

## Renewing the Research Framework for the Archaeology of Wales

### PALAEOLITHIC AND MESOLITHIC PERIODS

Collated by **Elizabeth A. Walker, Curator of Palaeolithic & Mesolithic Archaeology, Amgueddfa Cymru – National Museum Wales**

#### INTRODUCTION AND SUMMARY

The Palaeolithic and Mesolithic periods in Wales span almost 250,000 years from the first Neanderthals to the emergence of farming communities 6,000 years ago. Having such a broad time-span to cover the research agenda has a unique set of issues to address when compared with later periods. The climate and landscape have changed many times throughout this time and the destructive effects of the last ice sheet have resulted in the survival of only sporadic evidence for a human presence. The influences of environmental change; and the evolution of humans themselves have led to cultural changes through these periods.

#### **1) Relevant recent research undertaken in the last five years and how this relates to the original research questions.**

##### **Colonisation and recolonisation**

- *Pontnewydd Cave, Denbighshire* – Pontnewydd also represents the north-westernmost edge of the Neanderthal world. Studying the behaviour of organisms, including humans, near the limits of their range sheds light upon the nature of their adaptations and tolerances. In order to understand Neanderthal adaptations on a global scale, then it is necessary to look to marginal presence and to understand how humans occupied this far north-west, and whether this pattern is a 'true' limit to their abilities as colonisers, or a simply an archaeological/preservational pattern. By focussing on a number of sites on the archaeological margins (i.e. Pontnewydd) and near geographical (La Cotte de St. Brelade, Jersey) and climatic (Crayford) boundaries, these questions are being explored. Beccy Scott, British Museum for the Ancient Human Occupation of Britain Project.
- *Coygan Cave, Carmarthenshire* – A detailed re-evaluation of the faunal remains, their stratigraphy and targeted re-dating has led to a new interpretation and a detailed reassessment of this last Glacial faunal assemblage. Roger Jacobi, British Museum for the Ancient Human Occupation of Britain Project.
- *Paviland Cave, Gower* – The Early Upper Palaeolithic occupation of Wales has been extensively investigated in order to understand its timing and nature in Britain. 1 Key to this work has been the

re-dating of C14 samples using ultrafiltration techniques. This has included the re-dating of the Paviland burial to between 29–28,000 BP, making it the earliest Gravettian occupation of the British Isles, and perhaps reflecting the first of two phases of settlement, the latter being represented wider spread finds of tanged blades across Britain within a later interstadial event. Correlating these episodes of colonisation with climatic change allows human tolerances to be addressed during the early Upper Palaeolithic. Roger Jacobi, British Museum and Tom Higham, University of Oxford for the Ancient Human Occupation of Britain Project.

- *Kendrick's Cave, Llandudno and Cathole Cave, Gower* – the re-dating of humanly modified bone samples previously dated by C14, but now being re-dated using ultrafiltration techniques in order to determine their dating more accurately and aid the interpretation of human presence in Wales during the late Glacial period. Roger Jacobi, British Museum and Tom Higham, University of Oxford for the Ancient Human Occupation of Britain Project.
- *Paviland Cave, Gower, Hoyle's Mouth, Pembrokeshire and Ffynnon Beuno, Denbighshire* – Work on the lithic evidence for the British Aurignacian from these sites suggests two phases of occupation the first occurring during a significant phase of climatic amelioration. Rob Dinnis, University of Sheffield.
- Work by AHOB has incorporated evidence from Welsh cave sites into exploring questions of human colonisation, settlement and changing behaviour across north-west Europe. Wales' position as the north-westernmost edge of the European peninsula actually makes it central to understanding the palimpsest record of mainland Europe; because occupation is interrupted, we can actually start to tease patterns apart in way that we cannot where the record is overprinted by more continuous occupation. Beccy Scott, British Museum for the Ancient Human Occupation of Britain Project.
- *Goldcliff, Monmouthshire* – Post-excavation analysis of work on later Mesolithic settlement sites undertaken in the inter-tidal zone of the Severn Coastal communities. Martin Bell, University of Reading.

### **Settlement patterns and settlement histories**

- *Pontnewydd Cave, Denbighshire* post-excavation project has sought to determine the dating of the human presence at the site. Has looked at the distribution of artefacts at the site and has undertaken sedimentological, climatic and environmental history reconstruction. Prof. Stephen Aldhouse-Green; Elizabeth A. Walker, Amgueddfa

Cymru and Rick Peterson, University of Central Lancashire.

- *Pontnewydd Cave, Denbighshire* – A re-analysis of lithic material to assess the unusual technological character of the assemblage compared with most British sites of this date, containing as it does evidence for frequent handaxe manufacture. A key question has been whether this relates to particular local factors (raw material availability and technological choice) or a broader geographic pattern, whereby the western edge of north-west Europe (Normandy, Brittany, Wales) retains habitual handaxe manufacture, in contrast to the dominance of Levallois technology in the Thames Valley, north France and the low countries. Beccy Scott, British Museum and Becky Wragg-Sykes, University of Sheffield.
- *Cophill Farm, Howick, Chepstow* – Surface investigations through systematic fieldwalking of a lithic scatter of late and final Palaeolithic, Mesolithic and later Prehistoric date. There are very few open-air late Glacial sites known of in Wales, the current project aims to identify the distribution of this scatter before seeking to investigate it more thoroughly through small-scale excavation. Elizabeth A. Walker, Amgueddfa Cymru and Mark Lodwick, Portable Antiquities Scheme.
- *Caves of the South Gower Coast* – Small-scale test excavations were undertaken at a number of cave sites on the Gower peninsula during 2004 and 2008 to determine their potential for late Glacial and early Holocene archaeology – Rick Schulting, University of Oxford.
- *Paviland Cave, Gower, Hoyle's Mouth, Pembrokeshire and Ffynnon Beuno, Denbighshire* – Evidence from lithic analysis of Welsh artefacts from the Aurignacian indicates the same technologies are present in Wales as are found on continental Europe. Inferences can therefore be made between settlement patterns and subsistence practices – Rob Dinnis, University of Sheffield.
- *Foxhole Cave, Gower* – Excavations have identified the latest known Mesolithic human remains in Wales, dating to c. 5500 cal. BC. Rick Schulting, University of Oxford.
- *Goldcliff, Monmouthshire* – Post-excavation analysis of work on later Mesolithic settlement sites undertaken in the inter-tidal zone of the Severn Coastal communities. Martin Bell, University of Reading.
- *Abbey Road, Rhuddlan* – Cambrian Archaeological Projects work on a Mesolithic site at Rhuddlan.
- *Ynys Enlli, Gwynedd* – Survey <sup>3</sup> and excavation of Later

## Palaeolithic and Mesolithic

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Mesolithic lithic scatters and subsequent post-excavation analysis of the assemblage. Mark Edmonds, University of York, John G. Roberts, Snowdonia National Park, Emmett O’Keeffe and Graeme Warren, University College Dublin.

- *Menai Straits, Gwynedd* – Palaeo-environmental study of the sea-bed identifying early post-glacial peat horizons/land surfaces. Mike Roberts, School of Ocean Sciences, Bangor University.
- *Porth Ruffydd, Ynys Môn* – Later Mesolithic coastal scatter collections. John Hallam.
- *Shirenewton, Monmouthshire* – Later Mesolithic lithic scatter collection. Ian McFarlane, Chepstow Archaeological Society.
- *Glaslyn Estuary, Gwynedd* – New Mesolithic coastal scatters and shell middens. Gary Robinson, University of Bangor.
- *Prestatyn, Denbighshire* – A study of late Mesolithic and early Neolithic shell middens and their environment. M. Armour-Chelu, W.J. Britnell and others.
- *Esso Terminal at South Hook, Milford Haven, Pembrokeshire* – Developer funded excavation of an early Medieval site that also generated a lithic assemblage of later Mesolithic and early Neolithic date. Dyfed Archaeology Trust and Elizabeth A. Walker, Amgueddfa Cymru.
- *A40 Robeston Wathen, Pembrokeshire by-pass site* – A lithic scatter site of later Mesolithic and early Neolithic date. Dyfed Archaeology Trust and Elizabeth A. Walker, Amgueddfa Cymru.

### **Social organisation and belief systems**

- *Coygan Cave, Carmarthenshire* – The handaxes from Coygan have been incorporated into a detailed study of Neanderthal technology. Doctoral research by Becky Wragg-Sykes (University of Sheffield).
- *Paviland Cave, Gower* – The Early Upper Palaeolithic occupation of Wales has been extensively investigated in order to understand its timing and nature in Britain. Key to this work has been the re-dating of C14 samples using ultrafiltration techniques. This has included the re-dating of the Paviland burial to between 29–28,000 BP, making it the earliest Gravettian occupation of the British Isles, and perhaps reflecting the first of two phases of settlement, the latter being represented wider spread finds of tanged blades across Britain within a later interstadial event. Correlating these episodes of

colonisation with climatic change allows human tolerances to be addressed during the early Upper Palaeolithic. Roger Jacobi, British Museum and Tom Higham, University of Oxford for the Ancient Human Occupation of Britain Project.

- *Paviland Cave, Gower* – A new study of the British Aurignacian has involved new interpretations and study of lithic artefacts from Paviland Cave and other Welsh sites. This has led to the identification of links between Wales, England and Belgium. Doctoral research by Rob Dinnis, University of Sheffield.

## **2) Research Questions for the next Five Years**

### ***Themes***

#### *Colonisation and recolonisation*

- What was the geographical extent of the human presence in Wales at specific times during the Palaeolithic?
- Do relationships exist between the bio-stratigraphic evidence and that of human occupation?
  - The pattern of human presence and absence across Wales at specific times is a theme capable of further elucidation. An increased understanding is required of not only when absences occurred, but also why they took place.

#### *Settlement patterns and settlement histories*

- How extensive is the survival of deposits containing both archaeological and environmental evidence for these periods?
- When were people present at sites in Wales and how were sites used?
- Are there undiscovered Upper Palaeolithic open-air sites in Wales?
- Can Mesolithic sites be better related to the environmental record preserved in the coastal zone?
- How extensively were upland zones and open-air locations occupied during the Mesolithic?
- What were the relationships between sites, and over what area can we identify these?
  - Settlement distribution across Wales apparently shows biases at certain periods, for example mainly in caves in the Palaeolithic, and along the Pembrokeshire coast in the later Mesolithic. These distribution patterns and the gaps and interrelationships between sites need further elucidation. An improved chronology needs to be developed to underpin such studies.
  - Predictive modelling should be applied in Wales to investigate the potential presence of sites in a range of different environments, such as offshore/inter-tidal and alluvial/colluvial areas.

- Predictive modelling is required to locate material from capture points other than caves. Work needs to be done to map offshore deposits and to undertake bathymetry.
- A systematic attempt should be made to check the gravels of the lowest reaches of the Rivers Usk, Wye and Severn for evidence of human presence.

#### *Social organisation, action and belief systems*

- What is the social significance and patterning of sites?
- Can social systems and social territories be elucidated at the regional, national and international scale?
- Is there art in any of the Welsh caves?
- What happened to the bodies of early Mesolithic people after death?
- What raw materials were used in Wales at specific times?
- Can any patterns or trends be identified in their use that might indicate preferences for certain sources of raw materials at specific times?
  - Social organisation and the potential interactions between people at sites across the country are largely unexplored in Wales.
  - Patterns of raw material exploitation during the period need examining, and modern approaches to lithic assemblages need adopting to elucidate these aspects further.
  - Belief systems need full study, since we currently know of no Upper Palaeolithic cave art and little about early Mesolithic burial sites in Wales.

#### *Raw Materials*

- Where do the raw materials (particularly for lithics) occur naturally in Wales?
- What processes might concentrate particular materials at specific locations?
- Was heat treatment of flint in Mesolithic times more common than we have previously thought? What are the core characteristics that determine the level of heating used and how can these best be identified?
- Application of science-based e.g. thin sectioning of raw materials needs to be undertaken on a national scale.

#### *Applying new technologies and new techniques*

- It is essential to identify the chronologies, cultural relationships and human behaviours of the occupants of Wales during stages of the Early Upper Palaeolithic and seek comparisons with evidence from elsewhere in Britain and Europe.
- What changes were there in human diet throughout the Mesolithic and what were their causes?

- Isotopic analysis, need to be applied in order to investigate the question of spatial and temporal variation in diet.
- How far were people moving during lifetimes at different times in these periods?
- Can population relationships and dynamics be elucidated for specific times during the Palaeolithic and Mesolithic?
  - Techniques such as strontium, lead and oxygen isotope analyses need to be applied to investigate mobility.
  - aDNA studies need applying to enable a better understanding of population relationships and dynamics.
- There need to be more scientific interdisciplinary research projects e.g. marine science, geomorphology and climate in Wales.
- By applying Geographical Information Systems (GIS) to map sites and areas of specific geographic features can new capture points be identified; e.g. fissures and dolines in karstic areas where humans are likely to be active and investigate whether they are present.
- By increasing use of GIS can gaps in current geographical distributions be identified? If so these specific landscape types need to be focused upon.

### ***Priorities***

#### *Colonisation and recolonisation*

The pattern of human presence and absence across Wales at specific times is a theme that requires further elucidation. An increased understanding is required of not only when absences occurred, but also why they took place.

#### *Settlement patterns and settlement histories*

Settlement distribution across Wales apparently shows biases at certain periods, for example in caves in the Palaeolithic, and along the Pembrokeshire coast in the later Mesolithic. These distribution patterns and the gaps and interrelationships between sites need further elucidation. An improved chronology is needed to underpin such studies. What is the nature of the settlements now submerged in river and sea beds? Modelling of such areas with high potential is required and subsequent research targeted accordingly.

#### *Social organisation, action and belief systems*

Social organisation and the potential interactions between people at sites across the country are largely unexplored in Wales. Patterns of raw material exploitation during the period need examining, and modern approaches to lithic assemblages must be adopted to elucidate these aspects further. Belief systems need full study, since we currently know of no Upper Palaeolithic cave art and little about early Mesolithic burial sites in Wales.

### *Raw materials*

There has been little work undertaken within Wales that enables the understanding of where raw materials, particularly lithics occur in the natural world and what processes may have concentrated these at specific localities. Further research into material sources and the resources and their natural properties is required to better understand how and why specific materials were used at specific times.

### *Applying new technologies and new techniques*

Work has commenced to use and to apply new technologies to refine and reinforce other aspects of this research agenda. By undertaking well targeted dating programmes it should be possible to refine what we know about patterns of human presence/absence during these periods. It is also essential to commence the application of other scientific techniques routinely to broaden our understanding of people's lives at these times. Methods such as Geographic Information Systems should be applied to map sites and used to target specific landscape types.

The need to locate the Research Agenda for Wales within wider British and European contexts continues to be very appropriate. It is essential that Wales should be seen to be a part of the broader European picture, and thus the importance of linking it to national and international research agendas is essential.

Research should also reflect the uniqueness of the Welsh record, especially during the Upper Palaeolithic. For this record is interrupted by environmental change and especially ice advance. Thus it is possible to delimit different episodes of colonisation and from this to reconstruct the limits of human survivorship in ways that you can't in mainland Europe.

### **This document has been prepared from contributions submitted by:**

Louise Austin, Dyfed Archaeology

Dr Ian Brooks, Engineering Archaeological Services Ltd, Blaenau Ffestiniog

Steve Burrow, Amgueddfa Cymru – National Museum Wales

Astrid Caseldine, University of Wales Trinity St David

Dr Andrew David, English Heritage

Dr Rob Dinnis, University of Sheffield

Laura Higgins, Bangor University

Gwilym Hughes, Cadw

Andrew Marvell, Glamorgan-Gwent Archaeological Trust

Ken Murphy, Dyfed Archaeological Trust

Hannah Phillips, Bangor University



Rosemary Roberts, Bangor University  
Dr Rick Schulting, University of Oxford  
Dr Beccy Scott, British Museum (Ancient Human Occupation of Britain  
Research Project)  
George Smith, Gwynedd Archaeological Trust  
Spencer Smith, Royal Commission on the Ancient and Historical  
Monuments of Wales  
Jeff Spencer, Clwyd Powys Archaeological Trust  
Mark Ward, Land and Marine  
Jo Williams, Bangor University  
Matthew Williams, L–P Archaeology