Chair’s piece

Richard Thomas, AEA Chair

There is no question that 2016 has been an eventful year. Setting aside the political, economic and social turmoil around the world, it has been a positive 12 months for the AEA. Our very successful spring meeting in Orkney was followed by a fiercely interesting autumn conference in Rome. A review of this conference – centred on the theme “Synthesis and Change in Palaeo-Environmental studies in the Mediterranean” – is provided within this newsletter. I particularly welcomed the fact that it showcased the relevance of environmental archaeology for informing debates about heritage management and contemporary environmental concerns, as well as reconstructing past human-environment interactions in the region. For me this is a hugely important direction of travel for our discipline. The conference was incredibly well organised and I would like to extend my personal thanks to Dr. Robyn Veal and Prof. Valerie Higgins, the local organising committee, and the American University of Rome and the American Academy in Rome for their enormous generosity. The start of the meeting was shadowed with sadness and reflection, however, as we learnt of the recent death of Prof. Don Brothwell, a stalwart of the AEA and a genuine polymath of the discipline. Don was hugely influential to me: encouraging and inspiring me as a doctoral student and beyond to pursue research in animal palaeopathology. His influence across the entire discipline of environmental archaeology was especially tangible at the conference with warm and generous tributes made by so many of the contributors. Don’s energy, passion and ability to draw connections will be sorely missed. To honour his memory, we will be launching an eponymous prize for the best published article in environmental archaeology in 2017 (details to follow).

Whilst on the subject of our journal, I am delighted to announce that Environmental Archaeology has secured an Impact Factor of 0.857 and is now indexed in the Science Citation Index, under the Geosciences, Multidisciplinary category. It also has a five year IF of 0.950 due to its inclusion in the A&HCI. This is a great base to start on and now we can hopefully see it move up as we go into next year when newer citations will be taken into account and new contributions are encouraged. Many congratulations to Editor – Dr. Tim Mighall - and the editorial and production team for their continued hard work.

At this time of year we have to bid farewell to a number of outgoing committee members:

Jacqui Huntley: Served as Treasurer for an astonishing 14 years (2002-2016).

John Evans Prize

John Evans (1941-2005) was an inspirational environmental archaeologist, responsible for advancing the discipline and fostering many of today’s top researchers in the field. His many books continue to make a contribution to practical and theoretical aspects of environmental archaeology.

To honour the memory of John and his achievements within environmental archaeology, the Association for Environmental Archaeology (AEA) has an annual competition for the best undergraduate and Masters dissertations in any aspect of environmental archaeology.

2016 Winners

Postgraduate winner:

Samantha Louise Presslee — University of York

For her dissertation 'Using ancient proteomics tools to identify the exploitation of birds eggs in archaeological contexts'

Abstract: Avian eggshell is one of the most revealing yet under-exploited materials recovered from the archaeological record, due to the difficulty of identifying eggshell fragments. An improved approach of ancient protein analyses by mass spectrometry (ZooMS) was developed by building a

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Humans and Chickens Conference


Details and registration using the link below (so that we can get the right amount of food/wine)

https://www.eventbrite.co.uk/e/chickens-and-people-past-present-and-future-tickets
reference collection of eggshell proteomes (24 taxa) and testing its ability to provide identification in 3 archaeological sites: El Mirón, Çatal Höyük and Leicester. Excellent preservation of proteins, combined with the wider archaeological evidence, allowed for inferences about egg exploitation to be explored and confirmed the potential of ZooMS as a high-throughput and minimally destructive method for archaeological eggshell identification.

Reviewer’s comments:
- Original contribution to scholarship in terms of methods and application
- A well written dissertation that was informative, enjoyable to read and testing out how a new method can be applied. Excellent!

Undergraduate winner:
Nora Battermann — University of Leicester
for her dissertation 'Exotics and Empire. An Investigation into Roman Conceptions of the ‘Wild’

Abstract: This dissertation investigates Roman conceptions of the ‘wild’ by analysing evidence for exotic animals. As no comparable studies exist this dissertation fills a gap in research providing information that can potentially be used to enhance our understanding of the Roman view(s) of the world. The study of exotic animal remains and mosaics on which they are depicted concentrates on modern-day Italy, France, and Britain as well as the ancient Rhine/Danube provinces. The division of the research areas into three zones according to their distance to the animals’ origins (core, provincial, and periphery) ensures the study of patterns unique to each area aiding the investigation of the following research question: What does the trade of exotic animals reveal about Roman conceptions of the ‘wild’?

The combination of evidence from the zooarchaeological record and mosaics suggests that the ‘wild’ was conceptualised in at least two ways. One of them, indicated by the cluster of exotic animal bones in Rome, is connected to imperialism and the belief in the superiority of humans over the ‘wild’. The second conception is more appreciative and gentle. This becomes most evident in the keeping of Barbary macaques as companion animals as is indicated by the evidence investigated.

Reviewer’s comments:
- A novel approach to study of the concept of wild and exoticism.
- This is an impressive piece of academic study, especially given that it is an undergraduate dissertation.
- Demonstrating a mastery of its subject material with an overall academic maturity which is above that shown by the great majority of comparable pieces of work.

The next call for the John Evans prize will open in Spring 2017
Saving the Bacon? Reflections on the Anglo-Saxon Pig

Dr Mark McKerracher
http://farmingunearthed.wordpress.com

**Introduction**

In her seminal paper on Anglo-Saxon animals, Clutton-Brock presented a conundrum which, four decades later, has still found no definitive answer. Why are pig bones so comparatively rare in most Anglo-Saxon faunal assemblages, when documentary sources attest the importance of swine in early medieval farming? She wrote that pigs possibly ‘greatly outnumbered all other domestic animals and were the basic component of the agricultural economy, although their skeletal remains are usually found in lower numbers than those of sheep and cattle’ (Clutton-Brock 1976 p.378). The osteological dearth contrasts markedly with references in historical sources – such as a ninth-century will – to vast herds comprising thousands of Saxon pigs. Clutton-Brock proposed that the discrepancy could be due to a customary practice of boning and salting the meat, and eating it as bacon (ibid). It is indeed an economical property of swine flesh that it can be processed and kept in this manner. But the hypothesis only really shifts the focus of the problem. Once the Anglo-Saxons had ‘saved their bacon’, what became of the discarded bones? Conversely, why would the (presumed) opposite practice of keeping beef and mutton on the bone result in higher numbers of cattle and sheep bones ultimately entering the archaeological record?

**Methods**

This conundrum is really a compound problem, revolving around taphonomy, husbandry, and the thorny question of what bone counts and documentary references mean in relation to each other, and (most importantly) in relation to the
original livestock populations. I cannot attempt to do justice to such topics here, but merely offer some reflections and suggestions arising from my doctoral research into Anglo-Saxon farming. In this project, I investigated how agriculture became more productive and economically complex between the Early Saxon (5th-7th centuries AD) and Middle Saxon (7th-9th centuries AD) periods, utilizing a range of archaeological and environmental evidence (McKerracher 2014). I argued that a suite of interrelated agricultural innovations took hold from the 7th century onwards, including arable growth and more specialized husbandry of sheep and cattle, but it has proved difficult to trace what – if anything – happened to pig-keeping practices in this period. I present some preliminary reflections on that question here. My chronological scope spans the fifth to ninth centuries; my geographical remit encompasses two case study regions, one centred on the Upper Thames valley and the other upon the East Anglian Plain. I have collected and studied a range of basic zooarchaeological data from these regions and centuries (Fig. 1).

My analytical methods are straightforward. For assemblages with at least 300 bones of cattle, sheep/goat and pig, I have calculated the percentage of bones attributable to each taxon. I have also recorded mandibular age-at-death data for pigs where at least 30 aged individuals are represented in an assemblage, and commuted these to O’Connor’s ‘landmark’ format to enable a standardized comparison of mortality profiles. This system uses five age milestones of Juvenile, Immature, Subadult, Adult and Elderly, where Subadult is the theoretically optimal age to cull for meat (O’Connor 1988 p.85). Other data, pertaining to pathologies or stable isotopes for instance, were also noted where encountered in original reports.

Results

In terms of percentages of pig bones relative to those of cattle and sheep, my findings broadly echo those of Clutton-Brock. Whereas cattle bones typically make up 25-65% of an assemblage, and ovicaprid bones between 20 and 50%, the usual range for pig bones is between five and 35% (Fig. 2). There is a slight regional pattern in the data (percentages of ovicaprid bones

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<td>41</td>
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tend to be higher around East Anglian Fens) but there is little diachronic change in species ratios between the 5th and 9th centuries. The most striking evidence from a porcine perspective is that derived from Wicken Bonhunt (Essex), whose two assemblages – of 7th and 8th-9th century date respectively – are dominated by pig bones. It is the only site in the dataset with a predominance of pig bones. The pig bones from Wicken Bonhunt are also unusual in anatomical terms, in that skulls, jaws and teeth far outnumber post-cranial bones. Probably the most economical explanation for this bias is Crabtree’s argument that the settlement was engaged in specialist pork production, such that the principal, post-cranial meat-bearing bones were being exported to other sites (Crabtree 2012 pp.16–17, 26–27). Crabtree further argues that the clays of Wicken Bonhunt’s hinterland would have been relatively heavily wooded in the Middle Saxon period, and would therefore have provided ample pannage – i.e. woodland swine pasture – for extensive pig husbandry (2012 p.58). Indeed, various strands of historical evidence suggest a concentration of pre-Conquest woodland on the ‘inhospitable’ London Clay soils of Essex (Williamson 2003 pp.51–57).

The mandibular age-at-death data are presented in Figure 3. Since pigs do not provide any secondary products (apart from more pigs), we might expect all assemblages to show peak mortality at or around the Subadult stage, when the animal reaches bodily maturity and further investment of fodder will yield little or no additional meat – pigs of the time being, as far as we can tell, relatively small and gracile (Banham & Faith 2014 p.100). On the contrary, however, there are no strictly ‘optimal’ profiles. Of the seven analysed mortality profiles, four exhibit no strong emphasis upon any single age group (Brandon, Ipswich, Lake End Road and West Stow), while three show a clearer peak of Adult culls (Wicken Bonhunt, Barrow Hills and Bloodmoor Hill; see Fig. 3 and Table 1). What unites each of these groupings, the latter more mature in its focus and the former more evenly balanced between older and younger swine?

At first glance, the sites in each group have little in common: as Table 1 shows, they are diverse in chronology, location and status. The patterns may
correspond better, however, with geological situation. Brandon and West Stow lie in the sandy Breckland region, Lake End Road amid the sandy, acidic soils of the Middle Thames valley, and Ipswich near the sandy Suffolk coast; whereas Wicken Bonhunt lies near the clay plateaux of Essex, Barrow Hills amid the Oxford Clays of the Upper Thames, and Bloodmoor Hill close to a clay ridge near the Suffolk coast. Although directly comparable mortality data are not available, a high proportion of mature pigs is also noted in the Middle Saxon assemblage from North Elmham Park, Norfolk, an ecclesiastical settlement within the extensive claylands of the East Anglian Plain (Noddle in Wade-Martins 1980 p.400).

Discussion

What might connect clayey terrains with relatively late/mature culling patterns? The answer may lie in a seldom-cited suggestion put forward by Noddle, that ‘older pigs might result from extensive husbandry when compared to sty keeping’ (Noddle 1975 p.257) – perhaps because the latter approach (sty keeping) might better enable swineherds to select porkers for culling immediately upon their reaching full weight, and generally to exert greater control over livestock population structures. Thus the ‘mature’ profiles would be associated with extensive pig husbandry, and the others with more localised sty keeping. This interpretation is admittedly speculative but consistent with some other, independent evidence. At West Stow for instance, which would be in the ‘localised husbandry’ class, Crabtree suggests that a fractured pig tibia could be the result of an animal having strained against its tether, while clusters of coprolites in the fills of Grubenhäuser in the settlement have also been interpreted as possible evidence for tethering or sty husbandry (Crabtree 1989 p.28). At Bloodmoor Hill, by contrast, the extensive husbandry model would arguably be consistent with the stable isotope results from that site’s pig bones: values were found to be closely similar to those from herbivores, a pattern which arguably tells against localised domestic rearing with a diet enriched by scraps (O’Connell & Lawler in Lucy

Figure 3. Graphed mandibular mortality profiles for assemblages analysed in this project (where J = Juvenile, I = Immature, S = Subadult, A = Adult, E = Elderly).

Extensive husbandry in woodland need not be exclusive to swine, since sheep and cattle will also happily graze in wood-pasture, but there does seem to have been a particular association between pigs and woods in early medieval England, such that Domesday Book for some regions measures woodland in terms of porcine carrying capacity (Rackham 1986 p.75). Rackham cautions against exaggerating the economic importance of mast and pannage, resources too unpredictable to be a mainstay of agriculture – ‘many archaeologists unthinkingly equate pigs with woodland’, he complains (1986, p.122) – but perhaps this very scarcity and unpredictability made the resources that much more valuable for swineherding. A multitude of Late Saxon documentary references attests the cultural importance of fattening pigs in woodland (Hagen 2006 pp.105–116; Banham & Faith 2014 pp.129–131). It is not unreasonable, therefore, to argue that extensive pig husbandry was concentrated in those areas where less hospitable, more intractable clay ridges retained a cover of woodland while arable farming was concentrated on river gravels between the ridges (see Williamson 2003 pp.109–118 for wooded clay interfluvies). Put another way, in areas where woodland was scarce or distant, extensive husbandry may have offered little strategic advantage to pig farmers.

**Conclusion**

It may be argued, then, that mandibular, geographical and other data are consistent with identifying extensive pig husbandry at Barrow Hills, Bloodmoor Hill, North Elmham Park and Wicken Bonhunt. ‘Extensive husbandry’ here assumes not only a greater life expectancy for the pigs but also – and partly in consequence – a greater overall number of pigs, whether a large herd with a single aristocratic owner, or a pooled herd of several peasant farmers. Yet whereas pig bones dominate the assemblages at Wicken Bonhunt (60-70% of total NISP), they constitute only 8.5% of bones at Barrow Hills, 20.5% at Bloodmoor Hill, and 28.7% at North Elmham Park. In my interpretation, this discrepancy illustrates the well-known but easily overlooked truth that percentages of bones need not represent proportions of original animals; taphonomic (and arguably mathematical) factors preclude that assumption, given the vagaries of preservation and recovery.

This consideration brings us back to the conundrum with which this paper began: why, despite the documented existence of extensive pig herding in Anglo-Saxon England, are pig bones so comparatively rare in most Anglo-Saxon faunal assemblages? The answer, I propose, has to do with processing practices. I have conjectured extensive herding at Barrow Hills, Bloodmoor Hill, North

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**AEA Spring Meeting:**

New directions in data visualisation in environmental archaeology

Saturday 29th April 2017

See Page 18
Elmham Park and Wicken Bonhunt, but only at Wicken Bonhunt is there evidence for specialist pork production for export, and only at Wicken Bonhunt do pig bones so conspicuously dominate the assemblage. I suggest that this predominance is due to the unique combination of extensive herding and systematic, routinized butchery for pork production. Without both extensive husbandry and organized butchery, the deposition of pig bones will perhaps be more piecemeal, spread out across time and space, and thus the bones will be more prone to dispersal and degradation, and less likely to survive in dense, abundant assemblages.

Clearly much further work remains to be done to elucidate the role(s) of the pig in Anglo-Saxon diets and farming. The relative paucity of pig bones in most Anglo-Saxon assemblages is a cause for curiosity, as Clutton-Brock observed forty years ago. This short paper has offered some reflections and a preliminary hypothesis: while most farmers were ‘saving their bacon’ on a more piecemeal basis, those at Wicken Bonhunt were pioneering pork production and, as a result, leaving an exceptional zooarchaeological record. The Anglo-Saxon period, writes Albarella, saw ‘the heyday of swine husbandry’ in England (Albarella 2006 p.73). Did it also witness the birth of the English pork market, and was this phenomenon really as rare as the zooarchaeological record suggests?

Acknowledgements

This paper is based on AHRC-funded doctoral research undertaken at the University of Oxford between 2010 and 2014, supervised by Professors Amy Bogaard and Helena Hamerow.

Mark McKerracher, independent scholar (mjmck@outlook.com)

References


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In late September/early October, the AEA held its 37th annual conference at the American University of Rome, attracting around 35 delegates from commercial, public and academic institutions across the UK, Europe, North Africa and North America. The main themes of the conference were the challenges and results of integrating environmental, archaeological and scientific data in palaeoenvironmental studies in the Mediterranean and secondly the rise of heritage studies and their relationship to environmental archaeology. These issues were addressed by 23 wide-ranging presentations in five sessions over two days complemented by several poster displays.

In the plenary presentation at the American Academy in Rome, Professor Graeme Barker (University of Cambridge, UK) explored how environmental archaeology has responded to questions relating to ‘human-environment interactions’, one of the five ‘grand’ challenges for archaeology identified by Keith Kintigh and colleagues in *American Antiquity* 2014 (79, 1: 5-24); he addressed these issues by drawing on multi-disciplinary fieldwork that he carried out over a long period of time including investigations of Mediterranean landscape history in the Biferno Valley, Italy, Roman imperialism and desertification in the Libyan Valleys and south Jordan, and early human interaction with the environment in cave sites in Libya, Iraqi Kurdistan and Sarawak, Borneo.

The following day, the opening session at the American University of Rome consisted of several papers exploring the use of isotopic data from faunal remains; Maura Pellegrini (University of Oxford) investigated animal mobility in late glacial central Italy, the results showing differences in ranging behaviour between red deer and horse and challenging some of the conventional views on transhumance while Nieto Espinet (University Paul –Valery, Montpellier, France) looked at animal mobility and breeding practices from two late
The remains of many species are well-preserved in Quaternary palaeoecological deposits and offer the opportunity to explore the formation, development and dynamics of biological communities over long temporal periods and address a range of key ecological and conservation questions. These include issues such as how species and communities differ in their responses to changing environmental conditions and whether these differ over time-scales. Do species primarily move, adapt or die? Are responses essentially the same over time or is there evidence for adaptation or niche evolution? What can the fossil record tell us about the vulnerability of particular communities and species - are some more vulnerable to extinction or declining populations compared with others? For some groups, taxonomic issues also present significant challenges to understanding long-term community changes, although for others, new approaches to taxonomy, analytical advances (e.g. aDNA analysis) and novel modelling methods offer the potential to enhance and indeed revolutionise ecological interpretations and our understanding of species responses to future climate change.

Papers sort that address themes, dealing with all types of biological proxy records from archaeological, palaeoecological and palaeolimnological contexts, using standard palaeoecological methods, species distribution models, novel modelling methods, aDNA approaches and phylogeography. we particularly encourage papers that seek to explore species and community spatio-temporal dynamics and interactions, spread, extinction and niche evolution, over the different time-scales that apply to Quaternary studies.

**Conveners**

Nicki Whitehouse, Plymouth University, Drake Circus, Plymouth, 
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Althea Davies, University of St Andrews, ald7@st-andrews.ac.uk

M. Jane Bunting, University of Hull, 
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**Up-coming Conference**

PAGES Open Science Meeting (OSM) in Zaragoza, Spain,  
9-13 May 2017

Do species move, adapt or die? Exploring past biodiversity, ecological change and community dynamics in the fossil record

**Deadline for abstracts 20th December 2016:**

http://www.pages-osm.org
prehistoric sites in southern France, smaller cattle size during the Iron Age being related to decreased mobility as a consequence of social organisation during this period. Stefania Milano (University of Mainz Germany) discussed the problems of using molluscs, which had been cooked, as a tool for reconstructing palaeo-environments, experimental research showing structural and geochemical changes at temperatures greater than 300°C affecting their use as palaeo-environmental and palaeo-seasonality indicators. Luca Brancazi (Universita degli Studi della Tuscia, Viterbo, Italy) explored the use of domestic faunal remains from 11th Century excavations in Rome as a means of reconstructing the Roman landscape during this period.

The second session focused on research papers dealing with data from single sites or intra-regional syntheses; Luigi Pedroni, in excavations at the ancient Roman city of Telesia (Benevento), examined the effects of 4th-century earthquakes at the site, and the resilience of the local populace towards reconstruction, a very pertinent topic given recent events in central Italy, while Daniella Vos (Bournemouth University, UK) discussed the statistical synthesis of phytolith and geochemical signatures from soil samples from Bedouin camp sites in Jordan for comparison with signatures from Neolithic settlements for distinguishing different areas of activity within ephemeral sites. Jens Koehler (American University of Rome) explored the potential of using calcareous deposits (sinters) in Rome’s aqueducts, specifically the Aqua Alexandrina, as a means of measuring water volume and thus seasonal (winter and summer flows) or long term (climatic) changes. Robyn Veal (University of Cambridge, UK) reported on archaeobotanical and archaeological evidence for the olive economy in ancient Campania (southern Italy), highlighting the need for a multi-disciplinary approach using all available datasets while Matteo delle Donne (University of Naples) used charred plant remains and imprints from five sites in the same region to investigate proto-historical agriculture. Jaafar Ben Nasr (Universite de Kairouan, Tunisia) presented preliminary results from an interdisciplinary research project, including geo-archaeology, geochronology, geochemistry, palynology, palaeoanthropology and population genetics, investigating late Quaternary human occupation of the north-west Sahara.

The third session saw a number of presentations focusing on early humans and the environment; Abou Al-Hassan Bakry (Cairo University, Egypt) reported on the similarities in Pleistocene rock art between several cave sites in the Nile valley and
late Glacial cave sites in southern Italy, potential evidence for trans-Mediterranean contacts or movements during this period or similar environmental conditions in both regions. Blain Hughes-Alexandre (Tarragona, Spain) showed how the analysis of middle Pleistocene faunal remains and pollen studies in the Guadix-Baza basin (southern Spain) provided an environmental and climatic context for early human settlement in the area, the results showing warmer and wetter conditions compared to today, while Amy Prendergast (University of Mainz, Germany) used comparative data from stable isotope analysis on contemporary and archaeological gastropods to investigate both seasonal and sub-seasonal environmental changes at the upper Palaeolithic site of Ksar Akil (Lebanon). Peter Wigand (University of Nevada, USA) discussed current palaeoecological and archaeological research on the impact of human land use on landscape change during the middle to late Holocene in the Mezzoigorno region of southern Italy, showing that it is possible to separate climate change erosion from human erosion and that the impact of prehistoric land use on landscape evolution in this area is significantly underestimated. Mary Ann Tafuri (University of Rome) looked at isotopic studies of faunal remains from a middle Palaeolithic cave site at Grotta Breuil (south Latium), a possible refugia containing Neanderthal fossil remains, in order to reconstruct the paleo-ecology of the later phases of the Middle Palaeolithic.

Two papers in the fourth session focused on Heritage and the Environment; Simone Quilici (Cultural Heritage Department, Lazio) discussed the regeneration of part of the Via Francigena (an ancient route from Canterbury to Rome) around Lake Vico, north of Rome, highlighting challenges in the conservation and presentation of the natural and cultural heritage in this area. Val Higgins (American University of Rome) reported on how we regard our relationship between our cultural and natural heritage in the context of ‘Cultural Landscapes’ a category of the World Heritage List introduced in 1992 by UNESCO to protect areas with a long and intimate relationship between peoples and their natural environment, with listed elements extending to food and drink; while bringing obvious economic benefits to such areas, this protective status may also have negative impacts including the effects of mass tourism on infrastructure as well as repercussions for the local economies of adjacent areas.

The final session of the conference was concerned with Mediterranean-wide syntheses, with a presentation by Pier Matteo Barone (American University of Rome) on the benefits of using Ground Penetrating Radar (GPR) as a means of reconstructing ancient environments and locating new archaeological sites, illustrated by several case studies in central Italy. Alessio Palmisano (Institute of Archaeology, University College, London, UK) presented preliminary results from two regional case studies in Campania: Matteo delle Donne presentation. Proto-historical agriculture in Campania.
studies, part of a Leverhulme funded project, ‘Changing the Face of the Mediterranean’ looking at how population dynamics have affected vegetation change in the Mediterranean basin from the Neolithic through to the medieval period using pollen records, archaeological survey data and radiocarbon dates; Charlene Murphy (Institute of Archaeology, University College London UK) discussed the state of multi-proxy environmental studies in the Mediterranean region from the Roman period, highlighting the different approaches to synthetic studies and current problems, challenges and potential solutions for achieving high standard integrated syntheses in environmental archaeology.

Several posters were on display; preliminary results on the exploitation of aquatic resources during the Roman period at Gabii (Rome), a site on the slopes of a volcanic lake (Francesca Alhaique, Washington University, Missouri USA); a discussion on the aims and benefits of promoting Historic England guidelines in environmental archaeology to promote best practice and professional standards in archaeological projects and different ways in which information may be disseminated (Polydora Baker and Gill Campbell, Historic England, Fort Cumberland, Portsmouth, UK); and investigations into cultural heritage and identity construction in a Sicilian town, Troina, using interviews and questionnaires to explore the collective memory of the inhabitants past (Flaminia Bartolini, University of Cambridge, UK).

A general discussion at the end of the conference addressed some of the issues arising from the many and varied presentations, highlighting some of the current challenges for environmental archaeology; from questions relevant to the examination of paleo-environmental studies in the Mediterranean, for example the need for increased datasets of climatic records on a regional and local level including high resolution pollen records to examine climatic changes over shorter periods of time; to more general and practical challenges, from standardising collection methods, addressing biases in the recovery and analysis of different types of evidence, to the accessibility of data and data sharing.

Following a drinks reception on the opening night of the conference, hosted by the American Academy at Rome, excellent lunches were served on the following two days in the sunny tranquil setting of the gardens of the American University of Rome. At the Conference Dinner at Trattoria Vascello, a range of dishes were served accompanied by good wines and rounded off with an excellent tiramisu. Congratulations and thanks should be extended to the organisers, Valerie Higgins, Giulio Lucarini, Charlene Murphy and Robyn Veal and others (administrators, caterers) for arranging such a successful and stimulating conference and providing a forum for bringing together researchers from disparate parts of the world with a common interest in palaeo-environmental studies in the Mediterranean.

"INTO THE WOODS: OVERLAPPING PERSPECTIVES ON THE HISTORY OF ANCIENT FORESTS".

April 18-20, 2017 in Padova (Italy).

The aim of this conference is to allow specialists and researchers from various cultures and different professional fields to meet and exchange views about the study of ancient forests. Foresters, planners, developers, ecologists, biologists, agriculturalists, geographers, historians, philosophers, ethnologists, cartographers, archaeologists, archaeobotanists, sociologists etc., from all backgrounds, are invited to join this debate about our various and varying concept of “ancient forests” meeting.

ancientforest@gmail.com
NEWS FROM THE COMMITTEE, NOVEMBER/DECEMBER 2016

2016 Election Results

Due to the postponement of the AGM (To be held at the Spring Meeting 2017) email proxy votes were extended to all members. The following members have been voted on to the managing committee for the AEA 2016

Treasurer (4 year term):

Mark McKerracher

Student representatives (2 year term):

Daisy Spenser

Ordinary members (4 year term):

Jen Harland; Lynne Gardiner; Niklas Hausmann

We particularly thank all those that ran and all that voted (again it was close and we hope that those that were unsuccessful will continue to use all their skills to support the AEA in the coming years.

Call for Grant Applications: AEA Research Fund

(Fund administrator: Julia Cussans)

Research Fund Overview: For the third year the AEA is offering a number of small grants to fund specific aspects of research projects concerning any area of environmental archaeology. Grant applications are open to all AEA members including students and unwaged members.

Grants will normally be up to £500 but applications for larger amounts may be considered. Grants cannot cover the cost of equipment or conference attendance or costs that should normally be covered by developers or larger funding bodies (eg AHRC, NERC) funding other areas of the same research project. Costs that may be covered include travel and accommodation for visits to research facilities, scientific analyses or time buy-out for those working in the commercial sector and wishing to carry out research beyond that funded by developers. Grants may also be used for research start-up or pilot projects.


Call for Associate editor for Environmental Archaeology: archaeozoology

Environmental Archaeology would like to appoint an associate editor with expertise in archaeozoology. This person will have editorial responsibilities for manuscripts presenting archaeozoological material and assist the authors through the peer review and publication process.

It would be for a 5-year term.

For informal enquiries, please contact Tim Mighall by email (t.mighall@abdn.ac.uk). If you wish to apply, please send an email briefly outlining your area of expertise and why you would like the role to Tim at the above email address by 16th January, 2017. The applications will be considered by the AEA committee.
WORKSHOP ON INTEGRATED MICROSCOPY APPROACHES IN ARCHAEOBOTANY

The next IMAA workshop will be held in the School of Archaeology, Geography and Environmental Science, University of Reading on 25th-26th February 2017

We invite participants to bring samples, slides, and to present a short talk, or poster within these themes:

- The taphonomy of plant remains in urban contexts
- Palaeobotanical approaches in landscape archaeology
- Fired up: composition and preservation of organic remains in burnt contexts
- Morphometric approaches to macro and microscopic plant remains
- Animal management strategies

To express your interest in attending please email imaaworkshop@gmail.com
Further details about registration will follow shortly. Follow us on twitter #IMAA2017
Membership

Change is on the horizon for membership as we go into 2017, with our subscription rate rising to £45 waged/£35 student/unwaged/retired – the first rise in individual subscriptions since 2004. As per our email reminder - please update your payment details as soon as possible.

Membership has risen throughout 2016, with 429 members worldwide, including 64 new members for 2016. This is the highest membership has been for a number of years and we are delighted. An additional 82 members have not yet renewed their subscriptions this year, but we’ve ensured that short-term web links have been made available so that these members can still make their payment at 2016 rates.

Thanks and congratulations also go to Nora Batterman and Samantha Presslee, this year’s John Evans Prize winners, who both accepted three-year membership subscriptions as their prize. Well done to you both!

The end of 2016 also sees a change of Membership Secretary, with Ruth Pelling finally stepping down from her co-opted position for a well-earned break, after 6 years of much appreciated service.

Our new Membership Secretary is Dr. Jo McKenzie, Honorary Research Fellow at the University of Bradford, and an AEA member since 2005. Jo is an alumnus of the universities of Nottingham, Bradford and Stirling, and is a geoarchaeologist and soil micromorphologist with a focus on Scottish prehistory. She joined the Committee at the start of 2016. Contact Jo for all membership related queries on j.t.mckenzie@bradford.ac.uk, or, as ever, on membership@envarch.net.

Membership

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Breakdown by membership type

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* excludes honorary members

Breakdown by payment method

Our current membership: 429 members through 33 countries worldwide.
AEA Spring Meeting: New directions in data visualisation in environmental archaeology  
Saturday 29th April 2017 – University of Leicester

Recent AEA conferences (e.g. Plymouth 2015, Rome 2016) have focussed attention on the challenges of Big Data and synthesis within environmental archaeology. For the 2017 spring meeting we would like to develop this theme by exploring new ways of visualising environmental archaeological data. With the development of new analytical methods and an ever-expanding suite of technological solutions for data analysis and visualisation, new opportunities for presenting complex datasets with increased clarity are emerging. Coherent data presentation is critical if we are to achieve meaningful dissemination of environmental archaeological research both within and beyond the discipline. The latter arena is becoming increasingly important as the value of archaeological research in debates and policy development concerning heritage management and responses to environmental change are being made apparent.

The conference will include three formats of presentation: traditional lectures (20 minutes); Ignite format (5 minute presentations with a maximum of 10 slides); and posters. If you are interested in contributing, please send a 200 word abstract to Richard Thomas (rmt12@le.ac.uk) by Friday 24th March 2017. Informal enquiries about other topics are welcomed.

European Geosciences Union General Assembly 2017

Vienna Austria Session 23–28 April 2017

Session Annually resolved archives of marine Climate change

Invitation for oral and poster presentations that focus on annually resolved archives of marine climate change, such as archives from bivalve molluscs, corals, coralline algae, sclerosponges, fish otoliths, and others. Such high-resolution proxy archives have the potential to make important contributions to our understanding of the regional and near-term impacts of climate change. This session will highlight advances and ongoing research in all the disciplines associated with these archives, including (i) the biological and environmental drivers of growth increment formation; (ii) the use of growth rates as well as structural and geochemical data as proxies of past marine environments and marine climate, and (iii) the use of these archives in proxy-model comparisons.

The session is organized by the ARAMACC network, a Marie Curie Initial Training Network funded by the European Commission, and partners.
Remembered

Don Brothwell (1933-2016)

Archaeological science in the UK owes a great deal to Don Brothwell, in part for his own considerable and diverse contributions, and in part for his encouragement and advocacy of students and younger colleagues. Don’s research centred on human remains and animal palaeopathology, but he was interested in everything and had a remarkable facility for seeing the connections between seemingly distant ideas or evidence. He was a scientist in the best sense: it was always the evidence that mattered, regardless of the academic status of the researcher, and inferences from that evidence only became knowledge once they had been thoroughly tested, mulled over and interrogated. Don was also a humanist: whatever twists and turns his research took, ultimately it was people, present or past, who mattered, the ordinary people whom archaeology sees so much more clearly than written history and for whose small lives Don showed understanding and sympathy.

Don’s published research will stand as his legacy, a body of papers, books and edited collections that range from the practical Digging Up Bones to his more philosophical considerations of the human condition. He could be humorously self-deprecating (“I’m just an Art School drop-out” was one of his best) but although Don wore his eminence lightly, he was aware of the responsibilities that came with it and never, ever rested on his laurels. He could be obstinate, especially on matters of principle, and was — how to put this? – not a great fan of administrative paperwork. Email and the interweb thingy was something that happened to other people. Despite, or maybe because of, that Don was generous with his time, his expertise and his enthusiasm, coaxing and reassuring students and helping colleagues to shape research plans and publications. Like many others, I owe my career to Don. He was, as he described the capriciously brilliant Leo Biek, “A kind and humble man, not easy to replace”.

Terry O’Connor (November 2016)

Willem van Zeist (1924-2016)

Willem van Zeist was my Doctor Father and he gave me the occasion to study plant material from all his national and international projects at the institute in Groningen and he was the first, who explained me the determination of cereal species. Because of this short stay I have got the chance to take part in the famous IWGP conference 1983 in Groningen, where important new ideas have been presented, as those who did not participate will know from the publication. It was a great time and he generously let me take part in, although I was an absolute beginner.

Prof. van Zeist even was so kind to invite me to his house, which was very welcome for a student without salary. I admit I was a bit afraid before. But then I was welcomed so friendly by him and his lovely wife. I remember well the really nice and cosy atmosphere of their house and their wonderful garden. One funny memory is from the first evening, when he took his bicycle and fetched something to eat at a nearby Chinese snack bar, something beyond imagination for a German professor at that time... By the way, it was delicious.

Prof. Willem van Zeist followed his wife in the age of 92 years and grieving for him are not only his children but eight grandchildren and great grandchildren. May he rest in peace. I will keep him in good memory.

Angela Kreuz (reproduced by kind permission from an email to the archaobotany mailing list October 2016)
IMPORTANT –

Subscription fee increase

From 2017, our subscription rate will rise to £45 waged/
£35 student/unwaged/retired.

Despite an increasing range of membership benefits, this will be the first increase in individual membership fees since 2004. The motion to accept an increase in fees from 2017 was carried at the 2015 AGM.

An email has been sent to all members detailing payment options for 2017, including an updated standing order form featuring the new rates. If you pay by standing order, we’d be grateful if you could update your details as soon as possible.

Paying online is a quick and easy way to maintain your subscription, and as of Monday 12th December our online payment facility reflects our new rates, allowing you to renew your subscription for 2017: http://envarch.net/register/. Members paying in non-Sterling currency through Worldpay will be charged based on the Sterling fee, at an exchange rate that is updated daily.

For any queries regarding membership payments, including making late payments for 2016, or if you think you may have missed the subscription change email, please contact our new Membership Secretary, Jo McKenzie, on membership@envarch.net or j.t.mckenzie@bradford.ac.uk.
Musings from Social Media

**Remembering Don Brothwell**

This afternoon was going quite well. The sun was shining, a few irritating administrative loose ends had been tidied up, there was gravad axol for lunch. Then the news came that Don Brothwell had died…

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2,933 people reached

**Association for Environmental Archaeology**

The JIA2016 Santander conference ended with great success! Many young archaeologists contributed interesting communications and the AEA-sponsored Spanish wine reception on the first evening was a great networking opportunity for the young scientists!
Key Dates

Increase in membership fees 1st January 2017

Call for Grant Applications: AEA Research Fund
31st January 2017

AEA Spring Conference Leicester 29th April 2017
Paper deadline 24th March 2017

Notes from the Newsletter Editors

Please note that thesis submission forms can be found on the website which gives AEA members an opportunity to publish abstracts of their postgraduate thesis.

We are always keen to receive newsletter content, especially from our non-UK members. To submit an article, please email word documents and images to:

newsletter@envarch.net

Next deadline February 1st 2017

Rob Batchelor, Danielle de Carle, Rhiannon Philp