‘Human Origins’ Study Day

Explaining Change and Innovation in Human Evolution

Saturday 14 December, 10.00-16.00, Building 65 Avenue Campus

10.00-10.10 Coffee

10.10-10.15 Welcome

10.15–11.00 Dr William Davies: Networks and novelties: how to recognise innovations in the Old Stone Age (Palaeolithic).

Much of what we take for granted today has immense antiquity: music, language, art, control of energy, social networks, complex food-processing, treatment of the dead, ceramics, and apparent evidence for the division of labour. Because these ancestors obtained their food from wild resources, these innovations have tended to be forgotten, or downplayed. Yet these key innovations allowed our distant ancestors to create their own fascinating social worlds, allowing them to survive and thrive in a variety of often extreme climates and environments. This talk will introduce the concept of innovations and their possible means of transmission in the Palaeolithic. We are dealing with social worlds built on relationships between individuals and groups, and the networks those relationships created across landscapes. Places in the Old Stone Age were not created with architectural features (such as walls or houses), and archaeologists instead have to concentrate on how space was used, and what activities happened where and when. We shall look in more detail at the use of music, personal adornment and burial practices and ancient climates and environments in order to explore these themes.

11.00–11.45 Dr John McNabb: Skulls, stones and science: how we reconstruct human evolution.

This talk will use examples from the collections of the Centre for the Archaeology of Human Origins (artefacts and casts of fossil material) to explore how we reconstruct human evolution. What behaviours happened when, and why? Chipping of stone to produce tools of varying shape and sharpness is unique to the human evolutionary line; no other (wild) primate has mastered this technique. This technological innovation sparked additional changes, including the control of energy (e.g. fire), and we shall explore their impact on the development of our ancestors. These changes can be explored against the background of increasing brain sizes seen in human evolution: what caused such increases?

11.45–12.00 Coffee

12.00–12.45 Dr James Cole: Imagination and Identity in the Palaeolithic: Accessing hominin cognition through material culture.

Accessing the thoughts and behaviours of our direct ancestors (“hominins”) is a primary concern in understanding the evolution of our species and our seemingly unique behavioural complexity. Archaeologists are left with a limited material culture resource in which to try and make sense of these past behaviours, and use all lines of evidence to gain an insight into the hominin minds of the past. Standardisation in Palaeolithic tool manufacture has long been seen to indicate a sense of cultural affinity and a relatively high degree of cognitive complexity within Ice Age hominins. We shall explore how archaeologists can recognise when past hominins had the cognitive ability to use material culture for managing their social interactions and sending messages about themselves to others - something we do on a daily basis through the clothes we wear, or the use of our phones to

tweet. Identifying the point in the past when objects became more than just functional tools to butcher a carcass, but became objects of the imagination in terms of social signalling, is very important, not only regarding our ancestor's responses to their material culture, but also their interactions with their wider landscapes and changing environments during the Ice Age.

12.45–13.45 Lunch

13.45–14.30 Dr Rebecca Farbstein: Firing up art in the Ice Age: the repeated invention of Old Stone Age ceramic technologies for artistic purposes.

Archaeologists often focus their research on discovering, dating, and explaining the earliest expressions of a new technology: the oldest bone and stone tools, or the first figurative art, to name just a few examples. This obsession with identifying "origins" may reflect a common functional assumption of our world today: that the benefits of inventing a new technology are self-evident, ensuring that people will rush to adopt and keep such innovations. This assumption has led archaeologists to overlook the impact of non-permanent or intermittently-used innovations. We shall explore one such ephemeral innovation that has been largely overlooked: Palaeolithic ceramics. We tend to associate the origins of ceramics with pottery vessels made by sedentary, agricultural communities (from about 10,000 years ago). However, we have recently discovered that ceramic technology was actually invented long before this period, and extensively used by nomadic hunter-gatherers for almost 30,000 years before the first farmers. While pottery vessels are now known to be up to 20,000 years old, the first ceramics were actually artistic and symbolic, rather than functional. Tens of thousands of ceramic figurines (of humans and animals) and fragments survive from different times and regions of Eurasia and North Africa, dated between 40,000 and 10,000 years ago, allowing us to reveal the different ways in which people used clay to create art.

14.30–14.45 Tea/coffee

14.45–15.30 Dr Alistair Pike: Did Neanderthals paint? The earliest cave art and the origins of human symbolic behaviour.

Cave paintings are one of the most intimate windows into the Palaeolithic mind and are important in understanding the origins and development of human symbolic behaviour. However, despite more than a century of study, their chronology is poorly understood. Here we take a critical view of the various dating methods that have been used to attempt to date cave paintings and examine the result from the application of the latest large scale dating programming using uranium series dating. The results from this programme show that cave painting dates back to at least the arrival of the first modern humans (our own species) to Europe. If cave painting first appears with, or shortly after the arrival of the first modern humans, then it forms part of a suite of new cultural manifestations (e.g. musical instruments, figurative sculpture) that appear earlier in Europe than anywhere else. But then why do these appear first in Europe and not in Africa, where the use of ochre and perforated shells date back to at least 70,000 years?

If the tradition of painting caves is older than 42,000 years ago, then it raises the interesting possibility that it was made by Neanderthals. We shall explore how this possibility would fit with other evidence for Neanderthal symbolic behaviour.

15.30–16.00 Questions & Discussions