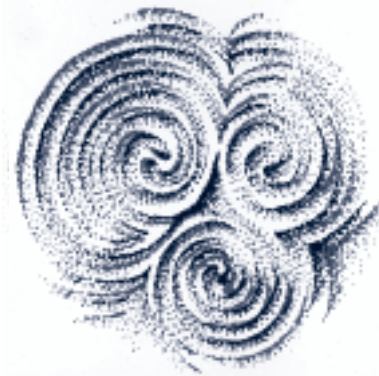


PAST



NUMBER 69 November 2011

THE NEWSLETTER OF THE PREHISTORIC SOCIETY

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

<http://www.prehistoricsociety.org/>

A WESSEX-TYPE GOLD BEAD OR BUTTON COVER FROM TULLAMORE, COUNTY OFFALY

In 2006 Headland Archaeology (Ireland) Ltd recovered a curious gold object from a cremation burial near Tullamore in County Offaly. This was subsequently identified as a Wessex-type bead or button cover which is a unique find from an Irish archaeological context. The excavation was directed by Linda Hegarty and the final report from which this account is derived was written by Grace Corbett and Tom Janes.



Reproduced with the kind permission of the National Museum of Ireland (© National Museum of Ireland)

The investigation was undertaken as part of the pre-development archaeological works for the Tullamore Bypass in the townland of Mucklagh, near Tullamore. An isolated cremation pit was identified amongst a group of later unrelated features on the brow of a low hill. The cremated bone was contained in an oval-shaped pit which measured 0.8 x 0.6 m and 0.19 m

deep. Analysis of the bone by Carmelita Troy identified the partial remains of two individuals, an adult female and a child aged between six and eight years. The entire cremation was sampled and sieved as per standard practice for cremation burials. Two identifiable artefacts were retrieved during sieving, an antler awl and the gold bead cover. Both objects were recovered from the primary fill of the cremation. The awl was made of antler and recovered in several pieces. This was heavily burnt and is believed to have been placed on the pyre with one of the cremated individuals. Traces of melted copper were also recovered from the samples indicating that copper objects or personal adornments were also present. Charred cattle bone was also recovered. A sample of the cremated human bone was radiocarbon dated by Queen's University Belfast and returned a date of 1776-1601 cal BC (2 sigma), placing the burial in the Early-Middle Bronze Age transition.



The gold object has been identified by Mary Cahill of the National Museum of Ireland as a Wessex-type bead or button cover which would have encased a perforated bead, perhaps made of shale or lignite. Metallurgical analysis of the object by Dr Paul Mullarkey confirmed that the composition of the object was 91.00% gold, 8.26% silver and 0.073% copper. It had not been burnt on the pyre but was added to the bone post-cremation. This object is a highly significant find. Although grave goods are not

The copy date for PAST 70 is 2 March 2012. Contributions to Joanna Brück, School of Archaeology, Newman Building, University College Dublin, Belfield, Dublin 4, Ireland. Email: joanna.bruck@ucd.ie Contributions on disc or as e-mail attachments are preferred (either word 6 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 above.

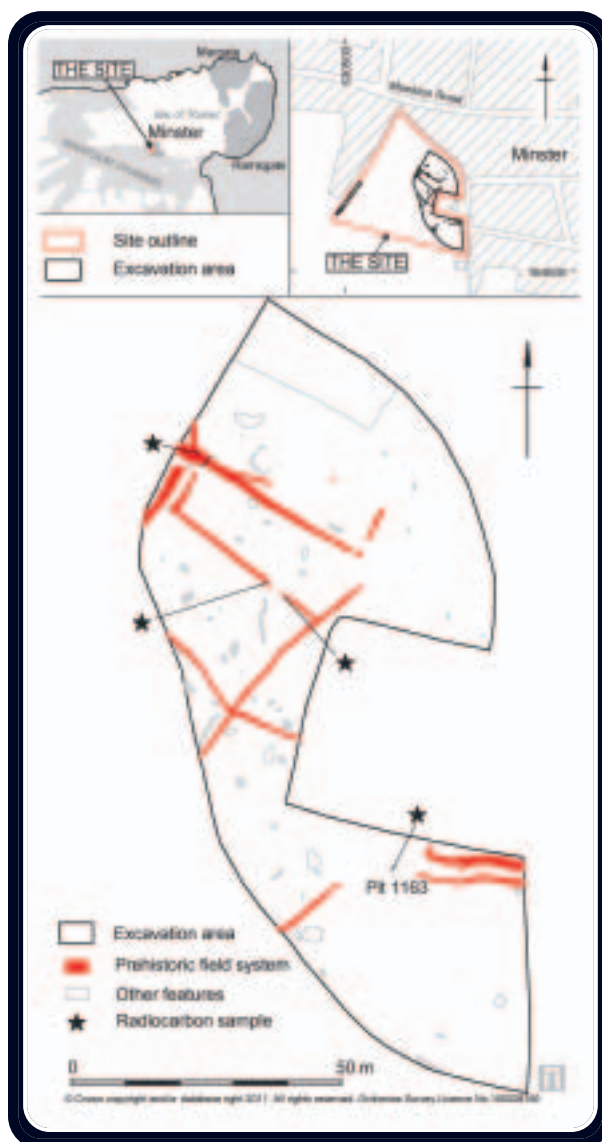
unusual and gold objects are known to have been deposited both in hoards and as single finds, the deposition of a gold item with a cremation burial is very rare in Ireland during the Early-Middle Bronze Age. This artefact is of particular importance as it bears considerable similarity to gold items of Wessex type from southern England. Other gold buttons have been found in hoards and burials in both Ireland and England; however, their morphology is typically triangular in shape, not the rounder shape of this button cover. The closest parallel known at present is a button cover discovered during excavations at Barrow Hills, Oxfordshire, and examples have also been found at Wilsford in Wiltshire. The button cover from Mucklagh is quite typical of the Wessex culture and can be dated on typological grounds to the very end of the Early Bronze Age.

Colm Moloney

AN EARLY BRONZE AGE FIELD SYSTEM FROM MONKTON ROAD, MINSTER, THANET, AND AN EARLY DATE FOR THE CULTIVATION OF SPELT

Part of an Early Bronze Age field system has been investigated by Wessex Archaeology close to the edge of the Isle of Thanet, near to the northern extent of the former Wantsum Channel. Excavation revealed a series of co-axially aligned ditches representing at least six or more fields and part of a possible settlement enclosure ditch. The most complete field measured *c.* 35m by 15m and was defined by 1m wide ditches. A number of the ditch fills contained burnt flint, struck flint and small quantities of prehistoric pottery. The dating of the pottery proved problematic, due to the small size and poor condition of the sherds, combined with the known lengthy currency of flint-tempered fabrics in this part of Kent. However, the pottery also included a few grog-tempered sherds of Early Bronze Age character. Environmental sampling of deposits from the ditch fills along with a single pit yielded relatively rich charred plant remains that have been identified as grains of barley and grains and glume bases of hulled wheat (emmer and spelt) as well as a few barley rachis fragments. The more numerous presence of glumes rather than grains in these samples is indicative of the charring of cereal processing waste. As such, they indicate domestic activities.

Single grains or glumes from recognised *in situ* dumps of material (i.e. likely to be the same age as the context in which they were found and probably not reworked) were selected for radiocarbon dating from four stratified deposits (the pit and three separate ditch sections). All four samples returned late Early Bronze Age dates (approximately 1900-1700 cal BC) and



provide a reasonable indication of when the ditches were open and activity was taking place. Modelling of the dates indicate that the first ditch infilling (at 95% probability) could have occurred within the date range 1910-1750 cal BC (1880-1770 cal BC at 68%), with the latest event, probably associated with the recutting of the ditch, occurring between 1860-1690 cal BC (1870-1680 cal BC at 68%). There is some evidence that parts of the field system were re-used during the Late Bronze Age. A single radiocarbon measurement on a charred grain of emmer wheat from the pit (this feature also contained spelt) returned a date of 1890-1690 cal BC (at 95% probability: SUERC-32250). A near identical date was obtained on spelt glume bases from one of the ditch deposits (SUERC-32886 3470±30 BP 1890-1690 cal BC at 95% probability).

The radiocarbon dating identifies this as one of the earliest field systems within southern England. Other Early/Middle Bronze Age field systems have been identified at Westward Cross, Thanet, and have been suggested for Fengate, Cambridgeshire. Early spelt associated with barley has also been recovered from Westwood Cross, Thanet, and elsewhere in Kent. It is thought that the dates for spelt glumes from Monkton

Road, at 1890-1690 cal BC, and for the field systems at 1910-1750 cal BC provide well-dated evidence for both, possibly at least a century or more prior to other known examples. However, further dating of other field systems and spelt remains on Thanet and in southern England generally is required before the significance of the Monkton Road results can be evaluated. Whether the geographical position of Thanet close to mainland Europe is significant is a moot point.

Alistair J. Barclay, Chris J. Stevens and Sarah F. Wyles

A NEW EYE ON STONEHENGE

In recent years there has been a surge of interest in the prehistoric landscape around Stonehenge, notably through the work of the Stonehenge Riverside Project. There have even been two small excavations inside the henge itself. But what of the upstanding parts of the monument – the earthworks and stones? Rather surprisingly, there was until recently no modern survey of Stonehenge as a whole and its immediate surroundings. Although a photogrammetric survey of the stones was undertaken in 1993, most published plans and elevations of the monument derive from the work of Flinders Petrie in the 1870s and the Ministry of Works in 1919. To rectify this, English Heritage set up the Stonehenge Landscape Project and now, as plans are developed for the new visitor centre and the closure of the road that runs by the stones, it is timely that the combination of an expert eye and 21st century technology are revealing new features at our best-known prehistoric monument.

The analytical earthwork survey of the monument undertaken in 2009 has already revealed a number of new features – including the possibility that Stonehenge was once ‘Stonehedge’ (a full report can be downloaded from <http://research.english-heritage.org.uk/report/?14951>). Here we wish to report briefly on a further aspect of the Stonehenge Landscape Project: high-resolution 3-D laser scanning, which was undertaken for English Heritage by the Greenhatch Group earlier this year, using a variety of modern survey hardware.

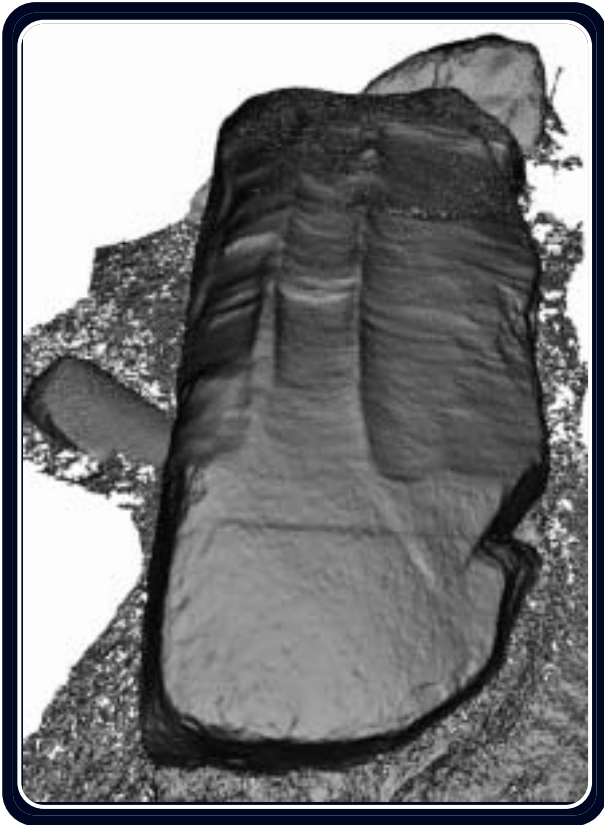
In fact, the work involved five separate surveys, which have been integrated into a single data-set. Firstly, the ‘Stonehenge triangle’ – the area between the A344 and A303 – was surveyed using a long-range laser scanner with a resolution of 100mm, in order to provide a terrain model to assist with interpretation of the earthwork survey; then the henge earthworks and interior ground surface were surveyed with the same instrument at 20mm resolution. Next the stones themselves were recorded using three different



Using the Leica C10 Laser Scanner around the bank and ditch in conjunction with a high-accuracy total station to co-ordinate the scan field targets (photo by James Davies, © English Heritage)

methods: the whole stone circle was surveyed with a high-speed, short-range scanner in conjunction with a motorised camera, providing a resolution of 1mm; the individual stone faces were recorded using an ultra-high-speed laser scanner at a resolution of 0.5mm; and finally a photogrammetric survey of the tops of the stones, which could not be reached by the laser scanner, was carried out using a high-resolution camera on a portable boom, providing 1mm resolution of these inaccessible surfaces.

The use of the very latest survey technology has provided exceptionally high-resolution 3-D point cloud data that will have numerous applications for research, presentation and management: new discoveries and exciting visualisations undoubtedly lie ahead. The data quality is 50% higher than the resolution that can currently be presented on a PC, so the scans will continue to provide new information as visualisation techniques improve. Even at a lower resolution, the laser scan data will take a long time to manipulate and analyse, though a preliminary assessment by Caroline Hardie of Archaeo-Environment Ltd has stressed the variety of uses it may have: informing interpretation and education in the new visitor centre; verifying our assumed knowledge of Stonehenge from earlier investigations; measuring erosion and rates of change to both stone surfaces (including their lichen cover) and earthwork elements; and identifying previously unseen features on the surfaces of the stones, including evidence for their working and dressing, further prehistoric carvings and rock art, or more recent historical graffiti. In particular, the upper levels of the stones and lintels can now be inspected without the need for ladders. The digital data will allow views of Stonehenge to be animated, rotated, textured, colourised and lit in different ways to facilitate research and enhance the experience of visitors, whether they are coming to the monument in person or viewing on-line. Fly-through animations and aerial perspectives, along with unobstructed 3-D views of



Scan of Stone 59, showing marks of the working and dressing process (© English Heritage)

heritage.org.uk/about/news/3d-stonehenge-model-unveiled).

Since it is all geo-referenced to a common co-ordinate system, the laser scan data can also be integrated with other data-sets covering the triangle, including LiDAR, aerial photographs, geophysical survey plots and the recent earthwork survey. Features identified on the scan data will initially have to be verified in the field to ensure they are not artefacts of the survey or reflections of the vegetation, so these are early days. Nevertheless, preliminary assessment is already throwing up a few surprises, such as the enhanced visibility of stone-dressing features when the lichen and surface colour variations are digitally removed. The search for more subtle features that may shed light on the quarrying, transportation and erection of the stones will be an important aspect of future research. And some of that work could potentially be done by anyone with access to a computer: eventually, when improved open-source software to handle the various datasets becomes widely available, we hope everyone will be able to view, analyse and interpret the data. Having every hump and bump on the ground and every facet and mark on the stones at one's fingertips will herald a new era of access to this most iconic of prehistoric monuments.

Jonathan Last, Paul Bryan, David Field and Susan Greaney (English Heritage)

individual stones, will all be possible in the virtual environment (see <http://www.english->



Meshed and colourised view of the stone circle (© English Heritage)

KNAPPING A LONG-TAILED OBLIQUE ARROWHEAD

In a previous issue of *PAST* (number 66, page 16), Jim Leary, David Field and Michael Russell challenged flint knappers to replicate the long-tailed oblique arrowheads recovered from Marden henge, and in the last issue (number 68, page 2), Barry Bishop, Jim Leary and Peter Robbins commented that no one had risen to the challenge. As a flint knapper, I felt compelled to change this situation and my first attempt at manufacturing a long-tailed oblique arrowhead is shown here. This replicated arrowhead is not quite up to the size or quality of the examples from Marden (measuring only 74.5mm long by 26mm wide and max. 7mm thick), but the knapping certainly surpasses the example from Santon Warren and any future efforts will no doubt be more refined due to the experience of manufacturing this point.



In terms of technology, the pressure flaking techniques employed in the manufacture of this arrowhead are no different to those used in the manufacture of a classic British oblique arrowhead (of which I have made numerous examples). However, for this long-tailed oblique arrowhead it was particularly important to select a regular blank with a single straight ridge that can be used to form the axis of the arrowhead from the tip to the end of the barb. This ridge is particularly useful when pressure-flaking the barb as it stops flakes from

overshooting and it facilitates the production of a lenticular cross-section. The flake blank employed for this example was too thick (c. 8 mm) and in future a thinner blank will be selected (c. 5 mm) as this will allow the production of a narrower and more delicate barb. It is also noteworthy that while most oblique arrowheads, including comparatively fine examples, take no more than 30 minutes to manufacture, this long-tailed oblique arrowhead took 4 hours to knap. The majority of this time was spent carefully pressure-flaking excess flint from the tail end of the arrowhead and delicately shaping the barb. Long-tailed oblique arrowheads are therefore certainly a feat of knapping and further demonstrate the significance of style in Later Neolithic flintworking.

Hugo Anderson-Whymark

THE SOCIETY'S EUROPA DAY AND POSTGRADUATE CONFERENCE, DURHAM 2011

This year's Europa day and lecture was held at Durham University on the 14 May and took on the not inconsiderable theme of 'Eurasian Interactions 4000-1000 BC'. The day itself was preceded by a highly successful postgraduate conference entitled 'The Tyranny of the Tell: Settlement and Society in the Bronze Age', including guest speakers Dr Cameron Petrie (Cambridge) and Professor Kristian Kristiansen (Gothenberg). The Europa day presentations ranged from the Neolithic to the Bronze Age and from Atlantic Europe to India, before a fascinating lecture from Europa prizewinner Dr Natasha Shishlina of the State Historical Museum in Moscow. Her work focuses on the remarkable nomadic traditions of the Eurasian steppe during the Bronze Age and the lecture provided a fitting end to a wonderfully eclectic event.

Dr Volker Heyd of Bristol University delivered the opening lecture and set the scene for the day by covering two thousand years, from the mid-fifth to the mid-third millennia, and the entire Carpathian and Baltic regions in just under half an hour! He traced the development of successive material cultural 'complexes' from the Late Neolithic through the Late Chalcolithic and Bronze Ages, and showed how these could be linked to the arrival of successive waves of pastoralist groups from the Eurasian steppes. This regular influx of people with profoundly different ways of life must, Heyd argued, have had a significant impact on human-animal relations, settlement systems and the whole system of ideas in prehistoric societies. This approach was strongly supported by

Professor Kristian Kristiansen's talk which was, if anything, even more ambitious in scope. Kristiansen focused on the possibility of large-scale movements of people at a continental level, relating many of the attributes of Bronze Age societies in Northern Europe to technological innovations and ideologies developed in the Near East and Greece. He gave the example of the two-wheeled war chariot, the rapid adoption of which can be traced across Europe through iconography and material culture during the second millennium BC, and he also investigated homologies in institutional and cosmological organisation across Eurasia.

A swift break for coffee later, we left northern Europe for the Mediterranean and Near East. Professor Tony Wilkinson of Durham University highlighted the tension between narratives at different scales through a discussion of early states and exchange systems in Northern Mesopotamia. Recent studies of a fourth millennium obsidian processing centre at Hamoukar in Northern Syria show both Anatolian and southern Arabian sources were in use simultaneously. Whilst exchange may occur at a pan-regional level and encompass the movement of objects over vast distances, it is important to retain a focus on local conditions and personal agency. Sofia Voutsaki (Groningen) brought a similar view to her study of networks in the Aegean Bronze Age (3000-1000 BC), using the finds of a shipwreck and the burial assemblage of a single individual to demonstrate the interconnected nature of the Mediterranean world.

After a hearty lunch, at which I can safely vouchsafe every plate was cleared and much prehistory discussed, our attention once again shifted westward. Professor William O'Brien of University College Cork began with a discussion of metallurgy in Atlantic Europe during the Chalcolithic and Bronze Ages. O'Brien showed how the spread of metallurgical technologies, including the *fablerz* technique and the adoption of tin-bronze, meant different metal sources from Spain to Ireland rose to prominence at different times. This in turn could be linked to the spread of the Beaker culture in the region during this period. The final speaker, Dr Tim Taylor (Bradford), examined the relationship between textual and archaeological sources in the steppe zone during the Iron Age. He also pointed out the tendency for implicit assumptions related to modern sedentary living to creep into our interpretations of nomadic ways of life, such that statelessness, enslavement and peripherality are 'written out of history'. There followed a lively discussion session, with the main emergent theme being that whilst grand narratives were both useful and important, the local agenda should not be left out.

The general matters of the AGM over, attention turned to the presentation of the Europa Prize by Society President Alison Sheridan to Dr Natalia

Shishlina, and to the Europa Lecture. Dr Shishlina presented a vast amount of new data and interpretations derived from her current research on the Steppe Archaeological Project. She showed how successive societies exploiting a specific economic niche produced very different material culture and demonstrated that, far from being devoid of settlement, the steppe-lands represent an incredibly rich and remarkably diverse archaeological landscape. The different burial practices through time were particularly interesting, with large scale monumental tombs providing some arresting images in the slide-show. A few choice anecdotes of her interaction with the modern nomadic occupants of the region peppered the presentation, and it was rather wonderful to hear someone talking with real passion about a landscape and way of life she so clearly loved and understood.

Overall this was another highly successful Europa Day, or perhaps Europa weekend with the student conference! Our thanks must go to Dr John Chapman and Dr Jennie Bradbury for organising the events.

Dan Lawrence, PhD Student, Archaeology Department, Durham University

AN EARLY MESOLITHIC CEMETERY AT GREYLAKE, SOMERSET, UK

Radiocarbon dating of two human skulls has provided evidence of an early Mesolithic cemetery on a small island in the floodplain of the Somerset Levels and Moors in southwestern England. The remains were discovered in a sand quarry in the early twentieth century.

The island at Greylake is situated in the central Parrett valley (ST3894 3360) just off the northeast corner of a larger island that contains the settlements of Othery, Middlezoy and Westonzoyland. The kidney shaped island of c.16ha is roughly 700m north-south by just over 300m east-west at its widest, southern, end. It consists of a significant depth of Burtle Bed sand deposits overlying Mercia mudstone. The island is surrounded by Holocene peat deposits, the top of which have been dated to the later Bronze Age in one location. At the northern end of the island was a small sand quarry that appears to have encompassed an area no greater than approximately 140m by 140m.

The Mesolithic evidence is derived from the quarry and consists of human bone, flint and chert. The human remains were discovered on the 1st of June 1928, although there is a suggestion that they had been discovered during earlier quarrying on the site and had been re-interred in the area being quarried that year. Harold St George Gray, the curator of the Somerset County Museum, visited the site on the 8th of June and saw five skulls in the quarry shed, two of



One of the crania, still filled with compacted sand and showing evidence of modern damage

which he took back to the museum along with some other long bones he collected 2 feet below the surface of the sand. The latter still exist in the collection and consist of four tibiae fragments.

A local man, Mr Martins, had taken 'all the best of the long bones' before Gray arrived and he seems to have gone back to get the remaining three skulls as well because in 1929 he donated them all to the Admiral Blake Museum in Bridgwater. One of the Bridgwater skulls and both the skulls collected by Gray were sent to Sir Arthur Keith of the Royal College of Surgeons but it appears that none were ever returned. They may have been destroyed during bombing of the RCS in World War II.

During the 1930s a large collection of flint was collected from the quarry by H.S.L. Dewar, a local amateur archaeologist. A much smaller number of flint tools were also recovered by Arthur Bulleid around the same time. Dewar's collection is now in the County Museum and consists of approximately 4,000 flint and Greensand chert items. The collection appears to date exclusively to the early Mesolithic period and consists of both tools (microliths, microburins, scrapers and an axe) and waste (around 83% of the assemblage) including cores, core trimmings, blades, primary flakes, chips and spalls.

The two remaining skulls in the Bridgwater collection and an associated mandible have been briefly examined by Katie Tucker of the University of Winchester. Both are in fairly good condition although there were modern spade marks and the crania remain filled with the compacted sand of the quarry. Skulls E22 and E23 both consist of the frontal bones, part of both parietals, both temporals, the sphenoid and part of the occipital bone. Part of a metacarpal or clavicle partially encased in the sand has been noted in crania E23. There is no evidence for pathology or trauma on either skull.



The mandible fragment

The crania are both probably young adult males although it is not possible to be certain about the sex. The mandible fragment, which contains three teeth (M1-3), is also probably from a young adult male but cannot be associated with either cranium.

Sir Arthur Keith identified the skull sent to him from Bridgwater as a female. His measurements of that skull survive but there is no record of any observations he made on the two skulls sent by Gray.

The four tibiae fragments in the County Museum were briefly examined by Jacqui McKinley. They were all short fragments with modern breaks at the ends and recent damage (presumably during quarrying). They consisted of two right proximal tibiae, one possibly female and one probably male, and two left distal tibiae, also one possibly female and one probably male.

Radiocarbon dating was undertaken by Dr Fiona Petchey of Waikato University as part of the 'Lost Islands of Somerset' project funded by Somerset County Council, Leader, Defra, SWRDA and the European Union. The dating results for crania E22 were 8445-8360 cal BC (19.2%) and 8355-8260 cal BC (76.2%) (Wk-30930: 9118 +/- 37BP) and for E23 8460-8275 cal BC (Wk-30931: 9134 +/- 37BP). These dates are very similar to most of those from the numerous human remains from Aveline's Hole cave on the Mendip hills just 15 miles to the north.

The presence of at least five individuals and the mention of associated long bones suggest that complete bodies were being buried on the sand island. Both males and females appear to be present. The flint remains suggest that the island was also a focus for activities other than burial. The setting of the cemetery and the association with a significant flint collection are unique in the early Mesolithic in the UK. The Mesolithic interface of the island with the floodplain must still be deeply buried under later Holocene deposits. This raises the possibility that waterlogged evidence may be present on the site. Several other islands of hard geology in the floodplain have produced Mesolithic flint, raising the possibility that this site type might not be so uncommon as it currently appears.

A staged programme of investigation is being prepared for the site involving dating of the tibiae, sampling of the bones for isotope and ADNA analysis and conservation of the bone. Analysis of the Dewar flint collection will also be undertaken as will palaeoenvironmental investigation of the neighbouring Holocene deposits to determine the environmental setting of the site. Subsequent fieldwork is intended.

Richard Brunning (Somerset County Council Heritage Service) and Hannah Firth

PREHISTORIC SOCIETY UNDERGRADUATE DISSERTATION AWARD

This was the inaugural year of the Prehistoric Society's Award for the best undergraduate dissertation on a prehistoric topic. There were 12 entries and all the dissertations were read by three judges: Nicky Milner, Niall Sharples and Ann Woodward. We were unanimous in our choice of the winners. We were also very impressed by the overall standard of the submitted entries and gained considerable pleasure from reading these dissertations.

The three runners up, who each won a year's membership of the Society, were:

Emily Wright (University College London), for *Testing the Waters: Ship iconography and social change in the Aegean 1400-800 B.C.*; Mark Lawson (University of Newcastle), for *Understanding the orientation of Neolithic radial cup and ring motifs and penannular motifs - a comparative study of Mid Argyll and north Northumberland*; and Alex Davies (University of Cardiff), for *Hoards of Power: A reinterpretation of Bronze Age hoards, deliberate deposition and the introduction of iron.*



The winners and runners-up of the 2011 Prehistoric Society Undergraduate Dissertation Award. Left to right: Rob Hosfield (representing the winner, Nicola Bray); Alex Davies; Mark Lawson; Emily Wright. To their right: Professor Tim Champion (presenter of the Award) and Dr Alison Sheridan (President).

The winner, whose prize consisted of a cheque for £100, three years' membership of the Society and a volume of her choice from the Prehistoric Society Research papers series, was: Nicola Bray (University of Reading), for *The Campanian Ignimbrite eruption and hominin interaction at the Middle to Upper Palaeolithic Transition.*

Next year's competition will be launched in the spring of 2012. In the meantime, if any Member would care to sponsor the winner's cash prize, the Society may consider naming the Award in that person's honour.

Niall Sharples

UPCOMING PREHISTORIC SOCIETY EVENTS

The problem of Ham Hill. How do you interpret the largest hillfort in Britain?

Niall Sharples (Cardiff University)

County Hall, Exeter, Thurs 26 January 2012, 7.30pm
wine reception followed by lecture at 8pm (joint lecture with the Devon Archaeological Society)

The long view: place and prehistory in the Thames Valley

Society of Antiquaries, London, Saturday 25 February 2012

This conference concludes our series of period-based dayschools on the archaeology of the Thames Valley. This event will look at the long-term histories of particular places or parts of the valley. The aim will be to explore the differing trajectories of settlement, land-use and ritual activity in different localities from the Mesolithic period onwards. One topic of particular interest is the contrast between places which were intensively used during virtually every period, and those which were used more sporadically or less intensively at certain times. A booking form is included with this issue of *PAST* - all the previous events in this series have been sold out so book early!

Europa Conference and Lecture 2012

University of Reading, Saturday 9 June 2012

The 2012 Europa recipient is Professor Richard Bradley, who will be celebrating his (nominal!) retirement, and we present a conference celebrating some of the many strands of his research interests under the title *Landscape, Monuments and Society*, to be followed by the Europa Lecture, *Houses of commons, houses of lords: domestic dwellings and monumental architecture in prehistoric Europe*. Our distinguished speakers are: Mike Parker Pearson, Colin Richards, Joakim Goldhahn, Billy O' Brien,

Ramón Fábregas, Colin Haselgrove, Marc Vander Linden and Leo Webley. There will be a charge for the conference but the Europa Lecture itself is free to all. As in previous years, the conference will be preceded, on Friday, by a seminar presenting current and recently completed post-graduate research on a related theme. Full details and booking forms to follow soon but get the date in your diary now!

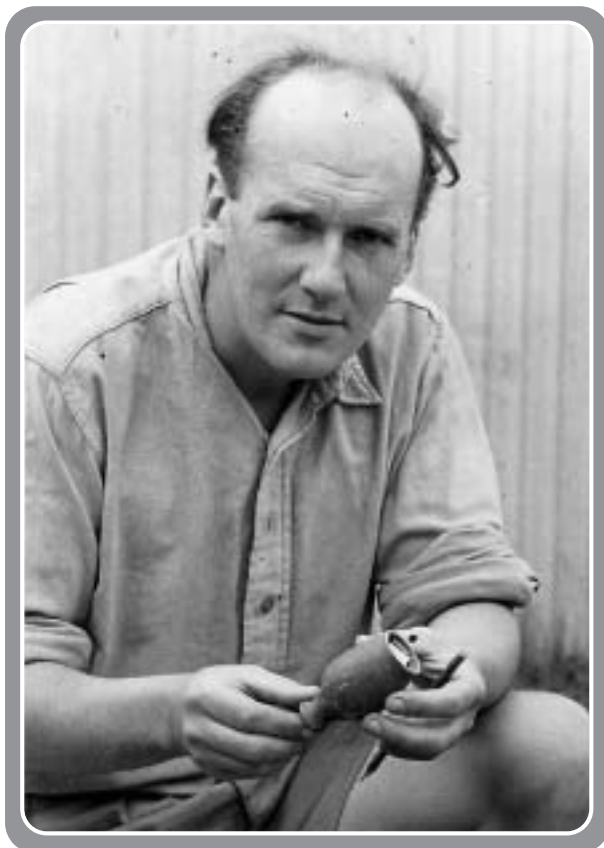
ERRATUM

We note with regret that Prof. Grahame Clark's name was mis-spelt in the obituary for Prof. Marek Zvevlebil that appeared in the last edition of *PAST*.

RUN OF PPS

Free to a good home: *PPS* vols 68-75 inclusive, available for collection from Ham, between Richmond and Kingston. For further information, please contact Elizabeth Blishen: email liz@aob1932.f2s.com

PHILIP RAHTZ: PREHISTORIAN



Philip Rahtz while digging at Downton in 1955
© Philip Rahtz archive

Philip Rahtz died in June 2011 at the age of 90. He was a member of our Society for many years, although he was best known as a specialist in the Dark Ages and the medieval period. Recent obituaries in the national press have praised this work, but have not mentioned his considerable contributions to the study of British prehistory. Philip first pursued careers as a professional portrait photographer and school teacher in his home city of Bristol. Having dabbled in a few sites on the Mendips, he was engaged by the Ministry of Public Buildings and Works (now English Heritage) to excavate sites in advance of a new reservoir in the Chew Valley. Here, underneath two Roman villas and various medieval sites, he excavated a Neolithic house, interesting Beaker pits and burials and also Iron Age sites. He went on to dig prehistoric sites all over England, including round barrows, hillforts and linear ditches. Notable sites include the Neolithic/Beaker settlement at Downton, Wiltshire; an Early Bronze Age tree-trunk coffin at Little Ouseburn, North Yorkshire; and a well-preserved Iron Age house at Whitsbury Castle Ditches, Hampshire. Outstanding, however, were two meticulous programmes of investigation in Dorset. At Shearplace Hill, he excavated an iconic Middle Bronze Age settlement (*PPS* 28, 1962) – a site which is illustrated in many a textbook of British prehistory – while the complex site at Hog Cliff Hill (*PPS* 53, 1987) comprised a group of Earliest Iron Age house sites set within a large enclosure.



Little Ouseburn, 1958: cairn within the Early Bronze Age round barrow © Philip Rahtz and University of York

Philip was appointed as a lecturer in archaeology within the Department of History at the University of Birmingham in 1963, and became the first Professor of Archaeology at York in 1978. He was a brilliant excavator, skilled in on-site interpretation, and produced all his reports (mainly unpaid) during evenings and weekends, against a background of very loud classical music. Philip lived life to the full, as implied in the title of his 2001 autobiography *Living Archaeology*. When not writing, he was always ready to entertain and support his family and a multitude of friends, colleagues and students. He was a great raconteur, complete with an armoury of very bad

jokes, but, more seriously, he was an inspiring and innovative teacher and contributed in a major way to the founding of rescue archaeology in the early 1970s. The influence of theory is well illustrated in his York inaugural lecture of 1980 which was entitled *The New Medieval Archaeology*, and he was always keen to keep up-to-date with theoretical advances in prehistory. However, as always, he was ahead of the game, promoting the concept of structured deposition and exploring the role of relics at the Somerset hillfort of Cadbury, Congresbury, back in 1971. Philip is buried on the edge of the North York Moors, at St Gregory's Minster, Kirkdale. This fitting location was the subject of his last major campaign of excavation, and lies across the beck from the famous 'Bone Cave', investigated by William Buckland in 1821.

Ann Woodward, Vice-President

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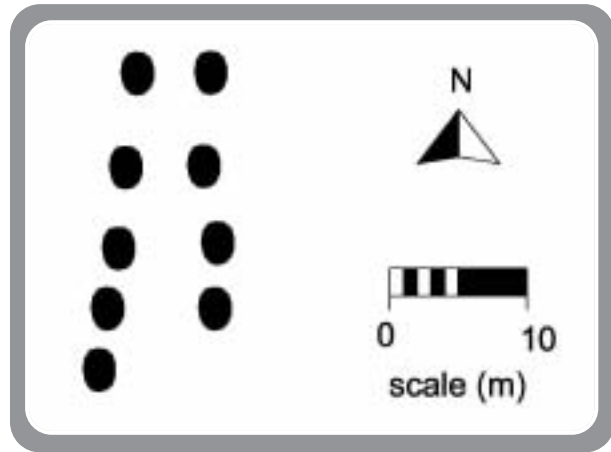
A revised third edition of *The Study of Prehistoric Pottery: General Policies and Guidelines for Analysis and Publication*, Occasional Papers 1 and 2, is now available as a download from the PCRG website <http://www.pcr.org.uk/>

Essential reading for anyone wanting to know how to record, analyse, publish and understand prehistoric pottery from Britain, Ireland and beyond!

WHEN IS A PIT ALIGNMENT NOT A PIT ALIGNMENT?

Answer: when it's a segmented, embanked pit alignment. Although the analogy of calling a spade a 'long-handled, square-bladed, delving implement' springs to mind, there is logic to this descriptive neologism applied by the Royal Commission on the Historical Monuments of England (RCHME) – now merged with English Heritage – to a distinctive group of earthworks found on the North York Moors. These consist of double pit alignments accompanied by flanking banks. Attention was drawn to these monuments some 30 years ago by Donald Spratt, with examples located on Danby Rigg and on Ughthorpe Moor. Together with further cases at Middle Rigg on Easington High Moor, these were surveyed by the Royal Commission in the early 1990s (see *PPS* 59).

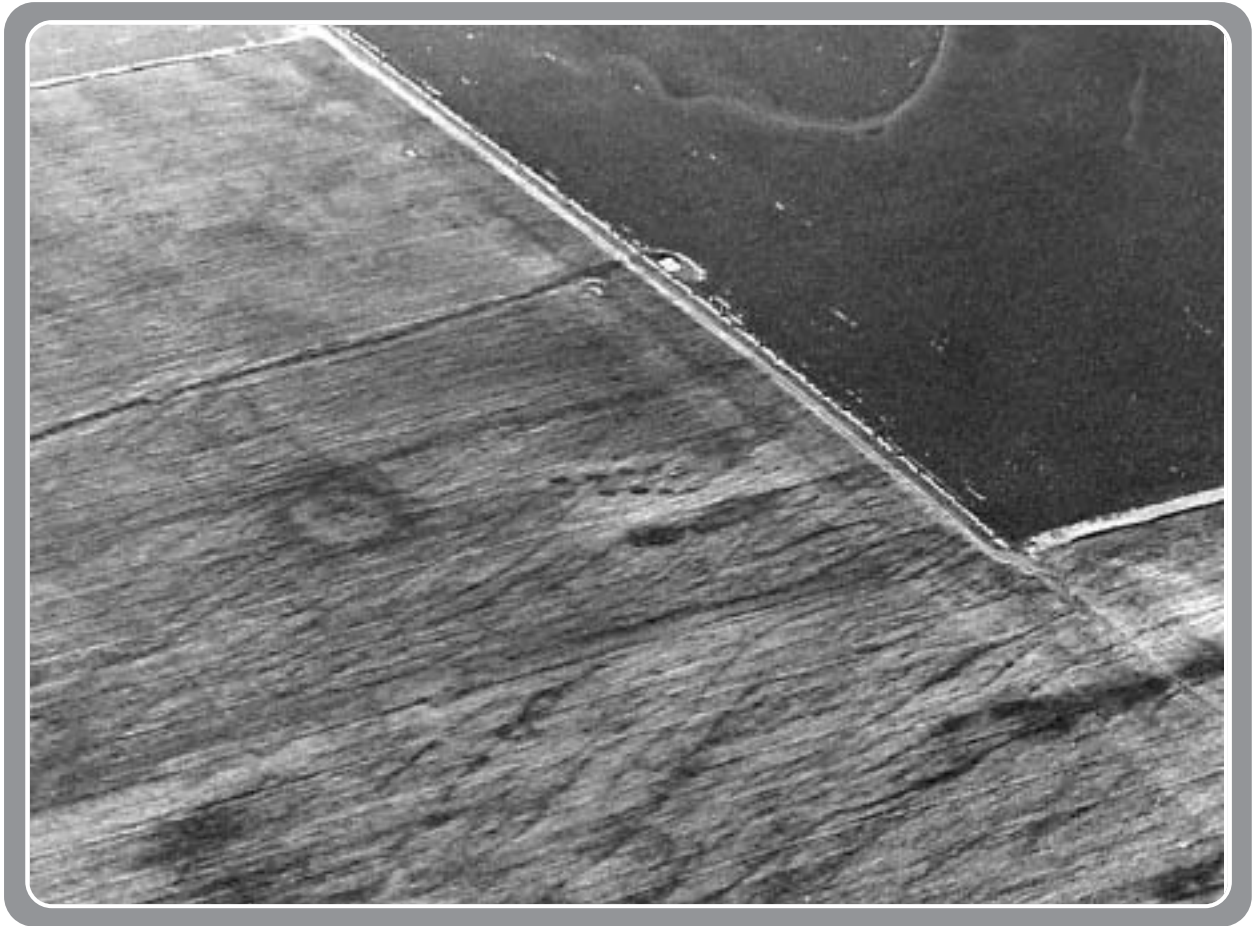
To this small corpus can now be added a cropmark example mapped as part of the North York Moors National Park National Mapping Programme (NMP)



Two potential phases to the segmented pit alignment on Hambleton Moor

project, recently completed by Archaeological Research Services Ltd in partnership with English Heritage and the National Park Authority. Located on the western edge of Hambleton Down in the parish of Boltby (SE 511850), the monument is defined by two parallel rows of pits, situated at intervals of approximately 2m. The pits themselves appear to be roughly oval in plan and number a conjectured total of 10, although only nine could be mapped with certainty from the available aerial photography. An irregularity in their spacing suggests that the pits may have been created in stages, the four to the north perhaps dug at an earlier or later date than the five or six that extend to the south. Although no accompanying banks could be discerned from aerial photography, the earthwork examples cited above suggest that these segmented pits would formerly have had flanking banks, now plough-levelled.

The position of the segmented pit alignment within the local prehistoric monumental landscape is especially interesting. This plateau of the Hambleton Hills was a preferential location at least from the Bronze Age. Boltby Scar promontory fort is situated some 750m to the north where at least two round barrows and pottery evidence provide indication of pre-Iron Age activity. The Cleave Dyke runs roughly north-south along the highest ground accompanying a number of round barrows that may have acted as an earlier territorial divide. The pit alignment is located c. 65m west of the Cleave Dyke and 30m south of a Bronze Age round barrow which was excavated in 1961 and found to contain a Beaker burial. In fact, the pit alignment appears to lead to the barrow and although this is potentially coincidental, a similar focus is exhibited at the segmented pit alignments surveyed by the RCHME. However, a subtle difference is discernable: the other examples are consistently aligned tangentially to the outer edges of barrows, whereas the pit alignment on the Hambleton Hills leads to the centre of its corresponding barrow. It might therefore be asked if this was the original barrow on which it was aligned or if there was another barrow, as yet unidentified, located to the



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south, upon which the feature was aligned. Whatever the case, there is clearly a significant association between segmented pit alignments and barrows, suggesting that they may have played a role in the burial rite. What that role comprised remains, however, open to conjecture.

Acknowledgements

I am grateful to Graham Lee for kindly sharing his extensive knowledge of the archaeological resource within the National Park. The North York Moors National Park Resource Assessment and Management Project was funded by the National Heritage Protection Commissioners Programme (NHPCP).

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ROCK ART AND PREHISTORIC GEOLOGISTS? SOME OBSERVATIONS FROM THE KILMARTIN VALLEY

Introduction

In July 2011, with the aid of a Coles Award from the

Prehistoric Society, I was able to visit the Kilmartin Valley in Argyll, southwest Scotland, as part of my current postgraduate research. Kilmartin plays host to one of the richest concentrations of cup-and-ring style rock art in Britain with a wealth of highly decorated stone surfaces literally preserved within a prehistoric landscape. Although the dating of these ‘enigmatic’ rock art sites remains problematic, these sites formed an integral part of a culturally understood landscape. Elements of the natural world such as extensive viewsheds or specific viewpoints are frequently associated with rock art localities, while sites may reference, or are subsequently referenced by, monumental architecture.

The often highly specialised nature of carved imagery witnessed in the Kilmartin Valley may have (at least in part) been influenced by the physical rock surfaces selected for decoration by prehistoric communities. By recording the various surfaces selected for decoration and those which were apparently disregarded at major decorated panels, the role of geological attributes in the creation and composition of rock art sites can be explored and any selection processes identified. The fieldwork undertaken in Kilmartin forms part of an ongoing research project concerned with the extent and character of rock art in the north of Ireland and its place in the wider rock art tradition of Atlantic Europe.



The main panel at Ormaig: here, the crisscrossed nature of the surface is used to divide the often highly specialised motifs, resulting in crowded zones of carving, with many motifs delimited by the natural grooves (author's photo).

Geological features and rock art

A variety of characteristic rock art sites were examined to determine if specific rock art compositions could be related to the physical appearance of the rock surfaces selected. Although highly distinct, the same decorative devices are used throughout the cup-and-ring tradition which commonly includes cupmarks, concentric rings and radial lines. At the major panels visited it became apparent that the presence and character of glacially derived striations on the rock surface seemed to influence the presence and organisation of certain rock art motifs. Additionally both the slope and aspect of surfaces were considered as active influences in the appearance of rock art compositions.

The highly specialised sites of Achnabreck, Ormaig and Paltalloch, for instance, utilise rock surfaces which are literally criss-crossed with natural grooves, forming angular zones of rock. These small sections of rock are frequently crowded with carvings which in some instances are physically delimited by the natural grooves, the effect being most striking at the main Ormaig site. It is on these highly striated surfaces that we see the more specialised motifs such as the enclosed rosettes and spiral variations. The crowding and associated superimposition of motifs demonstrates the longevity of these places, with rock art accumulating over time. At both of these sites



Rock art at Baluachraig, central area looking west: here, the rock art is most crowded in areas with bisecting grooves (author's photo).

smoother rock surfaces are present in the vicinity but these are frequently ignored, or decoration is of a 'less complex' appearance.

Elsewhere the occurrence of largely horizontal grooves results in a distinctly tabular surface appearance. This surface type tends to inform much more open compositions of a 'simpler' nature. At the lower of two decorated outcrops at Cairnbaan, the surface is characterised by deep, horizontal grooves. These rarely bisect each other and delimit long, tabular areas of rock, but several sections are further subdivided with the addition of anthropogenic grooves. Decorative motifs are characterised by cups and cup-and-ring marks with the frequent addition of a long radial line or tail which follows the natural slope of the rock surface and continues into the natural grooves. While apparently simple decorative devices are employed here, the geological character of the surface actively informs and defines specific areas of decoration.

The site of Kilmichael Glassary provides evidence of two decorative approaches. This terraced outcrop is much flatter in its upper portion which is decorated with plain and extended cupmarks, while the lower portion slopes to the east and is dissected by long horizontal grooves. As seen at Cairnbaan, the use of long grooves and extended motifs in this area acts to subdivide and define particular areas of the rock surface.

At other sites including Baluachraig, where surfaces were much more open, motifs were frequently observed to cluster around, and even become more specialised in the areas most constricted by often crisscrossing glacial lines and natural breaks in the rock surface.

Discussion

One area focused on during this research is the geological character of rock art sites, both on a macro and micro scale, which has tended not to form an integral element of previous projects. While certainly not the only factor influencing the selection and appearance of rock art sites, it is felt that the form and tactile qualities of the rock surface certainly had an active role at individual sites. Specifically the geological character attracted and informed rock art compositions. Accordingly certain geological features became integral design elements in their own right, like the incorporation or elaboration of natural grooves to divide, delimit or connect certain areas of the rock surface. In this way the physical act of carving draws directly from the natural surface and the two cannot be separated with ease.

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RAISING PIGS (AND OTHER ANIMALS) IN LATE BRONZE AGE/EARLY IRON AGE BRITAIN

The late Bronze Age saw marked changes in landscape use across much of southern Britain and a new exceptionally rich site type, frequently termed a midden, developed. These distinctive sites are characterised by thick artefact-rich deposits and substantial dark earth layers. Although not a defining feature, the size of many middens is their most striking characteristic. For example, one of the largest middens, Potterne, excavated by Andrew Lawson in the 1980s, covers approximately 3.5ha and has 1-1.5m thick deposits across much of its area. Consequently, excavations of even relatively small areas of these sites yield vast quantities of material culture. Feasting was central to the accumulation of these mounds and fragmentary animal bone is invariably the most common find. These faunal assemblages often have a substantially higher proportion of pigs than other later prehistoric settlements. For example, at the smaller midden (c. 0.3ha) at Llanmaes in South Wales, recently excavated by Adam Gwilt of Amgueddfa Cymru - National Museum Wales and Mark Lodwick of the Portable Antiquities Scheme, 70% of identified specimens were pig (total fragments 80,000). An even more unusual feature at Llanmaes was a pronounced preference for right forequarter elements.

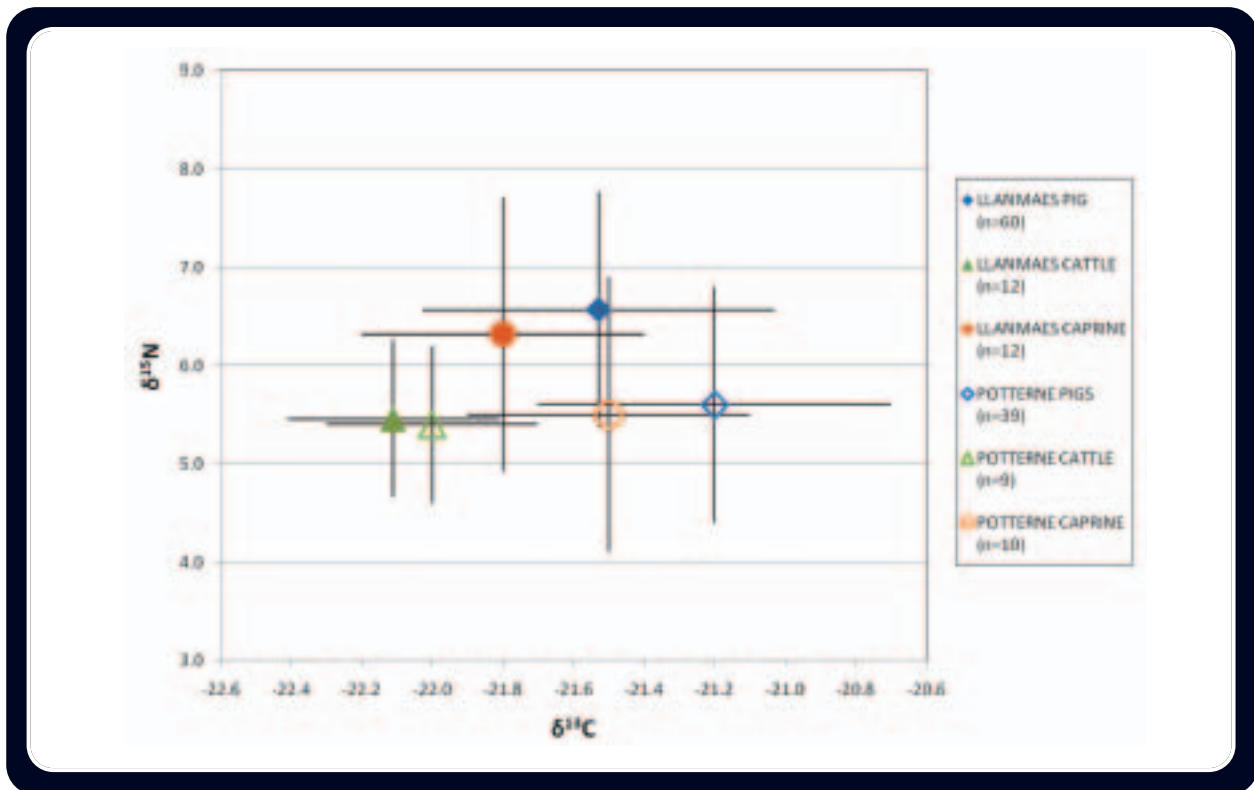


Cauldron fragments from Llanmaes suggest that feasting took place at this site (photo by kind permission of the National Museum of Wales)

This unusual pattern of porcine procurement raises questions surrounding how these large numbers of pigs were raised. Pigs are adapted to omnivorous forest foraging, but as woodlands were rare within the largely deforested landscape of Late Bronze Age southern Britain, these animals were either imported to the area or novel feeding strategies developed. At Llanmaes the prevalence and structured modes of processing, selection and deposition of pigs indicates that they were of clear symbolic significance and it is plausible that they were raised by specialist producers and fed a prescribed diet. Alternatively, pigs could have been raised by individual households spread out across the surrounding landscape and fed on a diverse diet, utilising woodland resources where possible, combined with waste from meals and also excreta.

To address these issues and to gain greater insights into the nature of animal husbandry at the contrasting middens of Llanmaes and Potterne, a programme of carbon ($\delta^{13}\text{C}$) and nitrogen ($\delta^{15}\text{N}$) isotopic analysis was undertaken funded by the Prehistoric Society and the Cambrian Archaeological Association. Whilst pigs are the principle focus of feasting at both sites, the diet of the other food species can reveal if these animals were also subject to special treatment in terms of diet or trade. The ratio of the stable isotopes of carbon and nitrogen in bone collagen is useful for reconstructing a long-term average of the diet of past populations. In temperate environments such as Northern Europe, which lack C4 photosynthesising plants, the carbon values indicate the proportional contribution of terrestrial and marine sources of dietary protein, with a reliance on marine-derived protein indicated by high $\delta^{13}\text{C}$ values. The $\delta^{15}\text{N}$ value reflects the trophic level of food sources, with high values demonstrating a reliance on products from higher in the food chain (e.g. meat, fish or dairy protein).

A total of 87 samples from Llanmaes and 59 from Potterne from individual adult animals were analysed. The majority were pigs (60 for Llanmaes and 36 for Potterne) but substantial caprine and cattle baseline datasets were also generated. Stable isotope values for



Graph showing the mean isotopic results from fauna from Potterne and Llanmaes. Error bars indicate 1 standard deviation.

all three taxa were exceptionally wide-ranging at both sites especially in terms of nitrogen, as demonstrated by the error bars representing 1 standard deviation (see graph). The isotopic ratios for pigs and caprines are particularly heterogeneous.

The results indicate a diverse diet for pigs, with some individuals almost entirely herbivorous and others consuming a substantial proportion of animal protein (as meat, dairy or excreta). Woodland fodder was more important for pigs at Potterne where isotope values demonstrate enrichment in carbon, probably due to a diet containing some proportion of saprotrophic and mycorrhizal fungi from woodland environments. At Llanmaes, the higher nitrogen values suggest a more varied diet with increased levels of animal-derived protein. However, at both sites the nitrogen values for the herbivorous caprines, likely to be sheep, are only slightly lower than those of pigs and have a similar range. This suggests that sheep and cattle were subject to different husbandry regimes at both sites. As nitrogen isotopes are higher in manured pastures, it is possible that the practice of sheep folding, with sheep kept in fields to improve the fertility and structure of the soil, began at this time. Whilst the exploitation of the sparse forest resources by pigs continued, with Neolithic woodland-based husbandry practices still in use, the wide range of values indicate that new husbandry methods were introduced. The isotopes suggest a greater contribution of animal protein to the porcine diet, a strategy which became more widely established in the Iron Age.

This diversity of values indicates that no prescribed modes of raising pigs for feasting were adhered to, specialist production strategies had not developed and not all pigs were raised in the immediate vicinity of the middens. Instead small-scale, household level husbandry is likely, and with households spread across different landscapes and ecosystems, access to woodland forage and the nature of household waste would vary, resulting in diverse values. Indeed, pigs supplied to the middens may have been husbanded beyond the surrounding areas. The diverse range of results for herbivores, particularly sheep, also suggests non-local procurement. Our recent analysis of strontium isotopes from a small number of pigs at Llanmaes and Potterne has identified individuals with non-local signatures. These techniques are beginning to shed new light on the nature of ceremonial activity at these sites, providing evidence that people converged on these focal points in the landscape from far and wide with animals in tow, as formalised contributions to the festivities.

In the light of this suggestion of localised household rearing, the high degree of adherence to socially circumscribed practices in the butchering and selective deposition of skeletal parts in the midden seems all the more remarkable. The question of whether pigs were killed and butchered in the household or at the feasting site is a crucial issue and will be a major focus for future research.

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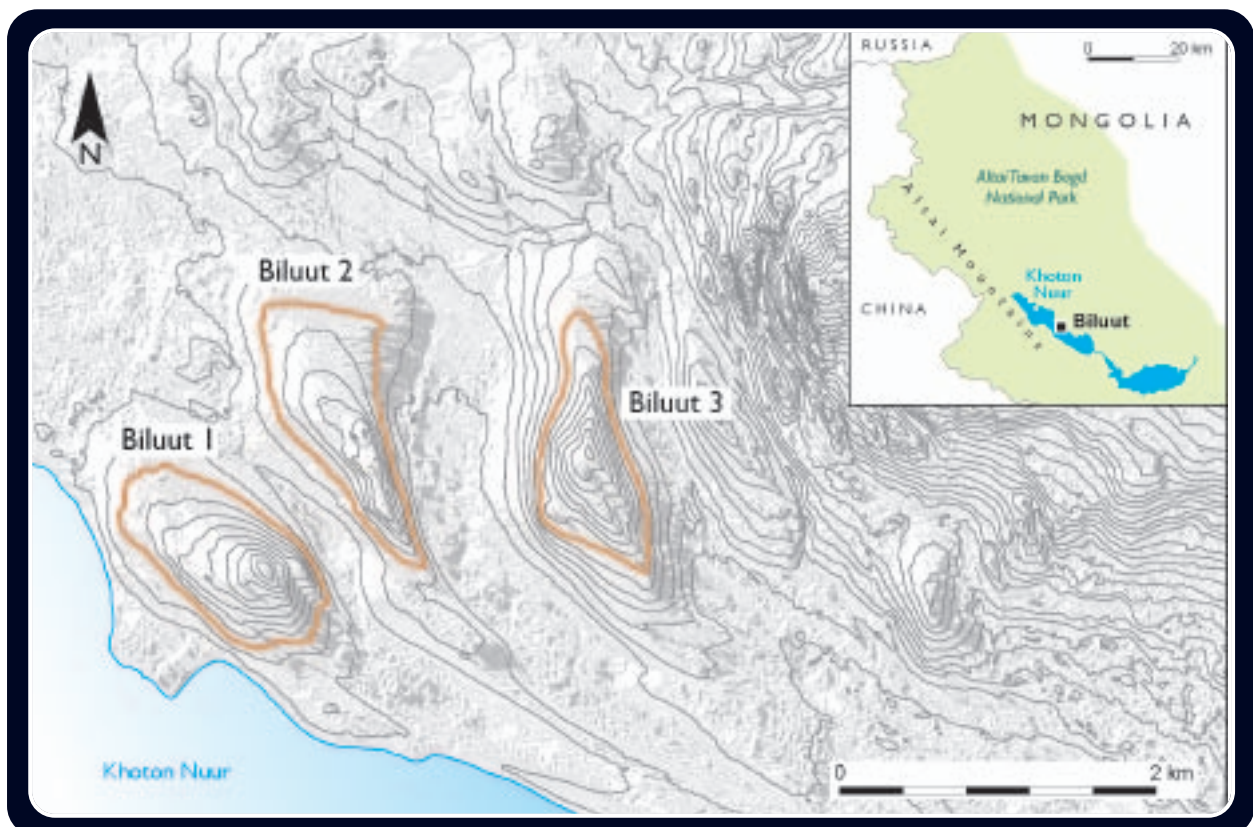
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ROCK ART AND LANDSCAPE IN THE MONGOLIAN ALTAI MOUNTAINS

In June 2011, I participated in an ongoing research project investigating the ancient landscapes of the Mongolian Altai Nuruu (Altai mountains) in Bayan Ölgii province, western Mongolia. The project focuses upon the rock art and archaeology of an area directly east of Khoton Nuur (Khoton Lake) in the Altai Tavan Bodg National Park close to the border of Xinjiang province, China. The rock art team was led by Dr Richard Kortum of East Tennessee State University, while the archaeological excavations were conducted by Dr William Fitzhugh, director of the Arctic Studies Center at the Smithsonian Institution (Washington, D.C.). They collaborated with Mongolian archaeologists from the National Museum of Mongolia (Ulaanbaatar) led by Bayarsaikhan Jamsranjav and also with the rock art specialist Dr Tserendagva Yadmaa from the Mongolian Academy of Sciences' Institute of Archaeology (Ulaanbaatar). The aim of the research project is to explore the dynamic interactions between rock art, archaeology and landscape within the vicinity of Khoton Nuur.

Rock art research focused upon the hills of Biluut situated in the northeastern part of Khoton Nuur. On the opposite side of the lake there are the beautiful snow-capped mountains of the Altai which divide Mongolia from China. The natural landscape was scoured by glacial activities during the later Pleistocene and when one looks at the distant upper terraces it is quite clear to see that the gradual melting of glaciers produced them. Erratics ranging from gigantic to small boulders litter the landscape and clearly demonstrate that during the last glacial maximum the entire region was covered completely by ice. Glaciers, probably deriving from the northern Altai Mountains, created an expansive basin with terraces and after melting away left a string of lakes, including Khoton Nuur. Additionally, when one closely examines exposed bedrock surfaces numerous fine striations derived from the scouring movement of the ice are visible.

The petroglyphs of Biluut are found on numerous surfaces along the sides of three large hills which, in turn, are part of a series of hills and moraines that extend eastward from Khoton Nuur. They were discovered in 2004 and initial surveys had indicated there were over 8000 individual images carved into exposed surfaces of bedrock, which consists of shales, conglomerates and sandstones. The fieldwork carried out in June 2011 focused upon documenting petroglyphs on the third hill designated as Biluut 3. Over 3600 individual rock art images were recorded. Scenes were photographed and tracings were made onto plastic sheets. Their motifs and pictorial context



Location of the Biluut rock art complex (illustration: K. Lymer; GIS data: D. Cole)



Bronze Age scene of deer from Biluut 3

were noted, dimensions measured and precise GPS coordinates located. Additionally, the contours of the terrain were assigned point data that will be used to reconstruct the local topography in ARC GIS software. Post-fieldwork data processing will then involve the spatial plotting of rock art and archaeological GPS points onto computer-generated terrain contours.

The petroglyphs were pecked, carved and incised and feature a wide variety of subjects including deer, bulls, ibexes, horses, horse riders, dogs/wolves, human figures and occasional two-wheeled vehicles. At the moment absolute age techniques cannot be utilised and dating was achieved through stylistic comparisons based on the well-established chronological sequence for Mongolian rock art. The Biluut petroglyphs range from the pre-Bronze Age, Bronze Age (2nd millennium BCE) and Iron Age (1st millennium BCE) to the time of the Early Turkic kaganates (6th-8th centuries CE) and up to the present. Unfortunately, recent activities include the carving of new scenes and graffiti which have damaged several prehistoric images. The diversity of the ancient imagery, however, emphasises the fact that the hills of Biluut were re-discovered time and time again by numerous communities from varying cultural backgrounds since deep prehistory. Overall, when all three hillsides (Biluut 1, 2 and 3) are taken into consideration, this is a remarkable concentration of petroglyphs that is intimately connected to localised and transitory occupations as rock art and archaeological monuments have been inextricably interwoven into the landscape by countless peoples over the centuries and millennia.

The Biluut rock art research was complimented by archaeological investigations that targeted monuments from different time periods in close proximity to the hills. In particular, a khirigsuur burial on a terrace of Biluut 1 was excavated that features a cairn of stones piled over a shallow grave. It is surrounded by a setting of small stones in the form of a circular fence that surrounds the cairn, but in plan it looks like a wheel as four radial 'spokes' of rocks connect the centre to the 'rim'. Khirigsuur monuments are a Late
16 PAST



The upside-down deer stone (right) of Aral Tolgoi

Bronze Age phenomenon and they are mainly distributed across central to western Mongolia. Additionally, Iron Age burials at Biluut 2 were excavated as well as an Early Turkic ceremonial structure near Biluut 3.

The most evocative archaeological monuments of Mongolia are the so-called deer stones, standing stones adorned with highly stylised images of stags that were undoubtedly related to ancient religious beliefs (see also *PAST* 54, 2006). In addition to deer, these also feature images of boars, weapons, circles and linear stripes which are used in varying combinations. Deer stones were erected in direct association with the khirigsuur monuments and together they form the Deer Stone-Khirigsuur Complex (DSKC) which flourished in Mongolia around 1350-750 BCE. Few deer stones are known to occur in western Mongolia and one hot summer afternoon we headed out to visit our closest example which was 10 km north of Biluut in the floodplain below the rock art site of Aral Tolgoi. Interestingly, we found one tall deer stone that had been removed from its former resting place in the earth and re-erected upside down. It is also worth noting that the hillsides of Aral Tolgoi hold scenes of previously recorded petroglyphs which are similar to the ones found at Biluut.

All in all, after the data collected from our summer fieldwork at Biluut has been fully processed, we will be able to present more results that will hopefully improve our understanding of the prehistoric art and archaeology of not only Mongolia but also neighbouring areas of central Asia and southern Siberia.

Acknowledgements

I would like to thank Richard Kortum and William Fitzhugh for their help and guidance in the preparation of this summary. GIS topographical data was kindly supplied by Dan Cole (Smithsonian Institution, Washington, D.C.)

Kenneth Lymer