iron Age and Roman salt making in the Thames Estuary. Excavation at Stanford Wharf Nature Reserve, Essex*. Oxford Archaeology

Monograph No. 18 (Digital Volume: <http://library.thehumanjourney.net/909>)

Includes sections on deposits of cremated human bone analysed and reported on by H Webb.

Radiography Workshop

In July we hosted a small radiography workshop for forensic radiographers, osteoarchaeologists and biological anthropologists. We were very fortunate to be joined by Iain Watt, who led the workshop. Iain, formerly consultant radiologist at the Bristol Royal Infirmary and professor of radiology at Leiden University, worked closely with the late Juliet Rogers, primarily on joint diseases in archaeological material. The workshop included a lecture, delivered by Iain, on reading radiographs of pathological bone, followed by a session looking at case material that participants had brought with them. Further workshops are planned for this year.

York Osteoarchaeology Ltd

By Malin Holst and Anwen Caffell

York Osteoarchaeology Ltd undertakes skeletal excavation and analysis. Anwen Caffell (honorary research associate, Durham University) and Malin Holst (tutor, University of York) are also teaching at Durham and York universities.

St Giles Church, Pontefract, West Yorkshire, MH

Ten inhumed skeletons recovered from within St Giles Church date to the Civil War. Burial in the usual cemeteries was not possible during the sieges of Pontefract in 1648 and 1649. The group included three juveniles and seven adults, three of whom were male and one female. Inflammatory lesions were common in the skeletons; one child had a more serious infection of the endocranial surface and possibly rickets.

St Peter's Church, Huddersfield, West Yorkshire, AC & MH

A single skeleton and disarticulated cranium probably dating to the post-medieval period were excavated just outside the church. Both were male adults.

Archaeology Wales Ltd

St Lythian's Chambered Tomb, Vale of Glamorgan, Wales, MH

Neolithic cremated and unburnt bone and tooth fragments were recovered from a chambered tomb, representing at least three individuals, a juvenile, an adolescent and a mature adult.

Tinkinswood Barrow, Vale of Glamorgan, Wales, MH

Human remains were recovered from the Bronze Age barrow, including cremated bone and unburnt teeth, suggesting that at least one nine-month-old infant, a young juvenile and an adolescent or adult were represented by the remains, while the cremated bone represents at least one further individual.

Chester Archaeological Society

Heronbridge, Chester, MH

Skeletal remains were recovered from three rock-cut graves, located beside the Roman quayside. The burials probably had decorated stone lids and a carved stone tomb had been constructed over the two larger graves. All three graves had been robbed and contained little skeletal material. The graves belonged to a four to five year old juvenile, a female old middle or mature adult, and a juvenile or adolescent.

Dyfed Archaeological Trust

Fan Barrow, Talsarn, Ceredigion, Wales, MH

Five cremated bone assemblages were interred in a Bronze Age barrow. Three burials were urned, and a fourth interred in a stone lined pit. Pygmy cups were noted in four of the burials and fragments of copper were noted in two. The quantity of bone recovered from the burials varied from 332.1g to 2,068.3g. All individuals were female adults with the exception of an adolescent who had been buried with an adult.

St Brides Haven, Pembrokeshire, AC & MH

Twenty-six individuals were recovered from a cemetery that probably originated in the early medieval period, but two radiocarbon dates of AD 810-1090 and AD 1650 suggest that it may have been in use for a long period. Preservation was extremely poor. Eight non-adults and thirteen adults or probable adults (two males, one female, five unsexed) were analysed; the age of five individuals could not be determined.

Earthworks Archaeology

Seven Lows Barrow Cemetery, Fishpool Lane, Delamere, Cheshire, AC & MH

Cremated bone was recovered from 15 features in a disturbed Early Bronze Age barrow. Four cremation burials in collared urns surrounded a central pit. Three each contained a single individual (adult female, adult male and an unsexed adult), and one contained the remains of two individuals (an unsexed adult and an adult/adolescent). Bone from all other contexts was adult or adult/ adolescent.

Friends of Active Archaeology

Broughton Moor, Malton, North Yorkshire, MH

Two Romano-British neonate skeletons showed evidence for infection.

MAP Archaeological Practice

27A New Street, Pocklington, East Yorkshire, AC & MH

Post-medieval disarticulated bones were re-deposited within a pit and represented a minimum of five individuals, including three adult males and two children.

Matthias Garn Master Mason and Partners

St Mary's Church, Tickhill, South Yorkshire, AC & MH

A medieval tomb containing the disarticulated remains of Sir Thomas Fitzwilliam, Lady Lucy Neville, Sir Richard Fitzwilliam and Elizabeth Clarell was excavated. The skeletons of four individuals were partially reassembled and proved to be the remains of two mature adult females and two old middle/ mature adult males.

Mike Griffiths and Associates

Potgate Quarry, North Stainley, North Yorkshire, AC & MH

A Romano-British neonate skeleton was recovered from a ditch associated with settlement features.

Northern Archaeological Associates

AI Dishforth to Barton Improvement, North Yorkshire, MH & Katie Keefe

Twenty-five Roman inhumations were analysed, of which 68% were non-adults (mostly perinates). An older juvenile was interred in an unusual position (prone and upright), with a finger ring and a puppy. It is possible that a juvenile in a coffin had Down's syndrome, though the diagnosis is very tentative. The eight adults included four males, three females and an unsexed adult. A range of pathological conditions was present, including congenital anomalies, evidence of childhood stress, a range of inflammatory lesions and lung infection. Trauma was widespread, with a partial dislocation and two rib fractures. DJD was prevalent and osteoarthritis was localised in three individuals. Dental health was poor. Seven Roman cremation burials ranged in weight from 48.5 to 859.3g. Two of the burials were urned and one of these was unusually late for the Roman period, dating to the 5th century AD. The bone had been interred in a vessel that dated to the 1st or 2nd century AD and had possibly been curated. Five early medieval inhumations included a juvenile and two unsexed adults. Notably, a male adult was interred in a typical Roman fashion, in a limestone cist and with the skull at the feet, despite dating to the early medieval period.

Scorton Quarry, North Yorkshire, MH

An inhumed adult of undetermined sex was associated with the Scorton cursus.

Network Archaeology Ltd

Brecon to Tirely Natural Gas Pipeline, Gloucestershire, Herefordshire and Powys, MH

Eight cremation burials dated from the Early Bronze Age to the Romano-British period. The quantity of bone recovered from the assemblages represented 0.1% to 2.7% of the

expected mean quantity of bone recovered from modern cremations.

Northamptonshire Archaeology

Stanground South, Peterborough, Cambridgeshire, AC & MH

Cremated and inhumed remains dating from the Early Bronze Age to Roman period included: Six unurned cremation burials of three adults (one male, one female, one unsexed) and three young children associated with an Early Bronze Age burnt mound.

A Middle Bronze Age urnfield produced 78 cremation burials, 44% of whom were children, and adults of both sexes. Ten burials contained multiple individuals.

Four isolated cremation burials, including: an urned Iron Age foetus/infant; an unurned burial of an adult and child located near a roundhouse; and two unurned burials containing small quantities of bone of uncertain identification.

Five isolated inhumation burials including: a mature adult female (Late Bronze Age/ Early Iron Age) buried prone and flexed; a baby (Iron Age); a young juvenile and an adolescent (Late Iron Age/ Early Roman); and an adolescent (Roman).

Two isolated crania were recovered. One of these, from an Iron Age adult male, had been modified after death while the bone was still fresh: aligned holes had been cut in the midline of the frontal and occipital and shallow cut marks were also noted.

University of York

Heslington East, York, York, MH

Two Early to Middle Bronze Age cremation burials were found; an infant and adolescent were interred in an inverted collared urn. The adjacent burial contained the remains of another adolescent. The remains of five Roman perinates and two middle adult males were found. Only the skulls survived of the adults. The skull of one male was pinned to the ground with large nails. The only parallels for

this derive from Greek and Roman burials from a Mediterranean context.

*Wardell Armstrong Archaeology
Gas House Land Flood Alleviation, Stratford Road, Alcester, Warwickshire, MH*

Five Romano-British graves were probably part of a large Roman cemetery on the periphery of the Roman town of Alcester. There were two females and two male, one of whom possibly had brucellosis. An infant had been buried with one of the females.

*York Archaeological Trust
Dixon Lane, York, MH*

One of 117 skeletons from the medieval churchyard of St Stephen's was analysed. This was a female, aged over 46 years with leprosy, including resorption of the nasal area and maxilla, periosteal reactions of the maxilla and lower legs, concentric atrophy and volar grooves on the hands. She had many minor developmental anomalies in her spine and six vertebral compression fractures, os acromiale of the right scapula, mild degenerative disease, chronic sinusitis and good dental health.

Driffeld Terrace, York, AC & MH

The 82 skeletons comprised 75 adults (66 males, 1 female, 8 unsexed; all aged under 45 years), and 7 non-adults (1 foetus, 1 neonate, 2 juveniles, 3 adolescents). Peri-mortem blade injuries were frequent, mostly associated with decapitation. One male had possible animal bites to his pelvis. There was a high prevalence of healed trauma, including fractures to the cranium, face, teeth, first metacarpals, and other post-cranial elements. There was evidence for inflammation of the lower legs, respiratory infections, cribra orbitalia and enamel hypoplasia. The frequency of joint disease and dental disease was low, consistent with the young age bias.

The skeletons were Roman in date (late 1st/early 2nd century AD to late 4th century AD). Burial was disorganised, with intercutting of burials and variable orientations. Most were buried extended and supine, but some were flexed, and three were prone (including the single female). Seventy-one percent of the

individuals had been decapitated (based on osteological and contextual evidence). There were seven multiple burials, and in one the heads of two individuals had been exchanged.

There were 18 cremation burials, and 19 features containing residual cremated bone. Most cremation burials dated to the later phases of the cemetery, and none were contained within urns (although one may have been in a wooden box). Most individuals were adults or probable adults, and sex could be determined in four burials (3 possible males and 1 possible female).

Hungate, York, MH

Two Anglo-Scandinavian skeletons included an old middle adult male of short stature, with poor dental health, widespread DJD and periosteal reactions on the tibia and a female mature adult of average stature with an additional tooth, mild DJD, Schmorl's nodes, sinusitis and periosteal reactions in the tibiae.

Waterdale, Doncaster, South Yorkshire, AC & MH

Cremation-related deposits dating to the 1st to 2nd century AD from 32 features located near a possible pyre site were analysed. Most deposits were heavily truncated, and some may have been redeposited pyre debris; three burials were urned. Two poorly preserved inhumations of an adolescent and an adult dating to the 3rd or 4th century AD were also excavated.

DEPARTMENTAL REPORTS

BARC, Archaeological Sciences, University of Bradford

By Jo Buckberry

This year we have continued with the exciting 'Digitised Diseases' project (see project reports and <http://barc.sls.brad.ac.uk/3dbones/>), which has kept everyone in Bradford busy selecting specimens, describing pathologies and imaging them. Jo is continuing her research on the individuals with trauma at Stirling Castle, and

Jo and Alan have continued to deliver osteology workshops as part of 'You Are What You Ate' (<http://www.leeds.ac.uk/yawya/index>). Keith Manchester, Rebecca Storm and Alan Ogden, along with Thomas Colard, Niels Lynnerup, and Joël Blondiaux, ran a workshop on the palaeopathology of leprosy at the PPA meeting in Lille. In February we were joined by Hannah Koon who is continuing her research on the development of new methods to address health and diet. Her current research focuses are on developing new micro-sampling techniques for organic stable isotope analyses; detection of biomarkers for scurvy and methods to identify low temperature cooked bone. Hannah spent the summer in Boston finishing off an Intelligence Community Research Fellowship in the Biogeochemistry lab at Harvard and eating lots of seafood. Sébastien Villotte was awarded a British Academy small grant to research 'Human Diversity and Micro-evolutionary Change during the Late Pleistocene: Reassessment of Four Upper Palaeolithic Fossils', and spent much of the summer in sunny France. Seb left the University of Bradford at the end of December after an exciting year to take up a permanent research post at CRNS in Bordeaux, where he will continue his research and (probably) consume some wine. We are delighted that he will miss the Yorkshire beer, if not the grey weather and wish him every success.

Julia Beaumont was awarded the Eila Campbell Scholarship by the British Federation of Women's Graduates, for her doctoral research on the Lukin Street cemetery. She spent the latter part of 2012 at La Trobe University in Melbourne, working alongside Colin Smith. In the summer we were joined by two visiting researchers. Chiara Villa from the University of Copenhagen joined us to trial our FARO laser scanner as part of her doctoral research into the use of 3D and laser scanning for age estimation from the pelvis. Borja Molero Alonso visited us from the Universidad de Sevilla. He worked with Andy Holland and Tom Sparrow, developing 3D photogrammetric recording of heritage

artefacts in parallel with the 'Digitised Diseases' project.

It was with great sadness that we learnt of the death of Prof Don Ortner. Don became an honorary visiting professor of palaeopathology in Bradford in 1987 and maintained close links with the department until his death. He was awarded an honorary doctorate by the University in 1995. Over the last 25 years he regularly visited Bradford and Keith and Ann Manchester who became close friends with Don and Joyce. His contribution to palaeopathology in Bradford was enormous – he founded and co-led the European short courses in palaeopathology, researched our collections, collaborated on research projects and papers and inspired staff and students. We all miss Don enormously, and extend our deepest sympathy to Joyce and the rest of his family. We have dedicated the 'Digitised Diseases' project to his memory.

Ongoing PhD Research:

Julia Beaumont: Irish names in a London Cemetery: is it possible to identify Irish immigration in 19th-Century Lukin Street? (AHRC).

Rhea Brettell: Embalming in Late Roman Britain. A molecular-based approach to identification and an evaluation of significance (AHRC).

Pamela Cross: Horses of Men and Gods: Horse Sacrifice and Mortuary Rituals in 1st Millennium AD Britain (AHRC).

Ceilidh Lerwick: Vikings, Picts and Scots: Biocultural Identity in Medieval Scotland
Marianne Robson: Modelling the long term resilience of a marginal social-ecological system: the historical ecology of Orkney and Shetland (NERC/ESRC).

Genevieve Tellier: A study of the Neolithic and Bronze Age populations of Wales from osteological and contextual data.

Jacqueline Towers: The significance of cattle birth seasonality in the detection of dairying in archaeology (AHRC).

PhD theses submitted:

Emma Brown: Investigating the use of coca and other psychoactive plants in Andean mummies (AHRC).

Laura Calderwood: Differential Infant and Childhood Morbidity and Mortality in 19th century London (AHRC).

Nivien Speith: Skeletal evidence of the social persona: Life, death and society in early medieval Alamannic communities (AHRC / Ochs Scholarship).

Dissertations Submitted for the MSc Human Osteology and Palaeopathology, 2011/12:

Alexandra Denning: Expanding upon existing morphometric techniques for osseous non-metric traits on the proximal femur.

Felicia Fricke: Slavery in post-medieval London: assessing potential osteological indicators.

Sarah Gearey: The impact of an altered gait: pelvis asymmetry, morphology and the influences on sex assessment.

Hope Hancox: Potential of lipid biomarkers to clarify ambiguous isotopic signals in archaeological bone.

Kimberley Hansford: Identifying scurvy from collagen in archaeological remains.

Joseph Krecioch: Investigation into the relationship of craniometrics to dental anomalies.

Isobel Messer: Victorian faces: An investigation of changes in the morphology of the human viscerocranium.

Lynsey Toase: A study into the relationship between metabolic conditions and leprosy in medieval populations.

Suzanne Westall: An archaeo-anatomical and osteological study regarding burial position in the Iron Age cemetery at Wetwang Slack.

Cranfield Forensic Institute, Cranfield University

By Sophie Beckett, Anna Williams, Andrew Shortland and Roland Wessling

2012 has been a successful year for Cranfield Forensic Institute (CFI). The group is involved with research, teaching and commercial work of organic and inorganic materials, with

particular expertise in the analysis of bone using a range of physical, chemical, mineralogical and isotopic techniques. CFI collaborates with other institutions such as Harvard, Melbourne, Leuven, Quinnipiac and Oxford Universities, the Getty Institute of Conservation, the British Museum, the Natural History Museum, the Metropolitan Museum of Art, Bonhams, MOD Estates, the Inforce Foundation and many more.

Dr Sophie Beckett was promoted to Lecturer in Forensic Biominerals. In 2012, Sophie established a voluntary Osteology Club for MSc students to gain experience of recording fragmentary, disarticulated archaeological remains from the Sedgeford Historical and Archaeological Research collection (www.sharp.org.uk) and this has proven popular with, and much appreciated by both MSc and PhD students. She continues to manage the CFI Analytical Laboratory and has carried out analysis work for English Heritage and Oxfordshire Museums' Service as well as industrial commercial work. For further information, see www.cranfield.ac.uk/cds/staff/beckettsophie and www.cranfield.ac.uk/cds/cfi/analytical.

Dr Kelly Domoney was appointed as a Research Fellow in Forensic Archaeomaterials and will be running the analytical testing facility for European porcelain, managing commercial contracts for the analysis of art objects, archaeology and antiques, and working on various analytical research projects. For further information see www.cranfield.ac.uk/cds/staff/domoneykelly.

In 2012, CFI also welcomed Dr James Schackel as Lecturer in Forensic Ballistics. James has joined Cranfield from Manlove Forensics Ltd. He has taken on the module leadership for the firearms and ballistics modules on the MSc Forensic Programme.

Dr Scott Haddow was appointed as an honorary Fellow at Cranfield Forensic Institute and has provided valuable teaching assistance on the Forensic Archaeology: Mass Grave Excavation and the Practical Archaeological

Excavation (at Fin Cop in 2012) modules and for the Friday Osteology Club. In collaboration with Roland Wessling and Inforce, he also led a team of Cranfield MSc Forensic Programme Alumni on a five-week-long, police search investigation in Nottinghamshire. The search was that of a landfill site (est. 7,500 m³) for the partial human remains of a suspected murder victim, of which the torso and legs had already been located elsewhere.

Professor Keith Rogers was successful in obtaining an EPSRC grant worth almost £1M to carry out research into bone disease using new non-invasive technologies over three years.

Dr Anna Williams hosted a very successful HEA-funded workshop entitled 'Improving Learner Experience in Forensic Science Higher Education and Practitioner Training' at Shrivenham in May. This brought together academics and those involved in practitioner training to share ideas and techniques to improve teacher and learner experience in forensic science education. Anna is currently Editor in Chief of a forthcoming volume (end of 2013); 'Forensic Science Education and Practitioner Training' with editors, Professor John Cassella and Anna-Maria Muller.

In 2012, Dr Anna Williams appeared on television as part of BBC Three's 'Secrets of Everything' series. She helped 'science junkie' Greg Foot answer questions about human decomposition. She also appeared on 'Alien Investigations' on Channel 4, where she examined human remains found in Cusco, Peru, which exhibited artificial cranial deformation. She will be appearing in 'Treasures Decoded' in early 2013 and, with Dr Peter Zioupos, in a Channel 4 documentary about King Tutankhamen's death.

Roland Wessling and Forensic MSc Programme Graduate Charlie Enright spent a two-week deployment in the Ukraine, where they carried out what is probably the largest and most comprehensive, multi-technique geophysical survey of suspected mass grave sites ever undertaken. The search concentrated

on a WWII and Stalin-era mass grave and was carried out in conjunction with a local charity. The aim of the pilot project was to demonstrate the value of geophysical surveying as a tool in the location of such mass grave structures and as a result, there are now plans for a large-scale follow-on project.

Lorna Irish, Ozgur Gulhan and Jemma Mitchell have joined Cranfield Forensic Institute as PhD students. Lorna has started much-needed research into The Identification and Quantification of Gaseous Products of Decomposition, with particular reference to the efficacy of human remains detection dogs. Her work has led to a Memorandum of Understanding between the Centre for Forensic Anthropology Research and the Police Service of Northern Ireland, and utilises the CFI Forensic Fieldwork Facility.

Lindsay Cooper, a part-time PhD student, continues her research into The Effect of Age on Trauma Patterns on Bone, and gave an oral presentation of her work at the Forensic Science Society, Inaugural Postgraduate Research Symposium held in Warwick in November. The conference was also well attended by CFI PhD students, who presented posters of their research, and Danae Prokopiou won best poster award. Charlene Greenwood has nearly completed her PhD research into physicochemical modifications of bone and was successful in obtaining external bursaries to attend the International School of Crystallisation in Granada in May (www.iscgranada.org) and the Diamond Light Source Synchrotron Radiation Summer School in September (http://www.diamond.ac.uk/Home/Events/Past_events/SR-Summer-School-2012.html).

Catherine Sinnott presented a poster of her work at the annual BABAO conference; Endocranial Lesions: A Scorbatic Aetiology. She also gave a guest lecture at the University of Oxford, Wellcome Unit for the History of Medicine on Osteological Analysis of the Skeletons of Late Georgian Seamen and Marines and will be presenting the lecture; The Archaeology of the Royal Naval Hospital

Haslar for Richmond Archaeological Society, early in 2013.

The 2012 Forensic Science Society prize for the most outstanding student on the MSc Forensic Programme was awarded to Jessica Valli. The modular MSc Forensic programme continues to be a successful and popular course. The programme enables students to construct their own 'bespoke' course from a combination of a wide range of compulsory and elective modules, within a framework of five forensic streams. Many of the MSc modules can be taken as individual short courses. An open day for the MSc Forensic programme will be held on 25th April 2013. For further information, see www.cranfield.ac.uk/forensics.

The Inforce Foundation, based at the CFI, had a busy year in 2012. They launched a new website and moved into new offices on the Shrivenham campus. They delivered a mobile anthropological laboratory to Rwanda, marking the start of a one-year deployment. The 40 x 10 ft container has three rooms for various analysis and documentation of victims' remains and associated artefacts. Final project negotiations are currently in progress and the first three-person team is on standby to deploy. In preparation for the 2012 Olympic Games, Inforce worked with the East of England Region to deliver two large-scale DVI training exercises in the running of a temporary mass fatality incident mortuary for 120 police officers.

**Department of Archaeology, Durham
University**

By Tina Jakob

The previous year was a successful one for the Bioarchaeology Group at the Department of Archaeology, Durham University, with Charlotte Roberts returning as Course Director of the MSc in Palaeopathology course after a productive year on research leave. We are happy to welcome Mandy Jay who has joined us as a postdoctoral research assistant; she is

working together with Charlotte Roberts on the following project:

Current Projects

“The invisible dead”. Funded by The Templeton Foundation. Principal Investigator: Chris Scarre; Co-Leaders: Charlotte Roberts and Graham Philip. Postdoctoral research assistants: Jennie Bradbury and Mandy Jay. The project involves constructing a database of human burials from the Neolithic through to the Roman period with a view to investigating changes in burial practices over time and considering the status of burial in human society and its relationship to secular and religious beliefs. The database will include material from both Britain and the Near East and will employ GIS.

In addition, Charlotte continues to work on:

“Health and diet in ancient Nubia through political and climate change (Amara West)”. A three-year project funded by the Leverhulme Trust (Co-I: Charlotte Roberts with Neal Spencer, British Museum); tied PhD studentship: Michaela Binder. The project involves researchers at the British Museum, Universities of Durham, Manchester, Aberystwyth and Purdue. It combines the study of the human, botanical and faunal remains, geomorphology and artefact studies, in order to elucidate how both the colonisers, and the colonised interacted and were affected by the shift in political authority and concurrent, significant, climate change. See project website at: http://www.britishmuseum.org/research/research_projects/all_current_projects/amara_west_research_project.aspx

Charlotte gave a keynote lecture at the Durham University Archaeology Society Conference: Whose past? An interdisciplinary debate on the repatriation of artefacts and reburial of human remains. Challenges to the survival of bioarchaeology as a discipline due to burial legislation: why human remains are central to our understanding of the past. She co-authored several conference presentations and posters at the Annual Meeting of the American

Association of Physical Anthropologists, Portland, Oregon, USA as well as at ICEPT-2: The past and present of tuberculosis: a multidisciplinary overview of the origin and evolution of TB, Szeged, Hungary.

Charlotte is now Deputy Editor of the *International Journal of Palaeopathology* until 2015, and remains Associate Editor for *Homo*, *International Journal of Palaeopathology*, *Journal of Archaeological Science*, and *International Journal of Osteoarchaeology*

Becky Gowland took over as Course Director of the MSc in Palaeopathology until Charlotte's return from research leave in October 2012 and Becky is currently busy teaching the Masters and undergraduate students at Durham. Becky presently supervises 15 PhD students (8 as first and 7 as second supervisor) in subjects related to bioarchaeology and social identity. Becky also co-directs the joint course CPD course with Teesside University, 'Body Location and Recovery in Forensic Contexts', which ran for the fourth consecutive year in September and was well attended; delegates included CSIs and criminologists. Becky's book with Tim Thompson 'Human Identity and Identification' was published in January by Cambridge University Press. This book seeks to examine the interplay between social environment and the different tissues of the body in relation to techniques of human identification (forensic and bioarchaeological). She is continuing her research on health and identity in Roman Britain and her collaboration with Dr Rebecca Redfern at the Museum of London on the analysis of skeletons from Roman London. Becky's interest in malaria in Britain, in particular during the Anglo-Saxon period, also continues and she is planning further research in this area, together with Gaynor Western (Ossafreelance).

Janet Montgomery is continuing to work on the Leverhulme funded "Adolescence, Migration and Health in Medieval England: the Osteological Evidence" with Drs. Mary Lewis and Fiona Shapland at the University of Reading and has recently completed with Julia

Beaumont the NERC-funded Timelines in Teeth project, which is being prepared for publication. The monograph of the Gristhorpe Man project (Gristhorpe Man: a Life and Death in the Bronze Age, eds. Melton, Montgomery and Knusel) is completed and due for submission to Oxbow in January 2013. Her PhD student Joseph Warham whose thesis is entitled "Mapping biosphere strontium isotope ratios across major lithological boundaries" graduated this year at the University of Bradford. Julia Beaumont (an isotopic study of victims and survivors of the Irish Potato Famine) and Jacqueline Towers (cattle husbandry and dairying) are due to submit in 2013 at the University of Bradford. Julia was recently awarded the Eila Campbell Scholarship from the British Federation of Women Graduates. Second year students at Durham University, Sam Neil and Maria Lahtinen, are working on human isotope studies investigating the mobility in Neolithic populations in England and Wales and the transition to agriculture in Finland respectively. Maria Lahtinen won the student prize at the EAA conference in Oslo in 2012. Recent MSc dissertation projects in collaboration with archaeological units have included isotope studies of Norman and Saxon burials at Hereford Cathedral (Brooke Garrett, Headland Archaeology); decapitated burials dating to the Roman period in Inveresk (Alice Rose, CFA Archaeology); and a study of residential mobility at first-millennium AD Portmahomack, Scotland (Lauren Walther, FAS, York).

Anwen Caffell continues as an Honorary Research Fellow/ Teaching Fellow at Durham University, assisting with laboratory demonstrating on the MSc in Palaeopathology course. In addition, Anwen has carried out contract work for York Osteoarchaeology (see York Osteoarchaeology).

Tina Jakob is currently Teaching Fellow in the Department and teaches bioarchaeology at undergraduate and postgraduate level. She is involved in the analysis of prehistoric and historic skeletal remains from El Salha in central Sudan and has recently returned from

fieldwork in the Sudan. Tina is also working on a medieval cemetery population from Bulgaria (Perperikon) and post-medieval human remains from Spain (Ambel, Zaragoza). She has studied a postmedieval population from Durham Market Place, a collection of 72 articulated skeletons and many disarticulated human bones that are now reburied.

Last year members of the Department of Archaeology were involved in a large number of outreach events. Charlotte Roberts gave a talk to the Friends of Swaledale Museum, Reeth on 'Death and disease: stories from our ancestors' and talked about air quality and health at St Bede's School, Lanchester. She also took part in a panel discussion for the public on infectious disease, Wellcome Collection, Wellcome Trust: 'Noah's Ark: Living with the animals'. Charlotte was interviewed live on the BBC Radio 4: Today programme's section on malaria, and infectious disease. Developed by Kirsty McCarrison, working together with Charlotte Roberts, the exhibition **Skeleton Science** ran from May to December 2012 at the Fulling Mill Museum, Durham.

Anwen assisted in the organisation of a one-day event, 'Under the Butcher's Knife', together with Charlotte Henderson and Tina Jakob as part of the CBA Festival of British Archaeology. Aimed at interested members of the public, the event comprised a series of short talks and practical sessions exploring the archaeological evidence for diet.

Becky, Anwen and Tina were busy organising and running activities on human bioarchaeology for schoolchildren as part of 'Celebrate Science', an event that attracted over 5,500 people in three days, and the help and dedication of our postgraduate students was essential to contain the flood of bone-related questions.

Research students who submitted their PhDs in 2012, Durham University

Marta Diaz-Zorita Bonilla: Reconstructing social structure through bioarchaeological analysis
Kim Plomp: Quantifying

palaeopathology: developing objective geometric morphometric methods for recording pathological conditions in human skeletal remains.

Current Research Students, Durham University

Year 1:

Marissa DeMello: Barbarians & scholars: an osteological analysis of phenotypic traits of Germanic peoples in relation to traditional hermeneutics

Sophie Newman: The perils of industrialisation: child health in post-medieval England

Ariadne Schulz: Long bone morphology and its relationship to osteoarthritic patterning among archaeological populations

Brittney Shields: The outcast dead: health and diet of the post-medieval poor of England

Lauren Walther: A comparison of a highland and coastal population in Peru and the effects of high altitude on general health and body proportion

Year 2

Davina Craps: Contextualising osteoarthritis and rheumatoid arthritis in post-medieval England

Ellen Kendall: Milk Matters: breastfeeding as a mortality factor in two early medieval English communities

Maria Lahtinen: Diet, migration and the beginning of cultivation in the Medieval site Iin Hamina Northern Finland

Jo Mathias: More than male and female: gender in western Iron Age Europe

Sam Neil: Patterns of social mobility during the Early Neolithic and the development of the Neolithic in the British Isles

Veronica Tamorri: The semiology of tomb arrangement in predynastic and early dynastic Egypt

Year 3

Michaela Binder: Health and diet in ancient Nubia through political and climate change

Devon Kase: Congenital conditions in British populations: a contextual approach

Ross Kendall: A study of endemic malaria and haemolytic anaemias in past British populations

Lindsay Powell: Childhood health and care in Roman London: the isotopic and palaeopathological evidence

William Southwell-Wright: Disability and difference? Assessing social perceptions of physical impairment in Roman Britain

Year 4

Zahra Afshar: Mobility and economic transition in the 3rd millennium BC in the population of southeastern Iran, Shahr-i Sokhta

Joy Eddy: Burned human skeletal remains and cremation practice in the north of Roman Britain

Marieke Gernay: Health and diet in late medieval Belgium, France and the UK: A comparison

Julie Peacock: Disability and traumatic brain injury (TBI) in Britain: AD 1066-AD 1800

Jennifer Sharman: Testing age and sex estimation methods on known documented skeletal collections from Portugal, England and Canada

Ashley Tallyn: A study of the health of monks' and nuns' health using multiple lines of evidence

The following MSc in Palaeopathology students at Durham successfully completed their dissertations in 2011-12

Demello, M: An answer to the historical and osteological paradoxes: a new theoretical model for historical analysis in osteological research

Garcia-Collado, M: Diet as a social marker: stable isotopes and palaeopathological analysis on an early medieval rural community in Spain

Garrett, B: Norman or Saxon? Investigating the Norman presence at Hereford Cathedral Close

Ghafoor, R: Assessing adult craniofacial variation and sexual dimorphism within a medieval and post-medieval population

Le Roux, G: Methodology for recording long bone fracture angulation and overlap as an indirect sign of medical intervention

Newman, S: Cortical thickness as an indicator of stress: a comparative study of growth in rural Fewston and urban Coach Lane

Penny-Mason, B: Childhood health as a barometer of social change pre and post-reformation

Rose, A: An isotopic study of six probable Roman individuals from Musselburgh, East Lothian

Schulz, A: The relationship between osteoarthritis and humeral asymmetry and its relationship to occupational stress

Shields, B: A differential diagnosis of endocranial bone deposition: infectious, metabolic, or traumatic?

Simpson, E: Health of Children from the Post-Medieval Rural Community of Fewston, North Yorkshire

Toso, A: The medieval cemeteries of Asti: stress markers as indicators of a population's health

Twist, A: Examining the sexual dimorphism of two British populations using geometric morphometrics

Walser, J: Seeing the Past: An Archaeology of Vision

Walther, L: Strontium and oxygen isotope analysis of burials recovered from an early Medieval site at Portmahomack, Scotland

Watson, K: Cleft neural arch defects in the sacrum - a differential diagnosis

Weinstein, S: Social Status and Health in Anglo-Saxon England

Wright, K: Analysing dentition to uncover culture and health status in Middle to Late Mississippian Native Americans from Tennessee

University of Edinburgh

By Kath McSweeney

Field Schools:

The University of Edinburgh runs two osteoarchaeological field schools for groups of approximately 10 Masters students. One, run by Elena Kranioti, is based in Ibiza, Spain, and focuses on Roman skeletal material; the other, directed by Kath McSweeney, takes place in the World Heritage Site of Nessebur on the Black Sea coast, where we use skeletal

material from the ancient necropolis that dates from Ancient Greek through to the Medieval periods. The fifth year of these Field Schools will take place in May 2013.

New PhD Students

The following students started their PhDs in September 2012:

Mandan Kazzazi

Mandan is developing a new sex estimation method based on dental measurements for archaeological populations from Iran. This method is based on tooth crown diameter measurements (the greatest buccolingual and mesiodistal diameters) of all available teeth and is expected to provide population-specific standards for Iron and Bronze Age assemblages from Iran.

Anna Evatt:

Title: A Bioarchaeological investigation of European Mesolithic burial practices and taphonomy.

Phillip McMath

Title: A Human Osteoarchaeological Investigation into Byzantine Human Health on the Black Sea Coast of Bulgaria.

News from the Bioarchaeology Laboratory, University of Exeter

By Christopher Knüsel

The Bioarchaeology Laboratory at Exeter entered its fourth year in 2012. This report covers the biological anthropological work in the Laboratory, but does not report fully on the extensive archaeozoology and palaeobotany research in which the Lab is also engaged. For that information, see <http://humanities.exeter.ac.uk/archaeology/research/themes/bioarchaeology/>.

The desire to bring post-doctoral researchers to the Lab and develop its post-graduate environment, both taught MSc. and doctoral programme, continues to meet with success and is developing a legacy of research links. Séb Villotte, who spent two very event-filled

and productive years in the Lab as a Fondation Fyssen post-doctoral fellow, is now a CNRS researcher in Bordeaux's UMR5199-PACEA (De la Préhistoire à l'Actuel: Culture, Environnement et Anthropologie). Collaborative work with Séb included a poster presentation at the 2012 AAPA meeting in Portland, Oregon, USA, in a symposium entitled, "Working Nine to Five: The Future of Activity-related Stress", organised by Drs. Charlotte Henderson and Francisca Alves-Cardoso, for which the author of this news section acted as discussant. Séb and the writer also presented a double-act for "Early Farmers: The View from Archaeology and Science", organised by Dr. Penny Bickle, Cardiff University from 14-16 May. This conference was a powerhouse of concentrated work on the Neolithic. We will also present a version of this paper, *Sexual division of labour during the LBK: An example from Stuttgart-Mühlhausen highlighting the use of skeletal activity-related morphologies*, this month (January 2013) at the SAP (Société d'anthropologie de Paris) meeting in Paris.

Dr. Stephany Leach, who joined the Lab last year, commenced and completed an innovative and exceptionally well-positioned project to bring skeletal remains to the attention of the general public with Paul Davies of Imagemakers (Okehampton, Devon) (<http://www.imagemakers.uk.com/our-team/>) as the creative partner on an AHRC REACT (Research and Enterprise in Arts and Creative Technology) project, *The Ivory Bangled Lady* (<http://www.yorkshireremuseum.org.uk/Page/ViewCollection.aspx?CollectionId=26>) The result is a digitally-augmented reality exhibition of the burial of a woman of sub-Saharan African ancestry buried in York in the 4th century A.D. Excavated in 1901, the human remains had remained in storage until 2007 when Steph analysed them as part of the University of Reading's Diaspora Project, *A Long Way from Home: Diaspora Communities in Roman Britain* (<http://www.reading.ac.uk/archaeology/research/Projects/arch-HE-Diaspora.aspx>).

Because of their unique nature, the grave inclusions featured as a mainstay in the Roman galleries of the Yorkshire Museum in York for many years but without any relation to the human remains or their burial context. Among an array of objects from across the Empire was an openwork bone plaque reading *SOROR AVE VIVAS IN DEO* ('Hail sister, may you live in god'), an object and inscription more usually found in the catacombs in Rome. The project acted to create a bioprofile or osteobiography of this young woman by putting these pieces back together again with osteological analyses of her remains to determine ancestry, geographic origin, physique, and palaeopathological conditions. She and the objects, along with the stone sarcophagus in which she had been interred, are now part of a new interactive display in the Museum. Dr. Lisa Cashmore, also an Honorary Research Fellow in the Department at Exeter researching laterality in non-human primates, received one of the BABAO research grants in this year's competition for *An Investigation of Gorilla Upper Limb Asymmetry and Implications for the Evolution of Hominin Handedness*.

The author and Martin Smith (Bournemouth University) are nearing completion of the *Traumatized Bodies* volume, now transformed into *The Routledge Handbook of the Bioarchaeology of Human Conflict* after being up-graded to a 'Companion' volume in Routledge's series. This means increased coverage through greater length and a greater number of chapters. It will appear in 2013.

The author completed his first season of work at the Neolithic site of Çatalhöyük, where he is co-head of the human remains team with Prof. Clark Spencer Larsen of the Ohio State University, under the overall direction of Prof. Ian Hodder (Stanford University). This past year saw the excavation and analysis of 62 individuals and the introduction of 3D recording of burials, pioneered by Dr. Scott Haddow (Cranfield University) and Nicolo Dell'Unto (Lund University), with Josh Sadvari (Ohio State). An early stupendous result of this work was the discovery and

recording of the first skull (cranium and mandible) retrieval pit in the burial of a male in the North Area of the site. In a similar vein, though dating to about two millennia later than Çatalhöyük, Neolithic Scaloria Cave (Puglia, Italy) has provided robust evidence for funerary behaviour involving defleshing of the dead. Dr. John Robb and the author completed the osteological analyses of the material this past year, with Drs. Maryanne Tafuri (Cambridge and La Sapienza, Rome) and Tamsin O'Connell (Cambridge) working on isotopic analyses of the remains. A monograph is in preparation of this iconic site, originally excavated by Marija Gimbutas in the 1970s. At this writing, the Gristhorpe Man volume, entitled *Gristhorpe Man, A Life and Death in the Bronze Age*, edited by Drs. Nigel Melton and Janet Montgomery (Durham) and the author, is in the very final stages of completion and will be published by Oxbow Books in 2013.

On the doctoral front, the past year saw the completion of Nivien Speith's AHRC-funded doctorate, entitled *Skeletal Evidence of the Social Persona: Life, Death and Society in Early Medieval Alamannic Communities* (University of Bradford, Knüsel, external supervision), with Drs. Julie Bond (Bradford) and Rebecca Gowland (Durham) acting as internal and external examiners, respectively. Nivien has been granted Honorary Research Fellow status at Exeter. In addition, Johann Matzke completed his M.Phil. *Murderous Gentlemen: The Written Word and its Role in Forming Noble Identity*. David Lawrence (University of Bradford, Knüsel, external supervision) also submitted his doctoral thesis, *Orkney's First Farmers: Reconstructing Biographies from Osteological Analysis to Gain Insights into Life and Society in a Neolithic Community on the Edge of Atlantic Europe*, late this past year.

Landon Karr completed his doctorate on *Early Paleoindian Bone Flaking Technology in North America* and is now teaching at Augustana College in Sioux Falls, South Dakota, U.S.A., while Ph.D. candidate Cynthia Bradley is making excellent progress on her

dissertation research on *Remaking the Mazeway: A Study of Skeletal and Mortuary Evidence from the Ancestral Pueblo Site* on the enigmatic Wallace Ruin site, Colorado, U.S.A., which featured in a presentation at the BABAO meeting in Bournemouth this past year. Ceri Boston, who also presented in Bournemouth, continues to make progress on her AHRC-funded doctoral project *Lobsters and Tars: An Osteological Study of the Origins, Lifestyles and Health of 18th-19th-century Sailors and Marines of the Royal Navy as Reflected in their Remains* (Oxford University, Knüsel, external supervision). Richard Mikulski presented a poster, *Violence and Aftermath in Proto-historic Sidon: preliminary observations of two mass burial contexts at College Site, Sidon, Lebanon*, at the 8th International Congress on the Archaeology of the Ancient Near East (ICAANE), in Krakow, Poland, this past year, based on his part-time doctoral research, in conjunction with Prof. Holger Schutkowski (Bournemouth University) and Dr. Claude Doumet-Serhal of the British Museum.

The coming year will see Pip (Philippa) Stone complete her AHRC-funded doctoral research on *An Evidence-led Approach to Intra-site and Intra-feature Spatial Distribution of Disarticulated and Fragmented Animal Bone on Prehistoric Sites in East Anglia*. After spending the majority of the last year undertaking research in Kazakhstan, Ashleigh Haruda successfully completed her up-grade from M.Phil. to Ph.D. status on her University of Exeter-funded doctoral research *Animal Health in Pastoral Populations: An Exploration of Central Asian Nomadic Pastoralism*. Alan Outram and the writer supervise both Pip and Ashleigh. Hayley Foster commenced her doctoral research on a *Comparison of Butchery Patterns at Medieval Castles* supervised by Alan Outram.

The Laboratory has seen its fourth intake of MSc. students this academic year, with four students completing their degrees from last year's cohort, all in human osteoarchaeology, including Christopher Cook, Claire Hodson, Belinda Tibbetts, and Tori Zieger. This

academic year sees seven candidates in residence, five from the UK, including three part-time participants, Sarah Cuthbert, Simon Nicholson, and Iain Watt, and two full-timers, Emily Johnson and Olivia Hewson, along with two full-time participants from the USA, Tyler Cargill and Emily McDaniel.

Curation of the Department's human skeletal collection remains an on-going concern through the good offices of Mandy Kingdom, a graduate of the MSc. Bioarchaeology course, aided by MSc. students, to prepare the Exeter Cathedral and Exeter Princesshay collections for long-term curation to enable future sustained research and teaching.

MSc. Dissertations completed 2011-2012:

Cook, Christopher, *Early Medieval Stature and Its Relation to Social Inequality in Exeter*

Hodson, Claire, *Between Roundhouse and Villa: An Investigation into Perinatal Mortality at the Late Iron Age/Early Roman Site of Piddington, Northamptonshire*

Tibbetts, Belinda, *Investigations into Infant Death and Population Stress in Prehistory: A Bioarchaeological Approach to Understanding Infant Mortality*

Zieger, Victoria, *Clavicular Variation: Comparisons between and within Pan troglodytes, Gorilla gorilla, and Homo sapiens sapiens Populations*

School of Anthropology and Conservation, University of Kent, Canterbury

By Justyna Miskiewicz

Our school has seen many exciting developments in 2012. We welcomed new PhD students and offered two lectureships that will begin in 2013. Many of our publications have attracted extensive international media attention. The School of Anthropology and Conservation was ranked first for overall student satisfaction and teaching in the UK in the National Student Survey 2012. Our BSc in Anthropology received a score of 100% satisfaction. Our School has been well represented at a variety of conferences, and

also hosted the second Postgraduate Royal Anthropological Institute Conference.

2nd Postgraduate RAI Conference

The conference was open to postgraduate students representing all sub-fields of anthropology. PhD candidates Justyna Miskiewicz and Lia Betti organized and ran a workshop entitled “Studying human variation: How all sub-fields come in handy”. The aim of the session was to stimulate a discussion addressing differences and similarities between disciplines such as biological and social anthropology using human variation as an example. The workshop was very successful and the attendees identified ideas for collaborative projects and future research.

82nd AAPA Meeting in Portland, Oregon

The annual meeting of the American Association of Physical Anthropologists took our team to Portland in Oregon, USA in 2012. We presented a broad range of research, making the conference another successful event for our team. The abstracts summarizing our presentations can be found in the American Journal of Physical Anthropology Volume 147 Supplement 54, and the titles are listed below:

Chiu, L.W., Schmidt, C. W., Mahoney, P., and McKinley, J. I. Dental microwear texture analysis of Bronze and Iron Age agriculturalists from England. p. 115.

Deter, C. A., and Mahoney, P. Femoral bone growth and the relationship with stable isotope values: Preliminary results. p. 130.

Johns, S. E., Hargrave, L. A., and Newton-Fisher, N. E. Red is not a proxy signal for human female genitalia. p. 175.

Lycett, S. J., and von Cramon-Taubadel, N. Morphological diversity in the catarrhine pelvis: a comparative 3D geometric morphometric analysis. p. 197.

Mahoney, P. Incremental enamel development in modern human deciduous teeth. p. 200.

Miskiewicz, J. J., and Mahoney, P. Bone microstructure and behaviour in “gracile” and “robust” adult males from the Medieval period, Canterbury, UK. pp. 215-216.

Smith, H. F., and von Cramon-Taubadel, N. The role of masticatory strain in the phylogenetic utility of cranial datasets in papionin primates. p. 273.

von Cramon-Taubadel, N. An analysis of global mandibular variation in the context of agricultural versus hunter gatherer subsistence strategies. p. 295.

Lecturers in Biological Anthropology

Dr Sarah Johns’ research article entitled “Red is not a proxy signal for female genitalia in humans”, published in PLoS One, attracted a great deal of international media interest. It was covered by Science Daily, Live Science, Phys.Org., and Slate.com amongst others. Dr Johns also published on the behavioural ecological perspective of teenage pregnancy in the UK. She has also started working with a new PhD student, Sarah Myers.

Dr Patrick Mahoney was awarded a research grant from the Royal Society for his project entitled “Enamel crown formation times for human deciduous maxillary molars”. Dr Mahoney also presented his research on the incremental enamel development in modern human deciduous anterior teeth at the International Symposium on Dental Morphology at Northumbria University, UK.

Dr Nicholas Newton Fisher has been busy developing his app designed to log animal behaviour accurately. “Animal Behaviour Pro” is an iPhone app that assists students and researchers with live coding. It allows users to log the identity of an animal being examined, the time-span needed to record its activities, and note what type of activity it undertakes (such as calling, foraging, resting or travelling). The app is equipped with four standard research methods: focal animal sampling, scan sampling, focal behaviour sampling and ad libitum sampling. The app was funded by the University of Kent’s “Ideas Factory” and developed by SyncInteractive. Animal Behaviour Pro can be purchased from the App Store: <https://itunes.apple.com/gb/app/animal-behaviour-pro/>.

Two new lecturers, Dr Tracy Kivell and Dr Oskar Burger, will be joining us in 2013. More news and information about all our staff

members can be found on our School's website: www.kent.ac.uk/sac.

New PhD Students

Alastair Key joined us in September to be supervised by Dr Lycett on a project entitled "An experimental approach to understanding early stone tool use". Alastair's PhD is funded by one of the University of Kent's 50th Anniversary Research Scholarships. These were established in preparation for the University's 50th Anniversary in 2015. This funding scheme will be continuing for at least the next two years and we are always interested in hearing from prospective applicants.

Sarah Myers is supervised by Dr Johns. Her research is focused on the evolution of mother-infant attachment, the trade-offs involved in maternal investments, and their hypothesized role in the development of postnatal depression.

Kelly Greenway's PhD research focuses on male intrasexual competition in wild Western Gorillas (*Gorilla gorilla*). She is supervised by Dr Newton-Fisher. Using long term demographic data and observations of inter-unit interactions, Kelly aims to examine the effects of phenotypic traits, group composition, tenure length and familiarity upon male behavioural strategies and outcomes of competition. She will also test whether existing Game Theory models can be applied to contests between gorillas and investigate whether a social dominance hierarchy exists within the population observed at a long term research site, Mbeli Bai, located in the Nouabalé-Ndoki National Park, Republic of Congo.

Ongoing PhD students

Justyna Miszkiewicz is in her final PhD year researching ancient human bone histology and behaviour. She is supervised by Dr Mahoney. In 2012, Justyna published on enamel hypoplasia and social status in Medieval Canterbury. She was invited to talk about her PhD findings at the University of Sheffield. Some of her PhD results were also presented at

the BABAO meeting in Bournemouth, UK. Back in February, she was awarded the AAPA William Pollitzer Award 2012 for her paper about integrating research in bioarchaeology.

Kerstin Schillinger, also a final year student, is working on her project entitled "From Psychology Lab to the Artefactual Record: An Experimental Approach to the Effects of Social Learning on Material Culture", co-run with Queen Mary, University of London. This project is funded by the Leverhulme Trust and Kerstin is supervised by Dr Stephen Lycett.

Stefano Kaburu's project "Grooming Reciprocity among Wild Chimpanzees" is supervised by Dr Newton-Fisher and funded by the Leverhulme Trust. This project seeks to investigate wild chimpanzee strategies used to reciprocate between- and within-sex grooming. In 2012, Stefano published on dominance rank and self-scratching among macaques (*Macaca sylvanus*), and also gave a talk entitled "Grooming reciprocity among wild chimpanzees of the Mahale Mountains National Park" at the 24th Congress of the International Primatological Society in Cancun, Mexico.

Awarded PhDs

Dr Lia Betti was a PhD student with us since 2009 and she successfully passed her viva in December 2012. Her thesis was entitled: "Out of Africa and what happened next: Exploring the origins of human pelvic shape variation". Lia was supervised by Dr Stephen Lycett and Dr Noreen von Cramon-Taubadel, and she was funded by the University of Kent Research Scholarship. In 2012, Lia presented her research on the evidence of neutral microevolution of human pelvic shape at the European Society of Human Evolution conference in Bordeaux, France. Lia is now a temporary lecturer in Human Evolution at the Division of Biological Anthropology at the University of Cambridge.

Masters by research students (awarded)

Elizabeth Rowing's thesis is entitled "Stable carbon and nitrogen isotope signatures of diet in Iron Age and Anglo Saxon Kent". She was

supervised by Dr Mahoney and funded by the School.

Katherine Scane's thesis is entitled "Human Dietary Reconstruction from Stable Isotope Analysis for the Neolithic and Bronze Age Periods in Kent, UK". Katherine was supervised by Dr Mahoney.

Department of Archaeology, University of Sheffield

By Alison Atkin and Lauren McIntyre

This past year has seen many changes to our Department, the largest being the departure of Prof Mike Parker Pearson and Prof Andrew Chamberlain. Since the beginning of September, Dr Catriona McKenzie has been appointed Associate University Teacher in Human Osteology and Dr Ana Jorge appointed Associate University Teacher in Prehistory undertaking their teaching responsibilities along with Dr Katie Hemer, who began a three year Academy Postdoctoral Fellowship in September 2012. As a part of their roles they have been responsible for co-ordination and delivery of undergraduate and Masters level modules. Recently appointed are Dr Diana Mahoney-Swales, appointed to the post of Demonstrator in Human Osteology and Dr Elizabeth Craig-Atkins, appointed to Lecturer in Human Osteology. Both Diana and Elizabeth will commence their posts in early 2013. Last year also welcomed the addition of the Coronation Street collection to our osteology laboratory. This collection is managed by Dr Pia Nystrom and is currently being used for research.

Dissertations submitted in 2012 for the MSc in Human Osteology and Funerary Archaeology:
Rebecca Collinson: The importance of being children

Kathleen Downey: Testing the relationship between histological integrity and protein content in diagenesis using adult and immature bones

Jane Hirst: Were the Neanderthals the first to

bury their dead? Exploring the burial evidence from middle to upper Palaeolithic Europe and the Near East

David Mennear: Women and children first? An investigation into mobility in the Neolithic Linearbandkeramik culture of Central Europe

Grace Monnery: British Neolithic burial practice. Fractures in burial assemblages: identification of the aetiological loading and relative timing. An experimental study

Tracy O'Donnell: An investigation into the treatment of "disabled" individuals in the past, with specific reference to the Iron Age bog bodies of northwest Europe

Rukayat Salau: Enamel hypoplasia in a 19th British working class population

Rebecca Wake: An evaluation of the health status using non-specific skeletal manifestations of nutritional origin in adult and juvenile osteological material from 19th Century South Shields

New PhD studies:

Alyxandra Mattison: The political and religious context of judicial punishment in Early Medieval England (University of Sheffield Faculty of Arts and Humanities Postgraduate Research Scholarship)

PhD Studies in progress:

Alison Atkin: Profiling the dead: demographic characterisation of mass fatality incidents in the past and the present (University of Sheffield Faculty of Arts and Humanities Postgraduate Research Scholarship)

Tom Booth: An investigation into the relationship between bone diagenesis and funerary ritual (Funded by the AHRC)

Jennifer Crangle: The Post-Burial Activities of the English Medieval Period, c.700-1550 AD; Tracing the Evolution of Charnelling (University of Sheffield Faculty of Arts and Humanities Postgraduate Research Scholarship)

Linzi Harvey: Dental health in medieval and post-medieval York: Investigating the relationship between oral and systemic health in a past population (Funded by University of Sheffield Studentship/Lee Child Corporation Scholarship)

Lauren McIntyre: Demography, diet and health in Roman York (Funded by the AHRC)

PhD Theses submitted 2012:
Gareth Perry

MSc Osteoarchaeology, Department of Archaeology, The University of Sheffield

The academic year 2012-13 has seen the launch of the masters (MSc) in Osteoarchaeology

(<http://www.shef.ac.uk/archaeology/postgraduate/masters/courses-available/osteoarchaeology>) at the University of Sheffield. This programme combines the study of human and animal bones from archaeological sites and it gives the students the opportunity to focus on either, or both, research specialisms. The teaching is centred on the explanation of methods and theoretical approaches that can be used to address many different types of archaeological questions, regardless of the period or geographic area. The teaching consists of both lab-based practical sessions and theoretical lectures.

Eleven students have joined the programme this year, with a good international diversity, including three from Britain, three from the rest of Europe, four from North America and one from South America. The autumn semester has provided the students with the foundations to study key areas of the discipline. In the spring semester they will start developing their own research interests further. Two of our students are currently applying to continue their education at PhD level. The presence of the MSc Osteoarchaeology students has added an exciting new dimension to our teaching and research environment, which will hopefully contribute to the vibrancy of our department for years to come.

We are currently recruiting for the academic year 2013-14. For any queries please contact the course director, Umberto Albarella at u.albarella@sheffield.ac.uk.

Department of Archaeology, University of Southampton

By Sonia Zakrzewski

2012 has been another busy and successful year for staff and students at Southampton. In October 2012 we welcomed Alistair Pike to the department. His expertise will complement the isotopic studies being undertaken, especially those in association with the National Oceanographic Centre. He and Jaco Weinstock thus provide a formidable team when involving strontium, uranium or other isotopes and ancient DNA! Osteoarchaeology has continued to be the most popular optional subject within the undergraduate curriculum. Teaching collaborations are also developing with Anatomy at Southampton Medical School, such as “Building the Human Body” being developed by Mike Gilder, Scott Border and Sonia Zakrzewski.

Projects

Jo Sofaer is continuing her HERA funded project “Creativity and Craft Production in Middle and Late Bronze Age Europe”. Yannis Hamilakis started a year of research as a member of the Institute for Advanced Study at Princeton (USA).

Current Research Students

Louise King started doctoral research in 2012, while Richard Chuang, Brittany Hill, Ellie Williams and Carolyn Felton continue theirs. Sarah Inskip has just submitted her doctoral thesis.

Richard Chuang – Genetic and isotopic analysis of Roman equids

Carolyn Felton – Markers of occupational stress in the spine

Brittany Hill – Regional differences in cremations and burials with animals in Roman Britain

Sarah Inskip (also undertaking contract osteological analysis for Northamptonshire Archaeology) – The osteoarchaeology of religion: differences in MSM expression and activity patterning in medieval Christian and Islamic groups in Spain.

Louise King – Variation in auditory ossicles: an evolutionary and palaeopathological evaluation.

Ellie Williams – Archaeoethanatology, funerary archaeology and Cluniac monastic orders in Britain and France (AHRC funded).

Dissertations Approved for the MA in Osteoarchaeology 2011-2

Catherine Bohner – Age and Gender through the Lifecourse: Combined Osteoarchaeological and Mortuary Archaeological Approaches to Russian Bronze Age Materials.

Tanya Freke – The Bones from Baile Sear: Human and Animal Remains Recovered from the 2007, 2008 and 2010 Excavations at Sloc Sabhaidh, North Uist

Phoebe Olsen – Dead Exhibitions: Attitudes to and the function of the Display of Human Remains in British Museum Contexts

In addition, other students, such as *Stephanie Wright* (MA Archaeology of Rome and its Provinces), also undertook dissertations that comprised significant osteological analyses.

School of Science & Engineering, Teesside University

By Tim Thompson

As ever, the anthropology component of our School remains small but active. We have been busy contributing to the forensic, crime scene and health undergraduate and postgraduate degrees, and we continued our commitment to

workforce development. Our Body Location and Recovery Course (run with the Department of Archaeology, Durham University) ran for a fourth time and we hosted delegates from across Europe. We also had an increasing number of forensic cases to work on too; many of which presented interesting problems which we could feed into our research. Speaking of which, we have been busy collecting air-miles as we have been presenting our work in a number of countries from the UK, to France, the US and even up to Scotland... We're sending a large contingent of researchers to the AAFS in Feb, and we're looking forward to that very much.

Over the summer we welcomed a number of Nuffield and Wellcome Trust funded students to join us on a variety of research projects looking at everything from diagenesis in bone to the use of Second Life in teaching anthropology. Just before Christmas we were delighted to hear that we had won a Leverhulme Trust Artist in Residence grant to bring London-based award-winning visual artist Eric Fong (www.ericfong.com) into our midst for a year. The project (which will be largely photography-based) will explore issues of identity and objectivity within forensic anthropology and the broader forensic sciences.

As ever, we're always happy host visits from BABAO members who would like to sample Teesside and Middlesbrough's delights!

Related MSc dissertations submitted for the MSc in Forensic Science

Bond, S. (2012) Do mass fatality incidents compromise the effectiveness of mortuary procedures and facilities? A critical review.

Butterfield, S. (2012) The enhancement of tattoos on skin using alternate lighting.

Silva, E. (2012) Monitoring decomposition using fatty acids, in different types of soil.

Weafer, S. (2012) Colour analysis of burnt bone.

Current PhD Research students

Ellingham, S. Advanced analysis of burned bone from forensic and archaeological contexts.

Errickson, D. The application of laser scanning in a forensic anthropological context.

Garrido-Varas, C. An investigation into bilateral asymmetry of the appendicular skeleton of the adult human and its use in physical and forensic anthropology.

Olakanye, A. Microbial forensics: the application to grave location.

POSTGRADUATE RESEARCH ABSTRACTS

PhD Abstract

Emma Brown, University of Bradford (submitted).

Funding: AHRC

Investigating the use of coca and other psychoactive plants in Pre-Columbian mummies from Chile and Peru: An analytical investigation into the feasibility of testing ancient hair for drug compounds

Psychoactive plants have played a significant role in Andean cultures for millennia. Whilst there is evidence of the importance of psychoactive plants in the Andean archaeological record, this is not direct proof that these culturally significant plants were ingested by ancient Andean populations.

This project utilised liquid chromatography tandem mass spectrometry (LC-MS/MS) to investigate the consumption of psychoactive plants in individuals from cemetery sites in Chile and Peru by analysing hair specimens for a range of psychoactive compounds that occur naturally in culturally significant plants.

Hair specimens from 46 individuals buried at three cemetery sites in the Azapa Valley (northern Chile) belonging to the Cabuza culture (c. AD 300 – 1000) indicated around half of these people ingested coca, as evidenced by the detection of BZE in hair specimens. Two individuals from this

population tested positive for bufotenine, the main alkaloid in *Anadenanthera* snuff.

Eleven individuals from the necropolis at Puruchuco-Huaquerones in the Rímac valley near Lima were also analysed. These individuals belonged to the Ichma culture, but would have been under Inca imperial control during the Late Horizon. Although only a small sample, two-thirds tested positive for BZE. This tentatively suggests that access to coca was widespread immediately prior to the arrival of the Spanish in the 16th century.

PhD Abstract

Sarah Ellingham, Teesside University (new)

Advanced Analysis of Burned Bone from Forensic and Archaeological Contexts.

The past three decades have seen an influx in literature discussing the effect of fire on bone; to this day, however, little detail is known regarding the biochemical changes undergone by the bone matrix when subjected to fire. An understanding of the organic and mineral changes in relation to heat exposure are of interest to professionals of various disciplines, be it archaeologists investigating ancient burial practices or forensic personnel tasked with the reconstruction of an accident or a crime. It is the aim of this project to improve the understanding of heat-induced bone changes using various analytical methods. Research conducted so far has analysed bone mineral changes of modern sheep (*os aries*) rib bones burnt between 50 °C and 1000°C at three different time intervals using FTIR-ATR. Results indicated that when using appropriate statistical models, burning temperature can be predicted to an accuracy of 87%. The duration of heat exposure does not make a statistically significant difference to these prediction rates. Future work will continue in this vein, but also focus more on changes to the organic phase.

PhD Abstract

David Errickson, Teesside University (new)

The application of laser scanning in a forensic anthropological context.

In homicide cases, skeletal trauma can provide evidence for the specific conditions of an individual's death. Forensic anthropologists can use skeletal trauma to reconstruct the final sequence of events for an individual. Photography is then utilized as a way of interpreting and presenting this evidence in a court of law. Photography is the standard for documenting forensic evidence. Images are important as they act as a permanent record even after evidence has changed, degraded or disappeared. Recently, imaging techniques from interdisciplinary research are being adapted to record evidence at the scene of a crime. Laser-scanners can be used to create three-dimensional (3D) models. Thus, a 3D model can be taken into a courtroom and visualized live in front of a judge and jury. This research uses laser scanners, and focuses on the visualisation techniques of traumatic osteological evidence for the courtroom.

PhD Abstract

Samantha Field, University of Bristol
Supervisor: Professor Kate Robson-Brown
Successfully defended VIVA: 24/10/2012

The Harris Line in 3D; Implications for their Identification and Future Study

The Harris line (HL), a dense, transverse feature, has been traditionally identified through radiographs and anatomical sections of human bones. This study aimed to gain more information about these features regarding their structure and to assess the past definitions and methods used for identification. To achieve this, micro-computed tomography (μ CT) was used examining HLs in the tibiae of sub-adult and adult skeletons, from a collection in Taunton. This new approach allowed for the micro-architecture of HLs to be studied and a large degree of variation was found; in both the distribution and density of the lines. No significant difference was found between a HL area and a non-HL area or when different lengths of HLs were compared. The use of

rating HLs by length, as used in past methods, was not valid and the found suggested that there is a flaw in these methods. A review of the past literature also highlighted a variety of definitions and aetiologies which have been proposed for the HL. These results, as well as high inter- and intra-observer error rates of HL identification, suggest that the study of the HL is unclear and lacks understanding. With the use of μ CT information regards the HL's structure and distribution was gained; however, to understand the lines fully more research is needed to understand the aetiology and to clarify the definition for HL identification.

MPhil Abstract

Jessica C Galea, University of Bristol
US-UK Fulbright Commission
Viva voce 24 October 2012
Supervisor: Professor Kate Robson Brown

Analysing the microarchitecture of cribra orbitalia via micro-computed tomography in post-medieval remains from the Bristol Royal Infirmary.

This study examines the benefits of utilising micro computed tomography (μ CT) scanning to better understand the microstructure of human bone. The μ CT scanner at University of Bristol has the potential to shed light on pathological bone features such as cribra orbitalia, a common feature of great importance as a marker of environmental stress and malnutrition in the archaeological record. This technology also provides a non-destructive alternative to thin-ground sectioning.

A sample of orbital bones (N = 23) from the Bristol Royal Infirmary (18-19th century) in the United Kingdom representing the five types of cribra orbitalia (Stuart-Macadam 1991) was evaluated macroscopically and histologically in μ CT images. The latter revealed unexpected changes in trabecular and cortical bone that suggest new patterns in how bone responds to metabolic stress.

PhD Abstract

Claudia Garrido-Varas, Teesside University
(submitted)

An Investigation into Bilateral Asymmetry of the Appendicular Skeleton of the Adult Human and its Use in Physical and Forensic Anthropology.

The aim of this study was to establish whether the asymmetry of bilateral elements of the skeleton is useful for the reassociation of paired elements in the analysis of commingled skeletal remains; particularly addressing the forensic scenario of Chilean Human Rights cases. The asymmetry of the appendicular skeleton of the modern adult Chilean population was investigated in its morphological aspect, using both traditional anthropometry and geometric morphometrics. The sample was selected from the Colección Subactual de Santiago, housed in the University of Chile, Santiago, Chile, with N=131 (69 males and 62 females). The traditional metric analysis of size and the geometric morphometric analysis of shape showed that there was a significant difference between sides in both sexes with a strong component of directional asymmetry. Mean metrics and ranges of asymmetry were established, contributing to the characterization of this population. A method to pair match elements from commingled settings, which is a combination of metric ranges of asymmetry and principal component analysis of shape variables, was created resulting in 95% accuracy when pair matching the humerus, radius, femur and tibia. This constitutes an important contribution to the analysis of shape in forensic contexts due to its strong mathematical component, objectivity and repeatability.

PhD Abstract

Olalla Lopez-Costas. Universidad de Granada, Spain.
email: olallalc@gmail.com

Supervised by: Miguel Botella López (Universidad de Granada, Spain) and Tito Varela López (Universidade de Santiago de Compostela, Spain).

Successfully defended 7th December, 2012 (cum laude).

Antropología de los restos óseos humanos de Galicia: estudio de la población romana y medieval gallega. Anthropological study of human remains from Galicia, NW Spain, focused on the Roman and Medieval population.

Galicia, a current Spanish Autonomous Community in the north-west of Iberia, underwent a series of important socioeconomic and environmental changes during the Roman and Medieval periods. The Saint James Way and an intense maritime traffic, among others, connected this isolated region to the rest of Europe, especially to Portugal and the British Isles.

This research is focused on the bioarchaeological study of 259 skeletons, the majority from four Roman and Medieval necropolises. A Bronze Age collection and a Postmedieval mass grave, found in one of the previous sites, have been included to understand the evolution of the features. This constitutes the largest study so far carried out in Galicia, more than six times greater than the sample size of previous studies.

The structure is grouped into three subdivisions. (1) Normal variability of the populations: archaeological context, paleodemography, morphological and biodistance studies using multivariate analysis. (2) Palaeopathology. (3) Palaeodiet, using stable carbon and nitrogen isotopes from human collagen (in collaboration with Gundula Müldner, University of Reading).

This thesis is mainly written in Spanish; nevertheless, the paleodietary section is in English, as well as the abstract and the conclusions.

PhD Abstract

Ayo Olakanye, Teesside University (new)

Microbial forensics: the application to grave location.

Cross-subject collaborative research in forensic biology, crime scene science and environmental microbial ecology at Teesside University has resulted in studies in an important field that can be termed *molecular microbial forensics*. The proposed research project will adopt state-of-the-art molecular profiling techniques to monitor the changes of soil microbial communities in response to body decomposition. This will allow us to address a key problem in forensic investigation, namely location of sites of body deposition. Thus, the presence of specific biochemical and molecular markers will be investigated as indicators of this process. Key environmental parameters such as time, temperature and moisture, and soil type are some of the factors that will be evaluated to determine their impact on decomposition rates, material seepage, and soil microbial community changes. Therefore, this programme will exploit the existing expertise in molecular microbial ecology and archaeological/anthropological forensics to facilitate a greater understanding and accuracy in determining the time of death, particularly in medico-legal investigations.

PhD Abstract

Christophe Snoeck,
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– 0750 0690 195

Funded by the Wiener-Anspach Foundation
(<http://fwa.ulb.ac.be>)

A Burning Question: Structural and Isotopic Studies of Cremated Bone in Archaeological Contexts

The study of cremated bone is of crucial importance for periods and regions in which cremation was the main burial practice. Cremated bone has, however, been excluded

from isotopic studies until now as it is believed that the very high temperatures reached during cremation alter or even destroy any isotopic information contained in bone. Since 2001, cremated bone fragments have nonetheless been radiocarbon dated, and, as a consequence, the potential for isotopic study of cremated bone is re-investigated as part of the present doctoral research.

In order to understand cremated bone, it is crucial to study what happens when bone is burned. In addition to colour changes, there are a number of structural and isotopic changes that beg further enquiry. Preliminary results indicate that bone structure changes drastically and that bone exchanges large amounts of carbon and oxygen with its surrounding environment during cremation, questioning the radiocarbon results obtained from cremated bone fragments. Further results suggest that cremated bone could be used for strontium mobility studies.

PhD Abstract

Nivien Speith, University of Bradford

Skeletal evidence of the social persona. Life, death and society in early medieval Alamannic communities

Historic-archaeological research on the Alamanni, an early medieval population in the periphery of the Frankish Empire, primarily focuses on themes such as their military character or issues of ethnicity, while the actual functioning of Alamannic societies remains conjectural. Aiming at presenting an integrated approach to the concepts of social organisation and social identities in Alamannic populations, this study examines and defines Alamannic identity and society by creating a dialogue between the disciplines of archaeology, biological anthropology and socio-cultural sciences.

A bioarchaeology of identity explores the Alamanni of Pleidelsheim and Neresheim via their funerary and skeletal evidence, allowing for the factor of different environments that

influence the interactions of a community. A key theme is the investigation of indicators for biological and social “status”, by direct association of bioanthropological with funerary archaeological data, as well as by evaluation of present interpretations made from material culture in the light of bioanthropological analysis as a paramount focus. The results are interpreted in terms of social status and the perception of certain social parameters, exploring interrelations between factors such as sex and gender, age, status and activity for the entirety of a society.

This research offers new perspectives on Alamannic societies and helps to comprehend Alamannic social organisation as a multi-layered phenomenon, emphasizing the importance of a biocultural approach. Beyond common perceptions, this study forms the basis for a new understanding of the Alamanni, as the results reveal a society that was complex and diverse, displaying its own characteristics in the Merovingian world.

PhD Abstract

Carrie L. Sulosky Weaver, University of Virginia

Depositing the Dead: Human Remains, Material Culture and Funerary Practices in Kamarina, Sicily, ca. 5th to 3rd Century BC

Using the concept of materiality as an interpretive framework, this dissertation is an interdisciplinary examination of 258 burials from the Greek site of Kamarina (southeastern Sicily, Passo Marinaro necropolis, 5th through 3rd century BCE). The results of osteological, material culture and ritual analyses reveal details regarding the burial customs, demographic trends, state of health, ancestries, ethnicities, social statuses and magical beliefs of the people of Kamarina. Overall, the patterns in grave good preferences and the ritualistic treatment of the deceased are closest to those of other Greek necropoleis in Sicily. This finding provides support for the theory that the Greeks living in Sicily participated in an independent burial tradition that was unique

to the island. When material evidence is combined with findings from the osteological study of human remains, a more complete portrait of Kamarina emerges. The majority of people did not live past young adulthood. Throughout their lives, most experienced dental diseases (linear enamel hypoplasia, dental caries, antemortem tooth loss, dental calculus, periodontal disease, dental crowding and impaction), some developed degenerative joint disease, anemia (porotic hyperostosis, cribra orbitalia) and bone infections (periostitis), others possessed physical deformities (craniosynostosis, pituitary dwarfism), and a few were the victims of interpersonal violence (blunt and sharp force) and possibly cancer (leukemia). Kamarina was a place where magic and surgery (trepanation) were practiced, and individuals of diverse ethnicities and ancestries (two possible sub-Saharan Africans) were united by shared culture and funerary practices. Through the combination of methods drawn from classical archaeology and physical anthropology, this study, the first of its kind for Greek Sicily, has shed new light on the life- and deathways of Classical Kamarina.

REVIEW OF THE BABAO CONFERENCE

By Sarah Inskip

After a trip to Bonny Scotland, BABAO packed a bucket and spade and headed to the beach! Martin Smith, Karina Gerda Radonic, Holger Schutkowski, Amanda Korstjens and Lizzy Craig of Bournemouth University certainly didn't disappoint, treating us to sunshine, a stick of rock and a smooth-running conference jam-packed with 42 talks and 33 posters.

Without delay, the conference launched on Friday the 14th of September with the 'Life after Death: Interpreting Treatments of the Body – From Prehistory to Modern Forensic Investigations' session. Marc Guillon set the tone for the internationally diverse presentations by summarising a number of critical issues in funerary archaeology, as well as highlighting the potential learn about life

from the analysis of attitudes towards the dead. Malcolm Lillie provided a rare insight into Neolithic Ukrainian Trypillian cultural practices surrounding death. Cynthia Bradley outlined deliberate pre-historic disturbance of Pueblo ancestral burials from Mesa Verde in southwest Colorado. Dawn Gooney provided a glimpse into Iron Age burial practices at Knowe of Skea, Scotland. Elizabeth Craig-Atkins exposed the truth regarding infant burial position and eaves-drip locations. Nivien Speith discussed weapon burials in Alamannic societies, demonstrating that weapon accoutrement and notions of 'warrior-hood' may differ from common perceptions. Chris Knüsel, starkly reminded us that we needed to use our 'cephalic extremities' when it comes to standard terminology, as this is a key step towards maximising the potential of funerary archaeology.

After coffee, and what was unanimously described as exceptionally good cake, Ronika Power dispelled myths surrounding notions that Early Dynastic and Middle Kingdom Egyptians viewed young children as personae non gratae. With most non-adult burials in communal burial cemeteries, extra-mural child burial represents a different phenomenon. Diana Swales explored the relationship between socio-economic status and burial location and type in Anglo-Saxon England. Emily Hellewell prompted us to rethink ideas of waste through her global exploration of the occurrence of human remains in shell middens. Tania Kausmally continued this theme demonstrating how we can assess attitudes towards the dead during the 18-19th century from anatomical waste deposits. Tom Booth concluded with promising results from his investigation of bone diagenesis and funerary rites, which has potential to inform on mortuary ritual. The day was ended with a wine reception which provided an excellent opportunity to catch up with colleagues, discuss the afternoon session and to peruse the numerous excellent posters.

For those that didn't make a brief trip to the beach, Saturday swung into action with the strongly anticipated 'Palaeoanthropology and

Primatology in the 21st Century', a theme largely absent at previous BABAO conferences. The session did not disappoint with its wide range of techniques, materials used and regions studied. Carel van Schaik gave a thought-provoking talk on brain expansion and the main size-constraining factors. As the most significant cost, high energetic demands can be met though an increase energy intake, or a reduction overall energy costs elsewhere. Carel argued against the expensive brain hypothesis, as the gut size/brain size relationship that this hypothesis implies, is not universal in mammals. Instead, he suggested that humans reduced maternal costs largely by a form of cooperative breeding with paternal care and gendered division of labour.

Kathelijne Koops then discussed the relationship between tool use and environment in Nimba Mountain chimpanzees and the potential to shed light on the evolution of tool use in hominids. Gabriele Macho debated *Paranthropus Boisei* diet based on masticatory apparatus, and suggested that starchy foods were a favourite. Julia Lee-Thorp assessed the variability of gorilla dietary ecology from carbon and nitrogen isotopes with a view to understanding early hominin ecology. Sticking with isotopes, Caroline Phillips demonstrated how faeces can be used to explore short-term changes in chimpanzee diet. William McGrew's fascinating investigation of entomophagy in primates invited us to think beyond our modern western diets and consider more carefully the contribution of invertebrates towards human diet both in the past and today. After a short coffee break, Emma Nelson, presenting research on the much-neglected hands, demonstrated that 2D:4D ratio analysis in primates can contribute to our understanding of social behaviour. Alexandra Muñoz presented data on the prevalence of bipartite transverse foramen of vertebrae C3-C7 in humans and non-human primates, and showed it to be a human autapomorphic trait. Before coffee, the session ended with a fascinating talk by Eiluned Pearce, which won the Jane Moore Prize, outlining differences in Neanderthal and Anatomically Modern Human brain organisation and sociality.

The open session proved to be extremely popular. With 14 papers in total, it aptly demonstrated the variability of research taking place within our field. This included everything from Catherine Hess's analysis of heavy metal exposure and demography in 20th century South Africa, to Jo Buckberry's engaging talk on the use of osteoarchaeology in dietary education for children. Evilena Anatsiou outlined the earliest evidence for intestinal parasites at Çatal Höyük and its importance in understanding the hunter-gatherer to agriculture transition. If this was not enough to put you off your impending lunch, Piers Mitchell rounded up the morning's talks with more early evidence for parasites, this time in Neolithic and Bronze Age Greece. Piers demonstrated how the archaeological evidence supported medical descriptions found in Hippocratic texts.

After a satisfying lunch, we heard a little more about diet. Mandy Jay presented exciting isotopic results from the Beaker People Project, which suggested that closer attention to was needed to changes in environment and animal feeding practices when interpreting isotope results. Lindsay Powell then argued that the infants of Roman Britain were breast fed, and slowly transferred to solid food over 3–4 years.

As the foundation of our research, new approaches and modifications to ageing and sexing methods are always welcome. Ceri Falys, presented a promising sternal clavicle ageing protocol, whereas Chiara Villa outlined a new 3D approach to pubic symphysis and auricular surface ageing. Emily Marlow and Jennifer Sharman evaluated current sexing techniques and reminded us to consider more carefully inter-population variability of sexual dimorphism before choosing methodology. Andrea Waters-Rist presented valuable data from El Rayo in Nicaragua, a poorly represented region osteologically. Hayley Mickelburgh demonstrated the temporal and gender differences in dental modification and disease in a pre-Columbian population from the Caribbean. Åshild Vågane presented early

results on the intra-cemetery affinity of non-metric traits, arguably, the beginnings of a necessary analysis in our field.

The Trouville Hotel was the setting for the annual conference dinner. The food was good, the wine flowed and the atmosphere was excellent. The quiz proved as popular as ever, testing not only our knowledge of skull bones, but also of famous doctors and local knowledge.

Sunday's session was 'Traumatised bodies: the osteology of violence and conflict'. Douglas Ubelaker's talk, which proved to be a highlight for many, outlined the concepts and challenges of peri-mortem trauma analysis, something that was reinforced by Louise Loe's presentation on the Weymouth Viking burials. Overall, this session certainly reminded us of persistence of violence and warfare in human societies, with Linda Fibiger's extensive analysis of gendered patterns of violence in Neolithic Europe, through to Luis Ríos first systematic data collection on the variety of injuries sustained in the Spanish Civil war. A key theme of the session was the use of historic records to provide context to what is often thought of as a meaningless act. This was well exemplified by Ceridwen Boston who compared evidence from admiralty papers on the lives of sailors to trauma patterning observed in skeletal remains from Royal Navy hospitals. Certainly, mass graves were also a strong feature of the session. Through isotopic analysis, Rachel Schats identified non-locals in a mass grave located in a Franciscan Friary at Alkmaar, the Netherlands, while Katrien Van de Vijver explored the events behind the deaths of the 41 rebels of the Flemish Peasant's war. Natasa Miladinović-Radmilović presented evidence on five Muslim decapitations from Rajićeva Ulica in Belgrade, and argued that only one appeared to have been displayed.

There were a great number of posters at BABAO this year, which with the huge geographic and temporal range covered, there was certainly something for everyone. Rebecca Nicholls won the Bill White prize with her

poster investigating differences in $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ isotopic values in the bone collagen of mother and foetus pairs. The posters, which were well placed with the coffee, invited good discussions and debates between delegates. In all, the conference was thoroughly enjoyable and stimulating. The range of topics provided an excellent opportunity for people with normally disparate interests to come together and discuss potential ways for collaboration, as well as learn more about the benefits of other sources of information and methods. Next year we are off to York.

- Understanding the fundamental characteristics of bone microstructure
- Recognising dental and non-dental pathology
- Interpreting osteological findings and relating them to the wider archaeological context

If you are interested in either of these courses, please contact Lauren McIntyre (l.j.mcintyre@sheffield.ac.uk).

You can also find us on Facebook (<https://www.facebook.com/groups/547502058609120/>) or follow us Twitter <https://twitter.com/IntroToOsteoUoS> for up to date news and course dates.

FORTHCOMING CONFERENCES AND COURSES

One and Five Day Osteology Courses, The University of Sheffield

By Lauren McIntyre and Isabelle Heyerdahl-King, The University of Sheffield

Following the successful introduction of our one day "Introduction to Osteology" short course in 2011, the Department of Archaeology at the University of Sheffield (UK) is pleased to announce that we now also offer a more in depth five-day osteology short course. Taught by current members of our current postgraduate research, our new five-day course takes place in our main osteology laboratory using the department's substantial human skeletal reference collection. We aim to provide participants with an overview of human skeletal anatomy and a variety of osteological methods, in order to convey understanding and recognition of standard osteological practice and help participants gain confidence when dealing with human skeletal material. Participants will begin to develop skills in:

- Understanding of human musculoskeletal anatomy
- Understanding the principles of excavating human skeletal material
- Recording a skeleton both in the field and the laboratory
- Estimating age, sex, and stature
- Identifying key features of both juvenile and adult dentition

Eighth Annual Workshop in Forensic Archaeology and Anthropology

8th – 12th April, 2013

Cranfield Forensic Institute, Cranfield University, Shrivenham.

This week-long residential short course provides an overview of forensic archaeology and anthropology. It concentrates on practical aspects of the subject through laboratory and field-based sessions, lectures, seminars and case studies. It features Cranfield University's special strengths in multiple casualty incidents and the examination of explosions and ballistic injuries. It is an intensive course, taught by a wide range of experts with much practical archaeological or forensic experience. For further information, see www.cranfield.ac.uk/forensics

Annual meeting of the Paleopathology Association

April 9th-10th 2013

Knoxville, Tennessee

<http://www.paleopathology.org/2013MeetingInfo.html>

The Conference Organizing Committee invites you to participate in the 40th PPA annual meeting. The scientific sessions will begin with workshop(s) held on Tuesday morning and podium presentations that afternoon. Podium and poster sessions will continue throughout Wednesday, with a special podium

session on Wednesday afternoon in memory of Dr. Don Ortner. On-site registration and check-in will begin on Monday evening 8th April.

Annual meeting of the American Association of Physical Anthropologists

April 9th-10th 2013

Knoxville, Tennessee

<http://www.physanth.org/annual-meeting/82nd-annual-meeting-2013>

The 82nd annual meeting of the American Association of Physical Anthropologists will be held 9-13 April 2013 in Knoxville, Tennessee.

Discover Decomposition!

July 2013(TBC)

Forensic Fieldwork Facility, Cranfield

Forensic Institute, Cranfield University,

Shrivenham

This is a one-day workshop, funded by the Wellcome Trust, aimed at younger learners (11-18 year olds). It is run by Dr Anna Williams, and aims to introduce students to the science, sights and smells of decomposition in a safe environment.

The 15th Annual BABAO Conference

September 13-15 2013

University of York

<http://www.york.ac.uk/archaeology/news-and-events/events/conferences/babao2013/>

We are looking forward to holding the 15th annual BABAO conference in York. During this conference we will hold sessions on a variety of aspects of human remains, reflecting the different specialisms we have in the [Department of Archaeology](#), [BioArCh](#) and [Hull York Medical School](#).

This year's conference will held in the [Humanities Research Centre](#) on the [University of York's Heslington West Campus](#).

European Society for the study of Human Evolution

September 20-21 2013

Vienna

<http://www.eshe.eu/meetings.html>

We are pleased to announce the 3rd annual ESHE Meeting in Vienna, Austria. The meeting will be hosted by the local organizer Professor Gerhard Weber, from the Department of Anthropology at the University of Vienna. On Thursday 19 September, the eve of the opening of the meeting, a special Keynote presentation will be given by Professor Tecumseh Fitch, from the University of Vienna, on the evolution of speech, language and music. The meeting will be held on Friday 20 and Saturday 21 September in the spectacular Großer Festsaal and Kleiner Festsaal at the University of Vienna. Each day will be composed of plenary podium sessions in the morning, specialized workshops in the afternoon and poster sessions in the early evening. An open bar will be organized during the first poster session on Friday and on Saturday evening a General Assembly of the members of the society will take place, followed by a closing party at a traditional Austrian 'Heuriger'. On Sunday, 22 September an optional excursion will be offered to some of Austria's most important archaeological sites, namely Willendorf and Krems Wachtberg, and will include a cruise along the beautiful Wachau river.

MEMBERS' PUBLICATIONS

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BABAO Research Project Grants – 2013

In October 2004 the BABAO committee approved funding for a series of project grants that are available, by competition, to all members of the association. A copy of the application form is found in the Annual Review and upon the association website.

Two types of grants are available. One type is reserved for research in the contract sector, up to £1,500 (commercial). The other is reserved for the academic sector, up to £1,000. The higher sum available for the commercial sector is to cover the cost of buying out time from their company, to allow sufficient free time to conduct the research. Applications for more than these sums will not be considered. The number of grants awarded each year will depend upon the quality of applications and the state of the association's finances.

These grants may be used to support research in biological anthropology and osteoarchaeology, both to undertake the research directly, and to commission specialist services required in the course of the research project. They may not be used to fund conference attendance. Specialist equipment required to undertake a project is unlikely to be funded unless it is highly specific to the research project, and, if this is the case, the applicant must also demonstrate that the funds could not reasonably be obtained from other sources (such as the developer). The grant should be for a discrete piece of research, or distinct component of a wider research project, and not just a contribution towards general living expenses during a PhD.

If students apply they should specifically state how this grant application relates to other sources of funding for their course. If their PhD is unfunded applying for a grant to support discrete, freestanding components of their PhD is reasonable. However, if their PhD is funded, they must specifically state why extra money in the form of this grant is required. If the proposal is not clear on this point it is likely to count against the application.

Applicants must be paid-up members of BABAO by 1st April 2013. It is the applicant's responsibility to ensure that they have paid their subscription, and applications from lapsed members will not be considered.

It is appreciated that an applicant may apply to other funding bodies to fund the same topic as their BABAO grant application. However, it is imperative that they inform the BABAO committee immediately if they receive sufficient funding from another source before the BABAO grant competition is decided. It is unethical and unjust to accept a grant for a research project that has already been fully funded from other sources.

The closing date for receipt of applications for the current year is **10th May 2013**. Applications, complete with a 2 page summary CV, must be sent electronically to the Grants Secretary (j.buckberry@bradford.ac.uk). Please save the files under your surname (eg JonesApplication.doc and JonesCV.doc) and **not** as BABAOapplication.doc.

Grant proposals will then be reviewed by the committee. Notification will be given to the applicants, the BABAO e-mail list and the BABAO webpage.

Grant winners are expected to present their research at the BABAO conference in the year following the award (so 2013 grant winners are expected to give either a paper or a poster at the 2014 conference).

Guidance Notes

Section 1: To be completed by the applicant. Please give full and complete postal address, and, where applicable, affiliation.

Section 2: Please give brief details of current appointment (e.g. postgraduate student, lecturer, contract osteologist with XXXX company, freelance osteologist). If the applicant is a student, please provide details of the degree being taken, the name of supervisor (who does not need to be an association member), and the name of the institution.

Section 3: The brief name for the project may be placed upon the BBAO website.

Section 4: Please provide brief outline details of the research project. These details should be suitable for a non-expert audience, and the grant winner should be aware that these details will be placed upon the association's website.

Section 5: This section requires more detailed description and information about the research project being proposed/undertaken. Do not exceed the word limit for each box. The timetable for research is particularly important as the committee requires the projects being funded to be completed within one year. Where possible, sample sizes etc. should be included.

Section 6: Some institutions/organisations (e.g. some universities) require ethical permissions for research involving human remains or modern populations. Please complete this section only if this is applicable to the proposed research project.

Section 7: Please provide a breakdown of the budget required from the association. Travel should use the cheapest possible suitable mode. Accommodation may be requested where appropriate. All costs should be included in the application.

Section 8: Students must obtain a signature from their supervisor. Applications without a signature from the students' supervisor cannot be accepted. Scan in the signed form and submit it via e-mail.



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**Grant Award
Application
2013**

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

RESEARCH PROPOSAL (Academic)

1. Name of applicant

Title:
First name:
Surname:

Address for correspondence

Postcode:
Tel no:
Email:

2. Present position

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

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3. Details of grant requested

Title of project (not more than 15 words)

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Sum requested
(max £1000)

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4. Project summary

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

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5. Project information

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

Research question(s) or	
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<p>problem</p>	
<p>Aims & objectives</p>	
<p>Research methods</p>	
<p>Timetable (Research is expected to be presented at the BABA O conference [either paper or poster] in the year following the award.)</p>	
<p>Other Planned Outputs from this Research</p>	

6. Ethical aspects of the proposal

a) Are there any ethical implications arising from the proposed research?

Yes No

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

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7. Budget summary

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

Summary	Cost (£)
Travel and subsistence	
Equipment	
Analysis	

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

Description	Justification	Cost (£)

c) State whether you already have any funding for your project, and why extra funding is necessary. For example, if you are a PhD student, please explain how this is funded.

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8. Signature and date

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

Signature of applicant

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Date

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Signature of supervisor
(for student applicants)

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Date

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**All applicants must be members of BABAO by 1st April in year of submission.
Closing date for applications: 10th May.**

**Please attach a 2 page summary CV to this application, and e-mail to Jo Buckberry:
J.Buckberry@bradford.ac.uk**



BABAO c/o Dr Jo Buckberry,
Archaeological Sciences
University of Bradford
Bradford
BD7 1DP
e-mail: j.buckberry@bradford.ac.uk

Grant Award Application 2013

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RESEARCH PROPOSAL (Commercial)

We welcome proposals from individuals working in the commercial sector. Preference will be given to those projects which enable scientific research, such as isotopic analyses, or synthetic site studies beyond the remit of developer funded work. Grants to cover staff time and the subsequent costs to the employer incurred during research or involvement in external projects will also be considered.

1. Name of applicant

Title:
First name:
Surname:

Address for correspondence

Postcode:
Tel no:
Email:

2. Present position

Present appointment and employer (if funding is requested to cover costs incurred to any commercial organisation that is not your present employer, please give details)

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4. Details of grant requested

Title of project (not more than 15 words)

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Sum requested
(max £1500)

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4. Project summary

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

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5. Project information

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

Research question(s), non-commercial archaeological / osteological project details or problem	
Aims & objectives	
Materials: please give dates of excavation and stage of any associated commercial project (e.g. assessment)	
Research methods	

<p>Please state why this project cannot be covered by PPG16 funding.</p>	
<p>How will this project assist in your personal and professional development?</p>	
<p>How will this project achieve the objective of bridging the gap between commercial work and that of academia?</p>	
<p>How will your results be disseminated to the public at large?</p>	
<p>Timetable (Research is expected to be presented at the BABA O conference [either paper or poster] in the year following the award.)</p>	

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6. Ethical aspects of the proposal

a) Are there any ethical implications arising from the proposed research? Please include issues of client confidentiality which may prove problematic to the dissemination of your results.

Yes No

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

7. Budget summary

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

Summary	Cost (£)
Travel and subsistence	
Equipment	
Services of external specialists	

Please *itemise* and *justify* expenditure requested and explain why this cannot be covered by developer funding.

Description	Justification	Cost (£)

8. Signature and date

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

Signature of applicant Date

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

Closing date for applications: 10th May.

Please attach a 2 page summary CV to this application, and e-mail to Jo Buckberry. Email J.Buckberry@bradford.ac.uk