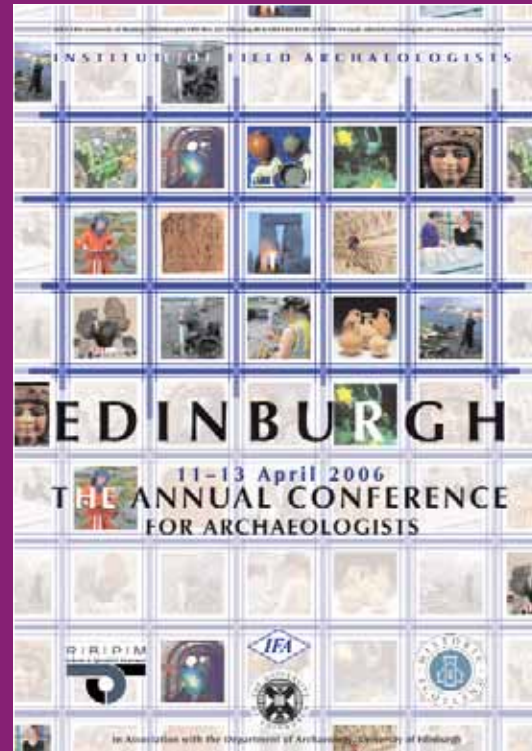


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The ARCHAEOLOGIST



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Contact us: Postgraduate Admissions Office, School of Arts, Histories and Cultures, Humanities Lime Grove, The University of Manchester, Oxford Road, Manchester M13 9PL. Tel: +44 (0)161 306 1259; E-mail: SAHCPG@manchester.ac.uk

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ENGLISH HERITAGE

Culture 2000

**Cirencester 2006:
Aerial Archaeology Training Course
1–9 July 2006**

English Heritage's Aerial Survey and Investigation team is organising an intensive nine-day course for an international group of participants, based in Cirencester, Gloucestershire. Students will learn how to interpret archaeological and non-archaeological features on aerial photographs and carry out small landscape analysis projects. They will also develop their interpretation skills in the air, flying from Kemble Airfield; they will learn how to organise and plan aerial reconnaissance flights and how to take aerial photographs for the benefit of the historic environment.

This will be the first Culture 2000 funded aerial archaeology training school in Britain, as part of the European Landscapes: Past, Present, Future project. Previous aerial survey training schools, since 1995, have all been based on mainland Europe. The school, and the overall project, aim to deliver a range of activities including the promotion of landscape studies using airborne remote sensing techniques.

All participants will be resident at the Royal Agricultural College near Cirencester and the accommodation and meal cost will be £650 (950 euros). Travel costs to and from the course are the participant's responsibility. The course will be taught in English and be open to participants from all European Union countries.

For more information and details of how to apply please contact aerialsurvey@english-heritage.org.uk.

(Culture 2000 Project 2004-1495/001-001 CLT CA22)

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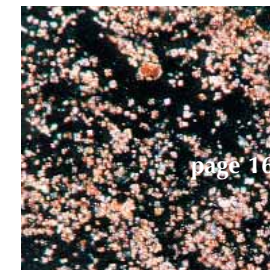
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Environmental archaeology has long been known to add hugely to archaeologists' understanding of the past, and the dreaded buckets of 'soil samples' have been routinely collected for nearly fifty years. But technical problems abounded and so, perhaps more seriously, did communication problems between archaeologists putting together site narratives and their colleagues doing a very different sort of scientific work in a distant laboratory. Things are certainly improving now, with much better proximity of functions and aspiration, and refined techniques coming on stream all the time.

This issue of *TA* could only expect to give a snapshot of work in progress, but it does pick up on some exciting pieces of work. These include discovery of Mesolithic forests, footprints and shelters around the Severn estuary; English Heritage work on the flora of Roman Britain and on what the medieval royals liked to eat; the expanding work programme of Birmingham Archaeology (from new Neolithic trackways in Yorkshire to the horrors of mass graves in Srebrenica); and a medieval Londoner's survival of a series of wounds, any one of which should have killed him. We learn too about the problems besetting young archaeologists who would love to keep up a career in archaeobotany or other environmental work but cannot find consistent employment (a common tale for specialists), and of

optimism that at last Greater London's environmental data might be pulled together in a way that will help broader archaeological understanding.

IFA, like the rest of the archaeological community, has been working to get the best results from the Heritage Protection Review. It has also provided input to the DCMS Select Committee inquiry into *Protecting, preserving and making accessible our nation's heritage*. Once again we have stressed the importance of revising planning guidance to make issues such as full publication of excavations, proper treatment and archiving of finds, and funded outreach work all part of normal developer-funded archaeological work.

Urgent news now from IFA is that the Annual Conference is approaching (11-13 April), and you need to move fast for your cheaper Early bird booking rate. For this you need to get an application form (download from IFA website or apply to office) in by 11 March. Hope to see plenty of you in Edinburgh!



Alison Taylor
Alison.Taylor@archaeologists.net

Notes to contributors

Themes and deadlines

Spring: Archaeology of medieval Britain
deadline: **30 March 2006**

Summer: Identity
deadline: **15 June 2006**

Contributions and letters/emails are always welcome. It is intended to make *TA* digitally available to institutions through the SAL/CBA ie-publication initiative. If this raises copyright issues with any authors, artists or photographers, please notify the editor. Articles should be sent as an email attachment, which must include captions and credits for illustrations. The editor will edit and shorten if necessary. Illustrations are very important. These are best supplied as originals or on CD, scanned at a minimum of 500kb. More detailed *Notes for contributors* for each issue are available from the editor. Opinions expressed in *The Archaeologist* are those of the authors, not necessarily those of IFA.

EDITED by Alison Taylor, IFA, SHES, University of Reading, Whitenights, PO Box 227, READING RG6 6AB

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FROM THE FINDS TRAY

Wales/Cymru Group dayschool

The Group's IFA dayschool in Machynlleth departed from the normal format to bring in a workshop element. The subject matter was CPD – Continuing Professional Development – led by Kenneth Aitchison and Kate Geary. They gave an overview of CPD, why and how, while Jonathan Berry from Cadw and Charlotte Berry, an archivist, gave personal views on how CPD worked for them. The afternoon was spent in smaller groups looking at how to construct a personal development plan and to log CPD. A proforma personal development plan and CPD log, as well as further information and advice on the IFA CPD Scheme, can be downloaded from the Training pages of the IFA website.

New contact details for applications to excavate human remains

The address to apply for this permission (previously 'Home Office licence') is now Coroners Division, Department for Constitutional Affairs, 4 Abbey Orchard Street, London SW1P 2HT. The Burial Grounds Survey contact number is Tel: 0207 340 6661, Fax: 0207 340 6680. Useful contacts are Tony Woolfenden, Head of Unit – 0207 340 6655, Tony.Woolfenden@dca.gsi.gov.uk Pat Doyle, PS – 0207 340 6656, Pat.Doyle@dca.gsi.gov.uk

RCAHMS and SMR co-operation

On 7 November, the Chair of RCAHMS, Professor John Hume, and Councillor Jean McFadden, Glasgow City Council, launched the Statement of Co-operation between the RCAHMS and the Scottish SMRs. One area of co-operation is that of online resources, and in tandem with the launch of the Co-operation Statement, a new version of PASTMAP was unveiled, incorporating information from some of the local authority SMRs alongside national datasets from RCAHMS, Historic Scotland (scheduled monuments and listed buildings) and Scottish Natural Heritage (historic gardens and designed landscapes). PASTMAP can be found at www.pastmap.org.uk.

Copies of the Statement can be obtained from RCAHMS at: John Sinclair House, 16 Bernard Terrace, Edinburgh EH8 9NX. www.rcahms.gov.uk



Diana Murray (Secretary RCAHMS), Carol Swanson (Chair, ARIA) and Ian Shepherd (Chair, Scottish SMR Forum)

Environmental specialists wanted!

The IFA's *Standards and Guidance for the collection, documentation, conservation and research of archaeological materials* defines such materials as including 'environmental material, biological remains (including human remains) and decay products'. Along with artefacts, building materials and industrial residues they complete the archaeologically recovered 'finds' record. IFA Finds Group has not had an environmental specialist on the committee for a many years now and is very much aware of this gap. This is most obvious when raising issues associated with training needs and seminars. Are you an environmental specialist who would consider joining the committee to address this imbalance? Or would you consider forming a group, to act in parallel with the Finds Group or as another IFA special interest group?

This year's seminar and hands on training session will be focused on glass, but we would like to include some aspect of environmental evidence for training after that. The human bone training sessions run a few years ago were particularly popular. Please contact Nicola Powell, Secretary, IFA Finds Group npowell@musuemoflondon.org.uk if you're interested and with your comments.

FROM THE FINDS TRAY

The 2006 Portable Antiquities Scheme Conference: Advancing archaeological knowledge.

11 April 2006, 10.00–17.00, BP Lecture Theatre, British Museum, London
Papers will examine the contribution of PAS to small finds research, the understanding of particular sites and the broader historic environment, as well as the benefits of working with conservators to further our understanding of finds and sites that have come to light through the Scheme. The conference is FREE but bookings are essential.

For further details or to book a place contact Claire Costin on 0207 323 8618 or ccostin@thebritishmuseum.ac.uk

Illegal tendering

Dan Johnston MIFA drew IFA's attention to an interview on the BBC's *Today* programme in which Simon Williams, Director of Investigations at the Office of Fair Trading, reported on a recent investigation into tendering practice amongst construction firms in the East Midlands. It is apparently common to submit artificially high tenders where a firm does not want to win a job. This practice has apparently been found in the courts to be unlawful, and may constitute fraud and/or collusion between contractors (ie potentially a criminal rather than civil offence). While the OFT's greatest concern arises where money changes hands between contractors as part of a price-fixing cartel, archaeologists should be aware of the potential illegality of submitting a high tender in order to stay on a client's tender list.



Study Group for Roman Pottery News

This year's SGRP Conference will take place from 30 June to 2 July in Ghent. A 'Graham Webster Memorial Grant' will be available from the Group, contributing towards travel and attendance costs. The Study Group is also instituting an annual 'John Gillam Prize' prize for an outstanding item of work in the field of Roman pottery studies. The Group would be pleased to hear about any work (eg pottery reports – grey literature and otherwise, synthetic studies, student dissertations and theses, etc), appearing over the past two years, that may be worthy of consideration. For more details see the Study Group website (<http://www.sgrp.org/>) or contact the Group secretary, Jane Evans (secretary@SGRP.org).

Apologies from IFA database

IFA's database crashed after Christmas, just as all the addresses for the *Yearbook* were being updated. The office (mostly Kathryn Whittington) did sterling work re-checking all the corrected forms that members had sent in, but we have to warn you in advance that it is still possible mistakes went unnoticed. When your *Yearbook* does arrive, can you let us know with great patience if we have got you wrong for any reason? (admin@archaeologists.net, or usual Reading address).

Heritage Lottery Fund Success!

IFA has heard that our bid to HLF to fund workplace learning bursaries in archaeological skills development has been successful, and between eight and ten bursaries, covering salary and expenses, will be available each year. The bursaries will be open to archaeologists across the UK and designed to meet clearly defined skills needs in the heritage sector. They will be structured around the newly developed National Occupations Standards in Archaeological Practice and may contribute towards a formal qualification. Placements have been offered by a variety of heritage organisations and cover a diverse range of archaeological skills including Finds and environmental work, Field survey and desk based assessment, Historic Environment Records and agri-environment work, Archive management and digital preservation, and Teaching and museum work.

Finishing someone else's story

Michael Heaton, Peter Hinton and Frank Meddens

From time to time archaeologists' clients farm out post-excavation work to organisations other than the one that conducted the field work. The Committee on Working Practices in Archaeology recently reviewed this practice and concluded that in general it is not something that should be encouraged.

There are a number of reasons for this, including intellectual property and copyright issues, and the costs of archaeologists familiarising themselves with the excavations. Perhaps most significant is that the process of project design, evaluation, excavation, assessment, analysis and publication works best as a seamless exercise of investigative and analytical endeavour. Compartmentalisation encourages a mechanistic approach at the expense of intellectual engagement, and changes of personnel can damage academic and public benefit. Of course there are occasions when it is appropriate for an organisation to analyse and publish the work of another, for example in the case of clear incompetence, undue delay, or extortionately increasing costs. More respectably, a handover can be expected when several organisations work on a series of sites best analysed and published in a single enterprise.

Steps can be taken to protect the archaeologist against a client market testing if a change of contractors is merely a device for reducing cost; and also to protect the client against an unwarranted price hike. Contractual documents should stipulate that work remains with the original archaeological organisation if a contractor has given a binding 'fixed' cost for the whole project (often a risky approach). In this case the client would be in breach of contract in giving the work to someone else. However, if the archaeologist is seeking to adjust the post-excavation costs, the client has a right to

renegotiate or re-tender it, whether such right is explicit in the contract or not. It is possible to use a 'cost variation' clause if post-excavation estimates change by more than a given percentage following assessment: it may be sensible to involve an independent consultant to advise on or manage the process. Provisions regarding copyright could be made in such circumstances. Such clauses could be included as 'special conditions' under 16.1 of the ICE *Conditions of Contract for Archaeological Investigation* (see TA 54, 8).

Matters may get complicated when work has been initiated under a letter of commission. Where this approach is followed the 'Written Scheme of

...the process of project design, evaluation, excavation, assessment, analysis and publication works best as a seamless exercise of investigative and analytical endeavour.

Investigation' clearly is the vehicle by which intentions are made explicit, with details of project review stages, funding and payment schedules. The clauses included as 'special conditions' referred to above should sensibly be cross-referred to in the 'Written Scheme of Investigation'.

Accommodating the legitimate interests of the archaeologist in

charge of a field project is another relevant issue. The dynamics of potentially contradictory gains, of the supervisor's rightful stake versus that of the client, generally mean that commercial interests carry most weight. Nevertheless the desirability of making the original site director's input in the post-excavation process explicit in IFA Standard and guidance documents should be considered.

The IFA proposes to prepare sample clauses for insertion into the *Conditions of Contract*, to add a clause to the *Standard and guidance* documents, and to explore the possibilities of training archaeologists in construction contracts. Comments from members would be welcome.

Michael Heaton
Peter Hinton
Frank Meddens
fmeddens@pre-construct.com

IFA AND CONTINUOUS PROFESSIONAL DEVELOPMENT

Kate Geary

CPD

Continuous professional development (CPD) is the means by which archaeologists develop their skills throughout their working lives. We all 'do' CPD but not many of us seem to record it. I set out to find out why.

The IFA published its CPD scheme in March 2000. A survey in 2002 found that the majority of members

- were aware of the IFA's CPD recommendations
- had considered their CPD needs
- were undertaking CPD activities
- valued CPD as a means of personal and professional development

It also found that

- few systematically recorded their CPD
- few had visited IFA's CPD web-pages
- CPD was rarely integrated into staff appraisal or recruitment systems
- few received feedback from their employers on their CPD activities

Most agree that we need to maintain and develop our skills and professional competence throughout our working lives, but why is it important that we record it?

Potential and promotion?

Firstly, producing a personal development plan (PDP) and CPD log is a useful exercise in itself. It requires a realistic assessment of where you are in your career and what you would like to achieve. It

allows you to identify training and development needs and to look for ways to meet them. Development needs may be linked to your current work or to future professional or personal aspirations. You may be able to meet some yourself through focused reading, research and personal study; others, you will need help with. By recording your CPD activities and linking them to your personal development plan, you can measure your progress and document your achievements. Your PDP can also be a starting point for discussions with your employer on career development (and promotion!) where a formal appraisal process does not exist and, where it does, demonstrate your commitment and skills (and potential).

Value of informal learning

Identifying training needs which will not be met can be de-motivating, and is an obstacle to more widespread use of CPD. What is the point of having a PDP and CPD log if development opportunities are simply not available? One of the biggest strengths of CPD as a process, however, is that it recognises informal learning and can be tailored to suit individual circumstances. A lot of learning in archaeology takes place informally, on-the-job, and this is just as valid a CPD activity as attending a conference or going on a course.

Whilst creating a personal development plan and identifying your career development needs is very much a personal commitment, we also need to look

more widely at the role of employers, IFA and other training providers. Employers need to integrate CPD recording into their own systems of staff appraisal, as a number of RAOs have started to do.

Development of a professional institution

IFA is taking another look at its CPD scheme, in line with recent developments. Compulsory CPD is crucial to further development as a professional institute and is fundamental to many of the initiatives we are currently working on. Any new vocational qualifications are likely to be underpinned by the concept of CPD recording and a new on-line system has been developed with this in mind. Even development of a professional membership route for obtaining CSCS cards depends on members being able to demonstrate their competence through CPD.

Training workshops

With this in mind, we have been developing workshops and presentations to support members and RAOs in the recording of CPD and its integration into training agenda more generally. IFA is working with Prospect to train union learning representatives who will also be able to champion the cause of CPD and provide practical advice on learning opportunities. We will also be promoting learning opportunities wherever we can, especially the day schools and workshops of the IFA's national, regional and special interest groups. Wherever possible, we will link training

opportunities to national occupational standards for archaeological practice and we will work with other training providers to make this become more commonplace.

Feedback?

There are plenty of horror stories out there about lack of training and career development opportunities and it is important that you keep letting us know where things are not working as they should. It would be nice, though, to publish good news from time to time as well. I have come across numerous examples of good practice instigated by individuals and employers as part of my research and hope to publish accounts of some of these in future editions of *TA*. If you have any training or career development initiatives you would like to promote, please let me know so that they can be included.

Kate Geary
IFA Training and standards co-ordinator
Kate.geary@archaeologists.net

CPD

Interviews and Presentations

Following the positive feedback from my CV article in TA 57 I now offer advice about presentations and interviews based on the personal experiences of JIS subscribers related to me over the years.

Before the interview ● ● ●

Be well informed and do your research. Most employers have websites and the internet is often the best place to find out about the organisation and their major projects and publications before your interview. The internet can also provide information about new areas of work, especially heritage based or museum posts. One of our subscribers got a Heritage Lottery funded oral history post in this way.

Look at the job description in detail, identifying reasons why you fulfil all or most of the criteria and are the right person for the job. Think about ways of demonstrating this at interview. Don't worry about not fulfilling *all* the criteria – just be honest.

On the day ● ● ●

To have reached the shortlist you must have convinced the employers that you are a good candidate, although interviewers may already have selected favourites. Still, performance on the day is the key. Remember too that it is just as important for you to learn about this organisation as for them to learn about you. Make sure you get all the information you need, and use this to gauge if this is really the place you want to be.

Appearance ● ● ●

Obviously this will depend to some extent on the kind of job. For any managerial job, or if you will be dealing with the public, a suit is best and a jacket is

virtually essential for both sexes, but do wear something you feel comfortable in. Even if you are looking for temporary excavation work don't dress as you would on site. Pay attention to grooming. Clothes, hair and fingernails should be clean. Some interviewers have prejudices about appearance – tattoos, unusual hairstyles, multiple piercings etc. Though none of these are known to affect digging or any other ability, unfortunately they might prefer to appoint a more conventional looking person. I am not saying that you should compromise your principles, but it does not hurt to tone your appearance down – until you get the job, of course.

Arrival ● ● ●

Aim to arrive about 10 minutes before your interview. Do not arrive too early and hang around in the organisation's main office – this apparently annoys interviewers. Go for a coffee and have a final check of your appearance. It goes without saying that you should be courteous to other staff you encounter – apart from the issue of good manners, their opinion may carry more weight than you think. And you may soon be working with them!

Presentations ● ● ●

Sometimes you have to give a presentation ahead of formal interview. Careful preparation is needed. Don't try too hard to demonstrate your breadth of knowledge. Focus on a few well chosen case studies and use the presentation as a vehicle to showcase your skills and winning personality. People not on the interview panel might attend the presentation, all with their own agenda and obsessions. Some will be there simply to ask difficult questions. Do not be defensive, however stupid the question. Getting reactions out of you is part of the game. Ask them to repeat themselves if you failed to catch what they said or understand what they meant. Many people use PowerPoint, but even if you have

just a few slides and overheads make sure your audiovisual needs will be met on the day. It is galling to be held up by technical difficulties, so take back up. You only need a small number of visuals to provide a backdrop and illustrate main points. Be selective and use a few glamorous photographs or images, perhaps including yourself digging an interesting site.

Too much PowerPoint text can be distracting. Short headings are a better means of signposting but, on the other hand, you could just do without them and talk. A radical idea I know, but it worked in the days before computers. Never read out what they can see on the screen. Never read directly from a page, but there is nothing wrong with having a list of your main points in front of you. Look up at the audience but avoid prolonged direct eye contact with anyone or you might lose your momentum.

Interviews ● ● ●

Body language can be revealing, but beware of spending too much time analysing this or you could become paranoid. Apparently you should not fiddle with your ear or your nose – a sign of a shifty personality – so, even if they itch, leave them alone. Be open and positive, and have some eye contact with all the interviewers.

In the same way that being too monosyllabic in your responses is bad, so is holding forth and gushing like a geyser. Resist the impulse to over-elaborate or try too many jokes. Similarly, you might have worked at the Unit from Hell (who hasn't?) but the interview is not the place to criticise past or current employers. Do not sabotage your chances by appearing bitter, even if you worked in a nest of vipers. Remember, success is the best form of revenge.

Many employers now ask you to discuss your faults as well as positive traits. Try not to phrase your answers in a negative way. Demonstrate how you have dealt with an area of weakness or inexperience, or a problematic situation, presenting it as a lesson learned. This will make you appear resourceful, flexible and adaptable, willing to learn new skills or change your perspective. Think of tough questions and how to answer them. If you are hoping to move into a new area of work, show how your experience has prepared you, how aspects of your work have led you to this point.

Psychometric testing ● ● ●

This is now all the rage. If you have to undergo this by filling out a very curious questionnaire, do not worry because everyone fails or appears weird. They will just choose the least weird one, according to some arcane criteria.

Coping with failure ● ● ●

Assuming there are four shortlisted candidates for one job, three will be disappointed. If you were unlucky it does not mean that you are useless, or cursed, or that you should give up archaeology. It just means that one person had more skills or experience or just performed better on the day. Or the panel made the wrong decision.

Never take rejection personally. Remember, if you were interviewed you were a contender. With your next application you might be *the* contender. Good luck!

Lynne Bevan
JIS Compiler
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Submerged forests from early prehistory

Martin Bell



The submerged forest at Borth, West Wales. Photograph: Martin Bell

Submerged coastal forests are sites where one can walk in an ancient landscape, through trees which stood in prehistory. Scattered on the woodland floor is the debris of flint working, bones, and footprints of prehistoric people and animals. These remarkable and evocative sites were well known to the naturalists of the Victorian period yet today they remain a little appreciated resource. Most of those dated in Wales and South West England are later Mesolithic and Neolithic, a significant finding, given that Mesolithic sites with preserved bone assemblages, organic remains and environmental evidence are extremely rare. The Mesolithic is the least investigated period in British prehistory, impoverished by comparison with the wetland riches of the Netherlands, Denmark and Germany.

Skeletons of Mesolithic trees

Recent excavations at Goldcliff East and other sites in the Severn Estuary demonstrate the potential. Here Mesolithic activity began c. 5700 Cal BC in an extensive oak and hazel forest which covered the bed of the present estuary. As watertables rose the forest died, the skeletons of trees were left standing, first in reed swamp and then accumulating saltmarsh. Some oaks and reeds are charred, suggesting Mesolithic communities manipulated the coastal environment, just as they burnt the moorlands of upland Britain. Mesolithic activity focused on a bedrock island, surrounded at various times by swamp and saltmarsh. On the island edge a succession of Mesolithic activity areas was buried and preserved by rising sea-level and estuarine sediments. The complex of sites is sealed by a second submerged forest dated 4200 Cal BC.

Children's footprints

The forests themselves often contain oaks and are key sites for dendrochronological sequences in prehistory. Palaeoenvironmental studies offer major opportunities for comparing a range of datasets. We have mapped the tree types present, investigated the plant macrofossils of the woodland floor, the pollen and insects and the relationships between these changing ecologies and the patterns of human activity. Occupation horizons preserve bones, fish bones and scales, seeds and even human intestinal parasites. Of special significance, given their extreme rarity in Britain, is a small collection of worked wood objects. Around the island, stratified in saltmarsh sediments, are the footprints of Mesolithic people, deer and birds. A notably high proportion of the footprints are of children.



Excavating a charred oak tree which grew c 5700 Cal BC in the submerged forest at Redwick, Wales. Photograph: Edward Sacre

Tracks, buildings and seasonal herding

The significance of submerged forests and intertidal peats is not limited to the Mesolithic. Previous work at Goldcliff included excavation of eight buildings and 19 trackways within coastal peats. Four rectangular buildings of middle Bronze Age date have also been excavated on intertidal peat at Redwick in the Severn Estuary. Such buildings appear to have been used during seasonal pastoral activity on the wetland. Surrounding the buildings are the footprints of cattle, some sheep and once again a child. Work is now underway on palaeochannels at Peterstone in the Severn Estuary, not this time a submerged forest but a coastal wetland. Here the channels contain wood posts and a hurdle, probably part of a fish trap. Pottery, bones and wood artefacts were deposited in the channels from adjacent settlement areas in the late Neolithic to middle Bronze Age.

Such discoveries highlight the potential of other sites where artefacts have been found with submerged forests and wetland sequences, but only some HERs include even a selection of the submerged forests and intertidal peats that are exposed. A rapid survey for English Heritage in 1996 recorded 103 sites scattered throughout England and 30 were also documented in Wales, where a recent review contained 59.

Erosion and damage

Sea-level rise is increasing erosion, and some sites are being damaged by programmes to upgrade sea defences. One problem is that most sites are only exposed when storms sweep away sand and silt. These intertidal exposures provide a glimpse of what lies buried in the reclaimed areas of coastal wetland, inland of the present sea wall. Such reclaimed areas are often under great development pressure because they are close to ports, and extensive areas of former wetland around Avonmouth, Cardiff and Newport have been subject to large-scale development.

Increasing tracts of the coastal zone are also designated for nature conservation. That has the great benefit of preserving, and often restoring, wetland habitats, but 'green development' is often involved, such as new lakes and ponds. Current policies of managed retreat, whereby sea walls are set back to create new saltmarsh will also lead to erosion of areas of former wetland. Such erosion can



Excavation of a Mesolithic settlement stratified below a submerged forest at Goldcliff, Wales. Photograph: Edward Sacre

Mesolithic human footprint in estuarine silts stratified between Mesolithic submerged forests dated 5700 and 4200 Cal BC at Goldcliff, Wales. Photograph: Edward Sacre

be both rapid and dramatic as recent experience at Porlock, Somerset demonstrates.

Current work shows that intertidal sites can transform knowledge, particularly of neglected periods such as the Mesolithic. All the more important, therefore, that we fully document sites seen in the past, flag their potential in the planning process and coastal zone management and keep a careful look out for future exposures, particularly after major storms.

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Experimental Earthworks

Martin Bell



Excavation of two experimental barrows at Lejre Historical and Archaeological Experimental Centre, Denmark in May 2004. Photograph: Martin Bell, courtesy of Lejre

Sites with exceptional preservation of organic artefacts and environmental evidence are rare, but hugely important in enlarging our picture of the past. Two examples make the point. The outstanding preservation of plant remains and insects below the great Neolithic mound of Silbury Hill provides an invaluable insight into the downland landscape around Avebury. Preservation of the Bronze Age Egtved girl in a tree trunk coffin below a barrow in Denmark, with preserved clothing and organic artefacts, provides one of our most evocative images of a prehistoric individual. Exceptional burials of this kind, several of which are exhibited at the National Museum Copenhagen, are on sandy well-drained soils. In both the Egtved and Silbury Hill cases the reasons for such exceptional preservation have not been entirely clear. Only by understanding the reasons why preservation occurs will we be able to predict other sites with the potential for exceptional preservation and manage them in a way which does not compromise the unique burial environment. All this is part of the developing agenda of understanding *in situ* preservation.

Explaining preservation

Experimental earthworks have an important contribution to make, as recent work at the Lejre Experimental Centre in Denmark shows. Here a successful experiment has been carried out by a team led by Henrik Breuning-Madsen, Mads Holst and Marianne Rasmussen. Preservation at sites such as Egtved has been investigated by quarter-scale constructs of Bronze Age barrows, with turf cores containing log coffins and pig burials with textiles and copper artefacts. These show that, very rapidly after burial, an iron pan envelope can develop around the barrow core as a result of redox processes (oxidation/reduction). The result is a waterlogged anaerobic core in which exceptional preservation over extended timescales is possible. Similar circumstances may well account for examples of exceptional preservation in some British barrows, particularly in the antiquarian literature. Extensive iron pan development was also evident in the core of Silbury Hill, although not apparently in all those parts of the buried soil where exceptional preservation occurred. This is a problem with which English Heritage is currently grappling as they take forward plans to stabilise the hill and understand its unique burial environment after the recent collapse of an earlier excavation shaft.

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Overton Down and Butser

In Britain there are two main experimental earthwork projects. Linear earthworks were set up in the early 1960s at Overton Down, Wiltshire and Wareham Heath, Dorset. An ambitious project designed to last 128 years, it involved burying identical sets of organic and inorganic artefacts which would be excavated at intervals to monitor decay and preservation processes. Four octagonal earthworks were set up in 1985-1991 by the late Peter Reynolds under the aegis of the Butser Experimental Farm. They did not involve the burial of artefacts but they do bury soils, and changes to these could be monitored. The buried soils at Overton are similar to those we find under prehistoric earthworks and even here there is evidence of slight iron pan development in the mound.

The British and Lejre experiments both demonstrate that many of the key changes to the physical form of earthworks and the burial environment take place very rapidly after burial. It is for this reason that medium-term experiments of one year to a decade or two, can play an important part in explaining why evidence survives over millennia.

The Overton Down, Wiltshire, Experimental Earthwork excavated in 1992, 32 years after construction. Photograph: Martin Bell

The buried soil and turf core of the 32 year old Overton Experimental Earthwork. Photograph: Ed Yorath



NEW DEVELOPMENTS IN THE FIELD OF *HUMAN REMAINS*

Advisory Panel on the Archaeology of Christian burials in England

In January 2005 English Heritage and the Church of England published *Guidance for Best Practice for Treatment of Human Remains Excavated from Christian Burial Grounds in England* (www.english-heritage.org.uk/upload/pdf/16602_HumanRemains1.pdf). This included a recommendation that there be a panel to provide archaeological advice. This panel, the Advisory Panel on the Archaeology of Christian Burials in England (APACBE), has now been set up, sponsored by the Church of England, English Heritage and the Department of Constitutional Affairs and including osteologists, archaeologists and museum staff. Advice will include appropriate consideration of relevant religious, ethical, legal, archaeological and scientific issues. This advice is free. Contacts: Joseph Elders (Chair): joseph.elders@c-of-e.org.uk or Simon Mays (Secretary): simon.mays@english-heritage.org.uk. Further details can be found on the Panel's website:

<http://www.britarch.ac.uk/churches/humanremains/index.html>

New DCMS code of practice for human remains

In October 2005, DCMS published *Guidance for the Care of Human Remains in Museums* (<http://www.culture.gov.uk/NR/rdonlyres/0017476B-3B86-46F3-BAB3-11E5A5F7F0A1/0/GuidanceHumanRemains11Oct.pdf>) as a response to the report of the DCMS Working Group on Human Remains and its consultation responses. It is non-statutory guidance which recommends best practice for collections of human remains over 100 years old held in England, Wales and Northern Ireland (remains under 100 years old are covered by the 2004 Human Tissue Act). The guideline is divided into Part 1 (legal and ethical framework), Part 2 (curation, care and use of human remains) and Part 3 (a framework for handling claims for return of remains). The guidance is mainly aimed at museums, but it is intended that the principles should apply to archaeological organisations and university departments who may hold remains on a short or medium term basis. Although drafted with remains of overseas origin in mind, the advice is intended to apply to all human remains. Nevertheless, it was recognised that organisations with different types of collections would need to adapt the code, and for English Christian remains, the document refers readers to the English Heritage/Church of England guideline (above).

Thorny issues arise for museums when claims are made for repatriation, and more specific guidance may be needed in particular cases. DCMS has therefore set up a Human Remains Advisory Service, from whose members individuals would be selected by DCMS to advise museums who require it in specific cases.

Simon Mays
English Heritage

Burial law reform

In 2004, the Government issued a consultation report on burial law reform. Among aspects considered are the regulation of disturbance and exhumation of burials. Specifics under review included reuse of graves and whether disturbance of archaeological burials (however defined) should be subject to the same regulatory regime as more recent burials or be more lightly regulated. The Government aims to make public their plans to bring forward proposals for burial law reform in late spring/summer 2006. For further information on burial law see:

<http://www.dca.gov.uk/corbur/burialfr.htm#2>.

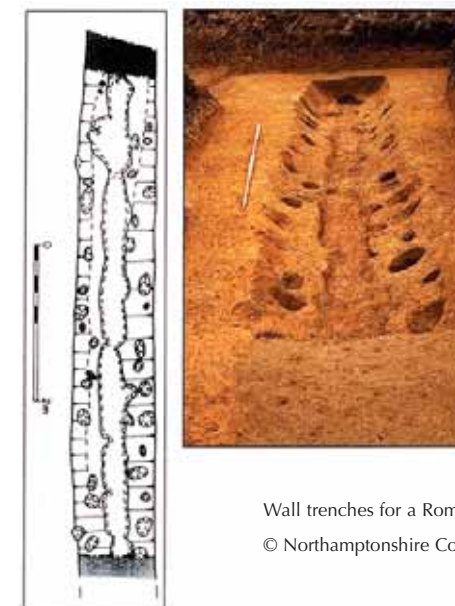
Environmental sampling and the evolution of the Nene Valley

Ian Meadows

Since March 2005 Northamptonshire Archaeology and the University of Exeter have been working on a synthetic survey of the environmental and hydrological record for the River Nene. This ALSF project is joining together data that already exists, filling some of the gaps and relating archaeological evidence to changes in the hydrology and environmental conditions. The product will form a basis for understanding the evolution of the Nene Valley. This approach is particularly appropriate in the Nene valley, where a large proportion of the aggregates have now been taken from the valley floor and the archaeological data set is extensive and as near complete as possible. Mineral extraction has produced dozens of environmental samples on numerous excavated sites but, despite large projects such as the Raunds Area Project, little attempt has been made to identify valley-wide trends.



The vineyard reconstructed
© Northamptonshire County Council



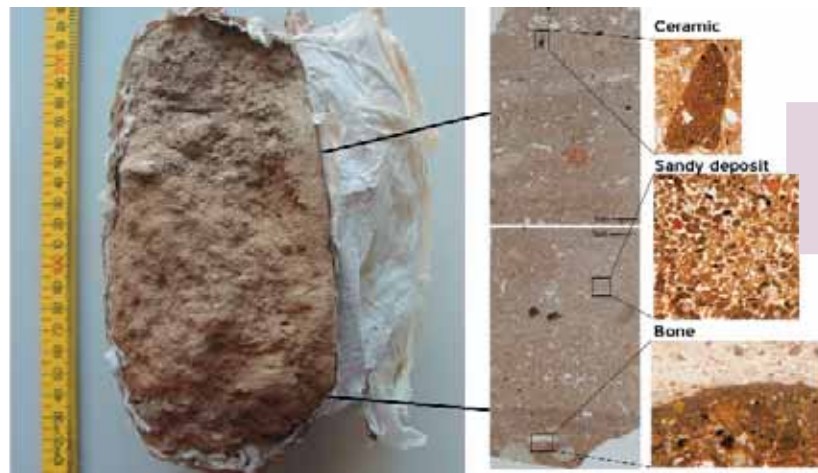
Wall trenches for a Roman vineyard in the Nene Valley
© Northamptonshire County Council

The project is examining the relationship between landuse of the floodplain and environmental data, which is also related to data that survives for ancient water levels in the form of wells, relict waterlogging and palaeochannels. The present river level is the product of 18th-century navigation improvements, which raised surrounding ground water levels. Advice has been sought from the Environment Agency and the Centre for Ecology and Hydrology so that we can more fully understand the nature and evolution of the water table.

Extended counting of pollen monoliths to provide greater reliability of the resultant plots, and greater sub-sampling to identify change within the environmental record, are included. This evidence will be used to model characteristics of the flora of the Nene Valley against time, supported by additional radiocarbon dates. Environmental results already suggest the floodplain was wooded, with a mix of oak, alder and hazel, until the later Bronze Age. Then came a change to a more open grassland environment which, with cereal cultivation, continues to the present. An episode of Roman viticulture has also been identified from pollen finds on sites near Wellingborough.

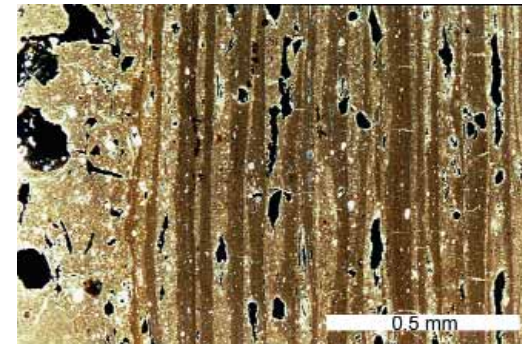
The project should provide a tool to enable identification of trends in environmental and hydrological data sets and also gaps that need targeting in future projects.

Ian Meadows
Northamptonshire Archaeology



A simplified overview of how information can be extracted via micromorphological techniques, from extracted block to finished section. The reality is infinitely richer in potential and more detailed. © E Skrekou

Wendy Matthews (University of Reading) takes micromorphology samples of the complex microstratigraphy at the Neolithic site of Çatalhöyük in Konya, Turkey. © W Matthews/Çatalhöyük Research Team

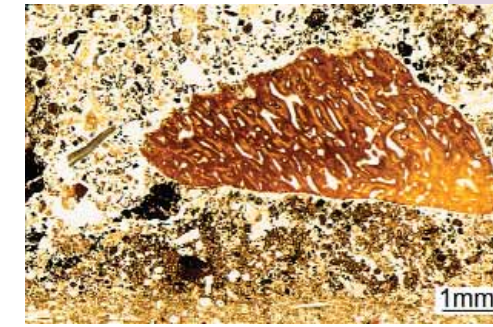


Highly detailed laminations of wall plasters from Çatalhöyük, thought to be showing a cyclical sequence of wall plaster or whitewash coatings and accumulations of soot. © W Matthews/Çatalhöyük Research Team

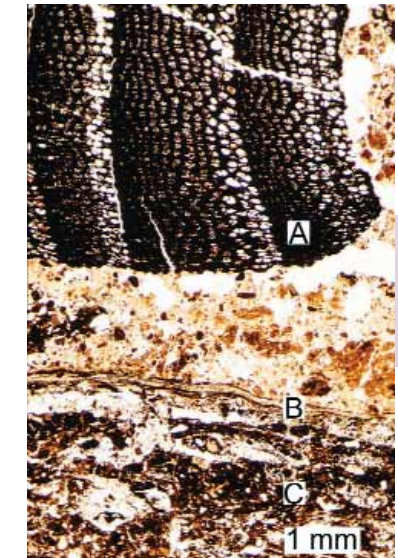
Herbivore dung with dietary remains of grass, reed and leaf phytoliths, from an animal pen in Çatalhöyük. © W Matthews/Çatalhöyük Research Team



The same dung deposit under cross-polarised light showing calcium carbonate spherulites that form in the guts of animals during digestion, good indicators of dung and coprolites. Note the highly characteristic cross-shaped extinction of the spherulites. © W Matthews/Çatalhöyük Research Team



A fragment of charred Ulmaceae wood (A). Underlying this is a layer of retted grass matting (B) covering siltloam plaster floor (C). From Çatalhöyük. © W Matthews/Çatalhöyük Research Team



A fragment of burned bone from Çatalhöyük. © W Matthews/Çatalhöyük Research Team

Under the microscope: *new advances in soil and sediment micromorphology*

Charlotte Pearson

Soil and sediment micromorphology is a relatively new technique that is increasingly used in environmental archaeology to unravel site stratigraphy at a whole new level. It enables high resolution interpretation of the use of space, modes of deposition and micro-scale environmental reconstruction from deposits which might previously have ended up on the spoil heap. In this way, information from previously unexplorable microstratigraphies identified in field sections is increasingly being accessed unaltered and undisturbed via optical microscopy.

Sampling is in theory straightforward, though as anyone who has ever found themselves striding

across a site clutching mallet, penknife and quantities of clingfilm, driving a kubiena tin into a profile of dry, gravelly or frozen ground can be a little different. However, once you have extracted an intact block of undisturbed sediment you are on the way to unlocking the secrets of micro-analysis.

Previously undetected information
What usually follows is a lengthy process of drying and impregnation of the blocks with a traditional polyester resin (such as Crystic 17449), followed by cutting, grinding and polishing of relevant sections down to 30µm thick. The finished slides can then be examined at various degrees of magnification

allowing features and fabrics to be described, quantified and interpreted. Such studies regularly produce previously undetected micro-artefactual, biological and mineral traces, or human activity, at an unprecedented resolution.

Lengthy preparation
The main drawback with micromorphological analysis is that sample preparation generally takes so much time that it is inaccessible for those working to tight deadlines. A key contributor to the lengthy preparation process is the nature of Crystic impregnation resin, which can take well over a month to cure and requires careful handling throughout. This has resulted in waiting lists of a year or more from many labs.

Best processing time
New research at the University of Reading's School of Human and Environmental Sciences has recently focused on protocol development to improve and, critically, speed up, the manufacture of soil thin sections. Whilst a central part of this

has been the purchase of a Brot oil-cooled diamond grinder with the capacity to process up to three large format (14 by 6.5 cm) sections at a time, the key development has been the trial of different types of resin in an attempt to find a fast curing alternative to Crystic resin. A full protocol for use of a previously un-trialed, low viscosity epoxy resin, via a purpose designed vacuum system, is currently being finalised. Results so far are promising, bringing the best processing time from dry block to thin section down to two or three weeks. Experimental work is also being carried out using other resins which may have applications for wet sediments and use in the field. The new protocol should be ready for publication by March 2006, along with the launch of a new commercial service.

For further information, including thin-sectioning procedures, see WWW.AFESS.co.uk.

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These images illustrate the wealth of archaeological/environmental data that can be found through microscopic analysis of soil thin sections. They were provided by Wendy Matthews, University of Reading, and the Çatalhöyük Research Team, Cambridge

Environmental archaeology in the commercial sector – *ethos and practice*

Michael J Allen, Catherine Chisham & Chris Stevens

Prehistoric example of snail *Helicella itala*. Photo: Elaine Wakefield, Wessex Archaeology



Environmental archaeology is now well established in commercial archaeology, its purpose to help understand and explain the sites we dig. While developers have funded and facilitated the huge increase in our

comprehension of landscape, environment and economy and enhanced the practice and study of environmental archaeology in its widest sense, they are not there to fund research. Essentially they fund preservation of what they propose to destroy, and there are constraints and restrictions for the academically trained, university schooled, environmental archaeologist.

However, most environmental applied research can only be undertaken on any scale by those with access to the largest, regularly available and renewed datasets – namely the commercial archaeological organisation whose practice may undertake hundreds excavations all over the county every year. Crude estimates from Wessex Archaeology alone suggest around 200 to 400 tons of soil are routinely processed annually to 0.5mm or less, for charred plant and charcoal remains. With this wealth of samples, assessment is an industry in its own right, and a number of units deploy permanent staff. Snails, soils, sediments, geoarchaeology, charred or waterlogged plant remains, charcoals, sea shells and bones for instance are all ‘on tap’ at Wessex Archaeology. Other key specialists, often those requiring sophisticated laboratory facilities, such as for pollen, are employed on a contract basis. And the results? Apart from

environment reports annexed to site reports, the comprehension of archaeologist and general public has increased significantly, illustrated here by just a few examples of how we have changed perceptions and assumptions, helped rewrite textbooks and shed light on new understanding of people and places.

Complex alluvial landscapes

Alluvial landscapes of the Severn Estuary have been shown to be relatively simple accretions of mud with continuous planar ‘marker’ horizon of peat which can be mapped over kilometres. As more detailed research questions have been posed, greater understanding of both the geoarchaeological construct of, and the human adaptation to, this landscape has emerged. The planar peat horizons that we attempted to date and map horizontally are now seen to be non-planar, discontinuous, and not altitude/date dependent. Detailed pollen and sediment analysis have allowed intellectual constructs of how this landscape looked, indications that seasonal summer occupation was restricted to minor ephemeral ‘islands’ in the winter wetland. The Severn Levels were far from marginal areas; they were a crucial seasonal adjunct to residential life on the higher drier fringing land. Our concept of the prehistoric use of this region has largely evolved from multiple pin pricks, providing not just vertical (time) depth reconstruction, but a spatial reconstruction.

The prehistoric heartland of Wessex

Routine analysis of snails and sediments throughout the Wessex chalkland allow us to challenge and modify assumptions of post glacial forest atop the downlands. Where once we assumed that woodland was the precursor of all significant early Holocene (later Mesolithic and Neolithic) occupation, and environmental evidence of an open landscape itself required human clearance and opening of primeval woodland, we now see that when the last glaciers retreated, woodland did not blanket the whole landscape. Large areas were maintained as grassland, perhaps by grazing herds. Fringing such open spaces

was diverse woodland with soft berries, attracting browsing herds; both meat and veg for the first hunters. Without a need to clear woodland, choices for settlement location and for herding animals are already made. Why is Dorchester so rich and dense in prehistoric monuments? Perhaps these open areas attracted populations first, and became some of the most densely populated. A similar picture is emerging in Cranborne Chase.

Origins of natural heathland

Acidic heathlands with sandy podzolic soils are home to intricate and ecologically valued vegetation communities of heath, heather and gorse; a landscape of beauty indeed, but a manscape all the same and not one of unchanging longevity. Detailed pollen and environmental analyses funded via the Wytch Farm oil programme clearly demonstrated the destruction of ancient forests. Deciduous woodland, supported by thick humic loamy soils, extended across the region. A woodland that today would be protected, was destroyed by the expansion of Bronze Age and Iron Age settlers, opening land for graze and pasture. The destruction was not just loss of the woods, but deconstruction of ancient soils, leading to acidification, podzolisation and development of the harsh heathland we now acknowledge for its beauty and biodiversity. Similarly, changing options for the Stonehenge Visitor Centre and possible routes for the A303 have led to archaeological evaluation interventions which permit the vegetation cover of a whole landscape to be constructed, not just as an artist’s impression but as a scientific reconstruction, clothing the landscape with its vegetation mosaic, analysing new views of land use.

Where have Beaker settlements gone?

Archaeologists have puzzled at the absence of Beaker non-funerary sites, of settlement or occupation localities other than a smattering of pits. The clue was provided by postgraduate research 20 years ago by Martin Bell. One of three holes punched in the chalkland dry valleys in Sussex revealed a Beaker site buried by metres of hillwash, generated by woodland clearance, creation and tillage of the downs. Subsequent investigations revealed a further 13 such sites, facilitating a new hypothesis of the occurrence,

location, and nature of a whole class of activity in southern England. Reappraisal of Beaker settlement was published by Michael Allen in *Proceedings of the Prehistoric Society* 2005 (71).

Developing the research database

The vast wealth of information created by continual investigation, analysis and publication itself provides a huge research database. At Wessex Archaeology land snails have been identified and analysed from over 130 sites comprising over 2000 samples; 30,000 identifications will constitute the largest single snail database of its kind. Plans are being with the Conchological Society of Great Britain & Ireland to complete this database and make it available as research tool.

Commercial sector environmental archaeology is flourishing and generating good science and good archaeology – its success relies, however, on continued collaboration with other bodies.

Michael J Allen
Catherine Chisham
Chris Stevens
Wessex Archaeology



Hundreds of bulk soil samples and cores are processed and examined at Wessex Archaeology every year. Photo: Elaine Wakefield, Wessex Archaeology



Charred Neolithic hazelnut shells from Peterborough-ware pits near Old Sarum, Salisbury dated by C14 to 3340–2930 cal BC. Photo: Elaine Wakefield, Wessex Archaeology



Dry Valley deposits in East Sussex sealing a Beaker settlement site – burial is not very deep. © M J Allen



A reconstruction of the Stonehenge Landscape after the erection of the Stones. © J Brayne

VIEWS OF A MIDLANDS ENVIRONMENTAL OFFICER

Angela Monckton

At a time of rapidly increasing work environmental specialists seem to have the gift of invisibility. While environmental officers are part of the structure of larger organisations in the midlands, there is a shortage of experienced specialists to take on commercial work if the requests for analysis we receive are anything to go by. Many people train in environmental specialisms on masters courses but few are employed, and it is difficult to have consistent employment to build up experience. While the input of English Heritage scientific advisors has increased the requirement for environmental work in project briefs, we have lost the EH regional contractors who did considerable project work as well as offering advice and training for would-be specialists. Regional contractors included specialists on the main types of remains, but these posts were cut before all the regional reviews were completed. Scientific advisors cannot replace the regional contractors, and it is pot-luck which specialism is represented in your region.

EMPLOYMENT

University of Leicester Archaeological Services (ULAS) is one of a few organisations that employs an archaeobotanist in the midlands, which is surprising as most excavation projects now require some assessment or analysis of charred or waterlogged plant remains, in addition to co-ordination of sampling and analysis. When several large urban excavations were carried out in Leicester it was my fortunate experience to organise sampling, eventually carrying out analysis of plant remains with the generous help and in-service training given by Lisa Moffett, then EH regional contractor.

If I have been fortunate to remain employed, although mostly part-time; environmental assistants have not been so fortunate. A succession of people have worked hard at sample processing, but only a few have moved onto analysis. Others have had to move back to site work to obtain career progression and because the work, like mine, has not consistently been full-time. ULAS benefits from its



Sampling for pollen at Willington, Derbyshire.

Photograph: Matt Beamish

position in the university as staff have access to university courses and this is now helping staff development.

SMRs and HERS

It is crucial for specialists to gain knowledge about their particular area, part of the role previously filled by EH regional contractors. ULAS has been fortunate to work with James Greig, regional contractor for pollen and plant macrofossils until recently, and has gained immensely from his advice and help as well as his work on projects. Working on commercial projects, resources are lacking to give training and advice and maintain an archive and bibliography for the region. Curation and dissemination of information is a further problem now work has become fragmented into different organisations. Environmental materials and information has been lacking on SMRs and HERS

and the problem is only now being addressed. Often the information remains in developer reports and only the specialist who did the analysis will be aware of comparative work in their area, as I found when assembling the regional resource assessment for the East Midlands in 2005.

EAST MIDLAND ENVIRONMENT

Routine sampling is part of most interventions at ULAS. Charred plant remains from Neolithic to Iron Age sites, Roman sites (particularly corn driers),



Working on pollen in the laboratory. Wayne Jarvis, archaeobotanist, is now a site supervisor. Photograph: John Tate



medieval villages, and urban sites of Roman, medieval and post-medieval date have been investigated, but there is little time for research and synthesis. As part of the archaeology department we have the advantage of expert advice on possible research questions. I hope to work more on this aspect as we build a picture of past environment, farming and food in the East Midlands.

PLANT REMAINS

It is also good to work on charred plant remains from other organisations in the midlands. These are efficient at processing the remains, but they usually look to external specialists for assessments and analysis. Waterlogged deposits have also been a major part of work at ULAS and for this it is vital to have someone to co-ordinate the specialisms, often long after the excavation. Aggregate Levy funding has enabled analysis of two Late Neolithic burnt mound sites, thanks to the work of Alex Bayliss and the EH radiocarbon dating section. These projects (Watermead Park, Birstall and Willington, Derbyshire) have been studied in collaboration with James Greig and David Smith of Birmingham University. At the former site James Greig discovered unusual evidence from pollen and seeds for a Saxon watermeadow in sediments associated with a bridge (TA 52).

We still need the role of the EH regional contractors, but how can they be funded? More archaeological organisations should employ environmentalists but how can specialists gain experience without support? The problem is not academic training, but work experience with mentoring and guidance. Environmental archaeology is an important aspect of modern investigations and experienced specialists do not suddenly appear by magic, so unless there are more job opportunities and a career structure they may have disappeared just when they are needed. Like now?

Angela Monckton
University of Leicester Archaeological Services

Processing samples for plant analysis. John Tate is now working as a site supervisor. Photograph: Wayne Jarvis

Environmental archaeology at BIRMINGHAM

Royston Clark and Andrew Howard



Neolithic(?) submerged forest
in the Dyfi Estuary

Leaders for the landscape

In recent years IAA has used various funding initiatives to expand its environmental skills base, including Strategic Research Fellowships. This has allowed environmental archaeology to expand within the broad framework of a Landscape and Environmental Archaeology Group, creating one of the largest teams of specialists in the UK dedicated to teaching and research and tackling projects which go beyond the conventional application of environmental archaeological techniques. Birmingham is also a world leader in the application of GIS and remote sensing techniques to environmental assessment and landscape reconstruction. Current research projects include: reconstructing and visualising the late Pleistocene and early Holocene palaeo-landscape of the North Sea Basin, the land bridge which linked the UK to continental Europe; modelling the three dimensional development of alluvial landscapes from the Trent Valley to Croatia, and visualising the environment around Stonehenge.

New Neolithic trackway

Integrated archaeological, palaeoenvironmental and GIS-based survey by Henry Chapman and Ben Gearey of the raised mire landscapes of Thorne and Hatfield Moors, South Yorkshire has produced a four-dimensional (three spatial dimensions plus time) reconstruction of this important mire landscape, potentially capable of predicting patterns of human activity on and around the area through time. Analyses of wetland morphology, vegetation change and hydrology have provided the framework for the generation and testing of

Sampling of Mesolithic submerged
forest at Gravel Banks



hypotheses relating to a variety of anthropogenic issues including settlement patterns and changes in resource availability. Discovery of a Neolithic trackway and platform has resulted in two seasons of excavation funded by English Heritage and English Nature. This site is especially significant, as despite antiquarian reports of archaeological sites in this area and the impressive resource preserved in similar landscapes such as the Somerset Levels, no archaeological sites have previously been recorded on Hatfield Moors. Investigation of this site is ongoing and will provide a generic approach applicable to wetlands worldwide.

Locating mass graves

An important application of environmental techniques, relevant to the modern political world, is forensic archaeology, which the University of Birmingham has pioneered through the work of Professor John Hunter. A team from the IAA led by John Hunter and Emma Tetlow visited Bosnia-Herzegovina on behalf of the International Commission on Missing Persons (ICMP) as part of a multi-disciplinary Anglo-American team. The aim was to locate mass graves linked to the fall of Srebrenica in July 1995, using non-invasive techniques. Four known mass grave sites were subject to botanical and geomorphological survey. The primary aim of the vegetation survey was to define a specific vegetation 'indicator group' using site by site analysis and to assess the validity of vegetation and botanical factors as an interface between aerial/satellite imaging and geophysics. The initial application of this approach was extremely successful and further work is planned for May 2006.

Our latest areas of expansion will be

- a new MSc in Environmental Archaeology and Palaeoenvironments for the 2006 academic year to provide students with skills necessary for a career or further research in this specialist area. A key strength will be integration of environmental techniques within a broad landscape framework utilising our full suite of remote sensing, GIS and visualisation capabilities.
- reorganising our environmental services to create an integrated 'one stop shop' for all archaeo-

Hatfield Moor. Excavation of a Neolithic
trackway dated to 2900-2500BC



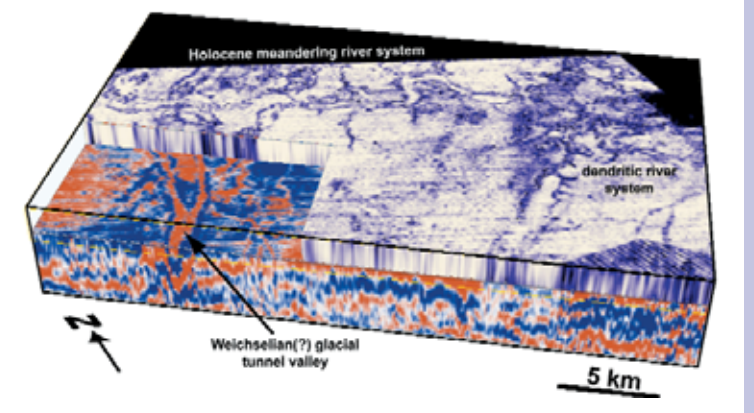
environmental needs, be it commercially-funded or part of a research project.

The Landscape and Environmental Archaeology Group is therefore pioneering an integrated approach far removed from most people's perceptions of conventional environmental archaeology. Further details of the team and more information on our work can be found at [www: ba-env.bham.ac.uk](http://www.ba-env.bham.ac.uk).

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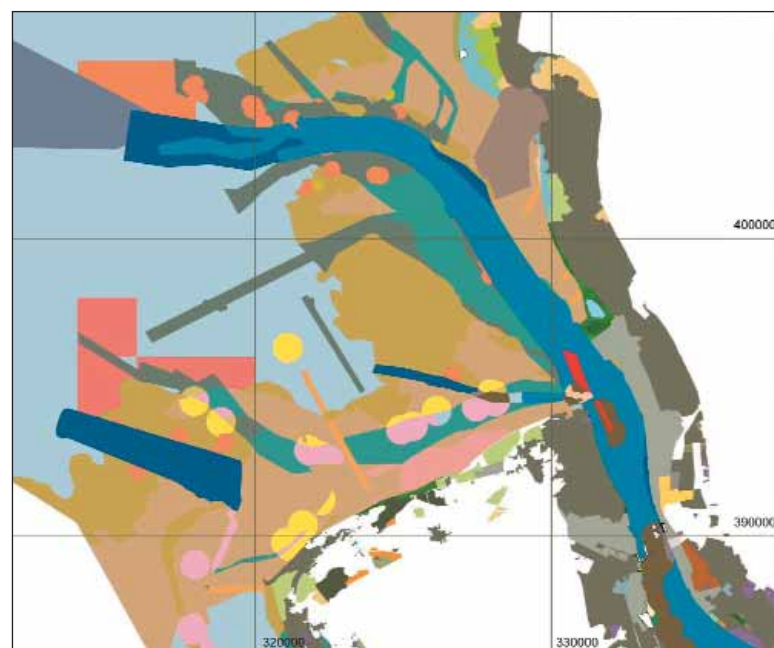
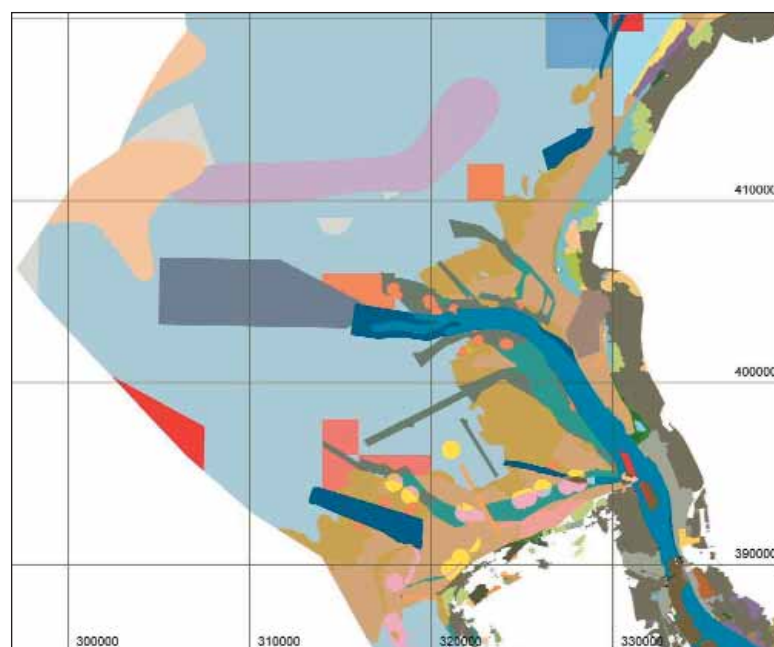
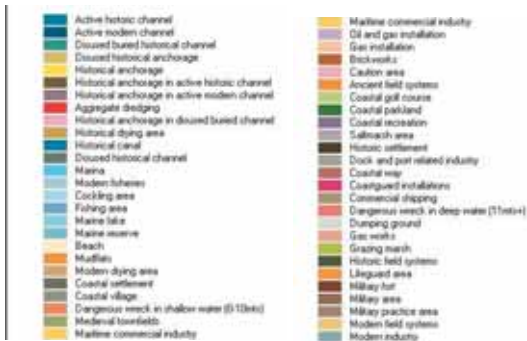
3D image of Holocene river
channel in the North Sea



Marine historic environment explored by England's Historic Seascapes project

Brian Hession, Mags Christie and Deanna Groom

The Seascapes GIS begins to reveal patterns of human activity over time



The pilot project to extend historic landscape characterisation into the intertidal zone and out to the limit of UK Territorial Waters is nearing completion at Wessex Archaeology. Begun in November 2004 and supported by the Aggregate Levy Sustainability Fund, the project has utilised marine environmental datasets to characterise human activity over time in Liverpool Bay.

Although the offshore environments which contain and preserve the underwater heritage are subject to natural processes, the context for those processes has a strong human dimension. *Seascapes* has been exploring marine habitats, models of coastal change, seabed sediments and seabed morphology, in addition to more conventional historic environment data, to describe and define what gives an area of sea or coast its unique character in terms of that human dimension. The project has developed a characterisation database that incorporates GIS mapping and descriptive texts relating to modern sea use, past sea use and archaeological potential. The database can also link in multi-media such as digital images, view panoramas, and video footage.

The database has been developed on the basis of good practice developed by terrestrial historic landscape characterisation projects. One aim has been to provide a landscape-scale context for the NMR's 2400 records of shipwrecks, downed aircraft, finds and palaeoenvironmental contexts for Liverpool Bay. As we approach the introduction of a marine spatial planning system, the database will have a key role in allowing better informed, more fully contextualised historic environment responses to development proposals by the marine aggregates industry and other offshore industries.

The results of the project are to be presented during the Maritime Affairs Group session at the IFA Annual Conference in Edinburgh. Further details can be found on: <http://www.wessexarch.co.uk/projects/marine/eh/seascapes/> and <http://www.english-heritage.org.uk/characterisation>

Brian Hession, Mags Christie and Deanna Groom
Wessex Archaeology

Peatlands in peril

Richard Brunning

Waterlogged archaeological deposits are well known for their preservative qualities but are these incredibly important sites at risk? The Somerset peatlands contain more waterlogged prehistoric scheduled monuments than the rest of England combined, and the Sweet Track and Glastonbury Lake Village have produced the largest range of Neolithic and Iron Age material culture of any sites in the UK. The area is also thought to contain the longest lowland peat sequence in England, holding vital information on changing climate, sea level and the natural environment, and the effects of humans on the landscape.

Although the Somerset moors have been spared the rapid destruction by arable that has occurred on the Fens, recent studies showed significant wastage as the deposits dried out, oxidised and decayed because of insufficient irrigation. In response, English Heritage, Somerset County Council and the Environment Agency set up the Monuments at Risk in Somerset's Peatlands (MARIP) project.

At each location small scale excavation allowed extraction of structural wood, pollen, beetles and plant macrofossils to assess their present condition, as previous work on the Sweet Track suggested these might be most sensitive to desiccation. The hydrological regime was also monitored for a year.



The results were interesting but depressing. Two Bronze Age trackways had been completely destroyed in an area of arable farming. At all other locations the water table went below the top of the archaeological layers at least part of the year. At Meare Lake Village the low water table had virtually destroyed wooden remains, though Glastonbury was the least threatened of all sites. For other monuments a higher summer water table will be required to guarantee short term survival, although the very existence of some structures after decades of seasonal desiccation shows that aspects of preservation are not yet fully understood.

The project also answered some research questions, for example a wood and stone causeway between Street and Glastonbury has now been dated to the early Saxon period. Full palaeoenvironmental analysis for locations with little or no previous study will ensure we have at least some evidence of the setting of the monuments.

A parallel project has been dating the top of surviving peat on different moors. The combined results show that each year more is destroyed. Wet grassland SSSIs on the moors are also mainly in 'unfavourable' condition but a government target to get them into favourable condition by 2010 is proving a great driver. No such target exists for archaeology, and once an archaeological site is gone it can never be restored and has disappeared forever. The condition assessment methodology for plant and pollen remains has just been published in *Environmental Archaeology*. The full project results will be published in a monograph.

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Sampling environmental remains for assessment beside the Neolithic Chilton brushwood trackway



New categories of decay had to be developed for the project to enable repeatable assessments of the condition of pollen and plant remains. Here are shown four levels of erosion of the fruit of *Sparganium erectum* (branched bur-reed).
Photo: Julie Jones

Monarchs & meals:

food provisioning and consumption

Polydora Baker

Animal bone assemblages recovered from the Round Tower in 1987 and, following the great fire in 1992, from the Upper Ward, were excellently preserved. Many tens of thousands of fragments were recovered, of which over 15000 fish, bird and mammal bones have been recorded, mainly from kitchens and kitchen middens. Documentary evidence suggests that the Round Tower was occupied by the Constable, a high official responsible for maintenance and provisioning of the castle, while the Upper Ward was where the royal family (Domus Regis) resided.

Castle studies have long focused on the architectural and military history of these sites, but increasingly archaeological data from royal castles and palaces is contributing to studies of medieval economy and society. In particular, animal bone assemblages provide opportunities to define elite diet, economies, life styles and other wider themes. These bones form one of the richest castle assemblages yet available, and are providing insight into food preparation and the use of space, diet and status, and management of new food resources.

Diet and status

In medieval royal castles and palaces there were strict rules regarding what members or guests were entitled to eat and where they could take their meals. A strict etiquette regulated where and for

whom food was prepared. At Windsor a number of kitchens existed, providing meals for different groups of people, including occasional feasts for the poor. An example of the opulence of royal diet but also of variation between resident populations is provided by the species consumed.

In addition to domestic or semi-domestic birds including chicken, goose, duck and pigeons, a wide range of wildfowl was eaten, with at least 28 domestic and wild species represented. Highly prized and restricted fowl such as swan, decorative species such as peacock and pheasant, and very expensive birds such as heron and bittern are represented by a few fragments. However, more wildfowl appears to have been consumed in the Upper Ward (53%) compared to the Round Tower (34%). The abundance of particular wild birds also varies. While numbers of grey partridge, woodcock, thrushes and small passerines differ little between areas, consumption of teal, waders and quail was higher in the Upper Ward. We know from contemporary records that waders such as plover were expensive and highly prized by the elite, and the lower consumption and more restricted access to wildfowl in the Round Tower may be indicative of lower status. However, another possibility is that the decrease in wild taxa may be due to over-hunting, as the assemblage from the Round Tower (late 12th/early 13th-mid 14th century) may be later than from the Upper Ward (late 12th century).

New food resources

In addition to fowl and geese, pigeons are well represented at Windsor. While some bones may be from the large wood pigeon *Columba palumbus*, the size of others suggests that they are from the smaller pigeons, rock or stock dove. Rock dove, *Columba*

at Windsor Castle

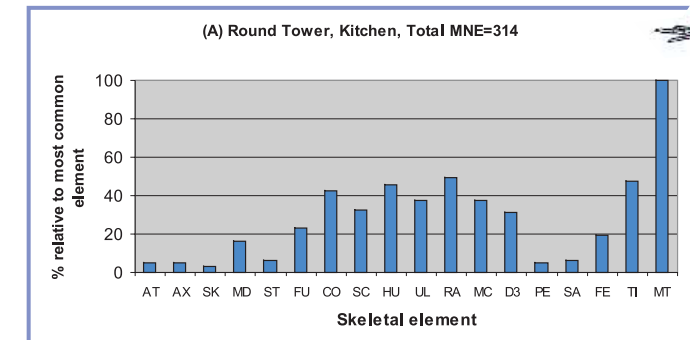
livia, is considered the wild progenitor of domestic breeds and feral populations. The domestication or management of pigeons has a long history, but in England its practice and popularity increased during the medieval period. Pigeon keeping was originally restricted to the gentry, and dovecotes or *columbaria* were erected on manorial properties for the supply of meat and as a symbol of the owner's status. The young birds (squabs) were generally consumed at 4 weeks, when still in down and their flesh succulent.

Windsor pigeon bones show that adult and juvenile birds were consumed in both parts of the Castle, but numbers of young birds were much higher in the Round Tower, perhaps reflecting adoption of new and tasty 'managed' foods to compensate for the decline or restriction on wild fowl. However, their consumption in at least equal frequency would be expected in the Upper Ward also. The disparity may reflect the slightly later date of the Round Tower assemblage, reflecting the growing fashion of dove-keeping and adoption of squabs as a new luxury food.

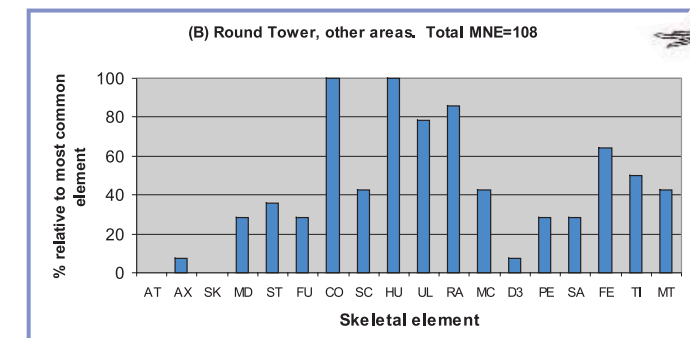
Food preparation, waste and the use of space

As well as strict rules about where food preparation could be undertaken, we know that royal cooks went to elaborate lengths in presentation, for example swan or peacock might be cooked and then served in their full plumage at banquets. It comes as no surprise that clear patterns of food preparation are apparent in the kitchen waste. For domestic and wildfowl, the predominance of head, feet and distal wings is striking. Distribution of specific identified bone elements also shows that feet of large and small fowl were removed in the kitchen areas. In contrast, the main body parts are better represented in the halls or courtyards, and this has been noted at other castle sites and monastic houses in England and in high status sites in continental Europe. Further research at Windsor will focus on the distinct food groups, for example different size wildfowl, in an attempt to define in more detail the etiquette of food preparation and presentation.

Research on castle assemblages is very active, past and recent work including analyses for Camber Castle (B Connell, S Davis, A Locker), Carisbrooke

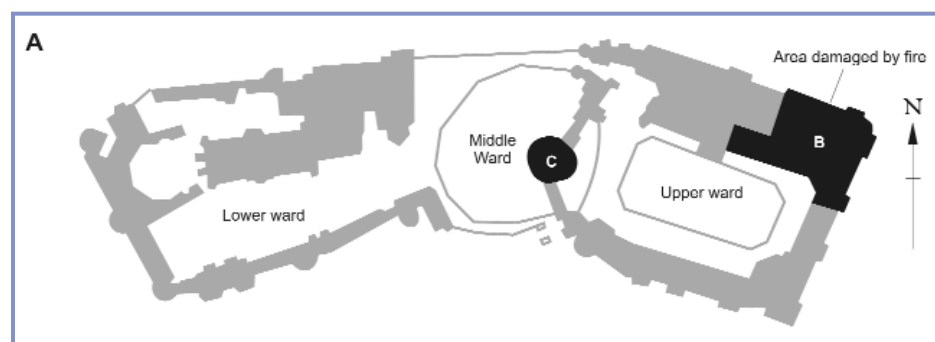


Relative abundance of juvenile and adult pigeon bones in the Round Tower (A) and Upper Ward (B) based on Number of Identified Specimens (NISP). The pattern is unlikely to result from preservation or recovery bias.



(D Serjeantson), Dudley (R Thomas), Guildford Palace (Sykes 2005), Launceston (U Albarella and S Davis), Porchester (A Grant) and Scarborough Castle (J Weinstock). Many of these authors have also contributed to syntheses of medieval animal bone data, and provided me with copies of their work.

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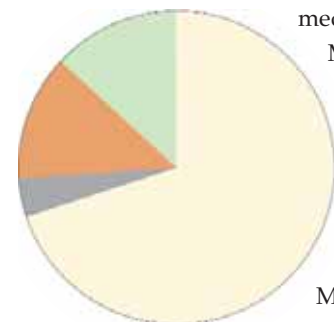


Windsor Castle (A), showing location of fire damage in the Upper Ward (B) and Round Tower (C). Illustration by John Vallender

OSTEOLOGICAL WORK at the MUSEUM OF LONDON ARCHAEOLOGY SERVICE

Natasha Powers

Male
Inter
Female
Undet

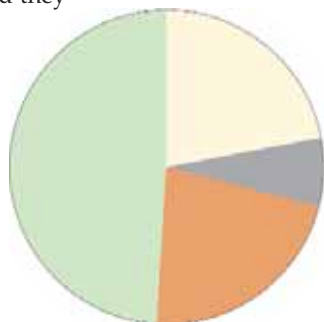


The Museum of London Archaeology Service (MoLAS) employs five human osteologists within its Specialist Services, working on skeletal assemblages almost exclusively from commercial excavations. The largest involves several thousand medieval burials from the cemetery of St Mary Spital, East London. Recording is due for completion autumn 2006. Other contract work includes assessments and client reports on inhumed and cremated assemblages both in-house and for external clients, supplemented with occasional call-outs by the Metropolitan Police.

St Mary Spital
Period 2: AD 50–250
There were 52 adults and an unbalanced distribution between the sexes. Male and female age profiles show a similar profile, with a peak number of deaths occurring in the 36–45 year group

By necessity the commercial osteologist must be versatile, one day producing a client report on a prehistoric cremation assemblage, the next analysing a post-medieval cemetery. The osteologist must always approach the work with an holistic attitude to funerary archaeology, working closely with others in the post-excavation team.

At assessment level, basic quantification data is collected together with demographic information and gross pathological changes. Collation allows research questions to be drawn up prior to analysis. At Whitechapel Road, excavation produced sixty burials, possibly associated with the nearby workhouse. Assessment indicated they were predominantly adult, had numerous fractures and a high rate of vertebral joint disease. Rates of deficiency diseases appear low. These findings raise many status related research aims.



Male
Inter
Female
Undet

St Mary Spital Period 3: AD 250–410
There were 45 adults: proportions of males and females were equal. Male and female age profiles could only be produced for a small data set, but show a similar male distribution to the earlier phase; the female age distribution is more evenly spread

Analysis of human remains at MoLAS uses an Oracle inter-relational database that allows direct entry recording. Digital photographs and paper-based pathology documents enhance the computer records. One of the largest cemetery excavations this year at St Marylebone, Westminster resulted in recovery of c.300 individuals (1740-1840). Evidence of dentistry, interpersonal violence, surgery and autopsy has been noted alongside a high prevalence of rickets and a convincing case of smallpox osteomyelitis. This promises to be a fascinating publication project, integrating osteological and social historical data.

Specialist analysis for external clients includes over 700 late 18th- and early 19th-century individuals from St Pancras (Gifford, led by Phillip Emery). This site boasts an archaeologically unique porcelain dental prosthesis. Other recent work includes Roman inhumations and cremations, Victorian medical specimens from the grounds of the Royal London Hospital, on-site evaluation of human remains from a medieval leper hospital in Ilford, and Middle Bronze Age cremation burials from West London.

Although an interesting individual may warrant particular comment, the aim of osteological analysis is to produce population-based data for determination of demographic and disease patterns, spatially and across time periods. The coming year promises to bring further significant skeletal samples, particularly from post-medieval cemeteries. Effective osteological analysis increases our knowledge of the social, medical and economic history of past peoples, allowing us to better understand the evolution of disease and changes in human populations through time.

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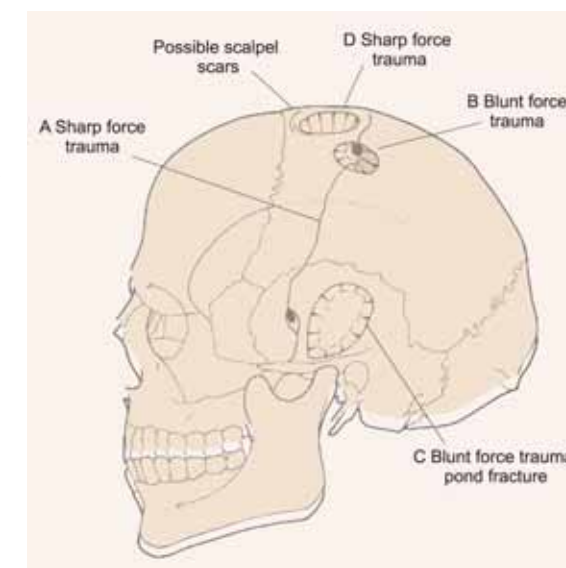
A soldier's life? Multiple cranial trauma from medieval London

Don Walker

Human bone specialists frequently employ methods of forensic investigation when studying trauma. Several examples of cranial injury have been found in the medieval Spitalfields cemetery in east London, originally a priory burial ground from which over ten thousand skeletons were excavated. Here are the quite dramatic multiple injuries that affected a medieval male individual (context [26580]) who died between 36 and 45 years of age, c.1350-1630.

Lesion A was a vertical sharp-force blade wound which sliced open the parietal and temporal bones. The edges of the wound, which may have been caused by a sword, axe, or blade of a poleaxe, are rounded rather than sharp, indicating that it is healed. Lesion B, bisected by Lesion A, is oval and has depressed the outer surface of the skull. This blunt force trauma can result from a blow by a blunt weapon or from an object hitting, or falling onto, the head. It too is well healed. Lesion C is a large but shallow oval depression or 'pond' fracture. The injury is fully healed and represents blunt force trauma caused by a weapon (or projectile) with a sub-oval profile striking the left temporal bone with moderate force. This type of wound may even be caused by a punch and may be contemporary with Lesion A, caused by the follow-through of the fist or the butt of the sword into the temporal area following the blade strike.

Photographs:
Andy Chopping
/ MoLAS



Lesion D, near the top of the head, was a penetrating wound that perforated the skull, caused by an extremely hard blow to the head from close quarters or a fast-moving projectile. The form and angle of the hole suggests that the object had a rounded profile and that the line of force originated from the front and above the victim at an angle of about 45° to horizontal. Great force or high velocity was needed to puncture this thick area of the cranium, and the type and approximate diameter (15mm) of this injury do not rule out an arrow strike. Two sharp incisions just to the front of Lesion D may reflect attempts to treat the wound by lifting soft tissue to allow removal of bone splinters, reducing the risk of infection.

The cranial lesions show that this individual suffered at least two and possibly four episodes of cranial trauma, a classic example of repeat injury due to interpersonal violence. Two injuries fully penetrated the cranium, probably causing haemorrhage and brain injury, which in many cases would have proved lethal, but all the wounds were healed at the time of death.



This man's lifestyle was clearly perilous but his status allowed him a high standard of surgical intervention and aftercare. This type of treatment was available in medieval London, if only to a minority of the population.

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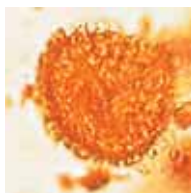
Environmental Archaeology and the Greater London Sites and Monuments Record

Jane Sidell, Yvonne Edwards and Barry Taylor

Archaeological excavation has taken place in Greater London for hundreds of years. At first recording and classification of sites and artefacts was rather erratic and unscientific, giving rise to many Caesar's Camps and fairy thunderbolts. With the advent of more rigorous practitioners such as Augustus Pitt-Rivers and Mortimer Wheeler, collection of archaeological material improved, with assignment of provenances and compilation of assemblages and archives that could actually be used. At the same time, collection of environmental information gradually improved, initially with bones and plant remains – often samples of wood that fell apart because they were left unconserved.



Oak



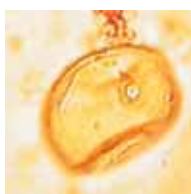
Lycopodium



Lime



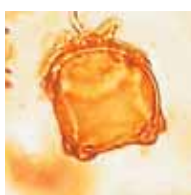
Hazel



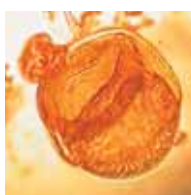
Grass



Calluna



Alder



Pine

Publication is rare

In the early days some excavations were published, and more reports found their way into the London archive, now housed at the Museum of London. Since the advent of developer funded archaeology a great deal more information is generated, but the majority of this ends up as grey literature, is rarely further published and is hardly ever considered in a broader context. This is a major problem facing modern archaeology and its many sub-disciplines. Without multi-disciplinary and multi-site research it is difficult to move the subject of archaeology forward. Regional research is an obvious way ahead but this too is hampered by difficulties in accessing unpublished data. Archaeologists also recognise the need to reconstruct environments and landscapes of the past, in order to understand past human lifestyles and cultures.

Databases for the environment

Integration of data from environmental research into mainstream excavation reports is essential for reconstructing the past, but attempting to find such data without an index is hit and miss. The London Archaeological Archive and Research Centre online catalogue allows searches of sites and registered finds but not environmental data. A similar problem afflicts the Greater London Sites and Monuments Record (GLSMR) – for instance a search on 'environment' pulled up only 30 records. To address this problem, several initiatives are currently underway in Greater London.

Absolute dates

The first of these is a database of all absolute dates estimated for samples from excavations, boreholes, etc from the London region. The database is lodged on the GLSMR, and draws together over a thousand radiocarbon, archaeomagnetic and optically stimulated luminescence dates. Dates are not strictly environmental, and will not be discussed further here. A commentary to accompany the database is currently moving towards publication.

Pollen

The second project is the creation of a database of all pollen samples examined in Greater London. Significant pollen analysis has been done over the

last thirty years, particularly since the advent of PPG16 which led to an expansion of the area routinely examined archaeologically into the wetter and more organically rich parts of London. However, much of this work has not been published and may never be so, as it largely based on evaluations of peat-land sites with little physical archaeology. Pollen records were obtained from the key pollen analysts in the region, Rob Scaife and Nick Branch, whilst others were tracked down through the grey literature and published works. Thus far, 165 reports have been found and added to the new database on the GLSMR. The records include the usual location and dating information but are split by period, starting with pre-Devensian and going through to the early modern period. Records are subdivided for each period by environment type, eg tundra, wet woodland, marsh etc. In addition, key species are recorded and key botanical events, such as the elm decline and the rise of cereals. This work was undertaken as part of a Masters degree at little financial cost. The plan is to make this database available online thereby creating a remarkable research tool for London's vegetation history.

Environmental datasets

The third project concerns the assembly of several environmental datasets. This is currently being piloted for several London boroughs. Excavation records are sifted for information relating to botanical, zoological and geological finds, and subdivided by period and class of material, with additional fields for levels of preservation and potential. The information is being transferred to databases integral to the GLSMR

We now face the task of keeping all of these datasets up to date. However, the research potential is clear and there is great goodwill from contracting units and specialists to let their data be used for broader research. The databases and environmental finds indices will facilitate drawing together of different types of information and allow questions to be answered which will lead to synthetic research.

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The *flora* of Roman roads, towns and gardens

Gill Campbell and Allan Hall

The question of whether a plant was introduced by the Romans as well as whether it was grown here during the Roman period has long exercised the minds of biogeographers and archaeologists. Some, such as dates, black pepper and olives, clearly represent exotic imports while others such as fig and mulberry may have been grown in this country. However, in looking at the overall picture three factors are of importance: trade, creation of new habitats and the acquirement of new tastes.

Roads

Godwin, in his *History of the British Flora* (1975) discussed the effect of long distance transport on the spread and expansion of arable weed flora in Britain during the Roman period. He pointed out that building roads and the movement of goods along this transport network allowed weeds that were locally common to spread into other areas, greatly expanding their distribution. It has been estimated that the road network provided some 6000 acres of bare ground of varying geology, drainage and moisture content over a period of 50 years (Salisbury 1961). In addition, importation of



Spruce cones from Godmanchester (P Murphy/English Heritage)

grain and other goods provided a constant introduction of weeds whose Mediterranean origin would probably have caused them to die out after a few years, due to low frost tolerance. Whilst many of the weeds regarded as Roman introductions by Godwin, weeds eg *Agrostemma githago* (corn cockle), *Anthemis cotula* (stinking mayweed), and *Lathyrus nissolia* (grass vetchling), have now been recovered from earlier deposits, they become more abundant in assemblages of Roman date.

Fennel, a Roman kitchen garden import now growing wild on the South coast. Photograph: John Vallender



Towns

Sites in York, London, and other towns such as Silchester and Colchester have provided most of the archaeobotanical records for exotic imports. However towns also represent another new habitat and one which seems to support a recognisable flora. Hemlock (*Conium maculatum*), henbane (*Hyoscyamus niger*) and weld (*Reseda luteola*) are frequently recorded in urban archaeological deposits. Other typical members of this group include *Chenopodium ficifolium* (fig-leaved goosefoot), *Chenopodium murale* (nettle-leaved goosefoot) and members of the nettle family such as *Ballota nigra* (black horehound). The fact that some of these species are associated with wet ground or bankside vegetation may reflect their original habitats but they seem to have flourished in backyards.

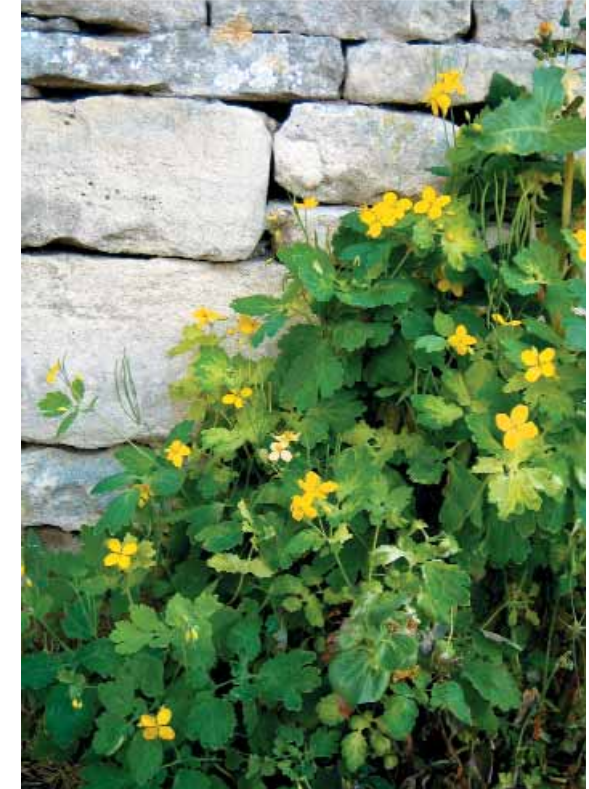
Gardens

Some plants that have since become naturalised in Britain are Roman garden escapes. Fennel (*Foeniculum vulgare*) can be considered in this category as can greater celandine (*Chelidonium majus*). The first records of that bane of gardeners, ground elder (*Aegopodium podagraria*), which was used as a pot herb, also date from this time.

In addition to plants grown in 'kitchen' gardens the creation of formal gardens had an effect on local flora and led to introduction of new species. Remains of box (*Buxus sempervirens*) leaves, fruits and twigs are frequently recovered from wells and other waterlogged features. Although this is classed as a native plant, it is clear that box was deliberately planted in Roman settlements, since it is found well beyond its present range (Dickson, 1994). It may not have been grown purely for aesthetic reasons. Leaves are also found in Roman burials, as they were believed to keep the grave sweet and perhaps served as a symbol of eternal life.

Spruce (*Picea abies*) is not recorded again in this country until the 17th century when it appears to have been reintroduced from Germany, but it has been recorded from two Roman sites. Cones were found at Aston, in Oxfordshire while leaves, shoots, wood and cones were recorded from pond fills at Godmanchester (Murphy, forthcoming). It seems that in our climate spruce trees may have been used in gardens as a substitute for Mediterranean cypresses.

Allan Hall is currently updating the Archaeobotanical Computer Database (ABCD), *Internet Archaeology 1* (<http://intarch.ac.uk/journal/issue1/index.html>) and would be interested to hear of any other recent interesting archaeobotanical records.



Greater celandine, another Roman import, also now grows wild. Photograph: John Vallender

An exhibition on Roman plants, *The Roman's Green Invasion*, can be seen at the Museum of Fulham Palace, London SW6 6EA until 9 July 2006. Opening times: Wednesday, Saturday, Sunday 2-4pm, admission free.

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Dickson, C 1994 Macroscopic fossils of garden plants from British Roman and Medieval deposits, in D Moe, JH Dickson, PM Jorgensen (eds) *Garden History: Garden plants, species, forms & varieties from Pompeii to 1800*, Part 42, 42-7

Murphy, P forthcoming *Rectory Farm, Godmanchester, Cambridgeshire (Site 432), Plant macrofossils from Neolithic, Bronze Age, Roman and Saxon contexts* (English Heritage Research Report)

Salisbury E, 1961 *Weeds and Aliens*, London, Collins

Costing the earth...and the finds and the soil samples: alternatives to the 'fixed price'

Michael Heaton

The intellectual nature and unpredictability inherent in archaeological investigation make the pricing strategies of the construction industry inapplicable to archaeology. This is a myth, born of ignorance and professional immaturity. It prevents us generating the profits necessary for satisfactory archaeological research and the technical and professional development enjoyed by other disciplines. It creates a vicious spiral of ignorance, under-achievement and poverty.

Fixed price problems

Currently, most excavation projects are based on 'Fixed Price' quotes (in this article I exclude evaluations, watching briefs etc). The archaeological contractor carries all the risk and invariably has to 'cut his cloth' to meet the budget. No civil engineering contractor or building contractor would undertake a project on this basis. Leaving aside the benefits they enjoy by virtue of mutually agreed conditions of such as the *ICE Conditions of Contract for Archaeological Investigations*, contractors are normally remunerated on the basis of a 'measured' comparison between what they have done and what they were told they were going to do in a 'Bill of Quantities' or a 'Schedule of rates' against which they tendered.

Cost or price?

Groundworks, and indeed all 'measured' construction work, are normally measured using the Standard Method of Measurement, now in its 7th edition – hence SMM7. To allow for the *inherent unpredictability* of subsoils, geology, groundwater and obstacles such as old foundations, SMM7 classifies excavation by method, profile and dimension: ie it provides categories to which the QS and contractor will mutually agree the closest fit. Those categories are known at tender stage, so the contractor prices the work on the basis of those categories *and* the given dimensions of the design. Samples, processing and report preparation in site investigation contracts are all priced as itemised costs, the latter based on a given number of boreholes, trial pits, samples etc. The tendered price and final 'out turn' price are rarely the same, but their relationship is transparently based on the method of measurement, the specification and the conditions of contract. Invariably, the profit margin is explicit as a percentage of the costs: it is the difference between cost and price. Both parties expect the contractor to make a reasonable profit. It requires methodological exactitude and scrupulous record keeping.

There is no reason why this cannot be applied to excavations. Clients routinely do not ask for it because their advisors – usually QSs, architects or surveyors – are unaware that we create and archive detailed metric and qualitative records. Every one of us, when tendering, intuitively estimates the quantities and forms of archaeological deposit, artefacts and environmental materials that will be encountered. Our 'Fixed Price' tenders are based on a nominal 'Bill of Quantities', albeit one of our own making.

Intuitive classifications

Creation of an archaeological Bill of Quantities requires two slight changes to the way most of us operate, and creates a more demanding role for consultants. First, evaluation has to be designed and reported more rigorously. Currently, evaluations are designed to meet the needs of curators: is there anything there? How important is it? We also need to know 'How much'? This requires volumetric analysis of deposits, artefacts and environmental materials. Secondly, we have to formalise our intuitive classification of archaeological quantities and develop our own SMM. Anyone of us with enough experience of a geographical area and archaeological period or culture, equipped with a good evaluation report, could quickly arrive at a rough classification of, for instance, the types, profiles and dimensions of linear features likely to exist within a given site. For instance, a later prehistoric settlement in my neck of the woods will probably have 'U' and 'V' shaped ditches/gulleys falling into three broad size categories. It would be unlikely to have broad flat bottomed ditches, as these are a characteristic of funerary monuments. It will also have postholes, pits of two or three types, several cubic metres of buried soils, hearths and huge quantities of animal bone and worked flint. All these can be measured to acceptable degrees of accuracy.

Costing finds and samples

Finds and sample processing are easily costed on this basis, either by volume, weight or number depending on the material. Assessment and analysis are slightly different issues, as they are intellectual tasks that cannot be measured. I suggest they be costed as percentages of the costs arising directly from the quantities of deposits, finds etc. Increases in actual quantities would automatically lead to an increase in assessment and analysis budgets.

This might seem onerous, but it's child's play compared to what the construction professionals

and contractors do, and that is why they are properly remunerated. In my role of consultant, I have unilaterally developed and implemented this approach on several projects. It has been a steep learning curve in which I have made mistakes, to my financial cost, but the contractors have commenced knowing that as long as they worked efficiently, they could not lose money. The most recent has been an unqualified success: work was

been done well, the contractor has been remunerated for what was actually encountered and the client understands fully the link between results and costs and is therefore happy.

Anyone interested in making a profit?

Michael Heaton
Mike@archaeology.demon.co.uk

Page from SMM7 dealing with Class D20 - excavations. This explains how the costed items are categorised and how measurements are made. Prices are not entered in this format. © RICS and BEC, 1998

BILL OF QUANTITIES

NB: Variation in Site Operations costs will be based on measurement on-site on the basis of the Unit of Quantity, which will form the factor of invoiced sums for each item. Bulk Finds are enumerated by weight because this cannot be affected by fragmentation – the Contractor is advised to consult the evaluation report to assess the degree of fragmentation likely. Variations in Assessment costs will be proportionate to the increase or decrease in Site Operations costs, subject to sub-sampling where feasible for increases of >20%.

Item	Description	Unit of quantity	Price per unit	Provisional quantity	Sum
1	Preliminaries				
1.1	Public Indemnity and Employers Liability Insurance	Lump sum		1	
1.2	Prepare H&S Plan and Programme	Lump sum		1	
1.3	Facilities (offices, tea hut, toilet, tool store etc.)	Lump sum per month		3	
1.4	Establish survey control for all five sites	lump sum		1	
1.5	Submit monthly progress reports and statements	Lump sum		12	
1.6	Sub total for Preliminaries				
2	Site Operations				
2.1	Supervise mechanical excavation of overburden from gabion footings	AIFA grade day rate x 1		20	
2.2	Observe and EDM-survey topsoil strip at Sites 2-5	AIFA grade day rate x 2		20	
	Excavate archaeologically, recover finds and soil samples and record Medieval and RB waster dump materials	0.5 cubic metre			
2.3	Excavate archaeologically, recover finds and soil samples and record stratified kilns and related deposits other than waster dumps.	0.5 cubic metre		150	
	Excavate archaeologically, recover finds and soil samples and record pre-pottery industry (prehistoric) deposits	0.5 cubic metre			
2.4	Archaeomagnetic date samples (includes analysis and report costs)	Lump sum per context sampled		10	
2.5	Thermoluminescence date sample (site costs only)	Specialist day rate		5	
2.6	Assess on-site and discard the 'un-featured' pottery and fired clay assemblage. Assume high degree of fragmentation (see evaluation report)	24"x32" rubble sack nom. weight 20kg		200	
2.7	Sub total for Site Operations				
3	Process retained artefacts and soil samples				
3.1	Pottery	1 Kg		200	
3.2	Animal bone	1 Kg		20	
3.3	Fired clay	1 Kg		10	
3.4	Cu alloy objects	10		1	
3.5	Ferrous objects excl. nails	10		1	
3.6	Nails	10		10	
3.7	Dressed or 'Foreign' stone	10		1	
3.8	CBM	1kg		1	
3.9	Flotation samples	10 litre sample		40	
3.10	Sub total for Processing				
5	Post-excavation Assessment				
5.1	Estimate (now) of post-excavation Assessment costs expressed as a percentage of Site Operation costs	Lump sum percentage		1	
5.2	Prepare costed project design for Post-excavation Analysis and Publication	lump sum		1	
5.3	Sub total for post-excavation Assessment				
6	Post excavation analysis and publication				
6.1	Estimate (now) of post-excavation Analysis costs expressed as a percentage of Site Operation costs	Lump sum percentage		1	
6.2	Sub total for Post-excavation Analysis and Publication				
7	Archive costs				
7.1	Microfilm archive	Lump sum		1	
7.2	'Box grant' to Hampshire Museums Service	Lump sum		1	
7.3	Sub total for Archive costs				
8	Contract sum (1.6 + 2.7 + 3.10 + 5.3+6.23+7.3)				
	Day rate for single AIFA-grade excavator/technician plus transport and management support	day rate			

PARLIAMENTARY SELECT COMMITTEES

Christopher Catling

Select committees are quite a recent political innovation: established in 1979, they allow MPs and peers to scrutinise the work of Government in greater depth than the cut and thrust of political debate permits. There are eighteen select committees, one for each department of state and four that look at cross departmental issues (Public Accounts, Public Administration, Environmental Audit and European Scrutiny). Their remit is to investigate expenditure, administration and policy of the department they shadow, and within this remit to hold inquiries into any subject they choose. They put out a general call for written responses to specific issues and questions. Anyone can submit evidence, and the committee will then put together a list of witnesses to give oral evidence, which might include the relevant Secretary of State or Minister.

Oral evidence is almost always held in public and the public are welcome to attend, but committee discussions are held in private, away from party political pressure or whips demanding loyalty to the party line, one reason why select committee reports are often much more sensible and hard-hitting than official Government reports. Except on the rare occasion when members cannot agree and the dissenters produce a minority report, the consensus achieved makes a powerful cross-party statement.

The government is expected to reply to the report and address its recommendations within two months of publication, but it often fails to do so. Government's response is often very bland and

disappointing, which begs the question 'why bother?' Quite simply because a good select committee report stimulates public debate and provides public bodies and pressure groups with robust data and arguments – perhaps achieving a change of policy later on. A good example is the report that resulted from the ODPM Select Committee inquiry into the 'Role of Historic Buildings in Urban Regeneration' (2004), which contains trenchant criticism of developers who sweep away the historic environment as if it were some form of site contaminant.

Can we expect a similarly trenchant commentary on the contentious issues in the forthcoming DCMS Select Committee inquiry on 'Protecting, preserving and making accessible our nation's heritage'? The committee has drawn up an exhaustive list of issues that it wants to look into, including

- 'the remit and effectiveness of DCMS, English Heritage and other relevant organisations in representing heritage interests
- the balance between heritage and development needs in planning policy
- the priority placed by planning authorities on conservation
- means of making conservation expertise more accessible to planning officers, councillors and the general public'.

These are all issues of great concern to IFA members, some of whom will no doubt be called to give evidence at the oral sessions in February and March 2006. The report itself should be published in July 2006: further information can be found at www.parliament.uk/parliamentary_committees/culture__media_and_sport/cms051115.cfm.

Christopher Catling
Editor, SALON-IFA

Archaeological science and survey: guidelines from English Heritage

Andrew David

English Heritage publishes free guidelines on a range of archaeological practices, a series that is constantly being added to, and revised editions prepared. The following list includes those currently available, many of which are accessible on the HELM website www.helm.org.uk/. For hard copies contact the English Heritage Customer Services Team at customers@english-heritage.org.uk, or telephone 0870 333 1181, quoting the Product Code. A few are unfortunately at or near the end of their print runs (listed below as 'out of print') but it would be worth enquiring at fort.cumberland@english-heritage.org.uk in case copies, or photocopies, can still be made available.

Information about all free publications from English Heritage (including a wider range of guideline documents covering the built heritage, planning, information management, conservation principles etc.) can be found at <http://www.english-heritage.org.uk/server/show/nav.1630>;

Guidelines for the Care of Waterlogged Archaeological Leather 1995
Out of print (contact fort.cumberland@english-heritage.org.uk).

Waterlogged Wood: guidelines on the recording, sampling, conservation, and curation of waterlogged wood nd
Out of print (contact fort.cumberland@english-heritage.org.uk).

Geophysical survey in archaeological field evaluation 1995
Out of print (contact fort.cumberland@english-heritage.org.uk or see <http://www.helm.org.uk/server/show/nav.7740>) (Under revision).

Archaeometallurgy 2001
Hard copy (Product Code 50573) or <http://www.helm.org.uk/server/show/nav.7740>

Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation 2002
Out of print, but see <http://www.helm.org.uk/server/show/nav.7740> or <http://www.english-heritage.org.uk/server/show/nav.8962> (Under revision).

Human Bones from Archaeological Sites: guidelines for producing assessment documents and analytical reports 2002
Hard copy (Product Code 50723) or <http://www.helm.org.uk/server/show/nav.7740>

With Alidade and Tape: graphical and plane table survey of archaeological earthworks 2002
Hard copy (Product Code 50692) or <http://www.helm.org.uk/server/show/nav.7740>

Where on Earth are We? The Geographical Positioning System (GPS) in archaeological field survey 2003
Out of print, but see <http://www.helm.org.uk/server/show/nav.7740>

Coastal Defence and the Historic Environment 2003
Out of print, but see <http://www.helm.org.uk/server/show/nav.7740> (Under revision)

Dendrochronology: guidelines on producing and interpreting archaeological dates 1998
Out of print but see <http://www.helm.org.uk/server/show/nav.7740>

Geoarchaeology: using earth sciences to understand the archaeological record 2004
Hard copy (Product Code 50848) or <http://www.helm.org.uk/server/show/nav.7740>

Archaeological Science at PPG16 interventions: best Practice for Curators and Commissioning Archaeologists 2004
only at http://www.english-heritage.org.uk/upload/pdf/archaeological_science_at_ppg16.pdf

Treatment of Human remains from Christian Burial grounds in England 2005
Hard copy (Product Code 51001), or <http://www.english-heritage.org.uk/server/show/nav.8962>

Guidelines on the X-radiography of archaeological metalwork 2006
Hard copy (Product Code: 51163)

With the Environment Agency:

Guidance on assessing the risk posed by land contamination and its remediation on Archaeological Resource Management Environment Agency Science Report P5-077/SR, <http://www.helm.org.uk/server/show/nav.7740>

Guidelines in progress

During 2006 we will publish guidance notes on:

Archaeomagnetic Dating

Science for Historic Industries

Storage of waterlogged macroscopic plant remains

Understanding the Archaeology of Landscapes: principles of good recording practice.

EDM Traversing

The Historic Environment in Shoreline Management Plan Review (to supplement and amplify *Shoreline Management Plans. A guide for coastal defence authorities* (Defra, 2006).

Piling and Archaeology

Other Guidelines in preparation include:

Investigative Conservation

Archaeological textiles

Inclusion of archaeological science data in HERs

International Council of Archaeozoology books

Umberto Albarella

Oxbow Books is presently publishing the largest series of zooarchaeology books ever produced. The 2002 Conference of the International Council of Archaeozoology (ICAZ) led to the production of 14 thematic volumes, nine of which have come out with five more in press. The publication programme reflects the diversity of the conference themes and includes contributions not just by zooarchaeologists but other researchers involved in associated disciplines. The series is edited by Umberto Albarella, Keith Dobney and Peter Rowley-Conwy, with individual volumes edited by the organisers of the respective sessions. Libraries interested in setting up a standing order for the purchase of the whole series are entitled to a substantial discount (details from Oxbow Books).

Behaviour Behind Bones

The zooarchaeology of ritual, religion, status and identity
edited by Sharyn Jones O'Day, Wim Van Neer and Anton Ervynck

Colonisation, Migration and Marginal Areas

A zooarchaeological approach
edited by Mariana Mondini, Sebastián Muñoz and Stephen Wickler

The Exploitation and Cultural Importance of Sea Mammals

edited by Gregory G Monks

Biosphere to Lithosphere

New studies in vertebrate taphonomy

edited by Terry O'Connor

Diet and Health in Past Animal Populations

Current research and future directions

edited by Jessica Davies, Marian Fabi?, Ingrid Mainland, Mike Richards and Richard Thomas

The First Steps of Animal Domestication

New Archaeozoological approaches

edited by Jean-Denis Vigne, Joris Peters and Daniel Helmer

The Zooarchaeology of Fats, Oils, Milk and Dairying

edited by Jacqui Mulville and Alan K Outram

Archaeomalacology

Mollusca in former environments of human behaviour

edited by Daniella E Bar-Yosef

Volumes in press

Integrating Zooarchaeology

edited by Mark Maltby

Beyond 'affluent-foragers'

The development of fisher-hunter-societies in temperate regions

edited by Colin Grier, Jangsuk Kim and Junzo Uchiyama

Equids in Time and Space

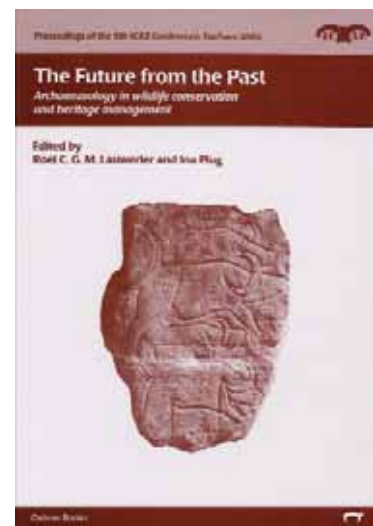
edited by M Mashkour

Recent Advances in Ageing and Sexing Animal Bones

edited by D Ruscillo

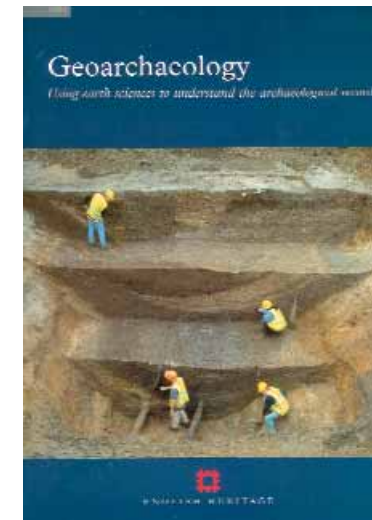
Dogs and People in Social, Working, Economic or Symbolic Interaction

edited by Lynn Snyder and Elizabeth Moore



The Future from the Past
 Archaeozoology in wildlife conservation and heritage management
edited by Roel CGM Lauwerier and Ina Plug

NEW BOOKS REVIEWED



Geoarchaeology: using earth sciences to understand the archaeological Record

English Heritage 2004 30pp. Free

Over the past two decades important papers and books have demonstrated the need for archaeologists to understand the processes driving landscape evolution and rates of geomorphological change in order to interpret patterns of human activity and to assess the potential for archaeological preservation and potential for prospection within contrasting geological terrains.



Geoarchaeology should clearly now be an integral part of any landscape archaeology study and form the foundations of project design.

In response, English Heritage has produced a set of guidelines, following previous guidelines focused on *Environmental Archaeology* (Product Code 50691) and *Human Bone from Archaeological Sites* (Product Code 50723). These current guidelines are written by an experienced team of EH geoarchaeologists, with informal refereeing of the text by practising geoarchaeologists, archaeologists and other specialists from EH, field archaeology units and universities.

The booklet is well structured under clear headings. Section 1 deals with **site formation processes and deposits** associated with natural sedimentary environments as well as deposits generated through human activity. Section 2, **geological approaches to stratigraphy**, considers the description of sediments, stratigraphy, methods of sub-surface investigation, sampling and techniques for describing both the physical and chemical parameters of sediments. The next three sections consider **typical geoarchaeological questions; project organization and planning; and how to get help**, which is essentially a list of EH Regional Science Advisors. Appendix 1 provides additional information on **methods** and Appendix 2 is a **glossary of terms**.

The level of detail and quality of the information provided throughout is extremely high and I particularly like the inset boxes of colour-coded tables, which provide summaries of key points and/or additional information. The quality of printing and clarity of the figures and plates are excellent. Gaps in relevant subject areas, such as consideration of geophysics and other remote sensing techniques, will form the basis of later guidelines.

If I have any reservations it is not with the content. Ironically, it is that they might just be too well written and too comprehensive. The authors stress throughout that an *experienced* geoarchaeologist should be consulted, and really the aim is to inform the non-specialist archaeologist of the potential of geoarchaeology and the approaches that might be taken at site level, particularly in a developer-funded context. In these times of competition it may be too easy to consider that these guidelines are a definitive textbook which qualify individuals to undertake such specialist work themselves. However, if used correctly as a consultative document to inform a project leader and as a vehicle

to seek further specialist help, it is invaluable and I would urge all archaeologists in the UK to have a copy on their shelf.

Copies can be order from English Heritage's Customer Services Department, Swindon, quoting the Product Code 50848 (customer@english-heritage.org.uk).

Andy J Howard
Institute of Archaeology and Antiquity
University of Birmingham
Edgbaston Birmingham, B15 2TT
A.J.Howard@bham.ac.uk

The Textile Industry of South-West England: a social archaeology

Marilyn Palmer & Peter Neaverson 2005

Tempus 160pp pb £17.99

The once extensive textile industry of the south-west had an international reputation until the 19th century, yet its archaeology is relatively unknown.

The authors, both industrial archaeologists, show how textile production altered the landscapes and society of Gloucestershire, Wiltshire, Somerset, Dorset and Devon to a surprising extent. The book provides a significant insight into the development of domestic and factory-based production and consumption over six centuries. In addition, it explores associated economies and topics such as fashion and workers' housing. The final chapter concentrates on the mills which survive in today's landscape.

These case studies of conversions and new uses might benefit conservation and planning professionals. Although fewer than in the north, the gradual decline of mills in the south-west has contributed to their reuse and survival.

The Introduction has useful sections discussing the theoretical approach to buildings as archaeology and the complementary role of documentary research. Further details of textile processes may be pursued via the select bibliography. However, more information about the documentary sources and archive for the book would be useful, perhaps online.

The *Textile Industry of South-West England* is an example of what more archaeological books should be; not simply a methodological approach but, as the title suggests, what we can actually learn about society. The well illustrated, clearly written narrative successfully integrates the results of archaeological and historical study in an accessible manner. It is a fascinating book which is highly readable in its entirety, as a reference book, or indeed as a guide to the industrial buildings listed in the Index of Places. It should appeal to both the expert and non-specialist reader, as well as those responsible for deciding the future of industrial buildings. The book is a fitting tribute to the late Peter Neaverson and his long term collaboration with Marilyn Palmer.

Catherine Cavanagh



Residential conversion of Bliss's Tweed Mill, Chipping Norton, Oxfordshire

New members

ELECTED

Member (MIFA)

John Gribble
Stephen Haynes
Jon Henderson
Kathryn Laws
Robert Perrin
John Shepherd
Iain Soden
Kim Stabler

Associate (AIFA)

Diana Blumberg
Kirsty Dingwall
Julian Jansen Van Rensburg
James Leary
John Russell
Adele Shaw
Jon Sterenberg
Rosemary Wheeler

Practitioner (PIFA)

Nathalie Barrett
Michelle Bullivant
Stephen Burman
Adam Corsini
Carmen Cuenca-Garcia
Natasha Gaddas
Fiona Lee
Richard Lello
Stephen Thorpe
William Wilcox

Affiliate

Simon Best
Margaret Bunyard
Olivia Chalwin
Lindsay Holiday
Peter Whitehouse

Student

Richard Benjamin
Gary Booth
Rebecca Briscoe
Michael Coe
Hannah Cowie
Jacqueline Dennett
Markus Dylewski
Charlotte Faiers
Peter Gane
Christopher Green
Jemma Greenmill
Gareth Griffiths
Lucie Hawkins
Richard Israel
Patricia Jones
Heather Jones
David Marvelley
Kevin Matthews
Laura O'Gorman
Jesse Ransley
Stephanie Spars
Sian Thomas
Richard Walsh
Joanna Wilkins

TRANSFERS

Member (MIFA)

Jim Symonds

Associate (AIFA)

Eliza Gore
Chris Healey
Robert McNaught
Karin Semmelmann

Practitioner (PIFA)

Emma Dwyer

Student

Philippa Whitehill

Members news

Royston Clark MIFA has recently moved on from CPM Environmental Planning and Design to help set up a new environmental consultancy. The Environmental Dimension Partnership (EDP), based in Cirencester, covers a broad range of environmental disciplines including archaeology and cultural heritage, ecology, landscape and recreation, as well as aiming to have strong links with educational and professional organisations. Royston has also been appointed Business Outreach Fellow in the School of Historical Studies at the University of Birmingham. The post involves exploring new opportunities for archaeology and historical studies within the educational and commercial worlds, as well as some teaching input to MA/MSc courses. Contact R.H.Clark@Bham.ac.uk or Roystonc@edp-uk.co.uk



Royston Clark

More members news

Martin Locock MIFA has just completed three years as Project Manager at the National Library of Wales, creating Archives Network Wales, a web index to archive sources in Wales (www.archivesnetwork-wales.info); the website is now live and free to use. In January 2006 he started a new project, Catalog Cymru, funded by CyMAL, surveying the backlog of uncatalogued archives held by record offices and other archive services in Wales.



Martin Locock

Adrian Olivier MIFA, Strategy Director at English Heritage, has agreed to take on the role of Head of Profession for Archaeology with immediate effect. Adrian will be the professional focus for archaeological activity within EH, acting as a focal point for enquiries and advice internally and

externally. He will provide a strategic lead for staff throughout EH on policy and professional issues, foster staff development and training for the discipline of archaeology, and seek to strengthen links with managers and teams working in related areas.



John Maloney

John Maloney MIFA, after four years working for English Heritage as Assistant Project Director (Stonehenge Visitor Facilities & Access Scheme), has recently joined Halcrow Group Limited as Principal, Archaeology & Cultural Heritage. Halcrow is an international engineering company which has developed a burgeoning Environmental Group with some 440 staff. John has been a consultant, project director and communicator for some 30 years, worked for AOC Archaeology Group (Deputy Managing Director), Archaeological Aspects consultancy (founder) and the Department of Urban Archaeology, Museum of London (Principal Excavations Officer, City). John is also a founder member of the Institute of Field Archaeologists.

(Where are the women? Please let me have your news too! Ed.)

LETTERS

Dear Editor

Protecting Roman monuments in towns

Your summer 2005 issue on towns included an article on Roman Lincoln, and in particular the position of Roman monuments in towns. Other cultural resource managers are grappling with another issue about Roman monuments in towns. In 2005, the German frontier was added to the list of World Heritage Sites and in approving the nomination UNESCO created a new WHS, Frontiers of the Roman Empire. At present, only two frontiers form part of this new WHS, Hadrian's Wall and the German frontier, but it is hoped that in time it might be extended to include many sections of the frontier in Europe, the Middle East and north Africa, all of which help define the Roman empire.

Many parts of the frontier lie below ground in urban environments, and are therefore difficult to protect. A major challenge for those seeking to create this new WHS is to find ways of protecting these important stretches of the frontier. This has become increasingly important because many of the most important new discoveries about, say Hadrian's Wall, are being made in urban contexts. Whereas once we might have written off large stretches of the frontier as having been destroyed by urban development, we can now see that 19th- and 20th-century buildings have often preserved archaeological remains which have been destroyed elsewhere through deep ploughing for example.

Furthermore, as part of the process of moving towards a multi-national WHS, the very concept of a Roman frontier has to be defined. In this process,

local definitions of the frontier are being challenged. The Hadrian's Wall WHS, for example, does not include the whole of Hadrian's Wall, but only those parts which are scheduled. Thus, the very areas which are producing the most exciting and challenging information about the Wall are not part of the WHS. The way ahead is through more co-operation between central and local government. In Scotland we are seeking to create model planning policies for the protection of the Antonine Wall through Structure Plans supported by a definition of a corridor containing the Wall which will act as a trigger for consultation in the face of new developments.

Helping define a new World Heritage Site is not only a challenge for Roman archaeologists, but may offer help to other cultural resource managers.

David Breeze
Historic Scotland



Built over but not destroyed: excavation by Tyne and Wear Museum Service in advance of re-development on Shields Road, Byker, just east of Newcastle upon Tyne, revealed not only that the lowest courses of Hadrian's Wall survived but that there were three rows of pits between the Wall and ditch. Photograph © Tyne and Wear Museums Archaeology

LETTERS

Dear Editor

Re: Archaeological finds: a guide to identification by Norena Shopland

I am writing to you as Chair of the Institute of Conservation Archaeology Group to emphasise the many significant problems with this book. The advice that the author gives on the conservation of archaeological finds is in many places confusing, misinformed and detrimental to the long-term survival of objects. The introduction suggests that the author was 'left alone' to process finds from a London archaeological site, but there are numerous conservators and experienced finds processors working in London, able and willing to share their knowledge. *First Aid for Finds* is a useful guide on care of finds, widely known and inexpensive which could have provided all she needed to. *Conservation Advice Notes* recently published for the Portable Antiquities Scheme is also a good guide.

The impression of this book is that the collections care advice has been cobbled from other sources, mixed with personal observations, and that no advice has been taken from other professionals in specialist areas. This is disappointing and a missed opportunity. Of particular concern is the impression that conservation can be undertaken by anyone, anytime, with no training or special facilities.

There are also numerous misunderstandings, inaccuracies and lack of clarity such as the reference to 'pack as normal', that PEG replaces the cells in wood or the idea that leather is particularly difficult to conserve. There is confusing advice given about preventing iron corrosion. The advice that archaeological potash glass is less affected than soda glass when immersed in water will certainly be damaging and is plain wrong.

There are also significant omissions, for example the use of radiography for corroded metals is absent, bar a reference that it may be used for identification. Especially when combined with the advice to remove copper alloy corrosion with a brush, the results could be damaging to metal surfaces. There is no reference to archaeological shale while a

section on jet is included – materials that look very similar but can behave quite differently after excavation.

ICON-AG is the archaeological section of the Institute of Conservation - the lead voice for the conservation of cultural heritage in the UK.

Kirsten Suenson-Taylor
Chair, Institute of Conservation Archaeology Group

Dear Alison,

Re: Archaeological finds: a guide to identification by Norena Shopland

Following Nicola Powell's review of the above book in TA 58, we would like to support her comments, and add the following.

The usefulness of this book is seriously hampered by its numerous errors (ranging from the dates of the early and late Neolithic to the chronology of post-Medieval ceramics) and generalisations (such as p10 'bulk finds are often power sprayed'; p81 'most local pottery would be too bulky and heavy to move so tends to have a limited distribution area'; p179 'most Roman brooches date to the 1st and 2nd centuries AD when brooches were fashionable'). Illustrations and images appear on most pages, but many are unreferenced and lack scale. There is no index. The bibliography contains very few texts post late-1980s. The author makes scant reference to any of our leading thinkers in the study of British artefacts. Many spelling mistakes betray lack of editing. The advice to dry-brush lead objects, or to use pink/blue silica gel, represents a significant health hazard.

There is understandable and considerable anxiety amongst various sections of the finds community that such misinformation will become 'truth'.

Nicola Hembrey, Kayt Brown, Sarah Jennings
Finds Specialists

INSTITUTE OF FIELD ARCHAEOLOGISTS

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Email: admin@archaeologists.net www.archaeologists.net

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11–13 April 2006



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- Archaeology of buildings
- British rock art
- Mobility and diet in the British early bronze age
- Approaches to maritime archaeology around Britain
- Highlights of British Archaeology
- Roman archaeology
- Archaeology and civil engineering
- Digital archaeology
- Where is the IFA going?

Events:

- Conference dinner, wine reception, party, excursions

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