

# UNRAVELLING

# THE PALAEOOLITHIC

## Unravelling the Palaeolithic Poster Abstracts



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# Poster abstracts

## **Neanderthal Cultures in Britain and Doggerland: a computational investigation into selected Middle Palaeolithic assemblages.**

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When investigating hominin behaviour, it is often the case that lithic tools – such as points, flakes, and handaxes – are the only form of long-lasting evidence through which we may illuminate the deep past. Recently, cultural behaviours have been detected in Neanderthal lithic tools which seem to suggest unique regional characteristics, though such studies are still in their infancy. The study presented in this poster aims to build upon these.

A selection of four Middle Palaeolithic assemblages (two of which had a possible shared offshore provenance) were analysed in RStudio using 2D Geometric Morphometrics (GMM). The individual results pointed to bi-modal grouping within assemblages, while integrated results suggested the presence of stylistic hierarchies at three different scales of analysis. Cultural theory was used to explore the observed phenomena: a case is made for handaxes as symbolic materials through which group identity or belonging were communicated, potentially helping in the maintenance of Neanderthal population dynamics.

## **An analysis of the geographical pattern and distribution of Neanderthal and Anatomically Modern Human archaeological sites using the QGIS mapping software to improve our understanding of the migration and settlement patterns across Doggerland and Northern Europe during the Middle and Upper Palaeolithic.**

Sophie Firth

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A research project conducted for a 2022 Master Dissertation analysed the geographical distribution of *Homo neanderthalensis* (Neanderthals) and *Homo sapiens* (Anatomically Modern Humans or AMH) archaeological material from Northern Europe and Doggerland. The primary aim was to further understand the migration and settlement patterns of these two species during the Middle and Upper Palaeolithic. A database was compiled of the archaeological sites of Neanderthals and AMH in Northern Europe and the North Sea, which was imported into the QGIS software package for analysis.

A comparative map analysis was conducted by comparing the location of Neanderthal and AMH archaeological sites with river systems, elevations, ancient coastlines, geographical reconstructions of Doggerland, and faunal assemblages of Northern Europe during the Middle and Upper Palaeolithic. The results of the research project revealed a total of 67% of Neanderthal sites and 58% of AMHs sites were within 20km of river systems, 92% of Middle Palaeolithic Neanderthal sites were located within 200km of the English Channel and there was an absence of sites at elevations above 100m above sea level. The result also showed correlations between the location of Neanderthal and AMH archaeological sites with coastlines, changes in the climate, and ice sheets. However, the available data were sparse for AMH compared to Neanderthals, and only general assumptions were able to be concluded for AMH migration and settlement patterns. In conclusion, the fluctuating climate and landscape of Doggerland and having access to resources, such as rivers, had affected the migration and settlement patterns of Neanderthals and AMH during the Middle and Upper Palaeolithic.

## **Understanding the Mesolithic hunter-gatherers of the Upper Kennet Valley**

**Abigail George**

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This is an introduction to a new research project which engages with the archaeology of the Mesolithic hunter-gatherer communities in the British Isles.

Its focus is on the Upper Kennet Valley of Berkshire-Wiltshire, an area more famous for its later prehistoric archaeology, but one that likely contains important evidence of earlier Mesolithic communities.

The Upper Kennet Valley lies at an interesting geographical point, with proximity to the Thames, Hampshire Avon and Bristol Avon rivers it has possible routeways to the east, west and south coasts and includes the well-known Mesolithic site at Cherhill and the Avebury World Heritage Site.

Although there is extensive evidence for Mesolithic occupation in the Lower Kennet Valley, data for the Upper Kennet Valley is currently sparse and fragmented. The key issue is whether this reflects past practices, and if so why, or whether it results from a lack of archaeological investigation.

The research area covers up to 10km around the river Kennet from its source near Avebury, to Hungerford.

By reassessing existing data and collections and undertaking new fieldwork, this research hopes to answer some of the questions around the nature of the Mesolithic land use and connections between the Upper Kennet Valley and other sites.

Initial test pitting at Cherhill in November 2022, close to a previous excavation undertaken in the 1960s, has revealed promising results and suggests that there is scope for further work in the future.

Starting in 2022 as a part-time PhD, the research will conclude in 2028.

## **Standardisation or diversity? New data on the Epigravettian core reduction strategy from the Sowin, Poland**

**Adam Kobyłka, Michał Łapa and Andrzej Wiśniewski**

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The lithic technology of the population associated with the postglacial Epigravettian culture from the Central European Lowlands is fragmentary recognised. This is because previous works have focused on a general description of selected products. Our work aims to present a model of the Epigravettian core reduction. We are trying to answer whether production was highly standardized or diversified.

We based on the assemblage from site Sowin 7, Opole Province, SW Poland, obtained during systematic excavations. The occupation is dated with optimal luminescence technique (OSL) to about 16,000 years BP. The lithics are represented mainly by specimens made of local erratic flint of high quality.

We used 3d photogrammetric models of cores, products, and blocks during the study. We performed basic measurements and geometric-morphometric analyses using open-source software.

We found that the morphological and volumetric differentiation of the cores was very high. Larger blocks allowed artisans to extend the reduction and use the full spectrum of core preparation. Analysis of the refitted blocks indicates that flaking surfaces sometimes required the installation of a longitudinal convexity. Despite the recorded differences in core treatment, we observed metric and morphological similarities among the products.

## European Early UP Band Interaction Drivers and Frequencies

Kirk Mayer

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Band interactions during the early Upper Palaeolithic remain opaque in terms of the drivers for interactions, their frequency and how they were achieved given the mobile band lifestyle believed to have been adopted, compounded by the environmental challenges and low population density at the time. Candidate interaction drivers are identified together with of their interaction frequencies. The analysis is based on the European early Upper Palaeolithic, taking as its basis that humans lived for the most part in small bands of about twenty five people, adopting a mobile hunter gatherer lifestyle and relating with other bands as part of regional groups. The choice of Europe as the region of interest is dominated by the fact that it has a high level of available demographic and environmental information and analysis compared to other regions.

Potential drivers for band interactions are identified. These are grouped by similarity to form five driver categories, which are then assessed against archaeological, behavioural and ethnographic evidence. All five categories are found to be supported as drivers for interaction, although to differing degrees. The overall framework of interaction supports an assumption of co-operation between bands, and challenges whether band size might have been larger and band separation distances lower than currently assumed.

## The Impact of Sea Level Rise on Mesolithic Communities in North-Western Europe

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Although a number of studies has approached the issue of human responses to sea-level rise from a theoretical point of view, not as much attention has been given to it as it has for other topics in the field of Submerged Prehistory. Nevertheless, understanding how prehistoric communities were impacted by sea-level rise is particularly relevant for certain periods and areas: this is the case of Mesolithic North-Western Europe, where a considerable amount of land was lost to Holocene rising sea-levels – and thus, many people would have been affected by this phenomenon. Therefore, this poster aims at exploring to which extent, based on the available evidence, it is possible to assess Mesolithic people's responses to sea-level rise in North-Western Europe. The results obtained here are a product of the evaluation of a list of nineteen potentially significant submerged archaeological sites, based on the availability of stratigraphic information, radiocarbon dates, and

paleoenvironmental data. This is because it is fundamental to have sites in which the temporal sequence of human activity is understood in correlation with changes in the landscape. Based on the evidence presented here, it will be argued against narratives of disaster, since Mesolithic communities were perfectly able to adapt economically to the changing circumstances. Besides, themes often cited in theoretical approaches to the topic will also be discussed, demonstrating that, while there is evidence for an increase in mobility and connectivity, this lacks for ritual responses to the rise in sea level.

## **Here or not here? Early hominin occupation in the Middle Thames prior to 500,000ka**

**Kathryn Price**

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It is well established that to date, the earliest occupants of Britain are at the coastal sites of Pakefield (MIS 17 - 19) and Happisburgh 3 (MIS 21 – 25). Questions and implications arise from these coastal occupations - were these earliest hominins reliant on milder climates and wider availability of food resources found at the coast or did they also exploit inland habitats? If so, were inland occupations associated with different types of technologies and/or foraging strategies?

This poster presents the results of the first fieldwork season at three sites in the Middle Thames which is contributing to exploring these questions of inland cultural adaptations prior to 500ka, with an emphasis on lithic technology. The key emphasis was on demonstrating hominin presence (or not) through artefacts and establishing the sites' chronology and palaeo-landscape characteristics. Lithostratigraphic logs were taken of the exposed sections accompanied by clast lithology and particle size samples to characterise the river landscapes and samples for ESR dating. Gravel was sieved for artefacts to demonstrate hominin presence.

Initial results include artefact evidence for hominin presence. Variations in two of the river terraces (e.g. fluctuating contact heights with bedrock), combined with a scarcity of these older gravel deposits, highlight the challenges of correlating terrace deposits in this period.

Next steps include assessing the condition of the artefacts: contemporary human activity or eroded from older deposits? The new fieldwork records will be combined with existing data to re-map the terrace deposits, and fieldwork conducted in the remaining three terraces.

## **Flavours of the Mesolithic**

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It is well recognised that plant foods were an integral part in early hunter gather diet; the archaeological record evidences key staple foods such as nuts, tubers, grains, and fruit. What is less understood is the role that plants played in flavouring food. Taste, and the sensory aspect of consumption, is fundamental to the experience of eating in present day societies, shaping cuisine and culture. However, the origins of flavour, and whether this is – and was – relevant in hunter-gatherer societies, is little known.

This research presents a review of the archaeobotanical evidence of plant species reported for Mesolithic archaeological sites across north-western Europe, to evaluate whether plants typically recognised for their flavour qualities, rather than nutritional value, were used. The results indicate that macrobotanical remains of flavour-adding plant species are present, supporting work on microscopic plant remains from Palaeolithic and Mesolithic contexts that directly imply food preparation and consumption using flavoursome additives (Kabukcu et al 2022; Saul et al 2013).

It is argued that flavour was an important consideration in food preparation by hunter-gatherer societies in the past. This is substantiated by ethnographic research from recent and contemporary hunter-gatherers, with distinct regional preferences for flavour. Furthermore, it is suggested that flavour influenced the shaping of socio-cultural identity, particularly around the transition to agriculture. Overall, it is clear that archaeobotanical traces can shine a light on not only the main plant components of hunter-gatherer diets, but also details that turn food into meals.

## **The Chalk Influence: Riverine settlement and mobility in the Wessex Basin at the Pleistocene-Holocene transition**

**Colin Weighell**

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It is widely recognised that the rivers of northwest Europe played a key role in structuring human settlement and mobility patterns in this region during the Late Glacial and early Holocene. However, the specific physical, ecological and aesthetic characteristics of particular river systems are seldom taken into consideration.

Rivers fed primarily by the chalk aquifer have a number of qualities that set them apart from rivers fed primarily by surface runoff. Their distinctive hydrochemistry and flow regimes result in chalk river systems being typically made up of relatively few streams of exceptionally clear, nutrient-rich water. These rivers are not only renowned for their capacity to support particularly rich biological communities, but also for their stability in temperature and flow throughout the seasons.

Drawing on the results of a recent study of the Late Upper Palaeolithic and Mesolithic archaeology of the Wessex Basin in relation to chalk rivers, this poster explores the possibility that these productive and resilient riverine environments proved to be particularly attractive for human occupation during the Pleistocene-Holocene transition. Although preliminary, the results provide evidence to suggest that areas close to chalk rivers may have been favoured locations for human settlement in the region, and are discussed with reference to the combined processes of niche construction and landscape enculturation.