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CONTENTS

WELCOME TO THE ANNUAL REVIEW FOR 2017.....	1
ASSOCIATION NEWS	
President’s Column.....	1
Report from the Membership Secretary.....	4
Report from the Grants Secretary.....	5
Report from the Student Representative.....	7
PEOPLE.....	8
NEWS & PROJECT UPDATES	
‘Putting flesh on the bones’: Cataloguing and digitising the Calvin Wells archive.....	9
Extremities at the Extremes: How Do Altitude-Associated Stresses Shape Sherpa Hand and Foot Morphology?	10
MUSEUMS & OTHER INSTITUTIONS REPORTS	
Centre for Human Bioarchaeology, Museum of London.....	10
Museums of the Royal College of Surgeons of England.....	14
EXCAVATION AND ANALYSIS OF HUMAN REMAINS IN 2017	
Allen Archaeology Ltd.....	14
Cotswold Archaeology.....	16
Oxford Archaeology Heritage Burial Services.....	18
Wessex Archaeology.....	22
York Osteoarchaeology.....	26
DEPARTMENTAL REPORTS	
University of Bradford.....	27
University of Cambridge.....	28
Cranfield University.....	30
Durham University.....	31
University of Edinburgh.....	34
University of Exeter.....	37
University of Kent.....	38
Liverpool John Moores University.....	40
University of Sheffield.....	41
University of Southampton.....	43
University of Winchester.....	45
POSTGRADUATE RESEARCH ABSTRACTS.....	45

REVIEW OF THE 19 th ANNUAL BABAO CONFERENCE.....	48
FORTHCOMING CONFERENCES, COURSES AND WORKSHOPS	
22nd European PPA Meeting, Zagreb, Croatia, 28 th August to 1 st September 2018.....	51
20 th Annual Conference of the British Association for Biological Anthropology and Osteoarchaeology 14 th -16 th September 2018.....	51
MEMBERS' PUBLICATIONS.....	51

WELCOME TO THE ANNUAL REVIEW
FOR 2017

Diana M Swales
University of Dundee

Welcome to the 2017 BABAO Annual Review. It is a pleasure in my first year as Editor to bring together the activities of our academic departments, museums and professional organisations over the past year. I thank you all for your contributions and sharing your knowledge, experiences and findings with the rest of the BABAO community.

I would like to take this opportunity to extend heartfelt thanks to my predecessors, Ronika Power and Jo Appleby, for their invaluable advice and support.

It is clear from the content presented herein that it has been an exciting and successful year for our members. Included in this review are valuable and inspirational research, new jobs and roles, returns from maternity leave, future conferences, opportunities to contribute to BABAO as a Trustee, and to apply for funding to develop projects in both the professional and academic sectors.

The professional organisation and museum reports evidence the important work and fascinating discoveries being undertaken in those sectors and the valuable contribution they are making to biological anthropology and osteoarchaeology in the UK and beyond.

What is especially impressive is the innovative and significant research from our student members demonstrated via their use of the BABAO Research Grants, ongoing and completed PhD theses, and MSc dissertation projects. Well done to all of you (and your supervisors) who have completed your studies and research and I look forward to your contributions over the next couple of years. To those of you just commencing or in the midst of your academic pursuits I wish you all the best for the forthcoming year and, again, look forward to seeing your progress in the next annual review and at the 20th BABAO

Annual Conference hosted by Cranfield University in September.

I am confident that you will all wish to join me in thanking Charlotte Roberts for her hard work, inspiration and dedication in the role of President. This volume commences with her final *Presidents Column* contribution under her current presidency.

I hope you all enjoy the Review and that BABAO has another excellent year.

ASSOCIATION NEWS

President's Column

Charlotte Roberts
Durham University

I am now into my final year as your President and this is my last Annual Review column. As I said last year in this Review our Trustees remain busy on your behalf, and I continue to have fantastic support from all the Trustees, old and new to the job. We are doing very well financially, and our membership is healthy at 469, although a little down on last year at this time.

I should, again, not forget to thank our hardworking outgoing Trustees, who were presented with a small token of BABAO's appreciation for their work at the BABAO conference in Liverpool. They were **Tina Jakob** (Secretary), **Nick Marquez-Grant** (Non-executive representative) and **Sharon Clough** (Commercial Archaeology representative). New Trustees were voted in, as follows: **Ceri Boston** (secretary), **Lauren McIntyre** (Commercial Archaeology representative), and **Catriona McKenzie** (Non-executive representative). **Claire Hodson** was elected to serve as Outreach Officer (a new post) and **Diana Swales** as the Annual Review Editor.

I will repeat from the Review in 2017: *'every one of the committee members past and present contribute their copious (!) free time to working for the good of BABAO. Without members that are willing to step up and help us run this fantastic organization, we would*

not have a BABAQ!’ Of course, with that in mind, I should mention that there are three posts are coming up for renewal this year. They are: **President** (currently me), **Grants Secretary** (currently Karina Gerdau-Radonic), and **Communications Officer** (currently Dave Errickson). There are job descriptions posted for each committee member on the BABAQ website so you can see what each post entails (<http://www.babao.org.uk/committee/>). Click on the individual people and their posts to see the descriptions. Please consider standing when the call goes out.

Now on to more specific items, in no particular order:

1. The Annual Conference, Liverpool

Another wonderful Annual Conference in September was much enjoyed, and very ably organized by the Research Centre in Evolutionary Anthropology and Palaeoecology, Liverpool John Moores University. The **Organisers** were Dr Isabelle De Groote, Professor Joel Irish, Dr Constantine Eliopoulos, and Dr Matteo Borrini., and the **Scientific Committee** was comprised of Prof Laura Bishop, Dr Alison Brough, Dr David Jordan, Dr Linus Girdland Flink, Dr Richard Jennings, Dr Emma Pomeroy, and Dr Kyoko Yamaguchi. Last but certainly not least, we must not forget the team of student volunteers who contributed much to the smooth running of the conference (see later for a full report).

All aspects of biological anthropology were covered in the extensive and interesting programme that the team put together, and there was a large element of public engagement contributions on the Sunday afternoon in the city by BABAQ members (all good to promote the value of BABAQ’s work beyond academia). What a wonderful city Liverpool is too. I would recommend a trip on the Mersey ferry and a visit to the Beatles story! The conference dinner in the crypt was particularly enjoyable and memorable, which included magicians and their tricks! Thank you to our Liverpool colleagues for volunteering to organise our 2017 conference.

Congratulations to **Sarah-Louise Decrausaz** who won the Jane Moore Prize for the best student podium presentation, to **Ana Curto** as runner up, and to **Chris Aris** who won the Bill White Prize for the best student poster presentation, and to **Anna Davies-Barrett** who was runner up.

Organizing the annual conference involves a lot of hard and dedicated work, and two equally able teams have volunteered for the **next three conferences**:

- Nick Marquez-Grant of Cranfield University (and his team) will host the 2018 conference in **Milton Keynes** (14th-16th September); keep an eye out for more information at the following:

<http://www.babao.org.uk/conferences/babao-annual-conference-2018>, but you should also note that this will be the **30th anniversary of the official founding of BABAQ!**

- the 2019 conference will be hosted by Heather Bonney at the Natural History Museum in **London**, and

- the 2020 conference venue will be hosted by Dave Errickson and Tim Thompson at Teesside University, **Middlesborough**,

Is anybody willing to host the conference in 2021?

NB: an updated Conference Guidance Document (i.e. help for organizing the conference) is now available on the members’ part of the website: <http://www.babao.org.uk/conferences/babao-conference-guidance-document/>)

2. Trends in Biological Anthropology

Volume 2 is now with Oxbow for publication. Volume 3 is under preparation and with Tina Jakob before being submitted to Oxbow. Our contract with Oxbow will be reviewed once Volume 3 has been sent to them.

3. Mentor and Service Awards

The outlines of these awards, which you agreed were a good thing for BABAQ, are

near to finalizing, and that for service will be first awarded at the 2018 conference. Watch out for calls for nominations

4. Honorary Life Membership

Calls for nominations went out in October 2017 with a deadline of the 31st January

5. BABAQ Guidance to the standards for data recording

The update on this document is now available on the website. Thank you to Piers Mitchell and Megan Brickley for moving this forward to completion.

6. Outreach/public engagement events

As you know, you have all been given the opportunity get involved with these events if you can. I know many of you already do engagement work, but I am sure everyone appreciates that this is very important for our discipline. We have had a lot of successful engagement recently at the Manchester Science Festival, the London Anthropology Day, and the British Science Festival at Brighton; this is all down to volunteers from the Board of Trustees and the wider membership – thank you.

7. Commercial archaeology

Our last Commercial Representative, Sharon Clough, has put in an application (end of November 2017) to the Chartered Institute for Archaeologists to establish a Special Interest Group for Osteoarchaeologists, which again can only be a good thing for us.

8. UK Anthropology Network proposal (previously the Federation of Anthropology)

As I said before, this idea, bringing all aspects of Anthropology together, has seen some development. A “Pan-Anthropology” conference will be held in Oxford in September 2018. As your President, I will be part of a panel from different disciplines at one of the events. Unfortunately, despite requests for involvement, we have not been able to find anybody on the Board of Trustees, or from the wider membership, to organize a session that advertises our work and that of the wider BABAQ organization.

9. BABAQ Small Grants 2017

Many congratulations to:

Commercial Grant winners:

Natasha Powers, Allen Archaeology Ltd: Revealing Roman Lincoln: a burial resource assessment for Lindum Colonia, and **Sophie Newman**, Freelance Osteoarchaeologist: Growing Old in the Industrial Age: ageing, health, and social identity in elderly females (18th-19th C), and

Academic Grant winners:

Lulia Rusu, Cardiff University: Exploring Magyar Diet and Health: Integrating osteoarchaeology and isotope analysis, and **Christopher Aris**, University of Kent: Testing a new multivariate dental morphometric method of juvenile assessment on a known sex population.

10. Selling human remains

The BABAQ Trustees continue to deal with instances where human remains are being traded. **If you see this sort of activity, please send the information to Heather Bonney (h.bonney@nhm.ac.uk) so she can act accordingly.** Thank you – we must stop this happening.

11. Research Excellence Framework 2021: BABAQ members' nominations

To confirm that our nominations were submitted by the December 20th 2017 deadline (Alan Outram and Naomi Sykes, University of Exeter, nominated by Catriona McKenzie; Rebecca Redfern, Museum of London, nominated by Tim Thompson; and Charlotte Roberts, Durham University, nominated by Tina Jakob)

12. Updates to the BABAQ Ethics and Practice documents

Updates have been underway and are almost complete; you will be informed once they are on the website.

Finally, thank you **Diana**, our Annual Review editor, for gently reminding us to send contributions for this Review, and to all of you who have taken the time to send contributions. It remains a great publication that shows how active and diverse our members are.

We hope you all are happy with the way BABAO is running, and that you are getting value for money from BABAO's services to you. However, please do contact me, or any of the other Trustees, if you have any specific thoughts about the future of BABAO.

Best wishes for a peaceful rest of 2018, which I hope is productive for you all in your various roles; see you in Milton Keynes in September, and to add, in anticipation of September when I step down,

I have enjoyed my time as BABAO President and learning more about our organization and its members' work. We have a very strong organization that looks set to continue well into the future.

Charlotte Roberts
Durham, January 2018

Report from the Membership Secretary
Anwen Caffell
Durham University

BABAO had 477 members at the end of 2017, which is a slight decrease from our 496 members at the end of 2016. As last year, just over half our members were employed (245, 51.4%), while most of the remainder were students (182, 38.2%). This is a slight decline in the overall proportion of students compared to last year (40.1%). The remaining members were unwaged (35, 7.3%), or retired (14, 2.9%). We also have one institutional member.

Those members who had specified an occupation were grouped into broad categories (see Table); note that these figures include some unemployed and retired

members. Members associated with academia (not including students) formed the largest subsection, and included lecturers, post-doctoral researchers, and other teaching/technical support staff. This category of membership saw a decrease in 2017. Seventy-five members (33.3%) were associated with the commercial sector, assuming that all members who defined themselves as archaeologists or osteologists/osteoarchoeologists worked in the commercial field. Smaller numbers of members worked as forensic specialists, in museums, or in medicine, and there were a diverse range of other professions represented.

MEMBERSHIP CATEGORIES		
Academic	96	42.7%
Osteologist	36	16.0%
Archaeologist	32	14.2%
Osteologist/Archaeologist	7	3.1%
Forensic	18	8.0%
Medical	8	3.6%
Museum	13	5.8%
Other	15	5.8%

We recruited 67 new members during 2017, in comparison to 103 during 2016. Overseas members make up a quarter of the membership (123, 25.8%). This is a slight decline compared to last year (135, 27.2%), but is still slightly higher than the proportion of overseas members in the years when PayPal payments were unavailable. The majority of our overseas members come from Europe (70, 56.9%), but we also have members from North America (35, 28.5%) and the Antipodes (11, 8.9%). We also have a small but increasing number of members from elsewhere in the world (7, 5.1%).

I will be conducting an overhaul of the membership data in 2018; in the meantime, do please send me updates on changes in job titles, positions, affiliations, and personal details via the 'change of details' form available on the membership section of www.babao.org.uk. It is important that you keep your postal address up to date. Also, 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 email me at membership@babao.org.uk.

Report from the Grants Secretary

Karina Gerdau-Radonić
Bournemouth University

In 2017, the BABAO Board of Trustees awarded 2 academic research grants and 2 commercial research grants. There were 18 applicants in total, three were disqualified for not following the guidelines (deadlines, supporting documents, etc.).

Project summaries

Academic

- Christopher Aris (University of Kent) - £628.00 - Testing a new multivariate dental morphometric method of juvenile assessment on a known sex population.

This project will test the accuracy and reliability of a newly-developed method (Aris *et al.*, in prep) of skeletal sex assessment, which can be applied to individuals as young as three years of age. Eleven morphometric measurements will be taken from the first maxillary molar of 128 individuals (96 adults, 32 juveniles) of known sex from the Spitalfields Crypt collection. These measurements will be processed through discriminate function analysis to test whether the outputs can accurately determine biological sex of young individuals, and thus provide empirical evidence for the potential of this method to alleviate the problem of sexing immatures.

- Iulia Rusu (Cardiff University) - £990.00 - Exploring Magyar Diet and Health: Integrating osteoarchaeology and isotope analysis.

The project will investigate the relationship between dietary practice and health in a medieval Hungarian population from Szada, northern Hungary. The cemetery comprises a key population for understanding the transition to sedentary farming in this area, often regarded as a cause of decline in nutritional quality. Osteological investigations

show an increase in pathologies indicative of poor nutrition, particularly in males. This project will explore dietary practice through carbon/nitrogen isotope analysis, establishing whether practices vary by sex or correlate with nutrition-related pathologies. It will provide vital new primary data to investigate the transition to both sedentary agriculture and to Christianity.

Commercial

- Sophie Newman (Freelance Osteoarchaeologist) - £1,573.60 - Growing Old in the Industrial Age: ageing, health, and social identity in elderly females (18th-19th C).

The elderly within past communities are still an underrepresented group within archaeological research, but they would have formed a large proportion of communities during the post-medieval period. Analysis of two 18th - 19th century sites from Manchester identified two female individuals with multiple pathological conditions. Osteological analysis suggested they were at least sixty years of age, and coffin nameplates confirmed this. Building on these two case-studies, the impact of degenerative biological changes on the health and well-being of elderly women in the 18th - 19th centuries, and the impact of advancing age and increasing care requirements on social identity, will be explored.

- Natasha Powers (Allen Archaeology Ltd) - £1,423.44 - Revealing Roman Lincoln: a burial resource assessment for Lindum Colonia.

Through desk-based interrogation of HER (Historic Environment Record) data, 'grey' or unpublished literature, published sources and direct contact with contracting units, this project will quantify the existing burial resource for Roman Lincoln. It will determine the current state of knowledge and provide up-to-date spatial and demographic data on inhumations and cremation burials excavated from within Lindum Colonia and its immediate hinterland and in both modern and antiquarian contexts. The resulting data will facilitate future osteological research and will be used to help to inform future planning decisions, enabling Lincoln to be more readily

compared with other large Roman settlements.

Project updates (results) from 2016 awardees

Academic

- Christianne Fernee (University of Southampton / Bristol) - £900.00 - Like pulling teeth: tooth variation within and between populations in the South of Britain.

Report to be handed in by 1st September 2018.

- Stephanie Payne (University of Cambridge) - £1,000.00 - Extremities at the Extremes: How do altitude-associated stresses shape Sherpa hand and arm morphology?¹

High altitude stress has been associated with a reduction in relative zeugopod (forearm/lower leg) length. This pattern supports the ‘thrifty phenotype’ hypothesis, whereby, under environmental stress, autopod segments (hand/foot) are protected from growth deficits at the expense of the zeugopod. This pattern has been observed in Andean populations, and in the lower limbs of Himalayan populations, but has yet to be confirmed in the upper limbs of Himalayan populations. In the Himalayas, other environmental influences may dictate limb proportions; the significantly lower minimum temperatures compared to other high altitude regions may be a significant stressor to induce cold-adapted limb proportions (shorter and broader distal limb segments) as per Allen’s rule. This cold-adapted pattern has been noted in hand morphology of cold-habiting populations, but not in their foot morphology. This study set out to determine whether upper limb length of Himalayan populations indicated cold-adapted proportions, or followed patterns of the ‘thrifty phenotype’, as seen in their lower limbs. We compared the relative upper limb segments lengths of highland and lowland

¹ The original title was “Extremities at the Extremes: How do altitude-associated stresses shape Sherpa hand and foot morphology?”, however, a pilot study demonstrated that measuring leg and foot proportions was not considered appropriate for the ethnic groups I worked with in Nepal, and therefore the research question was adjusted accordingly. The theoretical hypotheses outlined in the project proposal were still tested, but in reference specifically to upper limb proportions.

adults aged 18 to 59 (n=254: F=90, M=164) of shared genetic ancestry residing in the Himalayas. Relative to height, ulna length was found to be significantly shorter in the highland population in both males and females, whilst relative humerus, hand length and hand width were not significantly different. These findings further support the presence of the ‘thrifty phenotype’ in high altitude conditions, and indicate that cold adapted hand proportions are not found in Himalayan populations.

- Rachel Schats (Leiden University) - £1,000.00 - Syphilis in The Netherlands. Dating and provenance of three syphilitic individuals from Kampen.

The origin of syphilis has been heavily debated in the last years. The hypothesis that Columbus brought this disease back to Europe is supported by many pre-Columbian cases in the New World. The evidence for pre-Columbian cases of syphilis in Europe is much scarcer. Recently, however, skeletal remains in Kampen, The Netherlands have yielded three individuals with lesions pathognomonic for syphilis. This project aimed to securely date and perform isotope analysis on these individuals to gain a better understanding of syphilis in The Netherlands and thereby to contribute to ongoing debates on the origin and spread of the disease.

No commercial grants were awarded in 2016.

2018 BABAQ Research Grants Competition

BABAQ offers funding grants for research projects which are available annually, by competition. The competition is open to ALL members of the association who have paid their dues by the 31st of January of the application year.

These grants may be used to support research in Biological Anthropology (on all extant and extinct primates) and Osteoarchaeology (human and non-human).

Two types of grants are available. One type is reserved for research in the contract/commercial sector (up to £2500: £1000 for research costs and £1500 to buy out

time from the employer). Those self-employed may apply but should contact the Grants Secretary (gerdaukarina@gmail.com) in advance. The other grant is reserved for the academic sector (£1000 for research costs only). The higher sum available for the commercial sector is to cover the cost of buying out time from the employer, to allow for 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. The Board's decision is final.

The closing date for receipt of applications for the current year will be announced on the association's website (<http://www.babao.org.uk/about/research-grants/>). Any questions pertaining to the application process and to eligibility, as well as the applications (in pdf format) should be emailed to: gerdaukarina@gmail.com.

The application forms, further guidance and information on eligibility, how to apply, deadline for applications, and what can be funded can be found at the following Web address:

<http://www.babao.org.uk/about/research-grants/>

Grant applications will be reviewed by the Board. Please note that incomplete applications and those that do not follow the guidelines will be automatically disqualified. Notification will be given directly to the applicants (all), the BABAO e-mail list (awardees), and the BABAO webpage (awardees).

Grant awardees are expected to present their research at the BABAO conference within the 2 years following the award (so 2018 awardees are expected to give either a paper or a poster presentation at the 2019 or 2020 conference).

Grants Secretary Post

The Grants Secretary post will come up for election in September 2018. The tenure is for three years.

The Grants Secretary oversees the grant application process (applications, reviews, results) and keeps track of awardees.

Prospective candidates are welcome to contact the current Grants Secretary for information about the post (gerdaukarina@gmail.com).

Report from the Student Representative

Emily Carroll

University of Reading

The past year has been an exciting and prosperous one for the BABAO student cohort. This year's annual BABAO conference held by John Moores University in Liverpool hosted a student panel session entitled "Professional development – life after your degree" where several members of the BABAO committee discussed their individual experiences of working in the fields of biological anthropology and osteoarchaeology. They advised the next generation of scientists that hard work, a passion for what you do, as well as good health and wellbeing are all vital for succeeding in your chosen field. If you missed the session and would like to read up on what was discussed, check out the Professional development Session blog on the BABAO website.

The conference also saw many of our students present new and innovating research. Congratulations to our winners of the Jane Moore Podium Prizes, Sarah-Louise Decrausaz and Ana Curto, as well as the Bill White Poster Prize, Chris Aris and Anna Davi-Barrett. The conference presented an unmissable opportunity for us as students to show our potential and receive feedback on our research from some of the world's leading experts. If you were unable to attend this year then not to worry, students can apply for bursaries to attend the conference. However, these are limited so don't leave it too late to apply.

PEOPLE

This year also saw several of our student members volunteer at the Science Festival held at the Museum of Science and Industry in Manchester. A big thank you to all those who gave their time to interact with the public and introduce them to the wonderful world of biological anthropology and osteoarchaeology. The event, organised by our outreach officer Clair Hodson and our communications officer Dave Errickson, consisted of several activities where attendees could learn about human anatomy, have a go at archaeological excavation, and try and identify animal bones.

The BBAO student Facebook page, Student Hub and Forum are more active than ever. On our Facebook page members share events, articles and ideas regularly, so make sure you join if you haven't done so already: <https://www.facebook.com/search/top/?q=babao%20student%20members>. The Student Forum provides members with reading material, research themes and context for those looking for a point of reference. It also acts as a communication platform for members to ask questions and take part in debates in their fields of interest: <http://babao.proboards.com>. The newly established student hub is a resource centre for all our student members, consisting of a list of useful training courses, top tips on how to be successful in your chosen field of study from high ranking professionals in the fields of anthropology and osteoarchaeology, and coming soon a list of commercial units and companies who provide volunteer opportunities and placements for students looking to gain further experience for when they graduate.

I am always excited to hear from our student members, so if you have any question, concerns, ideas or suggestions then please do get in touch either via our Facebook page, or by my email: e.l.carroll@pgr.reading.ac.uk.

In June 2017 Dr Heidi Dawson-Hobbis was appointed Lecturer in Biological Anthropology at the University of Winchester. She will be programme leader of the MSc in Human Osteology and Funerary Studies, now in its second year, as well as contributing to their new Anthropology undergraduate degree programme, which had its first intake this September.

Nivien Speith left Bournemouth University in September to take up a lectureship in Biological and Forensic Anthropology at the University of Derby, building up the Anthropology provision at the College of Life and Natural Sciences.

Since the College would very much like to expand its skeletal collections for research and/ or teaching purposes and is seeking material as well as collaborations with the commercial archaeology sector, please direct any expressions of interest or enquiries to N.Speith@derby.ac.uk.

In January 2017 Diana Swales joined the Centre for Anatomy and Human Identification, University of Dundee as a Lecturer in Forensic Archaeology. She is the programme lead for the MSc in Forensic Archaeology and Anthropology. Diana also contributes physical anthropology, palaeopathology and osteology teaching to the MSc and BSc programmes in Forensic Anthropology. She continues her research in biological anthropology and osteoarchaeology.

I am pleased to announce my new role as Collections Manager for the Duckworth laboratory in The Centre for Human Evolutionary Studies at the University of Cambridge. My previous posts include the Repatriation Osteology Laboratory, National Museum of Natural History, Smithsonian Institution; Education & Outreach at the Museum of Archaeology and Anthropology,

Cambridge; and Associate Curator and Repatriation Coordinator (NAGPRA Native American Graves Protection and Repatriation Act) at the San Diego Museum of Man in California. This is the first time there has been a full-time permanent person dedicated to the curation of the Duckworth Collection and I'm happy to take on this exciting challenge. We now have an online application form for those considering working with the collections. In February we will be publishing new research terms and conditions including thrice-yearly application deadlines for destructive sampling. We have a lot of exciting things coming up and you can follow us on Facebook or see our website for updates! <http://www.human-evol.cam.ac.uk/duckworth.html>

Best wishes, Dr Trish Biers

NEWS & PROJECT UPDATES

'Putting flesh on the bones': Cataloguing and digitising the Calvin Wells archive

*James Neill and Michelle Williams-Ward,
University of Bradford*

British palaeopathology owes many of its early advances to the work of Dr Calvin Wells (1908-1978), a general practitioner with an interest in medical history and archaeology who used those interests and skills to study human remains and ancient disease. He was a well-respected and sought after osteologist and palaeopathologist, prolific writer and publisher with connections worldwide, with a penchant for creating narratives to accompany and explain the lives of the human remains that he examined.

His catalogue of work is impressive with more than 130 publications to his name and includes work on cremated remains at a time when such highly fragmented bone had little perceived research value. His work spanned multiple time periods and covered a plethora of disease types, including some of the first major reports on leprosy and Paget's disease. Based in Norwich, his work often focussed

upon sites in the East Anglian region and is featured in many of the East Anglian archaeology monographs. As such, his name continues to permeate modern archaeological and palaeopathological analyses, particularly in the UK. His global reputation meant he analysed material from around the world, including mummified remains, and he published on archaeological material from places as diverse as Egypt and Peru.

His reputation and academic gravitas earned him access to a wide range of skeletal remains and earned him the connections to facilitate detailed and scientific analyses. As such, Wells amassed a large collection of materials: books, slides, photographs, radiographs, correspondence, bone reports and skeletal material, detailing a wide range of palaeopathological conditions, pre-curation, often un-published. The archive is testament to the breadth of work carried out over the course of Dr Wells' career and the relationships fostered with institutions, experts and enthusiasts across the world. The Calvin Wells archive was deposited at The University of Bradford at the request of his widow, Freddie Wells, after the development of the first dedicated palaeopathology programme at the University by Dr Keith Manchester, and because of Keith's existing relationship with the Wells family.

This invaluable archive is being given a new lease of life via the *Putting flesh on the bones* project, funded by the Wellcome Trust, which awarded the project almost £140,000. The project is a collaboration between Special Collections and the Biological Anthropology Research Centre at the University of Bradford and is led by Special Collection Librarian Alison Cullingford and Dr Jo Buckberry, with Subject Librarian Sarah George. It was launched in June. Over the course of 18 months, *Putting Flesh on the Bones* will collate and catalogue, digitise, promote and preserve the vast array of materials collected by Calvin Wells and produce a digital archive to be accessible via the Archives Hub. This unique archive is being organised by Project Archivist James Neill, and Project Osteologist Michelle Williams-Ward. They are currently

assisted by placement student Meg Howe. The team will later be joined by other specialists including a conservator and a librarian. Dr Keith Manchester is a consultant on the project.

The project will create an archive that will act as a resource for palaeopathologists, anthropologists, archaeologists and medical and health historians and allow the osteology reports, radiographs, hundreds of slides and detailed images of archaeological material and pathological lesions across the spectrum of disease, from sites across the world, alongside the osteological reports, radiographs and correspondence to inform new research and create a lasting legacy to Dr Calvin Wells.

Follow the project:

Twitter: @PFOTB_Project

Instagram: puttingfleshonthebones

Project

blog:

<http://puttingfleshonthebones.wordpress.com>

Extremities at the Extremes: How Do Altitude-Associated Stresses Shape Sherpa Hand and Foot Morphology?

Stephanie Payne
University of Cambridge

In March 2017, Stephanie Payne undertook field research in the Himalayas, funded by the BABAO research grant. Her research set out to test whether there are differences in upper limb proportions between lowland and highland Himalayan populations, as seen in other high altitude groups. Two living populations were investigated: lowland residents from Kathmandu of Tibetan origin, and self-identifying Sherpa from several highland communities above 3500m on the Everest trail. The results demonstrated that indeed there was a difference in upper limb proportions between the two populations, despite their shared genetic ancestry. This successful fieldwork demonstrated that skeletal growth under altitude stress results in reduced relative forearm lengths in Himalayan populations. This pattern is similar

to the limb proportions observed in Andeans, even if their physiological adaptations are different. This indicates that the skeleton responds to altitude stress in a similar way across different high altitude groups.

Stephanie would like to thank BABAO for the financial support that not only enabled her to successfully carry out this research, but also allowed her to take on an exhilarating fieldwork experience. Long days of data collection were made easy by the friendly Tibetan and Sherpa communities, who were very generous with their time in order to assist with the research. The trek to the highland regions was an unforgettable challenge, complete with hair-raising mountain paths, treacherous ice sheets and even getting chased by a yak or two. This rewarding research experience was only possible thanks to the support of the BABAO research grant.

MUSEUMS AND OTHER INSTITUTIONS REPORTS

Centre for Human Bioarchaeology Museum of London

Jelena Bekvalac
Curator of Human Osteology

Foremost for the Centre for Human Bioarchaeology (CHB) and the Archaeological Archive at the start of the year was the excitement after all of the hard work and effort by Becky for her publication *Injury and Trauma in Bioarchaeology, Interpreting Violence in Past Lives* - Dr Rebecca Redfern, Cambridge University Press. It is an insightful and fascinating book with interesting perspectives into the complexities of interpreting violence in the past. A copy sits proudly in the CHB bookcase and I am sure that there will be copies in many other bookcases for its use as a key reference book.

The Centre has had a busy year with work continuing on the last two venues for the touring version of the Wellcome exhibition *Skeletons: Our Buried Bones*; research projects; providing assistance with data from

the database for researchers; running student study days; research publications; outreach events and presenting at conferences & archaeological societies.

We must say many thanks to all of the team at the MShed in Bristol who worked with Becky and Wellcome to make the second of the touring Skeleton exhibition's such a great success, with high visitor numbers and a super interactive area for younger visitors to get involved and hands on with learning about skeletons. Thanks also to all of the people who generously helped provide access to skeletal remains from a variety of locations and time periods to be able to include with the London collection of skeletal remains, making it such a rich and varied combination of individuals.

Within the same month of September with the exhibition closing in Bristol work began on the installation for the last of the exhibitions in Leeds at the City Museum. It was a pleasure for Becky and me to work with the team at Leeds City Museum in the preparation of the exhibition and our thanks to everyone who helped to bring everything together, particularly from a skeletal perspective to our colleagues Dr Jo Buckberry and Dr Elizabeth Craig-Atkinson. I was very pleased to be able to be part of the symposium in October, one of a number of organised events run during the course of the exhibition. The exhibition since it has opened has proved to be very popular and it will be very interesting to read all of the public feedback that has been collected throughout until it closes on the 7th January 2018.

Higher education study days and tours were again run utilising the CHB teaching collection and research collection for master's students and overseas students, covering a broad scope of topics but which did more often have a focus towards the medieval period and the Black Death, with the groups coming from a variety of places including Cambridge University, Kent University, London School of Economics and Arizona State University. The groups were able to have the opportunity for learning more about

the extensive collections and also able to have the chance to see what a valuable learning resource the skeletal remains are as a primary source of information from the different time periods.

We have also been involved with school sessions run at the museum with Becky leading the Written in Bone sessions, a learning workshop for Key Stage 2 based around the Romans with the pupils attending learning about information that can be accessed from the analysis of the skeleton, dressing up and objects. I was able to continue to participate in the sessions Bodies of Knowledge run at Wellcome as part of their Youth Engagement Programme for secondary school pupils and was also fortunate to be invited to be interviewed as part of the summer youth programme. The programme is run in the summer holidays for a group of young people, led by the Youth Engagement coordinator and professionals working in the film industry to assist the young people to create a documentary inspired by the idea of what nature means to them. It was an interesting experience and good to see young people have such a great opportunity for learning hands on about so many different processes including use of the camera, filming and interviewing techniques. We participated again in the sessions for Public Health Through Time with secondary school pupils studying the History of Medicine and having the opportunity with the session based around skeletons to learn about them as a source of information relating to public health. We were most grateful to our colleague Mike Henderson from MoLA stepping in to run the session in March for us. I was also pleased to be able to welcome eleven new girls from the City of London School for Girls to the Young Osteology Group running it for the second year. The girls are able to learn about the methods of analysis of the skeletons and historical context which will again culminate in them doing two 'Take Over' Days at Guildhall and Charterhouse, sharing with the public all that they have learnt.

There have been a number of occasions in the year with us being involved in media outputs

with production teams coming to film us with skeletal remains for programmes ranging from the detriment of sugar to our dental health (The Sweet Makers); identifying individuals of mixed ancestral backgrounds and immigration from past to present with Becky discussing areas of information more recently coming to light from research on the collections; I had the pleasure of being filmed talking about the CHB and the skeletal collections curated at the museum as part of a series of pieces for the project Arches in conjunction with Historic England. But probably the most intriguing was the filming of a female skeleton from the St Mary Spitalfields excavation for inclusion in a programme looking at the use of artificial intelligence in design in conjunction with the bone like structures that are being created by algorithms.

St Bride's church was very generous again to enable access for researchers on the important biographical collection retained at the church which the CHB assists them in the curation and application for research. There were a number of researchers over the year that had the pleasure of being in the crypt. We were pleased to welcome back Dr Jaime Ullinger and her students from Quinnipiac University for them to carry out data collection for their research project; Tim Armshoff for the collection of data for his study of the talus and calcaneus for the estimation of sex; Samantha Yaussy a PhD student from South Carolina University who spent several weeks over the summer collecting data for inclusion in her thesis which will statistically compare a number of skeletal collections dating from the period of industrialisation in England to be able to examine the effects of socioeconomic status; Dr Jonathan Bethard who was able to carry out research in continuation of his research for the use of osteoarthritis as a method for age estimation and a medical student from St George's Hospital, UCL continued on from studies over the last two years by other medical students from St George's Hospital, working in conjunction with an orthopaedic surgeon specialising in the field of joint replacements.

We have participated in a number of events being able to speak about the Centre, the extensive collections and research on the collections ranging from talking at Wimbledon Arts College as part of a symposium about the face; Worcester and Richmond Archaeological societies; Oxford University; a talk entitled *Lives of the city from the bones of the dead*, as part of the TEDx programme presented at the Courtauld Institute of Art, Somerset House; symposia on infectious diseases and violence; migrants and the media; Close to the Bone, three evening events over the year, with the evening in two parts, having a session relating to the research on the archaeological skeletal collections and a Forensic Outreach Team; Learning Landscape and a session entitled Growth and Decay based at Kensal Green cemetery, to join other presenters talking and thinking about "our identity and well being is intrinsically linked to the socio-geographic context of our lives." And the pleasure again of being part of the London Month of the Dead with behind the scenes tour at the rotunda in the Museum of London and the crypt of St Bride's Church, Fleet Street.

I was very fortunate to be able to attend the PPA and AAPA conferences in New Orleans and have the opportunity to explore the fascinating city with so many wonderful things to see, including some of its amazing cemeteries. I was kindly invited to participate in the symposium session for the AAPA conference *Skeletal Standards: Documentation Software, Databases and On Line Digitization Resources Available to Researchers*. It was a very interesting session hearing and learning about the variety of different data collection systems and methods with us all considering how the vast amount of data information already collected & collated could potentially be more uniformly shared. In September I had the pleasure of attending the very well organised BBAO conference in Liverpool at the Liverpool John Moores University. There was a very good range of podium and poster presentations covering a broad spectrum of research in a variety of fields. With work by Gaynor Western and me continuing on the Impact

Project funded by the City of London Archaeological Trust (CoLAT) we were able to present a poster - Radiographic revelations: Is that a blade in your back? on an intriguing and unexpected finding from the radiographic analysis of a male individual from one of the London sites. The annual dinner in the crypt of the cathedral was great fun and magical with the magicians.

The Impact Project work continues but we have now completed the radiography of the London collections and those from outside of London, with the course of accomplishing this finding me staying in some rather interesting hotels! Our thanks to all of the people who generously enabled access to collections for us to radiograph as part of the project and for data to be able to include in the overall analysis, it is very much appreciated. Thanks also to the Reveal Imaging Ltd team who provided the means for radiographing all of the skeletal material with the portable radiography kit. Gaynor Western and David Allan, a retired radiologist, have valiantly gone through and analysed all of the radiographs (over 6,000). Gaynor has also been researching the different sites, documentary research and data collection as well as creating the super 3D models using the Agisoft programme which can be viewed on the platform Sketchfab. The project also has a social media forum with Twitter and Facebook. We continue working on the project collecting and collating the data generated and will begin writing up over the course of next year.

Working as part of the Human Remains Subject Specialist Network Group (HRSSN) with Dr Margaret Clegg and Stefanie Vincent we have been able so far to organise two workshops at Bristol (MShed) and Manchester University, with funding from an Arts Council grant to cover the costs for them and a series of others next year. These have been formulated and put together in order to be able to provide information to assist individuals from smaller museums and institutions who are not specialists in working with skeletal remains but find themselves often needing to look after them within

collections. The two workshops have so far proved to be successful with those attending finding the information useful and helpful. I look forward to participating in the other workshops and study days being planned for next year. One of the other outcomes from the grant will be in developing the HRSSN website so that information can be readily accessed and shared.

The CHB volunteers have again been stalwarts in all of the hard work they continue to do for the Centre and we very much appreciate all that they do. Veronica continues to record and analyse skeletal material on to the database which helps us greatly in the continuance of adding to the archive; Amy has been kind and come in to help with some taxing tasks in the rotunda in between her doing long shifts at her work; Stuart is great at carrying out the gargantuan task of working through the boxes from the different sites to be able to mark the bones with the identifying sitecode and context number; David continues to assist not only with the Impact Project but also with the analysis of the other digital radiographs that the CHB has in its archive, which will help in making them more accessible in the future for researchers. The volunteers were also very generous in the time spent with the two groups of work experience students we had with us in the CHB in the summer in July and again in November. The students all thoroughly enjoyed the time they spent in the CHB, the glorious rotunda and with the skeletons, with a number of them hoping to go on when they leave school to continue studies at university in the field of archaeology and bioarchaeology.

Work for the new museum has increased in pace this year with the formulation of a number of working groups and committees for the process of planning and structuring the contents and galleries for the museum when it moves to its new location at Smithfield. At the present time while all of this work is still ongoing and will increase in intensity over the ensuing months the skeletal collections are we afraid at the moment still not able currently to be accessed for external research. Should we

find that this situation was to change in any way we would of course relay such information through the BBAO website.

The CHB has had a very interesting year with the opportunity to participate in lots of different and exciting events, particularly the three touring exhibitions for Skeletons: Our Buried Bones which has enabled us to meet and work with lots of lovely new colleagues and to have the great pleasure of working again with Emily Sargent and Rachel Sturgis from Wellcome. We look forward in 2018 to working with colleagues old and new, assisting researchers with access to the database and being able to participate in more thought provoking events.

Museums of the Royal College of Surgeons of England

Carina Phillips

The temporary closure of both the Hunterian Museum and the Wellcome Museum of Anatomy and Pathology took place in 2017. The museums are expected to reopen in 2021 following redevelopment of the College buildings. Due to the redevelopment, all the museum collections which were previously displayed and stored on site had to be packed and moved into storage. Safely packing and moving the 70,000 specimens and objects, and thousands of microscope slides was a mammoth task and unfortunately put a stop to research access during 2017.

The collections have now all been moved, many to offsite storage and the museums team have been unpacking, auditing and setting up the new storage areas. We are continuing to run a curatorial enquires service and are in the process of establishing access to the collections for researchers. If you would like to explore our collections, they can be searched via our online catalogue SurgiCat: <http://surgicat.rcseng.ac.uk>. Please be aware that this does not include HTA listed material. You can contact us via email: museums@rcseng.ac.uk if you do have an HTA specific enquiry or wish to discuss research access to any of the collections.

EXCAVATION AND ANALYSIS OF HUMAN REMAINS IN 2017

Allen Archaeology Ltd

Natasha Powers

Excavation and Contract Work:

College Farm, Bletchingdon, Oxfordshire, BLCF17

An excavation was undertaken as a condition of planning consent for construction of six poultry units. The proposed development lies within a known landscape of later prehistoric (Iron Age) and Roman features with an extensive cropmark complex c.1km to the south of the site. The archaeological excavation revealed the remains of three cremation burials, all of which had been heavily truncated by agricultural activity and one of which was contained within an urn. Post-excavation analysis is currently ongoing.

Fair View Farm, Yelling, Cambridgeshire, ELVF17

A commercial development was proposed and preliminary discussions with Cambridgeshire County Council Historic Environment Team in November 2016 indicated that two of the proposed buildings would overlie substantial remains of Iron Age date, identified during trial trench evaluation work, carried out by Allen Archaeology. As such it was recommended that the site was subject to archaeological excavation. The work took place in two areas. In the first area the archaeology was dominated by a large enclosure and a series of ring ditches, all provisionally dated as Iron Age. There was evidence of possible hearths and of animal pens. In the second area three distinct periods of activity were seen: a large Iron Age enclosure and associated structure and two later field systems. The enclosure had been remodelled and enlarged over time. The partially complete remains of a neonate were found within the fill of a boundary ditch that possibly formed an internal partition within the enclosure. Post-excavation analysis is currently ongoing.

*St Georges' Church, Brentford, London
Borough of Hounslow, HHS14*

St. George's is a 19th century parish church that was built to replace the late 18th century St. George's Chapel and its associated cemetery. Plans to redevelop the church for residential use, impacted upon the early cemetery and resulted in a scheme of archaeological works carried out by Allen Archaeology Ltd. Following an archaeological evaluation, carried out in October 2014, and excavation and archaeological monitoring in 2015 and 2016, archaeological monitoring commenced in 2017 on intermittent landscaping and drainage works. All archaeological work on site has now been completed and has resulted in the recovery of a sample of 599 individuals. Following completion of an updated assessment and project design for the additional burials, analytical work has commenced and is anticipated to be completed in the summer of 2018.

*Sarah Swift building, University of Lincoln,
LIBE 15*

Allen Archaeology Limited was commissioned by the University of Lincoln to undertake a scheme of archaeological works at the Sarah Swift Building, Brayford East, Lincoln, including excavation followed by archaeological monitoring. During monitoring works significant archaeological remains were encountered, leading to a second excavation area being opened in the southern part of the site.

The earliest activity encountered dated to the mid to late 2nd century AD, during the time of the Roman *colonia*, and related to the reclamation and consolidation on the eastern bank of the River Witham. A group of Roman burials represent a previously unknown cemetery. The remains date predominantly from the mid-3rd to the 4th centuries AD, with a fragment of disarticulated bone from a deposited dated to the mid to late 2nd century AD. Burial 2017 was that of a fairly robust, middle aged probable male and radiocarbon dating established that he had died sometime between AD325 and AD420. Cremated bone from burial 2028 was found within a

greyware urn and was dated to AD80–240 (95% probability) showing that this cemetery was used for some considerable time. The inhumed assemblage varied greatly in completeness reflecting the nature of the site, with longevity of use and reworking of the deposits over time.

The articulated assemblage represented a minimum of one pre-term foetus, six neonates, one infant aged 1–2 years at death, a 9–11 year old juvenile and middle-aged probable male who had died aged 36–45 years. The burnt bone represents the remains of a further adult. The adult had been buried in a prone position, whilst the infant had been decapitated. One of the neonates was buried beneath a *tegula* and the neonatal graves appeared to be clustered. A possible family grave was also noted. The adult male had suffered from osteochondritis dissecans, age-related joint disease and from dental disease, whilst the 9–11 year old subadult had a transitional dentition with an unusually large number of retained deciduous teeth and had suffered from cribra orbitalia. They also had indications of a non-specific infection affecting the distal right femur. The 1–2 year old infant had skeletal changes consistent with a possible diagnosis of rickets. An unburnt caudal vertebra from a small mammal (possibly a lagomorph) was found within the cremation burial which was that of an adult who had suffered from dental caries.

The Lawn, Lincoln, LITL16

During monitoring of groundworks at The Lawn, Lincoln a group of disarticulated human bone was recovered from the fill of a disturbed pit. Although clearly redeposited by post-medieval gardening and landscaping, the bone was thought to be broadly medieval in date and two samples were selected for radiocarbon dating. This established that the individuals from whom the bone originated, were most likely to have died in the early 14th century.

Elements from all areas of the body were present and a minimum of three adults and a subadult were represented, including at least one male aged 45–49 years and one female

aged 30–34 years. There was evidence of infectious disease (tibial periostitis) and a number of elements had been broken or damaged in antiquity. Of most significance was considerable evidence of peri-mortem sharp force trauma, seen on seven separate post-cranial elements, several of which are thought, based on taphonomic evidence, to originate from the same individual. The burials may have been disturbed from the margins of an adjacent parish cemetery that was partially excavated in the 1980s, when a mass burial was found, containing adult males one of whom had a sharp force injury (Boylston and Roberts 1995). It is possible that these deaths were the result of civil unrest resulting from the social instability brought about by the internal conflicts and food shortages of this period.

Boylston A, and Roberts C, 1995, Lincoln Excavations 1972-1987. Report on the Human Skeletal Remains, Calvin Wells Laboratory (for CLAU)

St. Peter's Church, Norton Disney, NDSPI7

A 'priestly' burial was uncovered during archaeological monitoring of draining works on behalf of Prospect Archaeology. The human remains were retained on site for immediate reburial (in line with the requirements of the faculty). A pewter chalice and paten were retained and will undergo further examination by Prospect Archaeology. AAL grey literature is uploaded to the ADS and can be found at www.archaeologydataservice.ac.uk/archives/view/greylit/browse.cfm?unit=AllenArchaeologyLtd. You can keep up to date with our projects, vacancies and other news by following us on twitter @allenarchaeo and via our website at www.allenarchaeology.co.uk

Cotswold Archaeology

Sharon Clough

2017 has been another busy year, with working coming from our four offices. We have welcomed visiting doctoral researchers, provided work experience for individuals and dealt with numerous enquiries.

Highlights-

Sharon completed the post-excavation assessment of the 332 burials from the early medieval cemetery at *Hinkley Point C, Somerset*. She presented the preliminary results at BABA0 conference 2017. Further work will continue during 2018.

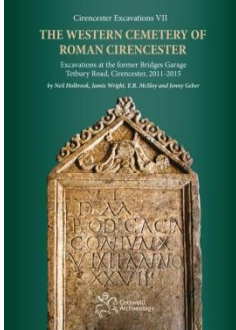
Anglo-Norman execution cemetery from Weyhill, Andover, Hampshire. The Client has now given permission to make public information about this very exciting assemblage. We have excavated 124 individuals dating (C14) between 9th-14th century. These are part of an execution cemetery, indicated by the 27 individuals with their hands tied behind their backs. Between 10 and 14 individuals with the neck vertebrae displaying cut marks, or the skull placed separately in the grave. Three double simultaneous burials. One individual with the hands cut off at the wrist and placed underneath the body. Two possible fractured second cervical vertebrae, as evidence for hanging. Of the identifiable adults, 90 were male and only three were confirmed females (two articulated skeletons and one cranium). The age distribution from Weyhill had a peak of incidence in the young adult (18-25) category which does not follow the 'expected' pattern and there were no young children present. Work continues to refine dating and complete the isotopic analysis. Publication is anticipated sometime 2018-9.

Publication of Monograph - *The Western Cemetery of Roman Cirencester*. Excavations at the former Bridges Garage, Tetbury Road, Cirencester, 2011-2015. By Neil Holbrook, Jamie Wright, E.R. McSloy and Jonny Geber. The Cirencester Excavations VII, Cotswold Archaeology 2017.

This cemetery comprised 118 inhumations and 8 cremation burials. The burial of a 2 to 3-year-old child contained a magnificent enamelled bronze figurine of a cockerel, dateable to the 2nd century AD. Such figurines are rare finds, with only four or five similar examples known from Britain. Also

recovered was a tombstone dedicated to a 27-year-old woman named Bodicacia .

Human Osteology by *Jonny Geber* and the full osteological catalogue is available from the website - <http://cotswoldarchaeology.co.uk/publication/the-western-cemetery-of-roman-cirencester/>



Other sites completed in 2017 – Fulwell Faulklands, Faulklands, Somerset. Two inhumations Roman period.

Oak lane, Bredon, Worcestershire. One cranium and CV1-2 recovered from Roman well. Anaerobic conditions resulted in excellent preservation.

Rugby SUE 2, Warwickshire . One cremation burial (undated) and two deposits of human cranium in Iron age feature.

Sandy Lane, Northampton. One cremation burial, prehistoric.

Dunsmore farm, A1, Watling Street. Human remains rescued from un-monitored pipe trench at the side of Watling St. MNI=6. Probably from inhumation burials. One bone radiocarbon dated to the 8th century AD.

Mill Straight, Southwater, Horsham. Probably Bronze Age single cremation burial.

The Mead, Whitchurch, Bath and North-East Somerset. Four inhumations from the Roman period.

Trevithick, Cornwall. One cremation burial, prehistoric.

Creacombe, Devon. One cremation burial, probably Bronze Age

Stadhampton, Oxfordshire. One cremation burial, probably Roman period.

Tregunnel, Newquay, Cornwall. Five burials were each recovered from sub-circular pits dated to the Early Iron Age. One cranial fragment from a feature. One from a sub-rectangular grave dated to the Roman period. Four cremation burials, one dated to the Middle Bronze age.

Saxon Rise 2, Brixworth, Northamptonshire. One Middle Iron Age burial. One 2nd century Roman cremation burial.

Lower Road, Aylesbury. One Middle Bronze Age cremation burial.

Preston Mill barn, Cirencester, Gloucestershire. Three cremation burials Bronze Age.

Post Farm, Thornbury, South Gloucestershire. Post-ex assessment 15 inhumations and two cremation burials. Provisional dating Roman period. One was a double burial of an adult and child, the adult had been decapitated and the child laid prone over the legs. Two burials laid prone are described as having Iron nails placed in the mouths.

Eden Street, Kingston-Upon-Thames, Surrey. Quaker burial ground. This was the later burial ground where the Friends' moved to after the one on London road excavated by Bashford and Sibun (2006) closed in 1814. Burial in the 'new' ground continued until the 1950s. The burial ground was 'cleared' by an exhumation company (pre-planning) before the site was sold for development. Several burials were 'missed' and some were thought to date to the early phase of burial starting in 1813-1830 (before those named on the 1948 plan). Four burials were recovered archaeologically, with several more removed by the exhumation company as they were still sealed in lead coffins or thought to date to less than 100 years. Using documentary evidence it was possible to narrow the identification of the adults to a list and the child burial was

probably (as the only child on the list), William London, who died in 1818 aged 7 years.

One adult female had multiple lytic lesions and an adult male had rib periostitis. All the human remains have been re-interred in Surbiton cemetery in accordance with the requirements of the Licence. Coffin furniture was also recovered and recorded.

GlosCAT Block M – Continuation of the large Roman cemetery in Gloucester of which two sites have already been investigated archaeologically (Media Studies c 152 inhumations, 4 cremation burials and Greyfriars) and referred to as the ‘Barton cemetery’. A further 47 individuals have so far been recovered (more expected with further work in 2018). Initial analysis of the remains demonstrates a mixed age and sex cemetery. One individual was recovered from a well (one individual found in well on the Media studies site also) and there were also prone burials.

Cotswold Archaeology deposit all their grey literature reports with Archaeology Data Service and in their own online library <http://reports.cotswoldarchaeology.co.uk/> Follow our updates on twitter @cotswoldarch or Facebook page CotswoldArchaeology

**Oxford Archaeology
Heritage Burial Services**
Compiled by Helen Webb

Team

Oxford Archaeology South

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Oxford Archaeology East

Natasha Dodwell (Osteoarchaeologist and Head of Finds and Environmental), Zoe Ui Choileain (Osteoarchaeologist and Finds Assistant)

Oxford Archaeology North

Stephen Rowland (Archaeology Project Manager)

Fieldwork

Cambridgeshire:

Land west of Lynn Road, Ely

Twenty-eight Anglo-Saxon skeletons were identified in excavations on the outskirts of Ely. Interestingly, the majority (n= 21) were spread over an area approximately 150m *within* the parallel ditches which marked an earlier Roman trackway. This was in addition to a smaller discrete group (n=7), on a different alignment and possibly slightly later in date, on the edge of the trackway, bounded by a Roman enclosure and four cremation burials. Of the latter, one has been dated to the Late Bronze Age and the remainder need radiocarbon dating.

A multiple burial from the Early-Roman period was recorded from an earlier phase of this excavation and comprised the remains of five individuals.

Witchford Field's End, Ely

A large Middle Bronze Age cemetery comprising thirty-two unurned cremation burials and four contemporary inhumations was excavated at Witchford Fields End, Ely. This was in addition to five unurned cremation burials and one inhumation dating to the Late Bronze Age. The inhumation was of a young pregnant woman whose grave was surrounded by a small rectangular structure.

Northamptonshire:

East Kettering

A small group of eight Middle Bronze Age cremations were recorded during excavations along the East Kettering pipeline. Workmen laying sewage pipes uncovered a double inhumation which resulted in the police and forensic archaeologists being called to the scene. Once a Roman date had been established (the pot was a clue), the archaeologists finished excavating and recording the grave. The skeletons - one female and one ?female - were prone and the female had an unhealed blade injury on her frontal bone.

Oxfordshire:

Hook Norton

Excavations at Hook Norton have revealed a Late Iron Age to Late Romano-British landscape comprising trackways, a corn drier and numerous burials. The fieldwork is still under way but at least two unurned cremation deposits and four inhumations have been excavated so far. The four inhumations include an infant at the base of a deep pit and three adult burials of which two were prone and one was decapitated, the head having been placed by the feet. Excavations are due to be completed in January, with post-excavation analysis to follow.

A number of cremations and an inhumation have been revealed at Slade End Farm, where the fieldwork is due to continue until February next year. Burials excavated so far include, three probable Middle Bronze Age unurned cremation deposits, one of which was from a large pit with evidence for *in situ* burning, and a crouched burial, possibly Early Iron Age, from a partially infilled pit. Preliminary observations suggest that the inhumed individual was an older juvenile with possible perimortem cranial trauma. More cremation burials are expected as site stripping continues. A formal assessment of the human remains is due to take place following the end of fieldwork.

Winterbrook, Wallingford Slade End Farm, Wallingford

At Winterbrook, Wallingford, ten inhumation burials were revealed, extending along the length of a boundary ditch, which shared a similar alignment to a Bronze Age or Early Iron Age enclosure. The burials contained no grave goods and only produced two tiny fragments of possible Iron Age or Anglo-Saxon pottery. Some of the skeletons were in poor condition, but those that were better preserved displayed a range of burial positions, including crouched, prone and lying on their side. Some appeared to have had their hands and legs bound, with the position of one skeleton consistent with the individual having been buried in a bag or sack. The lack of grave goods, combined with the location,

nature and position of the burials, may indicate that this was a small deviant or execution cemetery. The date of the burials is currently uncertain, but radiocarbon dating is planned.

Nottinghamshire:

Newark

A total of 13 urned and 26 unurned cremation deposits were excavated during a large-scale excavation at Land West of Bowbridge Lane, Newark. The deposits, all thought to be Bronze Age in date, were recovered from pits, postholes and ditches that were situated within or around a large circular ditched enclosure, interpreted as a hengiform monument. All of the urned deposits underwent laboratory excavation, with one, an intact inverted bucket urn, having undergone CT scanning prior to excavation. The scan, which revealed a large void at the top (actually the base) of the urn, allowed for an informed excavation strategy to be devised. Post-excavation assessment of the remains is currently under way but preliminary observations suggest that all but one of the urned deposits are juveniles and all of the unurned deposits are adults.

Somerset:

Bridgwater Gateway

Fieldwork at Bridgwater Gateway has recently been completed, where a small, Bronze Age barrow ring ditch was revealed. This was surrounded by up to 60 small pit features containing burnt material, initially interpreted as a cemetery, although burnt human bone was present in only two of the features (one urned deposit, one unurned deposit). Preservation of unburnt bone on the site was notably poor, with the existence of Roman inhumation burials suggested by the presence of hobnails alone. Interpretation of the site will be investigated further, not least through environmental processing of all the pit fills.

As well as the above sites, individual or small numbers of burials were found at the following sites:

- *Hinckley West, Leicester* (1 inhumation, 1 cremation deposit, Romano-British)
- *Alconbury Airfield, Cambs* (6 urned Middle Bronze Age cremation burials)
- *Hazel End, Herts* (5 urned Early Bronze Age cremation burials, one of which was a large inverted collared urn with unusual horseshoe decoration)
- *Great Chesterford, Essex* (6 Romano-British cremation burials with ancillary vessels and a contemporary neonate burial)
- *Fordham, Cambs* (a late Iron age/early Roman crouched burial, close to a known villa site)
- *Oxford Flood Alleviation Scheme* (1 unurned cremation burial, undated)
- *Mark Rake, Bromborough, Wirral* (1 possible Bronze Age cremation deposit)

Post-excavation analysis/reports

Cambridgeshire:

Hatherdene Close, Cherry Hinton

The post excavation assessment of the richly furnished Anglo-Saxon cemetery excavated at Hatherdene Close, Cambridge (n=129) was completed. There were a variety of burial types including multiple and stacked burials and graves surrounded by small enclosures which were probably once covered by mounds. Dental and joint disease were the most commonly observed pathologies with instances of metabolic and infectious disease and fractures also recorded. A small number of Romano-British cremation burials and inhumations was also recorded, as well as a crouched Bronze Age inhumation suggesting continued use of this landscape for funerary activity. Full osteological analysis of the material will take place in early 2018.

Tooth and bone samples have been taken for aDNA analysis by researchers at UCLAN (Dr Duncan Sayer) and the Max Planck Institute, Jena, Germany (Dr Stephan Schiffels) which will be studied alongside samples selected from the nearby contemporary cemeteries at

Ely, Oakington, Hinxton and Linton. This project aims to explore the question of Anglo Saxon migration and also the genetic evidence for pathogens in multiple occupancy burials. Alison Card, from UCLAN has also used this assemblage for her research on familial relationships using dental metrics.

It is hoped that the skeletons from this site will also contribute to the multi-disciplinary research project 'After the Plague: Health and History in Medieval Cambridge' led by Dr John Robb at University of Cambridge and funded by the Wellcome Trust.

There is dialogue between all research projects and ourselves to minimise skeletal destruction and avoid unnecessary duplication of tests.

Kent:

Peugeot Garage, Canterbury

Analysis of c. 200 Roman skeletons from the Peugeot Garage site in Canterbury, Kent is ongoing. So far, the assemblage appears to be a mixture of adults and juveniles, males and females, and the expected range and type of pathological conditions typically seen in a Roman period urban cemetery assemblage has been observed. Systematic isotope and aDNA sampling has been undertaken on 10% of the assemblage, to investigate geographic origin, diet, ancestry, kinship and juvenile sex. This analysis will commence in the new year.

Oxfordshire:

Radcliffe Infirmary, Oxford

Analysis of the c.400 post-medieval skeletons from the old Radcliffe Infirmary burial ground is now complete and the report is well under way. Some of the main osteological observations include a notable lack of young children and babies, a far higher proportion of adult males than females, and high rates of inflammation and trauma. A wide range of medical interventions, both surgical and post-mortem procedures, was also observed, including an early, and possibly archaeologically unique, example of a sacrectomy. The report is due to be published next year.

Somerset:

Aller Court Solar Farm

Analysis of three discrete cremation burials from Aller Court Solar Farm, Somerset is now complete. The three unurned burials were located within the centre of a square enclosure, and were positioned in a straight line, oriented from north west to south east. AMS samples produced closely matching calibrated results, indicating that all three burials date to the early Bronze Age and are likely to represent contemporary primary internments made in the centre of the mortuary enclosure. A minimum of three adult individuals were represented. Two of these were possibly female. Burial form was not consistent with contemporary burial types in the Somerset region. Hence, the Aller Court cremation burials may represent a new example of regional burial variation in early Bronze Age Somerset. This assemblage is pending publication in the Somerset Archaeology and Natural History Society proceedings.

Hadspen Villa

Analysis and reporting of two neonate skeletons from the latest phase of fieldwork carried out at Hadspen Villa, Somerset, was undertaken in August. One of the Neonates was located in a shallow grave, cut immediately adjacent to a structure, whilst the other was recovered from the charcoal-rich upper fill of a small pit, cut through the clay bedding layer of a disused furnace. In addition to the neonates, a disarticulated cranial vault fragment (adult) was found in a bedding layer for the villa floor surface. The remains were unremarkable in terms of pathology.

Yorkshire Wolds:

Melton Quarry

Analysis of six articulated skeletons recovered from Melton Quarry is now complete. Included was a mature adult female, dating to the Beaker period, who had been buried in a shallow grave. Unusually, she had been buried with three of her own front teeth held in her hand. She also exhibited atypical dental wear, with activity related modifications (grooves) on her tooth surfaces. She was the only skeleton in the assemblage with an isotopic signature

suggesting she may have grown up in the north-west of Britain, rather than locally (isotopic analysis undertaken by Mandy Jay and Janet Montgomery, Durham University). A further grave, containing the partial remains of an adult male and an infant, had been cut into cairn material covering the primary inhumation. The adult dated to the Bronze Age, whilst the child dated to the Beaker period, suggesting that their bones had been disturbed and redeposited with the later burial. DNA analysis undertaken by Harvard University as part of a study of prehistoric British population genetics found that the male skeleton carried a genetic marker which originated in the Eurasian Steppes. As is often found with British Beaker-period graves, the DNA suggests that a proportion of the population did indeed have continental origins. Scientific dating and analysis of the burials, pit groups and posthole structures at Melton Quarry demonstrates that over the course of the Neolithic and Bronze Age periods, people repeatedly visited this distinctive scarp, overlooking the Humber estuary on the southern edge of the Wolds. The results of this investigation will be an important addition to understanding prehistoric occupation and land-use in the region.

Selection of Publications

Brady, K, Hayden, C, and Early, R, 2017 A Bronze-Age Field System and Enclosure and Bronze-Age and Roman Burials at Monks Farm, Grove, *Oxoniensia* 82, 201-261

Hey, G, Bell, C, Dennis, C, and Robinson, M, *Yarnton. Neolithic and Bronze Age Settlement and Landscape*, Thames Valley Landscapes Monograph 39, Oxford Archaeology

Loe, L, Brady, K, Brown, L, Gibson, M, and Smith, K, 2017 *Living and Dying in Southwark 1587-1831. Excavations at Cure's College Burial Ground, Park Street*, Thameslink Monograph Series No. 3, OAPCA

Teaching/outreach

Oxford University, Introduction to Osteoarchaeology

In November, Heritage Burial Services delivered a half-day workshop in osteoarchaeology, to undergraduates and Masters students with an interest in human osteology or related areas. The workshop, which was designed to give a broad introduction to the analysis of human skeletons from archaeological contexts, involved a practical handling session focussing on the skills and techniques of skeletal analysis. This included identification and siding of bones; estimation of sex, age and stature; human variation and evidence for trauma and pathology.

Oxford Brookes University teaching

Following the success of last year's teaching, Heritage Burial Services delivered the undergraduate module on *Human Osteology and Palaeopathology*, during the Autumn semester.

St Mary the Virgin Church, Cropredy – osteological analysis

Back in March we were commissioned by St Mary the Virgin Church, Cropredy, to undertake the osteological analysis of 15 medieval to post-medieval skeletons excavated from the church burial ground. The osteological analysis was carried out as an outreach event for local volunteers who had worked on the excavation, which was part of a Heritage Lottery Funded project. Analysis of the skeletons took place within the church, with the techniques and methods of osteological analysis, as well as the osteological findings, being explained and discussed with the volunteers during the course of the work.

Hidden Lives - Wellcome Trust Sanger Institute, Cambridge

Hidden Lives is an exhibition, held at the Wellcome Trust Sanger Institute which features 25 years of excavations by Oxford Archaeology East at the Hinxton research campus.

In 2015, scientists from the Wellcome Genome Campus sequenced the genomes of five of the skeletons excavated at the campus, along with five other skeletons from nearby OA East sites in Linton and Oakington in Cambridgeshire. The results were published in *Nature Communications* (see: <https://www.nature.com/articles/ncomms10408>). The exhibition displays some of these individuals, alongside artefacts from the Palaeolithic to the Anglo-Saxon period.

Further information on our projects can be found at:

<https://www.facebook.com/oxfordarchaeology/>
<http://oxfordarchaeology.com/@oatweet>

Wessex Archaeology

Emma Robertson

Burial Archaeology Team

Jacqueline McKinley (JMCK): Principle Osteoarchaeologist
Kirsten Egging Dinwiddy (KED): Senior Osteoarchaeologist
Emma Robertson: Trainee Osteoarchaeologist

Website: <http://www.wessexarch.co.uk>

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Introduction

It has been another busy year for the Burial Archaeology team at Wessex Archaeology, with a good amount of assessment, analysis and publishing of some of their longer-term projects. Excavations of sites across the country have revealed mortuary-related features, dating from the Mesolithic to the medieval.

Trainee Osteoarchaeologist Emma Robertson was welcomed onto the team in the Autumn, ready and enthusiastic to begin training under the tutelage of Jacqueline and Kirsten in both the excavation and post-excavation aspects of the role.

The following summary excludes several projects currently subject to client confidentiality.

Excavations

'Operation Beowulf' Barrow Clump, Figheldean, Wiltshire

<http://www.wessexarch.co.uk/blogs/news/2017/12/13/back-to-barrow-clump>

This year saw the return of *Breaking Ground Heritage* and *Operation Nightingale* (community groups enabling injured service personnel to participate in archaeology) to the heavily badger-disturbed Beaker monument with a later Early Bronze Age barrow and Anglo-Saxons cemetery. The investigation revealed five graves containing the remains of two adults and three immature individuals accompanied by a variety of grave goods. A quantity of disarticulated bone disturbed by badger activity was also collected.

Larkhill ABP works 2002/3 (109516) and Larkhill East and West SFA, Wiltshire (113931)

<http://www.wessexarch.co.uk/projects/larkhill>
<http://www.wessexarch.co.uk/projects/location/wiltshire/inhumation-3d-model>

<http://www.wessexarch.co.uk/blogs/news/2017/10/18/new-discoveries-larkhill-camp>

Excavations at Larkhill, as part of the ongoing works for the Army Basing Programme (see 2016 review), have revealed an Early Neolithic causewayed enclosure, several prehistoric inhumation burials (including Beaker), a Middle Bronze Age cremation cemetery and extensive features relating to military activity.

The three prehistoric burials, found on the Larkhill Camp itself, comprise those of an infant, of about 3 years of age, a male of around 15–17 years and an adult female aged between 35 and 50 years. The infant burial had been made in a grave cut through the lower fill of an existing ditch. The female had been buried in flexed position and was found to have degenerative spinal lesions. The male was buried in a prone position with his legs bent up behind him, his feet were resting up against the side of the grave some way above the level of his head (see link to 3D model

above), and judging by the canid gnawing on the remaining foot bones, these would probably have been relatively close to the surface. Work is ongoing.

Sherford New Community, Plymouth, Devon (107560) (JMCK)

<http://www.wessexarch.co.uk/projects/sherford/early-prehist>

<http://www.wessexarch.co.uk/projects/sherford/romans>

Continuing excavations ahead of development works (2016) have revealed further features relating to the prehistoric and Romano-British landscape. These include probable Early Bronze Age cremation burials (urned and unurned) and a small group of Romano-British inhumation graves. Assessment is ongoing.

Assessments and analysis

Bell Farm, Harrietsham, Kent (113381) (JMCK)

The remains of a Bronze Age unurned cremation burial including redeposited pyre debris was assessed. The bone represents the remains of a subadult/adult. No pathological lesions or pyre goods were observed.

Cheeseman's Green, Ashford, Kent (77711/12) (JMCK)

Ongoing analysis has determined that the material represents a minimum of nine cremated individuals from five urned, four unurned and two possible unurned burials. An exceptionally rare example of a Late Mesolithic unurned burial, a Early Bronze Age urned burial, two unurned Middle Iron Age, five Late Iron Age/Early Romano-British (two unurned, three urned) and one urned Early Romano-British burial, dated by artefactual or radiocarbon dating, or a combination thereof.

A minimum of 11 individuals, including six mature adult females and one subadult/adult are represented across the assemblage. Pathological conditions include enthesophytes and osteoarthritis; cranial hypervascularity relating to scalp irritation was identified in the Late Mesolithic remains.

Small quantities of probable cremated animal bone were recovered from three of the burials from across the temporal range. Staining indicates the presence of copper-alloy object(s) located on fragments from four of the Late Iron Age/Romano-British deposits. Work is ongoing.

Crowdhill Green, Hampshire (87713) (JMCK)
Analysis commenced on the remains of the two Middle Bronze Age urned cremation burials and a probable urned ‘cenotaph’ deposit, containing the remains of a minimum of three individuals. One individual had tibial periosteal new bone, and whilst no object was recovered, staining on a fragment of femur indicates the presence of a copper alloy pyre good that was not included in the burial. Evidence relating to formation processes indicates that the bone found in the cenotaph deposit and in one of the burials had been collected in a bag prior to placement within the vessels.

East Chisenbury Midden, Wiltshire (70241) (KED)
<http://www.wessexarch.co.uk/reports/70241/east-chisenbury-midden-salisbury-plain>
<http://www.wessexarch.co.uk/blogs/news/2017/04/12/new-discoveries-chisenbury-midden>

Further deposits of human bone were recovered from this feasting mound site, situated in the Salisbury Plain Training Area. Most had been found amongst deposits of animal bone. The assemblage comprises at least two adults (one female), a juvenile and a possible infant/juvenile. Cranial trauma, post-mortem manipulation, weathering, canid gnawing, and possible curation are in evidence.

Hinton Fields, Kings Worthy, Hampshire (106870-1; AY 569) (KED)
A Middle Bronze Age date has been returned for the unaccompanied crouched inhumation burial of an infant around 3–4 years of age, found with a few fragments of disarticulated bone from a neonate/infant (birth–1 yr.) (see 2016 review).

Houghton Regis, Bedfordshire (110920) (JMCK)

A single urned cremation burial was recovered from a Late Iron Age – early Romano-British context, located on the south-east edge of the what appears to be a small farmstead. Analysis determined that the cremated bone derived from a young adult possible female (c. 20–30yr). A small charred fragment of a pig’s tooth was recovered from the grave. The level of burning is suggestive of nearby feasting rather than a pyre offering. The distribution of cremated bone suggests the burial was placed within a textile container, perhaps fastened by the unburnt iron brooch found alongside.

King’s Gate, Amesbury Down, Wiltshire (85685) (JMCK)

The bone from three inhumation burials (two adult females and a subadult male) and the urned cremated remains of another subadult male were assessed. The urn and a faience bead from one of the inhumation burials indicate a Middle Bronze Age; confirmation via radiocarbon dating has been sought. Cremated medium/large mammal bone fragments were found amongst the deposit within the urn.

Land adjacent to Dean’s Close, Tidworth, Wiltshire (111520) (KED)

<http://www.wessexarch.co.uk/projects/tidworth/anglo-saxon-cemetery>

Assessment of the assemblage from the Army Basing Programme related site (see above) discussed in the previous review, determined that a minimum of 56 adult and immature Mid Anglo-Saxon individuals are represented. Pathological lesions include dental and joint diseases; several had also suffered childhood physiological stresses. Multiple injury sites suggest that two of the adult males had participated in one or more violent interactions.

Rattle Road, Stone Cross, East Sussex (113030/113031) (JMCK)

The last of the block-lifted urns were micro-excavated in the laboratory at the beginning 2017. The assemblage represents the remains of an Early Bronze Age urned cremated burial

and at least 68, but no more than 85, probably Early Saxon urned and unurned cremation burials; six examples may have included a combination thereof. Two deposits contain the remains of a subadult/adult and an immature individual. Just over half of the individuals were adult (males and females) and much of the remainder were assigned to the subadult/adult category; a smaller proportion were clearly immature. The few pathological lesions identified include enthesophytes and periosteal new bone. Pyre goods were recovered from 23 of the burials, and bone from four further deposits exhibited staining suggesting the presence of copper-alloy objects not included in the burial.

RNAS Yeovilton Contract 2 Excavation (86162) (KED)

Two coffined late Romano-British inhumation burial remains comprise a large adult male (30 – 45 yr.) and a possible male of at least 30 years of age. One had suffered health/nutritional stress during childhood and the effects of poor oral hygiene in adulthood. Both had led physically active lives.

The Vale crematorium, Pershore, Worcestershire (114416) (JMCK)

A probable Bronze Age undisturbed crouched inhumation of an elderly adult female was found in the earliest fill of a ring-ditch. Extreme dental wear and tooth loss imply a coarse diet and advanced age, whilst enthesophytes indicate strong leg musculature. A copper alloy object was found next to the woman's skull.

Whitemoor Haye, Staffordshire (BA 1433 & P3114) (JMCK)

Analysis identified the remains of at least 37 individuals (both sexes, various ages) amongst the cremated bone from 20 Middle Bronze Age burials, predominantly related to a pond barrow. The burials comprise seven urned, 13 unurned, and a further 16 probable unurned examples, including a dual adult burial which may have included curated material. Just under a fifth of the graves contained cremated animal bone (medium mammal). Pathological lesions, observed on

ten predominantly older adults, included periodontal and joint disease.

Stray finds

Single skeletal elements and fragments from the following sites have also been examined:

Bishophill Junior, York, North Yorkshire (107774; YORYM:2017.408) (KED)

Church Lane, Carhampton, West Somerset (TTNCM 13/2017) (115570) (KED)

Old Coach House, Winchester (115710) (KED)

Technology and training

We have been trialling the photogrammetric recording of burial remains in the field this year, and have trained a large contingent of the fieldwork team in the process, which allows the production of accurate 3D models and plans. The simplicity, efficiency and effectiveness of the technique have been welcomed across the departments.

Jacqueline and Emma recently attended a course on standardising the recording of enthesophytes at the University of Sheffield.

Outreach

As in previous years, the Burial Team have been involved in various forms of outreach. We welcomed work experience students, staff (and their families), clients and volunteers to observe, discuss and where appropriate interact with the archaeological material.

In October Kirsten talked to the *Box Archaeological and Natural History Society* about the excavations at Holy Trinity Church, Bradford on Avon (see 2016 review). Jacqueline, as part of publicising the discoveries of the Army Basing Programme works, took part in a video for the Larkhill excavations, together with fellow members of the Wessex Archaeology team and in partnership with the *Directorate Children and Young People*.

<http://www.wessexarch.co.uk/blogs/news/2017/11/28/abp-video>

York Osteoarchaeology Ltd 2017

*Malin Holst, Anwen Caffell, Katie Keefe,
Sophie Newman (now at Sheffield University)
and our new colleague, Paola Ponce*

Reports on fewer than five burials are not listed. We have undertaken churchyard watching briefs and assisted several clients with cemetery excavations.

*Archaeology Warwickshire, Harbury,
Warwickshire, SN*

A total of 39 cremated bone assemblages were associated with a cluster of 32 cremation pits dating to the Mid Bronze Age. Four of the burials were urned. Two burials contained non-adults, while the remainder included adult bones.

*Archaeology Warwickshire, Salford Road,
Bidford-on-Avon, SN*

Eleven cremated bone assemblages were largely associated with hengiform pit groups and are thought to date to the Mid to Late Neolithic. These burials are representative of recurrent use of the site. One burial contained six individuals, including five adults and a child.

*CFA Archaeology, Cross Street Unitarian
Chapel, Manchester, KK*

Excavations in Central Manchester produced 241 post-medieval Unitarian skeletons. Three-quarters of the population were adults (mostly mature), with a slightly higher proportion of males than females. Most non-adults were young juveniles. Evidence for childhood stress observed in the form of enamel defects and *cribra orbitalia* was present. Chronic sinusitis, periosteal reactions (endocranially and on the tibiae), were prevalent. Antemortem fractures were frequently observed, particularly in males, in the spine and ribs. Degenerative changes were common in the spine, hip, jaw and shoulder, while osteoarthritis was uncommon. Two males had DISH and three individuals had possible metastatic cancer. Evidence for corset wear and pipe smoking was noted. Dental health was poor, with high levels of caries.

*Greenlane Archaeology, Allithwaite,
Cumbria, KK*

Twelve Bronze Age cremated bone assemblages included nine adults and three juveniles. A small number of pathological lesions were observed in a mature adult male.

*MAP Archaeological Practice, Burnby Lane,
Pocklington, AC*

A square barrow cemetery with 158 Iron Age and early medieval skeletons included less than a fifth of non-adults, most of whom were over six years old. Equal numbers of males and females and adults of all ages were present. Evidence for poor health and nutrition during childhood was seen. Periosteal reactions were observed in individuals of all ages, mostly on the legs, in one skeleton, these were potentially related to tuberculosis. Healed fractures were frequent, particularly among the males. Degenerative joint changes were prevalent.

*Phoenix Archaeology, Pode Hole Quarry,
Thornay, Cambridgeshire, KK*

Twelve Late Bronze Age cremation burials, which dated to between 1,069BC and 1,078BC ± 33 contained the remains of ten non-adults and four adults.

*Solstice Archaeology, Market Place, Masham,
North Yorkshire, SN*

Thirteen Anglo-Saxon skeletons were analysed, ten of whom were adults, mostly male. Evidence of childhood stress, common for the period was observed, as were rib fractures and trauma to the extremities of the hands and feet. Degenerative changes were common. One adolescent had extensive pathological changes suggestive of tuberculosis. Dental health was extremely poor.

*Washburn Heritage Centre, Church of St
Michael & St Lawrence, Fewston, North
Yorkshire, AC*

The rural churchyard produced 154 largely post-medieval skeletons, 21 of whom were named. Preliminary analysis was discussed in BBAO review 2011. Children made up a third of the population, mostly older juveniles and adolescents. They suffered rickets,

scurvy, anaemia, respiratory infections, endocranial inflammation tuberculosis and DEH. Equal numbers of adults of both sexes were present, most of whom were mature adults. Periosteal reactions were more common among females, including rib lesions and one female had tuberculosis. Males were more likely to have suffered injuries, particularly the torso, limbs and skull. Joint disease was particularly common, including degenerative joint changes and osteoarthritis to the spine and extra-spinal joints. Other diseases of advancing age were observed, including metastatic carcinoma and osteoporosis. Dental disease was rife and dental health worsened with age.

Archaeological Services WYAS, All Saint's Church, Bingley, SN

Thirteen skeletons dating to the post-medieval period included eight adults and five non-adults. Degenerative joint changes were common, and dental health was moderate to poor.

DEPARTMENTAL REPORTS

Biological Anthropology Research Centre School of Archaeological Sciences University of Bradford

Jo Buckberry

We are delighted to announce that Hannah Koon is currently on maternity leave after the birth of her daughter. We have just been joined by Shirley Curtis Summers, who is covering the maternity leave. Julia Beaumont is now working part-time, enjoying something wondrous called 'life' alongside academia!

Jo Buckberry, Alison Cullingford (Special Collections) and Sarah George (JB Priestley Library) are leading the project "Putting Flesh on the Bones: cataloguing and digitising the Calvin Wells Archive" which started in June. Archivist James Neill and osteologist Michelle Williams-Ward are being ably assisted by placement students Meg Howe and Sophie Whyatt. They will be joined by conservator Vanessa Torres in February – see the project report to find out more. Solange

Bohling and Jo Buckberry have reported on prehistoric remains from the RUX6 site, Udal, Uist, with Julia Beaumont and Cassandra Hall undertaking isotopic analysis of these intriguing individuals; the monograph of RUX6 is due to be published this year. Laura Castells Navarro was awarded a Media Fellowship by the British Science Association, as part of this she undertook an internship at Nature and reported from the British Science Festival.

Completed PhD Theses:

Andy Holland: Examining the taphonomic challenges to the 3D digitisation of fragmented bone (AHRC)

Ceilidh Lerwick: Identity in the Dark Age: A Biocultural Analysis of Early Medieval Scotland

Rebecca Nicholls: More than bones: an investigation of life, death and diet in later prehistoric Slovenia and Croatia (HERA / European Commission)

Clare Rainsford: Animals, Identity & Cosmology: Mortuary Practice in Early Medieval Eastern England (AHRC CDA)

Michelle Williams-Ward: Buried identities: An osteological and archaeological analysis of burial variation and identity in Anglo-Saxon Norfolk (AHRC CDA)

Ongoing PhD Research:

Solange Bohling: Physical impairment and disability in Anglo-Saxon England: An investigation into the possibility of differential mortuary treatment and disability-related care

Laura Castells Navarro: DISH everywhere: Diagnosing DISH before vertebral ankylosis and analysis of the prevalence of DISH in England and Catalonia from the Roman to the Post-Medieval (Institute for Life Sciences Research studentship, Bradford)

Branka Franicevic: Effect of dismemberment on decomposition in contrasting grave soils (part-funded University of Bradford)

Ruth O'Donoghue: "Come away, O human child!" Reconstructing the early life history of the Industrial child through carbon and nitrogen stable isotope analysis of dentine collagen (AHRC)

Marianne Robson: Modelling the long term resilience of a marginal social-ecological system: the historical ecology of Orkney and Shetland (NERC/ESRC)

Dissertations Submitted for the MSc Human Osteology and Palaeopathology, 2016/7:

Emily Claridge: An investigation into cortical bone thickness and its relationship to osteoporosis

Martyn Hathaway: Using HDR photography to improve the recording and visualisation of skeletal trauma in forensic laboratories

Catherine Jones: Investigating warrior identity in Iron Age burials from East Yorkshire: an osteoarchaeological approach

Chelsea Landon: Congenital Conditions in Medieval Britain: An investigation into the possibility of consanguinity at Stirling Castle

Paige Malewski: Under Your Skin: Reactions to Air Pollution and Vitamin C Deficiency

Charlotte McElvaney: Living off the fat of the land? A comparison of dental palaeopathology in ecclesiastical, lay and military groups of the medieval period

Elisavet Stamataki: Grave goods and diet: an isotope pilot study from Sant Esteve de Canapost

Marie Weale: A multi-disciplinary osteobiography of human skeletal remains from Rushen Abbey, Isle of Man

Karolina Werens: The link between diet and tuberculosis in the Chancay people remains from Cerro Colorado, Peru

Thomasina White: Mortality distinctive patterns: a palaeodemographic comparative of medieval England's lay and hospital populations

**Department of Archaeology and Anthropology
University of Cambridge
*Jenna Dittmar and Sarah Inskip***

The past year has been an exciting time for archaeology at the University of Cambridge. Most significantly, the Division of Archaeology merged with the Division of Biological Anthropology to form the Department of Archaeology. The integration of the two divisions has strengthened interdepartmental research collaborations. Research carried out by individuals in the department and at the McDonald Institute for Archaeological Research now primarily falls within one or more of the following research themes: Heritage, Human Behavior and Evolution, Human Landscapes, Human Palaeoecology, Material Culture and the Body, and Urban Society and the State. The merger coincided with the launch of the Archaeology Tripos (undergraduate degree), during which students cover topics ranging from archaeology to ancient Mesopotamian and Egyptian languages, biological anthropology and genetics.

The Wellcome Trust funded project entitled, 'After the Plague: Health in Medieval Cambridge', led by Professor John Robb (together with Craig Cessford, Jenna Dittmar, Susanne Hakenbeck, Sarah Inskip, Toomas Kivisild, Piers Mitchell, Bram Mulder, Tamsin O'Connell, Alice Rose, Christina Schieb and Jay Stock) is now in full swing. The team are finalising their analysis of the inmates of the Hospital of St John and have commenced in contextualizing their findings through the collection of comparative data from other medieval sites. Thus far, the integration and analysis of aDNA, radiocarbon dates, stable isotopes, bone geometrics and palaeopathology data has revealed a number of important and novel insights in to the lives of inhabitants of the

hospital. Two MPhil students completed theses on related topics; Ben Haines, who explored the genetics of Gout, and Wilder Wohns, who conducted a genome-wide comparison of ancient genomes of pre- and post-Black Death Cantabrigians from St John's Hospital Cemetery with modern British data.

Alongside her work on the 'After the Plague' project, Sarah Inskip continued her research on Medieval leprosy and pre-Islamic and Islamic burials from Jebel Qurma, Jordan. Jenna Dittmar, in addition to researching gout and other diseases present in Medieval Cambridge, furthered her research on ritualised violence in Bronze Age China. Alexandria Ion, a Marie Curie fellow, continues her research on Neolithic deathways as well as theory in (osteo)archaeological practice. Jess Beck, an incoming Marie Curie fellow, has started researching Iberian and Romanian Copper and Bronze Age communities.

Members of the Phenotypic Adaptability, Variation and Evolutions (PAVE) research group, directed by Jay Stock, has conducted much research within the themes of bioarchaeology, hominin paleobiology and human physiology (<http://www.pave.arch.cam.ac.uk>, @PaveCambridge). The members of the ERC-funded ADaPT project (Adaptation, Dispersals and Phenotype) (www.adaptproject.eu, @ADaPt_Project) completed several projects that further our understanding of the origins of human variation in the past. Research conducted by Ail Macintosh revealed that manual labour was an intensive and time-consuming component of agricultural women's labour for thousands of years after the introduction of farming in Central Europe (<http://time.com/5041744/prehistoric-women-arm-strength-bones/>). Daniel Longman's research on short-term resource allocation during activity also attracted substantial public attention (<https://www.nytimes.com/2017/10/25/well/move/the-battle-of-brains-vs-brawn.html?partner=rss&emc=rss>).

Piers Mitchell's Ancient Parasites Research Group has completed several projects this year. In October 'Parasites in the Roman Baths at Sagalassos' was covered by journalists in newspaper articles (<http://www.newsweek.com/ancient-turkey-roman-poop-was-full-parasites-sewage-system-677660>). In December, the project 'Parasites and Hippocrates in Ancient Greece' attracted similar media interest (e.g. <http://www.dailymail.co.uk/sciencetech/article-5179559/Scientists-discover-parasites-described-Hippocrates.html>).

Further publications this year include a cesspool from medieval Jerusalem, guidance on how to sample burials for intestinal parasites, and using written sources in paleopathology. In recognition of his achievements in teaching, this year Piers was appointed Senior Fellow of the Higher Education Academy. He was also the lead editor for the new *Updated Guidelines to the Standards for Recording Human Remains*, a book published by CIFA and BABA0 in December.

Members of the department presented their research at numerous academic conferences held during 2017, including: SAA, PPA, AAPA, ESHE, EAA, AAA, ISDM, HumanAdapt, SSSB and BABA0. Both students and faculty members participated in numerous public events. Laure Bonner, Departmental Outreach and Communications Officer, organized multiple public engagement and field school activities, including Big Biology Day, the Homerton College Archaeology Summer School, Prehistory and Archaeology Day, and the Cambridge Science Festival.

The twitter account (@CamBioanth), managed by Michael Riviera, gained over 400 followers in the last year, and tweets have been viewed over 184,000 times worldwide. This online activity is thanks to fantastic publications and news stories from our faculty and post-doctoral researchers, including stories on [arm bone strength in prehistoric and modern-day women](#), [body size and stature of our hominin ancestors](#), [facial reconstruction](#)

[of a medieval Cambridge townspeople](#), [ancient Lebanese genomes](#), Leprosy in Pre-Norman Suffolk and [the evolutionary roots of genital herpes virus](#). Post-doctoral research is now also showcased through the Archaeology Postdoc page managed by Alexandria Ion (<https://archaeologypostdocsucam.wordpress.com/>).

In the coming year, we look forward to the launch of a student led and run podcast titled, "The Science of Bones", which will cover topics such as biological diversity, ancient civilizations and historical archaeology, forensic anthropology, and human evolution. The project was initiated by PhD student Michael Riviera, who was awarded a Public Engagement Starter Grant for this project.

For more information about the department please visit our website (www.arch.cam.ac.uk). Research updates and information about public outreach events can be found follow on facebook <https://www.facebook.com/archaeologycambridge/> and on twitter ([@CamBioanth](https://twitter.com/CamBioanth)).

Cranfield Forensic Institute
Cranfield Defence and Security
Cranfield University
Nicholas Márquez-Grant

People

In 2017 Cranfield Forensic Institute (CFI) welcomed new members of staff in archaeological science, explosives and other areas of forensic science.

Departmental Report

Cranfield Forensic Institute (CFI) has had a successful, eventful year. Our MSc courses have continued to attract an increasing number of full-time and part-time students from many different countries. These courses are accredited by the Chartered Society of Forensic Sciences. We are also involved in CSI training and teaching courses abroad.

CFI staff continued to carry out forensic casework in 2017 primarily in the areas of forensic archaeology and anthropology. Casework included domestic casework regarding suspicious deaths and missing

person enquiries, disaster victim identification, human rights investigation and assisting in the identification of WWI and WWII casualties. A number of our graduates have assisted us in a number of deployments too, including assisting in the identification of WWI casualties.

Prof Ziopous, Prof Rogers, Dr Charlene Greenwood and Dr Sophie Beckett continue their research in bone biomechanics, bone imaging, bone chemistry and bone pathology. Dr Nicholas Márquez-Grant was visiting Professor in May at the University of Cagliari in Sardinia, Italy, followed by visiting in June, through an Erasmus staff mobility grant, the Institute of Legal Medicine in Barcelona, Spain. Staff and students have presented at numerous conferences over 2017 including those organised by BABAO, the American Academy of Forensic Sciences, the Chartered Institute for Archaeologists, the Spanish Association of Forensic Anthropology and Odontology, the GGC Forensic Science Conference in Abu Dhabi and a number of lectures and courses delivered at other universities in the UK.

For several years, CFI have provided archaeological and anthropological services with respect to WWI and WWII human remains with a number of British and international organisations. In 2017, the Cranfield Recovery & Identification of Conflict Casualty (CRICC) Team included fieldwork primarily in France.

Our PhD students are undertaking some exciting work primarily in the fields of taphonomy, (palaeo)pathology, methods in biological profile, biomechanics and trauma. Staff and students this year 2018 will organise the BABAO 20th Annual Conference in Cranfield University, Bedfordshire MK43 0AL between the 14th and 16th of September. More details to follow soon (Contact: n.marquezgrant@cranfield.ac.uk)

In addition to its active engagement with its alumni community, Cranfield Forensic Institute has an active online presence through its facebook page and twitter account: [@CranfieldForSci](https://twitter.com/CranfieldForSci).

Department of Archaeology
Durham University
Tina Jakob

The previous year saw the completion or continuation of many research projects at the Department of Archaeology, Durham University, but also a few changes and we were pleased to welcome our new colleague, Karen Milek, who joined us from the University of Aberdeen as an Associate Professor in Geoarchaeology. Becky Gowland was promoted to Associate Professor in Human Bioarchaeology, while Anwen Caffell and Tina Jakob have been appointed Assistant Professors (Teaching) in Human Bioarchaeology as a job share. Anwen and Tina continue teaching undergraduate and postgraduate students and both will contribute to the newly launched MSc Bioarchaeology programme (<https://www.dur.ac.uk/archaeology/postgraduate/taughtprogrammes/mscbioarchaeology/>).

Claire Hodson, a recent PhD student in the Department, was elected as BBAO's Outreach Officer. She has already co-hosted a very successful event at the Manchester Science Festival, and has many more outreach events lined up for the Association and its members.

Charlotte Roberts was awarded the Eve Cockburn Service Award of the Paleopathology Association (PPA). She was also an invited keynote speaker at the International Symposium on Disease and the Ancient World, Oxford University, invited to be a member of the Pomerance Science Medal Committee (AIA) and gained membership of the Scientific Advisory Board, Austrian Academy of Sciences, Vienna, Austria. She gave invited seminars to the Austrian Archaeological Institute, Vienna, Austria, and the McDonald Institute for Archaeological Research, University of Cambridge.

Becky Gowland, Janet Montgomery and Andrew Millard are all co-investigators on the Leverhulme-funded project 'People and Place. The Making of the Kingdom of Northumbria'

(<http://www.mappingnorthumbria.com/>). This ongoing project is using evidence from burial records to explore aspects of health, wealth, ethnicity and lifestyle of the first Northumbrians, investigating the emergence of one of the largest kingdoms in early medieval Britain in terms of migration, mobility, social stratification, and political aggregation AD 300-800.

Becky, together with Tim Thompson (Teesside University) and a team of experts in forensic archaeology, anthropology, remote sensing and biomolecular analysis delivered the innovative short course 'Body Location, Recovery and Analysis' in June 2017. The course design was funded by North East Higher Level Skills Pathfinder and supported by the Durham University Seedcorn Fund. The team is now looking forward to teaching a new group of interested students in 2018.

Anwen has carried out contract work for York Osteoarchaeology (see York Osteoarchaeology) and Archaeological Services, Durham University. Spring 2017 saw the conclusion of the Heritage Lottery Funded project 'Life and Death in the Washburn Valley', with which she has been involved for the last five years (along with York Osteoarchaeology and Becky Gowland). This included a temporary exhibition ('Churchyard Secrets: Revealed'), the development of a textile hanging to commemorate the individuals excavated at Fewston, and culminated in the opening of the permanent exhibition at the Washburn Heritage Centre, Fewston, North Yorkshire, combined with the publication of a short booklet and film about the project. Anwen also gave a talk entitled 'From Bare Bones to Biographies: Investigating Life in the Washburn Valley' at the Washburn Heritage Centre, Fewston Church, Fewston, North Yorkshire.

Andrew Millard and Anwen have continued to work with the Scottish Soldiers project (<https://www.dur.ac.uk/archaeology/research/projects/europe/pg-skeletons/>), drawing together the collaborative research into childhood diet and migration, proteomics and

microbial DNA from dental calculus, with information about the broader historical context. They participated in the commemoration of the Scottish Soldiers in May 2017. They have contributed to a book which will be published in 2018 and, the Scottish soldier's project will form part of a major exhibition at Palace Green Library, Durham in 2018.

In addition to her teaching commitments, Tina Jakob has continued her work with Drs Donatella Usai and Sandro Salvatori (Centro Studi Sudanesi e Sub-Sahariani, Treviso, Italy) on their Al Khiday project in central Sudan, analyzing human skeletal remains from a multi-phase cemetery. She was also involved in an undergraduate placement project at the Austrian Institute of Archaeology, Vienna, working with Durham Archaeology undergraduate students and Dr. Michaela Binder on early medieval skeletons from the Hemmaberg, Austria. Tina gave invited talks at the Austrian Academy of Sciences/Institute of Archaeology in Vienna as well as a brown bag lunchtime talk at the School of Human Evolution and Social Change, Arizona State University. Since April 2017, Tina is an associate editor of the newly established journal *Bioarchaeology International* (<http://journals.upress.ufl.edu/bioarchaeology/>).

MSc Palaeopathology dissertations 2016-2017

Blessing, Sarah. Born to die? Applying the DOHaD hypothesis to test susceptibility to poor adult health in adults with dental enamel hypoplasia buried in the Quaker cemetery of Coach Lane, North Shields, Tyne and Wear, England

Crook, Lucy. Archaeoparasitology as a method for understanding health in the past: potentials, problems & future directions

Gardner, Brianna. Scurvy and cribra orbitalia: A new approach to differentiate orbital roof lesions

Friðriksdóttir, Guðrun. Dental health and diet in a post-medieval population from Reykjavík, Iceland

Gikkas, Stephanie. Metabolic disease & comorbidities; Investigating their relevance in bioarchaeology

Hierlehy, Ella. 'Paleo Diet' using archaeological records of Palaeolithic hunter gatherer diet, and modern clinical data

Hollingworth, Lottie. Quality of Quaker Care: An evaluation of Tilley's online Index of Care method using six individuals from the Quaker burial ground at Coach Lane, North Shields

James, Jess. Could bread aid rickets? A comparison between alum concentrations in the diet of two post-medieval urban populations and the prevalence of rickets

Kancler, Lauren. An Isotopic Investigation into the Diet of Medieval Friars from Northern England

Katzeff, Sharna. Ancient DNA and palaeopathology of middle Neolithic cemeteries

Perretto, Natalie. Scoliosis Before and After Corrective Methods: Impact on Joint Health and Social Stigma in Modern and Bioarchaeological Contexts

Preston, Lucette. Old Friends: A bioarchaeological study of old age in a Quaker community in North East England

Quinn, Molly. Trauma and Pathologies in an Ohlone Population and its place in Prehistoric Northern California

Ruppert, Kaitlin. Male Domestic Violence Hidden in the Archaeological Record?

Snyder Jordan. Medical Care in a Medieval English Leprosarium

Sylwester, Story. Monkeys, HIV, and Bioarchaeology: examining a new osteological model for the future

Venn, Rebecca. What can life course approaches and grave goods tell us about the lives and gender identities of older individuals buried at the Anglo-Saxon cemetery of Collingbourne Ducis?

Wells, Rachel. Disability, Identity, and War: Considering the Medieval Veteran

Wildmun, Frankie. Experimental archaeology: The efficiency of peat, wood and seaweed as fuel for funerary cremation pyres and the production of cramp

Zikidi, Claire. Neuroarchaeology and the body: A critical reinterpretation of the Mycenaean burials of the Grave Circle A in Mycenae, Greece

Recent PhD graduate

We were very pleased to see such a large number of our PhD students successfully defending their dissertations in 2017. Congratulations to all of them!

Claire Hodson (Stressed at birth: metric variation in infants to determine whether stress affects skeletal dimensions). AHRC Doctoral Scholarship. Supervised by Becky Gowland and Charlotte Roberts

Sam Neil (Patterns of social mobility during the Early Neolithic and the development of the Neolithic in the British Isles.). Supervised by Chris Scarre and Janet Montgomery; Jane Evans (NERC Isotope Geosciences Laboratory)

Kendra Quinn (A bioarchaeological study of the impact of mobility on transmission of tuberculosis). Supervised by Charlotte Roberts and Andrew Millard

Elina Petersone-Gordina (Living outside the city gate: a palaeopathological, isotopic and comparative analysis of the post-medieval St Gertrude Church cemetery population in Riga, Latvia). AHRC Doctoral Scholarship and Wadsworth International Fellowship, Wenner-Gren Foundation for Anthropological Research. Supervised by Charlotte Roberts,

Janet Montgomery and Andrew Millard

Ariadne Schulz (Long bone morphology and its relationship to osteoarthritic patterning among archaeological populations). Supervised by Becky Gowland, Trudi Buck and Sarah Elton

Lauren Walther (All out of proportion? Stature and Body Proportions in Roman and Anglo-Saxon England). Supervised by Becky Gowland and Andrew Millard

Current PhD students

Susan Aylard (Does Parasitic Infection Correlate With Stress During Childhood? Exploring the Impact of Poor Living Environments on the Development of Skeletal Indicators of “Stress” and Parasitic Infection in the Bioarchaeological Record). Supervised by Charlotte Roberts, Mike Church and Andrew K. G. Jones (York University)

Kayla Crowder (Diet and mobility at the Jucu de Sus Necropolis, 4th – 12th Century, Transylvania, Romania). Supervised by Janet Montgomery and Charlotte Roberts

Anna Davies-Barrett (The impact of sociocultural and environmental change on air quality and respiratory health in the 4th Cataract, Sudan: a bioarchaeological perspective). AHRC Collaborative Doctoral Award with the British Museum and Durham University. Supervised by Charlotte Roberts and Penny Wilson (Durham University) and Daniel Antoine (The British Museum)

Kori Filipek-Ogden (Illness, Isolation, and Isotopes: Assessing leprosy stigma in late Medieval England (12th-16th centuries AD) and its impact on health and contemporary society). Supervised by Charlotte Roberts, Becky Gowland and Janet Montgomery

Simon Hughes (Human Remains in a Museum Context: Storage, Study or Reburial?). Supervised by Charlotte Roberts and Robin Skeates

Ellen Kendall (Breastfeeding as an Adaptive Strategy to Environmental Pressures in Early

Anglo-Saxon England). Supervised by Andrew Millard, Becky Gowland and Janet Montgomery

Tessi Loeffelman (Durham supervisors Janet Montgomery and Sarah Semple) who will be investigating the potential of Sr and Pb isotopes in early Medieval cremated human remains at sites including the Viking cemetery at Ingleby remains in collaboration with Professor Julian Richards at York University, and Dr Philippe Claeys and Dr Christophe Snoeck at the Free University Brussels.

Mocen (Sylvia) Li (Diachronic Changes in Health in Agricultural Population from Early Agriculture to Imperial China). Supervised by Charlotte Roberts and Peter Rowley-Conwy

Joanna Moore (Environmental lead pollution in the Roman Empire: characterising its effects on juvenile exposure, health and geographic mobility.). IAPETUS Doctoral Training Partnership funded. Supervised by Janet Montgomery and Becky Gowland

Sarah Morrison (Dietary Isotope Analysis Comparing Cremated and Inhumed Individuals from Early Anglo-Saxon England). Team Durham Postgraduate Scholarship. Supervised by Rebecca Gowland and Janet Montgomery

Sian Mui (Positioning the corpse: Death, posture and representation in early medieval England). Supervised by Sarah Semple, Becky Gowland and David Petts

Aryel Pacheco (Tuberculosis in Andean communities from the Tarapacá area (North of Chile) between 900 BC to 1450 AD). Funded by the Advanced Human Capital Program of the National Commission for Scientific and Technological Research of Chile (Comisión Nacional de Investigación Científica y Tecnológica, CONICYT). Supervised by Charlotte Roberts and Andrew Millard

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

Supervised by Charlotte Roberts and Pam Graves

Bennjamin Penny-Mason (Morbidity, Medicine & Maturation: A History of Paediatric Medicine & Childhood Disease in England AD 1450–AD1650). AHRC / Northern Bridge Doctoral Training Partnership Doctoral Scholarship. Supervised by Becky Gowland and Stefano Cracolici

Leslie Quade (When in Gaul, do as the ‘Romans’ do? Shifting health in Gaul during late antiquity and the early medieval period). Durham Doctoral Studentship. Supervised by Becky Gowland and Robert Witcher

Bryony Rogers (Increasing the temporal resolution of animal movements - a comparative study of LA and microdrilling for Sr-isotope profiling of herbivore teeth). NERC IAPETUS CASE funded. Supervised by Janet Montgomery, Geoff Nowell and Peter Rowley-Conwy

Samantha Tipper (A Bioarchaeological approach to the analysis of Vertebral Fractures amongst the Ancient Nubians from 5000 BC to 1500 AD). Supervised by Charlotte Roberts and Penny Wilson

Joe W. Walser III (joint with University of Iceland) (In between breaths: respiratory disease, skeletal pathology, volcanism and environmental health in historical Iceland); Supervisors. Supervised by Becky Gowland, Steinunn Kristjánsdóttir (University of Iceland and National Museum of Iceland), Agnar Helgason (deCODE Genetics) and Claire Horwell

**School of History, Classics and
Archaeology
University of Edinburgh**
Linda Fibiger

Kath McSweeney continues to collaborate with Prof Vassil Nikolov and his team from the National Institute of Archaeology and Museum, Sofia, Bulgarian Academy of Sciences, in on-going excavations at Provadia-Solnitsata, Bulgaria, a Neolithic and

Chalcolithic salt-production and fortified settlement site. Osteoarchaeological analysis of the human remains from the Late Chalcolithic cemetery associated with the settlement and salt-production areas continued in the summer of 2017. Sixty individuals, many from very rich graves, have now been excavated and analysed, revealing some interesting burial practices. The focus is now on publishing a monograph in English on the cemetery, which will cover the osteological analysis, burial practices and funerary artefactual evidence. Other collaborative projects with the National Institute of Archaeology and Museum, Sofia, include the analysis of human remains from the Early and Middle Neolithic site of Nova Nadezhda, Bulgaria, which produced 29 individuals, and Mursalevo with 15 burials from the Neolithic and Iron Age, as well as numerous isolated deposits of human remains from settlement areas. Kath is also working with colleagues from Moesgaard Museum, Aarhus, Denmark to produce a publication on Late Bronze Age burial mounds of the Wadi Suq period in the United Arab Emirates. These mounds were excavated by a Danish team in the early 1970's but never published and the recovered human remains never examined. Kath's analysis of the human remains is now complete and will feature in a monograph to be published by Moesgaard Museum. Finally, previous osteological analysis of Early Bronze Age, Umm an-Nar period sites in the United Arab Emirates have revealed apparent differences in health and lifestyle between coastal and inland populations, living, at most, only 100 kilometers apart. As part of further investigations into this phenomenon, Kath is re-examining skeletal material from burial mounds at the important type-site of Umm an-Nar, situated on an island just off Abu Dhabi.

Linda Fibiger, together with John Harris from Social Anthropology at Edinburgh and Joan Smith from the Edinburgh College of Art, continues her research into contentious heritage and skull collections as part of the EU-funded TRACES project (<http://www.traces.polimi.it/>). The art installation resulting from the project will

open at the Edinburgh College of Art on the 28th June 2018 and run until late August. Together with John Harries and Meaghan Dyer Linda also developed the "What remains...?" workshop for Secondary Schools for Anthropology Scotland Day at the National Museum of Scotland, which received excellent feedback from participants.

Edinburgh Unit for Forensic Anthropology (EUFA)

Elena Kranioti and Farrah Nasserri completed their research project entitled "Application of forensic craniofacial reconstruction methods to aid human identification in cold cases from Greece" (UoE Innovation Initiative Grants) with a successful exhibition at the Waverley Mall in April 2017. Elena also continues the collaboration with the Department of Forensic Sciences of the University of Crete and the Pathology Division of the Ministry of Justice, Transparency and Human Rights in Crete and the Edinburgh Forensic Radiology Imaging Center (EFRAIC) on the project "Virtopsy.GR". This involves post-mortem CT examination of forensic cases prior to autopsy and is happening for the very first time in Greece. The project is funded by the HCA Seed-corn fund and the Division of Pathology Endowment fund of the UOE. Elena also received three new awards in 2017 for the following projects:

- "Polymorphic murders: a holographic biography of trauma" (funded by an University of Edinburgh Innovation Initiative Grants). This is an innovative project that aims to explore the evolution of violence through holographic representation and art;

- "Towards establishing the first ever stable isotope ratio baseline in Crete (Greece) for forensic identification" (funded by the Humanitarian and Human Rights Resource Centre of the American Academy of Forensic Sciences;

- "Postmortem investigation of the unknown immigrants in the borders of Evros, Greece". This is a collaboration with Dr Ralph Bouhaidar (Forensic Pathologist) and Dr Siobhan McLaughlin Consultant Radiologist

(EFRAIC) and Prof Pavlos Pavidis (Democritus University of Thrace, Greece) which is funded by the University of Edinburgh Division of Pathology Endowment Fund.

Elena also directed the Crete Field School, which was established in 2015 with the objective to offer students with interest in physical anthropology the opportunity to put skills learned into practice, and to collect original data for their dissertations. In 2017 nine students participated in the field school which took place in Ammoudara, Heraklion in May. This summer she was also awarded an advanced Certificate of Studies in Forensic Imaging & Virtopsy by the University of Zürich, Switzerland. Elena was the only female of the 13 participants in the 2017 course and amongst the first two that completed the course and were awarded the Certificate in August 2017.

Elena Kranioti was invited to the one day symposium “PMCT for beginners” organised by the Royal College of Radiologists to give a talk on Virtual Forensic Anthropology in Lond. She was also invited by the International Red Cross and the National and Kapodistrian University of Athens to participate at the “Forensic Meeting on the National Disaster Response Strategy and Multi-disciplinary Approach to Human Identification” in November 2017, to discuss aspects of Accreditation, Continuous Professional Development and Training for forensic pathologists.

Members of the Edinburgh Unit for Forensic Anthropology (EUFA) delivered a number of workshops and invited lectures. Elena Kranioti, Andrea Bonicelli, Mara Karell, Effrosyni Michopoulou and Konstantina Tsiminikaki, presented original oral and poster communications at the Annual FASE Meeting in Milan, Italy (September 16th, 2017). Elena was also invited to give lectures on forensic anthropology, postmortem computed tomography and craniocerebral injuries as part of a course on Forensic Pathology at the School of Medicine of the University of Crete in Greece.

EUFA members also participated for the fourth year in the Kickstart summer school for S6 children in June by providing an interactive workshop on forensic anthropology. According to the annual report the feedback was extremely positive with 11/14 students to rate the workshop as “excellent” and the remaining 3 as “good”. In addition, as part of Explorathon 2017 (European Researcher’s Night) EUFA members participated at the Murder at the Museum in the Grand Gallery of the National Museum on Friday 29th September with an interactive workshop in forensic osteology that attracted over 600 people.

Ongoing PhD research

Astrom, C.: Comparative Projectile Trauma: An Examination of Skeletal Trauma Inflicted by Various Projectile Weapons

Barlow, A.: Cotton Town Blues. Investigating inequality in the 19th century cemetery population of St Peter’s Parish Church Cemetery, Blackburn, Lancashire, UK, through stable isotope analysis

Bonicelli, A.: Investigating rib biomechanical properties and their potential for Forensic applications

Boyle, A.: An osteoarchaeological study of peri-mortem trauma in Medieval Britain

Dyer, M.: Assessment of blunt force trauma in the British and European Neolithic utilising a skin-skull-brain model

Espinosa Rosero, S.: Forensic Anthropology techniques of positive identification through anomalies in the human bone registry

Evatt, A.: A bioarchaeological investigation of European Mesolithic burial practices and taphonomy

Girdwood, L.-K.: A Comparative Analysis of the Evolution of Oral Health Pathologies and Stable Isotope Ratio Dietary Indicators through the Historic Period in Two Contrasting Medieval Populations from Scotland, UK, and Ibiza, Spain.

Garcia-Donas, J.G.: Age estimation using thin sections of ribs from a modern Greek autopsy sample

Karell, M.: Identifying the Disappeared: Testing a Novel Method for the Sorting of Commingled Human Remains

Lill, C.: Decreased bone mineral density related to chronic alcohol abuse and its effect on histological ageing methods

McMath, P.: An osteoarchaeological investigation into Byzantine human health on the Black Sea Coast of Bulgaria

Reeve, I.: Morbidity and mortality in relation to the environment: a comparison of British urban and rural skeletal populations

Shupe, C.: Juvenile health in skeletal remains from Islamic Andalucía

Waters, E.: Zoological analysis of the Unicorn

Dissertations Submitted for the MSc Human Osteoarchaeology, 2016/17

Adams, K.: The frontal sinus: An experimental study in personal identification and determination of Sex

Burgess, E.: The timing of craniofacial fractures using CT and 3D modelling: Distinguishing between perimortem trauma and postmortem damage

Ide, L.: Lifestyle and occupation in Medieval Scotland: Entheses and activity in two Skeletal Scottish Populations

Jensen, J.: Fire, bones and stone: an exploratory study into the effect of stone tool marks from defleshing on the fragmentation of burned bone

Roffers, M.: A question of primary or secondary burials for juveniles in Late Chalcolithic Anatolia

Strong, R.: An experimental investigation of cutmark analysis of sharp force trauma in the Bronze Age

Zivic, J.: The children of Agios Nikolaos

Department of Archaeology University of Exeter Catriona McKenzie

The Department of Archaeology is continuing its development in Bioarchaeology. New appointments in this area include Professor Naomi Sykes who specialises in zooarchaeology, and Dr Alex Pryor who has expertise in stable isotope analysis. We have recently invested in a new portable digital x-ray machine for teaching and research purposes. We continue to run the MSc in Bioarchaeology with pathways in Human Osteology, Forensic Anthropology and Zooarchaeology.

Postgraduate Research Students

Cynthia Bradley completed her doctoral research on *Remaking the Mazeway: Skeletal and Mortuary Evidence from the Ancestral Pueblo site of Wallace Ruin, southwestern Colorado, USA*. Her thesis was examined by Dr Eileen Murphy, Queen's University Belfast.

Belinda Tibbetts also completed her doctoral research on *Foetal and infant skeletal palaeopathology as an indicator of maternal health and population stress*. This was examined by Prof. Sue Black, Centre for Anatomy and Human Identification, University of Dundee. Belinda spent the summer working at Çatalhöyük as a member of the Human Remains team.

Sarah Cuthbert is in the final stages of her AHRC PhD funded project *Enriching the Neolithic: The forgotten people of the Barrows*. As part of this research project Sarah has re-analysed over 40 Neolithic skeletal assemblages. Sarah is aiming to submit in early 2018.

Mandy Kingdom is now in the final year of her doctoral research *The Past People of Exeter*. She has completed the analysis of the human skeletal remains from late Anglo-Saxon and Medieval Exeter, and is currently

focused on collating and analysing the data, and writing the thesis. In addition to her doctoral research Mandy has been working on the University of Exeter's training excavation at Ipplepen in Devon.

Michael Legge is in the second year of his AHRC-funded PhD, based at the universities of Cardiff and Exeter. His doctoral research aims to synthesise burial evidence from the Iron Age of eastern England, combining archaeological and osteological methodologies to identify regional funerary practices. This project currently includes over 180 sites from ten counties, representing over 200 single burials and a substantial corpus of disarticulated human remains.

Jennifer Mack is in the first year of her PhD funded by the University of Exeter. Her research will focus on mortality patterns and mortuary preparations of adolescents buried in a nineteenth-century Catholic cemetery in Dubuque, Iowa, and will highlight the differences between these individuals and the rest of the cemetery population. This is an interdisciplinary project which will utilise data from osteological and material culture analyses, and from archival research to explore aspects of medical history and culture of the American Midwest, as well as ritual and religion in public life.

Rosalind Le Quesne, is a part-time student in the first year of her PhD. Her doctoral research project is based upon exploring rates of sexual dimorphism using dental imaging. She aims to create images of dentitions of skeletal collections of known-sex individuals to compile data on odontometrics. These may then be used to create models to estimate the sex of individuals of unknown individuals.

School of Anthropology and Conservation
University of Kent
Rosie Pitfield

Throughout 2017 the School of Anthropology and Conservation (SAC) continued to expand. In September, a new extension and remodel of the school entrance was officially opened

by the Vice Chancellor. The extension has added a bright new foyer and reception area, additional offices, and new social spaces.

Our new MSc in Forensic Osteology and Field Recovery Methods launched in September. It is focused on equipping students with the practical skills to recover human remains and reconstruct biological profiles. The course will include a visit to Amsterdam and the first European Body Farm during the spring term.

Over the year several researchers have joined SAC. We welcome a new post-doctoral researcher, Dr Ameline Bardo, who will be working with Prof Tracy Kivell on a project on the evolution of human dexterity funded by the Fyssen Foundation. Dr Bardo will test longstanding assumptions about the evolution of the human hand through a comparative primate approach, with the aim of identifying what makes the human hand distinct among primates. Additionally, Dr Emmy Bocaege was awarded a British Academy post-doctoral fellowship and is due to join the department in January 2018. Dr Bocaege will be working with Dr Patrick Mahoney on the project "a micro-evolutionary perspective on tooth size at the origins of agriculture in the Levant". We also had four new PhD students join SAC in September on Vice Chancellor's Research Scholarships: Simon Chapple, Kim Deckers, Jessica Dolding-Smith, and Jessica Small.

Dr Matthew Tocheri visited the department as Visiting Senior Research Fellow from July to December to collaborate with Prof Tracy Kivell on several projects focused on the evolution and functional morphology of the human/great ape hand, and also with Dr Matt Skinner on analyses of teeth recovered from recent excavations at Liang Bua (Flores, Indonesia).

Current PhD student, Christopher Aris, was granted a BABAO academic research grant to continue his work on developing a dental method of sex estimation that could potentially be applied to juveniles. Christopher visited the Natural History

Museum for five days, conducting research on the Spitalfields Crypt skeletal collection.

Research

During 2017 research continued in all of our sub-fields, human osteology and forensics, hominin evolution and behaviour, and primatology. Within the Skeletal Biology Research Centre (SBRC), Dr Geraldine Fahy has been researching isotope ratios and bone turnover rates, and Dr Chris Deter and Dr Patrick Mahoney have continued their work on biorhythms and enamel formation. Also within the SBRC, Prof Tracy Kivell and Dr Matthew Skinner have continued their research on the evolution and functional morphology of the postcranial skeleton, and Dr Skinner has been investigating the evolution of tooth morphology. Dr Sarah Johns has continued her work on the timing of life-history events and evolved sexual behaviour. As members of the Living Primates Research Group, Dr Fahy, Prof Kivell, Dr Nicholas Newton-Fisher, and Dr Brandon Wheeler continued their research into the behaviour and ecology of living non-human primates. Staff and students from all areas of the department have presented their research at national and international conferences throughout the year.

Visit us here:

<https://www.kent.ac.uk/sac/index.html>

Facebook:

<https://www.facebook.com/SAC.Marlowe>

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Ongoing Post-Doctoral research

Arias-Martorell, J.: Mosaic. Evolution of the ape forelimb: Evidence from internal bone structure. (Marie Skłodowska-Curie Actions Individual Fellowships)

Bardo, A.: Evolution of human dexterity, precision grip and stone tool-making. (Fyssen Foundation)

Key, A.: In the palm of your hand: A biomechanical study of stone tool design, use, and ergonomics throughout early human evolution. (British Academy Postdoctoral Fellowship)

Le Luyer, M.: Enamel biorhythms and childhood growth trajectories: establishing microtomographic and histological links for the understanding of late human evolution. (Fyssen Foundation)

Lu, S.: Validation of musculoskeletal finger model and finite element analysis: Biomechanical tests on bonobo and human cadaveric specimens. (Postdoctoral Researcher for GRASP)

Ongoing PhD research

Aris, C.: Variation in human societies and the impact on the enamel development.

Chapple, S.: Assessing variability and complexity of occlusal tooth patterning in primate enamel-dentine junction morphology as it relates to current systems of tooth crown nomenclature.

Curto, A.: The impact of diet and health on bone stable isotope ratios: A comparative study.

Deckers, K.: The ontogenetic trajectory of trabecular bone formation in the upper limb and hand of the great apes.

Dolding-Smith, J.: Researching human life history and the link to an underlying biological rhythm.

Dunmore, C.: Skeletal form and function of the primate hand.

Georgiu, L.: Functional morphology of the hip and knee joints in apes and humans.

Howlett, C.: Expression of the 2D:4D digit ratio across the Primate Order.

Lowe, A.: Parental strategies in wild chimpanzees.

Pitfield, R.: Microscopic markers of biorhythms in human juvenile hard tissue.

Small, J.: The Forensic Anthropology of Burnt Human Juvenile Teeth: a histological and scanning electron microscope approach.

Submitted PhD research

Neufuss, J.: Forelimb kinematics and hand use during locomotion and non-locomotor behaviours in wild African apes.

Ongoing MSc by research projects

Imbrasas, M.: Geomorphometrics of the occlusal plane of hominin teeth.

Plumber, W.: The enamel-dentine junction (EDJ) of upper premolar teeth in *Homo naledi* compared with other fossil and extant hominins.

Submitted MSc by research projects

Davies, T.: Enamel-Dentine Junction morphology in hominin mandibular premolars including *H. naledi*.

Komza, K.: A comparative analysis in first metatarsal trabecular bone structure in humans and hominoids.

Lockwood, V.: Biomechanics of the human hand during arboreal locomotion: Kinematic and pressure analysis.

**Research Centre in Evolutionary
Anthropology and Palaeoecology
School of Natural Sciences and Psychology
Liverpool John Moores University**

*Emma Pomeroy, Laura Bishop and Isabelle
De Groot*

We've had another busy and productive year at RCEAP, not least as we had the pleasure of welcoming the BABAQ community to Liverpool for the annual conference in September. The novel combination of stimulating academic sessions and public engagement events as part of our Being Human Festival was a huge success. BABAQ delegates put on a range of activities for the public both at the conference venue and in the World Museum Liverpool, including an opportunity to see a full-scale replica of Richard III's skeleton, use a virtual reality headset to view skeletal remains and build skeletal models from Lego! The event was a huge success, doubling the number of people

attending the museum on the same day last year to over 2000. The gala dinner in the crypt of the Metropolitan Cathedral was a memorable event in a fabulous atmospheric setting, complete with the ever-popular pub quiz and magicians performing live at the tables.

Amongst all the preparations for the conference, our research and teaching programmes continued to go from strength to strength. The first cohort completed our new Bioarchaeology MSc and the course has proved popular going into its second year. The programme focuses strongly on the expertise of our research group and offers opportunities in ancient DNA in our new labs under the guidance of Linus Girdland Flink, dental anthropology, and digital anthropology, with opportunities to benefit from the range of 3D modelling, SEM and X-Ray facilities we have in-house. Internal funding for student development has enabled a number of students to engage in work with staff on 3D modelling and creating new teaching resources including Skeleton2Go, a borrowable set of replica skeletal specimens to aid students in learning osteology. The Forensic Anthropology BSc (Hons), accredited by the Chartered Society of Forensic Sciences, and MSc courses also keep us busy.

Our ongoing collaborations with the Poulton Project

(<http://www.poultonresearchproject.co.uk/>) at the medieval chapel and graveyard at Poulton, Cheshire continue to offer valuable opportunities for our students to gain experience in excavating and analysing human remains. We continue to research and curate skeletal collections from Poulton and hold collections from the Gloucester Museum on loan, which are extensively used for research and teaching.

A big part of our mission as a research centre is field research, and we are happy that undergraduates and postgraduates were able to join field expeditions to Scladina Cave, Belgium (with Erasmus funding; Isabelle De Groot), Cyprus (with Costa Eliopoulos), and

to Gorham's and Vanguard Caves, Gibraltar (with Richard Jennings). Other researchers conducted fieldwork in Egypt (Joel Irish and Matteo Borrini), Spain (David Jordan), Iraq (Emma Pomeroy) and Kenya (Laura Bishop).

Research by our group has received extensive coverage in 2017, including work on dental chipping in *Homo naledi* by Ian Towle who also completed his PhD at LJMU this year, and the discovery of a new Neanderthal deciduous incisor at Vanguard's Cave, Gibraltar by one of our undergraduate students, Miriam Napper. The tooth was found during excavations led by Richard Jennings in conjunction with the Gibraltar Museum. It represents the first Neanderthal remains from Gibraltar in almost 100 years, and provides direct evidence of Neanderthal presence at the Gorham's Cave UNESCO World Heritage Site. The publication of a new key reference on recording dental crown and root morphology, co-authored by Professor Joel Irish, represents a major contribution on the documentation and analyses of dental variation.

This year also saw the launch of the DigiArt Project's virtual museum, funded by Horizon 2020 and involving Isabelle De Groote, with colleagues from LJMU's Engineering Faculty and from France, Greece, Switzerland, and Belgium. The website, www.virtualanthropologymuseum.org, showcases work from LJMU researchers and their colleagues and provides an engaging resource for the public, students and academics alike to explore current research through an interactive and multimedia platform. See also www.digiart-project.eu to learn more about this project. Our commitment to the wide dissemination of research and public engagement, highlighted in the events associated with the BBAO conference, has also developed with closer links to the World Museum Liverpool. The RCEAP team has lead the redesign of the Human Evolution Gallery at the museum, which is due to launch in early 2018, as well as new research collaborations and plans for future joint events.

**Department of Archaeology
University of Sheffield**
Sophie Newman

People

In February 2017 Katie Hemer returned as a Lecturer in Bioarchaeology and Director of Undergraduate Admissions at the University of Sheffield, following her maternity leave. Sophie Newman has now taken up the position of Research Technician and Lab Demonstrator in Human Osteology.

Marion Shiner, Martina Monaco, and Tegid Watkin also joined us as new PhD students this year.

Departmental report

We've had a bit of a move! In September 2017 the whole Department of Archaeology relocated from Northgate House to a new office building (Minalloy House, Regent Street) and lab facilities (on Leavygreave Road). While big changes have been afoot, the teaching team remains unchanged, led by Pia Nystrom (primatology/human osteology), Lizzy Craig Atkins and Katie Hemer (human osteology/funerary archaeology), and Kevin Kuykendall (palaeoanthropology). We have however sadly said goodbye to the wonderful Petra Verlinden, who has left some very big shoes to fill by the new Research Technician and Lab demonstrator in Human Osteology.

Already this term we have been lucky to host two guest lecturers. Sandra Wheeler delivered a fascinating seminar to our MSc students on her research on foetal, infant and child skeletons, along with a public lecture, on behalf of the Sheffield Centre for the Archaeology of Childhood (see link for further updates and upcoming events - <https://www.sheffield.ac.uk/archaeology/research/centres/childhood>). Charlotte Henderson also gave an informative workshop on the use of the new Coimbra method for the recording of enthesal changes in the skeleton. Attended by osteologists from both the academic and commercial sectors (and from as far afield as Canada), this workshop provided insight into the practical application of the methodology,

as well as the pitfalls often encountered when recording this type of skeletal marker. We hope to welcome her back again next year!

Many thanks and congratulations to our outgoing cohort of masters students (including Katia Codjambassis Cifuentes, Greer Dewdney, and Alice Kitchener who all received distinctions), you have all been a pleasure to teach, and we wish you well in your future endeavours.

The department is delighted at the success of the newly revised MSc Palaeoanthropology course, which had nine students start in 2017-18.

Updates

This year, Lizzy Craig-Atkins focused on bringing completed research to publication with a new paper arising from the Rothwell Charnel Chapel Project, and two MSc student projects being directed towards publication with Chris Aris (University of Kent) and Heather Tamminen (Wessex Archaeology). The 3D model of the charnel house at Rothwell was completed, and is now freely available to download under a Creative Commons license. She has also been working on two new collaborative projects: one examining traditional processes of cemetery management and manipulation of the dead body

(<https://graveconcernsproject.wordpress.com/>) and an AHRC-funded network on the Archaeology of the Norman Conquest, for which she is steering group member. She published a paper related to the latter on funerary and osteological data from the 11th century in January. The material body has been the focus of conference sessions she has run this year (SAA, Vancouver) and will run next year (June, University of Birmingham; September EAA Barcelona with Alexandra Ion). Interdisciplinary approaches to bodies and the manipulation and management of the dead in both antiquity and the present feature in these sessions.

Katie Hemer recommenced her role as Lecturer in Bioarchaeology in February 2017, and continues to work on research projects such as the St Patrick's Chapel Excavation

Project. Katie was awarded The Society for Archaeological Science Early Career Research Award poster prize at the UK Archaeological Science conference in April 2017. Over the summer, Katie supervised a visiting Erasmus student, Caterina Raffone and worked together on a project investigating the bone diagenesis of skeletal remains from the medieval site of Thornton Abbey. This year, Katie also became the primary supervisor of new doctoral student Marion Shiner, and ongoing doctoral student Valasia Strati. Katie continues in her role as the Membership Secretary for the Society for the Study of Childhood in the Past.

Ongoing Doctoral Research Projects

Baiges-Sotos, L.: Degenerative joint disease in non-human primates and its relationship to locomotor adaptation and substrate use.

Ford, J.: Hyaenas and Neanderthals in the British Middle Palaeolithic.

Green, E.: What are we missing? – The importance of archaeoethnology for revealing funerary practices.

Haywood, R.: The perennial or occasional 'Nutcracker Man'? Does dietary adaptation explain the derived craniofacial morphology of *Paranthropus*?

Hook, E.: An archaeological and osteological investigation of the medieval hospital cemetery in England and Wales.

Massey, S.: Investigating the lifestyle and activity of the communities discovered at Fishergate Bar, York (The Barbican).

McAfee, I.: Osteoarthritis in past populations: risk factors and comparative analysis of clinical diagnoses and treatments.

Mogg, J.: Refining locomotory style in the fossil record through the use of muscle attachment sites.

Monaco, M.: A critical examination of social stratification in prehistoric Cyprus using skeletal and funerary data.

Oleman-Grace, K.: Homo erectus life history: revisiting regressions in the light of recently recovered smaller-brained individuals.

Poniros, S.: Roman migration patterns based on skeletal, archaeological, and written evidence.

Shiner, M.: Transient relations: non-adult funerary practices in 1st-10th century AD Wales and Ireland and the origin of separate infant burial grounds.

Strati, V.: The effects of industrialization on the state of health and disease of a Victorian urban population: a case study from St. Hilda's Church, South Shields (Newcastle).

Triozzi, B.: A biocultural study of the Vestini population of Loreto Aprutino: diet, health, status, and identity in the 6th- 4th Centuries BC in Central-Southern Italy.

Van Cant, M.: Analysis of human skeletal remains from medieval rural sites in northwest Europe.

Waller-Cotterhill, C.: One foot in the grave: an experimental examination of the effectiveness and development of the Anglesey Leg and an analysis of prostheses during the long Nineteenth Century.

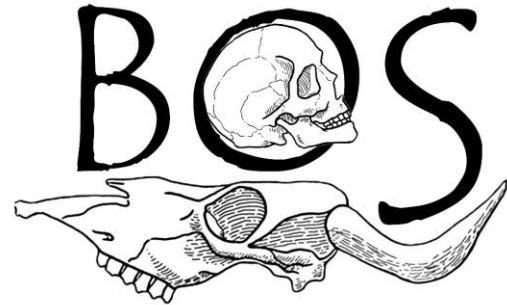
Watkin, T.: 3D geometric morphometric analysis of phalangeal torsion and rotational capacity in humans, primates and fossil hominins, and their application in stone tool use.

Online Activities

You can find regular updates regarding research projects and upcoming events via personal and project pages on our departmental website. The Department of Archaeology is also active on Facebook (<https://www.facebook.com/ArchaeologySheffield>), Twitter (Shef Archaeology @UniShefArch), and YouTube (Archaeology Sheffield). Elizabeth Craig-Atkins is on Twitter at @ecraigatkins.

Bioarchaeology & Osteoarchaeology at University of Southampton (Bos)

Sonia Zakrzewski



2017 has been another busy year for both staff and students at Southampton.

Most of the *Bos* staff are based in Archaeology – but we also spread into Anatomy, Anthropology and Bioengineering. Professor **Joanna Sofaer** has just been appointed Humanities in the European Research Area (HERA) Knowledge Exchange (KE) and Impact Fellow for the period December 2017–April 2020. This post aims to lead knowledge exchange and impact across Europe for the HERA scheme, working with 24 Humanities Research Councils across Europe and engaging in advocacy for the Humanities at the highest levels. She will be working with Tony Whyton, Professor of Jazz Studies from Birmingham City University School of Media as a joint Fellow. Dr **Sonia Zakrzewski's** collaborations with Engineering are continuing with **Alex Dickinson, Chris Woods, Markus Heller** and **Martin Browne**, studying stress and structural integrity in teeth and long bones through microCT (μ CT). Sonia has completed her stint as Vice-President of the Paleopathology Association and so is looking forward to attending their meetings without stressing about the conference organisation! **Jaco Weinstock** has been continuing his zooarchaeological study of the faunal remains from Amara West in Sudan (with Ellie Williams [Canterbury Christ Church] & Neal Spencer [British Museum]). Professor **Alistair Pike** has been continuing a series of isotopic studies of skeletal remains from a

wide range of time periods – but still retaining his focus on early hominins.

Over in Anatomy, the team now comprises **Scott Border, Jenny Skidmore, Stuart Morton, David Walker** and **Tomasz Cecot** as Andrew O'Malley has left to start up a new medical school at the University of St Andrews. One of the PhD students, **Sarah Schwarz**, is running the second “Skeletons, Stories and Social Bodies Conference” in March 2018.

We have also said goodbye to some colleagues who have moved on to pastures new... As noted earlier, Andrew O'Malley has moved to St Andrews. Alex Pryor has moved to a lectureship in Palaeolithic archaeology at University of Exeter. They are very much missed!

As in previous years, over the summer, PhD student **Sarah Stark** organised and ran a very successful osteoarchaeology internship programme for interested and keen undergraduate students.

PhD student **Steph Evelyn-Wright** has undertaken an internship during the autumn at the London Metropolitan Archives, undertaking research into disability. During this internship, she helped organise a conference with a series of workshops – and hosted David Blunkett throughout the event.

Teaching and research collaborations have continued to develop across the university, most notably with the Faculties of Social & Human Sciences, Medicine and Engineering. Our new *BA Archaeology & Anthropology* undergraduate degree is proving popular – as is our integrated Masters degree (leading to the award of *MSci* or *MArc*). A new *MSc* programme has launched, with a *Bioarchaeology and Paleopathology pathway*. This course will continue to develop the links with anatomy and bioengineering described earlier, and students have access to the dissection labs and microCT facilities.

Current Research Students

Two new PhD students have joined us this year. Emily Mitchell (supervised by Sonia

Zakrzewski & Professor Anne Curry) has started her research into the treatment and healing of wounds, particularly associated with medieval warfare. This research developed as an idea after working for the last few years at the Tower of London. Mike Burgess, working with Josh Pollard) has started research on Neolithic zooarchaeological and human assemblages to evaluate changing ecology.

Continuing PhD students:

Caroline Armstrong – Osteobiographical and isotopic histories of Barton-on-Humber

Steph Evelyn-Wright – Attitudes to and recognition of disability in Roman bodies and their representation and burials in cemeteries

Carolyn Felton – Markers of occupational stress in the spine

Christianne Fernee – Intra-individual variation and patterning of dental (especially root) morphology using μ CT

Sammy Field – Improving methods of analysis of dental wear for age estimation.

Nina Maaranen (through University of Bournemouth) – Bioarchaeological identification of the Hyksos.

Sarah Schwarz – Variation in Neanderthal mortuary practices

Sarah Stark – Patterns of childhood growth and long bone development using 3D geometric methods (such as structured light scanning)

Dissertations Approved for the MA in Osteoarchaeology 2016-2017

Michael Burgess - Examining changes over time in the porosity and histology of bone from lacustrine environments as a result of microbial attack

Jennifer Holland - A study of three suspected cases of Paget's disease of bone from two Anglo-Saxon cemeteries in East Bourne, East Sussex: a multi-analysis

approach to clinic diagnosis and contextualisation.

Jennifer Summerfield – Rotator Cuff Disease: A New Perspective.

Jamie Twaddle - Analysis of modified human bones from a Middle Bronze Age tell, Százhalombatta-Földvár, Hungary.

Department of Archaeology and Anthropology
University of Winchester
Heidi Dawson-Hobbis

New Anthropology degree

In September 2017 the University of Winchester had their first intake of students on the new undergraduate degree in anthropology and welcomed two new staff members Dr Lisa Bernasek (social anthropology) and Dr Heidi Dawson-Hobbis (biological anthropology). The degree consists of three strands: social anthropology, biological anthropology and archaeology/material culture.

MSc Human Osteology and funerary studies

The MSc Human Osteology and Funerary Studies is now in its second year with six students due to graduate from the 2016-17 cohort. There are currently four full-time and three part-time students studying for the course and proposed dissertation topics this year include; a study of ante-mortem trauma and care at the hospital of St Mary Magdalen, Winchester, The relationship between locality of deposition and pathology within an Anglo-Saxon cemetery, A reassessment of sex assignment through grave goods in early medieval skeletal remains: an accurate indicator or an out-of date method?, and A reassessment of the skeletal remains from Oakridge Well, Basingstoke – a Romano British or Anglo-Saxon deposition?

MRes Human Bioarchaeology

This is the first year that the MRes in Human Bioarchaeology has run, alongside the established MRes in archaeology, with one part-time student registered on the course. Proposed dissertation topic for this student is:

Revisiting the interpretation of Guildown Avenue as an Anglo-Saxon execution cemetery.

Other news

The department hosted the CBA Wessex annual conference 'From Bones to Drones' in November which included talks from Professor Charlotte Roberts (University of Durham), Dr Mary Lewis (University of Reading), Professor Richard Evershed (University of Bristol) and Dr Keith Wilkinson (University of Winchester). Dr Katie Tucker, assisted by David Ashby and Sarah Kennie, displayed finds and skeletal remains from excavations carried out by the University of Winchester at the cemetery of St Mary Magdalen, Winchester.

Dr Simon Roffey and Dr Katie Tucker continue their work on The Magdalen Hill Archaeological Research Project (MHARP), including analysis of the skeletons from the hospital of St Mary Magdalen, Winchester, with the aid of funding from a British Academy small research grant.

**POSTGRADUATE RESEARCH
ABSTRACTS**

The Cost of Survival: Identifying Life Course Associations between Childhood and Adult Health Outcomes in the Skeletal Record.

Gina McFarlane
University of Auckland

PhD Abstract (submitted)

A central concern in adult health is understanding the role that early health experiences, such as during childhood, may play in shaping later adult health outcomes. The aim of my research is to employ a life course approach to investigate associations between childhood health insults and health outcomes in adulthood. In addition, I examine if, and how, associations might be mediated or modified by sex and socioeconomic status (SES).

Data are collected from 195 individuals from four London cemeteries spanning a range of socioeconomic positions and who died between 1700 and 1852. Skeletal and dental stress indicators associated with childhood (cribra orbitalia, enamel hypoplasia, and final long bone lengths) are used in conjunction with adult health indicators (periosteal new bone, periodontitis, and age at death) to detect individual associations between early and later life. These data are supplemented by parish burial records for two collections representing the highest and lowest socioeconomic groups (n = 9239), allowing greater insight into differential mortality risks in terms of age, sex, and SES, including how these factors might influence selective mortality.

Findings suggest that childhood health insults can influence adult health but not in the manner expected. The predominant impact of childhood stressors was beneficial to adult survival and acquired immunity is suggested as a key factor. This effect is more pronounced in higher SES groups and it is likely an accumulation of risks across the life course exerted a stronger influence on lower SES individuals, minimising the impact of acquired immunity.

A critical examination of social stratification in prehistoric Cyprus using skeletal and funerary data.

Martina Monaco
University of Sheffield

PhD Abstract

The rise of elites in prehistoric Cyprus is a widely-debated by archaeological scholars. Nevertheless, there is little consensus on the answers to essential question such how to identify the incipient stages of this social phenomenon or the definition of probable indicators of social status within the archaeological record. While funerary evidence has long been a key source of data in these debates, skeletal analysis has been widely neglected. Moreover, recent excavations of crucial archaeological sites have provided new evidence, both funerary

and osteological, which may transform our perception of social complexity in prehistoric cultures. This data has yet to be integrated into wider scholarship. In consequence, an integrated approach to this argument capitalizing on skeletal and funerary as well as old and new data has become critical, as new, more effective methods have been developed to interpret the bodily implications of social inequalities.

My project is designed to investigate the emergence of social stratification through the analysis of osteological and archaeological material from Chalcolithic-Late Bronze Age Cypriot cemeteries. An integrated approach will enable the combination of skeletal evidence for activity and lifestyle (e.g. enthesal changes, osteoarthritis, Schmorl's Nodes, extramasticatory dental wear) with select funerary elements sensitive to social changes (e.g. grave goods, tomb architecture) in order to generate new data to critically review status-based differentiation within prehistoric communities.

Transient relations: non-adult funerary practices in 1st – 10th century AD Wales and Ireland and the origin of separate infant burial grounds.

Marion Shiner
University of Sheffield

PhD Abstract

Archaeology unexpectedly reveals that normative Christian burial was not always practiced in 5th to 10th century Ireland and Wales. Some cemeteries appear to have excluded the very young, while others contain their graves in significant numbers. Differences in grave types within and between sites are also observed. At several sites in Wales, the burial of non-adults appears to continue after it has ceased for older individuals. Yet despite the presence of hundreds of later Cillíní (infant burial grounds) in Ireland, Carrowkeel, Co. Galway is the only dated early medieval example. This WRoCAH/AHRC-funded research project will examine 1st – 10th century AD

mortuary practices within Wales and Ireland, as they have the potential to identify pre- and post-Conversion attitudes to children and childhood and the origin of the practice of separate infant burial.

3D geometric morphometric analysis of phalangeal torsion and rotational capacity in humans, primates and fossil hominins, and their application in stone tool use.

Tegid Watkin
University of Sheffield

PhD Abstract

The recent discoveries of the putative cut marks of Dikika and Lomekwian stone tools pre-date the earliest occurrence of the genus *Homo* by roughly 500,000 years. These recent discoveries, along with comparative extant primate studies, cast doubt on the long-held notion that deliberate and effective stone-tool production and manipulation originated in our genus. However, fossil hominin species contemporaneous with the earliest archaeological record exhibit manual morphologies at least partly adapted to arboreal locomotion. As such, how early hominins balanced the functional requirements of stone tool-related behaviours with arboreal locomotion is a pertinent issue in palaeoanthropology.

With the exception of select traits, there has been little focus on morphological specializations in fossil hominin fingers for enhanced manual dexterity. Medical research, however has identified several features of human phalanges that facilitate effective opposition to the thumb. For example, phalangeal torsion, asymmetry of the condylar heads, and incongruity of joint surfaces allow for rotation of the fingers along their longitudinal axes during flexion, thus enhancing the human capacity for finger-thumb pad-to-pad opposability, and strong and effective power and precision grips.

This project aims to determine the morphological distinction of these traits in modern *Homo sapiens* by conducting 2-

dimensional and 3-dimensional geometric morphometric analysis of human, non-human primate, and fossil hominin manual phalanges. It is hoped that this project will shed light on the role of longitudinal axial rotation of the fingers in the evolutionary development of the modern human hand, and to assess the significance that morphological features facilitating these movements played in the tool-making and tool-using behaviours of ancestral hominin taxa.

Animals, Identity & Cosmology: Mortuary Practice in Early Medieval Eastern England

Clare Eleanor Rainsford
University of Bradford

The inclusion of animal remains in funerary contexts was a routine feature of Anglo-Saxon cremation ritual, and less frequently of inhumations, until the introduction of Christianity during the 7th century. Most interpretation has focused either on the animal as symbolic of identity or as an indication of pagan belief, with little consideration given to the interaction between these two aspects. Animals were a fundamental and ubiquitous part of early medieval society, and their contribution to mortuary practices is considered to be multifaceted, reflecting their multiple roles in everyday life.

This project considers the roles of animals in mortuary practice between the 5th-7th centuries across five counties in eastern England – Norfolk, Suffolk, Lincolnshire, Cambridgeshire and Essex – in both cremation and inhumation rites. Animal remains have been recognised in 5th to 7th century burials in eastern England from an early date, and the quality of the existing archives (both material and written) is investigated and discussed as an integral part of designing a methodology to effectively summarise data across a wide area. From the eastern England dataset, four aspects of identity in mortuary practice are considered in terms of their influence on the role of animals: choice of rite

(cremation/inhumation); human biological identity (age & gender); regionality; and changing expressions of belief and status in the 7th century. The funerary role of animals is argued to be based around broadly consistent cosmologies which are locally contingent in their expression and practice.

Buried identities: An osteological and archaeological analysis of burial variation and identity in Anglo-Saxon Norfolk

Michelle L. Williams-Ward
University of Bradford

The thesis explores burial practices across all three phases of the Anglo-Saxon period (c.450-1066 AD) in Norfolk and the relationship with the identity of the deceased. It is argued that despite the plethora of research that there are few studies that address all three phases and despite acknowledgement that regional variation existed, fewer do so within the context of a single locality. By looking across the whole Anglo-Saxon period, in one locality, this research identified that subtler changes in burial practice were visible. Previous research has tended to separate the cremation and inhumation rites. This research has shown that in Norfolk the use of the two rites may have been related and used to convey aspects of identity and / or social position, from a similar or opposing perspective, possibly relating to a 'Pagan' belief system.

This thesis stresses the importance of establishing biological identity through osteological analysis and in comparing the biological identity with the funerary evidence. Burial practices were used to convey identity regardless of period or site type; however less common practices were most strongly associated with the biological identity of the deceased, presumably to convey social role or status. Whilst the inclusion of grave-goods created the early Anglo-Saxon burial tableau, a later burial tableau was created using the grave and / or the position of the body. Finally, the timeline of the religious transition appears to correspond with a greater

connection between the biological and social identity of the deceased.

REVIEW OF THE 19th ANNUAL BABAO CONFERENCE, 2017

Diana Swales
University of Dundee

From the 8th to the 10th of September 2017 the 19th Annual Conference of the British Association for Biological Anthropology and Osteoarchaeology was hosted by the Research Centre in Evolutionary Anthropology and Palaeoecology, Liverpool John Moores University. The event was held at the stylish John Lennon Art and Design Building and delivered an exceptional schedule of 37 podium presentations and 90 posters.

For those who were able to arrive on the Thursday before the conference, a pre-conference gathering was organised by Emily Carroll in the James Parsons Exhibition Space at the John Moores University City Campus which was followed by drinks at the Ship and Mitre pub.

The conference commenced on the Friday afternoon with a welcome from Professor Peter Wheeler.

Laura Bishop hosted the opening session entitled 'Palaeoanthropology and Primatology'. The presentations began with the work of Sarah Crudginton and Todd Rae on differentiations in coronal suture shape at bregma between some primate clades. This was followed by the work of Ashleigh Wiseman and associates who are utilising 2D geometric morphometrics to analyse the functional morphology of the hominin foot from fossilised footprints. Talk then shifted back up the body with Anabelle Lockey's presentation of her and her colleagues' research on variation in enamel thickness of mandibular incisors between modern humans, Neanderthals and the population from Atapuerca-Sima de los Huesos. Next, Alex Piel and colleagues shared their findings that figs are essential to the diet of chimpanzees in the Issa Valley, Tanzania, and not simply a

fallback food in times of necessity. This session concluded with Patrick Randolph-Quinney demonstrating examples of neoplastic diseases from the hominid fossil sites at Swartkrans, Malapa and the Rising Star caves.

A much welcome tea break accompanied the Poster Session which covered the three topic areas of 'Primatology, Human Adaptation and Variation', 'Dental Anthropology' and 'Bioarchaeology and Archaeological Science 1'.

The podium presentations progressed with the theme of 'Bioarchaeology and Archaeological Science 1' chaired by Richard Jennings. Ali Metin Büyükkarakaya presented an interpretation of the formation processes of a BB collective burial from Tepecik-Çiftlik in Central Anatolia (Turkey). Kirsi Lorentz shared her findings of cranial cultural modification within the first sedentary communities in the Near East. The next presentation was the results of a paleobiographical analysis of a mummified Inca infant undertaken by Claudia Cunha and Patricia Almeida Prado. Sam Walsh discussed life, death and burial of Early Neolithic populations in the Central Zagros region of Iraq. Janet Montgomery and colleagues presented their findings from analysing Sr-isotope data from a deciduous molar from a modern individual who emigrated from Africa to England, whilst the enamel was forming. The final talk of the day was a thought provoking presentation about the ethics of destructive analysis in bioarchaeology by Charlotte Roberts in collaboration with Eva Fernandez-Dominguez and Janet Montgomery.

The talks were followed by the BABAO Annual General Meeting where several matters were discussed and the new committee members were announced. Finally, the day drew to an end with a very pleasant drink reception with aperitifs 'on the roof'.

'Bioarchaeology and Archaeological Science 2' was the theme for the start of Saturday morning, chaired by Alison Brough. A good

mix of interesting presentations kept everyone focussed until the 'Morning Coffee' at 10.30. Caroline Wilkinson presented the Face of Robert the Bruce and discussed the influence the debated syphilis or leprosy from which he purportedly suffered would have affected his appearance. The next talk centred on the osteological, stable isotope and DNA analysis of a large Anglo-Saxon cemetery discovered at Hinkley Point undertaken by Sharon Clough and associates. The remaining four presentations led the audience beyond the UK. Jessica Palmer and Andrea Waters-Rist documented evidence for socioeconomic stability in post-medieval Aalst (Belgium). Elina Paterson-Gordina presented the results of the use of isotopic analysis of the St Gertrude Church cemetery population to try and identify rural immigrants. The problems associated with interpreting gender in funerary provision in the Monte Alban Tombs were the focus of the research presented by Geraldine Granados and Lourdes Marquez. Finally, Eóin Parkinson discussed spatial variation in skeletal biomechanics observed in his study of late Neolithic and Copper Age central Mediterranean populations.

After a refreshing coffee break (and an opportunity to further peruse the posters), Emma Pomeroy and Linus Girdland Flink chaired the session 'Variation, Adaptation and Molecules'. The research by Åshild Vagene and colleagues on a 16th century Salmonella epidemic in Mexico led the proceedings. This was followed by two papers by Ana Curto and colleagues and Samantha Leggett addressing different approaches using stable isotope data. Zarus Cenac and Richard Cook introduced us to their research into the other-race effect and facial variability and lastly Sarah-Louise Decrausaz presented the results of her and her colleagues into the association between body composition and pelvic dimensions and pelvic obstetric capacity in the modern female population of London.

A very lovely lunch was served alongside the posters for a further five categories. The categories were: 'Palaeopathology', 'Molecules and Isotopes', 'Forensic Anthropology', 'New and Emerging

technologies in Bioarchaeology' and 'Bioarchaeology and Archaeological Science 2'. The very thoughtful Isabelle De Groot ensured all the individuals scheduled to present their posters during the lunch break did indeed get some food.

The afternoon continued with the 'Palaeopathology' session. Rachel Schats addressed the provenance of syphilis in the Netherlands and the work of Maria Le Roi and colleagues demonstrated the use of x-ray to confirm macroscopic diagnosis of metastatic cancer. The remaining studies in the session by Rose Drew and Gwyn Madden (Tukthuset, the Oslo House of Correction), Tina Jakob and Joe Walser III (Mograt Island, Sudan), Dawn Gooney and Carmelita Troy (Grangegorman Lower Cholera Cemetery, Dublin) and Christian Meyer and associates (Mass Grave of Halberstadt, Germany) were large scale palaeopathological and bioarchaeological studies of interesting populations affected by different conditions and evidencing mass violence.

The first hour after the afternoon tea break consisted of a public exhibition including the 3D scan model of Richard III, a display testing the ability of people to recognise famous faces without hair or colouration, virtual reality teaching resources and publishers (apologies, this is not a definitive list because it was a hive of activity). At 17:00 everybody gathered for the Public Lecture by Professor Chris Stringer, who gave a wonderful talk on the recent developments in the field of human evolution and how new discoveries have enabled him to reevaluate and adapt some of his previous theories.

The Annual Conference Dinner was hosted in the Liverpool Metropolitan Cathedral with its beautiful and atmospheric interior. The delicious three course meal was accompanied by some very talented magicians and was followed by the famous BABAQ quiz. The dinner, magic and quiz were thoroughly enjoyed!

The final day of the conference opened with a session on 'New and Emerging Techniques in

Bioarchaeology' hosted by David Jordan. Francesco Simonit led the presentations with the work undertaken on moments of inertia and cross sectional properties in relation to bone functional adaptations. Fabio Cavalli presented the findings of a preliminary study investigating the application of a densitometrical CT approach to determining the temperature at which archaeological bone has been cremated. The theme of burning continued with Emily Carroll's presentation on a new approach to the analysis of burnt human remains. The session ended with an introduction to the human skeletal anatomy teaching resource *Skeleton2Go* developed by Joel Irish and colleagues.

After the break the final session chaired by Matteo Borrini focussed on 'Forensic Anthropology'. The research of Winsome Lee and associates focussed on the aetiology and social significance of forearm fractures in a Modern Cypriot population. Keith Silka presented findings from the exhumation of mine shafts in Zimbabwe. Patricia Almeida Prado shared the initial findings of a study applying biological and forensic anthropology methodologies to individuals donated to the department of Anatomy of the Federal University of Bahia. Matteo Borrini concluded the podium presentations with the interesting account of the forensic investigation of the assassination of Giuliano de Medici 500 years ago.

The conference came to a close with the awards. The Jane Moore prize for best student podium presentation went to Sarah-Louise Decrausaz (University of Cambridge) and the runner up was Ana Curto (University of Kent). The Bill White prize for best student poster went to Chris Aris (University of Kent) with Anna Davies-Barrett (Durham University) named as the runner up.

Those who did not need to rush off to other destinations immediately after the conference were further welcome at and participated in the 'Meet the Scientist' public session at the World Museum in Liverpool, which was a fabulous idea.

Congratulations to the organisers of the Liverpool conference including academics, students and administrative staff. It was a great success and was a thoroughly enjoyable experience.

FORTHCOMING CONFERENCES,
COURSES AND WORKSHOPS

**22nd European PPA Meeting, Zagreb,
Croatia, 28/8/ t- 1/9/2018**

Dear colleagues and friends,

It is our great pleasure to invite you to attend the 22nd European Meeting of the Paleopathology Association (PPA) that will be held in Zagreb, Croatia from 28th August to 1st September 2018. The main conference venue is Sheraton Zagreb Hotel located in the city centre. Registration and abstracts submission is open via our homepage www.ppa2018.com

On behalf of the Organizing & Scientific Committee we wish you a very warm welcome to Zagreb!

Best regards,
Mario Novak (President of the local Organizing Committee)

**20th Annual Conference of the British
Association for Biological Anthropology
and Osteoarchaeology**

We are pleased to announce that BABAO's 2018 conference will be held by Cranfield University. The dates are currently 14th - 16th September.

More information to follow.

Contact: Dr Nicholas Marquez-Grant:
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MEMBERS' PUBLICATIONS

– 2017 –

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