

# PAST

THE NEWSLETTER OF THE PREHISTORIC SOCIETY



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## Spectacular Neolithic finds emerge from the lochs of Lewis

Chris Murray, a sport diver, has been making some remarkable discoveries of Neolithic pottery on the beds of several lochs in the Isle of Lewis. The pottery is very similar to other finds of Hebridean Neolithic pottery, for example the assemblages from Eilean an Tighe and Eilean Dòmhnuaill (Loch Olabhat), both in North Uist. At least one Unstan Bowl – a specific vessel type shared between the Hebrides, Orkney and north mainland Scotland – is included among the finds.



*Large Hebridean Neolithic jar being lifted from Loch Langavat (photo: Chris Murray).*

By a lucky coincidence, it has proved possible to obtain radiocarbon dates from encrusted organic residue from three of the vessels (all large decorated Hebridean Neolithic cooking pots) from three of the lochs. Mark Elliott, the Conservation Officer at Museum nan Eilean, Stornoway, who tragically died on New Year's Eve, had drawn the finds to the attention of Alison Sheridan. In collaboration with Hugo Anderson-Whymark and Duncan Garrow, these samples (plus three from residues on pottery from Eilean an Tighe) were dated at the Oxford Radiocarbon Accelerator Unit as part of the *Stepping Stones to the Neolithic* project ([http://www.neolithicsteppingstones.org/\\_/Home.html](http://www.neolithicsteppingstones.org/_/Home.html)). Sadly, Mark did not live to see the results, but he would have been delighted to learn that the pots date to between *c.* 3600 BC and *c.* 3300 BC, in line with expectations. Full details will be published in *Discovery and Excavation in Scotland* in 2015 and in the *Stepping Stones* project's planned

radiocarbon dating paper. Furthermore, Bristol University's Richard Evershed has kindly agreed to analyse the sherds to identify the pots' former contents. The dates give no reason to suspect the presence of marine lipids. Interestingly, however, one of the only two Neolithic pots in Professor Evershed's recent NERC-funded project, *Changing Patterns of Marine Product Exploitation in Human Prehistory via Biomarker Proxies in Archaeological Pottery* (<http://www.ncbi.nlm.nih.gov/pubmed/24523264>), to have produced evidence for marine lipids was a Hebridean Neolithic pot from Bharpa Langais, South Uist.

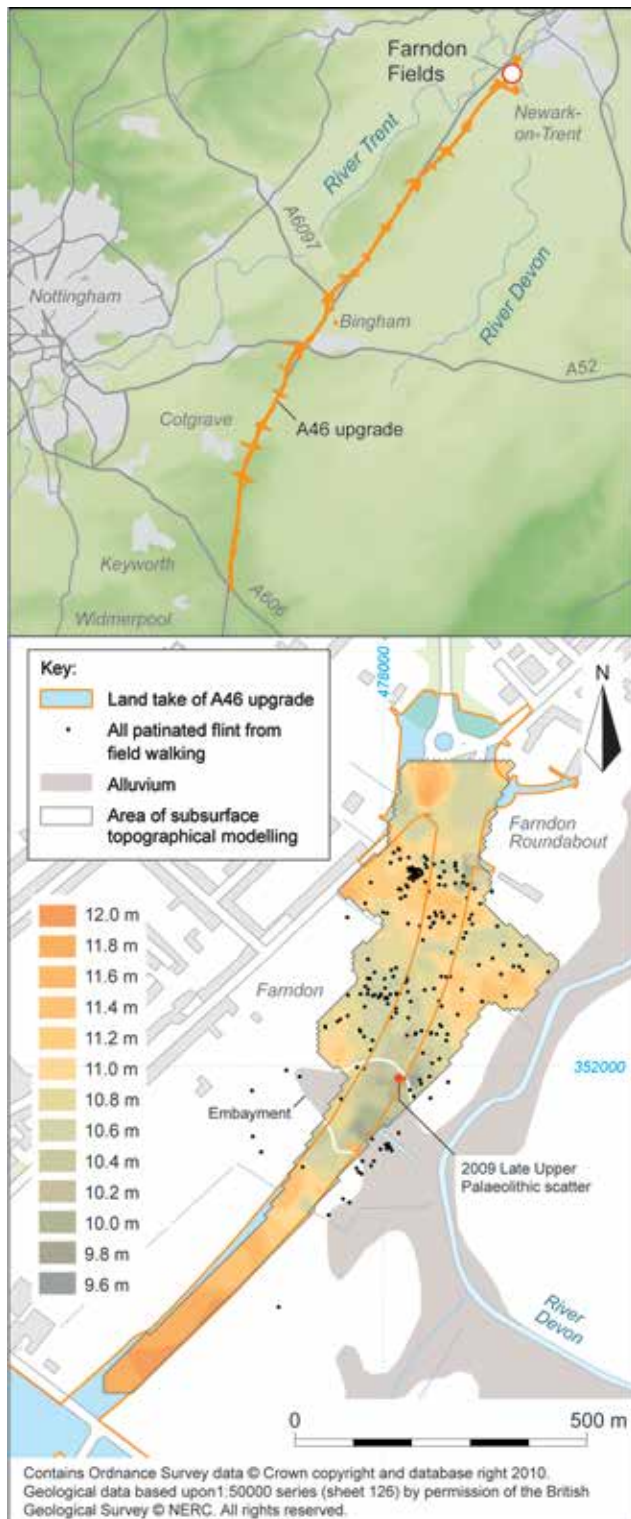
As with the North Uist finds, the Lewis discoveries point towards the existence of Neolithic settlements on islets in lochs. The state of preservation of the pottery is superb and there is every chance that other well-preserved waterlogged settlement evidence is present. However, there are currently no plans to excavate since, in order to do justice to the sites, a vastly expensive operation would be necessary – including a major programme of waterlogged organics conservation, for which Scotland is decreasingly well-equipped.



*Unstan Bowl emerging from the waters of Loch Arnish (photo: Chris Murray).*

*Alison Sheridan (National Museums Scotland), Chris Murray (diver), Duncan Garrow (University of Reading) and Hugo Anderson-Whymark (University of York)*

## Farndon Fields, Nottinghamshire: *in situ* multi-phased Late Upper Palaeolithic activity on the floodplain



Location of LUP flint scatters at Farndon Fields, with wider distribution of LUP flints derived from fieldwalking, in relation to the underlying topography (metres aOD) and mapped alluvium (reproduced by permission of the British Geological Survey, © NERC. All rights reserved: CP13/104).

In 2009, a Cotswold Wessex Archaeology joint venture undertook the archaeological works along the 28km upgrade of the A46 trunk road between Newark-on-Trent and Widmerpool, Nottinghamshire. Part of this work impacted upon the important Late Upper Palaeolithic (LUP) site of Farndon Fields which lies just south of Newark near the confluence of the river Devon with the Trent.

The site's importance was first recognised in 1991 when fieldwalking by Trent and Peak Archaeological Unit recovered a small quantity of diagnostic LUP worked flints belonging to a British derivative (Creswellian) of the European Final Magdalenian culture (c. 12,600–12,250 BC). Additional material was collected in subsequent fieldwalking campaigns, including a number of discrete clusters of relatively undamaged artefacts in the ploughzone. These pieces, which were all distinguished by a white surface patina, provided the prospect that *in situ* sub-ploughsoil scatters might exist, though preliminary small-scale test pits failed to locate evidence of this. A series of auger and borehole surveys across the study area yielded important information about its sub-surface topography, enabling potential areas for *in situ* LUP material to be identified, including the margins of an alluvial embayment in the centre of the site.

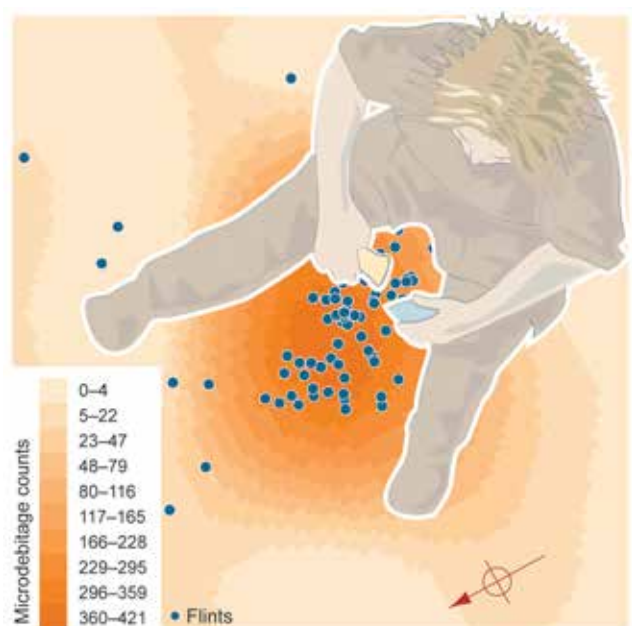
The new road was constructed without removing the ploughsoil, thereby preserving the archaeology beneath it *in situ*; archaeological test pits and trenches were located within the flanking drainage ditches. The most significant discoveries were made in a trench situated on the eastern edge of the alluvial embayment, where four possible LUP flints were recorded in alluvium below the ploughsoil in opposing sections of the trench. Expansion of this trench to the east and west revealed two distinct LUP flint scatters.

The earlier of these industries, on the east side, comprised 167 patinated artefacts, in mint condition, from a blade industry employing extensive use of platform faceting and soft hammers, and exploiting non-local flint. These were identical to the LUP Creswellian artefacts found during the earlier fieldwalking campaigns. The largest component, comprising 138 pieces, supplemented by quantities of microdebitage to 1mm, lay in an undisturbed nucleated scatter (c. 0.5m long by 0.25m wide), surrounded by a diffuse spread of 21 outlying artefacts, some of which could be refitted to those in the nucleated cluster. This suggested that the scatter was *in situ* with very limited post-depositional horizontal movement. The vertical distribution of flint artefacts displayed clear evidence of bioturbation through c. 0.15m of the underlying alluvial deposits. The Creswellian scatter was similar to scatters produced experimentally (detailed in the forthcoming publication) suggesting that it represents the rare survival of an ephemeral *in situ* knapping episode, worked by one highly skilled person seated on or





Excavation of the flint scatters.



Interpretation of the knapping event showing the distribution of flint artefacts and microdebitage; the distribution suggests a right-handed knapper.

close to the ground, and so documents a single, relatively uninterrupted, moment in time.

A stratigraphically later, more diffuse, scatter of unpatinated artefacts from a blade industry was found in the small

area opened on the west side of the original trench. This assemblage contrasts with the Creswellian material, both in its hard-hammer mode and relatively unsophisticated core technology, and in its use of poor-quality nodules from the local river gravel. Retouched material included backed pieces and scrapers. These attributes suggest that this industry was also of LUP date but of Federmesser type (c. 12,000–11,000 BC). The scatter was also found both in the upper parts of the alluvium and the overlying ‘sub-soil’; however, the assemblage had suffered some horizontal dispersion of artefacts, both by human activity during the use of the site and from being located immediately below the ploughzone. Despite this, sufficient structure remained within the relationship of artefacts and microdebitage to suggest that elements of specific site activities survived. Discrete areas of flaking activity appear to have co-existed within a general spread of occupation activity located around what appear to have been hearths. Specific activity areas were defined by microdebitage, notably chips of distinctive raw material indicative of a single flaking event location, and distinct distributions of scrapers.

The excavated scatters indicate human activity at the site throughout the Late Pleistocene Windermere Interstadial (c. 12,700–10,700 BC). The large LUP dataset now available, coupled with that from fieldwalking, indicates that activity across the study area during this period occurred along low-lying wetland margins and areas of elevated gravel adjacent to river channels. Soil micromorphology undertaken within the Creswellian scatter suggests that knapping would probably have taken place at this location during the summer months. Clear differences in material sourcing are also apparent, with good quality flint used by the Creswellian groups to produce blade blanks as supports for retouched tools, while fluviially battered, thermally flawed nodules were exploited by the later Federmesser groups. It is clear that, in a region where flint does not occur naturally, raw material was obtained from two contrasting sources, of which only the later industry is likely to have been sourced within the local catchment, if not the site itself.

With continuing research being undertaken at Farndon Fields (*Ice Age Journeys* project: <http://www.iceagejourneys.org.uk/>), it is almost certain that the site will continue to yield important information relating to LUP activity in the River Trent catchment. The report is currently being prepared for publication: N. Cooke and A. Mudd, *A46 Nottinghamshire: The Archaeology of the Newark to Widmerpool Improvement Scheme, 2009*, Cotswold Wessex Archaeology Monograph.

We are grateful to the Highways Agency (the client), Balfour Beatty (principal contractor), URS (designer), Jacobs (employer’s agent), English Heritage and Nottinghamshire County Council for their assistance during the project.

*Michael Grant and Phil Harding*

## The Ole Crumlin-Pedersen puts to sea!



On 7 September 2013, the half-scale reconstruction of the Dover Bronze Age boat finally put to sea on a bright, blustery day at Dover. The boat was built as part of the international 'BOAT 1550 BC' project by a team of woodworkers led by Richard Darrah. It left the calm waters of Dover Marina, skippered by Paul Bennett, Director of the Canterbury Archaeological Trust, and propelled by a slightly apprehensive crew of eight into the swell of the English Channel. In the event, the boat performed superbly; it sat high in the water and rode the swells with ease, proving to be very stable and highly manoeuvrable, even with an untried and inexperienced team of paddlers. All were hugely impressed by the experience of sailing in this beautiful vessel. The boat was fashioned using largely the same materials as the original boat (dated to 1550 BC and on public display in



Dover Museum), with hewn planks of oak sewn together with hazel withies (unlike the yew used on the original due to scaling factors) and the seams made watertight with moss and beeswax. The actual design of the boat followed the archaeological data very closely; of course, some elements missing from the original were speculative, though based on a rigorous re-assessment of the original timbers and the excavation archive by Ole Crumlin-Pedersen and Richard Darrah. It all seemed to work remarkably well.

The boat had returned to England earlier that year after spending a year in France and Belgium as part of the travelling exhibition 'Beyond the horizon: societies of the Channel and North Sea 3,500 years ago', which attracted over 24,000 visitors. Impressive as it was in the static museum displays, it was far more comprehensible and imposing in its natural element, the sea. The boat-builders had attempted to complete the vessel before it left to join the exhibition in France in 2012, but had run out of time and the unfinished boat took on water when they originally tried it out. It was thus a great relief and a vindication of their work when the boat not only floated but performed so well. The boat was christened the 'Ole Crumlin-Pedersen' in memory of the late and sorely missed Danish archaeologist, who was intimately involved in the research underpinning the reconstruction, and the launch was tinged with sadness that Ole could not be there to witness it.

The BOAT 1550 BC project, a three-year programme researching and celebrating cross-channel cultural links in the Bronze Age, comes to an end this summer. Part-funded by the European Union, it has brought together seven partner institutions from three countries (France, Belgium and England) who have worked closely together to mount the exhibition, a book presenting much unpublished evidence from both sides of the Channel, an extensive educational and outreach programme and of course the reconstruction of the boat itself. Partners included the University of Lille 3, the town of Boulogne-sur-Mer, the Conseil Générale de Pas-de-Calais, INRAP, the University of Ghent, Canterbury Christchurch University and the Canterbury Archaeological Trust. More can be found out about the project at <http://boat1550bc.meshs.fr/>.

After the end of the project, if funding can be acquired, the boat will undergo more serious and rigorous experimental sea trials; the exercise still has much to offer in terms of valuable new scientific data. It is also hoped that it can be used as an educational tool, being taken to various events where members of the public may have the opportunity to paddle this evocative and inspiring craft.

*Peter Clark, Canterbury Archaeological Trust*



# New radiocarbon dates from Cladh Aindreis chambered tomb, Ardnamurchan

## **Introduction**

Cladh Aindreis (NM 5470 7076) is one of three Neolithic chambered cairns on the Ardnamurchan Peninsula, western Scotland. Located in the well-preserved multi-period landscape of Swordle Bay, on the north coast of the peninsula, Cladh Aindreis was the subject of excavation by the Ardnamurchan Transitions Project between 2006 and 2010 as part of our wide-ranging enquiry into the human occupation of Swordle Bay. The aim of the project as a whole is to develop a long-term understanding of changing human lifeways in Ardnamurchan, with a focus on the exceptional preservation of this one small bay. As such, we have conducted extensive survey and a series of excavations on sites of different periods throughout the bay, ranging from the monuments discussed here, to an Iron Age promontory enclosure, Viking boat burial and post-medieval settlements (for details see [www.ardnamurchantransitionsproject.com](http://www.ardnamurchantransitionsproject.com)). Our work on Cladh Aindreis has featured previously in *PAST* in 2007 and 2009 (issues 54 and 61) and the recent procurement of radiocarbon dates for the monument enables us to update readers on the broader outcome of the excavations.

## **Cladh Aindreis**

An initial interpretation of Cladh Aindreis was proposed in the 1970s by Audrey Henshall as part of her survey of the chambered cairns of Scotland. Here she suggested that this was a roughly trapezoidal-shaped Clyde-style cairn, dating to the Early Neolithic and measuring nearly 50m in length and just over 30m in width at its widest end. However, excavation at Cladh Aindreis between 2006 and 2010 has revealed a complex story of multiple phases of construction and alteration between the Early Neolithic and the Bronze Age, which goes far beyond anything that Henshall's initial survey could have identified.

The earliest activity at the site consisted of the deposition of an unsorted cremation into a small natural hollow. A circular monument, c. 16m in diameter, was then constructed

immediately above this, containing a rectangular chamber accessible both from the front of the monument and most likely from above through the removal of capstones. The project has excavated a section of this chamber, much of which had been disturbed. Where relatively undisturbed material was recovered it appears that tightly packed bundles of bones were deposited, potentially having previously been exhumed elsewhere. Two of these bundles were found. Later, the front of the monument was blocked off and the chambers sealed.

Yet, our work suggests that this story of the main part of the monument is only part of the picture. As reported in *PAST* 61, a ditch ran around the front of the monument containing pottery in its primary fill, provisionally dated to the mid-fourth millennium BC, and a hearth was also constructed between the ditch and the tomb. Behind the monument, a potential tail was also added, transforming it from a circular to a trapezoidal shape, as surveyed by Henshall. Our work suggests that we must be cautious about the precise chronology of this, however. This is not because of any doubts over the sequence – the 'tail' is demonstrably



*One of the tightly packed 'bundles' of human remains from the chamber*



*The chamber of Cladh Aindreis*



*Students cleaning Ricky's Cairn*

Reference	Sample code	Uncalibrated BP	Calibrated to 95.4% probability
1	SUERC-49033	4947 ± 30	3783-3656 cal BC
2	SUERC-49038	4750 ± 32	3637-3507 cal BC (80.7%) / 3427-3381 cal BC (14.7%)
3	SUERC-49039	4759 ± 30	3639-3514 cal BC (87.2 %) / 3423-3383 cal BC (8.2%)
4	SUERC-49040	4817 ± 32	3656-3623 cal BC (30.8%) / 3603-3523 cal BC (64.6%)
5	SUERC-49041	4753 ± 30	3638-3511 cal BC (83.6%) / 3425-3382 cal BC (11.8%)
6	SUERC-49037	3399 ± 31	1861-1854 cal BC (0.6%) / 1771-1616 cal BC (94.8%)

later than the circular monument – but because it could be a separate act of construction rather than a straightforward addition to the monument. We hope to resolve this question in future years. Our work has also discovered a previously unknown Bronze Age kerbed cairn immediately next to Cladh Aindreis. When Henshall surveyed the monument, she included the kerbed cairn within its boundaries, which is why she recorded the front of the monument as being so wide. However, initial excavations in 2008 (looking for the course of the ditch) suggested that it was a separate structure. When fully exposed in 2009, a circular ring of volcanic rock, 7m in diameter, was identified by one of our local volunteers, Ricky Clark, and the monument swiftly became known as Ricky’s Cairn. Excavation of one quarter in 2010 revealed a cist containing human remains and several Early Bronze Age fusiform jet beads (kindly identified by the Society’s president, Alison Sheridan).

### *Dating Cladh Aindreis*

The recovery of human remains, both burnt and unburnt, was a huge success for the project, and the potential for these remains, and for recovered ecofacts, to provide potential radiocarbon dates was obvious from the outset. Through funds provided by the Leverhulme Trust and the Prehistoric Society (for post-excavation analysis) and the British Academy (for radiocarbon dates), six radiocarbon dates have so far been secured. These are from the cremation underneath the cairn (numbered 1 in the table below), the two *in situ* (though disarticulated) bone ‘bundles’ in the main chamber (2 and 3), two dates on bones from other contexts within the chamber (4 and 5) and one date from the Bronze Age kerbed cairn (6).

The next step is both to secure more dates and to situate these within a Bayesian statistical model, work on which has

already commenced, in conjunction with Derek Hamilton at SUERC. The absence of articulated material from the chamber will always leave question marks, of course, about whether the various deposits accurately date their contexts, but nevertheless the potential remains to refine this chronology.

### *Conclusion*

The material recovered from Cladh Aindreis suggests that the monument was constructed between 3783 and 3656 cal BC, a date fairly typical for these kinds of monuments in Scotland. The end of its use – in the Neolithic – needs further refining but the architectural, artefactual and now direct dating shows that another monument, the kerbed cairn, was constructed next to the tomb, probably in the second quarter of the second millennium cal BC. These dates help us to situate such events within the wider, multiscale narratives we are building of the history of Swordle Bay in Ardnamurchan – narratives that stretch from the Early Neolithic, through the Bronze Age and Iron Age, to the Viking and post-medieval lifeways that shaped, and in turn were shaped by, this landscape through time.

### *Acknowledgements*

We are very grateful to our funders the Prehistoric Society, the Leverhulme Trust and the British Academy for the work discussed in detail here. We would also like to thank Alison Sheridan and John Robb for their work on the artefacts and the human remains respectively, and Derek Hamilton for his advice on radiocarbon dating. In addition we must acknowledge the help of all the fantastic staff, students and volunteers who have worked on the excavation. Finally we remain deeply grateful to Historic Scotland for scheduled monument consent and the Ardnamurchan Estate, as landowner, for permission to excavate.

*Oliver Harris (University of Leicester), Hannah Cobb (University of Manchester), Hélène Gray (CFA Archaeology), Phil Richardson (Archaeology Scotland)*

## Notice of the 2014 (for 2013) Annual General Meeting

The AGM will be held on Saturday 31st May at 4.00pm in the Julian Hodge Lecture Theatre, Main Building, Cardiff University.

### *Agenda*

1. Minutes of the Annual General Meeting held at the University of Bradford on 15th June 2013 (papers available from the website or from the Honorary Secretary)
2. President's report
3. Secretary's report
4. Editor's report and R. M. Baguley Award
5. Treasurer's report
6. Report on meetings, study tours and research days
7. Future composition of Council
8. Awards  
John and Bryony Coles Award  
Research Grants (Bob Smith Award and Leslie Grinsell Award)  
Conference Fund
9. Election of Officers and Members of Council

The meeting will be followed at 4.30 p.m. by the 23rd Europa Lecture. The lecture will be followed by a wine reception.

Registered Office: University College London, Institute of Archaeology, 31–34 Gordon Square, London WC1H 0PY.

### *Notes*

1. A member entitled to vote at the meeting may appoint a proxy to attend and, on a poll, vote in his or her stead. A proxy must be a member, other than an institutional member.
2. To be valid, an instrument of proxy (together with any authority under which it is signed or a copy of the authority certified notarily or in some other way approved by Council) must be deposited with the Secretary, The Prehistoric Society, c/o Archaeology, University of Southampton, Highfield, Southampton, SO17 1BJ, by 4.30 p.m. on the 16th May 2014.
3. Forms of proxy may be obtained from the Secretary at the above address.

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## The Prehistoric Society 2013

This report covers the period January to December 2013.

### *Meetings and study tours*

The Society continues to fulfil its commitment to reach wide regional audiences and promote its aims and objectives through the delivery of an extensive and varied series of lectures, conferences and tours across Britain. As in previous years, many of these events represent collaborations with other archaeological bodies.

During January and October, joint lectures were held with the Devon Archaeological Society and Norfolk & Norwich Archaeological Society. Stuart Needham talked on 'Maritime horizons in the Bronze Age of the south-west peninsula' in Exeter, and Alex Gibson in Norwich on 'Do henges exist? A skeptical view'. Both of these lectures proved highly successful. In October, Matt Brudenell (Suffolk County Council Archaeology Service) delivered the 12th Sara Champion Memorial Lecture at the Society of Antiquaries. His topic was 'Making pots matter: social practice and early first millennium BC ceramics in East Anglia'. For the second year running, this was combined with the presentation of the Undergraduate Dissertation Prize. Earlier in the year, Prof. Harry Fokkens (Leiden University) gave a lecture on 'Peasant life in a dynamic landscape: how Dutch Prehistoric farming communities structured their cultural and physical environment' to an audience at the Society of Antiquaries in advance of the Overseas Study Tour.

This year, the annual London spring conference was structured around the theme of 'The individual in prehistory'. A strong line-up of speakers, including our President, Alison Sheridan, and Vice-President, Niall Sharples, attracted a strong audience of *c.* 70 delegates and was very well received.

This year's Overseas Study Tour was to the Netherlands, and was kindly organised by Prof. Harry Fokkens (Leiden University). Members were taken on visits to the National Museum of Antiquities, the Iron Age terpen landscape of Friesland, megalithic monuments and barrows at Bronneger, the medieval museum village/Iron Age house reconstruction at Orvelte, and Hallstatt tombs of Oss. During July and September, members and non-members were provided with tours of the excavations being conducted by Tom Moore at the oppidum site of Bagendon, Gloucestershire, and by Niall Sharples at Ham Hill, Somerset. Both proved successful and informative events.

The Society has continued to support events organised by others, including the Iron Age and Roman Society conference held in Bradford in June, and the Bronze Age Forum meeting hosted by the School of Geography, Archaeology & Palaeoecology, Queen's University Belfast. The Society's twinning with the Société Préhistorique Française resulted in the organisation of a joint session on prehistoric ceramics at the 2013 European Association of Archaeologists conference in Pilsen, Czech Republic.



### **Europa Prize**

Professor Kristian Kristiansen (University of Gothenburg) was the 2013 recipient of the Europa Prize. For the sixth year, the Europa Lecture was preceded by a well-attended day-conference, which in turn followed a successful student conference held on the preceding day. This year's Europa was based around the theme 'The rise of Bronze Age society: new results from science and archaeology', and was held at Bradford University on 14th–15th June 2013. A distinguished line-up of speakers from across Europe and the US included Mike Rowlands, Helle Vandkilde, Douglas Price, Tim Earle, Peter Skoglund and Joanna Sofaer, among others, who addressed topics relating to social and political organisation, long-distance networks, craft practices and landscape in the European Bronze Age. Prof Kristiansen's Europa lecture, 'The rise of Bronze Age society: some conclusions and directions for future research', was delivered immediately after the Society's AGM (see below).

### **Research Grants**

Research Grants were awarded to J. Harding (Newcastle University), for fieldwork on Hastings Hill, Tyne and Wear (Leslie Grinsell Prize); D. McOmish (English Heritage), for work on later prehistoric landscapes at Arundel, Sussex; G. Naumov (Euro Balkan University, Skopje), for research on Neolithic sites in Macedonia; H. Saul (University of York), for fieldwork on prehistoric sites in Mustang, Nepal (Bob Smith Prize); G. Smith (Monrepos Museum), for research on Middle Palaeolithic Oosthoven, Belgium; and M. Vejby, for Loughcrew radiocarbon dates. The John and Bryony Coles Awards went to J. Z. Matias (Durham University), for French museum visits; and M. Stovickova (University of Sheffield), for fieldwork at Çatalhöyük, Turkey. Awards were made from the conference fund to E. Matthews (University College Dublin), P. Preston and H. Robson (University of York), all to attend Congresso Muge 150.

### **Annual General Meeting for 2012/13**

The AGM was held at 4pm on 15th June, 2013, in the John Stanley Bell Lecture Theatre, University of Bradford, after the Europa Conference and immediately before the Europa Lecture. The President reported on a busy and successful year. The Officers and Council members were thanked for their work, especially outgoing Vice-President Niall Sharples and Co-opted Council member Harry Fokkens. The External Financial Assessors – John Cruse last year and Caroline Speller this year – were also thanked for their support. Thanks were also offered to all the contributors and the organisers of the Europa Day for their work in bringing such a successful event to fruition, especially our Vice-President Alex Gibson.

The following Officers and members of Council were elected:

Vice-President	Robert Chapman
Treasurer	Clare Randall
Secretary	Joshua Pollard
Editor of <i>PPS</i>	
Managing Editor	Julie Gardiner
Editor <i>PAST</i>	Joanna Brück

Editor, Prehistoric Society  
Research Papers Series  
Book Reviews Editor  
Meetings Secretary  
Conservation Coordinator  
Council

Mike Allen  
Jacqueline Nowakowski  
Tom Moore  
Jane Siddell (co-opted)  
Marcus Brittain,  
Anwen Cooper,  
Courtney Nimura

### **The Baguley Award**

The Baguley Award was presented to Ken Murphy and Harold Mytum for their article on 'Iron Age enclosed settlements in West Wales' in volume 78 of the *Proceedings*.

### **Undergraduate Dissertation Prize**

There were seven entries in total for the 2013 student dissertation prize. The winner was Nick Hannon of the University of Leicester. The three runners-up were Almeida Warren (University of Sheffield), Annabell Zander (Nottingham University) and Hazel Thornthwaite (Reading University).

### **Publications**

During 2013, the Society published volume 79 of the *Proceedings of the Prehistoric Society*, which contained 14 refereed papers and one shorter contribution on a range of topics spanning the Palaeolithic to Iron Age; themes such as cave art, households, metalwork deposition and monumental mounds; and with geographic coverage that extended from Scotland to Sarawak. Three editions of *PAST*, the Society's newsletter, were also published during the year, now in full colour. Both *PPS* and *PAST* are now being produced by Cambridge Journals (of Cambridge University Press), with papers in the *Proceedings* being posted on-line in advance of print copy. The next volume of the Society's Research Papers series, on Irish Neolithic houses, is due to be published in May 2014.

### **Advocacy**

The Society has continued its advocacy profile. Statements of concern have been prepared in response to threats to archaeological heritage and infrastructure, including proposed serious cuts to Herefordshire Heritage Services, and in response to unauthorised work and unethical treatment of human remains by the landowner at Banks chambered tomb on Orkney.

### **Membership and administration**

Membership continues to be very healthy, with around 1450 members including over 300 institutional subscribers. The Society has gained 100 members this year, no doubt helped by the website.

As ever, the Society could not function without the help of a large number of individuals who give freely of their time to organise events and deliver the results of their research. The Society offers sincere thanks to all the individuals who help throughout the year, and especially to its administrator, Tessa Machling.



## Society financial activities

In this edition of *PAST* we would normally provide a Statement of Financial Activities. However, for our 2013 accounts, we have had to work to a different timetable. This is related to the move from producing the *Proceedings of the Prehistoric Society* ourselves to working with Cambridge University Press (CUP). Whilst everything else has been finalised, we will not be receiving our final statement from CUP indicating our outstanding liabilities (how much members' copies of *PPS* cost to produce, and printing and distribution costs for *PAST*) and income (royalties) until the end of April. Consequently the Statement, which you would normally see at this time of year, will now be prepared in time for the AGM. We will try to make the Statement available as soon as possible on the website, and it will appear in an edition of *PAST* later this year. CUP have undertaken to

get the information to us a little earlier in 2015, but it will still mean that the printed version will be appearing in the summer edition of *PAST* in future.

However, in the absence of a full report, it is fair to say that income from individual memberships held up extremely well in 2013 (Institutional Members are now dealing direct with CUP), whilst we managed to stay on budget for administration and governance. The change to CUP was anticipated to produce potential cash flow issues (invoices remaining from the previous year's *PPS* coming in at the point when we would have less income), but continued success in obtaining publication grants, and sticking to the budget meant that we ended 2013 in a healthy situation.

*Clare Randall, Treasurer*

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## The 12th Sara Champion Memorial Lecture, October 2013

The twelfth Sara Champion Memorial Lecture, given by Dr Matt Brudenell of the Suffolk County Council Archaeology Service, addressed an issue which would have been close to Sara's heart: how to make early first millennium BC pottery assemblages in Britain *matter* interpretatively. A large audience, including specifically invited later prehistoric ceramics specialists from across England, was treated to a lecture which was well-structured and beautifully presented. Matt stressed the importance of making interpretive use of the wealth of first millennium BC pottery generated in recent years, particularly since the advent of developer-funded archaeology.

Using evidence from East Anglia, he demonstrated convincingly the complexities involved in relating distributions of stylistic and formal traits to particular social identities or groups of people. Once widely accepted 'style groups' are scrutinised, he argued, it becomes clear that different components of these groups have quite different distributional patterns. Pots (amongst other things) were not simple markers of later prehistoric social identities; rather, aspects of identity were brought into focus at different times and in different settings through a range of practices involving people, objects and places. A nuanced account was given of shifts in the makeup of later prehistoric pottery assemblages encountered on different forms of settlement site over the course of the Late Bronze and Early Iron Ages. Matt also drew out various facets of the pot-making process – from clay procurement



*Dr Matt Brudenell (centre) with Prof. Tim Champion (left) and our Vice-President, Dr Stuart Needham (right).*

to finishing practices – highlighting how different aspects of this process may have taken place in different contexts, bringing together different social groupings.

Overall, it was refreshing to see the impressive interpretative outcomes of a detailed critical artefact study – a research genre that has become quite scarce in recent years. The ensuing question session was lively and the audience left with plenty of food for thought.

*Anwen Cooper*

## Undergraduate dissertation prize 2013

The winner of the Society's Undergraduate Dissertation Prize for 2013 was Nick Hannon, University of Leicester ('Can the understanding of Iron Age peoples' perception of space help us understand the location of Burrough Hill?'). The three runners up were Katarina Warren, University of Sheffield ('Neanderthal cognition: a study of the relationship between visual cortex size, cranial capacity and latitude'); Annabell Zander, University of Nottingham ('An investigation of the faunal and lithic assemblages of the European Mesolithic sites with antler frontlets'); and Hazel Thornthwaite, University of Reading ('Ethnoarchaeology of horse husbandry in the New Forest and its archaeological complications').



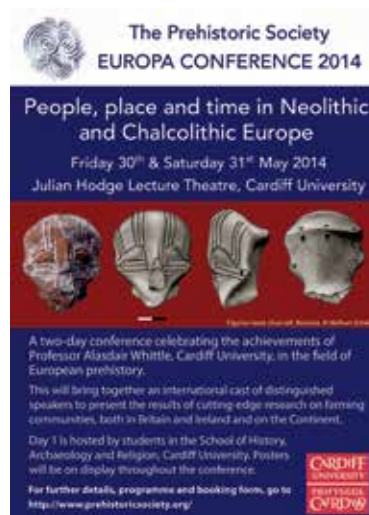
Nick Hannon is presented with the Undergraduate Dissertation Prize for 2013 by Prof. Tim Champion.

## Other upcoming Society events

**Tour of the excavations at Burrough Hill hillfort, Leicestershire**, led by Dr Jeremy Taylor (University of Leicester). 2pm, Sun. 13 July 2014, Burrough Hill, Leicestershire (directions and details on website); if you are planning to attend, please email [prehistoric@ucl.ac.uk](mailto:prehistoric@ucl.ac.uk) by the **30th June 2014**.

**The 13th Sara Champion Memorial Lecture**, Neil Wilkin, British Museum, '*The Personality of Britain*' reconsidered: *evaluating the relationship between the social and physical geographies of Bronze Age Britain (c. 2500-800 cal. BC)*. 5pm, Weds. 22 October 2014, Society of Antiquaries, Burlington House, Piccadilly, London; the lecture will be followed by a free wine reception and presentation of the Society's Undergraduate Dissertation Prize.

## Europa conference May 2014



Hurry! Book your ticket for this year's big event, the Europa conference, in Cardiff, 30th–31st May. For full details and a booking form, see the Prehistoric Society website, <http://www.prehistoricsociety.org/>. The deadline for bookings is 10 May.

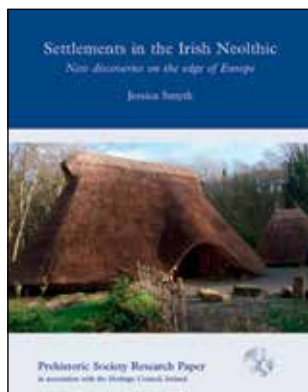
## Availability of PPS (and PPSEA) on line

Cambridge University Press continue to scan in back issues of the *Proceedings of the Prehistoric Society*, and in addition to all the volumes from 1985 onwards (except 1989), and new articles for the present volume, you can now access the seven volumes of the *Proceedings of the Prehistoric Society of East Anglia* (1911–1934) online on the Cambridge Journals Online website. The *PPSEA* volumes can be found on their own page: <http://journals.cambridge.org/action/displayJournal?jid=PPE>.

## The Prehistoric Society Research Papers – New Publication

*Settlements in the Irish Neolithic: new discoveries from the edge of Europe*  
by Jessica Smyth

We are delighted to announce the publication this May of the sixth volume in the Prehistoric Society Research Papers series. This peer-reviewed monograph departs from previous volumes, being a single-author pub-



lication authoritatively reviewing and describing the evidence of Neolithic settlement and domestic architecture in Ireland. Covering aspects of settlement evidence, the buildings themselves as structures and spaces, and their context in the Neolithic, this book provides an important contribution to the library of any scholar of prehistoric Europe, re-writing our understanding of Neolithic houses in Ireland.

The book is scheduled to be published at our Europa Conference this May. You can hear more about this in Jessica's lecture at the Europa Conference on 30th May (for further information, see our website).

Mike Allen, Series Editor

## James Dyer (1934-2013)

Born in Luton in 1934, James Dyer was an archaeologist, local historian, author and teacher, who will be known to many through his archaeological guides and editorship of the enormously successful Shire Archaeology series. He was also a long-standing member of the Prehistoric Society (from c. 1954–2013), and served as the Society's Meetings Secretary between 1975–76. James was passionate about archaeology and his native county of Bedfordshire, and was ever eager to share those enthusiasms. That passion began early. While still a pupil at Luton Grammar School, he led fellow pupils (including the now Prof. Emeritus William Manning) on the excavation of a Bronze Age barrow at Galley Hill, Luton, the venture being brought to a premature halt when it was brought to their attention that the site was a Scheduled Monument! Heavily influenced by Richard Atkinson – and taking part in his excavations on the Neolithic monument complex at Dorchester-on-Thames in the early 1950s – James went on to conduct numerous excavations of his own on Neolithic, Bronze Age and Iron Age sites, notably at Waulud's Bank, Galley Hill (with permission!) and Dray's Ditches (Bedfordshire), Ravensborough Castle (Hertfordshire) and Borough Hill (Leicestershire), as well as acting as assistant director/senior supervisor on Nick Thomas's projects at Snail Down (Wiltshire) and Conderton Camp (Worcestershire). Among those who retain fond memories of their first experience of fieldwork on James's excavations are Francis Pryor, David Peacock, Ruth Tringham and Bill Manning.

James played key roles in the founding first of the South Bedfordshire Archaeological Society, and then the Bedfordshire Archaeological Council in 1959. He was the first Chairman of the latter and edited early issues of the *Bedfordshire Archaeologist* (1955–59) and later the *Bedfordshire Archaeological Journal*. A prolific author, among his archaeological publications can

be listed *Southern England; an archaeological guide* (1973), *The Penguin Guide to Prehistoric England and Wales* (1982), *Teaching Archaeology in Schools* (1983) and *Discovering Prehistoric England* (1993). A long-standing connection with Shire Publications and its founder John Rotheroe led to series editorship of the 'Discovering Regional Archaeology' series' (for which James wrote volumes on the *Cotswolds and Upper Thames* in 1970 and *Eastern England* in 1973) and the 'Shire Archaeology' series. Through these works came inspiration and insight for at least two generations of archaeology enthusiasts.



Having obtained an MA in Archaeology from Leicester University, much of James's professional life was spent in education. He taught in schools and further education colleges in Yorkshire and Bedfordshire, including Putteridge Bury College in Luton, and, latterly, at Harlington Upper School, where he offered the rare opportunity for state school pupils to study for A/O and A Levels in Archaeology. It was while a pupil at Harlington that I came to know him, and through his inspirational teaching, infectious enthusiasm and good sense of humour found myself drawn into archaeology. He retired due to ill health in 1985, though this did not stop him writing and making regular visits to sites and excavations in Britain, France and Denmark. He died all too soon, following the onset of an aggressive cancer, on 8th October 2013.

Joshua Pollard

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## Pelagonia archaeological survey, 2013

Pelagonia is one of the largest and most fertile valleys in the Republic of Macedonia and has been densely populated since prehistory. The area was extensively surveyed in the 1970s by archaeologists and geologists in order to determine the number and character of sites dispersed throughout the valley and particularly in its central area. As a result of these thorough research campaigns, approximately 80 prehistoric tells were identified. Some of these sites were partially excavated in the same decade, providing new insights into Pelagonian communities in prehistory. Almost all of these settlements were established in the Neolithic, but several were continuously occupied through the Chalcolithic and Bronze Age, and some were even used as burial grounds in the Middle Ages.

The Neolithic material excavated from the majority of tells can be identified as belonging to the Velushina-Porodin



Neolithic house model from Dobromiri. The original anthropomorphic cylinder from the top is missing.

cultural group. The finds include painted pottery, house models, stamps, sling projectiles and figurines, and they indicate that Pelagonia was relatively isolated from Neolithic

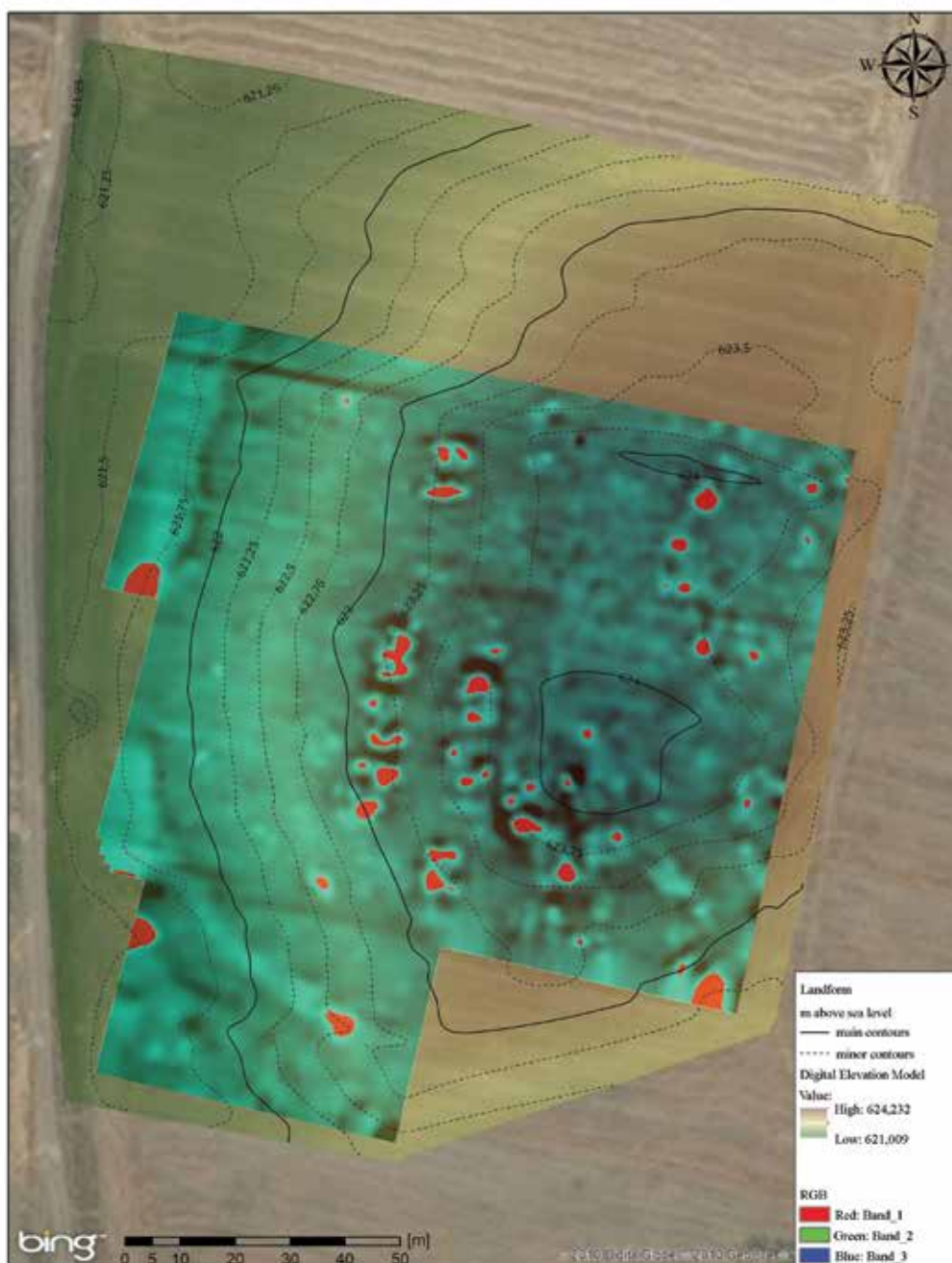


communities in neighbouring regions. Particularly specific are white-painted vessels with unique complex patterns and anthropomorphic house-models depicting dwellings as the lower part of the human body. Such objects hint at the profound symbolic engagement of Neolithic communities settling Pelagonia and their ideas regarding its natural and manmade environment. Due to the archaeological potential of this material, it deserves further examination in order to understand better the social, economic and symbolic engagement of communities inhabiting Pelagonia in prehistory.

As there have been no thorough surveys, excavations or publications of Pelagonian tells since the 1970s, a new archaeological project has recently been established to examine Neolithic sites in the central part of Pelagonia.

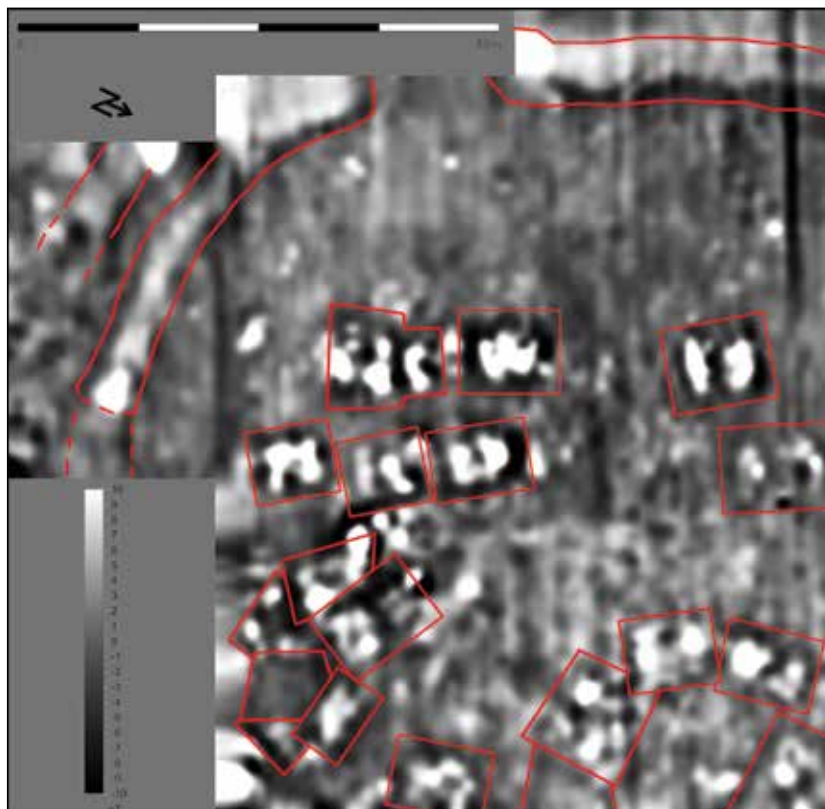
This team – from Euro-Balkan University (Skopje) and the Polish Academy of Science (Warsaw) – was set up in 2013 in order to carry out survey, geophysical prospection and digital elevation modelling of particular tells in the regions around Mogila, Trn, Karamani, Orizari, Dobromiri and Radobor villages. The research was particularly focused on tells, settlement organization and material culture around Mogila, Trn and Dobromiri. Each of the sites was surveyed separately in order to determine similarities or difference between neighbouring tells regarding architectural features, pottery, tools and figurines.

Although several geophysical surveys were carried out on tells in the area around Mogila, the most successful was that at Barutnica. This tell has been levelled through removal of materials for house-building by inhabitants of the modern



Geophysical survey results from Dobromiri tell.

village. The survey was performed on the foundation levels of the tell and indicated the existence of two buildings positioned on the periphery of a circular ditch or set of pits. The archaeological survey in Trn was focused on one of two tells established side by side. This included geophysical survey, digital elevation modelling and mapping of surface finds. Due to constant agricultural exploitation of the area, an abundance of pottery and figurines as well as parts of house walls were visible on the ground surface, mostly belonging to the Middle and Late Neolithic. The geophysical survey provided information regarding the presence of several buildings disposed around a larger central structure, although these results require verification through excavation. The geomagnetic and archaeological survey performed at Dobromiri also produced pottery and evidence for architectural features, and confirmed the presence of a ditch with an entrance surrounding the dwellings.



*Location of ditch and possible buildings at Dobromiri. Some of the buildings appear to have been joined or may have had compartments.*

The initial phase of the Pelagonia survey project has provided new data on prehistory in the Republic of Macedonia which will be built on in further research including excavation. Although prehistoric sites in Pelagonia have already been excavated, a clear image of building disposition within these settlements was never established due to the small scale of the research carried out in the 1970s. The recent geophysical survey examines the spatial organization of the tell-sites and has shown linear and circular positioning of buildings surrounded by a ditch. Such entirely novel features of Neolithic sites in Pelagonia, although already known for other prehistoric settlements in the Balkans, will help to direct future research towards new issues, as well as determining suitable areas for excavation. In addition, the results of digital elevation modelling of Trn and Dobomiri tells have enhanced our comprehension of these sites, including their establishment and spatial development. The

continuation of the Pelagonia archaeological survey in 2014 including excavation and further research will provide new data on these Neolithic settlements and their employment in subsequent periods.

#### *Acknowledgements*

The provision of images and processing of data could not have been achieved without the participation of Maciej Trzeciecki, Małgorzata Chwiej, Marcin Przybyła, Michał Podsiadło, Piotr Szczepanik and Engin Nasuh. The authors would like to thank them for their absolute dedication and amazing work. Special gratitude to the Prehistoric Society for the generous grant which contributed towards the project.

*Goce Naumov (Euro Balkan University)  
and Urszula Bugaj (Polish Academy of Science)*

## Bronze Age Forum, Belfast, 2013

The School of Geography, Archaeology & Palaeoecology, Queen's University Belfast, generously hosted the eighth Bronze Age Forum on 9-10 November 2013. The Forum is peripatetic, held biennially and is open to all those interested in any aspect of the Bronze Age of Britain, Ireland and the near-Continent; as usual, it attracted a sizable gathering and a packed lecture programme rich with new research and ideas.

We kicked off with barrow projects: Jennifer Wexler and collaborators on a long overdue post-excavation programme

for Reffley Wood (Norfolk), David Mullin and Jodie Lewis on their ongoing excavations and research into the long-neglected Mendip monuments, and Catherine Frieman and James Lewis on their prospective campaign on an under-researched part of southeast Cornwall. Meanwhile, John Hammond put the results of excavations on a barrow at Eastling Down (Kent) into a regional and cross-Channel perspective, and Katharine Sawyer gave us an update on Scillonian Bronze Age burial sites – the Entrance Graves and (near-)contemporary cists. It seems Entrance Graves

can safely join other regional groups of early metal age 'megalithic' constructions. A monument of rather different character is Croft Moraig, one of the 'classic' timber/stone circle multi-phase sites; yet Richard Bradley's latest research programme has demonstrated a new sequence of development and absolute chronology.

Reviews of material from barrows were few: Neil Wilkin delivered a succinct digest of some of the fruits of his research on Food Vessels and their associated burials with special emphasis on the interface with Beaker burial practices. Alice Roberts used funerary finds as a case-study to examine the nature of maritime interactions along the eastern British coastline. Sam Walsh's presentation was concerned instead with the human remains; she synthesised the evidence from the Early Bronze Age of northern England. Although his focus was the Middle Bronze Age cremation burials, Edward Caswell also made the point that these too were mainly connected spatially to barrows and cairns.

More explicitly regional studies included another island study: Rachel Crellin's evaluation of external connections with and change within the Isle of Man during the Late Neolithic to Early Bronze Age; she argues against the traditional isolationist view of Man even prior to the arrival of early metal age materials and influences. The issue of acculturation at the Neolithic/Bronze Age interface continues to burn for Ireland, the subject area for two presentations, although tackling entirely different issues. Neil Carlin's concern is to examine the particularities of depositional practice within Grooved Ware and Beaker contexts respectively – he finds evidence for great commonality; Stuart Needham looked instead at the intriguing spatial patterning of artefacts and sites of broadly 'Beaker' age, concluding that there was a strongly regional basis to the absorption of new cultural facets.

A couple of papers took us far from our island shores. John Koch's excursion was not only to the far end of the Atlantic world, but also to the other end of the Bronze Age – indeed into the Early Iron Age, when embryonic literacy is attested by inscribed stelae from southwest Iberia. Kate Verkooijen's fresh review of the thorny problem of widespread amber spacer-plate beads took us instead all the way to the Aegean; she highlighted various subtleties in form and technology that undermine any notion of a single coherent phenomenon. Amber, mainly of Late Bronze Age date, was centre stage also for Lisa Moloney's paper on the results of analyses on some of the large Irish corpus; most proved to show the familiar Baltic signature.

Metallurgy and metalwork inevitably featured large in several presentations. The history of extractive metallurgy was reviewed by both Simon Timberlake (with Peter Marshall) and Billy O'Brien. The former paper took a Bayesian approach to the sizable series of radiocarbon dates available for Britain, allowing a geographically-shifting sequence of exploitation to be modelled; the latter revealed evidence for the first time that mining continued, in a part of Ireland

at least, into the Late Bronze Age. Alan Williams focussed instead on a single mine site, that of the Great Orme, and showed the value of formulating 'mine-based metal groups' from analytical data, rather than those derived from the end products, the artefacts. This was neatly counterbalanced by Peter Bray and Catriona Gibson's demonstration that much could still be gleaned about the 'flow' of metal by re-evaluating the mass of extant object analyses on a pan-European scale and applying more sophisticated theoretical models. Trevor Cowie and Daniel Sahlén's paper lay at the other end of the production chain; they gave news of a new and informative clay mould assemblage from North Kessock, near Inverness, found in close proximity to a contemporary round house of the eighth century BC. Although the Trevalga (Cornwall) stone mould featured by Brendan O'Connor also had a round-house context, his prime concern was to show how this find helped clarify the broader context of a hitherto poorly recognised type, the *racloir triangulaire*.

Warfare and combat lay at the heart of contributions from David Bell, who dealt with the functionality of halberds, and Andrea Dolfini and colleagues, who summarised their intensive programme of experimental work on the utility of the main forms of Bronze Age weaponry. The social implications of prestige metalwork were also core to Katherine Leonard's detailed consideration of the biographies of individual Irish cauldrons and trends over time; even the repair patches might be treated differently as the ideological views of the elite changed.

The interpretation of metalwork deposition was also in favour. The recurrence of small groups of swords served as a case-study for Robert Wiseman to advance a hypothesis of 'burying the hatchet' to account for their deposition. Meanwhile, Dirk Brandherm and Christian Horn's broader remit of single-type hoards Europe-wide allowed them to perceive more broadly held patterns which they suggest relate to mythological structures. The Olympic rings would not, however, conform to Bronze Age principles, since five of a type is virtually unknown in Bronze Age Europe! Tobias Mörtz and Trevor Cowie took yet another angle in looking at the specific treatment of the objects in wetland weapon deposits; burning is added to the more customary damage of bending and smashing. The conference programme was fittingly rounded up with Jo Brück's thoughtful look at the highly debated issue of how circulation and exchange operated in the Bronze Age.

One real surprise in the assembled programme was the lack of any papers on settlements, landscape history, land use, food economy or occupation material, although some of the excellent posters began to redress this unexpected imbalance. The gaps did not however detract simply because there was so much to engage with and we are indebted to Dirk Brandherm, Eileen Murphy and their staunch team of helpers for laying on such a fine Bronze Age feast. The Prehistoric Society generously gave some financial support.

*Stuart Needham  
Jo Brück*



## A radiocarbon date for an Irish Bronze Age halberd

Knowing an artefact's age allows it to be placed in context, both materially and culturally. Unfortunately, techniques such as AMS radiocarbon dating work only on organic matter and not on the materials that tend to survive, including metal. Occasionally, however, a piece of ancient wood, such as fragment of handle or shaft, will survive along with its metal blade. While this has been seen relatively often in some classes of weaponry, such as Bronze Age basal-looped spearheads, this is not the case for others. For almost 1000 years, the halberd enjoyed widespread popularity across many regions of Europe, nowhere more so than Ireland which contributed approximately 40% of the objects in the present European corpus. However, despite at least two previous attempts, only recently has a reliable date been obtained for one of these enigmatic objects.

The first attempted dating used a sample of cremated bone discovered in a Bronze Age cist in Moylough, Co. Sligo. Among these remains was a metal blade, thought to be the only example of an Irish halberd found in these circumstances. However, with its lack of such diagnostic features as a midrib, doubts persist about the classification of this piece and Stuart Needham has recently suggested that, rather than a bronze halberd of Harbison's Type Breaghy, this heavily fire-damaged blade was more likely to have been a dagger with a rivet-fastened handle.



The Lough Ree halberd

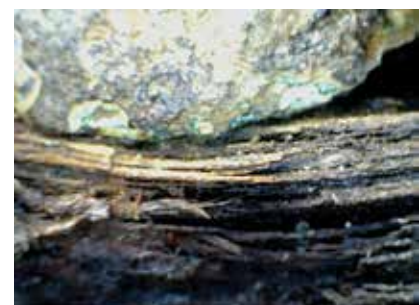
The second radiocarbon date came directly from the only Irish halberd to be recovered with most of its original wooden shaft still surviving. This was found in 1939 in the townland of Carn, Co. Mayo. The dried-out remains were eventually examined by the National Museum of Ireland's (NMI) Natural History Division and declared to be of oak, an unusual choice for this type of weapon. Ash is a superior wood in terms of its shock absorbency and strength-to-weight ratio and has long been the traditional choice for components such as spear shafts. Indeed, the words for spear and ash were synonymous in several European languages including Irish, Welsh, Anglo-Saxon and classical Greek. In any event, the date obtained from the shaft of the eponymous Carn halberd, as part of a pioneering radiocarbon programme conducted in Dublin in the early 1960s, is now regarded as unreliable.

The NMI acquired another Bronze Age halberd in the 1990s, complete with a small portion of its original wooden shaft. Little is known of its provenance other than its alleged discovery near Lough Ree, in the Irish midlands. Typologically, it is a Type Cotton blade and, therefore, is probably made from copper rather than bronze, although no metallurgical analysis has yet been conducted. It has a slightly asymmetrical blade and a hafting-plate with a rounded triangular profile. Two decorative grooves run parallel to the bevelled cutting-edge and a broad curved midrib rises just beyond the hafting-plate and tapers down to a rounded tip. The blade is heavily corroded and has a mid-brown waxy appearance. It is 285mm long, 71mm at its widest point and 16mm across at the tip. Including rivets, it weighs 539 grams.

There are three stout round-headed rivets arranged in an isosceles triangle configuration, with the longest side at its base. A mat black material remains fast beneath the rivets on one side and a fragment of wood on the other. The shafts of the rivets are all similar in diameter, 14–15mm, but are of slightly reducing lengths, approximately 16mm, 15mm and 14mm, proceeding from the concave edge. The domed heads are approximately 19mm in diameter and 5mm deep, adding a further 10mm to the overall length of each rivet. All three are firmly fixed in an off-set position in the hafting plate by corrosion deposits.

It may be doubly significant that the area in which this halberd was purportedly discovered is both a wet place and a territorial boundary. Lough Ree straddles the county borders of Roscommon to the west and Westmeath and Longford to the east. It also forms part of the provincial border between Leinster and Connaught. It has been argued by the NMI's Ned Kelly that all of Ireland's bog bodies are found along ancient boundary lines. This appears to be true of the latest bog body, Cashel Man, discovered in 2011 in Cashel bog, Co. Laois. Radiocarbon dating has now placed this individual in the Early Bronze Age, *c.* 2000 BC, and a recent BBC4 documentary graphically depicted his dispatch at the point of a halberd.

The NMI kindly granted permission for a sample from the Lough Ree halberd to be dated at the <sup>14</sup>CHRONO Centre, the radiocarbon dating service housed at the School of Geography, Archaeology and Palaeoecology, Queen's University, Belfast. Prior to its chemical pre-treatment, to remove any post-depositional contaminants, a thin



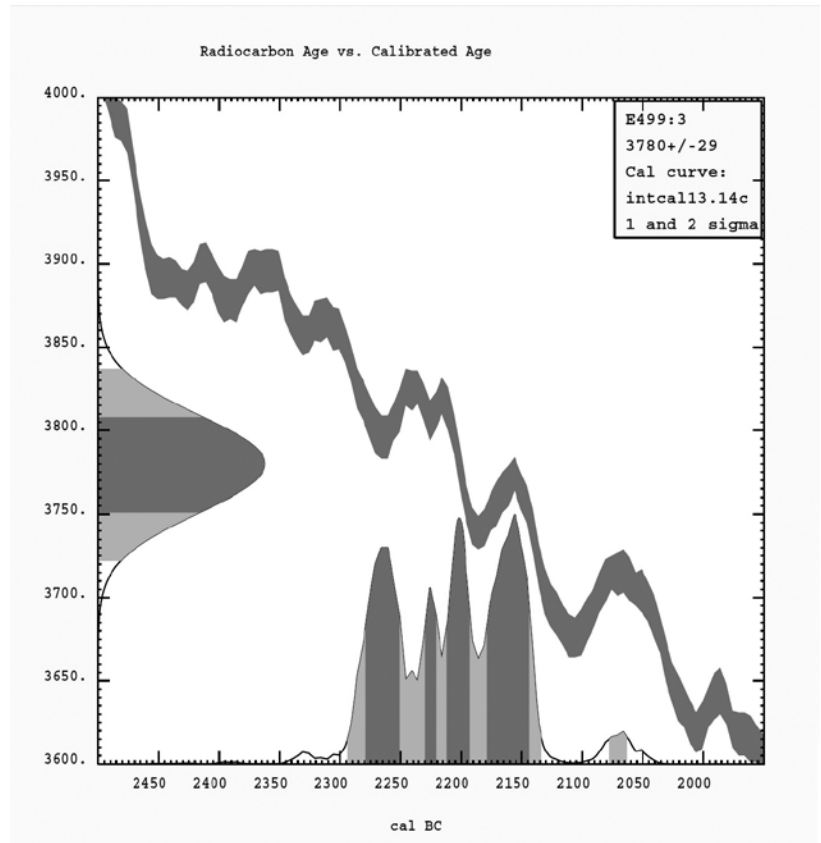
Wood fibres under rivet head

section was microscopically examined in an attempt to identify the species from which the shaft had been manufactured. The sample was heavily contaminated with some form of surface coating, possibly beeswax, and the wood fibres were very deformed. Nevertheless, due to the morphology of the clearly discernable spring vessels, it was decided that the sample was certainly a species of hardwood, most probably oak.

The results were calibrated using the IntCal13 calibration curve, and yielded a  $2\sigma$  age range of 2134–2294 cal BC ( $3780 \pm 29$  BP; UBA-23195), which dates the Lough Ree halberd to shortly before the transition from copper to bronze metalworking in Britain and Ireland. Because trees can be relatively long-lived, typically 300 years for species such as oak, radiocarbon dating will always have to contend with an ‘old wood’ problem. An artefact might be made from the heartwood of a tree, a region of the trunk which could have stopped taking up atmospheric carbon centuries before the plant was cut down. However, it seems more likely that a fortuitously-formed branch would have been selected for a handle.

The noted deformation of the wood fibres trapped beneath the rivets may be connected to the observed off-set position in which these rivets have come to rest. If the current position of these relatively short fastenings accurately reflected their position in life, at the point of hafting the wooden shaft would have been about 10mm thick on one side and an improbable 2mm thick on the other. A more likely explanation is that the blade and shaft were separated with a violently twisting action, tearing away all the wood from one side and rotating and deforming that material on the other. This would account for both the off-set position of the rivets and the noted deformation of the remaining wood fibres. It has been argued that halberds may have routinely been sacrificially destroyed in this manner, as part of their ritual deposition.

As the only confidently-dated piece of its kind from the Irish Bronze Age, the Lough Ree halberd is of enormous value both as a dating and typological milestone.



Detail of rivets

#### Acknowledgements

The author would like to thank Ned Kelly, Mary Cahill and Margaret Lannin of the NMI, Dublin; Paula Reimer and David Brown of <sup>14</sup>CHRONO; Stuart Needham; and finally his supervisors, Dirk Brandherm and Gill Plunkett.

*David Bell, postgraduate research student at the School of Geography, Archaeology and Palaeoecology, Queen's University, Belfast*

The copy date for *PAST* 77 is 23 May 2014. Contributions to the editor, Joanna Brück, Dept. of Archaeology and Anthropology, 43 Woodland Rd, University of Bristol, BS8 1UU. Email: Joanna.Bruck@bristol.ac.uk. Contributions on disc or as e-mail attachments are preferred (either Word or rtf files) but hardcopy is also accepted. Illustrations can be sent as drawings, slides, prints, tif or jpeg files. The book reviews editor is Jacky Nowakowski, 4 Melrose Terrace, Campfield Hill, Truro, Cornwall TR1 1EZ. Email: jnowakowski@cornwall.gov.uk. Queries over subscriptions and membership should go to the Society administrator Tessa Machling at the London address on page 1. The views and opinions expressed by the contributors are not necessarily those of the Society, nor endorsed by it.