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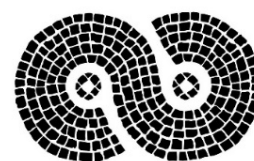
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This abstract book contains:

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PLENARY SESSION

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Visions of Nuclear Landscapes: Seeing from the Perspectives of Art, Cultural Heritage, and Archaeology
Keynote Antiquity Lecture presented by
Rosemary A. Joyce, University of California,
Berkeley, USA

The global nuclear industry has for three decades drawn on sites like Stonehenge as warrants for proposals for long-term marking of nuclear waste repositories. In the specific context of the United States, where these projects are exceptionally well documented in publically accessible planning documents, the result has been a proposal to build a pre-formed archaeological site, a ruin that comparisons drawn suggest would qualify for listing as a World Heritage site. Alternative proposals, some from the same planning process, others from activism in opposition to the nuclear industry, present art projects as alternative ways of marking contaminated landscapes. Triangulating between the proposals rooted in what I argue is a cultural heritage logic, and those from art worlds, an archaeological sensibility questions both visualizations as overly static and deterministic, expressions of human agency conceived of as singularly effective over spans of thousands of years. Paradoxically, I argue that the archaeological perspective calls us to question the intelligibility of landscape scale installations conceived of as simple visual markers, and instead, demands that we think about multi-sensorial perception of differences that might be as simple as variation in the textures of sediments, and how such differences are narrated, retold, and remembered over time.

1. ARCHAEOLOGY IS A POLITICAL MATTER

Rob Lennox, Council for British Archaeology, Chartered Institute of Archaeologists, University of York, roblennox@archaeologyuk.org; Lorna-Jane Richardson Umeå University, Council for British Archaeology, lorna.richardson@umu.se

In the UK, the discipline and the contexts in which archaeology is practiced are vulnerable to public policy changes and the broader impacts of economic austerity, be these contract archaeology, community projects, or within museums and archives. The role of archaeology in

politics, and politics in archaeology, in the UK has been under researched and under theorised in recent years.

Politics and archaeology goes beyond grand narratives of nationhood, and extends into everyday matters, such as relatively small but vital functions of local government. Archaeologists themselves act politically in various scales, from the narrow (e.g. lobbying for technical policy changes) to broad (e.g. influencing understandings of nation, culture, identity, and place). We are actors within in a complex system where our decisions as professional archaeologists are deeply intertwined with wider political policy, yet this is not explicitly obvious to many professionals employed in the sector, or indeed by interested citizens, or our political representatives.

This session remains open to traditional areas for debate on the role of politics in archaeology, but would also like to invite papers that explore the role of archaeologists as political actors and attempt to understand how our work affects political decisions, and vice versa. It will include discussion on policy and advocacy from the narrow (e.g. who are archaeological advocates?) to the broad (e.g. what part can archaeology play in current societal debates such as over climate change, migration, Brexit?) and will attempt to provoke debate about archaeology and heritage as a tool in various political agendas (e.g. nationalism, anti-austerity/neoliberal capitalism, cosmopolitanism).

The politics of Brexit. Why archaeologists need to be concerned.
Kevin Wooldridge, Freelance archaeologist

I am an archaeologist whose professional career life is reliant on being able to work both in the UK and also in the wider European community. It is likely that my career options will be limited if freedom of movement is restricted as a consequence of Brexit, a concern shared by EU/EEA archaeologists currently working in the UK and by UK and EU archaeology students currently studying or wishing later to study or work outside of their native land. Brexit is clearly a political decision and archaeologists throughout the Union need to embrace the politics of Brexit to formulate an agenda that will seek to protect out academic and professional interests and the best interests of our discipline. This paper will discuss the 'who, what, why and where' of that agenda and also highlight the need for urgent and positive action.

Quitting my archaeological job as a political deed.
Marjolijn Kok, Bureau Archeologie en Toekomst, Netherlands

In 2010 the interim manager of the archaeological company (part of the university) I worked at told me knowledge is not important. For me this was the point of no return and I quit my job. Of course I could have looked for a new job in archaeology but the way contract archaeology is organised and politicized made me choose a different path. In this paper I will explain how the way archaeology is organized is political. At a certain point we have to ask ourselves do I want this type of organization, can I change it, or do I need to take a different action? How far do you want to go just so you can make a living in the profession you love?

I will give a Dutch perspective, but the issues have relevance outside of Dutch archaeology. The idea that theory has no place in policy making is persistent, especially in neoliberal contexts. This has led to an approach where management has become a shallow checking off of easy measurable parametres, integrated into policies on contract archaeology. Archaeology is used as a lubricant in the process of redevelopment. But in my opinion archaeology is not a lubricant; archaeology should be a critical tool to look at others and ourselves. My involvement in contemporary archaeology and art has opened up new paths to embrace the political in archaeology.

Commercial archaeology and narratives of British exceptionalism
Florence Smith Nicholls, Compass Archaeology

Narratives of British exceptionalism have come to particular prominence in the press and political discourse leading up to and after the EU referendum result in Britain. Whilst historically archaeology has been exploited in the construction of national identities in Europe, archaeology and in particular commercial archaeology has been portrayed as an obstacle in the contemporary narrative of British progress and development.

This paper will propose that commercial archaeology occupies an uneasy position in the narrative of British exceptionalism due to both its inextricable links with the construction sector and its potential to uncover a multi-faceted past with 'dark heritage.' The portrayal of commercial archaeology as an antagonist against large, politically loaded infrastructure projects will be explored. The concentration of development projects in urban centres such as London, and the cultural and political implications this may have for commercial archaeology in terms of recent branding of a 'metropolitan elite' and cosmopolitanism will also be incorporated into the discussion. Small scale development projects will be cited as case studies in order to demonstrate the potential of commercial archaeology to undermine a 'single story' of British identity.

Narratives of British exceptionalism should be challenged. Commercial archaeology is in a unique position to do this but if it is to successfully rebuke rhetoric on homogenous Britishness then it must not only engage with a rich and varied archaeological record but also foster a more diverse workforce and champion multiple pathways into the profession.

Selling a political framework for the Public Value Era
Rob Lennox, University of York

In the last 20 years there has been a shift towards understanding the past primarily in terms of what the public value. This has permeated heritage thinking among academics and institutions, and arguably, Government understandings of heritage. However, heritage is nonetheless threatened by an age of austerity. This paper sets out a politically pragmatic framework for representing both the present aspirations of a publicly-minded sector and the outlook for political realities of the English system. I will aim to show how this system would help to demonstrate public support and legitimacy, maintain or build political reputation, develop effectiveness in working practices, and establish relevance with the public.

Breaking ground, fighting back; Unite Digging for a Living Wage
Matthew Seaver, Unite Archaeological Branch, Ireland

If you write a context sheet on site you are making a change to the narrative of archaeology from the ground up. This was a sea-change from the old patriarchal system where site directors formed their own narratives utilising unskilled labourers. The 'ground up' approach can also be made through archaeologists organising our opinions and forging change through industrial relations. This can help increase the value of what we do and allow for the development of a proper structure incentivising continuing professional development.

Archaeological work, particularly in the commercial sector, mushroomed massively during the 'Celtic Tiger' boom and drew in vast numbers of Irish, British and European archaeologists. This unprecedented period saw the excavation of enormously important sites and the professional

infrastructure struggling to cope with the volume of artefacts, archives and human resourcing needed. The increased professionalism of archaeologists themselves and the skillset they developed during this period could be contrasted with their pay rates which were far below those of cognate professionals and skilled craftsmen on construction sites who they worked alongside.

The economic crash of 2008-2015 decimated Irish archaeology with resulting mass unemployment, collapse of companies with artefacts and archives in jeopardy, large scale cutbacks in state services and a huge loss of professional experience as archaeologists left to retrain or work abroad.

Representation for Irish Archaeologists and subsequently Unite Archaeological Branch was formed to fight back. We gathered critical information on Irish Commercial archaeologists and fought for a Living Wage. We have taken our fight for decent minimum wage rates to the Irish Labour Court to try and achieve a sectoral agreement. This is pushing the agenda towards a better and more formalised grading structure in Irish commercial archaeology which could be recognised by the State services and the Institute of Archaeologists of Ireland. This is ever more important in parallel with events in the UK from the Chartering of the IFA to the requirements for new archaeological specific safety cards and further to the implications of Brexit and the definition of archaeology as a restricted profession in the EU. Outside the archaeological profession it is part of a struggle by the precariat to adapt to changes in working lives brought about by globalisation.

Time to bite the hand that feeds? Or, at the very least, give it a long, hard squeeze
David Jennings, University of York

Archaeology – and the wider heritage sector – is at threat from numerous financial challenges. This paper will take a polemic, pragmatic stance to consider the idea that it may now be time to take a more direct, less deferential tone when discussing this crisis with 'the powers that be'. It is far too simplistic to see funding heritage as a binary choice against health, pensions and other critical areas of public expenditure, as is often inferred to justify cuts to the sector. Current advocacy is effective to a degree, and yet the cuts continue to hit our heritage industries across the board. However, the UK is, this paper suggests, awash with cash – and we need to make ourselves heard to secure our fair share.

"Another Brick in the Wall" - Archaeological Outreach in Schools as a Political Act
Penelope Foreman, Bournemouth University

Education in the UK is a highly politicised field, not least recently with the proposed revival of grammar schools, the axing of archaeology and other A Levels, and the rise of Academy and Free Schools. The place of archaeology in education is primarily reserved for museum visits and primary school history projects. What can the future hold for this model in the face of sweeping cuts to museum services and pressures on schools to cut costs and focus on prioritising boosting levels in maths and science above all else?

In a political landscape where experts are depicted as elitist, interfering and irrelevant, it becomes a radical act to educate young people in our expertise and show its relevance to their lives. An exploration of isotope analysis via studying the Amesbury Archer becomes a lesson in why immigration brings valuable skills and ideas to their new homes, and how such immigrants are held in high regard for doing so. Sessions on looking at human diet during different time periods in history and prehistory become discussions on climate change and resource management.

In this paper I will argue that the role of archaeologists should be an active one. As professionals

and academics we have a broad range of interdisciplinary skills that, through innovative and carefully developed outreach schemes, can both inspire politically engaged learning in young people, and boost the profile of archaeology as a career path for all.

DNA and Soil: Archaeology, Palaeogenetics and Nationalism
Tom Booth, Natural History Museum, London

Nationalist ideologies are often built upon ethnic origin myths that serve to promote a deep connection between ancestry and country. Nationalist organisations have often distorted past scientific investigations into population histories that utilise both modern and ancient DNA to fit with these myths, particularly classic ideas of 'blood and soil'. In Britain, such results have repeatedly been misappropriated to argue for the predominant persistence of a distinctive British genome since the end of the last Ice Age. This perceived deep 'British' ancestry has been used as justification to discriminate against recent immigrants and their descendants. Nationalist groups tend to exist on the fringes of political discourse, however the influence of their ideas can be more widespread, particularly when disseminated through social media.

The rise of commercial genetic ancestry testing companies like 23 and Me means that the public are more aware of the potential of DNA to inform on individual and collective ancestries. Recent advances in Palaeogenomic techniques mean that we now have unprecedented insight into the genetic history of Europe. There is some evidence that aspects of these recent studies are already being misrepresented by nationalist organisations to promote their ideologies. This talk will discuss how archaeologists engaging with recent advances in palaeogenetics and incorporating the results in their narratives may help to counter-act nationalistic organisations co-opting genetic studies to promote their own agendas. Archaeologists are well-placed to discuss these results with the general public and link them specifically to archaeological features and landscapes, emphasising the substantial intertwining of culture and genetics.

Where history meets legend… and produces political sparks; presenting Tintagel Castle, Cornwall
Susan Greaney, Cardiff University/ English Heritage

Due in part to the influence of Victorian poets and writers, tourists today flock to the evocative ruins of 'King Arthur's Castle' at Tintagel. In fact, the site has a complex and intriguing archaeological story, from elite post-Roman trading settlement to medieval castle, completely intertwined with famous legends; not only Arthur, but also the love story of Tristan and Iseult. What happens when you try and present these stories in a new way to visitors? A recent interpretation project, delivered over two years by English Heritage, has included a new exhibition, interpretation panels and a series of artistic installations across the site. It drew criticism and negative publicity from several quarters, including those who would identify themselves as Cornish nationalists. This talk will explore what happens when you try to tell local, regional and international stories at a site that is a symbol of Cornish identity, and explores the reaction to presenting both the history and legends of the site. The project will be discussed within the context of growing calls for devolution in Cornwall, and for management of heritage more locally, showing how the presentation of archaeology is very much a political matter.

Turf Wars: Politics and Peatland Archaeology in Ireland
Ben Gearey, University College Cork, Ireland

Around 17% of the total area of The Republic of Ireland consists of peatland, with ongoing peat extraction on an industrial scale affecting a significant proportion of the raised bogs of the Midlands. In other areas, peat (turf) cutting is carried out by hand, as part of long held 'turbary rights' in many places. The archaeological record of many of these peatland areas has long been known to be exceptional, yet mitigation work carried out over the last decade has been inadequate and under resourced, whilst no formal mitigation strategy exists for privately cut peatlands . Broader developments across many other parts of Europe have seen increasing efforts directed at peatland conservation, but these have gained little traction in Ireland. This paper will consider the particular problems confronting attempts to raise the profile of the peatland archaeological heritage in Ireland, in particular considering the fact that, in this particular context, peat is a political issue.

"News is what someone wants suppressed. Everything else is advertising." The need to develop Investigative Journalism in the Archaeological Media

Andy Brockman, Freelance archaeologist and researcher and editor of the PipeLine heritage news website [http://thepipeline.info/]

Katherine Graham, the famously independent publisher of the Washington Post during the Watergate scandal, said that in her opinion "News is what someone wants suppressed. Everything else is advertising"

The heritage news website thePipeline was acting in that tradition when in May 2016 it published the results of an investigation into the alleged theft of UK Government property from the wreck of HMS Queen Mary and other vessels lost during the Battle of Jutland/Skagerrak in 1916.

The investigation was carried out by a group of independent experts and was published after the UK Ministry of Defence and other public bodies failed to take any action on the issue of illicit salvage of designated wrecks and maritime military graves over a number of years. The result of the publication of the Jutland story was wide coverage in the media, including on BBC 1's the One Show, as well as in local and national mainstream titles in print and on-line. The story has also led to questions in the UK and Dutch Parliaments and a new, albeit possibly reluctant, engagement with the issue on the part of government and regulators.

Using the Jutland investigation as a case study, this paper will argue that the development of a vigorous, independent and questioning archaeological media is essential in order to investigate and question official decision making in heritage matters, and to support the checks and balances which make the institutions, companies, agencies and Government departments involved in such decisions properly accountable to the public in whose interest they are supposed to act.

Creating a Political Base for Archaeology: The Greater Manchester Experience

Mike Nevell, University of Salford

The underlying assumption of this paper is that all archaeology is political at some level and that all archaeologists need to be activists in their own areas in order to protect and improve access to archaeology. Drawing on 36 years of experience this case study will look at the problems of maintaining links with a constant array of changing local politicians, the role of museums as a hub for volunteers, and the value or perceived lack of value of archaeology amongst large regional stakeholders (HLF, universities, developers). Along the way we shall touch upon the rise and fall of archaeology units, the encouragement of local societies and groups, and the role of professional and academic archaeologists in engaging with the public through archaeology projects such as Dig

Greater Manchester and Whitworth Park. The key message of this paper is that we cannot rely on other sectors to assume that archaeology is innately 'a good thing'. Academic and professional archaeologists need to foster volunteer networks, and volunteers need to engage with academics and professionals in order to lobby for the protection of the past and so ensure that archaeology is for all.'

Local archaeological activism: The trials of leading horses to water

Lorna Richardson and Rob Lennox, Council for British Archaeology, Local Heritage Engagement Network

In this paper, we examine the experience of the CBA's Local Heritage Engagement Network, which is designed to help local archaeology groups and other interested bodies be better advocates for heritage. However, evidence from the project has shown that while the majority of local interest groups care deeply about the past, many do not perceive a role or opportunity to help shape the political debate. In this paper we will examine why this might be, and whether there are methods which be appropriate for assisting groups to transition from hobbyists to activists, or different types of engagement which are more suited, but which may be more suited.

Local archaeology for local people?

Aisling Nash, Worcestershire Archive and Archaeology Service

Issues of archaeology and the historic environment within localism and neighbourhood planning are fundamental in providing a sense of place and ownership but are we, as professional archaeologists, doing enough to facilitate this?

A recent project undertaken by Worcestershire Archive and Archaeology Service and funded by Historic England seems to suggest that we're not. 'Assessing the Value of Community Generated Research' aimed to look at the potential value of research being carried out by communities and individuals, research which is often not being disseminated either through HERs or wider avenues. It was discovered that some of this research was being carried out partly in an attempt to take ownership of planning and development issues, often in response to perceived shortcomings and capacity issues within local authorities. What also became apparent is that there is little understanding of the legal framework within which our profession works, either by the public or to a lesser extent, by professional archaeologists.

We are operating within a system which appears to be impenetrable to those that wish to protect and conserve their local historic environment. Yet it is these very people that are our advocates; they are our partners in lobbying for both local and national issues in heritage. How can we as a profession harness the value offered by this partnership while listening to what they need/want from us? With the advent of Brexit and the election of Trump, the inclusiveness of our collective heritage has become even more important.

2. BUILDING THROUGH TIME AND SPACE

Jude Jones, Universities of Southampton and Bournemouth, J.F.Jones@soton.ac.uk; Penny Copeland, University of Southampton, P.Copeland@soton.ac.uk; Catriona Cooper, University of Southampton and Allen Archaeology, catriona.cooper@soton.ac.uk; Matt Harrison, University of Southampton, M.J.Harrison@soton.ac.uk; and Ellie Williams, Canterbury Christ Church University, ellie.williams@canterbury.ac.uk

Since the 2014 Symposium, Buildings and the Body brought together a host of interdisciplinary commentators and practitioners, interest in the nature, affects, materiality and agency of buildings and their bodily associates has continued to develop and expand within the archaeological, architectural, historical, anthropological and art historical communities.

This session can therefore be understood as a continuation of these themes designed to examine and discuss recent research and new conceptual ways of viewing the human/building relationship and interface. Building on these relationships, the session has chiefly been constructed to introduce new theoretical ideas centred on ways of understanding buildings, bodies and architecture across time and how this is expressed and visualised through spatial organisation. Both of these latter themes have been extensively discussed in archaeology and anthropology in the past but it is hoped that many recent theoretical ideas and technological innovations will be introduced in order to illuminate issues of building time and space which are, as yet, unexplored. In this regard, we intend to include papers which explore such things as temporal and/or spatial continuity and dislocation; the limitations of imposed stylistic periods; sensory, emotional or psychological perceptions of building space and time; the use of temporal or spatial scale in architecture, landscape and regionality; the composite or diverse agencies involved in building materiality and human dynamics; and, particularly, unfolding ways of investigating and re-viewing buildings space and its temporal composition through new science and digital technology. We also welcome papers devoted to related topics of buildings, bodies, space and time other than the few mentioned here.

Unlike our previous symposium which was dedicated to historical archaeological periods, we now open out our session's time frame to archaeological or other scholars of any period.

Part I: Sensing through time and space

Graffiti in religious spaces: interpreting the actions of medieval lay worshippers through historic graffiti at Chichester cathedral
Jamie Ingram, University of Southampton

Chichester cathedral sits within the medieval walls of the city of Chichester, and occupying a quarter of the total enclosed urban area, it still dominates the city today. The cathedral was constructed between 1075 and the middle of the twelfth century with minor alterations occurring until the end of the fourteenth century.

Over the last two years I have worked extensively at Chichester cathedral recording the medieval graffiti. These marks were shown to be connected with the pilgrimage activities at this site and included veneration marks relating to the local saint, as well as many other marks - crosses, compass drawn designs and images of people and ships. Latterly, I have undertaken research on the graffiti of the north porch that shows the space was an active location of religious and secular practice.

This presentation will show that these graffiti can be interpreted through the application of liminal theory and object agency showing the porch as a liminal space. Can we also combine this liminality with the religiosity and the agency present to transform the porch into a liminal place? The porch is a location where the transformative and transitional abilities of the liminal ritual remained active over a prolonged duration and allowed lay people further access to the ontologically numinous space created by the cathedral whilst also allowing that space to be protected from the secular world of medieval England and the spiritual threats that were understood to be present within it by medieval society.

Hearing the Commons: acoustically modelling the pre-1834 House of Commons
Catriona Cooper, Allen Archaeology Limited/University of Southampton

The use of digital techniques is not new to the study of buildings. Visualisation has been used as an interpretative methodology by bringing together research from a wide variety of sources. The Virtual St Stephen's project began by creating three dimensional models of St Stephen's Chapel, the first permanent meeting place of the House of Commons.

However, understanding the experience of a space goes beyond how it looks. In this presentation we discuss moving from a visual interpretation of the pre-1834 House of Commons to discuss the auditory experience. We have converted the visual model into an acoustic model allowing us to provide computer based auralizations, the aural equivalent of visualisations. This enables us to listen to how a space influences the perception of any sound heard within it, and helps to build a more complete multi-sensory representation of a historic environment. Further we can begin to question how the auditory experience of this space has influenced British politics.

A place for grief
Anne Read, Royal College of Psychiatrists/College of Psycho-analysts

Grief is the process whereby we mourn and let go of things past or lost. It is the integration of any bereavement, whether large or small, material or emotional. In order to grieve, a person needs containment or holding, in relationship, ritual or a physical place, so as not to be overwhelmed by the unbearable or unencompassable. This holding may be psychological, physical or both. The former can either be symbolic or be in a literal or internalised relationship, while the latter is often in the form of a building or a shrine. My consulting room often serves as both.

But, if someone is unheld, they are left with the options of potential disintegration or of psychological repression, the latter being preferable for survival purposes as it puts the lost object out of sight and mind. However, there is a cost. Repression takes psychological energy and it leaves the loss unprocessed and, unconsciously, still in the present and thus still active; the energy must have an outlet and so psychological symptoms will arise and give rise to distress.

This distress comprises much of my clinical work as a psychotherapist and psychoanalyst.

I propose, in this paper, to address the places and processes in which grief, both normal and ungrieved, may be placed and displaced. I shall use cultural illustrations and anonymised case material and explore some outcomes of re-awakening and completing the grief process.

Looking up from the plan
Penny Copeland, University of Southampton

The most common form of visual representation of a building is through a plan of the ground floor, used for both truncated archaeological remains and for full height multi storey buildings. The plan form, so beloved by archaeologists, should however be considered a shorthand for standing buildings, a 'map' for orientation and a very abbreviated view of the layout. We also interpret them for activities within the building and the effectiveness of this can be variable, particularly when we are trying to read a more experiential history from the evidence. These traditional techniques are not produced objectively, but are the results of constant decision making so what do we project onto these plans from our own lives about the people who lived in these buildings? And what are we missing with them? The need for more detailed recording has been discussed in the past, but perhaps we should revisit this argument in the light of the vastly increased 3d recording and representation opportunities with modern technology. We can now produce full height elevations as easily as plans and for timber frame buildings these are invaluable. But are we simply producing elevations to be used like plans for form and function arguments? Can we use

the ability to record increased detail and the new forms of data in more imaginative ways with a greater awareness of the 'lived experience' of occupants of historic buildings? Among other examples, I will look at Chawton House in Hampshire where a student survey project has highlighted the historic problem of creating plans of a difficult building.

Part 2: Moving across time and space

Built places: infrastructure in the Icelandic landscape, 870-1900 CE
Kathryn A. Catlin, Northwestern University, USA

In this paper, I explore how built infrastructure in the landscape may encourage long-term sustainability, while simultaneously obscuring the roots of social inequality and environmental degradation upon which those practices are founded. In the late 9th and early 10th centuries, some of the first settlers of Hegranes, North Iceland made their homes in places that by the 19th century would be on the margins of larger farm properties. They built turf houses and field walls, fished and managed sheep, and presumably raised families. By the early 12th century, most of these places were no longer inhabited. The environmental changes set in motion by the agricultural practices of the first settlers were having an effect on the landscape, especially in the form of erosion.

Meanwhile, there are indications that the economy was shifting from a more mercantile foundation based on surplus wool production to one more focused on subsistence farming and rent extraction. Both of these factors likely played a significant role in encouraging households to move away from dependent properties. However, over the next seven centuries, these places were far from abandoned. Their permanent built infrastructure was repeatedly reused at least until the 18th and 19th centuries. Field walls were maintained to sustain good quality meadows, and the earliest homes were obscured and replaced by cow barns, sheepfolds, and other buildings to manage the livestock belonging to the powerful farmers who now owned the land.

The multitemporal life of the longhouse
Anna S. Beck, Museum Sydøstdanmark/Aarhus University, Denmark

Strøby Toftegård is a large and rich settlement from the Late Iron Age and Viking Age in Eastern Denmark. The settlement has existed on the location for more than 300 years (650-1000 AD) and at least five phases of rebuilding can be identified. Conventionally, the development of the settlement would be described as separate phases of coexisting longhouses and units, characterizing the development as a linear process.

But at the same time, there are also examples in the settlement of how longhouses are built and rebuilt at the same spot over and over again, how some longhouses are deliberately moved to a new location and how certain longhouses might have been 'buried' and in that way persist to be a part of the settlement. All elements that suggest that past and present have been closely entangled and that the development might not be as linear as the conventional archaeological phases suggest. The aim of my PhD-project is to explore the relationship between time, space and buildings by investigating how time and temporality is materialised in the architecture, building processes and settlement structure at the site.

In the paper, examples from Strøby Toftegård will be used as a starting point for a discussion of how a multittemporal approach can enrich our understandings of the relationship between humans and the build environment - especially in an archaeological material that are often perceived as so poorly preserved that it is rarely interpreted further.

All I can do is tell this story: a journey through the 'body' of a synagogue building
Ioanna Galanaki, University of Southampton

The *Etz Hayyim* Synagogue constitutes a unique case in many ways; it embodies a locus of memory for all lost Jewish communities in Crete as the only surviving Jewish monument on the island. Through this monument the Jewish communities also still survive at an imaginary level and the multi-ethnic history of the island can still be traced. In this paper through a study of the materiality of the Synagogue building trauma will be discerned whereas through its social biography patterns of mnemonic purification and mnemonic conflict as well as processes of 'organised forgetting' will be detected and analysed.

The *Etz Hayyim* is a 15th c. Venetian monument. It is believed to have functioned originally as a Catholic Church and at a later stage was converted into a Synagogue. After being looted in the aftermath of the arrest of all Cretan Jews in May 1944, it was then let out by the Nazis as a dwelling house. After the end of the German occupation the main building was salvaged from illegal expropriation and locked by the representative of the Central Board of Jewish Communities in Greece. Intruders nonetheless entered illegally and used the space for various purposes. After a long period of abandonment and decay the Synagogue was renovated and finally re-dedicated in 1999. In 2010 two arson attacks caused serious damage and destroyed its archives and library. The Synagogue consequently was renovated once again and is currently functioning as an open Synagogue, a welcoming place of memory and reconciliation.

An archaeological perspective on the walking order
Roger H Leech, University of Southampton

Identifying documents preserving past routes in time and space through settlement landscapes can be part of the toolkit of the historical archaeologist. Examples taken from the author's recent study of The Town House in Medieval and Early Modern Bristol will illustrate the theory and methodology underpinning such identifications and the potential for further analysis that then becomes possible. Locating in the townscape the landgable rents of 1295 and later will be shown to reveal the rural origins of the tenement plots and layout of the late Saxon town. Later documents such as the Hearth Tax of the 1660s and 70s and assessments for taxes in the 18th century such as the Poor Rate will be revealed to be decodeable street directories, enabling documents such as probate inventories to be correlated with surviving historic buildings and accounts of recorded houses, enabling the archaeologist to pass through the hierarchically structured spaces of 17th and 18th-century elite houses.

Part 3: Thinking time and space
Assemblages of enclosure: interconnections and hidden substrata in early modern paintings, tombs and church floors
Jude Jones, University of Southampton/Bournemouth University

Pursuing theoretical concepts developed from the work of the political theorist Jane Bennett and that of the archaeologists Joshua Pollard and Christopher Fowler, this paper examines ideas of enclosure adhering to gentry houses, church architecture and especially the mortuary materiality of the English early modern period. My recent work on Bennett's insights into Assemblage Theory and the vitality of matter have led me to concentrate on her metaphor of the Russian *matryoshki* doll in which she demonstrates that 'assemblages contain a sequence of ever small ones - functioning groups of actants in a series of larger, more complex congregations' (Bennett *Vibrant Matter* 2010:45).

I have used this metaphor to examine the potential for extending ideas of scaled enclosure from the outer expanse of the newly enclosed early modern landscape down to the narrow wooden walls of a church's box pew as an example of the connectivity of territorial assemblage. This presentation now examines other forms of enclosed assemblage again ranging in scale but also in medium and construction. I will explore the possibility that the composition of open-ended and dynamic enclosed assemblages such as those revealed in 17th century painting, churches and tomb monuments can themselves be connected, appraised and drawn into this field of analysis. In such a field an assemblage of enclosure like the multi-levelled structure of an effigial tomb can be seen to be composed of a series of its own nested material and immaterial phenomena . By integrating this with other similarly themed and connected assemblages I suggest one begins to reveal veiled substrata of past and present human emotional response which otherwise would remain archaeologically unconsidered.

The medieval monastic death ritual: archaeology and the Cluniac customaries
Ellie Williams, Canterbury Christ Church University

The Cluniac rituals for the dying and deceased are richly detailed within the eleventh-century monastic customaries of Bernard and Ulrich of Cluny. Through a protracted and highly structured ritual process, the ailing and deceased brother, the community of monks, and particular spaces of the monastery were intimately linked. Movement within the monastery, together with symbolic and practical actions performed to and for the brother, were carefully orchestrated, both spatially and temporally, to help manage the monks' grief, whilst also structuring monastic relationships - reinforcing a sense of Cluniac community, and hierarchy.

This paper will consider how uniting these rich textual sources alongside funerary evidence from Cluniac houses, can provide new insights into the complex relationship between the dying and deceased brother, the living monks, and the dynamic spaces in which the monastic community interacted.

The 'Arab house' in medieval Egypt: cultural continuity or conceptual chimera?
Matthew Harrison, University of Southampton/University of Winchester

The idea of an archetypal "Arab house" or "Islamic house" has been pervasive in European architectural discourse for centuries, and remains influential in contemporary scholarship. Scholars from the 19th century onwards proposed that the Arab or Muslim's home is defined by consistent principles of form and function, including inward orientation of space around a central courtyard, a concern for visual privacy, and segregation of space by gender. These consistencies are linked to either ethno-cultural, religious or climatic factors, with some degree of inconsistency between scholars. Indeed, the model may be portrayed as either quintessentially Arab or Islamic, yet the principles remain the same. The application of this model to characterise housing across a huge spatial and temporal scope, from the seventh century to the colonial era, can be seen as part of the wider phenomenon of the West's portrayal of the Arab/Muslim world as monolithic, backward, and unchanging, in contrast to the dynamic progress of European culture. As such, this scholarship must, as Edward Said argued in *Orientalism*, be read as intimately tied with the colonial project. Yet some of the model's most prominent proponents from the 1960s onwards have been Muslim scholars, who have called for these principles to be re-incorporated into their nations' architectural fabric as part of a reaction against colonialism and globalisation—a revival of a traditional way of life. The model's social and political significance in the colonial and post-colonial era should give

us pause to consider its veracity, and lead us to question its influence on our interpretations of historic architecture.

This paper examines how aspects of the Arab-Islamic house model have been used to infer the form and function of excavated medieval houses in Egypt, despite a lack of empirical support. The courtyard houses of Fustat, Egypt's early Islamic capital, have been used as one of the key exemplars of the archetypal Arab-Islamic house. However, not only have aspects of the model been read into the fragmentary remains uncritically, other forms of housing within the excavated areas have not been given due attention.

A political ecology of the medieval castle
Matthew Johnson, Northwestern University, USA

Castle studies have moved away from their military role, towards a stress on social life, aesthetics, symbolism and 'status'. While this social/cultural turn is a marked advance, it has not always been thought through in an anthropological or theorized way; nor have social/cultural interpretations been related to everyday practices. Consequently, 'social' analyses of castles have tended to be rather disembodied, and to be limited in their accounts of power and inequality. In this paper, I sketch out what a political ecology of the castle might look like, with reference to the late medieval castle of Bodiam in south-east England. I focus on how the castle and its surrounding landscape work to control, delimit and define flows -- flows of things, of animals, and of people, circulating in and around the castle and its context. Flows work at a series of different scales ranging from the position and practices of the human body within castle spaces, to the local and regional, to the networks of religion and power across Europe and beyond. Things, animals and people move within and around the castle hall and kitchens, upper and lower courtyards, the ancillary buildings of demesne farm, deerpark, fishponds and estate, the local, regional and wider landscape and environment. Material flows help define the nature and scope of social relations; the description of such flows allows a clearer idea of the castle's role in materializing inequality to be delineated and understood.

3. DEAD BODY LANGUAGE: POSITIONING, POSTURE, AND REPRESENTATION OF THE CORPSE

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Nothing gives a better portrait of death than the cold, pale corpse. Paradoxically, our understanding of death perpetually creates and conditions the corpse that we encounter.

The process of laying out the dead body is underlain by spoken and unspoken rules about how the corpse should be presented e.g. extending the legs, folding the arms, placing the hands on top of the chest, adjusting the head to face forward. Conscious or unconscious, these decisions are deeply ingrained in the specific death culture in which the corpse and its mourners are situated. The laying out of the corpse may be accompanied by elaborate ritual practices and performance. The gender, age, and status of the deceased may invoke different bodily ideals, and thus their bodies may be positioned in different ways. Objects may be used to enhance the positioning of the body (such as using pillows or headstones to prop the head up) or render it obscure (such as by covering with a blanket, putting in flowers, shrouding, and so on). Postures may also be used to stimulate an illusion of sleep, to ensure rest for the undead, or even to defy death. Death postures may even extend outside the actual corpse into different media: effigies, paintings, films,

and so on. Moreover, the effects of postmortem changes to the body, such as rigor mortis, may have physical and emotional impact on the act of moving and positioning a dead body. In archaeological or forensic contexts, in particular, information about corpse positions may not be directly available, but it has to be inferred and reconstructed from what remains. The aim of this session is to promote new understanding of the representation of the corpse through body postures. It welcomes papers from any geographical regions and time periods, exploring different aspects of corpse positioning and posture.

Burial positions past and present: An introduction and some critical thoughts

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Archaeological bodies are found in a variety of positions. Supine, one-sided, prone, flexed, and crouched are familiar terms that burial archaeologists deal with regularly. By manipulating how the body is seen and experienced, the positioning of the corpse plays a significant part in the funerary ritual and the experience of death. For the western viewer, it might seem normal, proper, and suitably respectful that the body of the deceased is laid out in an extended supine position. However, this preference is hardly universal or timeless, and is historically rooted in over a millennium of Christian funerary traditions. Different societies have derived specific sets of rules about how and how not corpses should be positioned. Even within the same community, different people may be given different positional rites, invoking ideas about their identities in life and in death. This introductory paper to the session offers an overview of corpse positioning past and present – from the uninteresting extended supine graves to the baffling prone burials – and seeks to provide some critical reflections on how archaeologists approach and interpret dead bodies.

Facing the dead: Investigations of mummification and its social dimensions. A study of Garton Slack from Iron Age Britain

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In Iron Age Britain mortuary practices span the full range of possible rites (Wait 1985): inhumation, cremation, excarnation (Stead 1991, Harding 2016), even rare forms of supposedly 'accidental' mummification (e.g. 'bog bodies' Giles 2009, Aldhouse Green and McDermid 2015), with a variety of disarticulated remains that have been further modified for public display or personal curation (Armit et al. 2011,2013). Within this landscape East Yorkshire is both an iconic and fascinating region, containing some of the only formal cemeteries from this time period.

Garton Slack and Wetwang Slack were excavated from the mid-1960s till the 1980s, initially by T.C.M. Brewster (1980) and later under the direction of Dr John Dent (1982, 1984). Despite their rich funerary archaeology and the international significance of these finds, a report on the sites were never fully published. Stimulated by wider research, and burial practices, my research tell the story of five individuals who were buried at Garton Slack cemetery; presenting case studies with unusual mortuary positioning of the corpse in the ground. Through osteological and histological analysis this paper will reveal important results into complex mortuary rites which challenge our current notions of inhumation traditions in the Iron Age. Demonstrating the potential of this new suite of analytical techniques to rewrite understandings of funerary practice, the paper will also touch on its wider importance in understanding past society's relations with cadavers, and thus prompt us to think critically about how we display human remains or represent the associated mortuary rites, in more public museum contexts.

Visualised denial of social identity in the mortuary process: Deviant burials during the Middle Jomon Period, Japan
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Various differences among mortuary treatments of the corpse have been interpreted to reflect the differences of various aspects of social identity or personae. On the mortuary studies in Japanese archaeology, the same framework of the interpretation has contributed to the reconstruction of past society. Meanwhile, deviant burials recently become one significant research theme for understanding past social and religious aspects with multidisciplinary attempts including forensic, osteological, and archaeological approaches. However, the deviant treatments of the corpse have not attracted intensive interest in Japanese mortuary studies. As a consequence of the research trend in Japan, deviant treatment of the corpse, such as placing the inhumed body in a prone position, was not positively included in the mortuary analysis.

This manuscript argues that past social identity could be denied through mortuary treatments of the dead. I analysed the body posture in comparison with other mortuary treatments of the corpse, such as body direction, attachment of material items and manipulation of body part. In these mortuary attributes, deviant dead body treatments were mainly seen in male individuals. On the body posture, placing the inhumed body in a prone position correlated with minor or deviant body directions from dominant variation of male sample.

From the results of inter-relationship between mortuary practices including deviant and usual variations, I argued that the deviant prone body posture was a way for denying an aspect of social identity of gender in mortuary process.

Punitive postures for the early medieval deviant dead
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In his influential 2009 book, Andrew Reynolds integrated documentary, place-name and archaeological evidence to identify and interpret later Anglo-Saxon execution cemeteries as evidence of judicial practice, indicative of the political ideology, legal culture and dispersed administrative geography of the Christian Anglo-Saxon kingdoms of the 7th and 8th centuries AD and persisting as places of death and disposal into the post-Conquest period.

Reynolds' consideration of burial posture was primarily related to distinguishing execution cemeteries from contemporary communal cemeteries and identifying modes of punishment, including hanging and decapitation. This paper presents a further reading of the evidence for burial posture in later Anglo-Saxon execution cemeteries by drawing on theories of public execution as theatrical memory work. I propose that the lack of formulaic disposal, and thus considerable variability in deviant burial posture at many later Anglo-Saxon execution cemeteries, can be theorized as more than evidence of casual disregard for the dead or the violent punishments inflicted whilst killing the interred individuals. Burial posture can instead be interpreted as a key performative strategy at the culmination of public executions, choreographed to overtly contrast with burial practices in contemporary Christian burial grounds. As well as marking out the deviant dead spatially, burial posture enhanced the emotive and mnemonic force of public execution and the act of burial itself. Punitive postures thus built mnemonic citations between successive burial episodes, installing memories of violence into fixed landscape locales. Focusing on the evidence from Sutton Hoo, Suffolk, I explore how varied punitive postures configured the remembrance of the deviant dead in the early medieval landscape.

The man with the stone in his mouth; and the symbolic replacement of severed body parts with objects in third- to seventh-century AD burials in Britain
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Normative inhumation in third- to seventh-century cemeteries was extended supine burial, but sporadically burials are found which deviate from this norm. Occasionally such deviations take the form of burial in the prone position and/or decapitation or other mutilation of the corpse. In a small subset of these latter, the severed head or other missing body parts are replaced in the grave by objects at the appropriate anatomical locations. A small rural late Romano-British cemetery at Stanwick, England contains 35 inhumation burials. One burial, an adult male, which is the main subject of this paper, was found buried prone with a large flat stone wedged into its mouth. Various interpretations of the placement of the stone in the oral cavity are possible. However, analogy with other burials from Stanwick and elsewhere, where missing body parts are replaced with stones or other objects, suggests one possibility: the stone was a symbolic replacement for a severed body part, in this case the tongue. This interpretation is supported by osteological study: the mandible shows alteration that may be consistent with amputation of the tongue in life. A number of causes of tongue ablation are possible. One is judicial mutilation. The medical literature on tongue amputation suggests further possibilities: although assault or accident are sometimes responsible, more frequently such injuries are self inflicted in patients suffering seizures or mental illness. These possibilities are discussed for the Stanwick burial and the discussion is framed within the broader context of deviant burial practices in Roman Britain.

Assume the deposition: The position and effect of curated early Anglo-Saxon objects included in the grave during inhumation funerals
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Anglo-Saxon inhumation graves from the 5th to early 7th centuries AD were furnished with grave-goods specifically to either display or idealise the identity of the deceased. Studies of these cemeteries depict patterns of how various types of objects, such as weapons or dress fasteners, were positioned on the corpse or around the body in a grave. In some instances, these objects reveal evidence of retention, curation, and an age older than the chronological context of the rest of the grave. These objects are thought to have complex biographies and were possibly heirlooms from past generations. Examples such as brooches or swords would have been worn or carried on a daily basis, and were probably well known throughout the local population and those attending the funeral. The inclusion of these known curated objects would have had a symbolic effect on the remembrance of the deceased and his or her family, creating links to a specific past person, people, or events. The position and visual display of such important items during a funeral created a focal point for the enactment and amplification of social memory, recollecting the complex biography of the object in tandem with the identity of the deceased. As a preliminary investigation into the deposition, placement, and significance of early Anglo-Saxon curated artefacts within inhumation graves, this paper will test the possibility that curated artefacts were positioned in a more visually distinctive manner to display their unique importance for social remembrance in relation to the body of the deceased.

Death: Mirroring life? An exploration of the perspectives gleaned from skeletal and burial material

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When a loved one dies it is usual to present a ritualised, but exceptional, set of behaviours. For example, today people often wear black to symbolise mourning, a corpse is often dressed in the deceased's best clothing and funeral services often have a more religious underpinning than perhaps the rest of life entails. All this is behaviour that does not necessarily reflect the everyday, but is deemed 'appropriate' for that stage in the life course for the society.

Academics today often explore burial type, provision etc. in order to gain insight into an individual's identity in the past. However, there is rarely discussion of how an individual's newly 'deceased' status effects their identity overall in the eyes of their community and how the exceptional behaviours, like those discussed above, could distort the perception we have from the burial context. Using an osteobiography approach, I aim to explore the life story as exhibited in the bones and the death story through the burial context, to see how much the two narratives agree. To do this I have used case studies from Roman Britain and concentrated in particular on the theme of disabled identity.

4. DIGITAG 2: ARCHAEOLOGICAL STORYTELLING AND THE 'DIGITAL TURN'

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In April of 2016 the Theoretical Archaeology Group (TAG) teamed up with the Computer Applications and Quantitative Methods in Archaeology (CAA) conference to run a successful Digital TAG (digiTAG) session in Oslo, Norway. This session sought to question, challenge, appraise and reconceive the epistemological and research-oriented implications of the digital turn in archaeology, including its larger social, political and economic consequences.

That event, building on a long history of engagement with digital processes and digital media at both the TAG and CAA conferences, brought together 15 practitioners from around the world working in all domains of archaeology--from the lab to the field, from the museum to the classroom. Here they situated their (and others') use of digital technologies within wider theoretical contexts, and with critical self-awareness, thereby opening up a space for rigorous evaluations of impact and reflections on overall disciplinary change. digiTAG 2 now aims to build upon the success of the first digiTAG, extending critical conversation about the discipline's digital engagements at a finer-grained level in concert with a diverse audience of theoretical archaeologists.

However, digiTAG 2 seeks to narrow our discussion, in specific, on the concept of digital storytelling and the ramifications of the digital turn on larger interpretations of the past. Given the frequency and intensity with which digital media are now enrolled to structure, articulate, visualise and circulate information for the production of archaeological narratives, we invite participants to present papers that critically consider the impact of the digital turn upon archaeological interpretation and archaeology's many stories.

Whether you direct your digital engagements at professional, academic or non-specialist audiences - whether you deploy digital tools for data collection, data analysis, synthesis, and dissemination or beyond - we ask, how are your stories affected? Does the digital enable new and different

narratives? Does it extend or narrow audience engagement? When does it harm or hinder, complicate or obfuscate? And when - and for whom - does it create richer, more meaningful storytelling about the past?

To explore these questions, we encourage both traditional conference papers, as well as more experimental forms of (analogue or digital) argumentation, narrativising and delivery of your talk. Ultimately, digiTAG 2 aims to delve into the critical implications of archaeologists' use of digital technologies on processes of knowledge creation.

Generative junk mail: Geo-narrating Sir Charles Wheatstone
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Media archaeologies remind us that the properties of digital information generate new ways of exploring and imagining data. From the 'song' of a comet to the colour of the internet, the glorious blossoming of digital outputs inspires a re-evaluation of approaches to what might be called analogue archives. (Analogue in the sense that the materials embody continuously variable properties, such as size, shape, papers, inks, stains, marks, tears, etc.) How might these properties be sought, mined and made to tell stories? This paper seeks the generative data within Sir Charles Wheatstone's personal papers and re-imagines archaeological storytelling as a similarly generative experience.

"Once, or twice, upon a time". Ripping Yarns from the tablet's edge
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On re-examining the digiTAG2 call for papers, I realize that I could tell an innovative story about pretty much any of the bullet points listed. But we've been explicitly asked in the cfp to experiment, and that is a very tempting offer that is hard to refuse, although not necessarily an easy one to achieve. To begin, in Under Milk Wood Style, at the beginning, would usually be a good place to start but that could presuppose that our story is going to follow a strictly linear narrative route (Holtorf 2010, Pluciennik 1999) whereas I'm hoping to consider that some accounts of hi-story do tend to work better as circular tales, and regardless of the physicists' insistence that the 2nd Law of Thermodynamics defines a straight and unwavering flight of the 'arrow of time' (Cox, *The Arrow of Time*, BBC2).

But since the saga I wish to recount is one of Research, then it most likely makes sense to follow a pre-designed and well-trod trail. Our story therefore starts – be it a cycle or arrow - with existing archive documents; developing research questions and a research design to answer those questions; moving meticulously forwards to investigation; which will in turn provide the data for analysis and synthesis; then on to publication of results; wider dissemination of outcomes; while, throughout the whole saga, building the material for archive. The setting for the short event where this TAG paper will be presented, will be somewhere in the local of Southampton and, at the moment of writing this, at some time (unknown) in the future.

Will the story be a linear narrative or a cycle, or even an upwards spiral, of research? This paper will try to show why it might be both and how, ideally, it could benefit from ending up as a Ripping Yarn rather than a rather Greyish piece of Literature.

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Building Museum Narratives through Active Performance with Digital Replicas of Objects

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Today we are used to "conceiving and presenting objects as always incomplete, even useless, without the (textual) provision of associated data and interpretations" (H. Dudley), and this underestimate the possibilities inherent in objects' material, sensorially perceptible characteristics (i.e., *affordances*) for understanding the meaning and function of objects in the past. Following this argument, in this paper I attempt to show that virtual or real interactions with copies of original artefacts can augment museum experiences because 3D digital or printed replicas allow museum visitors to form an intimate relationship with museum objects, including objects they are not allowed to physically manipulate. This study builds on the results of recent surveys aimed at exploring how people perceive ancient artifacts presented through different media (visual examination of original objects, interaction with 3D digital replicas, tactile experience with 3D prints). The results of this research suggest that traditional museum practices, which see textual or similar provisions as necessary *a priori* for a valuable learning experience in a museum, can be modified, so that the physical experience with artefacts becomes intimate *a priori*. Further, virtual and/or tactile manipulation of artefacts' replicas allows museum visitors to freely create their own narratives of the past. As a result, museum visitors become more intrigued with the stories of museum objects and more critically engaged with expert interpretations proposed *a posteriori*. I end this paper with offering ideas on alternative exhibition practices that integrate traditional museum settings and 3D replicas to increase museum experiences.

Archaeological Storytelling with LEGO *StoryStarter*: Grand Designs in Ancient Greece

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Grand designs in Ancient Greece is an AHRC funded collaborative research project, between The University of Liverpool and primary and secondary schools, to create innovative and engaging cross-curricular lessons about archaeology and Classical Greece. In contrast to traditional methods of academic research dissemination and methods of teaching, we have designed activities that encourage students to learn through digital storytelling, within a supportive structure, which is a powerful tool for improving literacy and nurturing their interest in both archaeology and the past.

This paper will explore how we are enabling children to harness the power of digital technology to write their own stories about the practice of archaeology and life in Ancient Greece. We are using LEGO *StoryStarter*, which is designed to develop skills in creative writing, reading, spoken language, art, and areas of ICT learning. Students learn through play about the practice of archaeology and Classical Greece by collaborating to create LEGO models of excavations and Greek daily life. We also provide problem scenarios, in which there is an issue, problem, challenge

or opportunity, but which intentionally avoid defining a specific outcome. The aim is to promote discussion of the issues and for students to determine the course of the story arc and suggest possible resolutions to the story. The students use their Lego models to build scenes for a story about an excavation or life in Classical Greece, and LEGO *StoryVisualizer* is used to take photographs, visualise and write the stories, and communicate their work in digital storyboards.

Enriching The List
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In June 2016 Historic England Launched Enriching The List, a development of the National Heritage List for England (NHLE), to enable those using The List to add additional information about the list entries and photographs of them. This is proving to be a tremendous success both for crowdsourcing additional information and as an outreach and engagement tool enabling people to share their personal stories relating to the buildings and sites on The List. The NHLE contains almost 400,000 entries comprising Listed Buildings, Scheduled Monuments, Registered Parks and Gardens, Registered Battlefields and Protected Wrecks, so far with over 10,000 contributions published including 15,000 images As well as looking at the technology used to facilitate this sharing, this presentation will also include of some of the stories being shared showing how this is truly living up to the word 'Enriching' in the project title and delivering benefits in terms of outreach and engagement.

Integrating Narratives: Creating Stories of Archaeology in a Local Language
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Despite the importance of drawings and images, particularly because of increasing digital applications, archaeology is still a discipline that is heavily dependent on writing, from recording, interpreting to presenting knowledge. The discipline is shaped by consciousness of writing. This can be a challenge when community engagement in archaeology is sought in a community of which the primary language is an oral-based language and writing is available only in their secondary language. Use of digital audio allows us to create and narrate archaeological knowledge in such languages. Further, it may present potential ways to bridge archaeological and community interests.

Local communities in the vicinity of the Amara West archaeological site in northern Sudan are populated largely by the Nubians. Their language, Nubian, once had a writing system but that is not practically used among the speakers today. The language is regarded as the core of the Nubian heritage among the communities, embodied in songs, poems and names of places, objects and practices that are manifestations of their heritage. The Nubian communities also consider the archaeological sites as a part of Nubian heritage. At the same time, however, the sites carry a sense of alienation, as they become a separated space, for the presence of international archaeologists.

In an effort to share results of the archaeological research at Amara West, a Nubian podcast was created in collaboration with local people. This brought not only a unique opportunity to present archaeology for the communities, but also illuminates a potential way to integrate local and archaeological narratives.

The Playful Past: Storytelling Through Videogame Design and Development
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The media forms that we use in archaeological knowledge creation and visualisation have an impact on how narrative is structured and thus on how storytelling can unfold. The videogame medium draws upon analogue elements of ludus as well as digitally specific structures to offer a number of novel affordances for creating and telling stories about the past. Drawing on ideas of agency, co-creation, emergence and systems this paper will critically probe how the creative practice of designing and developing videogames offers interesting storytelling opportunities and it will be argued that thinking, creating and playing through these novel structures allows for interesting, reflexive thought that can be beneficial as a form of knowledge creation and communication. This paper will demonstrate and discuss syncretic, emergent and parallel narratives through three games created as part of my PhD research. The paper will be experimental in form – flipping backwards and forwards between the games themselves and the code which underpins them – through taking this approach it aims to demonstrate, and immerse, the audience into how these narratives are constructed and made as well as how they are played. Through taking this approach the value for both players and creators will be shown.

Digital Data Funerals
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This contribution explores how erasure could be used as a mode of inquiry to examine the relationship between memory and network materiality through a series of workshops. The following describes the investigation of the relationship to digital death and deletion through two workshops that took place in London in the spring of 2015: *Posthumans n Postburials: Digital Data Funeral Design*, at the London College of Communication (LCC), and *Goodnight Sweetheart*, at the Victoria Albert Museum. The goal of these workshops was to test how erasure as a method of inquiry could creatively fuel the digital data funeral design process, and to get further insight into how people feel about deletion with respect to digital death.

In taking up Heidegger's challenge to use art to reflect on technology's *enframing*, in this case, how network materiality enframe's memory, the research described is a set of experiments to that effect (1977). The research the workshops are based upon, which fall under the umbrella project *ne.me.quitte(s)*, could be said to both delete and leave a trace of the erasure, like a text marked by *sous rature*, an attempt to articulate the absence of a presence (Derrida, 1997: xvii). *Ne.me.quitte(s).pas* investigates different modes of symbolic rituals of erasure, called digital data funerals. This artistic strategy serves to further emphasise problematic digital archiving practices such as surveillance, and proposes the importance of mourning (that is both remembering and forgetting) of our distributed and disembodied digital memories. This contribution addresses the gap in technological development, governmental and corporate privacy policy, and socialised mourning related to network materiality. The artistic practice described will examine how materiality and perception might be related in the specific case of digital data and its afterlife. Ultimately, it investigates how memory and technical objects are both entangled in the context of networked data archiving, and the potential of erasure as a method of inquiry towards this exploration of this theme. It begs the question: "What would you erase forever, *if* you could?"

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Industrial Memory and Memorialisation through Digitisation
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This paper explores the tension between two sorts of memory. On the one hand, there are vivid, immediate emotions evoked by states of nostalgia and nightmare, and on the other hand, there is the more long-term atmosphere evoked by a sense of place and identity. The latter atmosphere is in part achieved through memorialisation. Presenting narratives of the industrial landscape to the public through digital means necessarily involves an engagement with these tensions.

Three theoretical approaches are brought to bear on the problem: cultural presence mediated through industrial remains; the Infrastructure of Things and industrial trajectography.

Social and cultural aspects are essential to a more immediate and emotional response to industrial archaeology. Objects and structures in social interactions help create atmosphere and sense of place. The Infrastructure of Things takes Bruno Latour's idea of the Parliament of Things (already applied to digital worlds as the Internet of Things) to understand the interaction of human and non-human actors in industrial landscapes. Striking examples of the anthropomorphising of the industrial infrastructure and its incorporation into human social networks illuminate this potential. Finally, Virilio's idea of trajectography is a useful way of understanding how these relations between humans and the industrial infrastructure are experienced and organised.

Parallels between industrial archaeology and its digital representations naturally emerge in these three approaches. These parallels are therefore to be navigated cautiously in presenting narratives of this recent period of archaeology. Industrial archaeology has a potential immediacy that is highly seductive.

Ghosts in the Machines, Spirits in the Material World: An Archaeological Mystery
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A dialogue about the digital technologies which intervene in the creation of archaeological knowledge has tended to be limited by the way archaeologists are already embedded within that technological environment. At the same time, it is argued that we need to be knowledgeable participants in order to consider and influence the effects of these technologies. This paper seeks to escape from this paradox through the use of narrative as an investigative tool for present-day digital practice rather than for telling stories about the past. As an experiment, a narrative will be developed as a vehicle for highlighting a largely hidden aspect of our use of digital tools in archaeology, and for thinking about how day-to-day archaeological method and practice is affected by the tools we use. It will introduce a short story about a regular archaeologist, their experiences with digital tools used during the course of their work, and the mystical encounters which result.

Digital Escapism. How objects become deprived of matter
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Due to technological progress in data collecting and its representation, in recent decades we observe an expansive movement related to registering and documenting heritage. It provokes discussions about the nature of collected archaeological data. Digitalization offers various possibilities for transforming archaeological information. Many new digital technologies and archeometry create powerful opportunities to reconstruct and represent material, „living" artifacts.

In my paper, I would like to consider a problem of representation of archaeological data and artifacts in museums. There is a growing tendency to create exhibitions without any material, authentic artifacts. Museums in Europe use various strategies to attract visitors and they often tempt the crowds with new technologies, i.e. digital reconstructions, augmented reality, simulations, visualizations and holograms. Many museums do not exhibit artifacts and present only the traces of data and the traces of objects (while artifacts may simply rest in a museum's storage).

In the context of these changes, I would like to reflect on the following questions: why is archaeology gradually resigning from the authentic matter? Are we experiencing a kind of "digital escapism" dictated by ludic preferences? Are specialized researches become impossible to exhibit? Does digital data become the goal of archaeologists meeting expectations of the audience?

In my presentation I will try to answer these questions by analyzing different fully or partially digital exhibitions and archaeological approaches to data collected with help of the most modern technologies as represented in the Museum of Underground Market Square in Cracow. What is proposed in the museum is the full experience of the past. The visitor may feel „immersed" in the past with help of a variety of digital exhibits, but what is dangerous in the reconstructed past is the place of artifact — marginal and forgotten.

Show, don't tell: Using digital techniques to visually record and present sites as a means to tackle complexity
Katie Campbell, University of Oxford, katiefcampbell@gmail.com

Building on a paper from the first digiTAG, this presentation aims to critically evaluate the use of digital visualisation techniques to broach the often complex political and communication issues at internationally-recognised archaeological sites. Broadening the discussion as to how this approach might impact the site's narratives, it focusses on the somewhat extreme case of Merv in Turkmenistan to demonstrate how a digital recording and presentation strategy influences work within a professionally diverse, international team, while negotiating practical and political challenges.

In 2015, the monumental, mudbrick-built Great Kyz Kala at Merv was archaeologically investigated to inform a conservation, heritage and tourism management strategy, a task which built on a decades of research at the site. This presentation describes the situation at Merv, and reasons for selecting a heavily photogrammetric recording strategy for this latest investigation. Feedback collected from specialists working at this and other similar sites was then combined with wider critical thinking on the subject to create digital visualisations to aid various work tasks and decision making at the site.

Through critically considered, practical application of digital technology, this paper follows the creation of a digital site narrative from data collection to interpretation, while presenting evaluative observations from a range of stakeholders and ultimately aims to draws conclusions on the impact of this digital account of the monument.

Drawing out the data: information graphics and the analysis of multivalent data

Megan von Ackermann, University of York, mva503@york.ac.uk

This paper discusses how the use of information graphics may help navigate the tasks of understanding, analysing, and interpreting large amounts of complex, interrelated data through the creation of visual narratives.

Early medieval locks and keys are socially charged objects with the ability to create and change identities and perceptions of objects, spaces, and people. In order to understand the implications of their appearance in mortuary constructions, and through that some of the social, economic, and cultural conditions that were the context for those constructions, it is necessary to produce as complete a picture as possible of the objects and their setting. However the number of characteristics produced makes conventional correspondence analysis through cross tabs unfeasible. Traditionally the solution has been to reduce the number of characteristics either through a deliberate narrowing of focus or by grouping characteristics according to a set of logically derived criteria. Unfortunately, because these groupings reflect the concerns and questions of the researcher it is possible that the results will be incomplete or biased. Further, the grouping approach tends to reinforce large statistical patterns while those that are potentially still important but appear less strongly may be ignored.

With the understanding that objects both create and are created by narratives, this paper presents an alternative approach that uses emergent information graphic methods to discover possible conceptual clusters that reflect those narratives, and then goes on to discuss the importance of graphic-based approaches in the effective presentation of these narratives to a wider audience.

Something Old…. Something New

Helen Marton, Falmouth University, Helen.Marton@falmouth.ac.uk

"If we accept that mind and matter achieve co-dependency through the medium of bodily action, then it follows that ideas and attitudes, rather than occupying a separate domain from the material, actually find themselves inscribed "in" the object."

Thinking through Material Culture

Carl Knappett

Archaeology maps cultural attitudes towards protection, consumption, reproduction and systems of belief, often examined primarily through crafted objects. I endeavour to commute between past and present and from one culture to another, creating new narratives through craft practice. The human condition hasn't changed all that much, in stark contrast to our comprehension of the

world which has expanded exponentially, and yet our drives and needs remain the same as do our most basic preoccupations, hopes and fears. I explore the presupposition that in the process of making and in the use of material we truly encounter, relate and communicate a degree of shared experience and understanding.

My current creative practice reinterprets archaeological material through digital and traditional craft practices; I explore how this hybridized approach offers a potentially new lens through which to view the past. I produce playful, resonant works using a variety of appropriate materials. They frequently allude to function, borrowing and abstracting meaning and significance from both domestic and ritual objects in order to create contemporary indicators, highlighting shared domestic activities, connecting past and present.

My interdisciplinary practice based PhD explores the communication of archaeology: Reinterpreting finds from a specific site at Tremough in Cornwall.

Stonehenge and other stories
Paul Backhouse, Historic England, Paul.Backhouse@HistoricEngland.org.uk

The illustrator has arguably had a subservient role to text in archaeology, often seen as too interpretative and loosely based on fact. Yet between the text and the illustration lies the story of the past, in this increasingly digitally visually driven world there is a greater place for visual story telling.

Is choosing an audience really that important? Or is it the impact?

This presentation will explore the work of a number of artists and projects that have through their input increased the impact of the results of archaeological and heritage work through their visual narratives.

5. DIGITAL VISUALISATION BEYOND THE IMAGE: ARCHAEOLOGICAL VISUALISATION MAKING IN PRACTICE

Gareth Beale, University of York, gareth.beale@york.ac.uk; Paul Reilly, University of Southampton, P.Reilly@soton.ac.uk

The emergence of digital visualisation and representation has led to some of the most significant developments in archaeological practice of the late 20th and early 21st centuries. While a great deal has been written about digital visualisations, very little has been written about the way in which they are produced. This session constitutes an exploration of the diverse and often highly personal stories of practice which constitute digital visualisation making. We will examine the craft of digital visualisation making in its broadest sense, allowing for wider and more nuanced connotations (e.g. imagination and conceptualisation) and for other mechanisms for receiving impressions or conceiving representations of things, in other words multi-modalities of perception including haptic, sonic and olfactory stimuli. We invite contributions which question the passive and neutral

character of the visualisation maker and which draw attention to human variability in perception. We are also keen to include explorations of teaching, learning and translation.

Contributions from across the spectrum of archaeological visualisation making are encouraged including practitioners in "artistic", "scientific" and "interpretative" styles. We also wish to highlight the importance of 'non-expert' digital visualisation making and the role of digital visualisation in everyday archaeological discourse.

Extended Practice and Digital Representations
Jeremy Huggett, University of Glasgow

When we consider the relationship between aspects of archaeological practice and the digital tools we increasingly incorporate within our practice, our focus is – inevitably – on the questions, applications, and results. Consequently, our reflective approach to the digital is frequently limited to the relatively mundane: what it offers, what it delivers, what it costs. But the relationship between practice and the digital extends far beyond this. In a very real sense, the digital becomes a part of extended practice: the digital shares in the practice, it takes on part of the practice in its own right, it can even undertake the practice absent the archaeologist. What are the implications of this for our approaches to the visualisations, representations, constructions, explorations, conceptualisations that we create in our digital environments?

Different expressions of the same mode: apprehending the world through practice, and making a mark
Stefan Gant, University of Northampton, and Paul Reilly, University of Southampton

In this paper we discuss pertinent features of shared experience at the excavations of an Iron Age Hillfort at Bodfari, North Wales, referencing artist, archaeologist and examples of seminal art works and archaeological records resulting through the collaboration. We explore ways along which archaeological and artistic practices of improvisation become entangled and productive through their different modes of mark making. We contend that marks and memories of artist and archaeologist alike intra-actively emerge through the object of study, the tools of exploration, and the practitioners themselves, when they are enmeshed in the cross-modally bound activities of remote sensing, surveying, mattocking, troweling, drawing, photographing, videoing, sound recording, and so on. These marks represent the signatures of the often anonymous practitioners, the voice of the deposits as well as the imprint of the tools, and their interplay creates a multi-threaded narrative documenting their modes of intra-action, in short their practices. They occupy the conceptual space of paradata, and in the process of saturating the interstices of cognitive artefacts they lend probity to their translations in both art form and archive.

Geophysics: creativity and the archaeological imagination
Rose Ferraby , University of Exeter

This paper explores archaeology as a creative practice by engaging specifically with the processes and visuals of geophysics. An area of archaeology considered highly scientific, a different way of looking reveals geophysics to be a poetic form of landscape study. The processes used to collect, alter, interpret and visualize the data are creative acts that have parallels with more easily recognizable arts practices such as painting, drawing or photography. The paper explores the ideas behind ways of seeing, the archaeological imagination, technologies and process. It the explores different elements of work and ways of seeing and thinking they inspire. The paper will showcase

how other arts practices can give alternative perspectives on geophysics and how these can in turn influence fine art.

Artefact Life History: Digital intervention, conceptualisation and the notion of recycling in the communication of archaeology through digital craft practice
Helen Marton, Falmouth University

An object's biography is dictated by the journey it has taken and though the myriad interactions it undertakes. Over time, raw materials can be perpetually transformed through human contact and varied technologies. I explore the post depositional life of the artefact and how through site-specific knowledge, conceptualisation and digital intervention, I engage with a new dimension to the object biography.

Using traditional and digital tools and technologies I produce concept led works, which aim to communicate archaeology and renegotiate the artefact life history. Key concepts here include: Transdisciplinarity, archaeology, object biography, artefact life history, digital craft, digital archaeology, material culture, making, narrative works, conceptual craft, practice as research.

Auralisation making in practice; a very visual undertaking?
Catriona Cooper, Allen Archaeology Limited

The use of auralisation and the use of acoustical modelling are starting to influence archaeological practice; opening up questions about the auditory and multisensory experience of the past. The method for creating an acoustical model of a building is comparable to the method for producing a three dimension model. Through the process of visualisation creation we naturally critique and amend based on what we are seeing. An auralisation is assessed on what it sounds like; does it sound right, appropriate for the space? However, this is often just one step in the process. A significant amount of the assessment is undertaken based on our initial, visual, perception of the model, and the visual perception of the results.

This presentation aims to question the practice of making an auralization. Is our reliance on the visual elements of the model and results based on our reliance, or our prioritisation of the visual over the other senses? Or is based on our unwillingness to engage with the creative elements inherently involved with the production of visualisations and representations which still apply in the production of auralisations?

Adapting to museum ecologies: The art of 3D digital replicas and prints in museum context
Paola Di Giuseppantonio Di Franco, University of Cambridge

When I wrote the proposal for my Marie Curie project, DIGIFACT, one of the main objectives was the "Creation of a new methodological paradigm for 3D reproduction of artefacts". My main research aim was to build up a coherent 3D recording methodology for artefacts. I intended to compare the most relevant 3D techniques in order to see which were the most effective for the reproduction of artefacts and why. While working at the Cambridge Museum of Archaeology and Anthropology and later at the British Museum, I realised that the title of my objective was quite inappropriate, as it did not reflect how museum policies would affect the practice of digitally replicating artefacts.

This short presentation will discuss challenges encountered during the 3D recording phase of DIGIFACT. It will also discuss what it means to develop a coherent workflow that involves different stakeholders, including private firms working on 3D printing.

The strange case of Dame Mary May's tomb: The performative value of Reflectance Transformation Imaging and its use in deciphering the visual and biographical evidence of a late 17th century portrait effigy
Jude Jones, University of Southampton; and Nicole Smith, University of York

A Reflectance Transformation Imaging (RTI) project carried out in 2013 in the parish church of St Nicholas. Mid-Lavant, West Sussex by Gareth Beale, Jude Jones, Yvonne Marshall and Nicole Smith has led to a number of exploratory papers, the last of which is to be published in a collected edition on Digital Heritage issues in Internet Archaeology (2017 forthcoming). For Jude Jones and Nicole Smith the exercise, which centred on investigating the sculptural treatment of a late 17th century effigial sculpture of Dame Mary May by the sculptor John Bushnell, revealed a great deal of detailed information concerning past and present bodily and emotional attitudes to the effigy and its active role in eliciting them. The RTI exercise itself also prompted a series of theoretical questions emerging from the process of analysing composite 3D images of this kind. Having briefly examined the visual and visceral impact of this tomb we then discuss these broader questions

Seeing History through a SCHARPer Lens; exploring the Wemyss Caves through community film making
Tanya Freke, The SCAPE Trust & University of St Andrews

Since 2012, SCAPE has worked with citizen scientists and local community volunteers on the Scotland's Coastal Heritage at Risk Project (SCHARP), a four year project designed to record and interpret archaeological sites around Scotland's dynamic coastline. One project was undertaken at the Wemyss Caves, home to the largest concentration of Pictish carvings in Scotland. Damaging coastal processes, coupled with social deprivation in this former mining village, are leading to neglect and increasingly threaten the site. Local action group, Save the Wemyss Ancient Caves Society (SWACS), have collaborated with SCAPE on a digital recording project, making 3D models of the coastline and carvings and capturing the rich and vibrant social history of the caves. One collaborative technique employed harnessed the SCHARP team's extensive film production knowledge to create a series of short films, one for each cave, as part of the wider recording project.

This paper will discuss the making of these films, showing how the partnership chose the stories to exemplify the distinct history of each cave. It will detail how the films were produced, highlighting the key role of the local community, who provided content, took acting roles and sourced materials. The talk will conclude with a showing of one of the short films, 'Standing on the Shoulders of Giants'. This stars many members of SWACS and details the history of antiquarian recording at the caves, reinforcing a long tradition of research at an asset which is now in danger of being lost.

7. ENCHANTING OBJECTS AND WAYS OF SEEING: VISUALITY AND RESPONSE IN PREHISTORIC EUROPE

Joshua Pollard, University of Southampton, C.J.Pollard@soton.ac.uk; John Robb, Cambridge University, jer39@cam.ac.uk; and Peter Wells, University of Minnesota, wells001@umn.edu

Adding ornamentation, whether figural or non-figural, to an object requires impulse, effort and imagination. Why were some objects decorated, and others, apparently intended for the same purpose, not? It is unlikely that people in prehistoric Europe saw objects in the same way that we do, but did the different environments in which they lived and their different experiences and comprehensions of life mean that they perceived decoration differently, too? To what degree might decoration serve to affect social relations, generate sensory response that could be more than visual (tactile, of narrative or memory, for example), or protect things and people, respect and beautify materials, or even animate? Papers in this session address Gell's question of "why decorate things?", with an aim to develop theory for the study of objects crafted in prehistoric times that we perceive as possessing visual complexity.

Ways of seeing in ancient Europe: a deep-time prehistory of vision
John Robb, Cambridge University

Can archaeologists reconstruct patterns of vision in the deep past? This paper argues that we can. I begin with an overview of current anthropological and archaeological approaches to art and visual culture, creating a synthetic model of visual culture that combines different insights rather than juxtaposing them as alternatives. Then, as a major case study, by contrasting Neolithic and Bronze/ Iron Age art, I argue that a widespread, systematic transition in the nature of visual culture took place across Europe in the third millennium BC, marking changes in ways of seeing which were tied into changes in politics and personhood.

Seriation and Causality
Dan Hicks, University of Oxford

This paper explores the theme of "Visuality and Response" through a return to Henry Balfour's account of The Evolution of Decorative Art (1893). It begins by tracing the unacknowledged debt in the final chapter of Alfred Gell's Art and Agency to 19th century ethnology. Working through works by John Evans, André Breton, Lévi-Strauss, Sol LeWitt, and Rodney Needham, the paper addresses the connections between seriation and causality in visual archaeology

Adorn. Protect. Empower. The role of 'applied decoration' on Iron Age material culture
Melanie Giles, University of Manchester

One of Gell's central ideas in The Technology of Enchantment was that complexity of design can be an effective way of achieving apotropaic power through object affects on the viewer (1992): a kind of visual maze that acted as 'demonic fly paper' to the evil eye or malign gaze (Gell 1996: 80). These ideas have now been well-trodden in studies of later prehistoric art, particularly in relation to inscribed, cast, forged or beaten decoration, yet the enhancement of an object with applied

substances (particularly red glass, coral and stone but also ceramic, gold or bronze) is also an important dimension of Insular Celtic art. Indeed, it encourages us to think not only about the visual impact of such materials (such as colour, Giles 2009) but also tactile, oral and even olefactory effects of substance (Giles 2012). Important studies by Davis on horse-gear (2014) and Adams on brooches (2013) have provided vital insights into aspects of origin, composition and repair of such materials. This paper will draw upon their work whilst arguing from a craft perspective that the ways in which we divide up these materials might not have been how Iron Age people saw their world. It will do so by identifying correspondences between substances - not just in appearance but craft process, behavior and affect - using this to critique the notion that some materials were merely 'poor substitutes' for rare exotica. Having argued for a rather different world of Iron Age materials, it will finally foreground the ways in which this technological aspect of crafting – attaching, applying, impressing, clamping, riveting, pinning and gluing – informs models of relationships in the later prehistoric world (after Bruck 2006).

'Retentions' of the past and 'protentions' towards the future - how can art styles and motifs act?
Jody Joy, Cambridge University

The focus of this paper is so-called Celtic art from Britain dating from c. 400 BC – AD 100. Past studies have often sought to identify connections between objects through stylistic comparison and by surveys of motifs and are concerned primarily with the meaning of art. Inspired in part by the work of Alfred Gell but set within the broader context of a change of emphasis within the social sciences, recent research has asked not what art means but what does it do. Gell's ideas on how art acts as a mind trap or enchants the viewer through its technological virtuosity have been particularly influential, transforming our understanding of Celtic art. But I argue we should not abandon the study of art styles and motifs: they manifest relations between artefacts and in the words of Susanne Küchler, provide the eye with 'a special thing-like tool for thinking'.

In this paper, I draw on ideas developed in Gell's paper 'The Network of Standard Stoppages', written around 1985 but published posthumously in 2013, where he examined the artistic oeuvre of Marcel Duchamp using ideas developed by Husserl. In particular, Gell was interested in relationships between artworks manifested through 'retentions' of the past and 'protentions' towards the future. Using this idea, I will examine how art can act by making temporality and relations visible both by retaining and re-articulating past styles and motifs.

Surface, substance and social worlds
Joshua Pollard, University of Southampton

There is a tendency to treat decoration, style and surface finish ('art', 'form' and 'technology') as separate analytic units, a legacy of their interplay in different interpretive strands since the early development of archaeology during the 19th century. Yet within real worlds they come together to generate visual and tactile effects, and with it fields of efficacy, attainment and memory. Taking the totally of form/surface and its treatment facilitates a deeper comprehension of the qualities of objects and their sociality; here explored through a study of seemingly mundane material culture such as axes, woodwork and ceramics within the British Neolithic.

How moral travel produces difference – telling Nuu-chah-nulth whalebone clubs
Yvonne Marshall, University of Southampton

Wilson Duff (1975: 12) opens his book images stone b.c.: "Images seem to speak to the eye, but they are really addressed to the mind. They are ways of thinking, in the guise of ways of seeing." Duff went on to suggest that the choice of stone as a medium for seeing-thinking was a move designed to place thinking outside of time – and thereby into a world of being (cf Marshall 2000 World Archaeology). In a recent article in the Canadian Journal of Archaeology (2015), Natasha Lyons and I argued in a similar vein for an understanding of objects as spatial "tellings" materialised in non-linear, non-narrative and therefore a-temporal forms. Our common point with Duff is that objects/images are arguments concerning possibilities for being and becoming, not representations of beings.

Using whalebone clubs as my forum, I show in this paper how the Nuu-chah-nulth people of Vancouver Island, British Columbia, create object "tellings" (ways of thinking) which set out a moral or ontological geography. Moral travel through this geography constitutes a process of becoming which produces difference (cf Marshall 2012 Feminist Theory). Simple moral travel produces everyday growth and change. But when more fundamental transformation is sought, through engagement with great power or wealth, moral travel is demanding and dangerous. The transformative possibilities of moral travel are calibrated in effort and risk.

The perfection of imperfection? Decoration on Early Bronze Age ceramics
Claire Copper, University of Bradford

In his examination of a number of Scottish Pygmy cups Alex Gibson (2004: 280) pointed out that some of these vessels have 'careless' or 'spoilt' decoration. New research, as part of a larger project aiming to compile a full corpus of all currently known examples of these ceramics is showing that this may in fact be a deliberate feature of these pots, with a clear intention on the part of the potter to create specific visual tricks or effects. A number of the vessels display complex decorative schemes incorporating repeated motifs and panels often highlighted by the use of different coloured inlays. However, closer examination reveals that not all of these are seldom as truly regular. Given the fact that mistakes are easily remedied prior to firing, it would seem that there may be other motivations behind this.

This presentation will look at how this phenomenon may have started within the Beaker ceramic tradition and will share a number of examples of how these visual tricks are employed on a variety of early Bronze age ceramics, before moving on to discuss the idea that irregularities and 'mistakes' were fully intended by the potters and may have been linked to the nature or type of death suffered by the individual in the grave.

Vessels with signs and symbols of the Late Bronze Age of Southern Transurals: new approaches to atypical ornaments
Nikolai Shcherbakov, Iia Shuteleva and Tatiana Leonova, Bashkir State Pedagogical University

Today's interpretation of the vessels with atypical signs and symbols combines contextual analysis and post-processual approaches to social and material issues in archeological sites. Southern Transurals in the Late Bronze Age from c. 1820 to 1795 calBC was a contact area of Srubnay and Andronovskaya (Alakul) population groups. Cultural traditions of these population groups are distinguished by the high degree of standardization in morphologic forms and ornamental composition of pottery vessels. Standard forms of ornamentation are presented by dental print, notches, scribed lines, rhombs, open triangles, seed-shaped imprints. The specified atypical signs and symbols on the vessels are rare archaeological finds. By the year 2000 on the territory of Srubnay community from river Dnieper to Southern Transurals there were identified 308 of such

vessels. Currently the number of such rare vessels increased at the settlements and burials on the territory of Southern Transurals. Complex symbolic figures, wheel depictions, solar symbology, anthropomorphic and zoomorphic (horse, snake) images may be referred to such symbols on the territory of Southern Transurals. Nowadays application of natural-science methods of analysis of archeological material, including paleogenetic analyses and ceramic petrography (P. Quinn), let define social context of the use of vessels with atypical signs and symbols. On the territory of Kazburun archaeological microdistrict in burial sites and settlements such vessels were found by the skeleton of a teenager (female), near fireplaces and wells, inside dwellings and structures, which let us talk about special social and sacral role of these vessels. Besides, the number of such "deviations" in ornaments of the vessels increases with growth of contacts between the two population groups – Srubnay and Andronovskaya (Alakul). This research was sponsored by the RFH and the RB in the framework of a scientific project number 16-11-02003 a/u.

Pattern as Patina: Iron Age 'Kintsugi' in East Yorkshire
Helen Chittock. University of Southampton and The British Museum

Kintsugi ("to repair with gold") is the Japanese art of mending broken ceramics using lacquer mixed with powdered gold, silver or platinum. This type of repair can create a striking visual effect and not only restores a broken pot to its functional state, but results in an object with far more value that the original pot. These mended objects acquire value via a specifically Japanese aesthetic that sees the wear, defects and patina associated with ageing not as flaws but as positive characteristics.

The philosophical framework within which kintsugi sits is useful when considering the motivations behind the treatment of objects in Iron Age East Yorkshire. A study of the biographies of plain and patterned objects from the region has shown that some types of object were not just used but repaired, curated, fragmented and reassembled over time. Decorative pattern on objects played an important role in making these varied histories visible. As well as making objects unique and individual, it made wear more discernible and where repairs occurred, they were sometimes decorative in themselves. In addition, both patterned and plain objects were fragmented and the components reassembled to make new objects, sometimes juxtaposing different patterns against each other.

It seems that in Iron Age East Yorkshire, certain objects accrued value over time through developing patinas of age and visible biographies. This paper discusses the nature of this value and the role of decorative pattern within it through a comparison with kintsugi. I will argue that, as well as representing particular Iron Age aesthetics, visible object biographies told important stories about objects and their relationships with people.

Linear Complexity in Late Iron Age Pottery Design: What Did it Mean?
Peter S. Wells University of Minnesota

In the second century BC in the central regions of continental Europe, decoration consisting of vertical lines became common on several categories of pottery. The decoration was complex and "enchanting" in Gell's sense. Sometimes the lines were made with combs, other times with a single sharp point. On some vessels the lines are all straight, on others they curve vertically across the shoulder, then dip horizontally toward the base. On some vessels, lines exhibit swirls rather than straight verticals, on others the lines cut sharply across one another. These new and complex linear patterns can be connected to other changes taking place at the time – establishment of the oppida, expansion of coinage in three metals, mass production of tools and ornaments, and beginnings of

the adoption of writing – that enable us to suggest why this new and often enchanting set of design patterns became so prevalent at the time.

8. EXPLORING THE HISTORY OF PREHISTORY

Andy Needham, University of York, andrew.needham@york.ac.uk; and John McNabb, University of Southampton, J.McNabb@soton.ac.uk

Understanding the history of the emergence and development of prehistory is deserving of consideration in its own right, but is equally essential in developing a critical awareness of contemporary academic practice. Histories of the discovery and early exploration of prehistory are far from passive in the trajectory of prehistoric research, but are rather deeply intertwined with the very roots of the discipline from which modern archaeological practice has grown. The active exploration of the historical milieu of prehistory can be of value in shining a light on received assumptions and limitations to approaches to prehistory through time that might otherwise be rendered invisible through an incomplete knowledge of the origins of this framework. Revisiting these histories, making them a part of research, allows for an important avenue of contextualization of, for example, systems of temporal division, terminology, categorization, and typology, or can expose the root of long-held assumptions that have persisted through time to become part of the unquestioned fabric of prehistoric research.

This session aims to tug at the threads of this fabric by exploring the histories surrounding the discovery and early study of different periods of prehistory, the formative, shaping role diverse historical contexts played in the development of prehistory, as well as how the study of prehistory has unfolded through time, shaped by these origins. It provides a forum for discussion for both historical and prehistoric archaeologists that share an interest in the emergence of prehistory and its historical context to share a platform on what is a natural meeting point between the two. Papers are encouraged which engage with the history surrounding any prehistoric period or region, or which details the role of a historical figure and their archaeological contribution. Papers that offer critical consideration of contemporary archaeological practice are also encouraged, as are papers that critically analyse the development of the study of prehistory through time.

We Are Not Alone: William King and the naming of the Neanderthals
James Walker, University of Cambridge, jw577@cam.ac.uk; David Clinnick, National Library of Singapore; and Mark White, University of Durham

One hundred and fifty three years ago, it was announced for the first time, at a meeting of scientists in Newcastle, that humans had not always been alone in their genus. The announcement in question was given by a man himself originally from the North East, who had grown up in Sunderland. William King, the Anglo-Irish geologist, was the first person to recognise Neanderthals as a separate species of Homo. He did not live long enough to see his proposition or name (*Homo neanderthalensis*) become accepted, and even now, with his foresight on the matter widely recognised, he is rarely afforded much more than a cursory description as a footnote in the history of Neanderthal research. This presentation provides a timely reflection of King, his roots in the northeast, contextualises his contribution to Neanderthal studies—a watershed moment in the study of human evolution—and examines the moment (and the man) who helped us realise that we are, or at least were, not alone.

Neanderthal Art: A Second Wave Progress Paradox?

Andy Needham, University of York, andrew.needham@york.ac.uk

Parietal art, first discovered in 1879 by de Sautuola at the cave site of Altamira, was not accepted until 1902, having been widely discredited as a forgery. Palacio-Pérez (2013) and Moro Abadía (2006) attribute this rejection to a *progress paradox*: Victorian society could accept an emerging Palaeolithic archaeology only if it conformed to a unilinear, gradualist evolutionary position, confirming the Victorians as at the pinnacle of evolution and civilization. In practice this meant that Palaeolithic humans had to be simple; too simple to make 'real' art. Portable art, brought to popular attention by the work of Lartet and Christy in 1864 and the publication of *Reliquiae Aquitanicae* was accepted without delay, the decoration of functional objects according well with notions of simplicity.

The case is made here that we have unwittingly repeated history in the 20th and 21st centuries, no longer *within* species but *across* species: a *second wave progress paradox*. Across the 19th - 21st centuries Neanderthals have attracted deep fascination due to their status as the extinct hominins most like humans. They have been explored not only for their own sake but also as a window into human evolutionary success. Art has been a central point of interest. Arguments in much of the 20th century pointed to a limited capacity for symbolic expression in Neanderthals, linked to a perceived cognitive deficit when compared to modern humans. With the publication of the sequencing of the Neanderthal genome in 2010 (Green *et al* 2010), the prospect of inter-breeding between humans and Neanderthals has changed their status. At the same time, more new cases of Neanderthal art have been found in the last 5-6 years than in the preceding century. The case is made that this isn't a coincidence and reflects a breaking down of the second wave progress paradox.

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The snowball effect: research bias in prehistoric archaeology

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Certain regions of the world have garnered reputations as 'classic' locations for the study of particular prehistoric periods. In some cases, academic interest in these periods has led to the neglect of other prehistoric phases in the same location. Here I will discuss the history of archaeological research in two of these 'classic' regions/periods; the Palaeolithic of Southwest France, and the Neolithic of Central Anatolia. I will discuss these 'classic' prehistoric phases in relation to other periods in the local archaeology. Here, I analyse the radiocarbon date distributions from 'modelled' and 'unmodelled' dates from these regions and how these distributions relate to research bias. Radiocarbon dates that can be built into stratigraphic models originate from sites for which multiple radiocarbon dates have been produced; sites that have been

the subject of intense research programmes. By contrast, unmodelled dates originate from sites where only one or two radiocarbon dates have been produced, hence they cannot be built into stratigraphic models. The difference between the distributions of these two groups of dates gives us a quantifiable measure of research bias within a region; demonstrating how some phases and sub-phases are favoured over others, despite the existence of sites dating from other periods within the same region.   I argue that this research bias is partially the result of early research interest in these periods, leading to a snowball effect whereby increasing numbers of researchers were attracted to these periods, a process that continues to this day. A similar effect has led to an uneven distribution of archaeologists with particular material specialisms working in some regions and periods, a further factor that can skew our understanding of the past. We must be aware of the influence of such historical factors on the body of archaeological data available, and try to counter further 'snowballing' today.

Prehistoric Sex Objects: The Phalli of Windmill Hill
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What is a phallus and how shall we know it? Today, answers to this question are likely to be different depending on whether the psychoanalytic phallus or a category of archaeological artifact is at issue. Yet these two approaches to the world of things have not always been easily divided. This paper examines how the thingliness of two phalli changed over the course of the early twentieth century, a period in which anthropology, archaeology and psychoanalysis were often closely associated, and the boundaries of archaeological discourse were in the process of construction. It draws on the results of a Wellcome Trust funded project exploring how relations among bodies, objects and concepts have been stabilized through the practices of archaeologists and museum curators.

In this paper I explore the thingliness of two carvings once known as 'phalli'. Both objects were carved from chalk in the Neolithic. In the 1920s they were excavated from the henge ditches at Windmill Hill, Wiltshire. Unpublished archaeological archives, including archaeologist's letters and diaries and the records of museums, reveal how each object participated in practices that reconfigured both the emplacement of artefacts and the category of the phallus more broadly. Through these practices one phallus was re-categorized as a "female" figurine and both were subject to changing forms of museum display and representation. Gendered objects participated in practices enacting archaeological professionalization, first wave feminism, 'primitive' sexuality, and the receptions of psychoanalysis and sexology. I conclude by asking how archaeological history can contribute to the future of the phallus.

Where time stands still: changing practices of prehistory display in the United Kingdom
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This paper seeks to expose long-held assumptions in the archaeological interpretation of prehistory in the United Kingdom through the static medium of museum display. This talk aims to highlight how traditional, sometimes out- dated, interpretations of prehistory can have lasting effects on how the period is presented to, and perceived by, the public.

Both past and present trends in archaeological theory and thought are reflected in displays. Thus the longevity of prehistory displays provide a useful insight into the prevailing trends at the time the displays were created. It is only through analysing such displays that these trends can be

recognised, as well as the assumptions underpinning them. By comparing how prehistory is currently displayed to how it was displayed previously in the same museum reveals the underlying assumptions embedded in the field and how they are perpetuated through display.

To this point, a series of case studies from across England will be presented to demonstrate the effect the history of the field has upon current museum narratives and how the period is understood by the public. These case studies will review the changes in prehistory display at specific museums and how they reflect regional excavation history, selective collection by early prehistory enthusiasts and trends in archaeological theory and interpretation.

A History for Prehistory? - Rediscovering the lost voices of the British Iron Age

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One of the earliest attempts to chronicle, clarify and make sense of British Prehistory before the arrival of Rome came from the pen of 12th century cleric Geoffrey of Monmouth. Geoffrey's magnum opus, the Historia Regum Britanniae (A History of the Kings of Britain) chronicles the rulers of Britain from the earliest times until the 7th century AD. Along the way, it explains how the Britons were descended from refuges escaping the Trojan War, how they battled against giants, Scythians and later Saxons and how Stonehenge was built from a circle shipped directly from Ireland (using magic). It was also the first major work to discuss the life of King Arthur (and as a consequence became a Medieval best-seller) and also Kings Lear and Cymbeline (both later immortalised by Shakespeare) as well as less-well known monarchs Brutus, Cole, Bladud and the impressively named Rud Hud Hudibras. It also contains dragons.

Understandably, perhaps, in the cold light of the modern scientific world, Geoffrey's book has either been completely ignored or cast as a work of utter make-believe. Yet, once you look beyond the tales of sorcery, mythological creatures and general weirdness, what you have left is something rather more intriguing. A detailed re-examination of the Historia, as part of the Lost Voices Project, has shown that elements of Geoffrey's book do indeed appear to originate from a very specific part of Britain in the late first century BC. If the Historia does therefore contain fragments of a 'lost voice', recording the distant past from the perspective of the ancient Britons themselves (and not something filtered through the militaristic world-view of Rome), then how does it change our understanding of the Iron Age? If the Geoffrey's book is not (completely) a work of Medieval fiction, can it throw any light on a period that we still mistakenly call pre-history?

Of sissies and flying saucers – a research-historical and bibliometric perspective on the possible Neanderthal occupation in Scandinavia

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History of research has the potential to distort the archaeological empirical record through biased approaches and self-perpetuating assumptions. In this way, regional paradigms are formed through the historical attention given to the specific topic in question. Whilst we may long since have left the eolith debate behind us, debates about the earliest Pleistocene occupation emerge regularly across Europe. Examples can be found in Scotland, Lithuania and the Greek islands such as Crete – and in Scandinavia. These debates often centre on particular actors, on problematic empirical material and are played out across publication media from websites to peer-reviewed papers. Also, conflicting acceptance-criteria for autodidact and professional archaeological communities often result in bipartite epistemological frameworks. In our presentation, we focus on a case-study from

Scandinavia, addressing how publication strategies and author status have shaped current notions on Neanderthal occupation in this region. We use citation network analysis to investigate the dynamics of the research field using publications as a proxy. This novel analysis allows us to investigate author clusters, time of publication, position in the debate, regional focus and status of main author. Further, the method allows for the visualisation of these structures in intuitive graphs. We supplement this with a qualitative analysis of the, at times, harsh rhetoric of this debate. Our analysis reveals remarkable patterns and structures in the Scandinavian debate, which is argued to be highly influential for the formation of current paradigms regarding Neanderthal occupation in Scandinavia. Similarly detailed studies could be envisioned for other regions.

9. FOLLOWING THINGS IN MOTION: OBJECT ITINERARIES IN ARCHAEOLOGICAL PRACTICE

Marta Díaz-Guardamino; University of Cardiff, Diaz-GuardaminouribeM@cardiff.ac.uk; and Rosemary A. Joyce, University of California, Berkeley, rajoyce@berkeley.edu

Session discussant: Rosemary A. Joyce

Things have an inherent capacity to move. As things move from place to place they assemble and reassemble with other things, humans and non-human beings, creating networks / meshworks / assemblages that unfold in time and space. Things undergo transformations over time as they assemble and disperse in different locales.

The trope of object biographies has been seminal in illuminating the transformation of things as circulating objects from person to person (Gosden and Marshall 1999). But the biographical approach poses some key problems: objects are anthropomorphized, conceptualized as beings with finite lives and physical integrity over time, things are only significant as long as they are invested with meaning by humans, and object biographies are commonly constructed as linear narratives devoid of spatiality. A relational biographical approach has been proposed as an alternative to overcome the human-centeredness of object narrative biographies (Joy 2009, 2015). Relational biographies examine the 'sum of social relationships that constitute the object' (Joy 2009, 544), taking into account the relationality of things. But difficulties arise when characterizing the trajectories of things in terms of lives and deaths (i.e. things do not die), when considering the conversion of wholes into fragments and their journeys or the spatiality of travelling things.

To overcome these limitations, and as a complement to object biographies, a methodological approach has been proposed: that of object itineraries (Joyce 2012; Joyce and Gillespie 2015; see also Hahn and Weiss 2013, for a related, yet different, proposal). An object itinerary is not only a representational trope and but also an analytical concept. It proposes to follow things themselves, taking into account their capacities (i.e. they move and endure while they transform), from the moment in which they arise from source materials to their circulation in the contemporary world, including their manufacture, subsequent movements and transformations, depositions, emergence through archaeological research and curation in museum collections. Itineraries trace the routes through which things circulate, the chains of places where they are active or come to rest, the means by which they move, the spatial, temporal, material, and consequential connections that they are caught up in and create as they move.

Participants in this session are invited to follow things in motion exploring the potential of the concept of 'object itineraries' to reveal the agentive capacity of things, their relationality, transformation and movement across different spatial and temporal scales.

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The afterlife vitality of bone and stone fragments on the tell at Çatalhöyük

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The programmatic study of flotation-screened residues at Çatalhöyük has been marginalized in interpretation of the site since the realization that tiny fragments of cultural materials do not clearly reflect in-situ activities in domestic space (Cessford 2005). The concept of object itinerary, with its consideration for the efficacy of material beyond its first social 'life', revitalizes this corpus of data for archaeological analysis. Pieces of bone and flaked stone were created during productive activities and subsequently broken down into tiny fragments by weathering and trampling. These flowed around the site as a composite substance, aggregating, commingling and parting as floors were swept clean and trodden upon; waste was discarded; clay plasters were prepared and laid, scoured and recycled; rain and snow washed material around and off the tell; and the fragment-rich colluvium that formed at the tell's base was recruited into construction activity once again. Ultimately, virtually every context at Çatalhöyük, from the surfaces of open areas to elaborate plaster wall decorations, came to include quantities of bone and stone fragments produced by these long-term material flows.

In a traditional object biography approach, these loose materials are inscrutable: residues aggregated tiny objects which may have followed any number of biographical pathways at the hands of diverse agencies, all of which appear equifinal in terms of the data collected. A one-to-one relationship of residues data to specific human actions is out of the question. However, understanding residues as a substance on their own terms, mingling and flowing variably around the site in conjunction with human lifeways, can yield valuable insights into the way space was constituted materially and socially. To demonstrate this, I make an original analysis of the Çatalhöyük heavy residues data showing regular differences in the residues assemblages in the floors of old houses (which had stood for at least several decades) and young houses (which had stood for one to two generations at most). I argue that the assemblage of causalities, human and material, which set bone and stone fragments in motion in (and into) a given house changed over the multigenerational course of the house's occupancy. The regularity of this phenomenon across diverse kinds of house at different stages in the site's development suggests widespread notions about the significance of houses, history, and time that were closely entangled with the itineraries of tiny, flowing fragments of bone and stone.

Broken bodies: re-defining Neolithic human remains through their movement across scientific networks

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While most osteoarchaeological analysis focus on the destiny of human remains in the(ir) past, such remains often continue their biography beyond death, up to the present time. The itinerary itself along with the scientific networks in which they are embedded reshape their ontological understanding. This is an account of the itinerary of a dozen human remains discovered in Neolithic settlements in southern Romania during the 1960s-1970s. These settlements have yielded collections of fragmentary and scattered human remains who might help us understand how these past communities were dealing with the transition between life and death. However, their existence does not end with their deposition, and their meaning shifts as they move through laboratories, displays and publications' pages. To quote Shanks (1998), they have been 'slowly assembled', the biography of the individual before death being intertwined with their contemporary trajectory of a body-as-scientific-object, taken from the world 'out there' into the cultural realm. It is an itinerary which spans 6 millennia and in which human remains are constructed in various ways: the body-as-an-archaeological artefact, body-as-osteological data, and body-as-knowledge. To explore how the meaning of these bones has been continuously redefined through their discovery, analysis and publication I will ask questions shaped within the field of the sociology of scientific knowledge area. Given that the past and present intertwine in constructing how these bones are defined, in order to grasp these transformations one needs to breach the biological body (osteology) and the cultural body (archaeology) divide which often marks an osteoarchaeological discourse.

How to be an Egyptian mummy in Victorian Britain

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This paper traces the trajectory or itinerary of Egyptian mummies in nineteenth-century Britain, focusing on the multiple contradictory or overlapping identities that they acquired and discarded. The narrative presented is of the imagined perfect itinerary for an ideal mummy in this time and place.

The ideal mummy arrived in Britain with a returning traveller. Upon arrival the mummy would be displayed in a gallery or private library before being sold or, ideally, gifted to a scholar, for study and display a library, laboratory, or operating room. Next, the ideal mummy would be unrolled. This unrolling, in front of a select invited audience, should reveal the mummy's body in its entirety: desiccated but complete. The performance should end with the mummy raised to a standing position to receive the audience's applause. From numerous accounts the ideal mummy was clearly female and of high status: a priestess or princess was preferred by the Victorians.

Following the unrolling, distinguished guests might take home a head, a foot, an arm or a fragment of skin for their own cabinets of curiosities. A physician or surgeon might take home a mummified body part showing signs of illness, injury, healing or treatment. The ideal Victorian mummy, as a truly partible person, goes its separate ways.

What is the itinerary of an Egyptian mummy in Victorian Britain? It was, in turn:
- A souvenir
- A curio
- A scientific or medical object
- A corpse
- And finally, souvenirs again.

But this is just the start. Even during the unrolling, the ideal mummy could be:

- A sensory object to be smelt, tasted and touched.
- A text to be opened and read.
- An exotic oriental body to be racialized, sexualised and othered.
- A medicalised body.
- A technological artefact to be reverse-engineered in a laboratory, revealing the skills and competencies of the ancient embalmers.

In the performance of the unrolling the mummy began as a valuable commodity to be conspicuously consumed, and became a performed object whose performance was itself a commodity of distinct value, albeit fragile and conditional. The layers of identity and meaning pile up around the object, the performance, the journey and the biography: to unravel them all, to write the etiquette manual of *How to be an Egyptian mummy in Victorian Britain*, would require us to delve to the very core of that society and its relationship with the world.

Itineraries of substance in the British Late Bronze Age
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This paper will follow the itineraries of three materials – bronze, shale and human bone – as these were made, fragmented and reconfigured in the social world of Late Bronze Age Britain. These materials have very different sources and properties. Bronze was recycled, so that the itinerary of bronze objects was not always visually evident. Shale from the 'burning cliffs' of Dorset was viewed as a magical material and the fragmentation of items such as shale bracelets appears to have been part of age-grade ceremonies. Fragments of human bone were curated and circulated in a variety of non-mortuary contexts, though we cannot say if such 'body-objects' were linked to known ancestors. Human bone, bronze and shale objects were frequently deposited in socially significant places such as caves, waterholes and field boundaries. Their itineraries traversed the worlds of the living and the dead, land and sea, fire and water, and they contributed to the formation of personhood as they themselves were transformed. As components of hoards and middens, they formed part of assemblages of other materials – assemblages that made meaning but were themselves only one of many possible nodes in these material journeys.

Tempo and intensity in object itineraries
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The turn towards relational archaeology and, in particular, Deleuzian inspired ideas of assemblage and becoming has emphasised the constant motion of our world in a way that chimes with the idea of object itineraries as an approach to following things in motion. In this paper I take a wide reading of the term movement to include both spatial movement through a landscape and the vibrant flux (*sensu* Bennett, 2010) ongoing in all materials. I propose to explore the issue of tempo in movement. It does not just matter that objects move, the speed, tempo and intensity of these movements matter too.

In this paper I will follow two later Bronze Age swords found on the Isle of Man. By considering the tempo and intensity of their movement I seek to identify times where movement accumulates to bring about significant changes in the assemblages these Bronze Age swords move into and out of. By following these two swords I reveal their changing assemblages, relations, and properties.

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Lines of life? An exploration of the life of the so-called Grotesque Torc, an Iron Age neckring from Snettisham, Norfolk

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Object itinerary has been recently proposed as an alternative to the biographical metaphor, which is seen to have been limited by the sometimes false analogy with the human lifecycle of birth, life and death (Joyce and Gillespie 2015). Instead, object itineraries trace the routes through which things circulate. There is no clear beginning (birth) or end (death); rather the itinerary is continually unfolding as the object moves through time and space.

Both object biographies and itineraries are useful as they highlight the social roles of objects and exemplify that their meanings and significance are not static, but few clear methods of how best to investigate biographies or itineraries have been put forward. Inspired by some of the ideas expressed in Ingold's (2007; 2015) two recent books on lines, through the case study of an Iron Age neck ring from Snettisham, Norfolk, in this presentation I explore if imagining object lives as lines, so-called lines of life, could be useful as a means of unravelling object biographies/itineraries.

Is there ever a last leg? Discussions of changing relations in the case of Scandinavian Late Iron Age gold foil figures.

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In this paper I will discuss the itineraries of a category of objects that archaeologists have named gold foil figures (*Sw.* guldgubbar). A gold foil figure is a small, often humanoid figure that has been stamped onto a very thin gold foil sheet. They are mainly attributed the Vendel Period (AD 550--800) although their chronological span might begin in the Migration Period (AD 400--550) and end in the Viking Age (AD 800--1050). The objects are only known to have been manufactured in Scandinavia that is in Denmark, Norway and Sweden (excluding Gotland). An itinerary of gold foil figures reveal that they have moved and transformed in a variety of ways, from their days of manufacture to today's circulation, and sometimes reconstruction activities, in museums. By considering not only the temporal aspects of the objects, but also their spatial, material and consequential connections, I hope to demonstrate how the analytical concept of object itinerary can help broaden our understanding not only of the material of study, but also of material culture in general. Itineraries may further facilitate the use of other analytical concepts such as for instance affordances (Gibson 1979), topological folds (Serres & Latour 1995), and folded objects (M'Charek 2014). As such, object itineraries may be used to reach a deeper understanding of the politics objects articulate.

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Copper and colonialism: exploring object and material movement between cultures, perceptions, and value systems

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Copper, a material found naturally on the Northwest coast of North America, is and has been used by the indigenous First Nations communities who live in the region to create a variety of artefacts. It is a material that is considered inherently powerful within the indigenous animistic ontology and never more so when fashioned as a "Copper", a shield-like object used extensively in potlatch. Changes in access rights imposed by colonisation, along with other changes to indigenous life ways such as the introduction of disease, altered existing copper procurement strategies. Indigenous communities maintained a commitment to the production of these artefacts but did so by looking outside of long established and regulated resource acquisition and management practices, and shifted their repertoire of materials to include newly available materials introduced by colonialists. In some cases copper from maritime sheathing circulated among indigenous communities but carried notably different material properties and meanings. This paper seeks to explore how material and objects move among and between meshworks of commodity spheres and social groups and how, in the case of Northwest Coast indigenous communities, perception and value was transformed by cultural contact. By constructing contextualised object itineraries that encompass artefact biographies as well as object and material movement, choices concerning trade with and for colonial material, along with how various copper types were incorporated in significant cultural artefacts and activities, can be documented and understood.

From Bronze Age Cyprus to the Leeds City Museum: Making sense of an historic collection through object itineraries

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Museum collections are generally the result of multiple donations and purchases over many years. Often, the objects which gather in a museum have gaps in their histories, due to inadequate recording of excavations, loss of data as they pass from hand to hand, or simply the attrition of time. The concept of object itinerary offers scope to redeem this loss and add to the knowledge value of surviving objects. Through careful tracing of their itineraries, drawing on a wide range of sources, we can bridge the gaps and allow the objects to speak to us of their movements through time and space, the networks in which they have participated, and the groupings and disbandings in which they have taken part.

This paper applies the theory of object itinerary to one specific object in the ancient Cypriot collection at the Leeds City Museum, a krater (mixing-bowl) from the Bronze Age site of Klavdia in Cyprus. Moving between analysis of classes of objects, and the evidence for the journey of this particular object, it attempts to give a deep, nuanced account of its changing significance and value at different points in time and space, both in interaction with humans and in conjunction with other objects. In doing so, it encompasses the whole span of the object's existence, without privileging its ancient roles, nor requiring it to comply with human metaphors of life and death. This case study assesses the usefulness of object itinerary as a pragmatic approach to contemporary museum archaeology collections.

Shifting and unstable stones: more sarsen stories

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The common image of stone is as a substance that is solid and durable, fixed in its properties. Where there has been archaeological consideration of its materiality that fixity has been foregrounded: note, for instance Parker Pearson & Ramilisonina's influential reading of megaliths as materially and metaphorically connected with the ancestral dead. But stone has its own motion and physical transformation, whether through the intervention of people or not; and through

movement emerge new conditions and capacities that make it seem less stable than imagined. Here, through a 'long-view' and relational framework, we explore the itineraries of sarsen, a resilient silcrete extensively employed in megalithic constructions, notably at Avebury and Stonehenge. The emergent story is a counterpoint to the perceived stability invoked through its engagement as a 'building material'.

Stones in motion: following the itineraries of Bronze Age decorated stelae in Iberia
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Iberian landscapes are rich in large stones known to have been shaped in prehistoric times. These stones show different degrees of modification; they may be roughly sculpted, show recognizable shapes or even carved decoration. In the contemporary past those stones showing familiar shapes (e.g. human) or carved decoration were identified by local enthusiasts, archaeologists, and cultural heritage specialists as objects of special value to be collected and moved around (i.e. to private homes, dependencies of city councils, museums' stores) for concealment, protection, and eventually study and display. As these new trajectories unfolded the stones did not necessarily experience physical transformation but were caught up in new relationships with people and other things, assembling in new places, participating in the creation or re-creation of communities of practice, territorial entities, and even disciplinary knowledge (i.e. categories). In this process, previous transformations or relationships of these stones with other remains— including 'plain' stones left behind in their 'find-spots'—, landscape features, or people were ignored, even obliterated, from narratives about them.

By following the itineraries of various decorated stones — nowadays categorised as Iberian Bronze Age stelae —, from source materials to their circulation in the contemporary world, this paper seeks to reveal the wealth of transformations, relationships, and locations that have been forgotten, ignored, or even erased through the ways they have been treated and studied in the contemporary past. The notion of itineraries, it will be argued, is an appropriate methodology for providing richer accounts on the ways these decorated stones have been, and still are, culturally productive.

Kurgans: mobilities of the immobile across Eurasia
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Between 800 and 400 BC a series of burial mounds are found from Arzhan in the Tuvan Republic, south Siberia in the east to places like Hochdorf in western Germany. These burial mounds vary in their details, but many have specific features on common, which include wooden frameworks lying beneath them, a wooden chamber for the deceased and construction from mud and soil brought from some distance around the mounds, seemingly mapping and referencing their local areas. Dating is difficult, but the earliest occurrence of such mounds appears to be in the east with movements to the west. Their distribution poses a series of questions, as although the mounds are too similar to resemble each other through chance, the local archaeological contexts in which they are found vary considerably. Their distribution is very broad, but is also discontinuous - there are areas in which such mounds are not found. We cannot invoke movements of human groups and in any case we need to think how such massive undertakings came to be salient in a range of varied local circumstances. These burial mounds are particular instances of a broader set of connections across Eurasia in the first millennium BC, challenging us to come up with explanations for connections and movements over extremely long distances.

Druids in the Crash Zone: a camp fire story of time zones and framerates

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At Halloween the veil between worlds becomes thin. Hauntings are played out. Level violations may occur. Objects get beached.

Digital capture and deposition move objects across borders. There is a permeability between virtual worlds and what is named prehistory: obdurate lithic cultures and the disappearance of a firm place. I am going to look at two residual spaces, the undrained swamp of Secondlife and the islands of Orkney. This is work done in collaboration with artists Ian Dawson and Francis Summers and archaeologists Marta Diaz Guardamino and Andrew Jones. Our relation is skeuomorphic; the transdisciplianry application of methodologies moves objects too.

As an archaeologist would document an excavation, extending conventional methods through 3D visualisation technology to work in new ways with the archaeological record [Reilly2015] we chose to document a world built and razed digitally by a group of anonymous gamers called the Yung Cum Bois. We applied visualisation technology learned from archaeology to the avatars, temporary structures and abandoned ruins of an online world, Second Life. We patched together a kind of virtual photogrammetry, enabling the monumentalisation of avatars, objects and scenarios, recompiling these into new configurations and -uploading them freely to be reused, detourned and weaponised by our virtual friends.

10. FROM AMATEURS TO AUTEURS: IN DEFENCE OF AUTHORSHIP IN ARCHAEOLOGICAL VISUALISATIONS

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Archaeology borrows and adapts visualisation mediums and techniques from a range of artistic and creative practices including drawing, photography, film, gaming, digital animation and virtual reality. But do we take these visualisation practices as seriously as we do our scientific ones – or do we merely skim the surface of them, depriving ourselves of a deeper and more critical understanding of how the past is interpreted and understood? A key element of any art form, but arguably often side-lined in archaeology, is the visual author's presence and 'voice'. Following auteur theory, this house argues that the author's voice in visual representations of archaeology deserves equal regard to that of the author's voice in written archaeological works. Such a shift in values would necessitate archaeologists becoming more visually and technically literate in visual art-forms and industries in order to not only appreciate but meaningfully be able to critique and translate archaeological visualisations on a deeper level. Not only would this enhance the rights to the creators of archaeological visualisations (such as recognition, ownership and copyright), but it would also demand greater responsibility, transparency and accountability for the archaeological visualisations created.

This session invites practitioners of visual archaeologies and those who research visual representations of archaeology to critique and debate the above argument, interrogating the value and role of the author's voice in visualising archaeology. We seek to include a range of visual forms and mediums, inclusive of but not limited to drawing, photography, video, film, gaming, digital animation, AR, VR and mixed-mediums. Archaeologists, artists, heritage professional, industry practitioners and those who straddle multiple roles are warmly welcome to submit. This session partners with TAG 2016's art/digital/film exhibition 'Sightations', running on site throughout the

TAG conference, and session speakers are warmly encouraged to display an example of their work in the exhibit. For more information on the exhibit please see Sightations' call for contributors.

100 years of auteur archaeologists
Kate Rogers, University of Southampton, ker1g14@soton.ac.uk

In discussions about archaeology's representation in film and television some archaeologists have expressed a desire to "take back" their discipline from the media (eg. Cline 2008), but this view ignores the historical and current roles of archaeologists doubling as media creators and practitioners. In the film and television industries in particular, UK archaeologists have an impressive but little-acknowledged history of undertaking key roles as writers, presenters, producers and directors, in productions over the past 100 years. Paralleling the gradual professionalization of archaeology as a discipline over the 20th century is a comparable narrative of archaeologists developing from amateur to professional filmmakers in their own right and on their own terms, with distinct filmic voices and approaches to filmmaking. In this setting archaeologists have navigated and adapted their voices to changes in technologies, media laws, audience demographics, funding strategies, production and distribution structures and storytelling conventions. Arguably this form of authorship can at times be seen to be an auteur-style approach to film and television. This paper presents a selection of these historical archaeologist-auteur voices as a rebuttal to the notion that archaeologists need to 'take back' their discipline from the media, arguing that we have always been members of the media, with the rights and responsibilities of media practitioners. The question can then become this: if we have a filmic voice, or even an auteur's voice, how should we use it?

Minoan time/site lines
Carlos Guarita, Falmouth Art School, guarita_carlos@yahoo.co.uk

As a professional documentary photographer, I collaborated with Aegean archaeologist Dr Lucy Goodison on a Leverhulme Research Fellowship to investigate previously unrecorded, and generally disregarded, dawn alignments at the Cretan 'Mesara-type' circular tombs. This yielded new evidence about the role of the sun in Minoan religion, while the date-precise doorway orientations suggested a possible ritual calendar.

The project extended to previously unobserved alignments at the 'Throne Room' of the Knossos 'Palace' after I noticed that its wide, pillared, *polythyron* looked eastwards towards a close horizon. We discovered that the four doorways allowed alignments at the same specific times as the tombs, including winter solstice dawn entering diagonally to light the 'throne' itself, and summer solstice dawn illuminating the 'Lustral Basin'. Sophisticated architectural choices helped facilitate these theatrical effects.

The 'Throne Room', visited by over 800,000 people yearly, is repeatedly photographed. Low light inside has encouraged flashlights in both tourist snaps and archaeological visualizations, a convention producing bland pictures that obliterate the natural lighting effects experienced in a pre-electric age.

I am interested in the camera as an instrument that can combine scientific investigation with aesthetic concerns. These images also communicate to modern eyes the impact of the intersection

of special time/date/place with the dramatic first light. They offer, as text cannot, insight into the somatic experience of these prehistoric people and the role of the senses in Minoan religion.

The Knossos photographs were a double-page spread in the *Independent on Sunday Review* on the 100th anniversary of Arthur Evans' excavation. They – and the tomb dawn images – have been published in academic contexts; but till now there has been no avenue within academia to acknowledge the authorship of the camera in contributing to the construction of knowledge.

"Archaeologists assemble!": authorship as praxis in archaeological comics
John G. Swogger, Freelance Archaeological Illustrator and Comic Book writer, jgswogger@gmail.com

Comics as a communication medium allows for multi-layered approaches to the presentation of archaeological interpretation, process and practice, giving a visual context to narrative, and an embedded explanatory framework to imagery. Such approaches permit visualisations of great individuality and variety, shaped by the specificities of creative practice. This variety is highly-valued by creators, but a lack of standardisation and uniformity can be justifiably critiqued as problematic in the context of scientific narrative.

However, this variety not only serves to foreground the authorial nature of the archaeological comics creator, but can also usefully foreground the authorial nature of the archaeology under discussion, as creators of archaeological knowledge can acquire new visibility, including practitioners who customarily have low- to no-visibility within such narratives. Person-centred semiotics - such as real-life narrators, real-time narrative, contextual settings and direct speech - can be used to embed the abstractions of archaeological information and the unfamiliarity of archaeological practice within a more familiar, grounded and humanised frame of reference, important when comics are used for community-based public outreach.

Through examples of comics created for archaeological outreach and education, this paper will argue that such foregrounding of authorship is an important part of the theoretical and practical application of comics to archaeology. Such an application can not only facilitate a different approach to transparency and accountability within archaeological narrative, but also has the potential to create a very different kind of archaeological narrative, in which author and authorial practice are rendered not just visible, but visibly interrelated.

Re-empowering the artisan: a case study in CGI
Grant Cox, ArtasMedia, Grant@artasmedia.com

The arrival of sophisticated technology (such as renderers, games engines and VR) has brought with it much discussion. Overshadowed in the past few years by techniques like Photogrammetry, the most vocal of these arguments, "How realistic should we make our reconstructions...?" has consistently flourished, naturally progressing to the vocalization of renderers and computational processes. Originally used as an argument against the dangers of 3D reconstruction, jargon such as 'Photorealism', 'Hyper-realism' and 'Physically accurate' have often been applied so liberally by archeologists in recent years that they actually now fail to work as benchmarks for the level of visual quality being achieved through CGI in heritage. The author believes the reasons for this stem from a breakdown between commercially driven communities and academia, where valuable processes are often identified and then removed from their wider context (and standards) without reciprocation. This miscommunication has, in the example of CGI often led to the removal of the

practitioner, their role as creator and the relationship between their current skill level and the output.

Incidentally, an 'inception like' false reality is a very real possibility for true commercial photorealistic practitioners such as Alex Roman, Grant Warwick and Bertrand Bernoit, but instead of distancing themselves, these artists actively embrace their role as authors to hone their skill, framing their craft as an informed amalgamation of digital, film and photographic ideals. This talk will look at the benefit these same reflections could have on the empowerment of the archaeologist and our collective understanding of the past.

11. GENDER, SEX AND MINORITY [IN]EQUALITY IN ARCHAEOLOGY: A SERIES OF PECHA KUCHA PRESENTATIONS WITH ROUND TABLE DISCUSSION

Emily Stammitti , Independent researcher, estammitti@yorkat.co.uk

The imbalance and inequality of gender, sex and minorities dominates the practice and study archaeology. Damning statistics about the ratio of male to female postgraduate researchers versus professoriate continue, and this is not taking into account the virtual lack of minorities in the commercial and academic sector. The reconsideration of gender in archaeology is finally widening as a subject of serious discussion and study. However, that there remains an inexplicable division and imbalance of women to men, featuring a stark lack of minority employment, in the daily practice of archaeology is problematic and symptomatic of the inherent role bias of more senior practitioners and hiring committees. Where are archaeology and her practitioners going wrong?

We seek papers that contribute to lively discussion of the subject of gender, sex and minority inequality in the workplace and academic environment, rather than those studies revolving around the interpretation of gender, sex and minority balances in the archaeological record. Without a fair and equitable system of representation, promotion and collaboration that involves all archaeologists, we cannot hope to untangle our shared past in a holistic and considerate way, befitting the bridge between science and the humanities.

This session, using the Pecha Kucha presentation method, is intended to provide a short and snappy set of visual aids and presentations revolving around the theme of imbalance and inequality, and the means through which we may create a more equal footing for everybody involved. In short, it is time to crash through the glass ceiling and not pull the ladder up behind us. Pecha Kucha presentations feature the use of 20-slides, shown and narrated for a maximum of 20-seconds each. The organisers have chosen this model to provide a harsh illustration of the short and interrupted nature of professionals when they are not white, cis-gendered men. Although we strongly encourage the submission of abstracts by the underrepresented demographics in archaeology, we will not discriminate against any applicants on the basis of their gender, sex or minority status.

The Pecha Kucha presentations will be followed by a round table discussion of the themes apparent, and the means through which archaeology can move forward in an equal and more balanced fashion. Our aim is the production of a published proceedings based on the presentations and collaborations resulting from this session.

This session includes the following Pecha Kucha presentations and an open round table discussion in the end:

Archaeology's Gender Trouble

Tara Collett, University of Oxford, tara.collett@arch.ox.ac.uk

Where is archaeology and its practitioners going wrong? My presentation will focus on the processes that make gender invisible in science and the ways in which my personal experiences as a woman in archaeology and science can address the lack of gender conversation in our discipline. Judith Butler's Gender Trouble frames my critique of gender's invisibility within archaeology and how this allows for dominant male hegemony to pervade the discourse. Intersectional feminism and its application to archaeology further addresses the multiplicity of viewpoints that can critique hegemonic power structures. The application of feminist standpoint theory to archaeology by Alison Wylie will be a pertinent focus as I demonstrate that marginalization, micro-aggressions, and institutionalized casual sexism are just a portion of the under-discussed attitudes towards women that are pervasive and damaging. These various modes of thought illuminate the ability for personal experiences to enter into a dialogue with archaeology, feminism, and queer theory. Archaeology is acquiescing to dominant thinking by ignoring our gender problems, which has the deleterious potential to shape research practices towards dominant styles of reasoning, allowing for unquestioned claims for what constitutes knowledge and which questions are significant.

Making Archaeology a Safe Workspace for Adults with Autism Spectrum Disorder

David Farrell-Banks, Newcastle University, D.S.Banks2@newcastle.ac.uk

The provision of regular employment has been identified as a key aspect of wellbeing. For adults with Autism Spectrum Disorder [ASD] there are a number of barriers that may prevent them from gaining or maintaining employment, much of which stems from a lack of understanding amongst employers regarding the needs of adults with ASD. This paper will present recommendations for practicing archaeologists on how they contribute to creating an ASD friendly workspace within archaeological excavation work.

The recommendations are based on qualitative research conducted over the course of three months this summer. Interviews were conducted with adults with ASD, practicing archaeologists, museum staff, care providers, and researchers with an expertise in ASD. The recommendations relate to how archaeology can deal with the limited level of resource for adults with ASD, the diversity of ASD, social difference and anxiety and public understanding of ASD. The suggestions from these themes are then built into provisional guidelines for practising archaeologists to follow both when planning excavations, and during the work itself. In keeping with the Pecha Kucha method, this presentation will focus on quick fire recommendations which, it is hoped, will be feed into the round table discussion.

Gender (in)equalities in ancient Near Eastern studies: a retrospective look

Agnès Garcia-Ventura, IPOA, Universitat de Barcelona, agnes.ventura@gmail.com

During the 1980s and 1990s the visibility both of women in archaeology and of the archaeology of women in ancient Near Eastern studies increased notably. However, even though many women

were working in archaeological digs, few of them were the directors of the missions. In addition, recent studies do not suggest that this trend is changing. Despite the growing number of women in academia, still few hold positions of responsibility or direct archaeological digs, as shown by the studies and initiatives led by Diane Bolger (2008) and by Beth Alpert Nakhai (2000 and 2011), among others.

It has been suggested that one of the possible solutions to this persistent situation is to promote the entry of gender studies into the "disciplinary mainstream", something already done, to a certain extent in the last years. Nevertheless, the effects of this situation are twofold, one being potentially positive and the other potentially negative and several pros and cons may be identified.

In order to discuss these pros and cons, potentially positive and potentially negative effects and possible proposals to reverse the current inequality in terms of gender, in this communication I will present a brief overview of the several initiatives developed for the last 40 years, in ancient Near Eastern studies, aiming to promote the presence of women in archaeology and of the archaeology of women in an attempt to acknowledge their achievements as well as the reasons behind what may be interpreted as a limited success.

12. GONE TO EARTH: UNCOVERING LANDSCAPE NARRATIVE THROUGH VISUAL CREATIVE PRACTICE

Leah Fusco, Kingston University, leah.fusco@network.rca.ac.uk

This proposed session explores the materiality of place and the agency of landscape in unearthing historical, social and cultural narrative. Examining the role of the artist as facilitator, serving to bring hard to reach narratives to wider audiences, creative fieldwork from selected individuals will be presented and discussed in a practitioners forum. The work investigates a range of case studies, including a deserted medieval village, burial grounds and pilgrim sites and explores visual creative practice and approaches to making across painting, photography, drawing, mark making, printmaking, moving image and sound. The work will offer variations on ways of seeing and recording place, encompassing the interpretation, reading, uncovering and experiencing of landscape through varied methodologies. Positioning the artist as a communicator between past and present, the session will interrogate visualisation through memory, knowledge, experience, imagination, conceptualisation, reconstruction and speculation across visual creative practice within the following areas:
- Phenomenology and Embodiment
- Folklore and buried beliefs
- Mapping the unseen
- The virtual afterlife of place
- Remembering yesterday's landscape in the 21st-century
- Places of trauma
- The archive
- Ritual landscapes and sacred spaces
- Personal and collective memory
- Pilgrimage and the liminal
- The Alchemical landscape
- Weather and memory
- Transient landscapes and the materiality of time

Wider points we hope to discuss after the presentations with the audience include:
- How can visual creative practice be used to unearth historic, social and cultural narrative in landscape?
- What role does visual creative practice and visual communication play in inhabiting, re-presenting and reconstructing these stories?
- How might visual creative practice exist as a nexus for landscape studies and humanities?

The session aims to explore approaches to landscape in visual creative practice, in order to understand how this unfolds and activates historic, social and cultural narrative. Another aim is to consider and employ visual creative practice for wider engagement with lost, hidden and unseen places through interpretation. We hope that the session will contribute to current academic research surrounding the visualisation of such spaces.

Panel 1: Materiality and time

Visualising Entropic Narratives of Deep-Time: A presentation of fieldwork from the Broads
Sinead Evans, Norwich University of the Arts

Funded by the Broads Landscape Partnership Scheme and the National Lottery Heritage Fund,myself and three colleagues at Norwich University of the Arts are currently contributing to a cross-disciplinary research initiative. Titled Mapping The Broads, the initiative aims to diversify and strengthen public engagement with the national park.

Capturing visual traces of entropy in the Broads landscape takes the eye to edges. Crumbling edges of banks, eddies of sand under the lips of lapping water, surface currents, piped torrents, submerged foliage, pools brimming with eutrophic matter. Geo stories are epic tales to human eyes, time runs differently here. It is slow, slower than slow, but micro movements hint at the macro epic as it unfolds.

Benjamin writes; the materials of memory no longer appear singly, as images, but tell us about a whole, amorphously and formlessly, indefinitely and weightily, in the same way as the weight of his net tells a fisherman about his catch (Benjamin, 1999). Materiality acts as a surfacer of memory, and simultaneously a revealer of entropic journeys. By reading this we can consider the past and the future in the present second of time. Illustration can allow us to time travel both back and forth in the same space. To consider time beyond our ourselves and our own comprehension of human life. Materials of the landscape present themselves as a combination of matter and form. The form is effected by entropic pressures. This is where the narrative starts to present itself, through tacit associations the materials impart their stories.

References:
Benjamin, W.(1999). Illuminations. New Ed. edition. London: Pimlico.

Alchemical landscapes
Deborah Westmancoat, http://westmancoat.com

Deborah Westmancoat is a British contemporary artist based in Somerset, UK. She has a long term interest in alchemy and the philosophical sciences and how they help us to understand landscape and our place within it, particularly how the traditionally held metaphysical stages of

alchemy: *nigredo* (blackness), *albedo* (whiteness), *citrinitas* (yellowing) and *rubredo* (redness) might appear within the natural environment. Paintings begin in the quiet places where these stages become apparent and are made as a direct result of first hand experience within the landscape. Samples of site and weather specific waters – flood, rain, hailstones, dew, frost and snow melt – are collected and combined with ink and locally found elements to record the peculiarities, mysteries and attitudes of water held within the British landscape.

Informed by local flooding, recent works have focused on a visual understanding of *nigredo,* the dark, formless first state of alchemy, as experienced through the element of water. Paintings became experiments in understanding the nature of immersion, how to lose oneself in the work and absent oneself from the outcome. As part of the making process, panels were repeatedly immersed in black writing ink and local flood waters. Each time the previous story was washed away and a new story 'written' upon the surface. These durational works were an attempt to understand the nature of beginnings, of how the movement of water can alter the 'known' over time, and how our psyche is affected by the temporary loss of the familiar in our environment. Current paintings investigate the second stage of alchemy, *albedo*, introducing the transformational action of *albedic* light and order. Particular virtues and qualities of form and light observed within streams, icicles, hoar frost and hailstorms have been the catalyst for new works which use collected samples of each to express the inherent beauty and dynamism of water in these specific places and forms.

The Inbetween: landscape image and landscape objects
Rachel Lillie, Kingston University, http://www.rachel-lillie.co.uk

There is a space that lies between walking and making, between observing and drawing, between lived experience and reflected experience, between being witness and being interpreter, and between landscape image and landscape object. Process, content, form, symbolism and materiality are all at play here.

This presentation considers Illustration as an explorative and poetic practice and seeks to engage the audience to meditate on these spaces within and beyond the boundaries of illustration, reaching to archaeology, engineering, conservation and craftsmanship.

The first (Case study 1) seeks to explore to the history of Epping Forest, Essex, using drawing to interpret the seen (present) and the object to reveal the unseen (past). Experience of landscape through walking provides content here. The work explores narratives that are recorded in the land, shaped by man, but often overlooked. Pictorial representations of significant locations are exhibited alongside cod-historical wooden artefacts, hand carved from fallen wood in Epping Forest. Collectively it invites the audience to explore the space between the past and the present, knowing and unknowing and between image and artefact.

The second (Case study 2) considers the narrative of Wallasea Island, on the coast of Essex, currently in the process a landmark conservation and engineering project. Here 4.5 Million tonnes of earth removed from London's Crossrail has been relocated to recreate ancient wetlands and mud flats, to help combat the threats of climate change and coastal flooding. My role as illustrator looks towards understanding a past and communicating the future of a place very much in transition and whose history is displaced and reformed. I will discuss my experiences at the site, the potential for drawing to record the progress of a changing landscape, and for the object to intervene and inhabit the landscape to create spontaneous encounters and experience for the audience.

How can reflexive indexical image making expand the visual communication of geographic liminal space?
Benjamin Hunt, University for the Creative Arts, www.benjaminhunt.co.uk

What kind of work is involved in the co-emergence of interpretation and reality, and what role do materials play in this process? Alberti, Jones, Pollard, J. (2013)

The paper makes reference to recent work I have developed that explores the themes from this recent research. My work attempts to fuse experimental photographic art with visual anthropology/archaeology. The paper aims to outline the debates/ problematics/ catalysts that exist combining these two seemingly polar opposite practices and the hierarchies / consequences between making as process and as finite outcome.

The paper is divided into three segments as would be this proposed presentation. The themes within these segments are inexplicably linked and are at first separated out diagnostically, and then related in their complexities and overlapping's.

Indexicality: An issue that has arisen is the relationship between the indexical and the iconographic. There are tensions between direct index's, displaced index's and the icon, thus complicating the notion of semiotic relativity / arbitrariness.

Reflexivity: A debate that has opened up is the tension between a Hegelian and Marxist Dialectic in relation to the indexical image and its referential space. A common misconception between the ontological nature of the image and its epistemological interpretation is opened up.

Between Art and Research: Relationships between the previous two segments are woven and related to archaeological and anthropological practices in order to tease out the mechanisms within my practice.

Alberti, Jones, Pollard, J. (2013) *Archaeology after Interpretation. Returning materials to archaeological theory.* Left Coast Press: Walnut Creek, CA.

Panel 2: Mapping the unseen

The Priory Tunnels
Mireille Fauchon, Kingston University, www.mireillefauchon.com

There are networks of tunnels under Streatham and Tooting. They run between the old sanatoriums, so that crazed inmates could roam freely without disturbing the sane living in the normal, healthy hustle and bustle above.

This isn't true.

Inspired by schoolyard mythologies, local hearsay and archival materials sourced from local heritage centres, The Priory Tunnels present a series of interwoven historical narratives and local lore from the Tooting Common area. This is a satellite project within my current PhD research exploring the use of narrative illustration as a transferable social research methodology. This body of work explores the use of visual storytelling to document an alternative interpretation of our everyday surrounds.

As a native Londoner, local lore features predominately in my previous research and practical work with the intention of questioning how and why local communities preserve specific knowledge. Rather than the grand historical narrative, it has always been the personal and immediate that has compelled me, the anecdotal, vernacular or unofficial story. Far from the practice of the formal historian, it is not the rigour of accuracy that captivates but the muddles that ensue from the converging of fact and fiction as details distort through continual recounting; this is 'history's nether-world — where memory and myth intermingle, and the imaginary rubs shoulders with the real.' (Samuels, 1999:6)

An exploration of the marvellous within a seemingly mundane setting, The Priory Tunnels draws together stories of underground tunnels, a Victorian murder mystery, the disputed existence of a C14th priory and recently deceased local resident infamous Cynthia Payne.

Unstable Architecture
Gareth Proskourine-Barnett, Royal College of Art, http://www.g-p-b.net

When a building is demolished where does it go?

What happens when a site becomes dematerialised?

Does it have a virtual afterlife?

The idea of our virtual and physical worlds being separate entities is becoming indistinct and the question of which space is more real increasingly blurred. This paper adopts the role of the cyber-flaneur to interrogate examples of Brutalist architecture within Google Street View, specifically the moment a buildings structure collapses as you change your location. I will explore the implications of these fractured perspectives on architecture and how this alters our perception of fact and fiction.

As our cities expand buildings disappear and reappear. Architecture once seen as futuristic and progressive is now deeply unfashionable; standing in the way of economic growth. Modern ruins or sites deemed unfit for purpose are being demolished to make way for urban regeneration. Demolition is big business. Sites such as the Birmingham Central Library are stripped of any assets before the concrete is crushed and turned into an aggregate which can then be either recycled or sold to local construction firms.

Despite no longer occupying physical space a building like the Birmingham Central Library is viewable from within Google Street View's panoramas of stitched images. This space provides an alternative territory in which to (re)engage with buildings that have disappeared. The library lives on within cyberspace but this is an unstable territory. As the building mutates information is lost and new meanings are up for grabs. New histories can be understood and the ghosts of unfulfilled futures become visible. As the buildings form collapses so does the idea that architecture is static or immobile. We are not moving, the buildings are.

Reclaiming past, present and future stories of a deserted medieval village
Leah Fusco, Kingston University, www.leahfusco.co.uk

This practice-based research explores challenges in documenting the physically shifting site of a deserted medieval village, previously an island and now a reclaimed landscape, located on a

saltmarsh in East Sussex. Marshlands are areas of transience; geographic and human details are revealed and concealed repeatedly through dynamic water levels. I'm interested in how illustration can explore and capture alternative timeframes and readings of place.

Scheduled under the Ancient Monuments and Archaeological Areas Act 1979, Northeye DMV has experienced significant change since documentation of the site began in the 13th Century. Tsunamis, salt mines, the Black Death and smuggling have shaped the physical geography and socio economic history of the area, with a series of shallow trenches remaining as the only visual evidence of the village foundations at the site.

Reclaiming stories across 1000 years, from Holloways and smuggling routes to soil profiles to drainage management, I propose to reveal shifting, overlapping and converging stories from above, below and ground level at Northeye DMV.

I'm interested in scientific and experiential modes of measurement through fieldwork, encompassing oral histories, drawing, archival research and geoarchaeological information.

This submission forms part of my practice-based PhD research exploring lost histories in landscapes, supported by the Arts and Humanities Research Council, and seeks to build on developments between visual creative practice and humanity disciplines. I am currently initiating a new educational project that involves cross disciplinary fieldwork methods for the visualisation of site.

Mapping the Unseen. Navigating Non linear Seas
Sally Troughton, independent artist

Sally Troughton is a contemporary artist based in London, UK. Her practice spans ceramics, video, textiles and sculpture, but her use of time as a medium itself in both her research and craft define her practice. Taking on time and space in visceral ways she negotiates the shifting terrain of how we locate ourselves within identity and place.

Notions of archaeological methodology and place making are of key interest to her practice. Locations of historical and archaeological significance from across the UK, such as the small Norfolk village of Happisburgh, all the way to the Greek island of Thera, have acted as starting points for works. The works themselves often encompassing collected site-specific materials, such as soils, waters and clays.

Considering notions of orientation, her practice looks at how we position ourselves in a world that invariably shifts across lived and reflected realms, between the digital and the analogue.

The presentation will draw from recent works presented in the summer of 2016, which using a wide variety of materials, fluctuate between structure, image and object to explore connections between home, identity, modes of orientation and new technological perspectives.

Panel 3: Folklore and buried beliefs

The Illustrated Pilgrim: a collaborative exploration of Pilgrim sites in North Wales
Desdemona McCannon, Manchester School of Art https://treesrocksandwater.wordpress.com/

During 2014, in the company of the poet Eleanor Rees and the Singer Emily Portman, I participated (in Lévy-Bruhl's sense of the term) with the landscape in several places in North Wales associated with pilgrimage- through walking, swimming, sleeping. I spent time drawing and documenting my sense of the place in each location.My creative response to each pilgrim site was a response to the materiality of the place but also acknowledged the 'patterns of sanctity' (Eck's phrase) that have contributed to its meaning.

My paper will describe the ways in which images have been used to re present, describe and explain the sites, the images in the sites and how this has informed my visual response to the phenomena of each place.

I am interested to examine the role 'illustration' – popular and mass produced images- has in brokering our understanding and engagement with the ritualised narratives of belief associated with pilgrimage. I am particularly interested in the ways that illustration and pilgrimage intersect with the popular imagination, and in understanding the expression of vernacular faith and 'folk' beliefs- the 'marginal actors' in the performance of religious observation, and the evergreen religious practices surrounding images in the widest sense of the word.

I will look at the idea of the 'graven image', in the iconographic sense, but also in the most literal reading of the word, describing the act of carving whether to make a three dimensional form or a pattern for pilgrim badge or print. Specifically I will be looking at the ritualistic veneration of images, the belief in the magical properties of images, and the creation of impromtu images and marks within the sites.

https://treesrocksandwater.wordpress.com/

The byways of the South Downs: when and why did they originate? by who? and what is their continued significance today?
Melanie Rose, www.melanierose.org.uk

This practice-based proposal investigates and critically explores the ancient tracks and footpaths that traverse and remain on the South Downs. This under-explored area of research will address these routes using a time-frame that spans pre-history through to the formation of the South Downs National Park. Integrating specific but highly significant information associated with the ancient tracks including artist's responses to this unique environment and pertinent folklore and customs. The exploration is a synthesis of disciplines brought together to create an autobiography of specific paths.

With emphasis on the human geography associated with each path the presentation will include an overview of the research and accompanying art practice, the projects ultimate aim and where I am currently, which is locating the route of a path called Upper Lamborough Lane which follows a ridge way as well as a manmade bank forming part of an ancient parish boundary, but more importantly goes through at least two woodlands one of which was significant to charcoal burners and itinerant gypsies and is still a place of gathering.

Sir Thomas Browne and the Man in the Moon; the Falcon Bride and an Elegy for Donegal - A look at some of my Artists Books as repositories of collective memory and buried beliefs
Carolyn Trant, http://carolyntrantparvenu.blogspot.com

Artist Books can position themselves outside the usual (often proscriptive) gallery system and facilitate direct confrontations with people looking at the work – sharing narratives, memories, ideas and responses. As a landscape painter they allowed me to develop the narrative and sequential nature of my work.

In the very early 1990's I was working with archaeologists, looking at marks and signs on the landscape, and exhibiting alongside artefacts in museums - landscapes often brought into conjunction with objects' taken' from sites.

I have since enjoyed a long-standing collaboration with a young poet James Simpson, who mirrors my continual obsession with shared archetypal narratives based around landscape mythology.

I have also produced many other books based around fairy tales, nursery rhymes (Who Killed Cock Robin) and folk tales, which seem repositories of collective memory and buried beliefs.

A residency in Donegal, Ireland I based around a self-imposed quest to find the place where the Meenybradden bog-body of a medieval woman was found.

The Falcon Bride was a large room-sized installation based around Kracow in Poland. It contained 'artefacts' which blurred the distinction between artist-made and 'archaeological' objects, questioning the appropriation of history at tourist destinations, particularly at sensitive 'sites' such as Kracow with its previous Jewish community. It was again shown where it would attract audiences outside the usual exhibition-visiting public. The title referred to Egyptian falcon mummies in Kracow's museum, which were 'faked' by priests at the time and have been shown to have never contained any bird remains.

Images of these and other works will be shown and discussed.

Workshop

Visualising Invisible Oceanic Landscapes
Sarah Langford, Winchester School of Art, http://www.sarahlangfordillustration.com

I am currently undertaking a collaborative project with the Natural Environment Research Council's National Oceanography Centre (NOCs), and the University of Southampton's Ocean and Earth Science department, to visualise for the very first time data gathered from mapping exercises of submarine canyons. The Centre hosts one of the world's largest groups of scientists and engineers devoted to research, teaching and technology development in Ocean and Earth science and is ranked second in the UK for research recognised as world leading (Earth Systems and Environmental Sciences, REF, 2014). This new project is working directly with leading Ocean and Earth Science Researcher Dr. Esther Sumner. The workshop will be a way of understanding these complex and non visual oceanic landscapes through illustration. We will be mapping the unseen, specifically looking at the limitations of picturing, documenting, and explaining the process of how sediment is transported on the sea bed.

This visualisation of this data will enable researchers, students and the public to engage and understand our Oceans in ways that have yet to be realised or understood and could be used to support teaching and learning directly within the Ocean and Earth Science department and within there world leading online MOOC (Massively open online course) with the Open University and Future Learn. The unknown, undiscovered element of these mysterious terrains are fascinating to me.

Workshop outline

- Introduction, how the information has been collected. The issues faced, and how we are trying to solve them.
- Drawing to audio-description of images and locations collected by Dr. Esther Sumner (University of Southampton)
- Drawing from film taken of seabed by Autonomous Underwater Vehicles.
- Drawing live diagrams from display models, scaled models on loan from University of Southampton.
- Review

13. IMAGES IN THE MAKING: ART-PROCESS-ARCHAEOLOGY

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Archaeological approaches to visual images have tended to present images as flat, static and lacking in dynamism; as evidence of this, semiotic or symbolic approaches still remain the prevailing approach to imagery in archaeology. This is a shame as research in a host of other fields including anthropology, history, art history and art practice approach images very differently (e.g. Anderson et. al. 2014; Barrett and Bolt 201; Bynum 2015; Ingold 2013). What happens to our understanding of art and imagery if we begin to approach images as things that are made, rather than things that simply signify?

Archaeologists have recently realized that a consideration of process is critical to our understanding of past human-material interactions (Jones 2012; Lucas 2012, Alberti et. al. 2013, Gosden and Malafouris 2015). These authors argue for the critical importance of thinking in terms of 'modes of becoming rather than modes of being' (Gosden and Malafouris 2015), exploring the open-endedness of human interactions with the material world. The aim of this session is to explore the implication of process thinking for our understanding of art and imagery. Once we think of images-in-the-making we begin to realize that images might be involved in complex and extended processes. How might this alter our accounts of art and imagery?

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Discussants in this session are John Chapman, Durham University; and Louisa Minkin, Central Saint Martins, University of Arts, London.

An Archaeology of Anthropomorphism: upping the ontological ante of Alfred Gell's anthropological theory of art
Ben Alberti, Framingham State University, USA

The question that drives this paper is how to understand anthropomorphism in archaeological material, particularly in three-dimensional artefactual forms. Typically, anthropomorphism – in artworks, ceramics, architecture, and so on – is understood as a form of scheme transfer in which meanings associated with the human body are transferred to other materials. Alternately, it is understood as a representational practice in which cultural narratives are played out in material form. More recently, cognitive approaches have stressed the connection between body metaphor and practice.

The underlying premise I begin with is that of ontological pluralism, by which I mean that peoples' truths and experiences of reality are varied. What anthropomorphism means in a given context depends upon the nature of underlying ontological commitments. Drawing from Amazonian ethnographies that show making and image to be ontologically of the same order, I develop an alternative theory of anthropomorphism in relation to a series of anthropomorphic pots from first millennium AD northwest Argentina. In doing so, I turn to Alfred Gell's writings on style as an interpretive guide.

Heidegger at work: An archeological employment of a theory of truth in art
Ylva Sjöstrand, Uppsala University, Sweden

Viewing archeological imagery as art has recently been widely promoted as a means for fruitful de-familiarization of well-known sets of data (Renfrew et al. 2004; Gosden 2004; Jones 2006; Currie 2016; Sanz et al. 2016). However, such methodic assignment of artworkness has also been internally criticized for an overall vagueness regarding the anticipated outcome from employing such an aesthetic gaze. Synoptically speaking, scholars have asked for more transparent articulations regarding the specific elements supposed to be cir-cumscribed when approaching material manifestations of human sociality as works of art (Russell & Cochrane 2014; Cooper 2015; Sansi 2015; Thomas 2016). Common questions are on what grounds observations brought forth by such an instrumental aestheticization can be regarded as more than pure-ly idiosyncratic experience, and for what reasons the outcome, in case being successfully defended, is of any relevance for an archaeologist: that is for a scholar specialized in signs of life in order to render visibility to the vast va-riety of ways in which life can be lived.

In this paper, I engage in this epistemological debate by lensing it through Heidegger's lecture series the Origin of the work of art (1970). By way of a staged encounter between this well known text, and a red ochre painting site from northern Sweden, I am examining if, and in such case how, the heideggerian argumentation provides any guidance as to the substantiation of what a seeing as art is capable to yield in terms of archeologically relevant observations. The paper is thus focused on putting this authoritative philosopher to work; trying out his serviceability as a theorist providing intellectual defense of the relevance of creative archaeologies

Dirty RTI
Ian Dawson, Winchester School of Art

'Humankind lingers unregenerately in Plato's cave, still reveling, its age-old habit, in mere images of the truth.' Sontag (1977) On Photography

In RTI (Reflectance Transformation Imaging) a shadow thrown a multitude of times is used to generate complex narratives of sequencing and duration, tracing ghosts unseen by the human eye. The RTI image is an algorithmic synthetic construction, creating a portal to the past. RTI of the Folkton drums (Jones 2015), for example, revealed reworking; a surface arrived at through both carving and erasure, hinting at an open process of drawing.

With fellow artist Louisa Minkin (University of the Arts) and in further collaborations with Jones and Diaz-Guardamino (University of Southampton) RTI was used a part of an experimental art process. Spaces and surfaces within a derelict modernist tower block awaiting gentrification were recorded to discuss a politic of software and space. Objects were built specifically for the RTI process and the spatial and temporal environment of a workshop have been captured.

'Technology is where we in the west preserve our ancestor's' writes Sean Cubitt in the Practice of Light (2015), and this paper will consider earlier vision technologies - such as lenticular, integral and metric photography alongside these experimental 'dirty' RTI's.

"Our eyes are armed, but we are strangers to the stars" writes Emerson in his poem Blight (1847) in which he perceives of a debilitating gap caused by a growing instrumentalization towards the natural world and this paper will consider the complex and changing position between techne (knowing how to make things) and poiesis (the production and poetry of things)

Beyond form: Iberian Late Bronze Age stelae in-the-making
Marta Diaz-Guardamino, Southampton University/Cardiff University

Late Bronze Age stelae (c. 1400/1250-750 BC), found mainly across western and southwestern Iberia, are formally diverse. Most of these carefully carved stones were found in the landscape, as un-stratified remains, and mainstream archaeology has consistently focused on the formal analysis of the images engraved on them. As a result, these large stones and the carvings they bear have been categorised into groups, types, and subtypes which are then read as expressions of a variety of symbolic frameworks (e.g. ethnic identities, ideologies). There are problems with this kind of approach, being one of them the lack of critical reflection on the very concept of similarity and, more fundamentally, on how form came about.

This paper focuses on the process of stelae-making. It aims to draw attention to the limitations of formal approaches to the analysis of prehistoric imagery and highlight the potential of adopting a bottom-up approach, that is, of looking at the interaction between people and the stones when the latter were shaped, carved, re-carved, and so on. I will draw on the recent analysis of the surface texture of a sample of stelae by means of digital imaging methods (i.e. RTI) and the results of a replication experiment to reflect on the many factors (e.g. properties of stones, knowledge, skills) and interventions that have been involved in the making of Late Bronze Age stelae as we know them today.

Connectivity and the making of Atlantic rock art
Joana Valdez-Tullett, University of Southampton/FCT/CEAACP

Atlantic rock art is a specific type of prehistoric tradition. Characterised by carved, or pecked, motifs, the tradition is found across a variety of countries along the Atlantic façade. Its widespread geographical distribution means that it is also known by a number of regional designations that, in some cases, reflect the scales of analysis that have been carried out until now (i.e. British rock art, Galician group of rock art).

The main characteristic of Atlantic Art, is the homogeneity of the motifs, whose morphology is very similar in all the countries where it can be found. Cup-marks, single and concentric circles, penannular rings, spirals are some of the geometric designs typically included in this group, carved on the wider landscape of the British Isles and Iberia. To a certain extent, similar shapes can also be found in the great monuments of western France and Ireland, stressing a global use of the iconography that has been considered a unified phenomenon. We should, however, question whether a simple non-figurative image, such as a circle or a cup-mark, can be used to verify the universal character of Atlantic Art, particularly during prehistory.

The present study set out to investigate the differences and similarities of Atlantic Art in the aforementioned regions, assessing the unity of the practice through a 4 scale methodology. The detailed scrutiny of the motifs, their shapes, morphological characteristics, techniques used in their execution and making were some of the aspects investigated which yielded interesting results and a deep knowledge of their structure and conception. These enabled inferences about the expansion of a style that encompasses more than morphological resemblances, and the inter-regional connections

The act of creation - tangible engagements in the making and 're-making' of prehistoric rock art
Lara Bacelar Alves, University of Coimbra, Portugal

The long-term tradition of rock art investigation in Iberia relied, to a large extent, on the use of recording techniques that imply a close interaction between subject and object. However, until the last decade of the 20th century, studies concentrated on classifying what was inscribed on rocks - the motifs – and were particularly interested on their shapes, sizes, types and execution techniques. Yet, as the paradigm shifted into a major focus on the placement of rock art in the wider landscape, a new generation of students kept using traditional recording techniques in research grounded on entirely new perspectives, in which rock art was perceived as a dialogue involving the imagery, the natural backdrop and particular features in the landscape. Recording rock art by direct tracing, for instance, implies spending time on site, replicating the original gestures of who created the imagery in the past. Hence, it enable us to unveil subtle details of his or her skills and behaviour as well as the techniques and implements employed in the process of painting or carving signs on rocks.

This paper discusses how rock art research, as praxis, may allow us to capture a glimpse of how mind, body and matter come together in the primordial act of creation, drawing on recent investigation at two Portuguese sites belonging to different prehistoric art traditions: the Schematic Art painted rock shelter of Lapas Cabreiras, in Côa Valley, and the Atlantic Art carvings at Monte Faro. It goes further to examine how the processes involved in the making of rock art ultimately assists us to thinking about how matter was collected, manipulated and used to create the settings in which visual images played a major role in the life of prehistoric communities in the Neolithic.

A fresh slate: image, practice and multiplicity in the Manx Late Neolithic
Andrew Meirion Jones, Southampton University

Situated in the middle of the Irish Sea the Late Neolithic of the Isle of Man differs markedly from neighbouring regions of mainland Britain and Ireland. One of the features that marks out the Manx Late Neolithic is the production of miniature plaques of slate decorated with finely incised designs upon their surfaces. A recent programme of digital imaging has revealed extensive evidence of reworking and revision of designs on these slate plaques. How are we to understand these practices of revision and reworking?

In this paper I argue that the practices of making, working and revising designs on these small plaques must be understood relationally, evincing a series of connections to landscape, other artefacts, monuments and places. The making of both plaques and designs therefore raise questions regarding their ontology, as the practices of making and decorating draw together and bring into being a series of connections. This act of connecting by making, decorating and revising designs enacts a distinctively Manx Late Neolithic ontology of simultaneous difference/distinctiveness and connectedness. The Manx plaques are therefore best understood as ontologically multiple, or as 'multiple objects'.

Neolithic stamps in the Balkans: the enigma of vibrant tools and their missing imprints
Agni Prijatelj, Durham University

Stamps, stamp-seals or pintaderas are some of the most visually striking yet enigmatic tools found at Neolithic settlements across the Balkans: while many of these objects have been preserved across different sites in SE Europe, their imprints remain absent from archaeological records. Previous studies have focused on the typological classification and stylistic comparison of the stamps' geometric motifs, while at the same time speculating on their functional significance, origins and chronologies. As a critical response to these studies, and in the light of new research on "thing-power" and "image making" (Bennett 2010; Conneller 2011; Ingold 2013; Jones 2012; Jones & Alberti 2013), this paper shifts the focus onto the vibrancy and animacy that stem from these objects' material properties, and from human entanglements with them. In doing so, it demonstrates a symmetrical relationship between tools and humans, and shows that the meaning of stamps and their imprints may be found in the constant flux of becoming, changing and negotiating, through distinct performative processes in which people and tools are engaged as equals.

The Nile in the hippopotamus: Being and becoming in faience figurines of Middle Kingdom ancient Egypt
Rune Nyord, Cambridge University

Ancient Egyptian grave goods are traditionally understood as relatively straightforward evidence of the material needs of a human being in the afterlife, either literally (e.g. food and drink) or in various symbolic ways. A good example where such symbolic readings have dominated modern understandings is the well-known category of faience figurines of hippopotamuses from Middle Kingdom (Middle Bronze Age, early 2nd millennium BCE) Egypt. Drawing on the materiality of the object and the transformations it undergoes during fabrication, it is argued that the production technique based on chemical efflorescence offers a powerful conceptual model for the ontology

of the image. The mode of fabrication where an internal potential emerges from the material by drying and heating on the one hand, and the surface decoration representing the lush aquatic environment of the river Nile on the other, both serve to add elements of flow and continuous becoming to the otherwise fixed and stable form of the glazed figurine, a tension which can be further influenced by the deliberate breaking of the finished figurine before deposition. This tension is mirrored in the ancient Egyptian ontological concept at, 'moment, impulse' which is written in the period under discussion precisely using a sign depicting the head of a hippopotamus, indicating a connection between the 'conceptual affordances' offered by the object and broader Egyptian ontological frameworks.

Materials, makers, and manipulators. Ontological considerations of Scandinavian gold foil couples from the Late Iron Age (AD 550-1050)

Ing-Marie Back Danielsson, Southampton University/Uppsala University, Sweden

Earlier research has shown great interest in images of humanlike beings from the Scandinavian Late Iron Age (AD 550-1050). Mostly the figures are explained to have symbolic meanings, and are usually identified through later medieval written sources that act as keys. Although such identification processes may be complex, they frequently miss out on other pivotal aspects of the investigated material. They include for instance the relationship between material and maker, between material, maker, maker's equipment and processes of transformation, between material, maker and handlers/beholders, between material and place, between earlier and present practices, etc. In this presentation I discuss how the manufacturing process along with the affordances of both the material and the finished or rather becoming product are essential to reach a deeper understanding of Scandinavian Late Iron Age images, in this particular case gold foil figures. Such an approach thus also includes a recognition of how the motif should not be separated from discussions of the material and the transformations it has undergone. In the case of gold foil couples, small human-like pair of figures hammered onto very thin gold sheets, it is argued that their great variety in execution, their embracing postures, as well as their subsequent becoming, evident through various manipulations, were connected to the theme of transformation, like the processed material itself. That is, only through processes of making and manipulating could certain desirable transformations occur, or boundaries be bridged, that ultimately were to result in the production of wealth and regeneration.

14. IMAGINE THIS! THE FAMILIAR AND THE STRANGE IN ARCHAEOLOGICAL MEDITATION

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'In the end I want material culture to retain its sense of mystery, or even the uncanny, because this is the quality which is stimulating to the imagination'

(P. Graves-Brown 2011)

The otherness of things, the uncanny, the unfamiliar. Infused by the 'turn to things' these are phrases often heard in discourses of contemporary archaeology, and even something we associate with its very analytical mode; i.e. making the familiar unfamiliar (cf. Buchli and Lucas 2001). Taken literally, this understanding can be seen as breeding a distance between past and present, between

researchers and objects studied, and thus undermine aspirations for a past (or present) more common, accessible and knowable (cf. Harrison 2011). In this session, however, we wish to challenge these notions, which also may be seen as upholding traditional hierarchies of ontological distinctions between the known and unknown, the ordinary and strange. Rather than seeing the otherness of the contemporary past as a produce of archaeological/scientific estrangement, i.e. as something created through our archaeologization, we want to explore ways in which an archaeological imagination may deal with and capture a material world that is already, to a considerable extent, unfamiliar and strange. Following this we ask, to what extent does a conventional scientific aspiration for clarity – for bringing things closer and making them knowable – comply with a new, object-oriented ontology grounded in things' autonomy and withdrawal? Or, put differently, what does knowing things (or making them accessible) really imply? Does it necessarily involve making sense of them, in the conventional interpretive manner, or does an ontological turn challenge the parameters of archaeological knowledge production and mediation? Ensuing P. Graves-Brown's vision quoted above, we ask, by what means can archaeology grasp and mediate the uncanny and mysterious? Why is it important? And how can this result in a different archaeological knowledge, imagination or vision?

Drawing on perspectives on materiality and the 'ontological turn' we are interested in exploring these questions, and welcome papers addressing different aspects of the uncanny in archaeology, theoretically and/or through case studies. Themes of inquiry may concern e.g.:

- The relations/tensions between the familiar and unfamiliar in archaeological reasoning.

- The uncanny/unknown as the drive and goal of archaeological enquiry/mediation.

- Means and methods of grasping and mediating the archaeological uncanny.

- The tension between aspirations for clarity and the 'messy' nature of archaeological material/research.

- The role of the familiar/unfamiliar in the intersection between art and archaeology.

- Heritage and the uncanny; the place of the strange in experiencing the past.

- The confines of archaeological knowledge production.

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"Strange and estranged: on bringing things close"
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The otherness of things, the uncanny, the unfamiliar – these are phrases often heard in discourses of contemporary archaeology, and even something we associate with its very analytical mode; i.e. making the familiar unfamiliar (cf. Buchli and Lucas 2001). This paper will introduce the topic of this session,

asking how a conventional scientific aspiration for clarity – for bringing things closer and making them knowable – may comply with a new, object-oriented ontology grounded in things'

withdrawal? With reference to a study of drift matter on North Atlantic shores, the paper will inquire what *knowing* things may imply, and how these borderland assemblages – things literally 'thrown together' (Stewart 2008) – may infuse other means of knowing and nearing.

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"Question your tea spoons:" The politics of familiarity.
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When Georges Perec (1997) suggests that we question what he calls the infra-ordinary, I assume that, like Adorno, he sees objects as fundamentally political. By taking them for granted, we allow capital to get away with the "second order signification" (Barthes 1993 [1957]) that naturalises the status quo. According to Adorno (2001[1970]); '[t]he object can only be thought through the subject, but always preserves itself in contrast to this as an other..." and the otherness of objects persists as a guarantee of a negative dialectic – a challenge to ordinariness that is always present.

But perhaps this challenge has other dimensions; that in its attempts to sell us things, capital actually betrays its motives in the way it shapes matter. That in the shape of tea spoons, cars or phones, capital tells us what it thinks we think, or what it wants us to think. It is simply that these manipulations are so banal as to be beneath our notice.

In this paper I want to start to explore how the influence of the desire to sell stuff shapes the design of things, and what this tells us about the motives of capital in an era of "atemporality" (Gibson 2012).

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Among the Tentative Haunters: Nautical Archaeology and Other Non-Senses
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As works of art and architecture, traditional sailing ships hold a special place within the human imagination. Their designs were responses to aesthetics, techne, and telos, while their capacity to metaphorize liminality is incomparable. And like architects of ruins, nautical archaeologists are both historians and makers as they rebuild ships from shipwrecks. In processes of quasi-resurrection, ships are often reconstructed hypothetically based on information negotiated from the wreckage underwater: where it came from, where it was going, which materials constructed it, when it sailed, who and what it carried, why it wrecked, and how it has been interacting with its underwater environment all along. Yet, to accrue the information needed to perform this miraculous resurrection, nautical archaeologists cannot rely on the primacy of vision as do those

who work on land. Indeed, submersion dulls or nullifies each of the five senses classically used in scientific and artistic inquiry. Underwater, sight is untrustworthy, smell and taste non-existent, touch numbed, and hearing dominated by the sound of one's own breath. Other 'non-senses' betray us too. Water undermines the sense of passing time, and even common sense declines with increasing depth. Borrowing its title from the Adrienne Rich poem, "Diving into the Wreck," this paper will explain how shipwreck and archaeologist confront each other in an uncanny space, and how the distinct roles of haunter and haunted are undermined through processes of nautical inquiry.

Lost soils: contextistential angst, artefactual dissonance and the archaeology of the resolutely mundane

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Things. This is a paper about enigmatic, liminal things – things that have lost their way and things that have never really found one, things that defy identification and refuse to be named, and yet assert through their presence an affective power as somethings that matter. Beginning with an encounter with one such something, a stone – just an ordinary stone bar the presence of a string of black inky figures sealed beneath a glistening slug trail of varnish, but devoid of context – and drawing on the work of Jane Bennet, Emily Brontë, Gilles Deleuze and Felix Guattari, Georges Perec and Chantal Conneller, I'm going to take you on a journey that takes in dusty boxes in museum archives, the West Yorkshire Moors, a dinner party in New York and ends in a Wiltshire village.

Through consideration of the ways in which we are confronted by and respond to decontextualized artefacts in museum archives, objects that problematize notions of past and present and trouble conceptions of heritage and intellectual worth, I explore the potential of a new materialist approach for re-engaging with this material and its promise as a means by which other liminal phenomena – in this case, the stubbornly mundane – may be explored.

The uncanny archaeology of buried books

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This paper traces the limits of an archaeology of the uncanny. By focusing on two of its conceptual pillars: the act of excavation and the revelation of the buried object – in this case the book – I aim to illuminate a set of processes and practices at the intersection of art, archaeology, violence, religion, and magic (Moshenska 2006). At the heart of the Freudian unheimlich are the concepts of defamiliarization and the encounter with the concealed or lost. Architect Anthony Vidler is one of several to have made the connection between archaeology and the uncanny, noting that 'archaeology and the archaeological act is by definition an "uncanny" act which reveals that which should have remained invisible' (quoted in Buchli and Lucas 2001: 11).

To illustrate and exemplify the potential of the archaeological uncanny as an explanatory framework, this paper will present case studies of the burial and excavation of books. Books are tangly, slippery things that sit uncomfortably within material culture categories and their burials illustrate this: books have been buried to hide or control their evil or magical powers, to conceal their political or social force, or to protect them from equivalent forces and powers. To encounter

a book in a context of burial (as I have) is a profoundly uncanny experience that illuminates the power of archaeological objects to damage and defy normative explanatory frameworks.

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Where the past meets the present. Modern families living in the Iron Age
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Since the 1970ies, modern families have been invited to live in the reconstructed Iron Age longhouses at Lejre as a part of the reenactment of the Iron Age environment at the centre. Before and during the stay, the families are instructed in how to live an Iron Age life, but in many ways the concept is also open to the families to interpret. Anthropological investigations of the phenomenon show that the families often chose to use their vacation in 'the Iron Age' in the search for a more 'authentic life' as an anti-thesis to their modern everyday life. In this paper, an archaeological excavation of parts of a reconstructed, now demolished Iron Age longhouse that have been used for more than 20 years housing 'Iron Age families' will be presented. In combination with the anthropological investigations, the project gave a valuable insight into how modern families cope with the unfamiliar (imagined) 'prehistoric life' and which strategies they use to 'survive' in this uncanny situation.

Archaeology and hyperart: wrecked and weird
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This paper will explore the connection between the archaeological record and hyperart, with examples of weird things drawn from a derelict 19th century landscape garden. Hyperart, or Thomassons, are weird things and structures with no apparent purpose and meaning. They are works of "art" which is not made by an artist, but is rather shaped through unconscious actions and unwitting assistants. The Japanese artist and novelist Genpei Akasegawa is the person behind the concept of hyperart, which is defined as useless but beautifully preserved objects rooted in some form of architecture (Akasegawa 2009). The first piece of hyperart Genpei noticed was a staircase, which he could not make any sense of – it lead nowhere and for some inexplicable reason the banister had recently been repaired; the staircase was neither entertaining, useful, nor ornamental, but purely non-functional. What happens when an archaeologist searching for truth and deeper meanings in things encounter a seemingly purposeless and intentionless object? Mysteries are a part of the archaeological discipline, where some drive our research forward, but others might seem too weird or meaningless to pursue. How do we handle such weird objects?

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15. INTEGRATING SCIENCE, TECHNOLOGY AND THEORY IN PREHISTORIC ARCHAEOLOGY

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Prehistoric archaeology is at its best when scientific, technological and theoretical approaches can be integrated, creating dynamic approaches to myriad research questions, and providing a greater understanding of the archaeological past. It is increasingly important for the theorist to engage with scientific and technological approaches, and for the scientist to engage with theoretical approaches, not least to facilitate effective research collaborations.

The 21st century has seen the expansion of archaeological science, with the increasing use of aDNA, isotopic, proteomic, and ZooMS analyses providing new information on bone identification, diet, health and the movement of humans and animals. In tandem with this, the emergence of non-destructive and digital technologies, such as raman spectroscopy, pXRF, pXRD, 3D modelling and photogrammetry, has allowed for the analysis of diverse highly delicate and rare finds to be studied in unprecedented levels of detail and to be disseminated to a broader audience. New and refined techniques for dating, such as ultrafiltration and pre-treatment in radiocarbon, and advances in uranium series dating, have also allowed for increasing accuracy in the dating of material culture and sites. Alongside these scientific advances, the 21st century has also given rise to increasingly rich theoretical frameworks to explore cognition, the continued elaboration of non-western ontologies as an alternative to western assumptions, and a resurgence of interest in material culture, expressed through materiality as well as how things interact, such as new work on entanglement theory (Hodder 2012; 2016) and assemblage theory (Bennett 2010).

At present however, there still remains somewhat of a gap to be bridged between science and theory in prehistoric archaeology - a degree of epistemological division between 'two cultures' running in parallel (Snow 1959). As such, this session aims to create a forum for the discussion of how diverse scientific techniques and theoretical approaches can be combined to explore future research questions in prehistoric archaeology. To facilitate this aim, the session casts a wide net over the full span of the prehistory, with an interest in innovative blends of scientific and technological approaches and applications of theory, with emphasis on how science and theory can be integrated. We therefore invite speakers of all theoretical persuasions and technical or methodological specialisms from any prehistoric period or region. Contributions that focus on the nature of science and theory and how they might be integrated at a more abstract scale are also encouraged, as well as contributions that consider future directions for an integrated prehistoric archaeology.

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Flint Provenancing: Combining Archaeometric and Archaeological Perspectives to Tackle Stony Issues

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Determining the geological provenance of prehistoric flint artefacts is a subject that appears to prompt both interest and scepticism in equal parts. Recent innovation in scientific methodology

has spurred a flurry of studies employing geochemical profiling techniques, such as portable ED-XRF and (LA) ICP-MS, to link artefacts to their geological source areas (for example Pettit et al. 2012). These projects use geochemical data to infer characteristics of prehistoric subsistence behaviour aiming to enhance knowledge of raw material acquisition. However this popularisation of flint 'sourcing' has incurred criticism from the archaeometric community who suggest that, at times, science is being employed without a proper methodological background (see Shackley 1998). This is particularly pertinent to studies using portable ED-XRF, as the precision and accuracy of data generated is negatively affected by the miniaturised nature of the device. Similarly from an archaeological perspective geochemical sourcing can be seen as an expensive extra that is not guaranteed to provide reliable results and cannot substitute for good geological knowledge and macroscopic study. Further to this the process is inherently hampered by complexities within flint itself and the propensity for prehistoric populations to use highly chemically variable secondary flint deposits (e.g. glacial till). This presentation discusses combining archaeological and archaeometric perspectives in order to surmount these challenges, highlighting the need for geochemical data to be considered from both a scientific and archaeological standpoint.

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Prime movers: Considering the "driving forces" in the exploration of Creswell Crags through sound

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This paper reflects critically on the authors gradual development of an approach used in the exploration of sound within archaeological landscapes. This has played out in both the Vale of Pickering, North Yorkshire (under the Sonic Horizons of the Mesolithic Project) and at Creswell Crags, Derbyshire/Nottinghamshire (under the SoundTracks Project), and has produced a series of novel research questions and outputs to date. Drawing on existing bodies of knowledge including archaeology, palaeoecology, geology, history, acoustic ecology, sound studies, acoustic engineering, compositional practice and experimental writing, this approach has begged, borrowed and stolen technological, theoretical and scientific approaches in pursuit of its core question: what did this place *sound* like?

In tracing this development, we articulate the varied and conflated influences on our approach, and argue that, within this context, a search for a "prime mover" or "origin point" for our work is somewhat moot. In doing so, we wish to ultimately question the character of truly interdisciplinary research, and the potential this offered for the generation and communication of different kinds of knowledge and understanding.

Where Science, Technology and Theory Meet: Exploring the Life-History of a Unique Shale Pendant from the Mesolithic Site of Star Carr

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University of York; Shannon Croft, University of York; Chantal Conneller, University of Manchester; Ben Elliott, University of York; Laura C. Fitton, University of York; Becky Knight, University of York; Roland Kröger, University of York; Aimée Little, University of York; Nicky Milner, University of York; Harry K. Robson, University of York; Charlotte C.A. Rowley, University of York; Barry Taylor, University of Chester

Star Carr is an important site in the British Mesolithic for its exceptional wetland preservation and rich material culture. Amongst the most recent set of excavations, a unique perforated shale pendant with faint traces of engraving was recovered. The unique status of this object rendered interpretation and comparison challenging. A multi-disciplinary team of specialists was assembled to analyse every aspect of the object and reconstruct its life history within the context of occupation at Star Carr. The object necessitated the blending of scientific techniques, including pXRF, light microscopy, experimental archaeology, micro-raman spectroscopy, use-wear analysis, residue analysis and portable SEM; cutting edge technology, including 3D white light scanning, technical illustration, H-RTI and 3D printing; and theoretical insights, centred on an object biography approach, and exploring the materiality of the pendant, to achieve this aim.

Reflecting on this research strategy, it is apparent that in a research environment that encourages increasing specialization, collaboration is a central route to avoiding a division between theoretical, scientific and technical specialists, and that the conscious bringing together and intertwining of these research strands can be a route to providing high quality, integrated research.

The New Migrationists? Resolving studies of ancient DNA and archaeological theory
Tom Booth, Natural History Museum, t.booth@nhm.ac.uk

That we are living through a 'Golden Age' of Ancient DNA research is now a truism. Recent studies of European ancient human genomes have provided unprecedented insight into population movement and cultural change in prehistoric Europe. For instance, we can now say confidently that the spread of Neolithic things and practices across Europe was accompanied by a large-scale movement of people ultimately originating from the Near East. Palaeogenetic studies have identified several large-scale prehistoric movements of people into Europe that were usually accompanied by significant cultural change. Most of these studies have been conducted with little input from archaeologists and without much detailed discussion of the complexities of the archaeological evidence. In extreme terms, the results may be viewed alternatively as atheoretical objective inferences, unladen by ideological baggage or naive and reductive generalisations, reminiscent of the 'bad old days' of culture history.

This talk will discuss recent studies of European ancient human DNA and how the tensions between archaeological and genetic perspectives may be resolved. Better communication and engagement between geneticists and archaeologists will ultimately produce richer and more incisive interpretations of the European prehistoric archaeological record. The power of Ancient DNA in refining our understanding of the past is undeniable, but archaeological evidence is essential for making sense of genetic data on anything other than a general scale. In addition the high volume of data produced by studies of ancient DNA, somewhat unintentionally, can be used to address specific questions about prehistoric social structures, which will always require robust interpretive frameworks.

Mathias Bjørnevad Jensen, Aarhus University, Denmark; and Peter Bye-Jensen, University of Southampton, P.Bye-Jensen@soton.ac.uk

This session will focus on creating biographies from lithic material culture, artefacts, as a means of understanding relationship between the life of an artefact and its final deposition. The aim of this session is to look through the vast span of time from the Palaeolithic to the end of the Neolithic, and let researcher's present examples of conceivable "chains of practices" that culminated in ritualised depositions. From well used and unused, to sharpened and dulled and to burnt and broken all objects underwent multiple stages and "chains of practices" prior to the final deposition. However, this life history of an object is all too rarely taken into account when archaeologists discuss ritualised depositions. As such research has all too often focussed on the deposition as the ritual rather than the deposition as part of a larger ritualised practice that culminated but is not limited to the deposition. In order to rectify this, in this session the presenters will address the narratives of ritualised practices by studying the biography of the objects contained within ritualised depositions. By studying ritual depositions using a biographical approach we may be able to understand better the temporality of the practices that culminated in the deposition including but not limited to the use, treatment, modification, selection and arrangement of artefacts.

The ambition is to create a synthesis about life biographies of artefacts from the Stone Age via practises and activities that the material culture reflects.

Life and Death of Artefacts: A Biographical Approach to Ritual Practice
Annelou Van Gijn, Leiden University, Netherlands   *(Keynote speaker for this session)*

Throughout their life path objects circulate through time and space and can be inscribed with different meanings, ranging from a mundane to a highly ceremonial or even sacred significance. These roles can change during the life path of the objects. Studying prehistoric objects from a biographical perspective has proven to be extremely useful in gaining insight into the highly variable functions and meanings objects must have had in the past. Especially microwear analysis – using low and high power microscopy to study traces of wear and tear – has provided unique insights in the life paths of things. It is one of the methods to detect the hidden evidence for the manufacture, use, transformations and treatments of objects. Although many different materials can be imbued with special meaning, stone is special in that it is a lasting material that connects generations. As such it is often considered a perfect repository for symbolic knowledge. The study of stone objects from a biographical perspective has shown that not only impressive flint daggers and oversized axes display evidence for special (ritual) treatment. Simple flint flakes and scrapers, as well as querns, often considered typical domestic items, also show evidence of transformations that indicate they had a special significance. This paper will elucidate the importance of a close, microscopic, inspection of objects for a better understanding of past ritual behaviour by drawing on some examples from the Dutch Neolithic and Irish Mesolithic.

Chiselled Away - Examining the Role and Function of Transverse Arrowheads in Neolithic Britain
Mike Burgess, University of Southampton

In this paper the efficacy and intentionality behind observed variations in a specific kind of lithic tool associated with the British Middle Neolithic – the chisel arrowhead – are explored through a detailed examination of methods of manufacture and subsequent usage and disposal. Excavations during the 2015 season on the West Kennet Avenue, part of the Avebury UNESCO World Heritage Site, found eight large chisel arrowheads in a small re-cut pit, located directly in the center of what was to become the line of the Avenue. The manufacture of Chisel arrowheads appeared to follow a strict set of procedures (or chaîne opératoire) and detailed metric and experimental analysis of the West Kennet examples revealed evidence of two distinct manufacturing techniques as well as very different subsequent uses. Through marrying together, the observations of form and use-related traces with experimental and ethnographic research, it is argued here that different styles of chisel arrowhead contained different agency through their ritual production, usage and deposition, and played separate, but important, roles in society: smaller, blade-manufactured arrowheads were used for killing outright, whilst the larger, flake-manufactured arrowheads were used for wounding.

Taking a closer look – causewayed enclosures through the lens of a large scale use-wear analysis project
Peter Bye-Jensen, University of Southampton/Cardiff University

This paper presents a closer look at the phenomenon of monumentality in the early Neolithic, at a micro scale. The methodological approach is use-wear analysis of flint assemblages from selected contexts of a selection of well excavated early Neolithic causewayed enclosures in southern Britain and southern Scandinavia. Results from the use-wear analysis offer a way of characterizing activities at these sites that has not been taken before. In particular, use-wear analysis has been able to reveal some of the encapsulated life biographies that the flint artefacts hold, and in this way, contributes to understanding the temporality in depositional practices at causewayed enclosures. The project has also sought to develop a method in use-wear analysis, notably with high-end digital microscope technology in combination with a conventional microscope. This paper links the empirical data that is the results of the use-wear analysis to the archaeological theories behind the complex ritual monuments that the causewayed enclosures are.

Polished-edge Discoidal Knives: An Empirical Investigation into Their Archaeological Context and Function as Flint Objects from the British Isles
Melissa Metzger, University of Bradford

Polished-edge discoidal knives are lithic objects found across the British Isles with an approximate Late Neolithic to Early Bronze Age date. These artefacts were created in four different shapes (circular to D-shaped, triangular, broad leaf to lozenge and rectangular) and potentially formed a significant role in lithic material culture based on what we know of their depositional context. They have chipped and polished edge modification and the current range of use tasks is unknown. This PhD research uses microscopy to understand their function and ways of modifications and will discuss this in the context of how and where they were deposited. Ethnographic research is also used and, along with the other lines of research, help build an object biography for these artefacts.

An experimental design was set in place to study different tasks to identify use-wear patterns on top of the polished edges in order to understand the activities these objects were involved in. The manufacturing techniques show a high level of flintknapping experience and knowledge. A digital database has been created so this research can compare shape to the different archaeological and find locations to find a pattern of deposition. This paper outlines the approach taken to study these objects to date and draws some initial conclusions about the use-lives of these objects and the roles they will have played in prehistoric societies.

The biography of a practice: An analysis of Mesolithic muti-object deposits in southern Scandinavia
Mathias Bjørnevad Jensen, Aarhus University, Denmark

Hoarding has often been characterised as a ritualised post-Mesolithic phenomena, but when similar Mesolithic deposits are identified they are often seen to be 'unique events' and when interpreted they are often thought of as profane caches of raw material. In this study, rather than coming from the priori that these deposits are either ritual hoards or profane caches, the more neutral term of multi-object deposit (MOD) will be used. Prior to this analysis less than a dozen Mesolithic MODs had been discussed in any one study, however in this study more than 60 MODs in southern Scandinavia were analysed. These results indicated that Mesolithic MODs are a lot more common than previously recognised and are the combination of highly patterned as well as idiosyncratic practices. In this paper, I will present the results of the biographical analysis of these deposits, including but not limited to object biography. By studying these Mesolithic MODs using a biographical perspective we may get a better understanding of the practice(s) and how they can be interpreted including the potential ritual or non-ritualised nature of them.

17. LOST IN TIME - withdrawn

18. OUT OF SIGHT, OUT OF MIND? VISUALISATION STRATEGIES FOR EVOKING MEMORIES OF THE DEAD

Estella Weiss-Krejci, Austrian Academy of Sciences, estella.weiss-krejci@oeaw.ac.at; and Sebastian Becker, Austrian Academy of Sciences, sebastian.becker@oeaw.ac.at)

Visualisation is an effective way to represent and commemorate the dead. This is especially true among non-literary societies because – unlike long narratives – vision has great power in telling a story in one image. But what message is conveyed? Is there a direct connection that binds vision to commemoration? Does non-visualisation of the dead promote forgetting? This session explores (1) how and by what means the dead are visually presenced by the living; (2) the interplay between mobile mortuary artefacts and stationary grave monuments; (3) the dynamic processes in which mortuary artefacts and monuments are produced, used, and staged; and (4) the significance of the material properties of such mnemonic devices. How are durable materials experienced in contrast to less durable ones; are specific properties (e.g. the durability of stone) specifically sought after and what is the role of more perishable materials (e.g. wood)?

In approaching the visualisation of the dead from these different yet interrelated perspectives, the session will attempt to identify some broader trends. For instance, are certain strategies of visualising the dead characteristic of certain periods in the archaeological record? What are the differences and similarities between the modes of visualisation employed by prehistoric and historical societies? By pursuing such questions, the session aims to arrive at a comprehensive understanding of mortuary visualisation through the combined knowledge of prehistoric and historical archaeology. Such archaeologically informed insights could potentially play a significant role in the formulation and implementation of heritage policies, by focusing on the social implications of commemorative practices. What can be learned from past visualisations of the dead and why might they matter in the 21st century?

A Different Kind of Person? Graves and Grave Goods as Surrogates of the Dead in Prehistoric Europe

Sebastian Becker, Austrian Academy of Sciences, sebastian.becker@oeaw.ac.at

Dead bodies assume a fundamental significance during funerary rituals, but that capacity often hinges on the strategic use of material culture. That is most obvious in the provision of grave goods which may elaborate or reflect certain components of an individual's social identity. The same observation may apply to different types of funerary architecture, including their position in a wider landscape.

This paper explores a particular phenomenon in the materialisation of death: the extent to which objects and graves may replace the social identity of the dead. For instance, how can we explain the systematic absence of human remains in certain graves? Is, in such cases, the materiality of the grave (e.g. its visual and physical structure) more significant than the presence of a human body? And how to interpret the fact that certain grave goods may be systematically removed, rearranged or destroyed after a burial has taken place?

Drawing on case studies from prehistoric Central Europe, this paper illustrates the different ways in which material culture may thus act as a distinctive kind of social agent in mortuary contexts. Rather than merely reflecting or elaborating the social personae of the dead, it may, in fact, assume its own degree of personhood.

Watchful Warriors: Visualising the Dead in Early Medieval Britain

Howard Williams, University of Chester, howard.williams@chester.ac.uk

Archaeological approaches to early medieval stone sculpture can enrich our appreciation of their materialities, biographies and spatialities, but also offer fresh perspectives on the mnemonic agency of figural art. Focusing on the mortuary visualisation of martial figures on tenth-/eleventh-century stone sculpture from northern Britain, this paper presents a new interpretation of their role as 'corporeal assemblages' of persons and things. By constituting an entanglement of the living and the dead in visual and material interactions, the dead were being visualised as sensing agents: watchful warriors.

Visualisation is More than a Body

Christopher Daniell (UK), cdaniell22@gmail.com; Chris.Daniell114@mod.uk

This paper will explore the different forms of visual remembrance in the late Medieval and Modern periods in England. Whilst the physical presence of a body was helpful, there were many other strategies which could be pursued, such as an effigy, image on a tomb, heraldry and even stained glass. None of these need be an accurate representation, rather they might evoke the ideal that wished to be portrayed.

One form of visual remembrance that does not involve a body at all are memorials entirely using words, a feature particularly of the Victorian era memorials. Consideration will be given to the nature of the memorials and the differences between the information that can be understood from artistic images and the word memorials.

What Remains: Strategies of Commemorating and Forgetting the Dead

Estella Weiss-Krejci, Austrian Academy of Sciences, estella.weiss-krejci@oeaw.ac.at

There exists large variation in visual representations of the dead across cultures. The paper investigates, from a cross-cultural perspective, the multiple modes of these visualisations and addresses the question if there exists a connection between vision and commemoration and non-vision and forgetting. It explores the relationship between durable and perishable mortuary monuments and artefacts and their role in funerary versus post-funerary events. In the latter case, human remains and associated artefacts are sometimes turned into devices that assume entirely new meaning and function (e.g. relics to cure the living, etc.). The paper also includes some preliminary results of a recently started HERA research project: 'Deploying the Dead: Artefacts and human bodies in socio-cultural transformations' (DEEPDEAD). This project, which examines historic and prehistoric encounters with human remains and related artefacts in England and Central Europe, sheds light on the cultural and social power of the long-dead and reveals what is constant and what is locally and historically specific in our ways of interacting with them.

'Grave Goods' and 'Continuing Bonds': The Impact of Archaeology on Modern Perceptions of Death, Dying and Bereavement

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Death is a unifying phenomenon across space and time; yet the manner in which death has been dealt with, from both a social and biological perspective, has varied greatly throughout history, and continues to be practised in diverse ways across the globe today. Death practices have much to tell us about our lives, and the ways in which we choose to live them. Two new AHRC-funded projects, the Grave Goods Project (a collaboration between the Universities of Manchester and Reading, and the British Museum) and the Continuing Bonds Project (a collaboration between archaeologists and health practitioners at the University of Bradford and LOROS Hospice, Leicester) are using the diversity of past mortuary practices to challenge modern perceptions of death, dying and bereavement. A long durée study of later prehistoric burial rites across Britain (c. 4000 BC–AD 43) as part of the Grave Goods Project, will inform new and refurbished museum displays of burials in the British Museum's prehistory gallery, accompanied by a series of visualisations and poems targeted at school-groups. Meanwhile, workshops tackling themes such as memorialisation and legacy, as part of the Continuing Bonds Project, use archaeology as a way of opening up and challenging the taboo subjects of death, dying and bereavement among health practitioners working in end-of-life care. This paper will outline some aims, aspirations and preliminary results from both projects and the value of the past in informing the present.

19. PRAXIS AND PRACTICE. REFLECTING ON FIELDWORK, DATA AND APPROACHES TO SITES AND LANDSCAPES

Sponsored by Allied Associates Geophysical Ltd.

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Praxis, the process by which a theory or skill is enacted and realised, is a central principle in archaeological fieldwork and our approach to monuments, sites and landscapes. Beyond the notion of practice as the application of a method, or the habitual and expected way of carrying out a task, praxis embodies the approach of 'theory plus action' and reflection on the way in which we practice. This aspect of research permeates our approach to fieldwork, from informing research objectives, data collection through survey, remote sensing and excavation, to the analysis and interpretation of data, and representing the results of this to other colleagues and professionals.

This session provides a forum for presenting the results of projects centred on archaeological fieldwork of sites and landscapes, or following particular themes based on site or monument type or period. The focus should be on the relationship between how archaeologists apply methodologies in fieldwork and data analysis, how skills are developed and realised, and how these affect our interpretation of archaeological sites and landscapes. This includes how we approach the archaeological record in terms of objectives in fieldwork, how we perceive field skills, and how practice becomes entrenched or can be questioned and changed, and how we reflect on our actions during field research. In addition approaches to data analysis and interpretation can be considered. How do we approach data processing, analysis and interpretation, and how do we reflect on the results of fieldwork?

Methods of research can include remotely sensed data, photogrammetry, laser scanning, geophysical survey, topographic survey, building survey, geomorphological analysis and excavation, or the integration of different methods in the analysis of sites and landscapes. Discourse can focus on a particular component of a field project, or present the broad approach for a field project, reflecting on how our theories and assumptions can entrench our ideas, and how developing theories and approaches to fieldwork, data processing and analysis can enrich field research.

Landscapes of character and significance: reflections on multi-disciplinary archaeological survey projects

Jonathan Last, Historic England, Jonathan.Last@HistoricEngland.org.uk

Historic England and its previous incarnation, English Heritage, have over many years undertaken landscape survey projects using various combinations of archaeological techniques, often motivated by heritage protection objectives. Drawing on a recent review of some of these projects, my paper considers how their objectives, methodologies and resources influence the kinds of narrative that emerge from them, and how a more radical approach to the idea of landscape could help open up new forms of historical understanding that are relevant to current social and political concerns.

Beyond the 3rd Dimension - Forgotten Wrecks in Praxis

Brandon Mason, Maritime Archaeology Trust, brandon.mason@maritimearchaeology.co.uk

In recent years the Maritime Archaeology Trust has benefited from the latest advances in computer vision and digital presentation to drive home the impact of our work while also gathering vast quantities of site data. This paper will demonstrate how the MAT's approach to underwater recording has developed over a period of decades by using a number of case study sites and visualisations while also examining how this has gradually shaped our expectations of a site record and its interpretation. Reliance on an inherently optical approach can embed practical and praxial limitations, but by recognising these the possibility to better employ the advantages of 3D recording methods, which can provide unique opportunities to present, discuss and collaborate on our results, within a thematic research project can be achieved. Adopting and exploring underwater visualisation initiatives over the past five years has greatly expanded our capacity to record and disseminate submerged cultural heritage. The Forgotten Wrecks of the First World War project running from 2014 to 2018 and funded by the Heritage Lottery Fund has been a major driver for the application and development of the latest visualisation techniques applied to the underwater environments in which we work. This paper will show the wide range of tools that are being utilised, such as virtual reality and mobile exhibition spaces, to demonstrate how data capture, processing and visualisation can be seen as an important part of an integrated thematic interpretation.

Reflections on the Nile. The Use of an Integrated Methodology for Evaluating the Theban Landscape at Luxor

Kristian Strutt, University of Southampton, K.D.Strutt@soton.ac.uk; and Angus Graham, University of Uppsala, Sweden, angus.graham@arkeologi.uu.se

Since 2012 the Theban Harbours and Waterscapes Survey (THaWS) has been investigating the archaeology of the Nile floodplain and desert edge at ancient Thebes, and analysing the changing form of the river and its relationship to the temples and other ritual complexes. The project has to date utilised a number of non-intrusive and intrusive methods in addressing its objectives, including geoarchaeological survey, geophysical survey and GPS survey. However, the scale of the landscape and the diverse nature of the environment in question has presented a number of methodological and praxial issues that have had to be addressed, from the logistical scope of the project and access to areas crucial to the research, to the limitations of the techniques in relation to the archaeological and natural deposits in the area. This paper presents the diverse methods used by the project and addresses the reflexive nature of the approach to the landscape with the input of scholars from multiple disciplines, and how adaptation of some of the fundamental techniques has helped our understanding of some of the major human-made and natural features in the Theban landscape, and how the waterways and ritual complexes may have functioned.

Driving change in field methodology: from proselytising to participation

Paul Everill, University of Winchester, Paul.Everill@winchester.ac.uk

Having worked in Georgia (former SSR) since 2001, the field methodology employed at Nokalakevi has evolved to suit the site yet its origins are firmly rooted in the British approach. Although our Georgian colleagues were keen to embrace a modern methodology, and have

generated a great deal of interest internally as a result, there has always been a tension between wanting to encourage and foster best practice versus wanting to avoid a post-colonial imposition of British methods by British archaeologists.

This paper considers the emergence of Single Context Recording (SCR) in Britain in the 1970s and the disciplinary schisms that it engendered – largely as a result of the proselytising of its early converts and the inflexibility of some traditionalists. It is from this period, when the perceived battle to 'democratise' archaeology was fought through methodological change, that we inherit the worst of the lingering academic/ commercial divide.

By actively critiquing both SCR and traditional approaches to site organisation, rather than passively adopting a methodology, it becomes possible to take a flexible approach that sits outside both while maintaining best-practice standards. This paper will also consider how the transparent consideration and discussion of recording strategies and site management has enabled the methodology at Nokalakevi to be inclusive rather than exclusive. While it is undeniably British in style, it has evolved within an Anglo-Georgian collaboration that has lasted for over 15 years and, as a result, is setting benchmarks for excavation and recording in Georgia that are likely to last many more years.

Filling up the disk drive: the use of high density GPR arrays for large area geophysical survey
Neil Linford, Historic England, Neil.Linford@HistoricEngland.org.uk

Since 2008 Historic England (formerly English Heritage) has been developing the use of vehicle towed high density Ground Penetrating Radar (GPR) arrays for investigating a range of archaeological sites and landscapes. Such systems allow the collection of data from a series of 20 or more individual antenna elements, with a sub decimetre cross line spacing approaching Nyquist sampling limits, at rates of acquisition that come close to magnetic survey. Whilst the resulting data can often provide high horizontal resolution and depth information, some significant challenges remain in terms of the technical deployment and subsequent data handling given the large volume of data acquired (approximately 10GB per hectare). Such data volumes not only rapidly fill field disk drives, but can also be difficult to process in the field to allow appropriate data quality assurance and confirm adequate survey coverage. This paper aims to explore the methodological advantages to acquiring high density 3-dimensional data from large areas, for example more fully mapping geomorphological and more subtle archaeological features, whilst acknowledging the not inconsiderable issues regarding the volume of data created. Appropriate antenna design for typical wet soils encountered in the UK, the challenges of moving platform positional control and the development of simultaneous data processing software during acquisition will be considered, together with the challenges of data interpretation through semi-automated anomaly extraction algorithms and subsequent data archiving concerns.

20. SIGHTATIONS CAFÉ

Joana Valdez-Tullett, University of Southampton, j.valdez-tullett@soton.ac.uk; Kate Rogers, University of Southampton, Kate.Rogers@soton.ac.uk; Helen Chittock, University of Southampton, H.Chittock@soton.ac.uk; Grant Cox, Artasmedia, jeffers13@gmail.com; Eleonora Gandolfi, University of

Southampton, eg1g09@soton.ac.uk; and Emilia Mataix Ferrándiz, University of Southampton, E.mataix-ferrandiz@soton.ac.uk

Sightations is a space of exchange, where different perspectives on archaeological visualisation are displayed side by side. These are materialized in a variety of shapes and forms and in a range of media such as drawings, paintings, sculptures, films, gaming and virtual realities. Underpinning these works are ideas, statements, and stories. All intertwined with the practice or contemplation of archaeology and heritage, aiming to challenge our current perceptions of past representations and open new avenues of thought.

Although some pieces may speak for themselves, this event aims to dig deeper into the creational process. We invite all contributors and TAG delegates to join us for coffee and cakes, while we informally talk about the exhibition and get to know the participants and their work in more detail. Although Sightations' contributors are particularly encouraged to participate, and will have the chance to specifically address their work (slots will be a maximum of 10 minutes long), the discussion is open to all those with an interest in the themes of Art, Archaeology, Digital Media, Film, Heritage, etc.

Sightations Café will take place within the galleries. If you are interested in taking part in this discussion, please let us know via the e-mail addresses provided, as spaces may be limited.
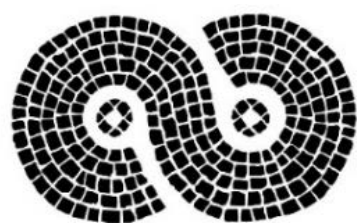
This session is sponsored by Archaeovision and it takes place in connection with the *Sightations* exhibition. It includes short talks and workshops. The talks are the following:

BLOCK 1: 19th Dec.

Dogu-mime (Performing Art)
Ken Takahashi, Yokohama History Museum, Japan

Dogu are clay figurines of the Jomon period (ca.16000-2400 calBP) which exaggerate the human image. The performance of dogu-mime entertains the audience by bringing dogu back to life using the human body. This is an attempt to visualize the ideas of the Jomon people, who made the dogu figurines, in an entertaining way. The performer is not only an archaeologist but also a mime (stage name: Hakucho- kyodai), who has been performing this dogu-mime on the streets, stages, and at museums in Japan, since 2010.

Denken mit LEGO
Matthew Fitzjohn and Peta Bulmer, University of Liverpool

The title of this presentation is inspired by a LEGO product from the 1970s (Thinking with LEGO). This short presentation focuses on the use of LEGO as a medium with which to think about archaeology and visualise the past. The AHRC funded project Grand designs in Ancient Greece is using LEGO bricks to visualise archaeology from Classical Greece and to help design activities that encourage students to learn through creative collaborative play. We will share with you the motivations for working with LEGO, as well as the creative opportunities and problems that arise trying to think about and visualise archaeology with thousands of plastic bricks.

'Danebury Environs – The Game' experiments in map art
Andy Valdez-Tullett, Historic England

Most maps produced by archaeologists are, what Lefebvre (1991) would term, 'Representations of space'. This is a scientific space, designed, quantified and plotted, a space reproducing and reinforcing socially constructed power relations. The use of Map Art moves the space created by maps to the artistic domain of 'Representational spaces', a largely symbolic spatial dimension that subverts 'representations of space.' It is space created through reaction, resistance and reappropriation. 'Danebury Environs – The Game' is such subversion through map art that moves an archaeological map and the ideas it embodies from the academic milieu to engage a broader, non-academic audience.

Archaeology, Comics and Community: The Oswestry Heritage Comics Project
John Swogger, Freelance

Oswestry Heritage Comics is a series of comics which I created about the history, archaeology and heritage of Oswestry, a small market town on the border between Shropshire and Powys. The comics were published this summer in a regional newspaper - the Oswestry and Border Counties Advertizer - over the course of fourteen weeks between July and October. The comics were created as part of my involvement in Heritage Open Days, and were designed to introduce historical and archaeological information about the town and surrounding area, as well as discuss issues facing local heritage sites, monuments, historic buildings and landscapes.

This presentation will briefly outline the background to my professional use of comics as a medium for visualising and presenting archaeology, history and heritage - as well as the specific practical and theoretical approaches which shaped the Oswestry Heritage Comics series. I will also discuss the subsequent development of the project beyond its initial iteration as a limited-run newspaper strip, and the implications this has for the use of comics as a visualisation and outreach medium in community-based archaeological practice.

Exploring comics and illustration in rock art outreach
Beatriz Comendador Rey, University of Vigo, Spain

We present two works of archaeological inspiration, related with a spreading experience on rock art of exploring the possibilities of illustration and comics. The first is a collaborative tale entitled A viaxe do cabaliño (The journey of the little horse), created in the scope of the Upper Támega Project and inspired in a depiction on Penedo das Pisadiñas (Laza, Ourense, Northwestern Iberia). It was written in Galician, and illustrated by Manuela Elizabeth Rodríguez (Moli). The tale is rooted in legends involving fantastic jumping horses that connect different places in landscape. We have invited the local community to propose new jumps for this horse.

The second is a comic designed to tell the story and oral tradition of Enchanted Moors linked to the rock art of Os Ballotes (Arousa, Pontevedra, Northwestern Iberia).

Time in an urban landscape: 8-10 Moorgate, in the city of London
Louise Fowler, MOLA

Most site reports and publications contain an attempt to visually reconstruct the layout of the site at different points in time through a set of phase plans. However, each plan is often not something that can be said to have actually existed at any particular moment in time, but contains features that may span years, decades or even centuries. An emphasis on form over process means that evidence for the incremental acts of construction, renewal and destruction that create and define the urban landscape can be obscured. It is on densely stratified sites, such as those found in the City of London, that this loss can seem most apparent. The site at 8-10 Moorgate, within the City of London, was extensively excavated by MOLA (Museum of London Archaeology) during several phases of work between 2010 and 2012, revealing several metres of stratified archaeological deposits with evidence for the occupation of the site from the 1st century AD to the present day. The work produced 5661 hand drawn plans of archaeological layers and features, which are shown simultaneously in the image on display in Sightations, in order to raise some questions about how we might look at this evidence differently.

Layered history, storied layers: Historic Environment Frameworks for the Ebbsfleet Valley
Francis Wenban-Smith, University of Southampton

Historic Environment Frameworks are not intended for visual consumption. Rather, they are a curatorial tool that communicates, and enshrines, information about the heritage value of a landscape. They codify and conflate multiple layers of history, and interpretive stories. The landscape itself has an accreted history of sedimentary deposition and human activity. And superimposed upon this are storied layers of current value and interpretation, reduced to the abstraction of a single Historic Environment Framework layer. Although a somewhat nebulous concept, this HEF layer nonetheless has an aesthetic when represented visually, and also has significant societal impacts. This brief presentation complements the poster on display, where these themes are explored in a little more detail, and introduces the HEF layer as a curatorial tool of growing importance and widening practice.

Plastic Earth
Eloise Govier, University of Wales Trinity Saint David

I propose to talk through the concept and evolution of the Plastic Earth artwork, and demonstrate how I have used the sculpture as a 'thinking tool' to explore multi-sensory engagement with the contemporary landscape. During the discussion I will highlight Ingold's work on 'mounds' and 'walking' (2008, 2013), the material agency of plastic, and the special relationship plastic has with water. I will conclude with a brief statement about plastic archaeology.

Stone Landscape
Rose Ferraby, University of Exeter

Screenprinting has allowed me to explore the layered nature of archaeological landscapes on paper. Archaeology is about peeling layers back in order to make sense of them. Screenprinting is about placing them back; choosing how much tone and emphasis to give each feature.

In 'Stone Landscape' I took marks and lines from a stone carving in Cumbria and slowly layered it up using earth tones. The change in colour and format lifts the small stone carving into a landscape scale. It reflects the idea that landscapes are not just out there, large and looming: they can also be found by looking in at small details and forms.

BLOCK 2: 20th Dec.

Shipwreck Hauntography
Sara Rich, Appalachian State University/Maritime Archaeology Trust

Like ghosts in a flooded and forgotten storm cellar, shipwreck realities are so far removed from our own that they exist in a kind of ontological void, where the lack of a sense of presence leads to a lack of perceived being – in Derridian terms, a hauntology (his pun on 'ontology'). In this respect, a hauntograph would address that phantasmal tension in space between public and private that bears directly on audience/artist/archaeologist interpretation, and it is this illusory place where the new project Shipwreck Hauntography focuses its efforts.

My first two attempts at creating hauntographs have as their subject matter the Yarmouth Roads Protected Shipwreck, where I have overseen excavations in 2015-2016. Lying in rather unruly waters, the Yarmouth Roads is an Early Modern Mediterranean merchant vessel located at a depth of -6m in the Solent Strait between the Isle of Wight and the south coast of mainland England. In using collage and transparency, I tried to negotiate the many layers of this shipwreck: its stratigraphy, centuries of deposition, decades of tidal erosion, seasons of excavation, and its countless unrecorded histories like palimpsests, neatly obscured from human access.

Shipwrecks are often understood, even by archaeologists who study them, as little more than dead ships. Shipwreck Hauntographs seek to explore, through archaeological and artistic processes, shipwrecks as liminal objects that are capable of negotiating those murky, fluid boundaries between past and present, presence and absence.

Rockburn
Marjolijn Kok, Bureau Archeologie en Toekomst, Netherlands

Everything you see in the Rockburn Details drawings was there in these configurations, but it is not all there was. I made a conscious selection for a certain aesthetics, with big machine-like-objects isolated, and smaller tools in groups. I purposefully did not draw all the nails, fragments and stones. It might have been more accurate and scientific but it would make the drawings less easy to read.

Of course, I had the freedom to do so because it was not an official excavation, however, I think we should think more on how we portray things at all moments. Everything we do costs time and therefore it is a limited resource. Choices have to be made - do I put all my time into counting and measuring every single nail or do I put time into telling a visual narrative? Drawings have a long scientific traditions because they can emphasize things more selectively than photographs. In this time of interactive 3D visuals a simple drawing can be just as effective. Drawing is a conscious act of looking and we should use this skill to think about what we want to tell the audience. The drawings can be used to engage with the audience and once they are drawn in, a dialogue can begin.

Minoan Time / Site Lines
Carlos Guarita, Falmouth Art School

This contribution to the Sightations event reflects a collaboration between prehistoric Aegean archaeology and the stills camera used as an instrument that can combine scientific investigation with aesthetic concerns.

The collaboration involved a systematic series of experiments recording dawn alignments from the doorways of important Minoan buildings, alignments that had in the construction of the buildings been orchestrated to occur on specific dates of the year. It focused specifically on the 'Mesara-type' tombs broadly belonging to the 3rd millennium BC, and the Knossos palace 'Throne Room' later in the 2nd millennium BC. The results yielded new evidence about the role of the sun in Minoan religion; pointed towards significant dates in a possible ritual calendar; and identified sophisticated prehistoric architectural choices intended to exploit the dramatic/theatrical effects of dawn light in a pre-electric society.

They also produced spectacular images of the sunrise entering prehistoric buildings whose aesthetic is not 'art for art's sake', but rather through its visual representation of archaeological material makes an original contribution to the construction of knowledge. They offer to the modern eye a sight that has perhaps not been witnessed since the Bronze Age; the photographic recording of the visual impact of the intersection of special time/date/sacred building with the dramatic first light offers insight into the somatic experience of a prehistoric people. The documentation of the tomb alignments also suggests a new paradigm for Minoan religion in the early stages of the Bronze Age: after decades of attempts to conjure enough evidence to construct narratives involving anthropomorphic deities, Minoan archaeology is invited to acknowledge such sensory experiences as part of a large body of material evidence for rituals focused rather on physical interaction with animals, plants, boulders, bones, mountains, celestial phenomena and other elements of the natural world.

#slowironbridge
Coralie Acheson, University of Birmingham

As a tourist we interweave our own personal stories with the places we visit. When we visit historical sites, 'heritage attractions' as they are often called, our stories are layered onto the many that were already attached to that place. #SlowIronbridge is a project which reflects the ways in which heritage sites are experienced and represented by those who visit them. The most tangible manifestation of the installation is a slow film showing the progression of a walk through the World Heritage Site of Ironbridge Gorge. This is paralleled by an evolving interactive online representation of the film's subject on social media which visitors are invited to add to themselves. The walk has been taken on new journeys, both real and imagined, and many others have added their reflections on what it makes them think and feel. As such it both reflects and mimics the ways in which tourists interact with heritage attractions and opens up new questions about what these interactions can mean. This short paper reflects on the stories the project has gathered, travelling through the journeys that this now historical and imagined walk has gone through and identifying the new questions that have emerged from it.

SERF: designing digital engagements
Alice Watterson, University of Dundee; and Tessa Poller, University of Glasgow

One of the goals of the pilot digital resource for the SERF hillforts programme is to find a way to communicate the dynamic process of archaeological interpretation. Through the interface we have begun to explore representation of multiple interpretations by offering alternatives to the structures within the reconstructions themselves, and we want to develop this theme further. Representing the more ephemeral elements of the interpretive process is in itself a challenge. During the fieldwork we recorded active discussions at the trench-edge and captured interpretive sketches drawn during lively debates between the archaeologists. Presenting this material in a way which still retains the essence of this dynamic process while inviting the audience into the

interpretive debate is problematic. Traditional modes of representation ask for visuals which embody a somewhat conclusive and didactic voice. How then might we use visualisation to better reflect the fluidity of the interpretive process and engage audiences more meaningfully with the ways in which the excavated evidence challenges archaeologists?

Darkness Visible: 3D Modelling of the Sculptor's Cave, NE Scotland
Lindsey Buster, Ian Armit, Rachael Kershaw, Adrian Evans and Tom Sparrow, University of Bradford

The Sculptor's Cave lies on the south coast of the Moray Firth in NE Scotland. It is in an inaccessible location, which requires scaling steep sandstone cliffs and/or a long walk along a boulder strewn beach. Furthermore, the bay in which it lies is cut-off for two hours each side of high tide. Despite, and more likely because, of its marginal location, the Sculptor's Cave has been a draw for people for millennia. In the Late Bronze Age the site was used for complex and protracted funerary rites, whilst in the Roman Iron, a group of at least five individuals were decapitated inside the cave. Sometime around the sixth century, a series of enigmatic Pictish symbols were carved in the entrance passages; an act which may have served to symbolically 'seal off' the cave from future use.

The biography of the Sculptor's Cave is long and complex. But how to capture the dynamism of such a place, where time and place intersect? Caves are unique archaeological sites, in that they occupy a conceptual space between the built and the subterranean, the natural and the cultural. Digital capture technology, particularly 3D scanning, is one way in which we can create (or arguably re-create) these dynamic, often inaccessible, spaces in new and versatile ways. This paper will outline some of the scanning technologies used, at various scales, in the analysis, interpretation, presentation and management of this enigmatic site.

An imaginary tour of Orkney from Elsewhere, and Elsewhere from Orkney
Lara Band, MOLA, CITiZAN; and David Webb, Independent Producer

The collaborative film/installation An imaginary tour of Orkney from Elsewhere, and Elsewhere from Orkney, showing in the Sightations Exhibition, was put together following participation in Map Orkney Month in 2015, Elsewhere being London. Our installation juxtaposes the two tours of the same place, one imaginary and one real. The act of mapping Orkney in London led us to places we would not normally go and to a consideration of differences and similarities between the parallel destinations; remapping in Orkney allowed for a re-examination of these ideas. The installation itself opens the way for further exploration of themes including as use, mass, materials, space, place, sound and experience.

This paper looks briefly at the reasoning behind the method of mapping and presentation, the ideas it engendered and where it might go in the future.

An Ode to Hiort
Richard Benjamin Allen, Oxford University

An Ode to Hiort is a walking simulator that tells the story of a survivor of a crashed Wellington Bomber MKVIII during 1943 on an island based upon the real St.Kilda in the outer Hebrides. The game started off life as a learning exercise to get to grips with the various work flows, hardware and software required to create a virtual environment using real world data and was initially inspired by the work of the Scottish Ten group at Historical Scotland. It has since then evolved

into something more and seeks to not only tell an interesting story but to demonstrate what can be done "on a shoestring" using laser scanning, photogrammetry, open sourced/free software and enough time. In this talk I will briefly take you through the journey so far, the technology involved, the people that have contributed and about future developments and direction.

The Reliquary Project
Jo Dacombe, University of Leicester

The Reliquary Project is the culmination of artist Jo Dacombe's residency within the University of Leicester's School of Archaeology and Ancient History, which began in September 2014.

Dacombe worked within the Bone Laboratory, examining themes and ideas inspired by animal bones and skeletons, exploring the subject matter she encountered through the process of making art. Dacombe will discuss the themes behind The Reliquary Project works and threads that developed through different pieces, how themes informed the use of media and how the media informed the thinking process. The range of ideas she explored in a visual way included bones as material, bones as landscape, ways of "seeing" with technology, notions of mythology and sacredness, and how ways of displaying change how we value objects.

Visualising Complex Material Trajectories through Creative Ceramic Practice
Christopher McHugh, University of Sunderland

Influenced by recent archaeological approaches to the contemporary past, I regard my creative practice as a proactive intervention in which otherwise unconstituted narratives of person-object interaction are materialised through the creation of enduring ceramic art objects. My work exploits the archival potential of fired clay, usually incorporating digital photographic imagery as surface decoration.

While not intended as direct visualisations of specific artefacts, my artworks often attempt to represent the complex material trajectories of particular museum collections or assemblages through a synthesis of form and contextual information. By constituting new things, this process may contribute to, as well as visualise, the archaeological record.

This will be illustrated by reference to two bodies of recent ceramic work.

The George Brown Series of porcelain vessels was made in response to the George Brown Collection of Oceanic material culture at the National Museum of Ethnology, Japan. Described as one of the most mobile collections in the world, my work attempts to represent something of this contested and convoluted history. The Setomonogatari series was made during and since an art residency in the traditional pottery community of Seto, Japan. This work explores the site's changing materiality through a process of collage and synthesis. Abandoned plaster moulds have been reanimated through reuse, while discarded ceramic objects are repurposed and integrated into the works. These act as reminders of the tacit and often undervalued stories of person-object interaction and labour that lead to the formation of material culture.

The workshops affiliated to the Sightations Café are the following:

Comic workshop (see session 35)
CHALKing (Carving Chalk Workshop)
VR workshop with VR Umbrella
This workshop is sponsored by Virtual Umbrella

21. SKELETONS, STORIES, AND SOCIAL BODIES

Sarah Schwarz, University of Southampton, S.M.Schwarz@soton.ac.uk; Lizzie O'Sullivan, University of Southampton, E.O'Sullivan@soton.ac.uk; and Stephanie Evelyn-Wright , University of Southampton, sw20v07@soton.ac.uk

The human body has been investigated and marvelled by anatomists since the earliest civilizations, with a wide variety of mortuary practices and attitudes to the body have dictating the nature of their work and the 'appropriate' methodologies employed. But the human body is much more than a construction of tissues – the body itself conveys a sense of identity and social meaning, and can do so well after the physical body has died.

The cadaver itself means different things to different societies – to some it is honoured and revered, and to some it is an object of fear and revulsion. To most the image of the corpse represents the end of a life, the loss of a loved one, and the absence of a social connection – but the dead can represent more than absence and loss. However, the declaration of death does not mean the end of social impact for the deceased – the body can continue to have social agency, can take on a new role as a cadaver in the anatomy laboratory, and can continue to represent the thoughts and beliefs of their society well after their body has been disposed of (eg. through burial).

This session aims to address the concept of the social body in death, changing attitudes to the dead in pre-history and history, and the information which can be visualised and re-constructed from a dead body. Whether that is by the archaeologist examining the excavated ancient skeleton or the anatomist making the first incision into the cadaver, this session aims to visualise the corpse as more than a dead body and understand their extended social impact within the society to which they belonged.

This session is based upon the topics which will be covered in an upcoming conference at the University of Southampton. The conference will be entitled 'Skeletons, Stories, and Social Bodies', and will be a three-day interdisciplinary conference which aims to connect those who research the dead and those who work with the dead.

Human remains as evidence for grief and mourning? A reinterpretation of plastered skulls from the Neolithic of the Levant
Karina Croucher, University of Bradford, k.croucher@bradford.ac.uk

In a change to the types of evidence usually gained from skeletal remains, this paper considers whether skeletal remains can inform us of grief and mourning. Taking the case study of plastered skulls from the Neolithic of Southwest Asia, this paper re-analyses the remains. The plastered skulls are the treated crania recovered from burials beneath house floors, on to which have been recreated faces using mud, lime or gypsum plasters. They are traditionally interpreted as relating to ritual elites, or as a means for expressing community cohesion. This new analysis is informed by recent work between archaeologists and end of life care researchers on the 'Continuing Bonds: Exploring the meaning and legacy of past and contemporary practice' project, and investigates

whether theories of grief and mourning can shed light on practices in the past at particular moments in time.

Weland's Bones: Skeletons and Stories in Early Medieval Britain
Howard Williams, University of Chester, howard.williams@chester.ac.uk

The post-burial retrieval and circulation of human body-parts has been an infrequent but increasing focus of attention for early medieval archaeologists. The variegated roles bodies and bones in creating and mediating social memory has been proposed for both pagan and early Christian communities between the 5th and 11th centuries AD. This paper takes a new perspective on the significance of bodies and bones in the Early Middle Ages. Rather than exploring mortuary or osteological evidence, and the usual focus on 'grave-robbing' or the 'cult of saints' relics', this paper tackles medieval literature, art, material culture and monuments in combination, focusing on one particular enduring story told about, and with, bones during the Early Middle Ages.

The legend of Weland the Smith is known to have been circulating throughout northern Europe and Scandinavia from at least the 8th century AD. This tale of retributive violence by the magical smith Weland upon the evil king who crippled and imprisoned him, focuses on the breaking of bodies and the making of new things from the bodies and bones of Weland's victims. Weland also transforms himself through his artisanal skill and by breaking bodies. The article shows how this story had material and corporeal manifestations. An archaeological perspective on the story of Weland, contextualized in relation to a range of evidence for the economic, social and religious significance of animal and human bodies for early medieval communities, sheds new light on the materialities, fiery technologies and landscape dimensions of the story, and the role of bones in particular narratives of violence and transformation that constituted perceptions of the body, social identities and social memories for early medieval communities and kingdoms.

Visualising Taphonomy: reconstructing burial practices from 1m2 at the Xagħra Circle hypogeum
J. E. Thompson, University of Cambridge, Jet71@cam.ac.uk

The dense deposits of largely disarticulated and commingled human bone from the Xagħra Circle hypogeum on Gozo, Malta provide a rich case study from which the process of death, and interactions with the dead, can be visualised. The hypogeum and nearby rock-cut tomb, both contained by a surrounding stone circle, held the remains of between 700-900 individuals, deposited from c. 4300-2300 cal BC. Preliminary analyses have shown that in most cases primary inhumation gave way to prolonged periods of engagement with the materials of the dead body, resulting in patterned deposits of rearranged skeletal remains. These episodes of activity are now being investigated through both taphonomic and spatial analyses. The excavation plans from the Circle have been digitised (by Dr. K. Boyle, Dr. R. McLaughlin, E. Parkinson and J. Thompson) in ArcGIS, providing means to study the spatial distribution of the remains, in relation to features such as skeletal element, age, sex, pathology, and taphonomy. This paper will investigate the alignment of ArcGIS with taphonomy, through a detailed examination of 1m2 of burial deposit on the edge of a single, large context (783). Within this 1m2 area, more than half of the 3,611 analysed fragments range in age from foetal to adolescent. The high percentage of nonadult remains allow us to theorise about the intersection of personhood with age and burial modes, through detailed visual and contextual analysis.

The use/misuse of Iron Age Bodies after Death: Denying Agency and Drawing on the Power of the Body

Nick Thorpe, University of Winchester, Nick.Thorpe@winchester.ac.uk

There were, of course, Iron Age burials treated with apparent respect, laid to rest in chambers with a wealth of objects then covered by mounds which ensured the survival of the dead, and long recognition of their social agency. Although in some cases equally famous, many other bodies were dealt with after death in ways which sought to drain them of agency.

The best known of these are the bog bodies of northwest Europe, treated in a variety of ways (including their landscape location, restraining and dismembering) which rendered them less dangerous. However, there are numerous other cases across Europe of cadavers being restrained, dismembered, or placed in unusual burial locations within, or outside, sites. Many of these individuals had visible impairments rendering them as disabled, but such a marginal position can be one of both isolation and power. Sometimes this resulted in honoured burial, but fear of the dead was often the leading emotion. It has been argued, for bog bodies, that evidence of care suggests that these are 'normal' burials, but extraordinary care must be taken in dealing with the malign dead.

We can also see attempts to draw on the power of the body by using (misusing?) body parts after death. These were sometimes retrieved and used over long periods. In particular, we may see the use of the skull for magical purposes (perhaps particularly efficacious in cases of violent death), sometimes being used in weaving (bringing to mind the Fates, or the Norns of Norse mythology).

Visualised denial of rebirth of the dead in the mortuary process: Ritual disarticulation during the Middle Jomon Period in Japan

Takeshi Ishikawa, Kyushu University, Japan, ishikawa.takeshi.590@m.kyushu-u.ac.jp

This study reconstructs the disarticulation of the corpse as a type of deviant mortuary treatment and argues its significance for the living in terms of manipulation of the dead body as a social resource.

The deviant treatment of a corpse includes various mortuary practices such as unusual body direction and posture. In the reconstruction of past societies, differences in mortuary practices can reflect differences in social personae. In addition, the deviant treatment of a corpse can suggest an unusual social background and/or context of death. Both of these explanations regarding the deviant treatment of a corpse may suggest the fear of death and subsequent rebirth of specific individuals. In other words, in the mortuary process, visualised deviant treatment of dead bodies, such as disarticulation, was used by the living as a social resource to represent religious thought and create an intense visual effect on the living.

In the present study, disarticulation of the corpse was reconstructed based on arrangements of skeletal remains and cut marks on the bones. The samples used for analysis were a skeletal population from the Middle Jomon Period (ca. 3500–2500 cal BC) excavated from a shell mound in eastern Japan.

Disarticulation was observed at the lower limbs in several cases. In other cases, cut marks were observed on the skull and neck, although the anatomical relations remained largely intact. These findings suggest that disarticulation of a corpse was a ritual attempt to prevent the rebirth of the dead during the Middle Jomon Period in Japan.

What happened to Djer's arm? – Mis-placed and dis-placed archaeology

Michelle Scott, University of Manchester/Manchester Museum, michelle.scott@manchester.ac.uk

The theories and practices underpinning archaeological process and museum ethics and display have changed significantly over the last century. This is reflected in the fluidity of the relationships between human and artefactual remains - between the subject and the object. In 1901 Petrie excavated the Early Dynastic Royal Cemetery at Abydos in Egypt; in the tomb of King Djer he found a mummified arm adorned with bracelets of gold, turquoise, lapis lazuli, and amethyst beads. This jewellery is on display in the Egyptian Museum, Cairo. However, of the mummified human arm, only a photograph remains. As Flinders Petrie once said, "a museum is a dangerous place."

This paper challenges the authority of the physical, discussing the agency of both absence and the image, within which many narratives are entangled. These include that of ancient personhood and social identity; potentially the earliest evidence of the artificial mummification of a royal body, this image represents a changing relationship with the dead body and a tangible shift in the mythography of divine kingship. Considering both the fragmented body and the artefact as sites of identity, this study also reviews the shift in twentieth century discourse surrounding the idea of the relic, and how the dismembered and discarded arm, of which only the jewels remain, provides an insight into the archaeological and museological relationships with the ancient dead.

22. THE INVISIBLE ESSENCE OF MIXED MATTER: ENVISIONING A MATERIAL CULTURE THEORY OF SUBSTANCE

Kevin Kay, University of Cambridge, kk510@cam.ac.uk; and Laurence Ferland, Université Laval, laurence.ferland.1@ulaval.ca

Material culture theory today envisions human life lived in a well-furnished set of meaningful, entangling things. We have developed lively conversations around the ways that making objects, using them, displaying and concealing them, and discarding or fragmenting them intertwines with social processes, from the scale of individual minds and bodies to that of continents and millennia. Much has been said, of late, about entanglements and assemblages, too – the ways things interact with, depend upon and co-create each other, human beings, and landscapes.

In these conversations, our examples and case-studies are almost always bounded objects with unified relational attributes: baskets and fetish-statues, wampum-beads and stone axes, microscopes and water-pumps. This session will explore the possibilities for a material culture theory starting from a different kind of type specimen: the unbounded, heterogeneous substance. Water, mud, soil, dung, compost, midden, cement, gravel, and ash invite a different kind of human engagement than more-bounded objects. Following Ingold (2008), Hahn (2010), Pauketat (2015) and Given's (2016) impetus, this session aims to better theorize such engagement.

To this end, we invite papers:

- Anatomising the particular constraints and affordances of substances for technical practice;
- Exploring the manner in which substances, as heterogeneous composites, invite and embody certain forms of material entanglement;
- Adapting phenomenological approaches to material culture to subject-substance (as opposed to subject-object) interactions;

- Discussing the constraints and biases of archaeological methodologies when investigating substances, and entertaining the possibility for more suitable methods;
- Investigating the material culture of substance and its relationship to object culture in past and present societies.

Ultimately, pursuing these lines of investigation will provide a necessary complement to 'thing theory' in material culture studies. Living as we do in the age of plastic, glass, and stainless steel, it is easy for our eyes to be caught by bounded objects with clear surfaces. This session will open for more considered analysis a new set of materials and a new perspective on material life: new aspects of a story only partially told by things.

Matters of difference: nobody puts debris in a corner!
Emily Banfield, University of Leicester

Recent engagement with archaeological material undertaken from within what can broadly be termed as a New Materialist position has problematized notions of boundedness, drawing in particular on the assemblage theory of Deleuze and Guattari and DeLanda. Understood thus, objects/assemblages trouble the existence of fixed essences – discrete sets of properties defined through modern scientific practices – and are found rather to be relationally emergent; shifting and contextually contingent. But as a discipline structured upon the classification of and, in practice, the separation of artefact types analogous with modern concepts of material classes, how can we develop understandings of past ontologies that are not limited by the terms of our engagement?

In this paper, I explore the potential of assemblage theory for approaching archaeological materials that are all too frequently relegated to the background, the mundane stuff of foundations, fills and fencing. Drawing on case studies from the Avebury landscape, and with a concentrated focus on context, new and different substances emerge to reveal aspects of past ontologies.

Bodies that co-create: the residues and intimacies of vital materials
Eloise Govier, University of Wales Trinity Saint David

At the Neolithic town Çatalhöyük in Turkey, carbon is often found in burial contexts. It is argued that carbon found on the ribs and vertebrae of human remains is a by-product of a lifetime of smoke inhalation (Andrews et al 2005: 277). The inhalation of carbon from the smokey hearth, settles in the lungs. But as the lungs decay, these carbon residues - intimately hosted by the lungs during life - remain embedded within the burial context. These substances are the residues and intimacies of material interactions, and I argue that their presence epitomises the futility of the "life-matter binary" (Bennett 2010: 20). To quote Jane Bennett: "[it is an] oxymoronic truism that the human is not exclusively human, that we are made up of its" (Bennett 2010: 113). The vital relationship between these materials manifest in, and on, the Neolithic body. This paper brings together data gathered from ethnographic research carried out in collaboration with performance artist Suze Adams, and the vital materials found in burial contexts at Çatalhöyük. Whilst thinking through these material interactions, I follow on from Karen Barad and reject the "Cartesian cut" (2003: 815), and offer an analysis that interrogates the vital materials that blur the "surfaces" and "horizons" of the body.

Dung to ash: the alchemy of prehistoric everyday substances
Agni Prijatelj, University of Durham

This paper explores the material, sensual and cultural qualities of animal dung and ash in Mediterranean prehistory, by presenting a series of selected archaeological, geoarchaeological and ethnographic case studies on the use of caves and rockshelters as stables (grotte bergeries) or stable-and-dwelling places (habitat bergeries). Whilst previous studies used animal dung and ash as indicators for human agency in the form of distinct anthropogenic activities such as herding, penning and cleaning (e.g. Angelucci et al. 2009; Boschian 2006; Brochier et al. 1992), these thoroughly overlooked the agency of the substances themselves. As a critical response to the earlier approach, and in the light of dynamic new research on vibrant materials and the agency of matter (Boivin 2008; Bennett 2010; Conneller 2011; Jones 2012; Jones & Alberti 2013), this paper shifts the focus on to the agency and substance-power which stems from the material properties of the dung and ash. Furthermore, by rigorously focusing on process, change and material connections and interactions between people and materials within various underground settings, the paper explores distinct forms of entanglements between subjects and substances. In so doing, it argues that dung and ash had, in prehistory, an emotional, sensual and social impact through the corporeal force of their physicality and transformative potential.

Archaeology is the science of aggregates
Philippe Boissinot, EHESS, Toulouse-Paris, France

The archaeological inquiry proceede to dismantle a singular entity, entirely spatial, and therefore viewable in many ways, with some cohesion, and structured from various material elements, which we call aggregate. As an aggregate, it could not be covered by any subject, even if it has at least a part, itself part of an artifact (and not only as constituent), suggesting intentionality in this location, that can be old or very recent. In contrast to other documents (picture, text), the aggregate reveals no point of view, nor imposed framework. From the disposition of these things (Ontology of substance) in it, the archaeologist deduces the existence of other things ("what?"), people ("who?") and events ("why ?"), answering incompletely this question: "what happened here?" (Ontology of time). We consider in this paper all the epistemological consequences of the disassembly operation at several scales (from mesoscopic towards the infra and supra ones), which limits the use of certain concepts of Social Sciences, while providing unmistakable facts. This limitation, it is the decoupling between space and time, as well as the weakening of certain criteria of identity, in the absence of language and / or direct observation of the agents. For these reasons, it may not be the best discipline to handle the material culture in all its generality, neither "the discipline of things".

Liquid stones: a transformation of state
Louis-Olivier Lortie, University of Sheffield

This paper takes a materialist perspective on metallurgical slag as a vehicle to interrogate our disciplinary perspectives towards things. Despite the surge in studies that acknowledge the vitality of things (Ingold), the inherent sociality of craft and technology (Pfaffenberger), and the cultural significance of material (substance), archaeological practice still prioritises form to fulfil the demands of the concrete typological categories that it operates within.

Metallurgical slag is acknowledged as a formal category of material yet it defies typological treatment as they are often deemed non-diagnostic. In contrast to other artefacts types, the end point of slag production is often its discard. The formation of slags develops not as the result of material interactions, but rather as a developing flow generated by the crafting decisions and material conditions under which metal is formed. They are substances intentionally produced by humans, but this intention is often directed towards slag's liquid state.

The contrast that time develops between flowing slag and archaeologically recovered slag may prompt us to think about other types of durable artefacts. It is easy to forget that these too have emerged as flow and as such are caught up with the actions and conditions under which they develop. Developing ideas of slag as substance rather than object remind us that these emerge within relational conditions. Through this, we might be able to accommodate a practice centred on the routinized relations that agency establishes as it draws together time, space, materials and memory.

Clay and the art of experimentation
Marc Higgin, University of Aberdeen

My research focuses on clay and visual artists working with this material that is always on the move. Clay is better understood not as a single, homogenous substance but as a dynamic inter-relation of earth(s), water and air, changing again in relation to fire. This paper draws on my fieldwork with three artists. In labouring alongside them, I gradually got to know the rhythm and feel of their practice of making with clay, the tools, equipment and techniques they used as well as the experiential and aesthetic dimensions of this material experimentation. This focus on the relational dimensions of sculptural practice necessarily extended to the social and economic dimensions of production and exchange through which my collaborators sustain their practice (and livelihood) as artists. Rather than approach art through the lens of 'already-thrown' works through which social meaning, function and organisation can be read, this research works with materials, art and artists in-the-making, as relational achievements between many different logics of production, exchange and relation.

The paper engages with this panel's turn to substances in two parts. The first engages with the work of the artist Alexandra Engelfriet, in which I discuss the role of imagination in learning to work with the exigencies of particular materials. My interest here is with the remarkable plasticity of clay and how it foregrounds not only the doing of skilful practice with this material but also its undergoing. This dimension of undergoing is interesting to the extent it unsettles the anthropocentrism implicit theories of human agency and the way they frame materials in terms of 'affordances'. The second part follows the artist Douglas White during a residency at the European Keramich Workcentre in the Netherlands, exploring the difference the fire of the kiln makes to working with clay; in particular, the work of rendering productive (and reliable) the indeterminacy of clay's transformation into ceramic. While the first part develops existing phenomenological approaches to making, the second tries to develop a metabolic sense of material experimentation and creativity that touches on the limits to these approaches.

Substance worlds: engaging matter beyond things
Kevin Kay, University of Cambridge, and Laurence Ferland, Université Laval, Canada

We live in an age of plastic, glass, and stainless steel. Objects like smartphones, whiteware crockery, and Ikea furniture come to us fully formed, with definite, homogeneous surfaces, and when those surfaces are broken or tarnished we discard them. We internalize this way of engaging with the material world: it shows in our material culture theory, with its rich "object worlds" (Meskell 2004) of pots and handaxes, figurines and baskets, following "biographies" from the time their surface forms to the time they are discarded (Joyce and Gillespie 2015).

Without denying the sweeping advances in 'thing theory' in the past 20 years, we argue that material cultural concepts, terms and methods tailored to bounded objects struggle to comprehend that omnipresent category of material substance that is loose, aggregate, heterogeneous and

unbounded. Substances like clay, dung, ash, compost, rubbish, and soil are not 'things'. They behave differently in physical terms and invite different engagement from human bodies and minds.

Drawing on examples from our fieldwork on tell sites of the Age of Clay, as well as contemporary material culture, we attempt to outline the particularities of a material culture theory of unbounded substance. We discuss implications of substances' physical proclivities and the demands of working with substance; suggest common ways in which substance affords skill, thought, and discourse; and reflect upon the phenomenological foundations of 'thing theory' in light of this broadened horizon. In conclusion, we suggest that, although some of our modern material cultural habits shape archaeological thought to be partly-incongruous with the substance world, the intimate engagement with substances that archaeological practice demands and the sturdy roots of 21st century material culture theory provide ample resources for a revitalization of unbounded substances in archaeological understanding in coming years.

23. THEORETICAL ARCHAEOLOGY IN INDIA: 21ST CENTURY - withdrawn

24. THINKING THROUGH ARCHAEOLOGY AND THE ENVIRONMENTAL HUMANITIES

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'At its most basic, environmental humanities work has always challenged the idea that nature or the environment simply "is". Environmental humanities suggest rather…that human ideas, meanings and values are connected in some important way to the shape that the "environment out there" assumes' (Neimanis et al 2015)

The emerging field of environmental humanities seeks to bridge disciplinary divides between the arts, humanities, and social and natural sciences. It questions the separation between humanity and nature, and draws from Western, Eastern and indigenous ways of knowing and experiencing the environment to address environmental issues such as climate change, sustainability and conservation.

Many of these concerns have been (and are being) explored by archaeologists across the world and speak to ongoing theoretical and methodological debates within the discipline. Despite this seemingly apparent crossover, archaeology within the UK has remained largely independent from the environmental humanities. Indeed outside of Scandinavia, it could be argued that there has been little formal engagement between archaeologists and research in the environmental humanities.

This session seeks to explore some of the points of intersection between archaeology and the environmental humanities agenda, and to foster collaborations beyond the field of archaeology.

We welcome papers that address the following themes and questions:

- How can archaeology contribute to the field of environmental humanities?
- As archaeologists can we get at 'human ideas, meanings and values' concerning the environment in the past?

- How do our own 'ideas, meanings and values' in the present day, in turn shape what we do as archaeologists and our subsequent narratives of human-environment relations in the past?
- Related to the above, given that critical theoretical reflection is a central tenet of EH, is a consideration of archaeological praxis an essential first step in this process?

Palaeoparasitology and histories of environmental justice

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The potential of palaeoecological studies to inform conservation biology has been well explored (e.g. Rick and Lockwood 2013; papers in Lauwerier and Plug 2003). The environmental humanities question the model of conservation that places nature outside of the human, however, and recognises the environment as a social phenomenon, with human-natural relations occurring on a spectrum. Environmental justice argues that, in separating humans from nature, other forms of conservation have been blind to human issues of class, race and gender, and have overlooked nuances of human-natural relations.

This paper seeks to establish palaeoparasitology as a science that has the potential to provide time depth to arguments of environmental justice. Parasites demonstrate that the barrier between human bodies and nature are permeable or perhaps even illusive. Infections may be acquired through diet and/or particular environmental conditions, and their evidence (especially the ova of parasitic worms) have a long history of study from archaeological contexts. Evidence from these studies is reviewed to identify and explore historical inequalities and to consider what this might mean for the environmental humanities' approach to environmental justice.

Towards an ecocritical palaeoecology

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"Ecocriticism explores the ways in which we imagine and portray the relationship between humans and the environment in all areas of cultural production, from Wordsworth …to Google Earth." (Garrard 2012, frontispiece)

The session seeks to explore how archaeology can contribute to the field of the environmental humanities. Taking archaeology in its broadest definition to include palaeoecology, we aim to sketch the outlines of an 'ecocritical palaeoecology'. Ecocritical studies focus on the relationship between the cultural origins of and responses to, current global ecological and environmental problems and crises. In its reading of texts, ecocriticism takes an earth-centred approach to literary studies. In this paper we consider the potential role of palaeoecology within ecocritical thought, in particular how an ecocritical approach to the practice of palaeoecology itself. Specifically, how are specific ideas and representations of 'past ecosystems' and their relationship to human and non-human actors, created and sustained through palaeoecological work and study? What is the relationship of palaeoecology with the politics of debates such as ecosystem degradation and 'past human impact on the environment' Heise (2006) has drawn attention to the lack of a comprehensive model for linking contemporary perspectives and developments in ecology to ecocritical work and thought. Thus, one of our aims may be regarded as part of a broader project to form active disciplinary connections between (palaeo) ecology, ecocriticism and the Environmental Humanities.

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Going beyond the safari: the potential role of the Environmental Humanities in sub-Saharan Africa

Suzi Richer, University of York, suzi.richer@york.ac.uk; Rob Marchant, University of York; Daryl Stump, University of York; Carol Lang, University of York; Cruz Ferro Vazquez, University of York; Michael Wilson, Loughborough University; and Jo Dacombe, Freelance Artist, Leicester

"We no longer live in a natural world – there is virtually no part of the environment that we left unchanged" – NERC, 'Our Vision'

In contrast to NERC's vision, a disconnect exists between the perception of people outside of sub-Saharan Africa - of open peopleless savannahs populated with the 'Big Five Game Animals' - and the diverse reality. To perceive the environment as separate from the people who live there perpetuates a lack of effective engagement with broader environmental issues and future grand challenges facing the world. The potential ripple effects of environmental change and population growth in Africa will increasingly be felt locally on livelihoods and globally in terms of food security and economic instability. The globally ratified Paris Agreement (COP21) and the UN Sustainable Development Goals demand engagement by an informed civil society if the goals are to be fulfilled: therefore resolving this disconnect is paramount.

The environmental humanities seeks to bridge disciplinary divides and the separation between humanity and nature, it can potentially provide a pivotal role in bringing together disparate data and insights to inform a common counternarrative to what currently exists around a notion of 'Africa'. This paper explores how we can present and use insights from archaeological and palaeoecological projects in eastern Africa, in a public arena, to begin to challenge these current perceptions. This directly addresses Hutching's (2014, 214) call 'to move beyond ecocriticism to ecoaction…actively spreading counternarratives'.

Hutchings, R. 2014. 'Understanding of and Vision for the Environmental Humanities', Environmental Humanities 4:213-220

The ecosystems services approach and environmental humanities in the South Pennine uplands

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The ecosystems service approach can be described as a way of valuing the intangible as well as the tangible aspects of landscape; it allows us to visualise the otherwise invisible and to encourage stewardship of all attributes of a landscape. Rather than using the monetary value ascribed to its food production or development potential, land is seen instead as a potential provider of many services and the owner or tenant as its steward. This approach is of considerable use to the heritage community as the amenity and aesthetic qualities of landscape are often difficult to articulate; in particular the cultural heritage services of 'sense of place' and 'sense of history' translate the archaeological concept of significance into a language that can be more easily visualised and prioritised alongside other environmental outcomes such as flood risk management or carbon

storage. While this approach has sometimes been criticised for taking the 'joy' from the experience of interaction with the environment I will argue that it can be a tool to move away from top down management regimes towards partnership working with rural communities. Using the South Pennine character area as an example I will discuss the ways in which the ecosystems services approach allows us to move from archaeological theory into the praxis of environmental humanities with particular reference to peat restoration and conservation and upland archaeology. I will also discuss the emotional connection to heritage experienced by the local people as revealed by research during the Pennine Prospects-led Watershed Landscapes project.

Conceptualizing Human-Mountain Relations in the Ancient Andes

Darryl Wilkinson, McDonald Institute for Archaeological Research, University of Cambridge, daw89@cam.ac.uk

In the Andes, indigenous terms for mountains (wamani, apu etc.) typically translate to something like "lord", "king" or "judge". And colonial narratives about mountains often describe them as sentient beings; in other words as entities who could speak, make prophecies, pay taxes and even be executed for treason. Basically then, they represented a kind of social elite – beings who were no less a part of Andean communities as anyone else. Traditional archaeological approaches to human-environment relations have, as yet, demonstrated a limited capacity to deal with such radically different worlds. At best, Andean mountains are relegated to the realm of religion (often called "mountain worship") as a way of keeping them separate from "real" aspects of human-environment relations – like water management, mining and agriculture. In this paper, I argue that not only do such approaches fail to understand indigenous accounts of their world, but actually impede our ability to interpret archaeological data correctly. I present archaeological landscape survey data from the Andean cloud forests, relating to Inka efforts to mass-produce coca leaf, as a case-study in this respect. Rather than see such activities as an effort at agricultural intensification, to extract more resources from an asocial environment, I instead suggest that Inka landscape manipulations can only be understood as part of a project for turning mountains into a disciplined and loyal workforce.

Environmental humanities: towards a field archaeology of the Anthropocene

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The notion of the Anthropocene in which cultural and environmental histories collapse into one another, provides a focal point for the Environmental Humanities. In light of the current discussion regarding the Anthropocene, this paper explores this new geological epoch from an archaeological – and specifically a field-archaeological – point of view. The Anthropocene has been proposed as an epoch in which humans have become the dominating force shaping global geological and ecological dynamics. At present, a lively debate runs as to the very validity and the time of onset of this 'Age of Humans'. One of the most convincing starting points is the 'Great Acceleration' of the gargantuan capitalism-driven rise in fossil fuel extraction and chemical signature of human activity that began around 1950. Curiously, from an archaeological dating perspective, 1950 also marks the year 0 – the present – what follows after is the future. By this token, the product of environmental and contemporary archaeologies could indeed be classified as an 'Archaeology of the Future'. While some archaeologists already have involved themselves in the debate regarding the onset of the Anthropocene, these contributions have rarely been based on archaeological field-work. This paper presents results of archaeological fieldwork at the former lignite mining site of Søby in central Denmark specifically designed to capture the coupled

geological, ecological and cultural entanglements of the Anthropocene. The Søby locale, we argue, presents a local microcosm of a potential global future of unintended consequences, economic overexploitation and humanly induced environmental catastrophe.

25. TYPOLOGY AND RELATIONAL THEORY

Lucy Cummings, Newcastle University, l.b.cummings@ncl.ac.uk; and Mareike Ahlers, Newcastle University,m.ahlers1@ncl.ac.uk

Typologies have always existed within archaeology as a way of organising, grouping and describing sites and finds; they serve to aid archaeologists in making effective descriptions of changes. In this sense typologies can be seen as a core subject of archaeological investigation. There is however a long standing debate over the value and significance of the typology system. Typologies can be considered vital tools for building chronologies, however they can also be seen to reduce or erase variation in the creation of a series of types. For instance, Richards argues that monuments are not just reproductions of a single idea type site, and reminds us that 'monuments don't actually breed' (2013: 15). Sørensen (2015: 86) has recently argued for a large-scale reappraisal of typology: to focus on asking a fundamental question of why the changes evident in typologies occurred. She described typologies as 'assumptions of order' which were developed on morphological grounds with an assumed order and expectation of relatedness (Sørensen 2015:88). The recent archaeological focus has moved away from typology due to this long standing debate, however, what do we risk losing when abandoning typology? Should we reassess typology's place within modern archaeology, revisit and revise our understanding of it?

In recent years, scholars have attempted to reverse this divergence and rejection of typology by implementing new theoretical approaches in their use of typological systems; relational theory (e.g. Fowler 2013; Normark 2010; Lucas 2012), the significance of context ('contextual typology' Wilkin 2011), and the belief that typology is fundamentally needed within archaeology have steered this debate, once again into the limelight. Alternatively, relational theory without the involvement of typology could make it easier to explain the emergence of monuments of various different (unique) types as their development is never stable in itself (Gillings & Pollard 2016).

This session aims to discuss the current state of typology within British archaeology, with an emphasis on its current place and value within research. It aims to rejuvenate this debate by reviewing typology through the lens of current theoretical influences, with examples of recent research projects which have taken this approach.

Questions which contributors may wish to address include:

- Is there still a place for typology within archaeology, and how do we rectify the reduction or erasing of variation in the construction of a typology?
- What other theoretical ideas could we explore and revise typology with?
- Do we need typologies in archaeology?
- If we reject typology completely, what do we replace it with?
- Is typology relevant in some cases but not others? If so, what does that mean?
- If we see each site or artefact as unique, how do we view and discuss long-term change to create narratives over long periods of time? Do we need typologies to explain long term change?

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Tables, volcanoes, pots that (kind of) talk, and what they have to say about making sense of artefactual variation

Mike Copper, University of Bradford

Rather provocatively, prehistoric pots do not divide themselves up into mutually exclusive categories awaiting discovery by the archaeologist. Indeed, it is highly likely that there would have been disagreement about how to classify such vessels at the time that they were being made and used. How, then, are we to approach the often intimidating complexity of prehistoric assemblages? Is there essential order to be found? And just how useful is typology if it has to be imposed onto the data by contemporary archaeologists?

This paper will propose that ceramic variation arises for many different and complex reasons and, as no such thing can exist, the search for the essential nature of a category must be a wild goose chase. It is argued that a more promising approach is to see artefactual categories as more-or-less coherent dynamic (that is, constantly changing) assemblages held together, to a greater or lesser degree, by specific practices and shared understandings. If so, then identifying the salient forces at work in such 'territorialisation' is a potentially productive way forward.

As an exemplar of such an approach, the paper will consider the role of semantic salience, or what we understand pots to be saying, as one principle constraining variation within a highly coherent type of vessel - the so-called Unstan bowl, found across northern Scotland and the Scottish Atlantic façade in the Early and Middle Neolithic.

Where Does Typology fit in? Assessing the Role of Stone-Ard-Points and Flaked-Stone-Bars in Prehistoric Orkney?

Robert Leedham, University of Central Lancashire

In Orkney, antiquarians, enthusiasts, and archaeologists alike have found and continue to find stone ard points (SAPs) and flaked stone bars (FSBs). This has been the case for over 150 years. Forming part of a regional collection of artefacts known as coarse stone tools, these are made from sedimentary, metamorphic and igneous rock sources from around the Northern isles. Historically, the varieties of artefacts have been interpreted mainly based on their shape and limited empirical study, representing a wide range of tasks and functions in Prehistory. More specifically to date, more recent studies into SAPs and FSBs have yielded little if any information with regards to the technology behind, and function of the tool types within prehistoric human activity. Recent attempts (Clarke, 1989; 1995 & 2006 and Rees, 1970; 1979) have merely demonstrated that these tools may have possessed an agricultural function, indicative of the wear patterning they possess. These typological assumptions have important consequences for archaeology if we continue to

base our judgements about archaeological artefacts on the visible and tangible and ignore the intangible within our analysis frameworks.

In short, previous research has either sided with the detailed or 'grand' narrative, with little middle ground. I argue that using typology is of inherent importance for archaeological understanding, however, this should not be rigid but semi fluid in its applicability. This research was an attempt to reach a middle ground within archaeological research, to hopefully serve as a working model for future archaeological inquiry where typology is a blessing not a hindrance.

When types matter (and when they don't)
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Artefacts from some times and places cohere into clear types, even if other contemporary things or places did not. In this paper I will consider when, and in what ways, types mattered in the Early Bronze Age of the British Isles. I will focus on the recent discovery of a bone pommel from a bronze dagger along with an assemblage of other bone objects among a deposit of cremated bone in a museum collection. Belonging to a clear type, the pommel opens the door to new comparisons between different and distant burials. What does the discovery of the pommel add to our understanding of the burial excavated almost 70 years ago? What can be gained by further setting this burial alongside others which share the same type of feature (a cist) and vessel (Collared Urn)? It is hard to find a parallel for one newly-discovered set of four bone objects from the same deposit. These are each the same type of thing, but have to be approached differently due to their lack of comparators. What are the limits and risks of giving typology a leading role in interpreting this burial?

The paper will start with a discussion of what concepts I do and do not think that are required to explain the existence of types. It will conclude that, if used appropriately, typology can both play a vital role in understanding Early Bronze Age objects and mortuary practices and also form a crucial component of a wider relational interpretive approach.

All Things Shining: Towards 'multi-dimensional' typologies of Bronze Age Britain
Neil Wilkin, British Museum

Later prehistoric object studies in Britain and much of North West Europe have been dominated by material-specific studies and typologies. The sharp division between ceramic and metalwork studies is particularly regretful given that all prehistoric objects existed within a rich and inter-connected world, every bit as complex and 'messy' as our own.

The meaning of prehistoric objects was created through relational and contextual factors at several points or 'dimensions' along the chain of material selection, object production, use and deposition/destruction and loss. The repeated patterning evident in each of these dimensions has been noted by numerous researchers, reflecting different degrees of normative behaviours and enculturation. However, rarely have we been able to integrate these observations for multiple dimensions within and between chronological periods. Typological approaches provide the frameworks to make this a reality.

This paper uses case studies from Bronze Age Britain to argue that 'multi-dimensional' typologies can be constructed to chart and compare decisions and choices made at each point in an object's lifecycle, revealing inter- and intra-connectedness within and between the creation and treatment of prehistoric objects in various materials.

Typologies of Early Neolithic mortuary structures through the lenses of relational theory
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Typological differentiation of Early Neolithic non-megalithic mortuary structures have been made by previous authors like Kinnes (1979+1992) or Ashbee (1970). However, the thereby created types are often detached from other aspects of mortuary architecture at the same site. Furthermore, similar looking features can be used differently, however a stagnant typology does not allow diverging interpretations. This would actually trigger the creation of a new type. This can lead to a one-sided interpretation of such features as isolated elements. To understand relationships between the defined elements of the features and structures, such a classical typology needs to be transformed into a more flexible system to identify relations and connections of distinct elements. This relational approach then can also include specific other aspects that are not at all considered in a classical typology, such as 'types of events', which for example relate to the deliberate destruction of mortuary features or distinct phases of activity that include changes of the mortuary structures and burial activity.

A relational approach to typology allows to construct flexible connections between elements of specific features. These relations are therefore not fixed and can be transferable. Furthermore other elements such as landscape settings or events can be added to allow a better understanding of the interaction between features and use of the sites. This paper will add the element of relational theory to a classical typological approach on early Neolithic non-megalithic mortuary features of the British Isles and the northern TRB in Denmark.

Simply not my type: building and using typologies in a new materialist world
Mark Gillings, University of Leicester; and Josh Pollard, University of Southampton

Whilst the range of approaches and perspectives brought together beneath the banner of the new materialism comprise a broad church (Thomas 2015; Witmore 2014), where there is near universal agreement is with regard to the utility (or otherwise) of traditional typologies. Whether cast as classifications or inversions, typologies and the practice of typology are regarded as very bad things. And yet, there seems to be a clear tension - most directly confronted by Fowler (2013) - insofar as whilst new materialists (for want of a better term) are quick to damn typologies, they also seem unable to resist using them. If a trend can be teased out it is that whilst it is OK to use existing typologies (with caveats, naturally), it is a mortal sin to create a new one. Having encountered this situation in our own work on the destruction of megaliths at the site of Avebury - when one of us (MG) built a typology to the horror of the other(JP) - our aim in this paper is to step back and think through some of the potential implications of this curious paradox.

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Reassessing 'henge' monuments: can we see a neatly packaged monument type?
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Henge monuments are some of the best known and most recognisable monuments of Neolithic and Early Bronze Age Britain. Since they were first identified in the 1930s, and defined as later Neolithic enclosures with a circular bank, inner ditch, and usually one or two entrances, henges have been considered as a single category of site. Between 1932 and 1987 there were numerous attempts to define sub-types or classes within the umbrella term of henge. Rather than creating clarity, for some scholars however these have added to the uncertainty and mistrust of the henge type. Now, more than ever, it is increasingly apparent that wide variation in their size, location, dating and architecture means they cannot be assumed to share a single use and meaning.

Typology has been a core aspect of archaeology, however its place within present archaeological research has increasingly been criticised, with arguments ranging from total abandonment to reassessing typology using current theoretical perspectives. This paper will assess the pattern and variation in the characteristics of sites currently classified as henge monuments to investigate the use of typology in relation to these sites. It will also adopt a more relational approach in the investigation of sites, looking beyond morphology to assert if any clear pattern within the data to suggest types can be discerned. It will then go on to question the use of a relational approach to typology within archaeology and if, perhaps, there are better ways of understanding monuments.

Archaeologists, typologies and relational thinking: where do we go from here?
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Understanding how and why repeated forms of entity emerge, change and disappear, is of profound concern to archaeologists. It has remained so from the disciplines earliest days to the present, equally important to both those engaged in empirical material analysis, or more theoretically oriented explorations of past things, societies and peoples. Typologies have long since fallen from grace within theoretical approaches in archaeology largely due to their association with culture history, and the deeply problematic and morally unacceptable accounts this can lead to, with the typologising of people and simplistic evolutionary narratives. Yet archaeologists still need to identify the material they study, account for variation and understand the emergence, stability and dispersal of forms. Studies of materials have continued to use typologies of artefacts as a key although often implicit method. Despite them falling out of fashion theoretically, they continue to be an important tool so embedded within our practice we often use them with little further thought. But how should we approach the understanding of the emergence, persistence and variation of forms of things? With the present popularity of relational approaches, integrating theoretical perspectives such as assemblage theory, with our empirical approaches and methods poses a challenge. In this paper I will offer some insights from recent research I have conducted on the Neolithic and Bronze Age landscapes of Exmoor, in order to explore potential ways to resolve the tension between static, 'eternal types', and emergent, ever changing form.

26. UNDERSTANDING MARITIME POPULATIONS: THE HUMAN CONTEXT OF ANCIENT PORTS

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Imagine an ancient port: crowds of people moving, loading, unloading, controlling, transporting. Within them, people lived, traded, slept, ate, worshipped their gods, and other sorts of activities

which characterise ancient societies. Ports appear as complex structures in which people appear to be invisible in favour of the material remains. This session is devoted to examining evidence for people living and interacting in ancient ports. We start from the premise that almost nothing is found which tells us how a port worked, what size and what sort of workforce it employed, what its output was, how people lived there, how groupings were organized.

In this session, we will attempt to explore through theoretical debate and case studies how written sources, material studies, digital analysis, or all connected, tell us about the human background of ports. Identity, mobility, communication or customs identified through diverse approaches will be key for this session. We invite applications from scholars from all disciplines and periods who are interested in investigating the visibility of these populations inhabiting or working in ancient ports. The session will offer new perspectives into the insights of ports by shifting the focus from traditional archaeological analysis to the means by which ports were built, shaped, and used as economic and social tools in the different regions where they were placed. For this purpose, submissions concerning the study of monuments, texts, imaginery, digital reconstructions, artefacts or combination of them will be welcome. In particular, we request papers that will offer new insight into the means by which aesthetics, forms, placements, contexts, media, or execution provides information about the human beings behind the material remains of ports. Contemporary approaches in archaeological theory and, particularly, in the field of human geography, have much to offer to our analysis of ports. In particular, we welcome papers stressing the socially produced nature of ports and their significance to better understand the identity of populations interacting in them.

The Adriatic port cities and their hinterland: modelling population and production activities
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The Northern and Central Adriatic Sea boasts a high number of Roman ports and landing points. Previously scholars have considered people living in the context of ancient ports from a limited historical perspective. This paper is part of the first holistic analysis of coastal and hinterland population from the Adriatic and explores human activity across selected Roman Adriatic ports from the Imperial period through a multidisciplinary examination of literary, archaeological and comparative sources. This paper proposes a new quantitative approach to the study of the human impact and anthropic pressure along the Adriatic coasts by investigating the urban and extra-urban populations and their related production activities. The first section of this paper provides an introduction with aims, approach and methods. Using comparative data to integrate topographic observations and excavation data, the second section explores the form and development of the selected sites. By analysing their scale, layout, and topographic and urban setting, it assesses the size of the Adriatic population living in coastal and hinterland sites and provides a model for the production, consumption and export activities conducted in this area. The third part of this paper investigates the socio-economic role of ports and people as distributors of commodities (e.g. wine, grain). Using textual, archaeological and 19th century comparative data on agricultural production, it assesses the ports' relationships with their farming hinterlands, and their connections in the Mediterranean and beyond. This experimental approach emphasises the messages of prosperity and reputation that Adriatic ports and coastal centres conveyed in Antiquity.

Mapping the law in a Roman Mediterranean port. A case study from Narbo Martius to Portus
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This communication will present ports under a different scope, thanks to the use of a unique methodology. Our intention is to study the legal activities taking place in a port, and to place them at the diverse areas of the port. We have labelled this methodology as "juridical archaeology", and it involves the study of legal activities carried out in ports through the study of their material evidence. Moreover, as corresponds to the character of our research, this is an interdisciplinary methodology. In connection with that, the material evidence will be contrasted with the evidence of legal and literary texts to complete the portrait of the legal scene. The analysis is based on a model of procedures built up from this combination of material and textual evidence. That model will be applied to a case study that connects the port of Narbo Martius in Gallia and Portus in Rome. This research will confirm the existence of the procedures from the model in the selected locations, making possible to visualize the standard activities involved in daily trading activities from an Imperial Roman port.

Port infrastructure and the transport of goods in the Roman world
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The physical infrastructure (warehouses, docks and cranes) of Roman ports had a significant impact upon the organisation of passing trade. Using literary and legal evidence, this paper seeks to establish whether this physical infrastructure may also have shaped the law applicable to Roman ports as well as the general commercial law used in shipping in the Greco-Roman world. Building on an important recent contribution by the Hungarian scholar, Eva Jakab (in the Festschrift Sirks) concerning warehouses, it is the argument of this paper that the physical infrastructure undoubtedly affected the law relating to Roman ports and to maritime commerce more generally.

Visualise Port Landscapes in Roman Art: from the Reality to the Symbols
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Our knowledge of the architecture of Mediterranean ports under the Roman Empire relies mainly upon archaeology. However, the reality of most of buildings are still very unclear. Port iconography, quite abundant during the Imperial period and decorating various supports of art (coins, ceramics, mosaics, paintings etc.), can make an important contribution to the study of the architectural appearance of the main ports of the Mediterranean Sea. Indeed, pictorial evidence are precious documents for our understanding of Roman ports as they can show us what no longer exists like the elevations of ports' buildings. The iconography is actually the only evidence of the tridimensionality of port's buildings because there usually remains only the foundation level of ports' structures. Nevertheless, the main issue of this work is related to the interpretation of these images. Indeed, it seems that artists make representations according to artistic conventions rather than recording reality. In order to go beyond the limitations of the pictorial evidence, we are developing a method of interpretation focusing on the language of imagery in ports' representation and the syntax of the different symbols characterising the port's landscape. Through this work, we are also analysing if the visual language corresponds to a standardisation and if a model or models exist(s) (Portus? Alexandria?).

The twenty days given for the repayment of a maritime loan and the identical period of exemption from municipal taxes at the port of Caunus: an unlikely coincidence?
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Money-lending in the Roman world was usually subject to legal limits on the rate of interest that could be charged. Maritime loans, however, were an exception: lenders could charge an unlimited

rate of interest, but only for the period during which the ship was at sea. From the point of view of the law, the lender would also be entitled to demand interest – this time at a limited rate – for the period between the arrival of the ship at its destination and the repayment of the loan. In practice, however, the evidence shows that lenders were accustomed to allow borrowers a grace period of twenty days in which to repay the money after arrival.

In an inscription which stood in the port of Caunus a twenty-day grace period appears again. This time, it referred to the period in which foreign traders would be able to re-export their goods without being liable to pay customs duty on exiting the harbour. This paper shall explore the possible connection between these grace periods, and ask what this can tell us about the behaviour of maritime traders sailing in and out of ports.

Manoeuvring, anchoring and mooring inside harbours and at unbuilt shores
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While mooring within a harbour does not pose as great a risk to life as sailing the open seas, it is nevertheless rife with difficulties. It is hazardous to manoeuvre ships both within constricted spaces, such as harbour entrances, as well as among other moored ships oscillating with the changes of the winds. This paper synthesizes the ancient interdisciplinary evidence for entering, exiting, anchoring and mooring ships within harbours, and outside of them. It can be discerned that ships exhibited distinct behaviours when mooring inside harbours compared to at open shores or, otherwise, at unbuilt coastal market zones. In the latter, smaller ships regularly moored stern-to at the shore, allowing the sailors to unload goods by wading. Larger ships with deeper drafts would moor further away, with communication enabled through the use of the ship's boat. Beaching ships in place of mooring was not regularly practiced, contrary to occasional statements by researchers. Conversely, within 'built' harbours, ships could be hauled in and manoeuvred by specialist rowing-barge crews. When at quay, they could moor bow-to, running the landing ladder from fittings at the bow. These methods and other details, such as anchors, cables, bits, rigging, bumpers, marking buoys, superstructural design, as it pertains to ships, as well as mooring bollards, cranes and other mooring-related harbour features will be discussed. Finally, particular issues regarding the nature of the evidence, lacunae, chronological and geographic variations, and other theoretical aspects for advancing our understanding will be presented.

The inhabitants of the port as seen from the ancient Greek written sources
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Ancient ports were not just the physical constructions for berthing, landing, sheltering the vessels or storing goods. As societies became more complex, so did the controls on the merchandise and the organisation of trade. This required a number of specialised officers or skilled craftsmen in order to carry out successfully the tasks of transporting the merchandise, importing or exporting it legally (with due payment of taxes) and selling it, as well as a number of "satellite jobs" on the ports themselves for the services of travelling merchants. But who were the people who made their living in the port? The aim of this paper is to provide a catalogue of the different persons who performed their activities within the port landscapes as seen from the data available in the written sources from Archaic, Classical, Hellenistic and Imperial Greece: merchants, customs-officers, fishermen, public women, etc. Although the evidence is rather patchy, as well as biased in favour of the larger cities, I hope I can provide a reasonable inventory of the main professions that were required in the harbours of the ancient Greek world.

Human and Divine Interactions: visualizing religious activity at Ostia

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Religion was woven into the fabric of Roman daily life, consisting of a complex map of sacred spaces that intersected with all aspects of society. Temples, statues, inscriptions, and ritual activities all helped to construct a wider religious landscape. The ways in which this landscape helped to create a dynamic urban environment such as those found in port towns, remains less well understood. This paper considers Ostia, Rome's ancient port, and the ways in which religion visibly manifested itself through processional activity. Our understanding of ancient processions is limited due to a fragmented archaeological and literary record, complicating our understanding of the ways the ritual traversed a city's streets. The application of a computer-based approach to the study of processional activity at Ostia presents one method of studying a cult's religious impact within an otherwise dynamic urban context. The use of computer models in conjunction with surviving archaeological material offers new insight into how religious rituals helped to shape Ostia's religious environment. Moving the study of a port's religion beyond investigation of individual temples, we can examine how people interacted with religion within the realm of a port's streets and daily activities.

27. UNVISUALISING ROCK AND CAVE ART

Steve Dickinson, member of the The Prehistoric Society, stevearchaeologist@gmail.com

Communication through visualisation is routinely seen (sic.) as key to any effective grip on meaning. This session aims to turn this idea on its head. Rather than seeking meaning in rock art imagery it-self, the overarching aims of the session are to explore the sensory, tactile, material and sensual contexts of the production and experience of rock art in outdoor, monumental, cave and rock shelter locations.

- Specific session aims include exploring:
- The acoustic properties of rock art contexts.
- The material situations of rock art, including examining tactile and sensory experiences surround-ing and including the art.
- Visual recognition, perception and cognition of rock art locations and how these might have af-fected, and effected, comprehension of the art.

Paper topics might, for example, include:

- Consideration of monument, cave, rock shelter and outdoor art location acoustic effects on art comprehension.
- Exploring specific rock art contexts, with particular emphasis on experiencing the effects of dif-ferent contexts; such as stone surfaces, water and weather.
- Exploring general landscape, monument or cave/shelter contexts that might have affected or ef-fected comprehension of rock art. These might, for example, include exploring: (1), specific visual fields and/or viewpoints, (2), approaches to the art that involve sensual (audito-ry/visual/tactile/other) stimulation.
- Inferences or evidence of prehistoric animal activities or movements that might have affected or effected comprehension of the art.

The Body in the Cave: A sensory exploration of caves

Julian Jansen van Rensburg, Dahlem Research School POINT and Freie Universität Berlin, Germany

Caves are powerful multi-sensory environments that have been socially, culturally and spiritually appropriated by humans over several thousand millennia. When attempting to understand the appropriation of space within caves there is, however, a tendency to divorce the production and placement of rock art from their sensory context. After all, the senses do not leave vestiges that are readily accessible. Nevertheless, if we are to begin to understand this space we need to undertake a more holistic view, one that allows us to combine the full range of our senses to fully articulate the profound experiences of the sacred spaces within caves. Indeed, when we consider the range of sensory experiences that are involved in the manifestation of sacred spaces such as churches, where bells are heard, incense is smelt and saints are touched, it would certainly appear that non-visual cues are an essential part of sacredness of space. Accordingly, in this paper I aim to analyse the profound sensory experiences related to entering, being in, and departing from caves to explore the potential of the interface between the placement of paintings and the phenomenology of caves and reveal aspects of the ontological backdrop for this ritual practice.

Stonehenge Reloaded: Rock art and the monumentalising of the sacred in Neolithic Britain and Ireland

Steve Dickinson, Independent Researcher and member of The Prehistoric Society

Discoveries of abstract rock art in the valleys of the Lake District, Cumbria, UK, have provided new perspectives on the area's montane early Neolithic stone axe blade production sites. Blades from these were widely distributed across Neolithic Britain and Ireland. Recently, rock art was found in Upper Eskdale in Cumbria. This was found associated with cairns and megaliths at the focus of a dramatic mountain sanctuary. These discoveries can be set alongside others from Orkney to the Boyne that indicate the builders of major stone monuments in Neolithic Britain and Ireland c.3800-2500 cal BC were drawing upon concepts of legendary sacred landscapes; in the design of their monuments, the reiteration of cycles of memory, remembrance and performance, and in the acknowledgement of the power of the sources of their stone axe blades. This paper explores the implications of this in the stone contexts of two of the best-known Neolithic monuments in Britain; Avebury and Stonehenge. Implications for the understanding of Stonehenge are explored in the context of a modelled animate world where legendary beings and animals coexisted in connection with solar and lunar events, and where the materiality of stone was transitioned into power across the Neolithic of Britain and Ireland.

Are we not seeing the whole picture in Rock and Cave Art?

Sandra Claggett, Birkbeck, University of London

The combination of the audio visual and societal in relation to rock art both in caves and open sites complement each other and in our quest to understand our past it is important to consider all aspects. I aim to show that there is a bigger picture than just the material culture of the art itself and that it could have a larger significance to our understanding of our ancestors in the past.

In this session I will be looking at the position of the art within its location in both the audio and visual aspects. The use of natural phenomena to produce sound and human made musical instruments. I will also consider the use of light to illuminate the art itself and create the idea of motion. Was the Art used as a performance vehicle to bring people together from within the group or wider groups for survival or exchange of mates? Was it to demonstrate a connection with

ancestors who used the site and try to receive aid from them? Was it to lay a claim to the land around or maintain that claim?

Finally I will consider whether these areas could have been used as gathering and possible performance areas to forming and maintaining cultural identity and bonds.

28. VISUALISING PEOPLE IN PAST LANDSCAPES - withdrawn

29. VISUALISING SKYSCAPES: MATERIAL FORMS OF CULTURAL ENGAGEMENT WITH THE HEAVENS

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Landscape archaeology opened up new avenues for archaeologists to understand how the environment that societies inhabit determines their interactions with their surroundings, creating part of an interwoven relationship with the world. The land itself regulates subsistence and economic possibilities and its contours and rivers determine routes and the location of meeting places, festivals and ritual centres. Above the land and its horizon lies the celestial sphere, that great dome of the sky which governs light and darkness, critical to life itself, yet its influence is often neglected in the archaeological narrative.

This neglect is, at least partially, because the average westerner today is disengaged from the sky: people notice whether the sun is shining, or whether the days are getting longer or shorter but few will know, for example, what phase the moon is on a given day, or that the sun does not rise due East every day. The scientific field of modern astronomy has helped further disassociate the sky from the common westerner by focusing on the deep sky, which is inaccessible without abstract conceptual frameworks, such as advanced mathematics, and the technological developments of the Space Age. This disengagement with the immediacy of the sky has been projected onto the past cultures that are the purview of the archaeologist. However, as the historical and ethnographic records attest, this ignorance of the sky is a symptom of modern western culture, not a universal. In fact, if one were to reverse the argument and claim that "There is no human society that does not somehow, in some way, relate its fears, concerns, hopes, and wishes to the sky" (Campion 2012, 1) one would be closer to the truth. As Darvill said (2015, 147), "the sky was an important domain that archaeology needs to understand better".

In order to understand the role and importance of the skyscape for the cultures we study, past or present, we first need to re-engage with the sky ourselves. Only through looking at the sky with phenomenological eyes, without any need for conceptual abstractions nor a scientific take on reality, can we realize how simple it would have been for any non-modern to connect with it. Engaging with the skyscape is an embodied, lived, experience and, as such, it is available to everyone. One only has to step outside the urban sprawls and their light pollution and look up to understand this. An even better sense of what pre-modern peoples would have experienced is provided by the Dark Sky reserves that are now protected areas in the western hemisphere. But, even there, the sky is not exactly the same: like the landscape, with its changing vegetation cover over millennia, so too the skyscape changes. However, while it is difficult to reconstruct past landscapes as changes are dictated by the complex interweaving of geography, environment and

climate, modern tools can accurately reconstruct, and therefore help the scholar visualize, the palaeo-skies that a pre-modern would have seen.

This session will focus on how different cultures have visualized, and therefore engaged with, their skyscapes: whether via artistic or symbolic representations, ritual, mythology, structural alignments or other architectural features. It will also feature modern visualization techniques for skyscape archaeology – such as the use of 3D modelling, non-invasive surveys, Geographical Information Systems and planetarium software – that allow archaeologists to (re-)engage with the sky and, in conjunction with traditional archaeological research, obtain a more complete and nuanced understanding of the societies being studied.

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Skyscape Archaeology: Where are we now?

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This presentation looks at how skyscape archaeology is pushing back the frontiers which have limited archaeoastronomy. Ruggles (2011) expressed concern that archaeoastronomers were "running round in the same circles" rather than pushing back the frontiers of the 'interdiscipline'. In referring to the inclusion of archaeoastronomy in Renfrew and Bahn's Archaeology: the Key Concepts (2005) he suggested archaeoastronomy had entered mainstream archaeology.

This prompted me to ask two important questions: firstly has archaeoastronomy really entered the archaeological mainstream? To answer this I conducted a survey to assess the attitudes of archaeologists using questionnaires handed out at the Theoretical Archaeology Group conferences and those from an online version using Google Drive. My results will be examined to see if the attitudes of archaeologists have softened since the acrimonious debates of the 1970's and 1980's about megalithic astronomy.

Secondly, are we still running around the same circles or are we branching out? This paper will look at the initiatives of the Skyscapes sessions at both the TAG conferences and the National Astronomy meetings. Additionally there is the Sophia Centre's 'Skyscape, Cosmology and Archaeology' module at the University of Wales Trinity Saint David and an optional skyscapes module in their archaeology degree. Another development is the launch of the Journal of Skyscape Archaeology aimed to progress a methodological approach to archaeoastronomy which thoroughly incorporates archaeology. Finally, following a skyscapes discussion at TAG 2014 it was agreed that a short guide to archaeoastronomy, written with archaeologists in mind, would help archaeologists engage with the sky. David Connolly took this project on and a BAJR guide, Archaeoastronomy for Archaeologists (Connolly 2016) has just been published.

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Visualizing Skyscapes: GIS-based 3D modelling and astronomical simulation

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Computer-based visualization has become a powerful tool for both research on cultural heritage artefacts and dissemination of research results to a broader audience (Denard 2009). Virtual archaeology applies methods from virtual reality to recreate digital models of past landscapes with human settlements. Immersive applications allow the user to not only see reconstructed architecture from far away, but also to enter the recreated landscape in the first-person perspective and walk around and explore the site.

However, a proper simulation of any virtual landscape should also include the upper half, the sky dome with daylight and an accurately placed sun which can play a role for the simulation of light-and-shadow effects or epiphanies in sacred places, or for proper simulation of the nocturnal appearance, moon, stars and planets, the Milky Way and occasionally the Zodiacal light, thus recreating the complete historical skyscape (Zotti 2015).

Starting in 2010, the author has been improving the popular open-source desktop planetarium Stellarium to create the most versatile environment for historically accurate skyscape simulation, including the possibility of loading a 3D virtual model of a properly georeferenced landscape with reconstructions of buildings under the artificial sky (Zotti 2016). Moving through the architecture, the user can explore sight lines or temple axes and their possible targets (e.g., solstice sunrises) on the landscape horizon (Frischer et al., 2016), and light and shadow phenomena can be explored with the light of sun, moon or even the planet Venus. The presentation will show Stellarium in use as a simulation environment for both research and outreach to a wide audience.

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Toads turning time: verifying visualizations of the Sanctuary
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The 'Sanctuary' structure in the late Neolithic Avebury monument complex has been visualized in turn as a four stage mainly roofed structure (Piggott 1940), a charnel house (Burl 2002), a maze (Thomas 1999) or as a place for the ritual marking of status and identity (Pollard and Reynolds 2002). As a subsidiary wood and stone structure between the mainly stone Avebury circle and the mainly wood West Kennet Palisades, like Woodhenge in the Stonehenge monument complex, it is anomalous for the materiality model's (Parker Pearson 2012) expectation that wood and stone structures are categorically separated places of, respectively, life and death. These various visualizations of the Sanctuary will be interrogated by the evidence of archaeological site excavation, 3D modelling of the monument in its landscape integrated with planetarium software, archaeoastronomy, and myth analysis. The archaeological data provides detailed evidence of a complex syntax of material culture at the Sanctuary. The 3D modelling reveals tiered concentric lintelled post circles and stone arrangements. The archaeoastronomy reveals a full suite of lunar-solar alignments. These three dimensions are verified by the emerging convergence between Palaeolithic Continuity Theory and the phylogenetic analysis of myth (Witzel 2012) which predicts that proto-Indo-European myth will be one regional outcome from an earlier hunter-gatherer cultural substrate. The findings from all four disciplines can be integrated into another visualization of the Sanctuary in which combined materials and alignments were intended to ritually repair a cosmology perceived in the Neolithic and Early Bronze Age to be threatened with stasis.

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Reflecting the sky in water: a phenomenological exploration
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From a phenomenological perspective, the reflective quality of water has visually dramatic impact, especially when combined with the light of celestial phenomena. However, the potentialities of this reflection of the sky are often undervalued when interpreting archaeoastronomical sites. From artificial water spaces such as ditches, "huacas" and wells to natural ones such as rivers, lakes and puddles, water spaces add a layer of interacting reflections to landscapes. In the cross-cultural cosmological understanding of skyscapes and waterscapes, a metaphorical association respectively with the Heaven and the Underworld is often revealed. In this research, sky-waterscapes are explored through the practice of auto-ethnography and reflexive phenomenology. The mirroring of the sky in water opens up themes such as the continuity, liminality and manipulation: water spaces act as continuation of the sky on the land, so as to make the heavenly dimension easily accessible. Because of their spatial liminality when reflected, celestial phenomena can be manipulated according to their temporality. Sky-waterscapes appear as specular worlds, where water spaces are assumed to be doorways to the inner reality of the unconscious. The fluid properties of water have the visual effect of dissipating borders, merging shapes and, therefore, of dissolving identities. For this reason water spaces may embody symbolic death experiences such as rituals of initiation, where the annihilation of the individual allows the creative process of a new life cycle. These contextually generalisable results aim to inspire new perspectives on sky-and-water

related archaeological case studies, and give value to the practice of reflexive phenomenology as crucial method of research.

Time pursued by a Bear: Ursa Major and stellar time-telling in the Paduan Salone

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This paper focuses on the images of four bears found along the top register of the fresco scheme of the first-floor Salone of the Palazzo della Ragione, Padua, Italy. To ask why bears appear in this register is to question how bears were viewed in the medieval period. Previous scholars have described these Salone images as representing qualities, such as 'wicked and hot tempered'. Nevertheless, as my previous research has shown (Gunzburg 2013), these top register images are reflective of the constellations that dictated the seasons and the cycle of the year as seen over Padua c.1309. Thus a more likely candidate is Ursa Major, the Great Bear. This presentation creates four sky maps at midnight, which was relevant for time telling by the sky at this time (Vincent and Chandler 1969: 375-376). The sky maps are created for Padua specifically for when the sun ingressed into the zodiac signs of Taurus, Leo, Scorpio, and Aquarius. They reveal the changing rotational pattern of Ursa Major from 'hibernation' to descent. These sky maps are then connected with the position of the bears in the Salone fresco scheme. This concept of the constellation of the Great Bear Ursa Major in its four positions as seasonal markers in the sky sits within the philosophy of time telling by the stars (Hannah 2009:14). Finally, this paper argues that these older time-telling strategies (Reeves 1916: 441; McCluskey 1990: 14; McCluskey 1998: 111) not only had practical applicability but that such knowledge-practice continued across cultures and time. Their appearance on the walls of the Salone in the 'elite' visual language of this fourteenth-century Paduan fresco offers evidence for that practice continuing into the late medieval era.

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Moon Monitoring Politics

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In the study of the origin of calendars and sophisticated celestial monitoring among prehistoric complex hunter/gatherers, a key issue has been the motivation underlying the development of these practices in human cultural evolution. We argue that these record-keeping systems make theoretical sense primarily as part of the socio-political dynamics surrounding the creation and maintenance of inequality in complex hunter-gatherers. From an ethnoarchaeological perspective, restricted esoteric knowledge of celestial monitoring as well as ritual scheduling served to help maintain ritual networks and political relationships. This facilitated the creation of organized religious-political groups who controlled community annual ritual rounds. It is these religious-political groups (e.g., sodalities) that were central to much larger processes of cultural developments, and their success hinged, in part, upon the careful monitoring of celestial phenomena used for ritual scheduling and the control of this knowledge. We illustrate this through an ethnoarchaeology example from Sumba, Indonesia, where the 'skyscape' infuses the on-going maintenance of traditional ritual practices, associated daily life, and regional political networks. We focus especially on the role and importance of the specialist, and the issue of knowledge transfer and new generations maintaining traditional practices in the face of global modern influences under rapidly changing conditions. In this context, the irony of technology comes into play, in terms of its ability for transformation yet also continuity and maintenance of knowledge systems at least in the short term. We see this in the case of moon monitoring apps and iPhones (and Facebook) changing celestial monitoring practices, calendar maintenance, announcements of ritual scheduling and youth training for their future roles in religious-political organizations.

A diachronic study of mid-Holocene skyscapes in southern England and Wales: preliminary results

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Scarre (2004, 143) said that the construction of a megalithic structure was not 'just a crude manipulation of materials, an early form of unsophisticated architecture before anything better was available; much more than that, [monumental structures] incorporate or exemplify particular attitudes to or ideas about the world'. This paper explores those 'ideas about the world' which the people of prehistory may have had which were to do with the impulse, or lack thereof, to note the passage of time. Using a preliminary data set of orientations of prehistoric structures, both monumental and settlement, in Wales and the south west of England collected from the literature, this paper takes a diachronic approach in order to assess whether there was significant shift in orientation interest through the transitions of the mid-Holocene in this region of the United Kingdom. Whilst this preliminary analysis does not yet consider the broader cultural context it provides a pared down review which reveals whether seasonal affiliation, or lack thereof, existed on this landscape across a range of sites.

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Skyscape Exploration: From Material Site to Apparent Non-Site and Back Again

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A skyscape has been defined as sky framed by horizon and therefore land, sea and monuments (Silva 2015). This allows metaphors in the skyscape to become explored, meanings interpreted and emotional engagement achieved. A dialogue is established between all components including cultural and personal background provided by the viewer over time. Transforming from observer to watcher and realising a dialogue between skyscape and viewer is the moment where the full skyscape is experienced (Brown 2016a).

A skyscape experience is always a negotiation of meaning within the dialectic of materiality versus non-materiality, seeing versus non-seeing, and site versus non-site proposed by Smithson (1968). The planetarium software Stellarium has offered archaeoastronomers a resource to explore skyscapes. Researchers have found it valuable to include photorealistic representations of a site to explore possible meanings (Brown 2016b). But are we really exploring a skyscape? Should the site alone speak for itself?

This presentation will outline how skyscapes are realised by including the deep phenomenological engagement with sky, land and monuments, and also by exploring on a phenomenological level Stellarium simulations. It will illustrate how any material site will always include conceptual representations of culture. At first sight walking within Stonehenge one might appear to directly engage with a pure material site, however the stones and patterns created are manifestations of a cosmological concept and a non-site representation. Ultimately one is entangled amongst site and non-site and skyscape becomes either site or non-site, site and non-site, or none at all.

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The Solar Discourse of the Welsh Cistercians

Bernadette Brady, b.brady@uwtsd.ac.uk; Darrelyn Gunzburg; and Fabio Silva, University of Wales Trinity Saint David

This paper reports on the continuing research of the Welsh Monastic Skyscape Project which considers how the union of sun, landscape, and architecture can produce a theologically charged environment. This paper takes a detailed focus of all extant Welsh Cistercian Abbeys and their theological relationship to sun light. In 1994, Janet Burton (1994: 159,161) claimed that Cistercian Abbeys supported the theological agenda of saving each individual monk's soul and by extension, that this would produce the salvation of the world. Later in 2001, Megan Cassidy-Welch (2001:164) described the Cistercians' desire to build 'the earthly manifestation of heavenly space, a site that was suffused with celestial longing'. This paper considers these Welsh Cistercian monastic sites and rather than utilizing a statistical approach, as recommended in 2015 by Stephen McCluskey (2015:1709) we drew instead on the approach suggested by Hugh Benson in 1957 (1957). Our methodology was interdisciplinary, drawing together the fields of anthropology,

archaeoastronomy, art history, and medieval architecture. This methodology took into account the orientation of the abbey, the altitude of any extant windows of the east and west ends, and how the structure made use of the local topography to emphasise the sun's light. We then placed these discovered orientations into a cultural context by considering them within the framework of the Cistercian theology and philosophy of sun light.

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'Three stones in his belt'… astronomical imagery in myth and ritual sites
John Grigsby, University of Bournemouth, grigsby_john@hotmail.com

Following the work of Larsson and Kristiansen (2006) that uses Indo-European myth to explain the iconography of Bronze Age Scandinavian art, it is worth asking whether the ceremonial sites of the British Isles might also be illuminated through the application of myth. To this end I have used Renfrew's 'Anatolian hypothesis' (1987) that argues for a Neolithic spread of the Indo-European languages to reconstruct a tentative 'shaping mythology' (Bradley 1998) behind Neolithic and Bronze Age ritual sites in Britain, one which includes visual references to specific events in the heavens, especially surrounding the winter solstice.

In this talk I will look at the imagery found in myth of the 'rescuer of the sun' and of the goddess whose obscene gestures precede the release of the sun/fertility from its winter imprisonment, arguing that such figures can be linked to the behaviour of the Milky Way and Orion at the solstice; I will show how this stellar 'narrative' provides an origin for certain motifs found in Neolithic and Bronze Age iconography – especially the lozenge symbols found on female figurines and in megalithic art. I will then argue that the same stars are referenced in the alignments and design of many ceremonial sites, suggesting such myths may have provided the narrative accompaniment to a seasonal drama played out both in the heavens (skyscape) and re-enacted in ceremony in the landscape, and which retain in their imagery detailed visualisations of these ancient skies.

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Early Bronze Age deep postholes alignments in Linsmeau pointing towards astronomical events
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The site of Linsmeau is located at the foot of the plateaus in the middle of Belgium on a colluvial beach north of the Petite Gette River and at the end of its navigable zone. A series of 15 unusually deep rooted post holes were uncovered there. Though few in number, they are atypical and they all reach and bore into the underlying bedrock, at a depth of up to 1.4 metres. Their position, diameter and spacing, rule out the idea they could have been used as part of a building. All of the posts show clear evidence of being ripped out from their holes. In this, they differ from all the other posts found on the site. Five of these posts seemed to form a cross oriented to the cardinal points with a line coming from its centre towards the winter solstice sunrise. Since the 3D simulations done at the Boltzmann Institute in Vienna showed that these were too far away from these directions, the present study systematically studied the possible alignments from each post to the sky. The results of this study show something new: when considering two posts and an astronomical event as the third point of the line, alignments to both the summer solstice sunrise and sunset were discovered. Further alignments to the sun's cross quarter rising and setting were also noted and three others were aimed towards the Major Lunar standstills (rising and setting). This paper will also consider whether this post setting really constitutes an observing site.

Archaeologists versus archaeoastronomers or new best buddies?
A round table discussion moderated by
Fabio Silva, University of Wales Trinity Saint David, f.silva@uwtsd.ac.uk

This roundtable discussion will debate how can archaeoastronomers and archaeologists come to work together in future and what skyscape archaeologists can do to bridge this gap. Why do so few archaeologists engage with the skyscape? Is it lack of engagement with the sky, the celestial objects and their motions, or a misunderstanding of how simple they are to track for any given society? Is it the emphasis on mathematics and statistics in archaeoastronomers' work that has apparently given a misleading impression of past cultures? Is it the lack of corroborating archaeological detail in many archaeoastronomy papers that make them suspect? Or is it that archaeoastronomy's mistaken association with popular fringe pseudo-archaeological books that is off-putting? We invite all archaeologists to participate in this discussion, air their concerns and put forward their suggestions to help us progress skyscape archaeology further through collaboration.

30. VISUALISING THE BODY

Visualising the Body...
TAG 19-21 December 2016 University of Southampton
http://www.southampton.ac.uk/tag2016/sessionsabstracts/session30.page

Sarah Stark, University of Southampton, S.Y.Stark@soton.ac.uk; and Sonia Zakrzewski, University of Southampton, S.R.Zakrzewski@soton.ac.uk

Novel methods of data recording have permitted complex imagery of the human body. These include the use of 3D scanning technologies, computed tomography, photogrammetry, and use of the synchrotron. Similarly, 3D printing and augmented or virtual reality also allow other aspects of the body (or bodies) to be viewed. This session will discuss the theoretical and practical implications of such technologies and how they elicit different mechanisms for analysis. But the very use of such technologies also has implications on our understandings of bioarchaeology, and especially the body in relation to other loci, such as the grave, the collection or the living population. For example, how might on-site laser scanning be used to better enable archaeothanatological study? The papers in this session

will consider the effects of scale and practicality to such methods and, as such, hope to demonstrate the possibilities and potentials of such approaches to human remains and their wider contexts.

Discussant: *Simon Mays, Historic England*

Recording in-situ human remains in three dimensions: The application of digital image-based modelling in Bioarchaeology
Priscilla Ulguim, Teesside University

The in-situ three-dimensional (3D) digitisation of human remains can provide accurate integrated digital records for bioarchaeological study, and methods are increasingly applied in fieldwork. This paper contextualises advances in computer vision which enabled the creation of 3D models from two-dimensional (2D) images using passive optical methods such as SfM-MVS. The presentation then explores developments on research projects applying these methods to model in-situ human remains and integrate the data. These include the Ridgeway, UK, Uppåkra, Sweden, Çatalhöyük, Turkey and Abreu and Garcia, Brazil. The case studies reveal that this method does support improved visualisation and data integration with rapid data capture and accurate models. However, applications require close consideration of issues relating to interpretation and objectivity, contextualisation, storage and the ethical treatment of human remains. To fulfil the potential of in-situ 3D digitisation for human remains, the paper argues that researchers should consider the purpose of its application, and in developing digital archaeological frameworks, promote improved integration, interoperability with critical consideration of the contextualised outputs.

Osteo-grammetry - using photographs to model large cemeteries in three dimensions
Jürgen van Wessel, Headland Archaeology Ltd

Recent excavations at St Peter's Burial Ground, Blackburn are the first to demonstrate the immense value of photogrammetry for recording human remains on a large scale. Photogrammetry is the process of using photographs to record objects in a measurable way. Recent developments have made the technique accessible and capable of high levels of detail in both geometry and texture. These attributes make photogrammetry very appealing to archaeologists and it can now be considered part of the standard recording toolbox. Practitioners of osteoarchaeology and forensics can benefit greatly from this method.

This paper presents the initial results of the individual photogrammetric recording of 2,000 burials. Both the on-site and post-excavation processes will be discussed, demonstrating why it was by far the most appropriate technique for this project. The benefits of a visually detailed and fully measurable 3d burial record are clear. The outputs have so far enabled a comprehensive re-stratification of the site, visualisation of the density and depth of burial plots in 3D, and the spatial plotting of a wide range of osteological, artefactual and demographic datasets.

It is concluded that photogrammetry is a mature technique and is an immensely valuable tool for osteological research.

Assessing Dental Wear: Can Different Perspectives Improve Age Estimates?
Sammy Field, University of Southampton

Forming accurate images of past populations is a key aspect of archaeology, and through study of the skeleton an individual is bought back to life. Part of this process is establishing age at death by observing changes in the hard tissues of the body. One such approach uses the change in dental wear of the teeth. Over 50 years ago, Brothwell (1963) devised the most widely applied method using this technique. Since then new techniques for assessing dental wear have been developed, including using digital photography. This allows for a traditionally qualitative approach to become quantifiable.

This paper assesses what such techniques might add to the current methods for estimating age at death using dental wear. The method of Brothwell can obtain only limited information regarding dental wear; i.e. what stage has been reached. Digital imaging and other techniques can reveal more about this process by establishing the rate of dental wear and the quantifiable difference between stages. With the use of a preliminary dataset of Iron Age period individuals, it is possible to gain a new perspective of dental wear, and highlight the benefits of using these new methods alongside the current method. This then has implications for improving and adding to the existing technique for estimating age at death using dental wear.

Envisioning & En-purposing the Root? Assessing trends in morphology using μCT
Christianne Fernee, Alex Dickinson, Chris Woods, Martin Browne: and Sonia Zakrzewski, University of Southampton

Micro-Computed tomography (μCT) presents one of the only high quality non-destructive and non- invasive methods currently available, which allows full-volume visualisation of a 3D object. This permits high spatial resolution and high quality reconstructions, from which a whole host 2D and 3D morphometric analyses. Teeth are complex structures that have the potential to reveal a whole range of information regarding an individual, which can be enabled though the use of μCT.

In this paper a series of 136 permanent anterior teeth from Roman, Anglo-Saxon and Modern British individuals were μCT scanned. Whole tooth, enamel and dentine surfaces were extracted using a thresholding segmentation procedure, and were then orientated to enable the recording of 12 crown, root and CEJ measurements. Such measurements were taken both manually and by automatic computational landmark identification. Whole tooth, enamel and root surfaces area and volumes were calculated and dental wear was scored qualitatively following Molnar (1971).

The computational and physical measurement methods correlated closely (R2=0.86-1.00, Gradient=0.79-1.06) for crown and root diameters and lengths. The results agreed with established trends towards decreased wear score from archaeological to modern samples, and a positive odontometric trend in crown dimensions with time. Root length and surface area increased with sample age, but there was no correlation between root size and crown wear. Root size may correlate with occlusal loads due to food resistance, but was not linked, in these cohorts, to dental wear. These results, and their potential for better understanding of internal root stress, are evaluated in this paper. Furthermore, critique is made of the potential use of tooth root structure for understanding dietary ecology.

Visualising Morphological Variation and Sexual Dimorphism in the Distal Humerus
Vicky Owen, UCL

3D scanning and imaging technology has revolutionised the way in which research can be conducted on human remains within the field of bioarchaeology and forensic identification. One such practical application of 3D imaging of human skeletal remains has been the subject of this research, undertaken as part of the taught master's program through UCL Institute of Archaeology, which sought to understand morphological variance in the distal humerus and its propensity for sexual dimorphism. 3D scans of 50 humeral specimens were created using a NextEngine Laser scanner and Scan Studio software, housed within the IoA. Three trials were conducted to consider the application for 3D imaging and morphometric analysis to the study of sexually dimorphic characteristics and the proclivity for correct classification of remains, which is vital to the creation of a biological profile.

Landmarks for each trial were selected to assess the degree of variation seen on the medial epicondyle, the olecranon fossa, the trochlear "spool", and the shape of the epicondyles. Measurements were first submitted to Generalised Procrustes and Principal Components Analysis in Morphologika, where the data was subsequently exported and analysed using SPSS subroutines. A one-way ANOVA and discriminant function analysis was conducted for each trial, revealing significant results in each. The average overall percentage of correct classification was >90%, with particular focus given to the observed shape changes seen in the angulation of the medial epicondyle of trial #3.

The study has provided a useful, if time-consuming, alternative to forensic and archaeological investigation where elements traditionally used for sex estimation are too fragmentary for analysis.

Subject specific modelling of the lower limb - case studies from orthopaedics and prosthetics
Martin Browne and Alex Dickinson, University of Southampton

Advances in computed tomography (CT) imaging and hardware have resulted in data rich analysis of biological structures becoming increasingly accessible to researchers. Using statistical methodologies, it is possible to generate a large database of bones and teeth structures from a relatively limited numbers of CT scans. In the Bioengineering Science group at Southampton, we have exploited this capability to create libraries of bones and teeth, which have been used to 'test' orthopaedic, orthotic and dental implants using computational modelling. Further, we have collaborated with the Bioarchaeology & Osteoarchaeology (BOS) group to develop statistical models of historic teeth to identify characteristics that have changed with time, and to develop outreach activities based on the analysis of particularly interesting long bones. In this talk, an overview of these activities will be presented using a series of case studies.

3D imaging techniques applied to paleopathology: a rare forearm amputation from an Early- Middle-Age case study
Ileana Micarelli, Sapienza Università di Roma, Italy; Antonio Profico, Sapienza Università di Roma, Italy; Fabio Di Vincenzo, Sapienza Università di Roma, Italy; Mary Anne Tafuri, Sapienza Università di Roma, Italy; Caterina Giostra, Università Cattolica del Sacro Cuore, Italy; and Giorgio Manzi, Sapienza Università di Roma, Italy

The recent and rapid development of the diagnostic potential of virtual archaeology has provided innovative tools to manage and study skeletal remains, with 3D imaging techniques substituting physical interventions. The development of computerized technologies based on photogrammetry and CT-scan allow us to acquire, record, and process digitally relevant morphologies of important and, sometimes, unique remains. Moreover, these techniques can help to improve our knowledge of patterns of pathological lesions and their – seldom documented – healing in ancient skeletal collections. Here we present a case study from Povegliano Veronese, a Lombard necropolis in Veneto, Northern Italy. The site has yielded a large skeletal collection, dated from 568 AD (the first generation of Lombards in Italy) to the VIII century AD. Within the sample, the specimen labelled US-380, a 40–50 years old male, presents a healed lesion on the lower third of right forearm. This kind of lesion may be referred to as a Monteggia-Galeazzi fracture, caused by a fall onto an outstretched hand with forced pronation, followed by amputation of the distal part of the arm. Fractures and other bony lesions are frequently diagnosed on ancient human remains; nevertheless, this is to our knowledge the first case reported of this kind of fracture and amputation, which suggests a remarkable understanding of surgery in a pre-antibiotic era. The 3D reconstruction of the healed ulna and radio is obtained following virtual archaeology protocols in order to guarantee the best conditions to proceed in reconstructing the shape of the bone in bioarchaeological investigations.

Bodies of data: visualising citations in bioarchaeology
Sarah Stark, Mike Burgess, and Sonia Zakrzewski, University of Southampton

The field of bioarchaeology has a dynamic history of methodological and theoretical advancements that continues today. This paper provides an overview of the common methodological themes and limitations in the field of bioarchaeology through the analyses of a citation network.

The ease of publication access with reference citation tools like Scopus, one of the largest abstract and citation databases of peer-reviewed literature has made it possible to follow the evolution and development within research fields while viewing how specific contributions integrate with the field as a whole. This paper focuses on the growing evolution of bioarchaeological research from subfields of biocultural studies, stress and health, diet and nutrition, funerary studies, and functional and geometric studies. Although these subfields often overlap, references were categorized based on the overall findings and methodologies that contributed the most to each subcategory. There are over 900 references or nodes, spanning from the 1950s to the present.

Once harvested from Scopus, the publications were imported into the network analysis software Gelphi 0.9.1 where a directed bipartite network, an algorithm that calculates the direct interaction between two nodes, was constructed. The node sizes are based on how often the article is cited and the colour scheme is based on decade, subfield, and geographical region of the researchers. The citation network highlighted interesting trends of the more highly cited referenced as well as many isolated studies (or nodes) that had non-repeatable methodologies. This approach of 'surveying' the field of bioarcheology has tremendous potential for tracking the direction of the field and finding gaps in our current approaches and thus directions for future research.

31. **VISUALISING WORDS**: ARCHAEOLOGICAL **NARRATIVE** THROUGH POETRY, IMAGE AND PERFORMANCE

Erin Kavanagh, Independent researcher, geomythkavanagh@gmail.com; and Kim Biddulph, Schools Prehistory & Archaeology, imbiddulph@btinternet.com

'Narratives do not always have to be presented in a purely linear sequential form' (Pluciennik 1999)

Building on the Tyrannical Tales session at TAG 2015 in Bradford, this session explores non-traditional narrative forms within archaeology; such as performance, poetics and graphical expression. We are concerned with their power to engage people emotionally and intellectually with visualising heritage - and also in their potential as alternative methods for realising and commenting on the plausibility of theoretical models about the past.

Words and images meant essentially for peers are released into the world by archaeologists in blogs, books, journals and reports every day. These official 'stories' affect the way that archaeology is interpreted, both by ourselves and by others. They establish an epistemic norm which we seek to re-present by **asking** the following **questions**:

- **How** do we meaningfully construct a feeling, image or event in narrative form - and does its shape have to be chronological?
- **What** is the process of constructing an image, feeling or event based on the figures and words of others?
- **Can we** use our own emotional experiences to inform practice?
- How are realities made of possibilities and possibilities of realities?
- What barriers stand in the way of archaeological communicators making a plausible and well-informed world for their audiences?
- Can the process of realising theory modify and remake that theory?
- How do we **'see'** the past?
- What role has memory in the visualisation of narrative constructs?
- Can researchers be challenged to evaluate and rethink their theories through interaction **with their audience?**

This session welcomes proposals on the value and process of alternative narrative structures as modes of visualising archaeological knowledge; encompassing outreach, practice, education and research. Case studies are welcome but the predominant focus is on process rather than product. We will be pursuing a format wherein each presentation will be followed by an in-audience **discussion** before the next speaker commences. Emphasis will therefore be directed **away from** verbalising a standard paper and placed instead upon interactive dialogue, debate and creative expression. In this way we aim to challenge the **convention**al triad of knowing, explaining, understanding (Droysen, 1858), **to explore new boundaries of realisation**.

In memory of Mark Pluciennik, 1953-2016.

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Pluciennik, M. 1999. Archaeological Narratives and Other Ways of Telling. *Current Anthropology* 40(5): 653-78.

Visualising narrative…
asking questions:
how, what, can
we see
with the audience?
This session welcomes
discussion
away from convention,
to explore new boundaries of realisation.

Welcome and introduction
Kim Biddulph, Schools Prehistory and Archaeology, kim@schoolsprehistory.co.uk

<u>Framing</u> the Past
Erin Kavanagh, Independent, geomythkavanagh@gmail.com

"In archaeology as in most other disciplines…the increasing use of…engaging reflexively with…problems of authority, representation and…**theories** of…analysis has been critiqued…;…the "slipperiness" of language and the deferral and indeterminacy of meaning…has led to renewed interest in the ways in which members…characteristically present their work.

I wish to concentrate on the use and status of narrative and narrative types…and whether narratives in themselves…can be seen."

Pluciennik, Mark. (1999) Archaeological Narratives and Other Ways of Telling. In, Current Anthropology 40(5) 653-678

Framing…
Theories…

Viewfinder Reversals: Alternative <u>Photo-Narratives</u> of Archaeological Fieldwork by Local Site Workers
Allison Mickel, Stanford University, ajmickel@stanford.edu

(This paper will be presented by virtual media)

In this presentation, I **braid together** two stories: one, of the experiments I ran at two archaeological sites in Jordan and Turkey where I invited site workers to record their **perspectives on** their role in **the** excavation process using photography; and two, of how the ideas of multivocality, reflexivity, and narrative structure the form and content of the **archaeological record**. By presenting the photographs created by locally-hired laborers at Çatalhöyük, Turkey and at the Temple of the Winged Lions project in Petra, Jordan, with the surrounding contexts of their creation, I show what engaging these unrecognized archaeological experts in recording and documentation does to the story of archaeology. I examine how the photos they created in these settings work to transform our conceptions of the events, characters, and plots that comprise the archaeological endeavor.

**Photo-Narratives
braid together
perspectives
on the
archaeological record.**

[Placeholder]
Michael Shanks, Stanford University, mshanks@standford.edu

**(This is a placeholder
for a video narrative
regarding
the narrative of video)**
(Lorem ipsum reliqua)

'Hearing' heritage: The Kirkyard of St Mary's of the Lowes
Iain Biggs, University of Dundee and Bath Spa University, iain19biggs@gmail.com

Responding to the questions: "How do we [who?] 'see' ['hear'] the past"? and "What role has [whose?] **memory** in the visualisation of narrative constructs"? This illustrated presentation will take as its starting point a public information board at the kirkyard of St Mary's of the Lowes. Located **in the Scottish Borders** region, this now-derelict site overlooks St. Mary's Loch, the source of the Jarrow Water, a tributary of the Ettrick Water, both of which flow through an area associated with two popular **traditional** Borders **ballads**: Dowie Dens of Yarrow and Tam Lin. Drawing on Gemma Corradi Fiumara's The Other Side of Language and the work of Roger Strand and others in the field of post-normal science, together with a recent archaeological study of the site (http://www.borderarchaeology.co.uk/home/sites/st-mary-s-kirkyard) the presentation uses the two ballads to **draw attention to** what is left 'unheard' and so **unspoken** by the authors of this public information board.

The presentation is oriented by Strand's concern with the crisis in science as this relates to the formation of a dominant life-world where the illusion of "merely fact-minded sciences" continues to "make merely fact-minded people", and at the expense of "a genuine humanity" (Husserl 1936/1970:6). As an alternative the presentation builds on a disciplinary agnosticism linked to the practice of notitia as "a careful attention that is sustained, patient, subtly attuned to images and metaphor", is able 'to track both hidden **meanings** and surface presentations' (Watkins 2008: 419).

**'Hearing' memory
in the Scottish Border,
traditional ballads
draw attention to
unspoken meanings.**

'Seeing' the past, a dark art? Maps, sections and images of the Palaeolithic past
M.R Bates, University of Wales, Trinity Saint David, m.bates@uwtsd.ac.uk

Past landscapes associated with our earliest Palaeolithic archaeologies are very different to those of the present day; rivers that once existed have been erased from the **landscape**, major rivers have shifted course by 10's miles and landbridges linking Britain to the Continent have appeared and disappeared. Reconstructing these landscapes has required the use of geological and geophysical techniques and consequently many practising **Palaeolithic archaeologists** need to be embedded within, or familiar with, the physical sciences. Despite the empirical basis of such investigations (e.g. hard numerical data in the case of geophysics) archaeologists still need to turn this data into meaningful representations of the past. The process of the creation of the images we **use** to contextualise Palaeolithic archaeology is, in reality, a 'dark art' in which practitioners rarely articulate their methodology or question their results. The **images** we produce are both an elaboration and simplification of our data created **to** satisfy the perceived needs of the end user. This practice is needed not only to contextualise archaeological finds but also has real, practical, applications such as locating new sites.

This paper examines how illustrative materials including maps, sections and models are used to **create the** Palaeolithic **past** and how the results of this process can be used within the context of developer funded archaeology.

<div align="center">

'Seeing' a dark landscape
Paleolithic archaeologists
use images
to create the
past.

</div>

Scenographic deconstruction of national mythologies connected to the Great War and Second World War in Norway

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During the last few years at Norwegian Theatre Academy / Østfold University College we have held workshops on the island of Håøya, south of Oslo. The participants are bachelor in scenography students from NTA and international guest students from various art disciplines, lead by professor Serge von Arx and lecturer Kjartan Fønstelien. The students are working with **narratives** connected to central stories **from the Great** War **and Second World War**. The aim of the workshop is to **deconstruct** national mythologies, making "memorials" responsive to individuals whom have disappeared. These **lost stories** and forgotten peoples represent the darker sides of Norway's role in both wars. The paper will mostly focus on the history of several hundred female sex workers forced into slave labor in a dynamite plant on the island 1915-18. The presentation includes students' artistic research into this history through visual and performative actions within the expanded field of scenography. The reality that police in Oslo basically served the factory **with** enforced sexual labor has been an total "silence" in the official textual and historical material. In the local communities around the island, the narratives of the girls "working" on the factory and sexual abuse of them remains very strong. The students use performances, artistic and scenographic methods to establish memorials responsive to the enslaved women and their legacy. The students have also **excavated** items from the production period to use in different **installations**.

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Scenographic narratives
from the Great and Second World War
deconstruct lost stories

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Drama in Archaeology: Performative archaeology and <u>Process Drama</u> as vehicle for understanding and communicating the past narrative

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Since the 1970s Drama is considered **a valuable and effective medium** that can communicate difficult and complex ideas to any age audience that has no prior experience or knowledge about the target context that Drama each time aims **to** demonstrate. The adaptability that Drama offers, has created a variety of applied Drama "sub-disciplines" (e.g. Drama in Education, Sociological Drama, Drama in Prisons) in which Drama is implemented in order not only to **engage the audience** with the new knowledge, but to assist the audience in order **to** self- understand and **re-acknowledge** existing **embodied knowledge**. **This** paper aims to explore what Drama-in-Archaeology can offer regarding the cultural heritage, the historic cultures and **practice**s and the interpretation and understanding of the archaeological evidence. The paper is developed in two stages; first it **evaluates** previous applications of Process Drama in museum education, experimental archaeology **and** engagement of unfamiliar audiences with an archaeological context. Second it **explores** theoretical **ideas** that can be implementing in order to achieve a better understanding of the use of space, in the context of the use of caves in the Neolithic Balkans and in the post-medieval Kythera island in Greece. Finally, this paper aims to leave a note **for the future**, that Drama can be implemented as a tool for archaeology and Drama in Archaeology can be a new sub-discipline for drama facilitators.

**Process Drama
is a valuable and effective medium
to engage the audience,
to re-acknowledge
embodied knowledge.
This practice
evaluates and explores
ideas
for the future.**

32. WHAT CAN ARCHAEOLOGISTS LEARN FROM SKATEBOARDERS?

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Although skateboarding and archaeology appear to have little in common there are a few areas where there is either an overlap or some common themes. The aim of this session is to look at those aspects of skateboarding which may relate to archaeology and heritage. Papers are invited on any aspect of this relationship; currently four themes have been identified although there may well be other areas of interaction which have yet to be considered.

1.   Issues of heritage. At its simplest this may concern the registration of an old skate park as a heritage asset as was the case in September 2014 when the Rom Skatepark in Essex was listed by Historic England. More complex cases are represented by the South Bank where an area that had been used by skateboarders for more than forty years was scheduled for redevelopment.

2. Identity and Practice. There may be some level of connection between archaeology or excavation as a method and practice and skateboarding. For example both archaeologists and skateboarders have strong personal motivation to perfect techniques which are independent of career or financial considerations. Also there may be similarities of social organization between diggers and skateboarders including ideas of egalitarianism and a feeling of being apart from mainstream culture.
3. Interpretation of Sites. Skateboarders operate in a variety of purpose built (authorised) and improvised (unofficial and unsanctioned) urban environments. Analysis of the locations and timing of skateboarder activity may help in the interpretation informal activity embedded in archaeological sites and landscapes.
4. Recording and Dissemination. Can the recording techniques of skateboarders be adopted by archaeologists? Skateboarders use a variety of cameras, phones and other devices to record tricks whilst archaeologists often opt for more traditional static methods of recording which have long term value but often fail to engage wider audiences.

In addition to conventional papers other presentation formats are invited including performances, films and installations.

Pathfinding and Pastfinding: a conversation between parkour and archaeology

Ophélie Lebrasseur, University of Oxford; and James Walker, University of Cambridge, jw577@cam.ac.uk

Since its emergence in the 1990s, parkour, i.e. moving freely and effectively across your urban environment, has become an increasingly widespread cultural movement and form of expression. Parkour is also a mindset, a style of training and way of thinking. Perception of parkour, both within the practicing community and among non-parkour enthusiasts, is inherently tied to the foundational basis of the movement itself as an art-form; something that parkour shares in common with skateboarding. In this presentation, we explore i) how parkour might be considered from a social-anthropology perspective; both as a pastime and as a community, and ii) how such reflection may suggest alternative inflections for archaeological inquiry and interpretation, ranging from considerations of mobility, past landscapes, and the structuration of cultural space, to exploration of the analogy between parkour and archaeology as embodied practices.

Gender and skateboarding: What can skateboarders learn from archaeologists?

Christina Collins, University of Exeter, C.Collins4@exeter.ac.uk

While gender equality in academia has not yet been fully achieved, most universities and academic departments are striving towards this goal. Many archaeology departments find that they have a relatively even gender-balance at undergraduate level, gradually becoming more male-dominated from masters to professorial level. There is clearly still work to be done but academia in general, and archaeology specifically, have made great inroads into equality. By contrast skateboarding in the UK remains heavily male dominated. The experience of walking into a skatepark as a female can be very intimidating, and especially off-putting to beginners; while street skating often culminates in altercations with security or police. Increasingly pay-in skateparks are introducing female-only sessions in an effort to encourage more women to enter skateparks, but in some cases these can cause resentment from male skatepark users, and also discourage women from attending 'normal' (male-dominated) sessions, unintentionally enforcing segregation not only within the session, but beyond. Here I will discuss what can be done to break-down the gender barrier and get more women skateboarding alongside men. We will look to the history of women in archaeology and academia, to see how equality can be achieved and whether skateboarding can learn anything from archaeology.

Thinking with Wheels: Skateboarding and the Interpretation of Space

Jill Marcum, University of Oxford, jill.marcum@gmail.com

When we approach a site, ancient or modern, we bring with us notions of what that site, building, or landscape is—what it is for, how it is to be used, why it is there. Even our proprioception is culturally attuned; our bodies presuppose the actions to take in a space. How can we get around these predispositions that cannot help but bias interpretation?

Skateboarders approach sites differently—places are potentialities, hard surfaces and negative spaces; Heideggerian *topoi* of affordances to be reconstituted as ramps and rails. Here gravity, inertia, velocity act as external imperatives. Significance is not presupposed; a slang vocabulary is thrown into the spatial syntax. Cognition is displaced; thought is through wheels and the deck understands meanings that the mind need not; an indexical knowledge of how to move, situated outside ourselves and unbiased.

Skateboarding can help us unlock and question the notion of one phenomenological truth cited in buildings, materials, landscapes. Skateboarders remind archaeologists that spaces are not only frequently repurposed and redefined, but can have concurrent, layered uses. These may occur on different temporal scales, with different configurations of participants, in ways that may not only be subversive but positively taboo in wider society, while remaining tied to a community that has a strong code, unspoken yet unbroken rules and regulations—and rituals and identity—of its own. Moreover, the skater ethos can remind archaeologists that there is no need for one monolithic interpretation, only curiosity and the will to risk failure.

Never Say Last Run: Skateboarders Challenging the Terrain and Becoming Involved in Archaeology

Robert Muckle, Capilano University, Canada, bmuckle@capilanou.ca; and Bruce Emmett, Independent Skateboarder and Artist

A collaborative project involving skateboarders, artists, educators, and an archaeologist is a unique undertaking in the realm of archaeology in North America. This is partly the story of a wide-eyed archaeologist becoming immersed in the culture of skateboarding and discovering a level of intellectual engagement in an activity often perceived to be reserved for punk and parking lots. Preeminent persons in the skateboard industry, skateboard park designers, professional skateboarders, and skateboard activists have been part of the collaboration.

Experiences of those involved indicate there is considerable interest in the project by many people, but there are naysayers as well, leading to challenges to excavating what is perhaps the oldest intact public skateboard park in world. This presentation provides a short history of the construction and early use of what is now this highly significant site in Canada. It describes the challenges to excavation, issues related to heritage designation and control, interpretation of sites, and identity and practice. Ultimately, the excavation of, and even the widespread recognition of the heritage significance of the site may never be realized. Challenges include being stymied by purported leaders in education, and issues related to members of a subculture attempting to work within a dominant system. It may be that this project may never break ground. The quest for significance and the creation of a collaborative space between persons of disparate disciplines and interests may in fact be the greater story.

Skate City: Film, Architecture and Urban Space

Iain Borden, UCL, i.borden@ucl.ac.uk

London has been part of the worldwide phenomenon of skateboarding, from the early 1970s right through to the present day. Important sites in the city include the highly contested 'Undercroft' area of the Southbank, early purpose-built skateparks such as 'Skate City', 'Rolling Thunder', 'Maddog Bowl' and 'Rom', public spaces such as Kensington Gardens and Crystal Palace, and appropriated street sites in locations as diverse as the Shell Centre, Bishopsgate and St Paul's.

This paper charts the documentation of skateboarding in London as caught on film, showing how these various sites made up a vibrant skateboarding scene. In doing so, it also charts the dramatically changing technologies by which these film documentations occurred, from the earliest days of amateur movies and sporadic news coverage (capturing the relatively innocent arrival of skateboarding as a youthful pastime), through camcorder footage of the burgeoning street-skateboarding scene of the 1990s (raising issues of subculture, urban space and masculinity) through to todays scene, where a plethora of art-based films, documentaries, social media clips and guerrilla-style advertising have become an integral part of a rich and pluralistic skateboard scene. Film is thus shown to not only help record different spaces and sites, but also to express and give voice to a changing set of social meanings over the the last 40 years. In this way, film acts not only as a record of the built environment, but also as an active agent within its use and production.

The paper concludes with some reflections on how this might make us think differently about recording, interpreting and presenting urban history and architecture as historians, archaeologists and other academics.

Skateboarding through the Generations

Andrew Petersen, a.petersen@uwtsd.ac.uk; and Rowan Petersen

Skateboarding is perceived primarily as a contemporary activity which lives in the minds of the current practitioners yet it is now nearly half a century old with its own architectural oral and material legacy. This paper will address both the often imperceptible changes in skateboarding and consider whether it can tell us something about movements and groups activity based groups in earlier times or different cultures.

33. WHERE 'STRANGERS AND BROTHERS/SISTERS' MEET: PLACES OF CONGREGATION IN ARCHAEOLOGY

Bisserka Gaydarska, Durham University, b_gaydarska@yahoo.co.uk

Places of congregation have a long prehistory, beginning with the seasonal aggregation sites of hunter-gatherers in times of plenty, continuing with monumental places or places of special deposition with no obvious monumentality and reaching recent and modern examples of pilgrimage and seasonal rock festivals. Is there anything that TAG delegates can learn from a discussion of such a diverse group of sites?

While speakers have been selected for the diversity of their material – from Göbekli Tepe in Anatolia to the Burning Man Festival in Nevada – we assume some communalities between the

sites which underpin the possibility of asking generic questions about the phenomenon. The communalities include the basic idea of a special site of supra-local significance, which brought together people who were not usually meeting on a regular basis – in C. P. Snow's phrase, 'strangers and brothers/sisters'. These meetings may have started out with a principal function in mind but evolved into a suite of multi-purpose practices (think the debate on N.W. European causewayed enclosures; or how did seasonal gatherings morph into ritual congregations?).

The generic questions arising out of these communalities are many and various, but include their origins (in many cases, there may well not have been a prior model – but perhaps prior ritual places / landscapes linked through long-term memory?); the temporal and spatial scale of gathering (did these places include a residential component ?) and movement (how far did people travel to such places?); of great importance – to what extent did these places and practices have a transformative effect on the participating communities?; can we identify material entanglements that developed at these places (were there emergent novel agencies for objects and places?; what were the unexpected outcomes to such meetings).

The aim of this discussion is to make connections between classes of sites, between remote times and places, that had not been brought into relations before and to use the theme of congregation to investigate cultural change in particular contexts but also on a broader scale. Places and practices of interest for this theme include: forager fission-fusion cycles, Göbekli Tepe, Glastonbury & Burning Man, Cycladic Bronze Age congregation sites, Trypillia mega-sites, Avebury, Cahokia, the hadj, Early Medieval Scandinavian gathering places. One multi-talented discussant has yet to be identified.

The Greenham Women's Peace Camps: an archaeology of contingent settlement
Yvonne Marshall, University of Southampton

From 1981-2000, 'peace women' protesters maintained camps at some or all of the gates into the US Airforce Base at Greenham Common, Newbury, Berkshire. Their protest was against the planned deployment of nuclear Cruise missiles at the Greenham base. The number of protesters varied widely as women from across the globe came and went. For the 'Embrace the Base' protest day, more than 20,000 women came to Greenham, but at other times numbers fell well below 100. The protesters lived in improvised plastic 'benders' and actively sought to 'live lightly on the land', leaving as little footprint as possible. In addition, the women were subject to repeated evictions which, for several years, could happen on a daily basis.

One of the principal objectives of The Common Ground Project, conducted from 2003-6, was the documentation and characterisation of the archaeology of the women's camps. In the first instance, we simply wanted to find out if such a thing as a peace women's *archaeological record* could be identified at Greenham. Happily we did find one! This paper offers a brief summary of that archaeology and in particular discusses the character of the peace women's settlements at four sites of occupation.

Communal spaces: defining meeting places through intercultural methodologies
Lara Milesi, University of Granada, Spain

The presence of what have been called 'prehistoric ditched enclosures' in Iberia - *recintos de fosos* - and the analysis of their archaeological data from different perspectives have tended to generate

interpretations in terms of dichotomies during the last decades. This discussion has confronted ideas of permanent settlement and meeting place as well as functional or ritual understandings. According to the latter, some of these studies have interpreted the sites as non-permanent settlements or spaces where human groups gathered cyclically. This paper will present some preliminary results of a research programme focused on the definition of the notion of meeting place that has been applied in Neolithic and Chalcolithic studies in Southern Iberia. First, it will present how Iberian archaeologists have adopted this notion and how this adoption has sometimes made uncritical use of ethnographic data. Secondly, it will propose an inter-disciplinary methodology in which archaeology and anthropology will work in order to enhance the understanding of such a site category through the study of past and contemporary meeting places. Finally, this paper will show activities that are carried out in Chile and New Zealand with the collaboration of Mapuche and Māori people and through which gathering complexity is studied in the light of socio-cultural and historical contexts and changes. Landscapes, nature and the architectures of meeting places will be developed under local concepts of *rewe* and *marae* respectively and by using native language to improve our understanding of these 'places of congregation'.

Ecological and social factors in hunter-gatherer aggregation
Robert Layton, Durham University

I plan to review information that I've collected from the literature (including areas where I've carried out fieldwork), on hunter-gatherer aggregations: their frequency, the time of year they take place, and the activities that take place during such gatherings. I will probably take a few case studies, such as the Inuit, Cree, Ache, and northern and central Australia, to try and separate the ecological and the social functions of aggregation, with some suggestions on how to apply these insights to archaeological research.

The Sanctuary on Keros as a Centre of Congregation
Colin Renfrew, Cambridge University

The sanctuary at Kavos on the Cycladic island of Keros, dating from the mid third millennium, seems to be the earliest known maritime sanctuary. Its two 'special deposits' were the focus for periodic visits over approximately five centuries, documents by successive depositions of bundles of objects of ritual use: marble sculptures, marble vessels, pottery (mainly the drinking cups known as 'sauceboats') and a restricted range of other artefacts, all of which had been deliberately broken before being brought to Keros. Human remains did not accompany the depositions, although the range of broken artefacts deposited resembles the repertoire found in the Early Cycladic cemeteries. The neighbouring settlement on the islet of Dhaskalio is currently undergoing excavation.

Kavos, like its Cycladic neighbour on Delos two millennia later, was a maritime centre of congregation. Despite its lack of monumental architecture it may have played a similar role to other centres of congregation, before the development of state societies and the emergence of well-defined divinities.

Ceremonial monument complexes as nodes in Neolithic social networks
Susan Greaney, University of Cardiff and English Heritage

There are a number of places in Britain and Ireland that have been described by archaeologists as ceremonial or monumental complexes, where there is evidence for intensive and complex activity and clusters of monuments. From time to time, on a seasonal or annual basis, these locations became places of congregation, usually starting in the early Neolithic period and continuing through to the early Bronze Age. Acts of construction and episodes of feasting in these locations, particularly in the late Neolithic, would have involved many hundreds of people, backed up by a long-term support system to provide materials, food and equipment. Recent isotopic evidence from Durrington Walls in Wiltshire suggests that cattle, and presumably therefore people, were moving over long distances to take part in these events. Excavations at several complexes have now uncovered buildings and occupation debris of at least a seasonal nature – these were places of residence as well as ceremony. This paper seeks to challenge some of the assumptions that are often made about monument complexes and the social organisation of the people who built and visited them. It will explore some ideas about how these particular locations emerged as powerful places, becoming important nodes in Neolithic social networks that may have stretched over the length and breadth of the British Isles.

The matter of congregation: the case of Avebury
Joshua Pollard, University of Southampton

It goes without saying that the great Neolithic monuments of the Avebury ceremonial complex - Windmill Hill, the Avebury henge itself, Silbury Hill and the West Kennet palisades - required substantial corporate participation in order to be created (regardless of whether they were formally 'used' as ceremonial foci or not). What is less clear is an understanding of the scale and make-up of the participating populations, of the dynamics and (shared?) values that ensured repeated congregation, and the outcomes of these events. There are some notable and valuable models, from Renfrew to Whittle, explicitly drawing upon ethnography, which have foregrounded traditional models of social relations as drivers. But what if we expand a definition of the social to include more than just the human: thinking of material congregation; of the power of matter (and indeed its relations to the immaterial worlds of being) in bringing people and things and relations together; and of how material trace might be implicated in reproducing acts of congregation?

Assembly Places in Northern Europe: Early Medieval Perspectives
Sarah Semple, Durham University

The Assembly Project, funded by Humanities in the European Area, was initiated in June 2010 and completed in December 2013. It brought together researchers from Norway, England, Austria and Scotland.

Using research and fieldwork, we have explored the origins, development and transformation of administrative frameworks and meeting-places across the early medieval North Sea World. This paper focusses on some of the results, in particular on the evidence from England and Southern Scandinavia. Using a combination of archaeological and written sources this paper explores how the physical form of places of assembly changed through time. It is argued that the form and locations of early medieval meeting places demonstrate connections with shared and contested resources e.g. fording places, upland resources, portages etc., suggesting a ground-up development for such institutions at locations where mediation may have been essential. Drawing on fieldwork

results from a number of key locations including Anundshög, Västmanland, Sweden and Yeavering, Northumberland, we also argue that especially from the mid first millennium onwards, chieftainly and royal interests may have led to the choice of places with ancient remains for major meetings and the creation of new monuments at such sites. This is suggested as evidence for a new ritualised approach to enacting power, in which the place of assembly took on a major significance as a location of political debate and alliance, where chiefs or kings could claim authority and negotiate and consolidate their territorial claims.

Trypillia mega-sites as congregation sites - a problem of scale
John Chapman, University of Durham

Recent research into the Trypillia mega-sites of South-Central Ukraine has transformed our understanding of these massive sites - currently the largest sites in 4th millennium Europe and possibly the world. Geophysical investigations, Bayesian modelling and palynology have created the opportunity for new different narratives which challenge the accepted 'maximalist' view of mega-sites - as large, permanent, long-term, year-round farming populations. These new narratives start from the variability of local house groupings within the overall structure of the concentrically-planned settlement, a relatively short occupation scan of 150 years, and the far lower than expected human impact of what has always believed to be a massive population. We can now posit the hitherto paradoxical notion of seasonal or short-term aggregation mega-sites with far lower populations than have previously been thought.

While massive ceremonial sites with little evidence for settlement, such as Avebury, have often provided the model for seasonal aggregation sites, it is far harder to consider sites with over 1,500 houses as short-term and/or seasonal. This alternative model raises profound questions of the origins of such settlements, the temporal and spatial scale of their gathering, the scale of movement of people to the congregation place and the impact of such mega-sites on other Trypillia settlement. In this paper, I present a model of that strange beast - the 'minimalist' mega-site.

34. GENERAL SESSION
Concept of Megalithism in the 21st Century Archaeology of India
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Megalithism is a death cultural phenomenon, which starts from Neolithic period onwards and continues up to the historical period through the Bronze Age. It spreads widely almost all the parts of world during the Neolithic period. In Japan it continues up to the middle of the seventh century A.D. until the then Emperor Kotoku prohibited it. Such cultural element is not being seen, as living tradition in other parts of the world. In North East India, particularly in Manipur, it is practising as a living tradition till date by some non-Christian tribes. The Liangmai tribe is one of the indigenous and largest tribes of this state, who still continuing this tradition with some modification. In this paper the author would like to document the present concept of megalithic tradition in this part of India as far as the material allows. The main objective is to make an interpretative visualization before it dies out in course of time.

Continuity and Variation of Prehistoric Traditions - A Post Processual Study From Bambooti , A Late Neolithic Site In Western Assam
Anamika Gogoi Duarah, Arya Vidyapeeth College, India

The study on the post processual Archaeology in Northeast India is a recent phenomenon. The cultural configuration of Northeastern India has a deep root of its prehistoric origin, the remnants of which are still visible in the life ways of the people of this region. In spite of the vast scope of post processual study in this region of India, the study is still in an initial stage. The present study deals with the discovery of a late Neolithic site in Western Assam the *insitu* evidences of which have led us to establish the past present continuum of the culture on the basis of archaeological evidences and contemporary culture. It is an archaeoethnological study dealing with known to unknown facts of a society and thereby trying to relate present with the past.

The ethnographic composition, their settlement and subsistence pattern, material cultures and related age-old intangible traditions in the area under study are some of the most vital clues that can lead one to trace back the ethnohistory of the people to the prehistoric past. The strong base of the existence of prehistoric tool tradition clustered with hand made pottery of Bambooti, a late Neolithic site in western Assam put more impetus to this problem. Although the stone tool tradition not only intruded into the metal using stage but it has also penetrated into the metal tool tradition with the changes in raw material and a little bit morphometric changes. Moreover, Bambooti pottery tradition is still in focus as a surviving prehistoric tradition with a minute stylistic change. In this context it is worth mentioning that both the significant prehistoric cultural items- the Neolithic celts and the pottery ceased to exist in the foothills of Assam but their impact on the traditional societies is still reckonable. The role of Neolithic celts transformed into intangible heritage associated with beliefs and myths while the pottery remained almost static in the unaltered state. In fact, without considering the context, it is almost impossible to draw a line between the past and the present.

Under the influence: communal drinking, ceramic styles and identity in the 3rd Millennium BC Syrian Jezirah
Melissa Sharp, University of Tübingen, Germany

Beer drinking in the ancient world was not neutral but imbibed with social meanings. This paper explores drinking practices in Syria during the 3rd millennium BC through ceramic analysis. A comparison of frequencies, type and wares of vessels from six sites in the Syrian Jezirah, reveals that drinking practices may have been a key marker of regional identity. By studying these data from a phenomenological perspective, new approaches to understanding regional identities can be explored.

Seascapes, materiality and material culture: the early Cyclades
Christopher Nuttall, Uppsala universitet, Sweden, chris.nuttall@antiken.uu.se

For Mediterranean archaeology, discussion of the sea has traditionally focused on nautical technology, shipwrecks, and trade networks. The sea has been viewed as a passive absence of land; the voided space between mainlands and islands. These views have been challenged recently (Berg 2010; Broodbank 2000; Vavouranakis 2011) and through archaeological and ethnographic work on seascapes in global archaeology (McNiven 2008), it is becoming clear that the sea can be a textured and knowledgeable space, which can actively influence human behaviour. At the same time, the seascape can be imbued with meaning. The seascape is not just a functional space to be 'used', it is a component of the space of a society (Steinberg 2001).

For the Cycladic islanders of the Early Bronze Age (EBA), the sea was an ever-present component of daily life, essential for community continuity, as well as a potential source of symbolic significance. At this time, we begin to see the emergence of material culture and practices emphasising difference in the Early Cycladic archaeological record. This paper will therefore investigate the ways in which the Early Cycladic seascape was visualised and referenced through material culture and structured practices in the expression of social differentiation. *The consideration of the early Cyclades allows us to tackle one of the more enduring paradigms of Aegean archaeology, namely the 'international spirit' of the EBA II period (Renfrew 1972), and how it was intrinsically cognitively linked to the Early Cycladic seascape and its materiality.*

Archaeology visualisation in textbooks (in secondary school in Estonia)

Liia Vijand, University of Tartu, Estonia, liia.vijand@ut.ee

Through school we can engage youth to understand archaeology and protect our heritage. Archaeology is taught as a part of history lessons not as a specific subject in the Estonian school system. In this presentation I will give an overview of my analysis about archaeology visualisation in secondary school history textbooks prehistory and medieval chapters. I compare history textbooks of two different publishers and I do a short digression to popular magazines like "Amazing history" and "Mystical history" archaeology illustrations.

I follow the idea that scientific interpretation has to be in harmony with all the data, logically connected and understandable for youth. Therefore visual material should support text to make it more intelligible. Students should be allowed to interpret archaeological data, so that they can understand the mechanism. For example, students have to describe a burial and interpret it by looking at photos, drawings and data. That kind of material cannot all be in paper textbooks, but it is possible to put it in an e-textbook and in teacher extras and teacher can show extra material in his presentations. It is important that text and illustrative material will bond each other and form a complex approach. Therefore photos, drawings, reconstructions, maps, schemes, charts are extremely relevant.

Teaching a history is a dialog with a past people and as a teacher you'll have to bring this into classroom and it is much easier to do when you have supportive material.

Runestones and wheelheads: the cultural entanglement of Celtic and Viking crosses on the Isle of Man

Rebecca Davies, Truro College, Plymouth University, rd133832@ghs.truropenwith.ac.uk

This paper will examine the impact of the art of the Manx crosses on both contemporary and modern culture by examining several examples observed and photographed by the author when she did some voluntary work for the Manx National Museum in 2015.

The Manx crosses are an extensive body of artefacts on the island. Most parish churches now hold a collection of these distinctive early medieval art forms. They are examples both of Celtic knotwork and Viking designs, and the inscriptions range from Irish ogham, through Viking runes to Latin script.

Phillip Kermode was the late nineteenth century authority on Manx Crosses. He discovered that these crosses carry some of the earliest known illustrations of the stories of the Norse sagas. For this the Icelandic government made him a Knight of the Order of the Falcon.

This distinctive art has been adopted as part of modern Manx culture. It materialises in an entanglement of meanings and forms across different media and different contexts. Examples include re-presentations on stamps and banknotes, modern crosses such as the recreations (not replicas) outside the cathedral in Peel, (of which I will show my rubbings) and the interesting re-interpretation in the folk village of Cregneash.

Geo-Historiographical Prism': A Visual Device For The History Of Archaeological Thought

José Ramiro Pimenta, University of Porto, Portugal, jose.ramiro.pimenta@gmail.com

In this study I aim at approaching the history of Archaeology by treating time and space as resources that enter directly into the fabric of academic life, emphasising the 'political ecology' of research, the 'situational character' of scientific identity, and deciphering 'contextual configurations' of power-knowledge. With this in view, I would propose to deal with citation networks emphasising continuity and connectedness of the sequence of events that are needed to fulfil a complete research programme. The device I call 'geo-historiographical prism' (please see fig. below) intends to depict and to help to interpret 'individual' and 'collective' scientific research programmes as academic-biographic paths delineated in vast but not entirely 'free' social networks both internal and external to science-producing institutions: i) the activity of individuals is constrained, defining individual time-space prisms of acceptance; ii) academic-scientific life defines the conditions of reunion (conferences, workshops, laboratories…) that validade research within formal and informal colleges; iii) scientific-academic institutions exercise power through gatekeeping; iv) competition among different research-programmes often display (and are structured by) time-spatial institutional coherence. Hopefully, in the end it would be possible to suggest that the conditions of production and diffusion of scientific knowledge depend on a suite of locations chronotopically arranged through time and scale.

Heidegger's *Archäologie*: *Dasein* Past, Present and Classical

James Whitley, University of Cardiff

During the 1990s concepts formulated by the German philosopher Martin Heidegger were widely used by Anglophone prehistorians in the interpretation of such things as megaliths in North Western Europe and their place in the landscape. Such 'phenomenological' uses of Heidegger's philosophy in prehistory assume that the *Dasein* of past peoples is to some extent recoverable – a point on which Heidegger himself was unclear. This paper attempts to explore this point by looking at Heidegger's only venture into what could be called archaeology – or rather *Archäologie* – in the late 1950s. This was his trip around the major Classical sites of ancient Greece (Delphi, Athens and in particular Olympia) published in his *Sojourns* (a book much easier to read than 'Being and Time'). Here the influence of his partial education in aspects of Classical Archaeology – Ernst Buschor's course on 'Greek sculpture from Parmenides to Plotinus', the only archaeological course which Heidegger was known to have taken as an undergraduate – can be detected. Heidegger clearly thought that the *Dasein* of ancient (that is Archaic and Classical) Greece was, to a degree, recoverable. But it remains unclear whether this was a coherent, fully-worked out philosophical position or simply reflects a widespread German cultural assumption that there existed a special affinity between ancient Greece and nineteenth- and twentieth-century Germany. These issues need to be explored if the long-term viability of any kind of 'phenomenological' archaeology is to be properly assessed.

35. COMIC WORKSHOP
How can we give a voice to the archaeological record?
Hannah Sackett, hannahkatesackett.co.uk; and John Swogger, johngswogger.wordpress.com

Comics are increasingly being used to communicate academic research to a wider audience. In this two-hour workshop Hannah Sackett and John Swogger will provide a short introduction to comics and archaeology, before leading a workshop in which you can work o your own archaeological comic.

No drawing experience necessary!

The workshop will focus on creating scripts/ plans/ thumbnails for your comic.

Please bring along an image and basic information about an archaeological artefact you have studied/ excavated/ have an interest in.

SIGHTATIONS CONTRIBUTORS:

Sightations is generously sponsored by:

Sponsor's Display (Photos/Interactive Website/Poster), *Archaeovision*

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Dance of the Maize God (2014) (Film), *Royal Anthropological Institute*

Plinths generously provided by the *John Hansard Gallery*.
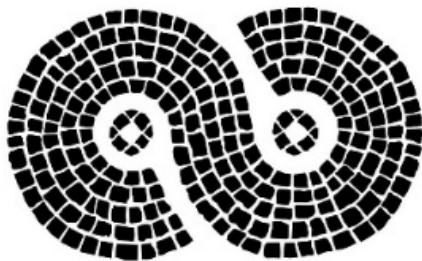
SERF Hillforts: Designing Digital Engagements (Open Platform), *Alice Watterson, University of Dundee*

Removing barriers: providing virtual access and interpretation for maritime heritage (Virtual Reality of 3D models), *Amanda Bowens, National Oceanography Centre/Chartered Institute for Archaeologists*

Chart of Invisibility / Lighting Up the Ridgeway / Field Map (Map/ Fibre-optic illuminated panel/Painting), *Amanda Wallwork*

Filming Antiquity (Video), *Amara Thornton, University College London*

Danebury Environs: the game (Board Game), *Andy Valdez-Tullett, Historic England*

Beachley-Aust / Book Burial (Video), *Angela Piccini, University of Bristol*

Message From Mungo (Feature Length Film – 90 min), *Anne McGrath, Australian National University, Australia*

Exploring comics and illustration in rock art outreach (Comics/Drawings), *Beatriz Comendador Rey, Universidade de Vigo, Spain*

La Chapelle-aux-Saint 1 (Charcoal and oil paint on paper), *Beth Linscott, University of Southampton*

Saving Mes Aynak (Feature length film – 60 min), *Brent Huffman, Northwestern University and Kartemquin Films, USA*

Minoan Time / Site Lines (Photographs), *Carlos Guarita, Falmouth Art School*

The Alchymical Garden of Sir Thomas Browne / Marbhna (Mixed Materials), *Carolyn Trant*

Ceramic Practice as an Archaeology of the Contemporary Past: the George Brown Series and the Setomonogatari Series (Sculptures), *Chris McHugh, Independent Artist and Researcher*

#slowironbridge (Digital Film and Social Media Installation), *Coralie Acheson, University of Birmingham*

Knee Shadow in a Flintknapper's Scatter / Handaxe in Glazed Porcelain (Canvas, acrylic paint, flint / Knapped Porcelain), *Cory Stade and Christian Hoggard, University of Southampton*

Plastic Earth (Sculpture), *Eloise Govier, University of Wales Trinity Saint David*

Layered Histories: Historic Environment. Frameworks for the Ebbsfleet Valley (Poster/Drawing), *Francis Wenban-Smith, University of Southampton*

Tempietto / Alphabet II (Sculptures), *Gary Breeze, Independent Artist*

Artasmedia CGI Showcase, *Grant Cox, Artasmedia/ University of Southampton*

Dublin Scarf (Textile), *Gwendoline Pepper, University of York*

Autumn in Alta (Comics), *Hannah Sackett, Bath SPA University*

Site over Time (Digitally Printed Cotton & Wadding), *Helen Marton, Falmouth University*

ten (3D print aluminium and polyethylene), *Ian Dawson, Winchester School of Arts*

Lives of Roman Hampshire (Youtube Series), *James Pride, University of Southampton*

Fenland and Ouse Washes Story Quilt (Textile), *Jane Frost*

Etruscan Horse / Laconian Horse 1 Laconian Horse 2 (Sculptures), *Jill Phillips, University of Southampton*

The Reliquary (Photos/Sculpture), *Jo Dacombe, University of Leicester*

Owestry Heritage Comics (Comics), *John Swogger, Freelance*

Archaeological Contra-Museum: creating site (Video/Ceramics), *José Marmol, Universidad Complutense de Madrid, Spain*

The First Mound / Understanding Silbury Hill (Collage/Watercolour), *Judith Dobie, Historic England*

Dogu-mime (Performing Art), *Ken Takahashi, Yokohama History Museum*

ÇH3D (Virtual Reality), *Laia Puiol, Universitat Pompeu Fabra*

An imaginary tour of Orkney to Elsewhere, and Elsewhere from Orkney (Stereoscope of Mixed Materials), *Lara Band, MOLA, CITiZAN; and David Webb, Independent Producer*

Sculptor's Cave (Video), *Lindsey Buster, University of Bradford*

Star-seal-woman tries to communicate with Teo-Piece Reclining Figure No. 3 (Video), *Louisa Minkin, Central Saint Martin, UAL*

Rockburn Details (Drawings), *Marjolijn Kok, Bureau Archeologie en Toekomst, Netherlands*

Grand designs in Ancient Greece (LEGO models), *Matthew Fitzjohn and Peta Bulmer, University of Liverpool*

Cottam Fields Forever / Memory and the Disused (Drawings/Maps), *Miranda Creswell, University of Oxford*

Time in an urban landscape: 8-10 Moorgate, in the city of London (Drawing), *MOLA*

Omeo (Digital Image), *Nicolas Bigourdan and Kevin Edwards, Maritime Archaeology Association of Western Australia/ WA Museum/ Tempus Archaeology, Australia*

A Record (Photograph), *Paul Murtagh, Northlight Heritage and Ardnamurchan Transitions Project*

(Im)material Old Minster (Winchester) (3D Print), *Paul Reilly, University of Southampton*

Operation Nightingale: Time Warriors & Operation Nightingale: Time Warriors – The Making Of (Video), *Rachel Brown, Operation Nightingale and Salisbury Arts Centre*

An Ode to Hiort (Video Game), *Richard Allen, Palaeo-Pi*

Stone Landscape (Framed Screen-print), *Rose Ferraby, University of Exeter*

The burial of the Archaeologist (Photographs), *Rui Gomes Coelho, Binghamton University, USA*

From Magma to the Stars (Photographs), *Sara Navarro, CIEBA, Centro de Investigação e de Estudos em Belas-Artes da Universidade de Lisboa, Portugal*

Yarmouth Roads: Hauntograph 1 / Yarmouth Roads: Hauntograph 2 (Digital Collage), *Sara Rich, Appalachian State University/Maritime Archaeology Trust*

Augmented Surface Study / Augmented Surface Study 2 (Video), *Stefan Gant, University of Northampton/ DRN Drawing Research Network*

Dropped: History in the Making (Video/Ceramics), *Syann van Niftrik*

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