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THE POST HOLE

Juxtlahuaca Redux

Using Your Metal: an introduction to the Portable Antiquities Scheme

Engaging Young People with the Mesolithic

Acknowledgements

Front cover: *Detail of Juxtlahuaca Painting 1* (Image Copyright: Arnaud Lambert)

A Bronze Age burnt mound now discreet on the side of Barningham Moor, Co. Durham (Image Copyright: Alex Loktionov)

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Editorial: Archaeology and a person's view on the past

On New Year's Day someone pointed out to me that 2013 is the first year since 1987 that is composed of four different numbers (2, 0, 1 and 3). That observation did not sound very interesting when I first heard it, but it has stayed in my mind since that day because it reminds me of the peculiar ways people like to structure and make sense of time.

Few people will have failed to notice as December progressed, the rising interest that members of the public have displayed in Mesoamerican Archaeology. I am of course referring to the apocalypse theories surrounding the Mesoamerican Long Count calendar and the 21st of December. Whilst I shall not risk interpreting the validity of these theories, I will comment on the unusual, sometimes positive and sometimes not so positive, ways in which archaeology and modern society can spontaneously interact.

Each one of the fascinating articles in this issue of *The Post Hole* is concerned with the ways in which archaeology can shape the lives of people today and the ways in which the public may perceive what life was like in the past.

In 'Juxtlahuaca Redux' **Arnaud Lambert** provides us with an alternative interpretation of the unique Olmec art in Juxlahuaca Cave, Mexico. As well as being of intellectual merit, Lambert's paper reminds us that archaeology is a view of the past that is composed of countless individual theories, each constructed by an equally large number of people working in that field of academic enquiry.

Navid Tomlinson assures us that the above realisation is not something that should be feared. Rather than talking of the limitations in linking isolated views on the past, Tomlinson's review of the recent CHAT 2012 conference at York passionately discusses the possibilities open to archaeology when we as archaeologists broaden our approaches of enquiry into a larger range of subjects – namely the integration of historical and contemporary lives with the study of life in the deeper past.

Alex Loktionov applies an ethnographic perspective in his paper, providing a ritualistic interpretation of a Bronze Age burnt mound in County Durham. These prehistoric features often lie in obscurity within the British landscape. Hopefully Loktionov will be one of a number of new archaeologists encouraging people to consider the significance of these more unusual marks on the landscape made by people 4,000 years ago.

Equally, I hope that the gradual increase in recent years of archaeologists' appreciation of the complexity in function of monuments, and indeed what exactly constitutes that term, will continue to happen. It is important that the abstract and nuanced nature of human psychology can be more comfortably integrated into new interpretations of phenomena like the appearance of burnt mounds in Bronze Age Britain.

Steve Ashby gives us an informative introduction to the essential work conducted by the Portable Antiquities Scheme, explaining how it seeks to ensure that artefacts found by the public are recorded and brought to the attention of archaeologists, thus allowing them to benefit archaeology by being properly researched and curated.

Emily Hellewell discusses the equally important work that her and fellow archaeologists at the University of York are carrying out in engaging younger people with the Mesolithic. Hellewell is playing a key role in the concerted efforts of Mesolithic archaeologists to open this 'middle period' of prehistory to the public so that the intellectual and cultural benefits of having awareness of the ever-increasing diversity of Mesolithic material can match that of areas such as Stonehenge and Palaeolithic cave art. Hellewell explains why starting this dissemination for people at a young age may greatly benefit Mesolithic Archaeology in the future.

So that's Issue 26. Already, we are well under way with editing submissions for the next issue. If you would like to contribute towards *The Post Hole*, please contact **Tess Margetts** at submissions@theposthole.org. For the latest news about *The Post Hole*, including Issue 27, follow us on **Facebook** and **Twitter** (see back cover).

Happy New Year!

David Altoft

(Editor-in-Chief of *The Post Hole* - **david.altoft@theposthole.org**)

Editorial: *What do you see when you look at the past?* (Image Copyright: Arnaud F. Lambert)

Juxtlahuaca Redux

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In 1972 for a comparison with the personages at Chalcatzingo Monument 2, Carlo Gay published a drawing of the famous Olmec-style mural, known as Painting 1, from Juxtlahuaca Cave in Mexico. This drawing that not only showed two well-known paintings – one depicting an elite figure wearing a jaguar pelt; the other consisting of a smaller seated figure – but also portrayed two badly eroded paintings to the right of these more famous compositions. To my knowledge, no other researcher has documented these new rock paintings or attempted to shed light on their potential meaning since Gay's initial work. In this brief report, I shall describe these two figures in an attempt to restore the archaeological significance of Juxtlahuaca Painting 1.

Juxtlahuaca Cave overlooks the Río Blanco valley and is located northeast of the modern village of Juxtlahuaca, in the Mexican state of Guerrero. Both the village and the site can be reached along a semi-paved road from the town of Colotlipa, which is located approximately 78 km to the east of the state capital, Chilpancingo. The cave is composed of travertine and contains extensive calcite formations in hues of white, pink, and yellow. Although vegetation makes the cave difficult to observe from the valley floor and there are no known surface sites in the immediate vicinity; evidence of human activity within the cave extends approximately 1500 m under the ground (Figure 1).
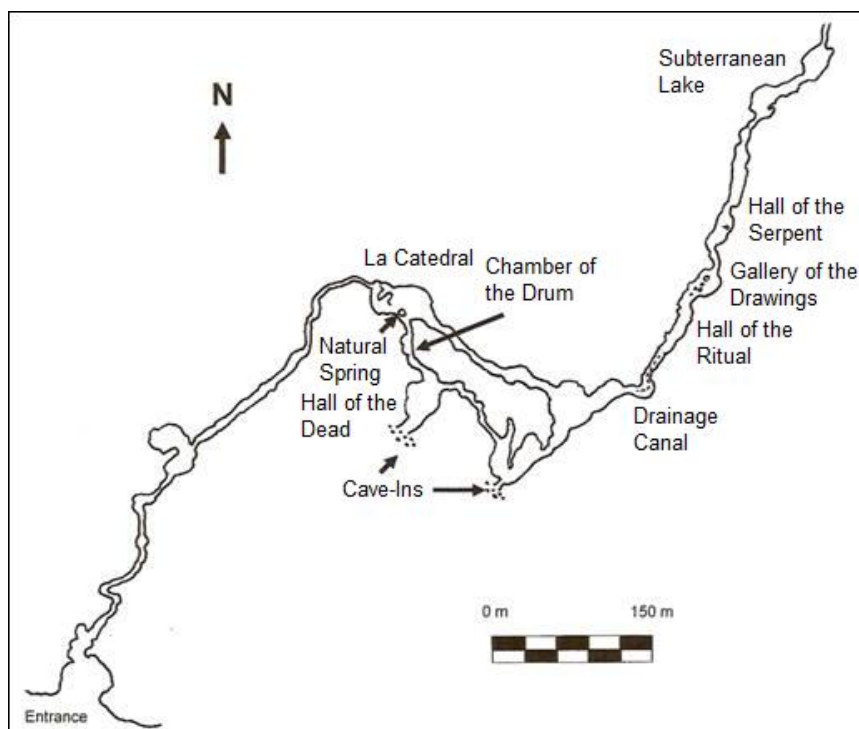

Figure 1: *Map of Juxtlahuaca Cave, Guerrero* (After Gay 1967, 31)

The Olmec-style rock paintings at Juxtlahuaca Cave were first documented by Carlo Gay and Gillett Griffin in 1966 (Gay 1967; Griffin 1967; Griffin 1981; Griffin 1982). Representing some of the earliest datable painted murals in Mesoamerica, these rock paintings soon drew the attention of other scholars (Coe 1968; Coe 2005; de la Fuente 1999; Foncerrada de Molina 1972; Freeman 1994; Greer and Greer 1998; Grove 1967; Grove 1970; Grove 2000; Niederberger Betton 1996; Stone 1995).

Although the cave contains paintings of a serpent (Juxtlahuaca Painting 2) and a feline (Juxtlahuaca Painting 3) in addition to several other drawings (Gay 1967, 30-35; Griffin 1981, 211, Figure 3; Grove 1967, 39; Stone 1995, 47), the most well-known rock painting at the site (Juxtlahuaca Painting 1) depicts a ruler clad in elaborate clothing, including jaguar skins, a striped tunic, and a headdress topped with blue-green plumes (Figure 2). This imposing figure stands in marked contrast to a much smaller, seated figure to the east of the ruler. This seated figure is dressed in red, wears a dark mask, and is shown holding an object.

Juxtlahuaca Painting 1

Located on the right wall as you enter the so-called 'Gallery of Drawings', Painting 1 consists of a mural containing four distinct anthropomorphic figures (hereafter designated as Figures A, B, C, and D in order from east to west). Figures A and B are the most well-known and were first reported by Carlo Gay and Frances Pratt in 1967 (Figure 2).
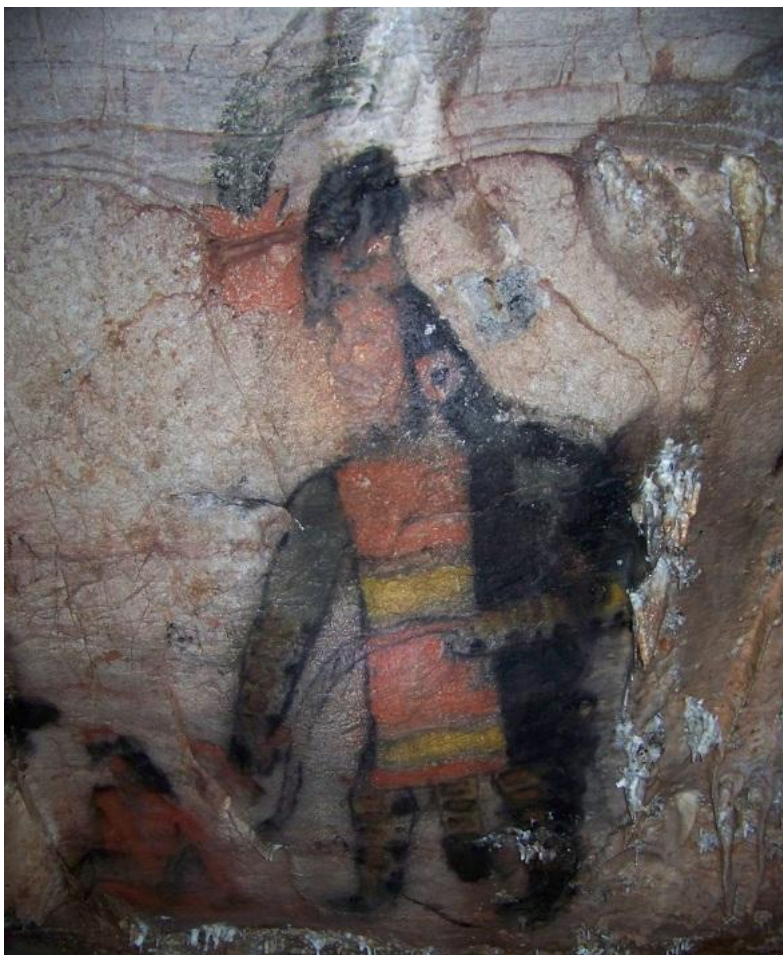

Figure 2: *Photograph of Juxtlahuaca Painting 1, Figures A and B* (Image Copyright: Arnaud F. Lambert)

Figure A depicts a reddish, seated human figure rendered in frontal view. This personage is disproportionately small compared to the other figures in the mural. The figure's head is shown in profile, apparently masked. A single red plume extends from the figure's head. In addition, the personage depicted in Figure A is seated in a cross-legged position and appears to be holding a small object, possibly a bundle or ceremonial bar.

Figure B faces Figure A and consists of a much larger standing figure interpreted as a ruler, perhaps a divine impersonator or a person of high social standing transforming into their animal alter ego (Stone 1995, 47; Reilly and Garber 2003, 136). The figure is shown in frontal view but the head is rendered in profile. As befits his high status, this personage is dressed in elaborate clothing consisting of a tunic with red and tan stripes, a black cloak, a black headdress or cowl decorated with blue-green feathers and a circular ear ornament, as well as arm and leg sheaths decorated with jaguar skins. A large jaguar's tail is displayed between the ruler's legs. This figure is also shown holding a rope-like object in his left hand and a barbed object in his right hand.

Figures C and D were originally found by Carlo Gay and his party in 1968 (Gay 1972, 48). Figure C consists of a highly eroded monochrome depiction of a human personage rendered in profile view and outlined with black pigment. The visible sections of the figure include sections of an elaborate headdress and a black cowl covering the back of the figure's head, as well as the figure's arms and upper torso. The figure's lower torso and legs are missing (Figure 3).

Figure 3: *Photograph of Juxtlahuaca Painting 1, Figure C* (Image Copyright: Arnaud F. Lambert)

Taken as a whole, the personage in Figure C appears to be leaning forward on their arms in a manner reminiscent of the high relief carvings of niche figures on the thrones from the Gulf Coast lowlands, such as La Venta Altar 4 (Stirling 1943, Plate 37a). Apart from the headdress, the figure appears to be relatively undecorated. The headdress consists of a large rectangular panel decorated with three circles arranged in a horizontal line, the outline of an anthropomorphic diadem, and a tassel towards the rear of the headdress (Figure 4). The figure's black cowl is similar in form to the cowl seen on Figure B although no ear ornament is present in Figure C. A collar is also faintly visible under the figure's jaw line.
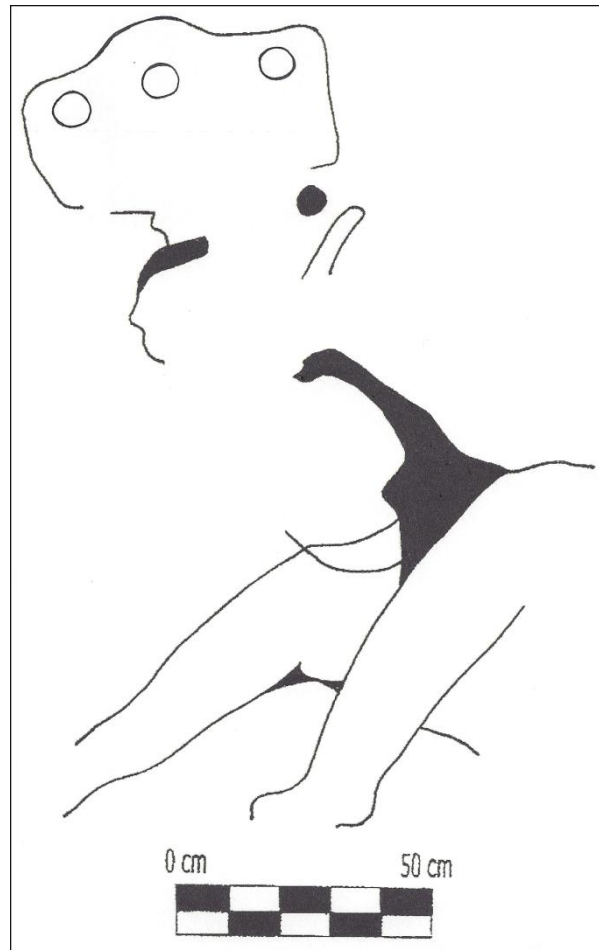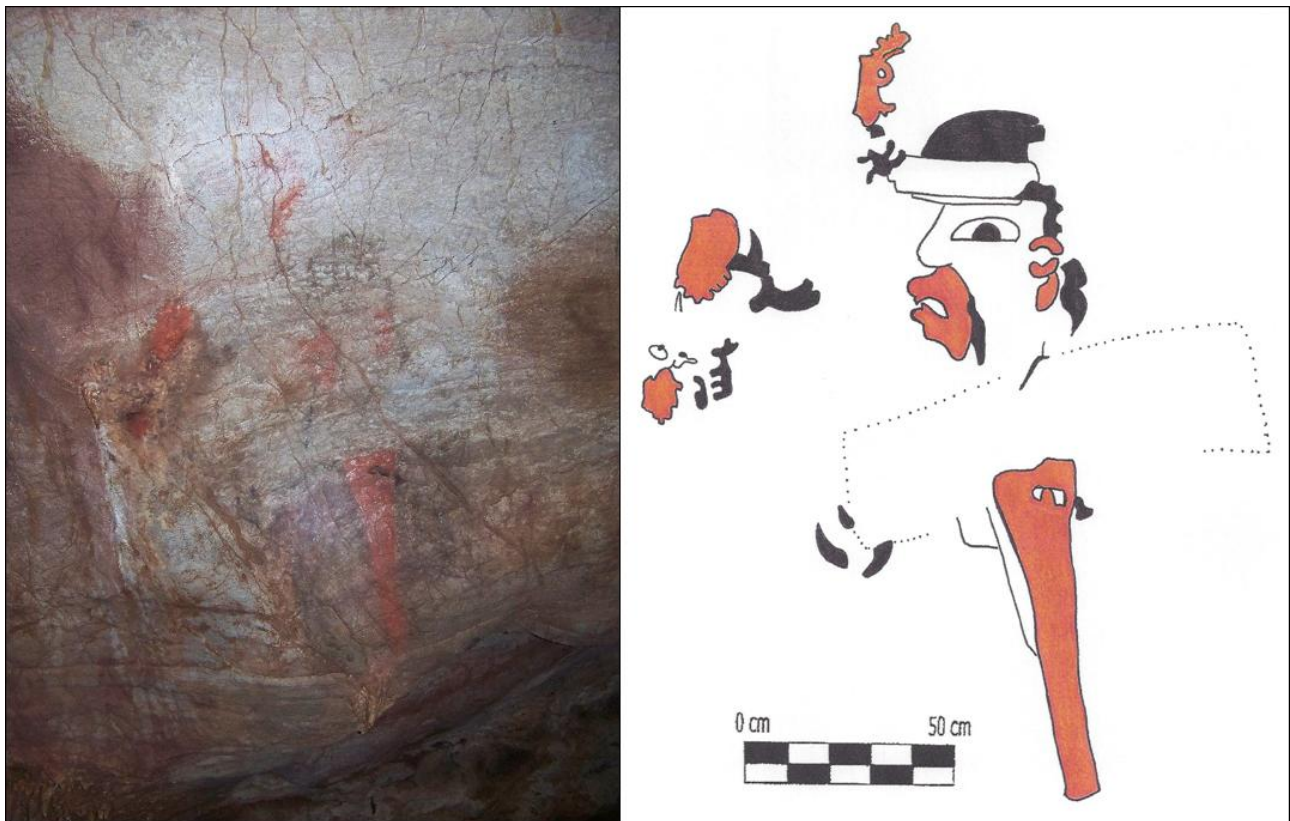

Figure 4: *Scale drawing of Juxtlahuaca Painting 1, Figure C* (Image Copyright: Arnaud F. Lambert)

Although also highly eroded, Figure D is a polychrome rock painting (Figure 5). Gay's original rendition and description of this painting suggested that it consisted of a human figure decorated with an orange-red pigment and clothing outlined in black paint (Gay 1972, 51, Figure 21a). A re-examination of Figure D suggests a different interpretation of the subject matter.

Based on careful analysis of the remains of the painting, it appears that Figure D depicts a masked anthropomorphic character, rendered in profile view and holding a large rectangular object whose outlines are visible only in relation to the surviving portions of the painting (Figure 6). The human figure is decorated with a large round black headdress with orange plumes in the front. The figure's eye is almond-shaped. The buccal mask is rendered in orange pigment and is similar to the fanged zoomorphic masks worn by the carved figures in Chalcatzingo Monument 2 (Angulo 1987, 143, Figure 10.14a). The back of the figure's head consists of an undulating black cowl along with an orange ear ornament.

Figures 5-6 (L-R): *Photograph and scale drawing of Juxtlahuaca Painting 1, Figure D* (Image Copyright: Arnaud F. Lambert)

Three sharp finger-like projections are visible to the east of the figure. These appear to be holding the rectangular object. A single reddish projection, possibly a highly schematised leg, is also shown descending from the area of the rectangular object, although no feet are discernable. The probable outlines of a hip cloth or loin cloth are depicted next to this schematic leg.

Finally, a series of red and black designs are visible between Figures C and D. These are located close to Figure D and were probably originally associated with this rock painting. The black designs appear to represent the remnants of a tassel, two eyes, and an undulating black cowl. Although the upper red design is indistinct, the lower red design may depict a buccal mask. If these observations are correct, then this small painting may originally have been a miniature copy of Figure D.

A new interpretation of Juxtlahuaca Painting 1

Based on his observations, Carlo Gay (1972, 48) argued that the four figures in Juxtlahuaca Painting 1 mirror the position and posture of the figures in Chalcatzingo Monument 2. In both cases, an outlying figure is shown in a seated or recumbent position and is confronted by three other figures with more commanding postures as well as other markers of elite status. As such, Juxtlahuaca Painting 1 may present the viewer with a narrative scene involving four personages participating in a ritual linked to an iconography of power.

By contrast, my observations suggest a slightly different interpretation of Juxtlahuaca Painting 1 in which the mural consists of three separate groups, each with its own theme. The first two personages, Figures A and B, form the first group. In this grouping, Figure B is shown with many of the material trappings of elite status, i.e. elaborate clothing (such as the plumed headdress and jaguar pelt), and being depicted as much larger than the seated figure represented by Figure A. This suggests that the painters of Figures A and B were familiar with a common trope in Formative and Classic period imagery to mark distinctions in rank or social condition (i.e. authority/follower, captor/captive, or main personage/attendant) (2).

The second group is made up of Figure C and appears to refer to another common trope in Olmec-style art, i.e. a ruler or ancestor emerging from a cave or niche (3). The posture of the figure is identical to the niche figures found on La Venta Altar 4 (Stirling 1943, Plate 37a), San Lorenzo Monument 14 (Cyphers 2004, 71, Figure 30), and Chalcatzingo Monument 13 (Angulo 1987, 141, Figure 10.12). Furthermore, the figure's elaborate headdress and diadem suggest that Figure C rendered an elite personage, possibly a ruler. This pattern suggests that the painters of Figure C were aware of the associations of cave imagery with rulership.

Finally, the third group consists primarily of Figure D but may also involve the small polychrome design to the east of the figure. This scene refers to yet another common trope to legitimise elite status, i.e. a ruler bearing a ceremonial bar. Although a similar scene involving the seated figure of a ruler is depicted in Chalcatzingo Monument 1 (Angulo 1987, 137, Figure 10.8), closer parallels are to be found on the jade celts from Río Pesquero in the Gulf Coast lowlands of Veracruz (Figure 7). In both of these examples, a ruler with an elaborate plumed headdress, circular ear ornament and a buccal zoomorphic mask is shown holding a ceremonial bar. Moreover, in at least one example (Figure 7a), the ruler is shown with schematic legs just like Figure D from Juxtlahuaca. Taken together, these correspondences suggest that the painters of Figure D had been previously exposed to this theme from Middle Formative period rock carvings and celts.
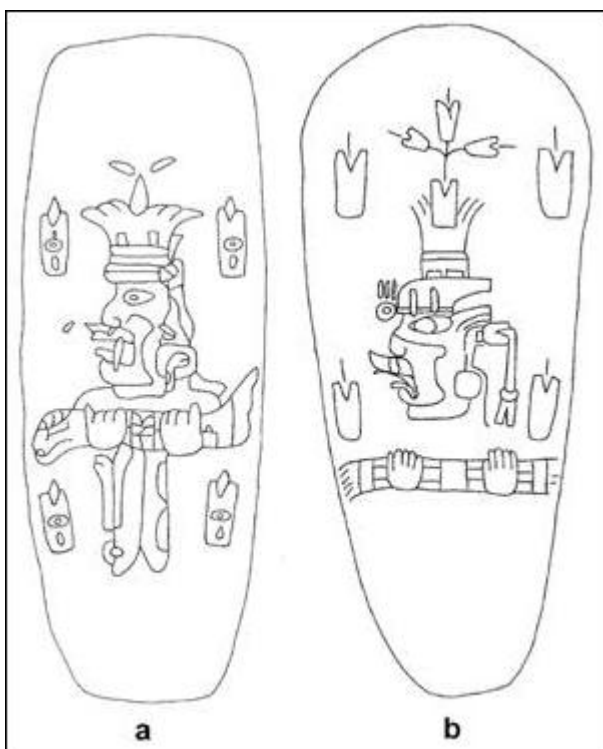

Figure 7: *Figures holding Ceremonial Bars in the Olmec-style art of the Gulf Coast Lowlands: (a) a jade celt from Río Pesquero (Museo de Xalapa, Veracruz, Mexico); and (b) a jade celt from Río Pesquero (after Joralemon 1976, 41, Figure 8e). Drawings are not to scale* (Image Copyright: Arnaud F. Lambert)

Conclusions

Although it is difficult to arrive at any definitive conclusions regarding the ultimate meaning that Juxtlahuaca Painting 1 held for the peoples of Formative Guerrero, with the fragmentary nature of the data making alternative interpretations possible, this report has attempted to help the scholarly community re-imagine the significance of this famous Olmec-style mural by providing new descriptions of Figures C and D.

In so doing, it has become clear that Juxtlahuaca Painting 1 did not form a single cohesive narrative as was originally envisioned by Carlo Gay (1972). Rather, it appears that this mural actually consists of three distinct groups of paintings, each representing a common trope in Olmec-style art. Figures A and B seem to refer to the use of an iconography of power which differentiates between rulers and followers by their relative sizes; while Figure C represents a ruler emerging from a cave and Figure D appears to show an elite personage holding a ceremonial bar. If this interpretation is correct, then it is probable that the distinct groups of rock paintings which compose Juxtlahuaca Painting 1 were made by separate rulers over a long period of time as a way to assert their right to rule or by a single ruler attempting to legitimate his or her status by using different artistic tropes.

These possibilities further suggest that the deployment of Olmec-style art at Juxtlahuaca cave, perhaps along with its use at Oxtotitlán and Cauadzidziqui, represents dynamic, site-specific strategies by which Formative period rulers sought to augment their relative status vis-a-vis other individuals or groups in their respective Formative period communities. It is therefore important to consider the likelihood that the painted caves of eastern Guerrero were not simply the loci of ritual activity but were also sites of symbolic conflict.

Notes

1. The observations described in this paper were made during two visits to Juxtlahuaca Cave in January and March 2010.

2. Other examples of this well-known trope in Olmec-style art include La Venta Stela 2 (Drucker 1952, 174, Figure 49), Carving B from Pijijiapan Boulder 2 (Navarrete 1974, 6-7, Figures 4-5), and Cauadzidziqui Paintings 1 and 2 (Villela 1989, 42, Figure 2).

3. By depicting human beings sitting within or emerging out of niches, niche figures have been interpreted as symbolic references to the act of emerging from the underworld (see Grove 1973; Stone 1995).

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A review of CHAT 2012: Why Historical and Contemporary Archaeology might be more than you thought

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When given the opportunity to review The Contemporary and Historical Archaeology Conference (CHAT) 2012, I decided I wanted to do more than simply describe this unique conference. The pervasive theme that struck me throughout the three days was the direct importance and relevance each talk had to modern day societies, ranging from discussions about roundabouts through to the Chernobyl disaster, and the material study of artefacts in charity shops. This was a unique conference, delivering an inescapable and striking analysis of certain aspects of modern day society, and asking poignant questions about the very manner in which we conduct archaeology. It is this relevance and uniqueness that I hope comes through in this review, which is by no means a comprehensive rhetoric of what was spoken about (a full timetable is available here http://tinyurl.com/ckgdjwj), but rather a brief overview of particular talks which stood out from what was overall a wonderful conference.

CHAT being held in York for the first time in its ten year history, allowed myself and fellow University of York students to listen to some of the greatest academics in Contemporary and Historical archaeology, for a mere £20. The conference was kicked off by York's very own Kate Giles, with members of the CHAT 2012 organising team, led by York PhD student Hilary Patterson. From the off the conference was fun and lively, with Dr. Gabriel Moshenska using his enigmatic sounding "uncle benny" to reveal the value and importance of understanding that much of archaeology has close ties with the process of Reverse Engineering, where archaeologists investigate how and why objects have been made. Understanding that archaeology involves a process of working backwards from the final result, and that these steps are fraught with difficulty, emphasises the need to ask the right people the right questions. When deciphering the more recent past, which involves complex technologies, understanding these construction methods can often only be done through oral histories; talking to those who have knowledge and experience in this area (Moshenska 2012).

The archaeology of our relationship with the internet was the focus of the next talk. Much of our lives are spent online and there will be very few of those in the world of higher education who do not go online at least once a day, therefore it is essential to ask: 'how can we understand the way in which this major presence in our lives changes the way we think and act about the world?'. Dr. Ross Wilson gave a presentation on evaluating the way online coding changes how consumers interpret the information being portrayed; the idea that one subtle change in coding can alter the way a website is perceived. We all use

the internet, and I for one don't think twice about the way information is being given to me, or the way that this changes my perception of it. Web analysis is not a new concept, however, little to no work has been done on evaluating the coding used to provide the information we rely on. This work encourages us to question "why is information being portrayed in this way?" and to contemplate the impact of unseen words on our everyday lives (Wilson 2012).

Outside this virtual world there are other constants that we all experience and yet barely ever consider, and Dr. Matt Edgeworth's talk on the wonders of roundabouts discussed one of them. Ever since having a picnic on what is claimed to be the UKs first roundabout in Letchworth (Figure 1), I have held a soft spot for roundabouts, and my excitement was therefore palpable when given the opportunity to listen to Dr. Edgeworth and the notion of roundabouts as 'Non-Places'; areas which are more often than not, devoid of activity (excluding the odd picnicker). Yet conversely, roundabouts are centres, which we revolve around. We have all experienced these places, yet never for themselves. We can see further examples of this notion such as motorways, hotel rooms and escalators, all of which are areas that we have experienced but never with an emotional link or significance. The question as to why these areas are not considered in this way are complex and it was not Dr. Edgeworth's aim to answer these within his talk (for those interested, Marc Agué's 2008 book *Non-Places: An introduction to an anthropology of supermodernity* is considered an excellent introduction), but rather to increase our awareness that when we view both our past and present landscapes, the way in which we interpret and understand space is by no means simple (Edgeworth 2012).

Figure 1: *Letchworth roundabout, claimed to be the UK's first roundabout, circa 1909* (Image Copyright: Creative Commons)

As well as observing roundabouts, most of us have discovered the sheer joy of charity shops, where you can find truly remarkable purchases for absurdly low prices. To this day the greatest purchase of my life remains a £2.99 coffee maker. It does however require an original perspective to take a charity shop and turn it into an archaeological site, this being exactly what Mr. Ralph Mills has done and what he presented to the audience in the second afternoon session of the conference. Mills is studying the materials left behind in charity shops and the purchases of shoppers, with fascinating results. The items that are bought from charity shops have undergone a remarkable change in perceived value over their lifetime. At one point they were considered valuable enough to be bought, then of little enough value to be given away for free, but not so worthless as to be thrown away. Yet they are still important enough to be displayed and valued by charity shops and valued enough by another to be purchased again. The importance we place on different items changes depending on whom we are and our experience with those items, but to what extent are these universal?

Mills has looked at the stock of charity shops (Figure 2) from varying socioeconomic areas and shown that there seem to be trends developing in certain areas as to the nature of materials being bought and sold. Mills has revealed how the study of artefacts in order to determine social status and social groups is as relevant today as it is to the past, even with the advent of mass production. It also allows us to understand regions on a different cultural level compared to that of the numerically driven system, such as average wage or house pricing. Understanding our current relationships with objects is an area of research that I would suggest has the potential to reveal much about the world we live in today, and the work here by Mills takes us a significant step closer towards this understanding (Mills 2012).

Figure 2: *Why do so many people buy seemingly worthless bric-a-brac?* (Image Copyright: Creative Commons)

The final talk in this review was one of the most moving and interesting talks of the session; Robert Maxwell's work on the Chernobyl exclusion zone provided a unique insight into possibly the most emotive region on earth. Maxwell's field work has taken him to this unique part of the world to evaluate what physical changes have occurred to the town surrounding the nuclear power plant since its evacuation in April 1986. Understanding how the site has been used by graffiti artists, looters and those coming to perform remedial and observation work on the site all help to build up a picture of the way in which this now deserted town is being used. An understanding of the physical condition of the Chernobyl exclusion area, arguably the site of one of the most important events in the late 20th Century, gives us a unique insight into what happens when this form of disaster strikes (Maxwell 2012).

A review of a conference would not be complete without mention of the social joys that a conference such as this affords. The cheese and wine reception at Barley Hall led to some fantastic archaeological discussion, which possibly left me more confused than when we began, but was wonderful all the same; as was the opportunity to go for a meal with many of the delegates and speakers.

Whilst the purpose of this review is not to persuade people to come to next year's CHAT, nor truly to win people over to the 'side' of Contemporary and Historical Archaeology, I nevertheless hope that it has shown the breadth offered within such a conference; from analysis of areas, including the use of space and the study of disaster zones, and things that we use every day, to a view on the way archaeology operates across many periods. This conference has allowed an insight into the present and the past that is relevant on a great number of levels, as well as simply being huge amounts of fun.

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Recommended further reading

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Something for everyone: a ritualistic interpretation of Bronze Age burnt mounds from an ethnographic perspective

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Burnt mounds are among the most enigmatic archaeological features found across the British Isles. This paper provides an overview of current theories regarding their use, drawing on ethnographic comparisons with societies of varying complexity in North America, the Urals and the Teotihuacán cultural complex. A new approach to research and interpretation in this field is illustrated through a case study of a Bronze Age section of Barningham Moor, Teesdale, Yorkshire, UK, in which a burnt mound is analysed in the context of monuments and landscape features surrounding it. This example is used to support the view that burnt mounds were inherently multi-functional, and had ritual meaning symbolising connections with nature and the spirit world that were in no way less significant than their practical use.

Introduction

Burnt mounds, also known as *Fulacht Fiadh* in Ireland, are widely distributed throughout the British Isles. They consist of two low ridges rarely exceeding 1m in height, and separated by a distinctive trough. The overall diameter of the main feature rarely exceeds 9m, with trough volume typically near $1m^2$ (Barfield and Hodder 1987, 371). Frequently the ridges are so inconspicuous that the entire monument can only be identified by vegetation growing over the underlying rock, which may differ substantially from the surrounding plant cover (Laurie 2003, 244). On excavation, such sites reveal numerous pieces of heat-cracked sandstone within the ridges, with the lithology indicative of repeated contact with water (Quinn and Moore 2007, 8). Usually these stones are accompanied by a thick layer of charcoal and evidence of hearths around the perimeter of the monument.

The central trough is always linked to a nearby stream, usually fed by a spring in the immediate vicinity of the burnt mound, thus indicating that its function was water storage. The trough may also be lined with wooden planks or clay to enhance the impermeability of its sides (Chapple 2007, 30). From this, one can infer that the sites were used to heat stones, which would then either be sprayed by water from the trough or thrown directly into it, considerably raising its temperature and likely generating vast quantities of steam. Many theories attempt to explain these activities: cooking, brewing, bathing and a host of ritual explanations have all been suggested. However, one observation is especially significant: construction of burnt mounds closely coincides with the beginning of the Bronze Age in the early 2nd millennium BCE (Brindley *et al*. 1989, 28).

The onset of the Bronze Age marked significant changes in social dynamics across European societies. New, metal agricultural tools led to cultivation of previously marginal land, including upland areas, sparking both population growth and providing opportunities for colonising previously uninhabited tracts (Kristiansen and Larsson 2005, 141). The Yorkshire Dales, which are particularly rich in burnt mounds, are a good example: long-term permanent or transhumant settlements were for the first time established high on the valley slopes, with the population living over a much wider range of latitudes and physical environments as compared to the Neolithic (Manby *et al*. 2003, 83).

New opportunities for travel, marked by bronze-induced advances in boat-building, cart manufacture and the advent of metal equine harnesses (Harding 2000, 170) enabled communities to widen their horizons even further, with both goods and people moving from Britain to as far as the Mediterranean coast, and vice versa (Scarre 2005, 421).

There may also have been a fundamental shift in the nature of religion: agriculture was continuously expanding at the expense of older hunter-gathering methods, and ethnographic studies of modern Siberian societies going through similar transitions suggest that this may have led to the replacement of itinerant, totemic faunal cults, with worship of inanimate elements of prime importance to early farmers, such as water, light and soil (Khlobystina 1971, 169). At the same time, increased efficiency in agricultural modes of production and more stable food surplus provision may have encouraged the development of a larger class of specialised priests, forming the basis of more regulated communal worship (Kosven 1957, 206). The very nature of early bronze smelting may have enhanced this further: smiths producing the all-important metal through control of fire were perhaps important figures within the new cults, seen as individuals whose esoteric knowledge allowed them to blur the boundaries between practical and spiritual aspects of daily life (Budd and Taylor 1995, 140).

It is at this important time of change in both material and probably spiritual culture that burnt mounds first appear in the archaeological record of northern Europe and the British Isles, and their close spatial correlation to finds of Bronze Age metalwork has recently been highlighted, further emphasising this point (Laurie 2003, 246). An outline of different interpretations, and how they may fit in to this wider framework of gradual social transformation, is given below.

Burnt mounds as cooking places?

Perhaps the most common interpretation, dominating burnt mound research until the last two decades of the twentieth century, argued for a function of boiling or steaming food (Barfield and Hodder 1987, 371). Recent studies of sites in Ulster, Ireland, led to an experiment in which a reconstructed burnt mound of standard size was shown to successfully boil a full trough of water in 35 minutes, potentially providing a quick and straightforward way of cooking vast quantities of meat without risk of burning it on open flames (Chapple 2007, 32).

Further corroborating evidence is found in Geoffrey Keating's early seventeenth century history of Ireland, Foras Feasa ar Éirinn, which describes a pre-Christian tradition of hunters boiling meat in earthen pits, and a late medieval ecclesiastical biography of the Irish St. Munnu, describing the boiling of porridge on fire-heated stones (O'Neill 2003, 80). Interesting comparisons have also been made with descriptions of food boiling in medieval Norse and Icelandic compositions (Barfield and Hodder 1987, 378). In recent years, this hypothesis has been further developed by suggestions that troughs could be used to sparge wort for early mead brewing (Quinn and Moore 2007, 9), perhaps alongside conventional cooking.

The cooking hypothesis is, however, rendered less convincing by the near absolute lack of animal bone or plant material within the troughs, and the finds which have been made appear to belong to later archaeological strata (Barfield and Hodder 1987, 371). Moreover, the location of many burnt mounds on marshy upland terrain makes the notion of cooking somewhat unlikely: the prospect of carrying large quantities of food to such inconvenient areas seems unappealing (Brindley *et al*. 1989, 25). Proponents of this view have argued that the lack of animal material is likely due to preferential decay associated with elevated soil acidity, which is a key feature of burnt mound sites (Chapple 2007, 32).

Similarly, one can argue that the current terrain surrounding burnt mounds does not reflect the Bronze Age landscape, with sites easier to access at that time. The related brewing hypothesis has also been bolstered by finds of Middle Bronze Age food vessels containing probable mead residues on Machrie Moor, Arran and across Perthshire, Scotland (Quinn and Moore 2007, 9).

Even accepting the taphonomic explanation for a lack of organic remains, it must still be noted that sites would only be worth the labour investment of creating them if very large amounts of food or beer required processing very rapidly (Brindley *et al*. 1989, 25). For instance, a standard burnt mound used for brewing purposes could produce an estimated 110 litres of beer if its trough were fully filled (Quinn and Moore 2007, 11). This would require a demand which small-scale subsistence economies of the north European Bronze Age were unlikely to produce.

Considering this, it also seems possible to interpret the writings of Keating and the ecclesiastical historians differently (O'Neill 2003, 81): writing many millennia after the structures had come out of use, they may have merely been making educated suggestions based on their own experiences of larger scale food production. Consequently their work may not offer a reliable indication of genuine practices (Chapple 2007, 32).

Finally, it is worth adding that the cooking hypothesis fails to explain why burnt mounds should have arisen specifically in the Early Bronze Age, and why this method had suddenly become preferable to earlier techniques used in the Neolithic. Overall, while the cooking hypothesis can by no means be discounted, there is ample scope for alternative interpretations.

Burnt mounds as sweathouses?

An alternative interpretation that has gained popularity in recent years is that burnt mounds are the remains of Bronze Age sweathouses (Laurie 2003, 224). The ridges may have supported a simple, possibly portable wooden carcass covered with hides (Barfield and Hodder 1987, 372); such structures are described in Herodotus' Histories in an ethnography of 5th century BCE Scythian people, and it is possible that the sweathouse tradition extended across much wider sections of Europe in the Bronze Age.

More recent ethnographic comparisons have been made to the sweathouses of Missouri Mandan Indians (Laurie 2003, 244), noted for making small enclosures of furs pulled over a wooden framework, covering hearths with stones placed over them. Water poured over the stones generates vast quantities of steam within the small space, which may contain up to three people (Kosven 1957, 150). Similar buildings have also been found until comparatively modern times in isolated societies of northern Russia, Finland and Ireland (Barfield and Hodder 1987, 373), underlining just how widespread the phenomenon is.

Proponents of the sweathouse idea argue that the lack of finds on burnt mound sites fits the ephemeral nature of a timber superstructure (Laurie 2003, 246). It can also be argued that their isolated location would be much more appropriate for secluded bathing than for large-scale food processing, with its associated logistical issues. Furthermore, a $1m^2$ water trough may be too large for standard cooking purposes (Brindley *et al*. 1989, 25), but might be a much more suitable size for wallowing or simply generating a steam cloud to trigger perspiration.

However, this interpretation on its own still leaves many unanswered questions. Firstly, from an archaeological perspective the physical remains of known sweathouses from the cultures cited above cannot be easily matched to burnt mounds (Kosven 1957, 150). Moreover, as with the cooking hypothesis, there is no obvious reason as to why sweathouses should have gained popularity at the start of the Bronze Age, or why their locations should correlate to finds of contemporary metalwork (Laurie 2003, 246).

Having said this, the interpretation does become more convincing once its major ritual connotations are taken into account. In all these ethnographic studies, it has been found that the process of immersion in steam has great ceremonial and spiritual value, with the vapours often being imbued with hallucinogens such as cannabis or agaric mushroom extract (Kosven 1957, 150). Consequently, the sweathouse may be seen as a place providing not only physical purification, but also an "inner cleansing of mind and spirit" (Laurie 2003, 224). In this context, the appearance of burnt mounds during the Bronze Age becomes easier to explain: they may have been part of the wider changes in theology and worship that were characteristic of the period. This crucial ritual aspect, centred on now-intangible belief and ceremony (Leroi-Gourhan 1964, 86), is discussed in the next section.

Possible ritual aspects of burnt mound use

Interpretations stressing the ritual role of burnt mounds are normally broadly concurrent with the sweathouse hypothesis (Laurie 2003, 224); however the emphasis is on the symbolic rather than the practical. The possible ethnographic parallel with the Mandan Indians shows how the sweathouse may be deemed a portal into a spiritual beyond - hot, steamy conditions are combined with cannabis to generate an altered state of consciousness, where participants may not recognise one another as humans but instead perceive their companions as spirits, or interpret the sound of water as speech emanating from another world (Kosven 1957, 150).

Another example is the sweathouse cults of southern Siberia, still prevalent in early modern times, which are associated with "cosmic chase" theology (Khlobystina 1971, 173). In traditional belief, each day the sun is hounded and eventually swallowed by a bear-like demon, but re-emerges in the morning to start the cycle afresh. The sweathouse transfers this theology to the individual: participants enter dirty and enveloped in chaos, like the sun at dusk, but exit fresh and reinvigorated, like the sun at dawn.

Consequently, the sweathouse is acting as a "micro-cosmos" (Leroi-Gourhan 1964, 88), embodying the entire world order in a definable sacred space which offers a fresh start and new hope to whoever may enter. Such sweathouses are also used to communicate with the celestial elk, a theriomorphic deity believed to carry the sun on its horns (Ivanov 2010, 65). These examples from recent ethnographies would therefore suggest that if burnt mounds did indeed have a sweathouse function, they would almost certainly have had ritual significance.

Alongside generating altered consciousness, it is worth considering the role of water more generally within the burnt mound complex. Water-based religions were prominent in the Bronze Age of northern Europe (Manby *et al*. 2003, 95), as evidenced by the numerous documented finds of underwater metal offerings, and recent ethnographic studies in Siberia which highlight spiritual links between rivers and the netherworld up to the present day (Ivanov 2010, 37).

However, perhaps most significant is the proximity of almost all known burnt mound sites to spring rises (Laurie 2003, 224), which may be interpreted as gateways into parallel subterranean existence. A relevant ethnographic comparison may be the classic phase of the Mesoamerican Teotihuacán cultural complex (Millon 1993, 22): an entire city centred on a spring located beneath the famous Sun Pyramid. The spring emerged from a cave believed to be the cradle of humanity, and formed a liminal zone between the earthly world of the living and the watery world of the deceased (Sugiyama 1993, 112). The orientation of all the buildings in the city was closely connected with the direction in which the spring waters flowed (Linné 1934, 34), and altars to running water were frequently set up in the domestic compounds (Manzanilla 1993, 96). Thus, the Teotihuacán example illustrates how springs may be steeped in theology and cosmology, and adds an extra dimension to ritualistic interpretations of cult activities at burnt mound sites.

This is supported by folklore linked to springs in Yorkshire, an area especially rich in burnt mounds, where such places were believed to have magical powers ranging from curing chronic disease to stimulating fertility and erotic love (Matthews 2011, 64). A sweathouse on a spring would therefore likely be a very potent spiritual focus, which fits in with the overall framework of probable theological change at the onset of the European Bronze Age.

Finally, it is worth briefly looking at burnt mounds from a perspective of ritual concentricity: the steaming trough in the centre, warm ridges around it, and a cooler world outside. Thus, the space may have become increasingly sacred moving inwards, with the spring perhaps deemed so holy that it was left a short distance outside the burnt mound. Alongside these three main concentric levels, it is noteworthy that a number of burnt mound sites, like this writer's study area on Barningham Moor, Yorkshire, are surrounded by stones marked with concentric ring patterns (Laurie 2003, 238). These stones occur within the same concentric landscape of anthropogenic monuments, and may have enhanced its ritual significance.

While the precise meaning of this possible correlation cannot be established, it certainly may indicate that the entire area encompassing the burnt mounds was in some way magical. An ethnographic parallel may also be drawn with the trance dances of the San people of the Kalahari desert (Connah 2005, 359), whose concentric rings of rock art represent entoptic phenomena - spirals which are apparently seen by participants in cult rituals involving the inhalation of smoke.

Meanwhile, a vast belt of Neolithic concentric rock art sites, which spreads across the centre of the former USSR, has been linked to astral observation (Golendukhin 1971, 186). All in all, it is possible that ceremonies within the vicinity of burnt mounds may have been linked to the surrounding landscape, as symbolised in the rock art.

Case study: a possible ritual complex focussed on a burnt mound on Barningham Moor, Teesdale, County Durham, UK

This range of ritual interpretations, alongside possible utilitarian aspects of burnt mound usage, may be best illustrated by the following case study of one line of monuments beneath How Talon Ridge on Barningham Moor (Figure 1).
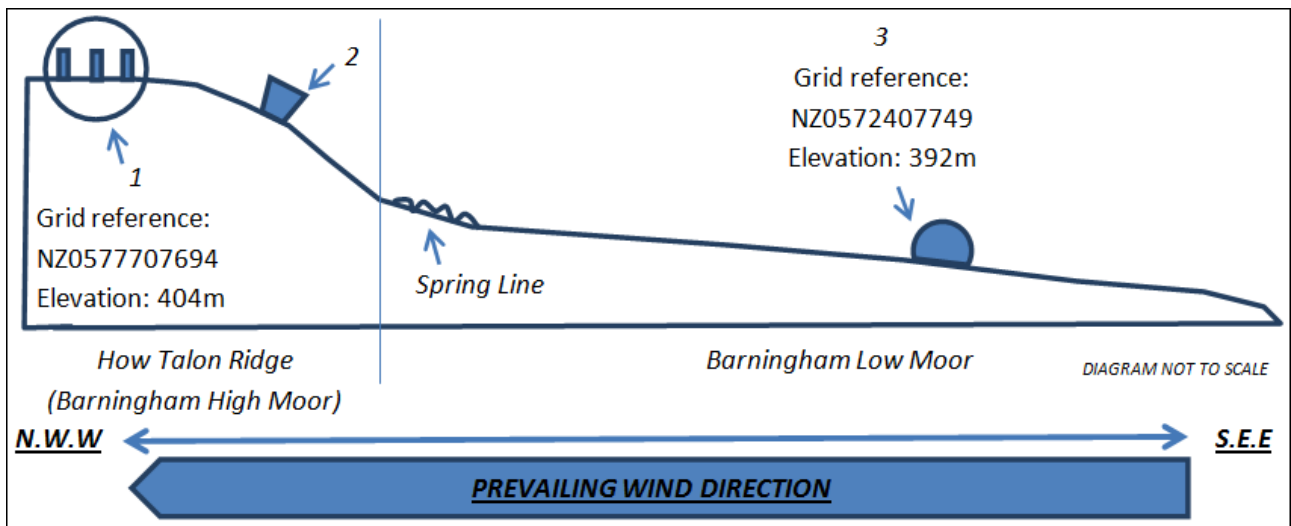
Figure 1: *SEE-NWW profile of Barningham Moor burnt mound site* (Image Copyright: Alex Loktionov)

1. **Ring cairn** with central standing stone (Figure 2), arranged as a probable Middle Bronze Age burial complex overlooking the main valley floor.
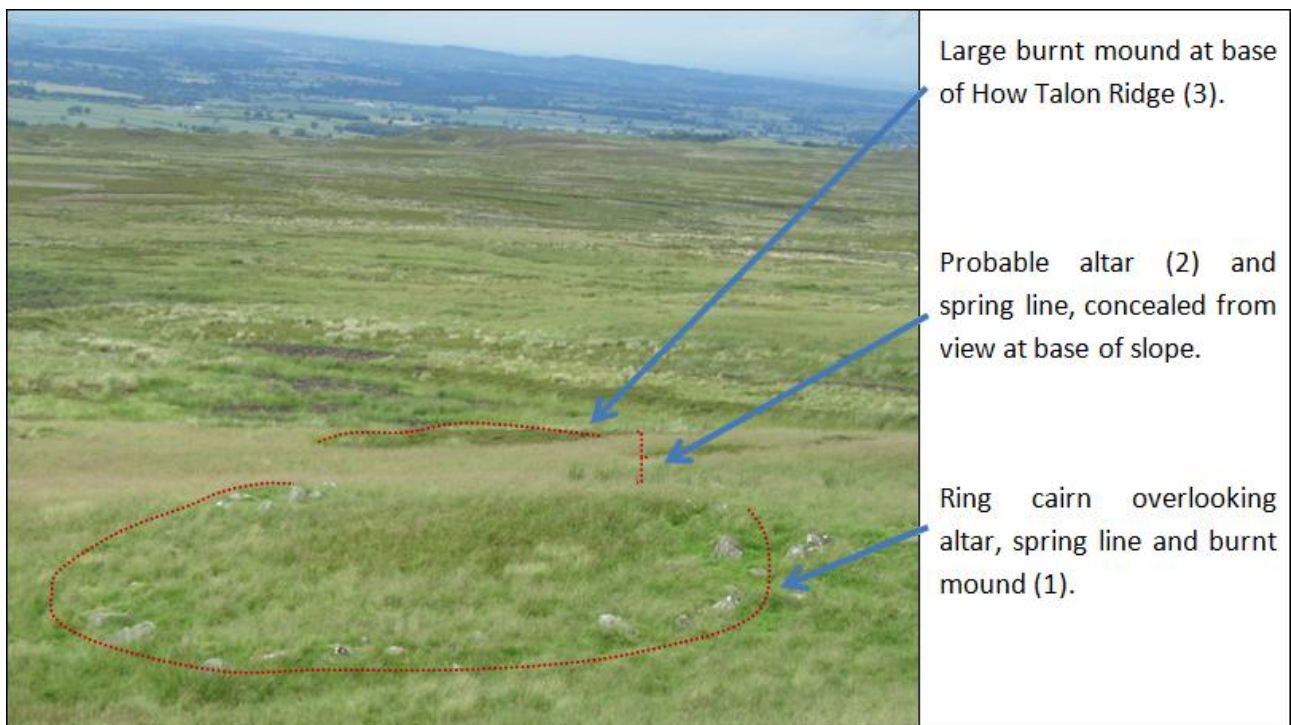

Figure 2: *Downhill view of ring cairn at Barningham Moor site* (Image Copyright: Alex Loktionov)

2. **Probable non-anthropogenic altar** (Figure 3) beneath ring cairn and above spring line, overlooking burnt mound and on a straight axis between ring cairn and burnt mound.
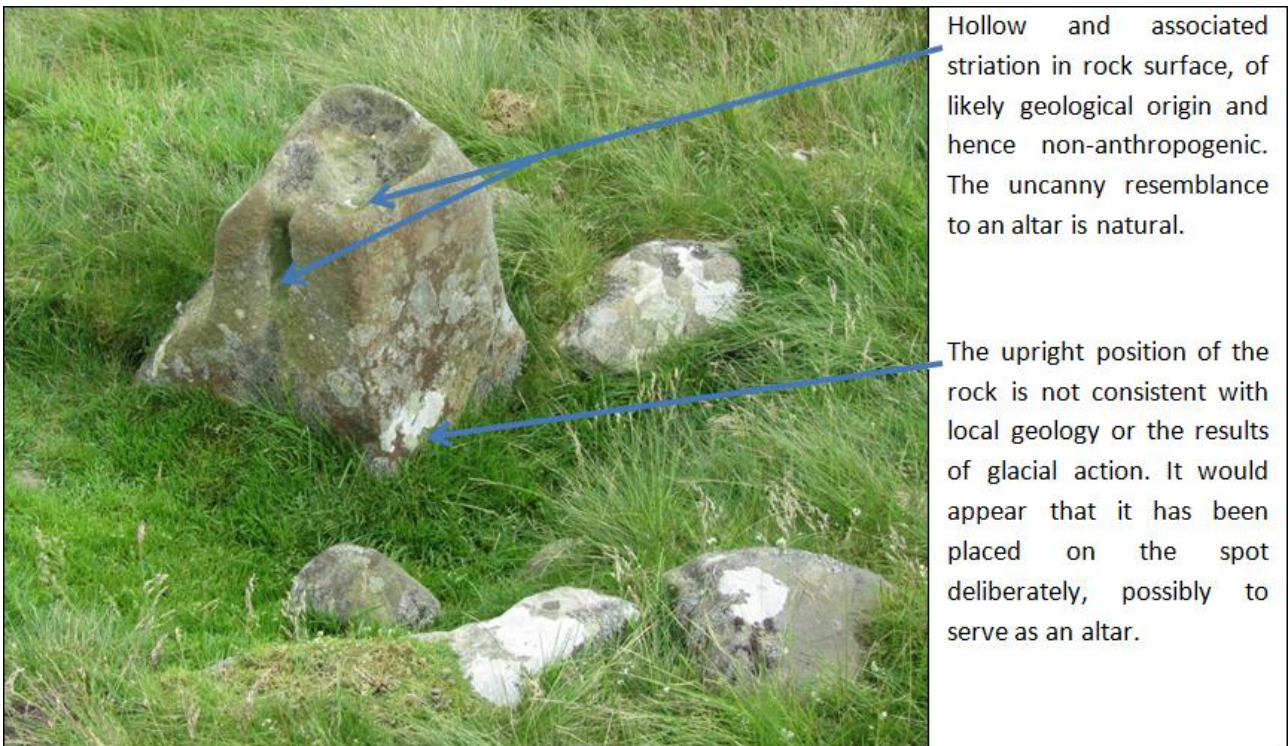
Hollow and associated striation in rock surface, of likely geological origin and hence non-anthropogenic. The uncanny resemblance to an altar is natural.

The upright position of the rock is not consistent with local geology or the results of glacial action. It would appear that it has been placed on the spot deliberately, possibly to serve as an altar.

Figure 3: *Probable non-anthropogenic altar at Barningham Moor site* (Image Copyright: Alex Loktionov)

3. **Large burnt mound** (Figure 4), over 14m in diameter, at the foot of How Talon Ridge.

Ring cairn (1).

Probable altar (2) on axis between ring cairn and burnt mound. The spring rise beneath it is concealed from view.

Twin ridges of large burnt mound (3), with spring-fed trough concealed between them.
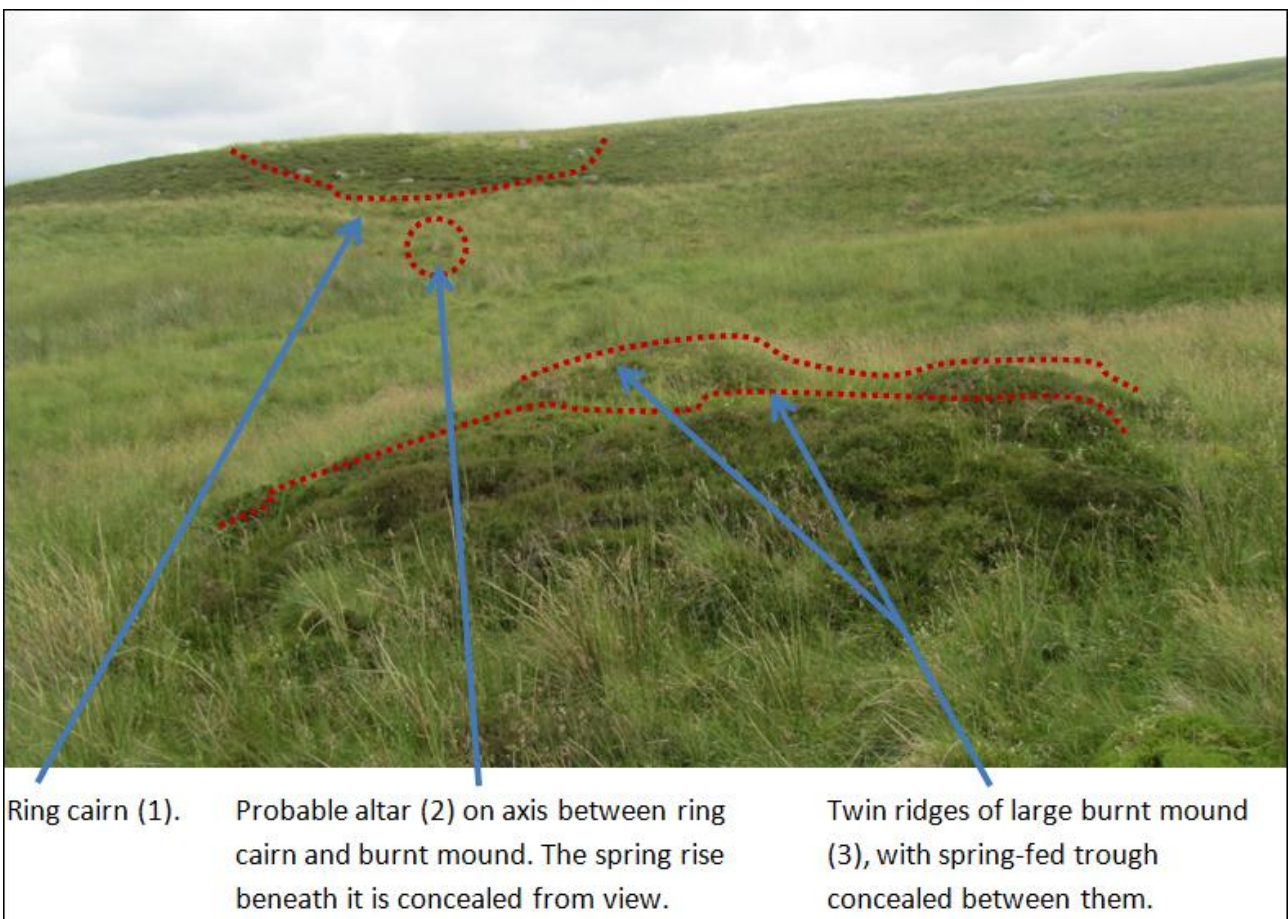
Figure 4: *Large burnt mound at the foot of How Talon Ridge* (Image Copyright: Alex Loktionov)

Site description and interpretation

As shown on the preceding diagram (Figure 1), the author proposes that the southeastern slope of How Talon Ridge on Barningham Moor contains an axis of Bronze Age monuments aligned in the direction of the prevailing wind. On the highest ground, there is a ring cairn of likely funerary function, not dissimilar to the larger, excavated mortuary centre at Danby Rigg, Yorkshire (Manby *et al*. 2003, 89), with a single standing stone a little lower down on the same slope. The shape of the stone is natural, but its upright position is the result of human effort, which adds credibility to the author's view that it may be a non-anthropogenic altar integrated into the wider monument complex. Beneath the standing stone, which is less than 1m in height, is a spring line marking the transition from subsurface drainage under the Great Scar limestone of How Talon Ridge to surface runoff over the quaternary deposits of Barningham Low Moor (Gaunt and Buckland 2003, 18). Beyond where the spring rises, there is a large burnt mound placed atop the impermeable geology and still on the same alignment.

A new ritual framework (Figure 5) shall now be proposed for interpreting these sites, which may shed new light on the wider usage of burnt mounds in other areas. The hypothesis is inspired by ethnographic studies of Siberian societies, including their use of sweathouses (Ivanov 2010, 69). In the Siberian cultural complex, which remained broadly intact until the 16th century and still retains influence among the modern indigenous population, water in its different states is frequently associated with the netherworld and may serve as a means of communication with deceased ancestors (Kosven 1957, 165). The Barningham Moor burnt mound, with its likely connection to a spring, an altar and a funerary monument, appears to match this ethnographic parallel. It may have provided a sacred space used to initiate a cycle of communication with the spirit world of the dead (Figure 6), as outlined below.
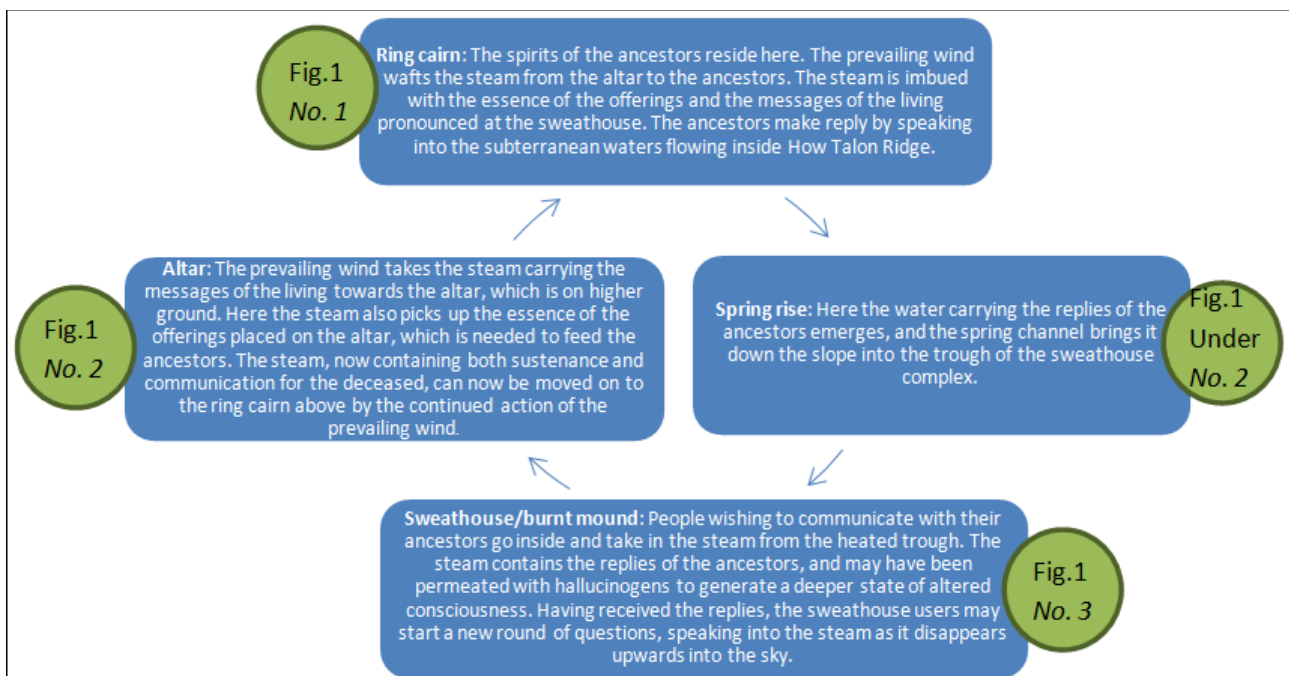

Figure 5: *Ritual framework, in reference to the features annotated in Figure 1* (Image Copyright: Alex Loktionov)
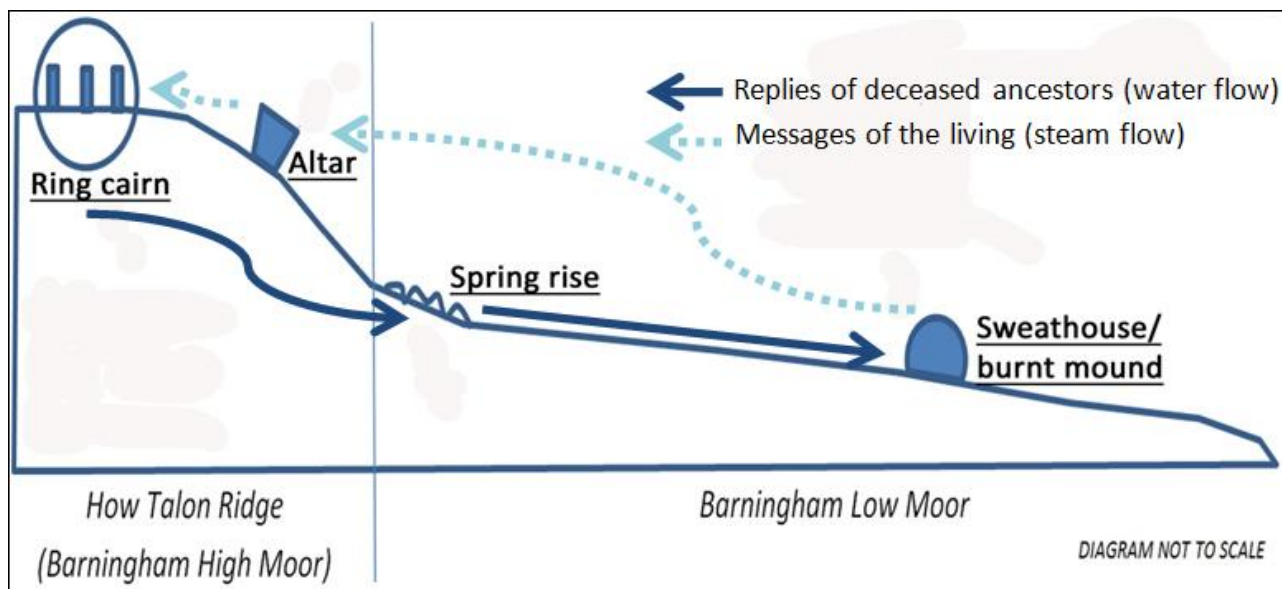
Figure 6: *Ritual framework implemented into the profile of the Barningham Moor site* (Image Copyright: Alex Loktionov)

Central to this interpretation is the observation that the prevailing wind blows in the opposite direction to the net water flow down How Talon Ridge, opening the possibility of a ritual hydraulic cycle on the slope. It is logical to assume that ring cairn burials were associated with ancestors and their spirits, while the burnt mound could generate altered states of consciousness among the living. With the waters flowing from ring cairn to burnt mound, and the prevailing winds travelling vice versa, the hydraulic cycle interpretation becomes a tempting possibility.

The case is further strengthened by the location of the likely altar, which may be a medial point between the two other sites, perhaps strengthening the messages of the living by imbuing them with the essence of the sacrificial offerings over which the steam passed. This matches the spiritual transformations linked to the Bronze Age, including the probable development of an enlarged social stratum of priests or magicians (Budd and Taylor 1995, 140), as discussed earlier. Consequently, while this hypothesis can in no way determine exact functions of burnt mounds, it does at least unlock a new spiritual dimension which goes some way towards explaining why the phenomenon is connected with the Bronze Age.

Discussion and concluding comments

While the above case study raises interesting questions about possible activities at burnt mound sites, it must be emphasised that research in this direction is still at a very early stage, so the views expressed here are above all a platform for future investigation. No excavation has been carried out on How Talon Ridge at the time of writing, and the features are undated, albeit Bronze Age in character (Manby *et al*. 2003, 89). A thorough analysis of the site, including archaeological confirmation of the funerary nature of the ring cairn and radiocarbon or thermoluminescence dates for all principal features, is needed before any firm conclusion can be attempted.

It is also desirable to begin a methodical review of other burnt mound sites across the British Isles and northern Europe, to see if this alignment with ring cairns or possible altar features occurs elsewhere. Such a project may not prove feasible, or at least be extremely lengthy, in the current financial climate. Moreover, the situation is not helped by large-scale industrial quarrying and gas pipeline construction infringing on prime burnt mound locations across the British Isles, particularly in Yorkshire (Mackey and Manby 2003, 122).

Nonetheless, when combined with the ethnographic evidence presented earlier, the How Talon Ridge case study does strengthen the already convincing view that burnt mounds were places of ritual significance. Their proximity to springs may highlight their role as gateways to an afterlife (Sugiyama 1993, 106), water may have been used as a form of communication with the spirits of the deceased (Ivanov 2010, 37), or some rite combining these possibilities may have been practised. The use of hallucinogenic substances is highly likely in this context (Kosven 1957, 150), and may be connected to concentric rock markings found near a number of burnt mounds, which could represent entoptic phenomena (Connah 2005, 359).

This ritualistic interpretation in turn leads back to the practical aspect of burnt mound usage. Overall, the sweathouse hypothesis is preferable to cooking in this context; ethnographically ceremonial purification in preparation to cross a liminal threshold is frequently accompanied by a physical cleaning of the body (Kosven 1957, 150), and the writer believes that such a process is a likely explanation of the burnt mound phenomenon. However, the cooking viewpoint cannot at this stage be definitively discounted, and there remains a distinct possibility that burnt mounds may in some ways have been associated with food preparation, although perhaps not as their primary function.

An excellent example supporting such multi-functionality may be found in the folkloric Irish *Romance of Mis and Dubh Ruis*, a Gaelic composition describing a hero who bathed a maiden in a pit of steaming water and deer fat to cure her insanity (Chapple 2007, 32). It has been suggested that this tale may have its origins in the Bronze Age use of burnt mounds, showing how the trough may have heated both humans and also animal tissue as part of purification rituals that may have involved ceremonial cooking (O'Neill 2003, 80). This well illustrates the continued need to engage with mythological and literary sources alongside the often inconsistent archaeological record and the wide range of ethnographic comparisons made earlier on.

Overall, an approach integrating these three research strands into a single, holistic line of investigation may yet yield further clues about the true uses of burnt mound monuments, but at the present time an explanation in terms of ceremonial interaction with water and its concealed spiritual messages perhaps appears the most compelling.

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Using your metal: an introduction to the Portable Antiquities Scheme

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What is the Portable Antiquities Scheme?

The Portable Antiquities Scheme (often referred to as PAS) is a government-funded project intended to encourage members of the public to voluntarily record any artefacts they might find. Many of these finds come from metal detectorists, and a large part of the PAS's job has been to engage this part of the community; but people also find objects when walking the dog, digging the garden, or in a host of other activities. The result is that thousands of artefacts are recovered annually, and these may now be recorded on a central database, accessible online (www.finds.org.uk) not only to professional archaeologists, but also to students, researchers, and interested members of the public. The PAS has been running since 1997 and, having started out as a pilot study of a small number of counties, today covers the entirety of England and Wales and has recorded over 800 000 individual objects.

I should declare an interest at this point. I am an ex-employee of the PAS, and very much an advocate for their work. Working with metal detectorists is not an uncontroversial business, and neither is it always easy, but it is rewarding, and most of all it is important. PAS data is changing the way we understand the archaeology of the country, and arguably in the last 10 years has had a greater impact on archaeology than any other innovation or organisation.

Finds Liaison Officers (FLOs) are locally based archaeologists who are the points of contact for members of the public and undertake recording on the database. Working as a Finds Liaison Officer within the PAS is a wonderful opportunity to work with local communities, get to grips with the archaeology of a region, and gain familiarity and experience with an extraordinary range of portable material culture (Figure 1). It also trains you to think on your feet, and provides an opportunity to become involved in some of the UK's biggest archaeological news stories (cases such as the Staffordshire and Vale of York hoards put FLOs in newspaper articles across the country).

However, I said that it wasn't always easy. Working with metal detectorists can be challenging, as there is often a mutual lack of trust which needs to be addressed. I have been called a liar, I have been threatened, and I have been undermined and cheated. But I have also met some of the most honest, hardworking and genuinely interested heritage enthusiasts you could care to meet. Some even see themselves as protectors of archaeology, rescuing material ahead of development. This diversity is important to understand; to paint all detectorists as troublemakers or thieves is a massive injustice.

So where does this mutual mistrust come from? There is a growing body of literature concerning this (see for example papers in Thomas and Stone 2008), but many of the problems come out of mistakes made in the past (on both sides) and a lack of communication. It is these issues that the PAS seeks to address. For many archaeologists, metal detecting should be illegal or heavily controlled by licenses, and the PAS is seen to somehow legitimatise illegal activity. However, in other countries, where more restrictive legislation is in place, detecting has remained difficult to control.

Figure 1: *Selection of finds brought to me and my FLO predecessors in Northamptonshire*
(Reproduced with kind permission of the Portable Antiquities Scheme)

The twofold approach taken in England and Wales, then, is beneficial, as the vast majority of finds are recorded with the PAS on a voluntary basis, drawing on the diplomatic skills of the scheme's FLOs, while a much smaller number of finds – referred to as 'treasure' – are subject to mandatory recording and must be reported to the coroner. These finds may eventually find their way into local or national museums.

Treasure

So what constitutes treasure? Any object that is made substantially of gold or silver and is over 300 years old is legally counted as treasure. Collections of coins (hoards) and prehistoric base-metal objects also qualify, and finders of such objects and assemblages have a legal obligation to report them under the Treasure Act 1996. The legal process is orchestrated through the national network of locally-based coroners, but in practice FLOs fulfil an invaluable service as go-betweens.

The PAS also offers advice on the treasure process, to finders, landowners, and archaeologists (gold and silver found on professional archaeological excavations is also subject to the requirements of the Treasure Act). It is also important to note that the situations in Scotland and Northern Ireland are very different to the situation in England and Wales. In Scotland, for instance, all archaeological objects must legally be recorded as Treasure Trove. This is undertaken outwith the PAS, though there is a close working relationship between the Scheme and its colleagues north of the border.

Archaeological Research

Whether we are talking about the elaborate jewellery, weaponry and hoards that make up the most famous treasure cases, or the more mundane artefacts of the everyday (which are very much the archaeologist's bread and butter), the Scheme's purpose is to record artefacts found by members of the public, in order that they might enhance archaeological knowledge.

This means that the data has to be recorded and stored on a database in such a way that it is useful for research, whether that is research on the distribution of settlements and other activities in the landscape, or on the detail of artefacts themselves. Therefore, we need to record artefactual detail precisely, comprehensively, and efficiently. For this task, FLOs are offered extensive training from experts in their respective fields, from prehistoric flints to post-medieval pottery, and with particular attention paid to metalwork and coins.

However, it also means that we need reliable findspot data. Data obtained from metal detecting is often said to be without context, but it is not without use, we just need to know how to treat it. We do not, for instance, argue that antiquarian finds are useless, and yet, thanks to the PAS, the data we have on metal-detected finds is often much better quality than this. Of course, we have to take care when working with this data, but over the years FLOs have been able to build up close working relationships with detectorists they can trust, meaning that high resolution grid-reference data is often available. Indeed, a key role of the FLO is to educate detectorists as to best practice, and to explain why good findspot data is so important to us.

The PAS database is available to the public, but privileged access to further information can be gained for those working on research projects (including undergraduate and postgraduate dissertations). Indeed, over the years a number of important studies into PAS data have been undertaken. Early on, the key concern was to establish the degree to which PAS data could be considered robust: did it really reflect patterns of settlement and activity in antiquity, or was it biased by the areas in which people went detecting, or the clubs to which FLOs had access (see Robbins 2011 for an up-to-date survey of these issues)?

Once successfully completed, these studies allowed more focused cultural, social, and economic questions to be addressed, and we are now beginning to see the full fruits of this (see papers in Worrell *et al*. 2010). Key studies include Brindle's (2011) study of Roman finds and sites in England, Walton's (2010) study of Roman coin loss (see also Walton and Moorhead 2011), and the VASLE project, carried out under the direction of Julian D. Richards (Naylor and Richards 2005, Richards and Naylor 2009, Richards *et al*. 2009).

More recently, Jane Kershaw has undertaken research on Viking-Age gender, migration, and culture contact, using PAS records of female jewellery (Kershaw 2009; Kershaw forthcoming), and is now working on the Viking-Age 'bullion economy'. We have also started to build a team of researchers working on early-medieval data at the University of York: Alison Leonard is using PAS data to consider patterns of settlement in Viking-Age Lincolnshire; Rob Webley is working on an project funded by the Arts and Humanties Research Council (AHRC) to characterise the material culture of the Anglo-Norman transition; and the Torksey project, spearheaded by Julian D. Richards and Dawn Hadley (see http://www.york.ac.uk/archaeology/research/current-projects/torksey/) also draws heavily on PAS and other metal-detected data in characterising the site of a supposed Viking winter camp.

Engaging Communities

As we have seen, the PAS has a remit to record the public's finds for the particular purpose of enhancing archaeological knowledge. However, it also has the important effect of bringing members of local communities into contact with museums and archaeologists, and helping them to understand and engage with their own local heritage. Indeed, the PAS was originally thought of as Britain's largest community archaeology project, though it now tends to be considered more in terms of a gateway to public archaeological knowledge.

Nonetheless, the PAS continues to provide opportunities for volunteers to work with finds, as well as providing a mechanism whereby its employees can play a role in education, whether through events such as those planned as part of English Heritage's Festival of History, through visits to schools, scout meetings, working men's clubs, local societies and retirement homes, or through more informal channels.

Despite its relative youth, the potential of the PAS is already being realised. Thus far, much work has been done on Roman material; though recent years have seen an increasing focus on the early-medieval period (staff and students at York have played a large part in this drive). This work has begun to demonstrate just what is possible; distribution maps of early-medieval finds look radically different before and after PAS; all of a sudden we have data from the countryside, rather than just relating to urban excavations and road building schemes (see Figure 2 for a taste of just how much the PAS has 'opened up' England's rural past). A large number of research projects already draw upon PAS data

(see http://finds.org.uk/research/projects/index/level/3/), but there is still plenty of opportunity for further work, particularly with late medieval and post-medieval finds.
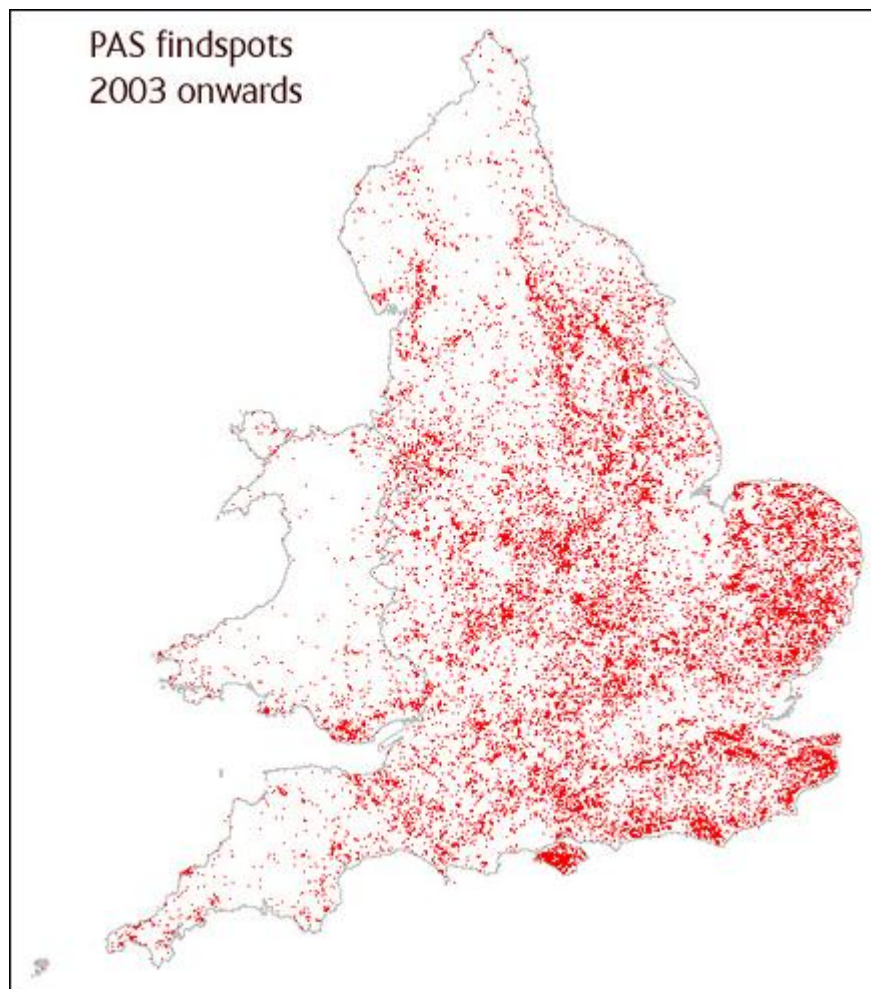

Figure 2: *Snapshot of the impact of the PAS* (Reproduced with kind permission of the Portable Antiquities Scheme)

If you would like to find out more about the PAS, as a provider of volunteering and employment opportunities, as a resource for research, or even just as a way of investigating the heritage of your local area, please visit www.finds.org.uk.

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Engaging young people with the Mesolithic

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The Mesolithic period has often been seen as a poor relation to the other Stone Age periods: the Palaeolithic and Neolithic. Despite the term 'Mesolithic' being coined in the mid-19th Century (Westropp 1866, 289), only one year after Lubbock proposed his definitions of the Palaeolithic and Neolithic (Lubbock 1865), it was not widely acknowledged until Grahame Clark published his work The Mesolithic Age in Britain in the 1930s (Clark 1932). This slow acceptance of a Mesolithic period delayed the take-up of research, and the perception of the Mesolithic has arguably suffered ever since.

In recent years, work has demonstrated what the Mesolithic has to offer; as shown by the two most recent publications from the International Conferences on the Mesolithic in Europe (Larsson et al. 2003; McCarten et al. 2009). However, public understanding of the Mesolithic period is sadly trailing behind the boom in academia. Recent reporting on a Mesolithic settlement site in The Telegraph (The Telegraph 2012) featuring a cartoon of a club-wielding cave man is a vivid example of how public understanding of the period is conditioned by outdated perceptions.

Therefore, a team of postgraduate and undergraduate students from the Archaeology Department at York, led by Emily Hellewell, have been running a public engagement project to increase the public awareness of the Mesolithic and to generate interest amongst a new generation of potential archaeologists.

The Project

Funded by the central Researcher Development Team at the University of York, the project draws on Hellewell's experience working with the Young Archaeologists' Club (YAC). It aims to increase the awareness of the Mesolithic period in children aged 8 to 16 years, primarily through the production and dissemination of a suite of specially designed activities based on life in the Mesolithic, and to, therefore, communicate cutting edge research to a wider audience than is usually reached by academic publications.

The main objectives of the project are to create a high quality resource pack containing activity ideas and background information to support facilitators in delivering the activities to young people. The aim is to make this resource pack available to the 70 local YAC branches based all over the UK, as well as YAC Institutional Members and local schools. The pack is also designed to be made available to download online, on our dedicated website (Life in the Mesolithic 2012). The final objective of the project is to deliver some of the activities to young people at public events including an open day at our Archaeology Department.

The Activities

A range of activities, based on Mesolithic Archaeology, were designed by a team of students during spring 2012. These activities aim to communicate something about Mesolithic life and archaeology to young people. However, it is central to the design that these activities are fun and engaging rather than having specific learning outcomes. They are considered to be successful purely because the participant enjoys doing them, and are made aware of the Mesolithic through them, rather than because it can be proven that they have learnt particular facts about the period.

Briefly, the activities include: Timeline of the Mesolithic, where people are encouraged to think about how long ago the Mesolithic actually was; Footprints in the Sand, based on the human footprints found in the Severn Estuary (Bell 2007); Tools R Us, which introduces the Mesolithic flint technology of microliths, and gets young people to think about how they might have been hafted; and After the Ice, where the concept of isostatic uplift and the changes this would have made to people's lives during the Mesolithic is covered. Other activities include underwater archaeology, Mesolithic structures and fishing in the Mesolithic.

Activity Days

Delivering the newly designed Mesolithic activities to members of the public was a central objective of the project, in order to demonstrate that we could introduce people to the period in a fun and informal way.

Over the summer of 2012, the team delivered the activities to three different events: a dedicated open day in York's Archaeology Department, as part of the Festival of British Archaeology; a York Festival of Ideas Fringe Event organised by the Humanities Research Centre (HRC); and the Star Carr Festival held in Scarborough.

During these events the activities, delivered by volunteers, encouraged children and young people to drop in and have a go as they pleased. There was no charge for entry to any of the three events over the summer, or for participating in any of the activities.

Since the completion of the open days, the team has been invited to participate in planned events for next summer, including a similar Festival of Ideas Fringe Event organised by the HRC, and an event organised by a local Council for British Archaeology (CBA) group. This is testament to the success of the activity days, which is further discussed below.

Resource Pack

The activities will all feature in a resource pack which will be launched this year and made available on the project website (Life in the Mesolithic 2012). The resource pack's design has been influenced by a survey of YAC volunteer leaders conducted in spring 2012 in which we asked them what aspects of the Mesolithic

they would like to know more about, and what made a good resource. The range of responses to what makes a good branch resource (Figure 1) indicated that an important consideration is that the activities and resources are adaptable, reflecting each branch's individual needs.
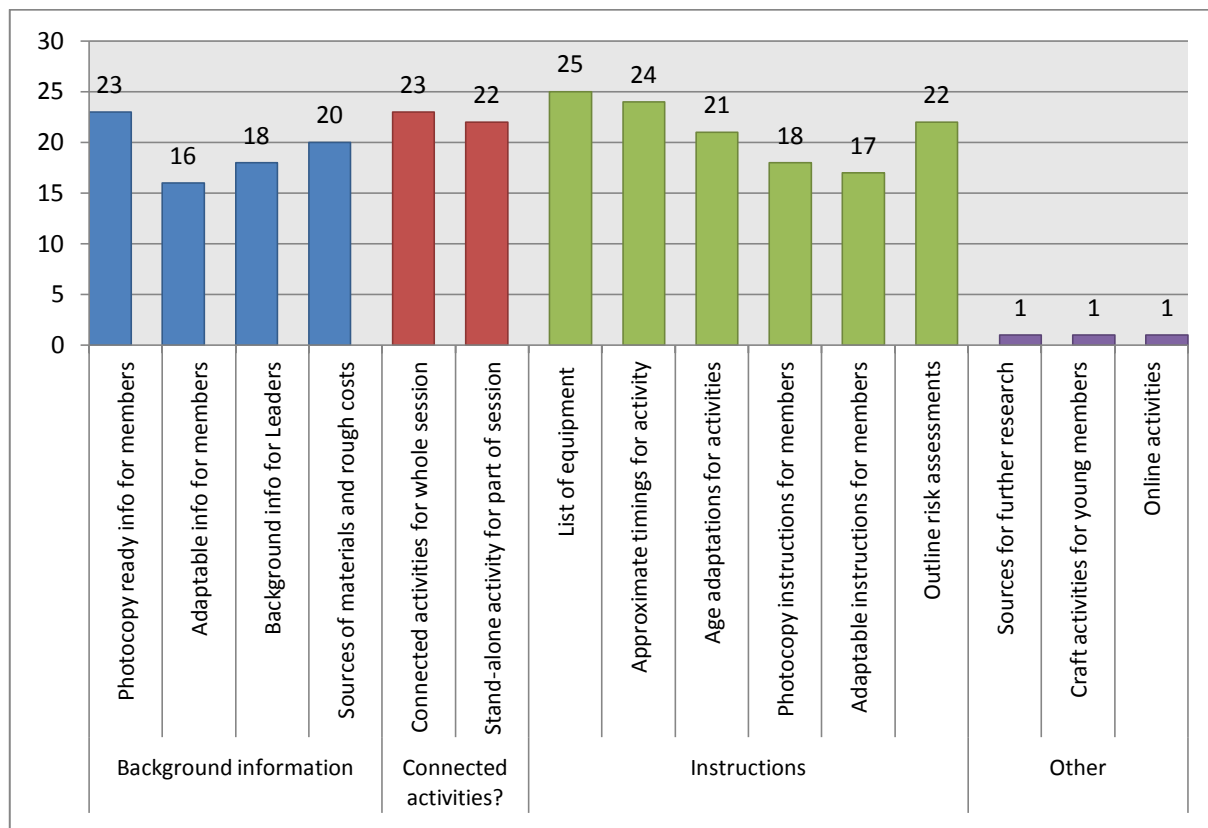

Figure 1: *YAC leaders' responses to the question "What makes a good branch resource?" as part of a survey conducted for this project in early 2012* (Image Copyright: Emily Hellewell)

It is hoped that the resource pack will be widely used by the YAC leaders; not only because it has been specifically designed with them in mind, but also because they have been instrumental in influencing the design of the pack through the results of the survey. Full results and analysis of the survey are available on the project website (Life in the Mesolithic 2012).

Impact of the Project

There is an increasing drive towards engaging the public with the results of academic research, championed by the Research Councils UK, who are trying to create a: "culture where public engagement is regarded as an important and essential activity by the research community" (Research Councils U.K. 2012). As part of this push in public engagement it is also becoming increasingly important to demonstrate the impact of the engagement work being undertaken.

In order to demonstrate the impact of this project, feedback questionnaires were completed at each of the three activity open days. The success of the activities was clear with 98% of respondents saying that they enjoyed learning about the Mesolithic (Figure 2). Feedback from the open day at our Department (Figure 3),

during which all seven activities were run, shows that the children particularly liked the Footprints in the Sand activity.

However, the Timeline of the Mesolithic activity was not mentioned by the children at any of the activity days (Figure 3), and this is perhaps due to the fact that it was a non-interactive activity designed to be browsed and read; a format which is not as appealing to children. An alternative form of the activity has been designed and tested with the York YAC branch, which involves young people thinking about events to place on the timeline, and was very successful. This alternate format will be the one presented in the activity pack. The testing of the activities at the activity days has therefore been an important part of the development process for the resource pack.
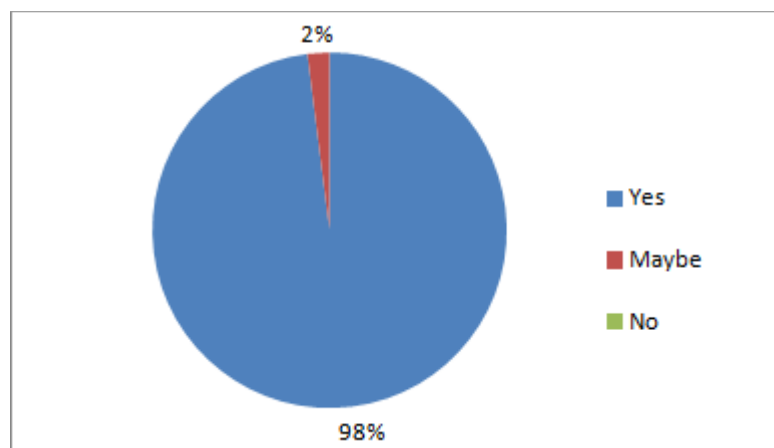
Figure 2: *Responses from young people at the activities days showing a positive reaction to the events when asked "did you enjoy learning about the Mesolithic?"* (Image Copyright: Emily Hellewell)
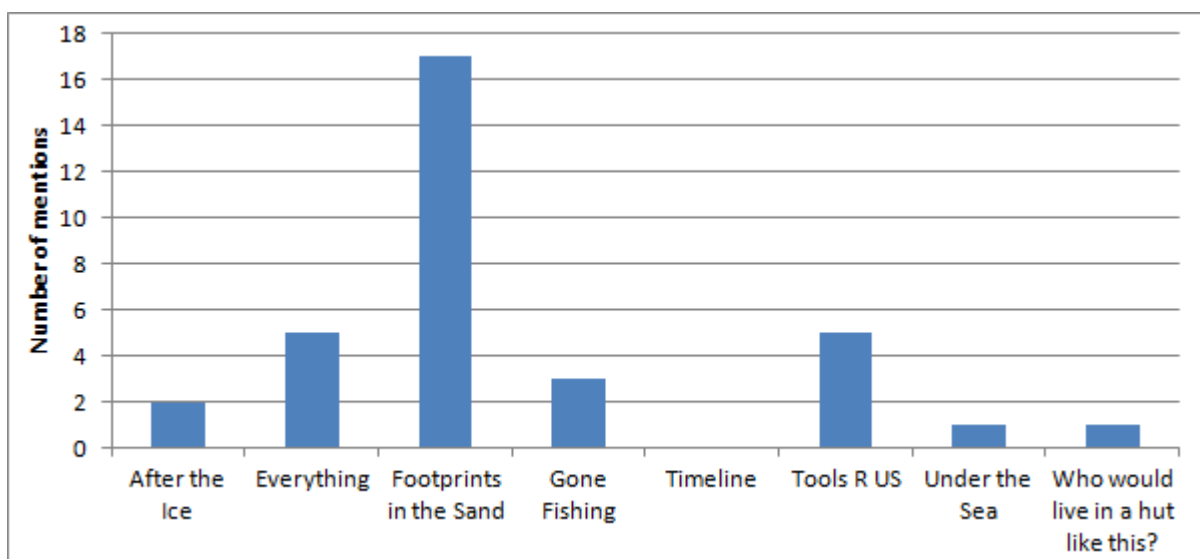
Figure 3: *Number of mentions of each activity in feedback from the Department activity day. The question prompted "The best thing about today's activities was..."* (Image Copyright: Emily Hellewell)

Further, less quantitative impacts of the project have also been identified. The resource pack will be launched at the YAC leaders training event in March 2013, where members of our team will demonstrate

how to run the activities to the YAC branch leaders. Involvement in training of this kind emphasises the positive reception that the project has had by YAC, and its parent organisation the CBA. Additionally, an opportunity for us to directly demonstrate our activities to YAC leaders will hopefully encourage them to use the resource packs in their branches, thus widening the perception of the Mesolithic period amongst young people, and increasing the impact of the project. Take-up of the activities by branch leaders will be monitored after the launch as a means of quantitatively gauging the long-tern impact of the project.

An additional unexpected outcome of the project was that the team of volunteers involved all indicated that they had benefitted from the volunteering, and will hopefully continue to be involved as the project continues. Feedback from the adults at the July activity day in King's Manor stated that the staff at the event had been one of the most positive things about the day. One person stated that the staff:

"Explained complicated subjects very well", with another saying that they were:

"Helpful and really good with my 5 year old"

These positive responses demonstrate the high quality of volunteering at the event in which people felt empowered to learn, and this has to reflect the engagement that the volunteers themselves felt with the project (Figure 4).

Figure 4: *The team of volunteers after the Department activity day in July* (Image Copyright: Emily Hellewell)

Impact can also be seen in the contacts made with local school teachers as a result of the events with the aim of assisting with an after-school club in the future, and the fact that the project is increasingly being involved in plans made by the Star Carr Project to run a continuing public engagement programme in the next few years.

Conclusion

It is hoped that the success and impact of the work discussed here can have a long-term impact on the awareness of the Mesolithic period beyond the original scope of this project. The activities designed will be available for anyone to replicate, whether that be in a YAC branch, after-school club, activity day, or in people's homes.

Whilst the levels of learning about the Mesolithic as a result of these activities cannot be controlled, an increase in awareness will hopefully lead people to finding out more about this period. Our next challenge will be to make sure that we meet this newly developed interest with further events, activities, and resources, to further promote the period.

Acknowledgements

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The Post Hole releases nine issues per academic year on a **monthly** basic between October and June. The submissions deadline for all of *The Post Hole*'s monthly issues is the **final Wednesday** of the preceding month.

Submission length

Articles of any length **up to 2,500 words** are welcome, though keeping below 2,000 words is preferable.

Figures

Photographs, graphs, plans and other images are also welcome as they usually help illustrate the content of submissions. All images should be submitted separately to any documents (i.e. not embedded in text, but sent to *The Post Hole* as attachments.
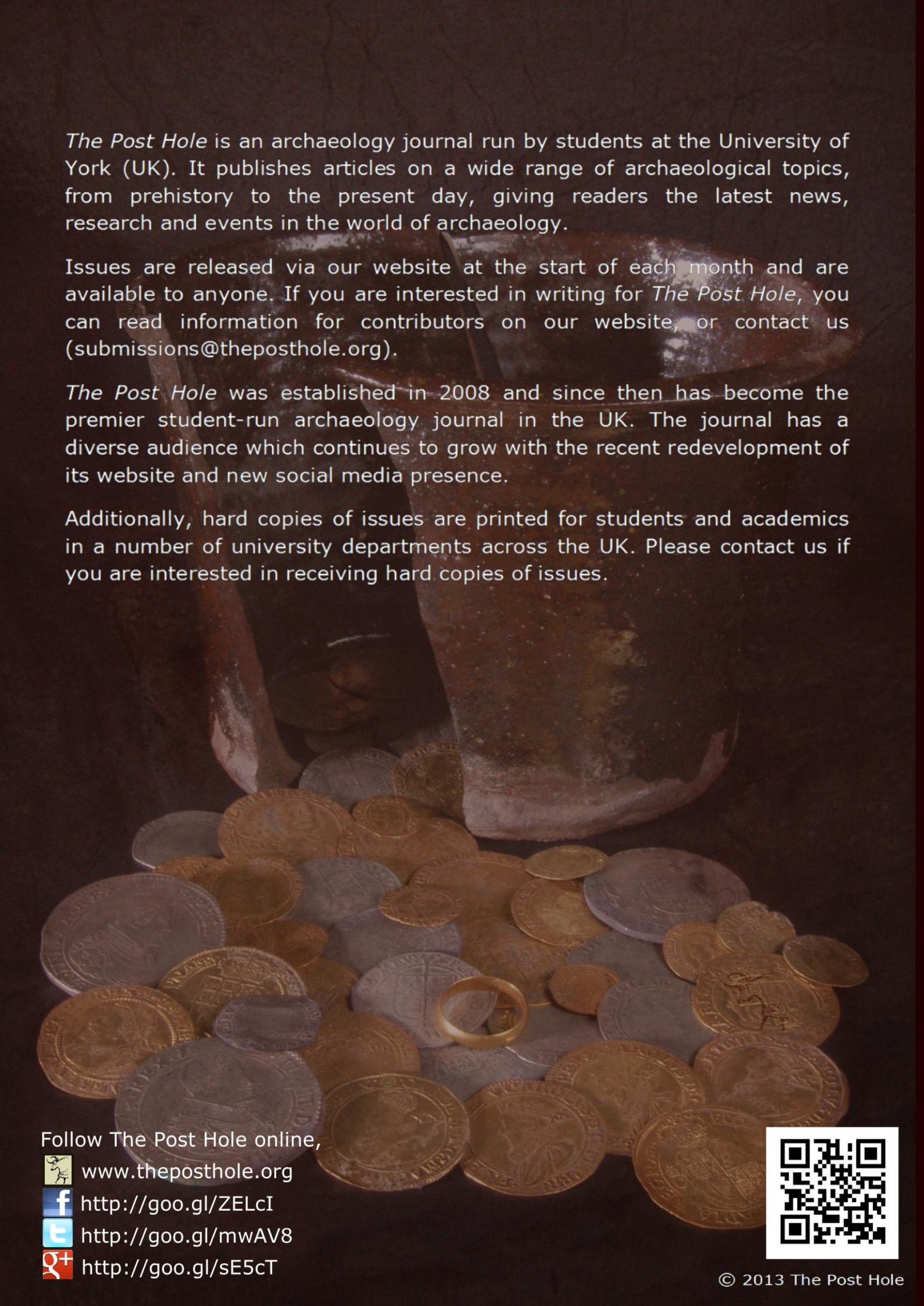
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Back cover: *Selection of coins and a gold posy ring from the Ackworth (West Yorkshire) Civil War hoard*
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