

Crossing the Human Threshold. Dynamic Transformation and Persistent Places During the Middle Pleistocene

Matt Pope, John McNabb, and Clive Gamble (editors)

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This is the first volume in a new series edited by Clive Gamble, Emeritus Professor in the Centre for the Archaeology of Human Origins, University of Southampton. The series will explore deep human history, setting up frameworks for ideas and controversies in interpretation of the archaeological record. The present book examines the Middle Pleistocene from 130,000–800,000 years ago from a global perspective. Using the archaeological record with a landscape approach, the authors conclude that humanity emerges (or crosses the human threshold) slowly and independently in a number of Old World localities. Furthermore, the authors conclude that this human emergence was not confined to a single hominin lineage, but a number of lineages in different areas of the Old World.

Papers in this book were first presented during an April 2016 workshop at the Jersey Museum, St Helier, UK. The workshop was the outcome of a three year project devoted to re-examining the archaeological data from the cave site of La Cotte de St. Brelade. Some of the authors, as Cambridge undergraduates, had excavated at La Cotte under the direction of Professor Charles McBurney during the 1960s and 1970s, and they were delighted to examine renewed fieldwork in Jersey. In conjunction with the workshop, an international exhibition—Jersey: Ice Age Island—was mounted by museum curators from Jersey Heritage.

The focus of the book is changes in landscape use and innovation in hunting strategies, tool use, and the control of fire in cave sites in the Levant, South Africa, Europe, and Asia. Some open air sites in northern France and England also demonstrate human persistence in the use of certain landscapes. Chapters are arranged in three sections. The first section presents a theoretical framework for interpretation; the second section concentrates on sites in western Europe and the Levant; and the third section expands the discussion into Africa and Eurasia.

Gamble makes the case that the Middle Pleistocene exhibits thresholds in human advances that are equivalent to those revealed in the Upper Pleistocene. These thresholds involved innovations in landscape use and stone tools. However, no single cause (e.g., language, cooking) generated these thresholds, and the threshold crossings were gradual and not rapid. Gamble argues that persistent places emerge for the first time during the Middle Pleistocene, and they figure in the organization of the hominin niche. A persistent place is defined as an area that is occupied through at least one glacial-interglacial period, dem-

onstrating that humans can successfully occupy the area in spite of great climatic disruption. The occupation does not need to be continual, but it does need to be repetitive. These persistent places become part of a settlement landscape, where important resources are located. For the first time in hominin evolution, social interaction, revolving around these places, does not require face-to-face proximity, as is the case for non-human primates. Sociality can take place outside the limits of individual vision and hearing. The editors realized the importance of persistent places when re-analyzing the archaeological data from La Cotte de St. Brelade. Similar rich data are available from cave sites in the Middle Pleistocene in the Levant, western Europe, South Africa, and China, but rich open air sites also exist. The previous generation of researchers used terms like “home base” and “site catchment,” but users of the persistent places and landscape model are aware of taphonomic biases unrecognized by earlier researchers.

Pope examines how the routine occupation of cave locales (including rock shelters and fissures) structured human behavior. Single cave sites also contain deeper and well-dated records (including important cultural sequences) than open air sites. The appearance of persistent cave sites is a threshold in hominin behavior, and illustrates active niche construction by hominins. Pope also attempts to model the lag-time between when a behavioral threshold is crossed and its appearance in the archaeological record. Kuhn et al. amplify the notion of niche construction at Levantine cave sites, using the appearance of domesticity and homes in the Middle Pleistocene to argue for a uniquely hominin-like type of land use, or, at least, such sites are incubators of behaviors that appear at campsites made by later hunter-gatherers. Barkai et al. focus specifically on the record of Qesem Cave in Israel—a “land of flint and fallow deer.” They contend that the site, which, so far, records 200,000 years of occupation, was carefully selected, because of hunting opportunities for prime age fallow deer and flint resources. Bone was used to re-touch stone tools, and hominin activities were spatially organized around a central hearth.

Stiner presents the clearest explication of how hearth and home-making in the Middle Pleistocene Levant contribute to the origins of family life. Prey choice, carcass transport, carcass butchering, and control of fire demonstrate the emergence of hearth-centered sites where people permanently resided. These sites therefore are the genera-

tors of domestic life, a novel type of behavior not seen in non-human primates. These sites consequently illustrate a unique hominin phenomenon—self-construction of a different type of behavioral niche. Skilled and unskilled butchery and social feeding occur around distinct hearths, possibly indicating domesticity.

Ravon argues for the presence of a main base camp at Menez-Dregan I in Middle Pleistocene Brittany, with several smaller sites in the region. Because flint is only available in small nodules, sandstone, quartzite, and other lithic raw materials are used for manufacturing stone tools. Scott and Shaw examine La Cotte de St. Brelade, which was occupied from 240,000 years ago to just after 40,000 years ago. They concentrate on the material record of certain tasks performed by Neanderthals during the late Middle Pleistocene under changing climatic regimes and sea transgression/regression. When sea levels were low, Neanderthals routinely exploit flint cobbles in beach gravel. The original source of the flint was located over 15km to the north of the site. Local stone was almost never used. The occupation of La Cotte therefore necessitated that flint be transported and tools curated. Flint was carefully used. Cores were heavily reduced, and *débitage* is under-represented. Retouch is very heavy, and flake edges are re-sharpened in a finely controlled fashion. Taken together with animal bones and hearths, these stone tools ultimately reveal Neanderthal “landscapes of mind.” Ashton examines British sites during MIS 11. Britain was a *cul de sac* for human populations that possessed an “Acheulean package.” Environmental changes affect humans at this early point in time, so persistence and a stable cultural signal do not occur.

White and Bridgeland examine British sites during MIS 9. Three stone tool industries are present: Clactonian (Mode 1), Acheulean, and an early Levalloisian. The authors interpret the advent of the Acheulean as a population incursion; the advent of the Levalloisian was the result of *in situ* evolution. Schreve discusses Neanderthal environments in northwestern Europe from the late MIS 7 on. Neanderthals seemed to have preferred and prospered in open, dry grasslands with high biomass. Schreve then speculates that Neanderthals had mobility and a flexible social structure, and were proficient in stalking prey and ambush hunting. Locht et al. discuss the Middle Paleolithic in northwestern France, and argue that, because of the lack of exotic raw materials, the diameter of hominin territories was no more than 80–100kms.

Wadley summarizes the Middle Stone Age of South Africa, and argues that considerable complex cognition is visible in the archaeological record. She focuses particularly

on the sites of Rose Cottage and Sibudu, which occur in very different environments. There is some technological overlap, so technology is not completely dependent on environment. Wadley argues that a number of ordinary, everyday tasks illustrate cognitive advancement—the use of insecticidal plants in bedding, the construction of snares, heat treatment of stone and ochre, and the use of ochre. Ochre, in particular, is used extensively in bodily ornamentation and ritual, but also has technological uses as an adhesive to haft stone points, in the preparation of animal hides, and as sunscreen. Replication experiments on compound adhesives using ochre demonstrate that a degree of cognitive complexity is necessary to create a useful adhesive.

Gowlett et al. argue that eruptions of the Kilombe volcano in Central Kenya, which rivals Vesuvius in size, affected the landscape and climate to a significant extent. Other nearby volcanic centers also were active, so that eruptions continued through the last 2.4 million years. After the Kilombe volcano itself had gone extinct, a major eruption occurred 480,000 years ago. Gowlett et al. speculate that this eruption may have affected the divergence of the Neanderthals, Denisovans, and modern humans. Although they concede that there is no way to prove this, they point to the increase in fossil hominin brain size at 500,000 years ago as a possible result of environmental disruption. In any case, volcanic events provide global time lines for morphological and archaeological change. Dennell concentrates on Eurasia during the late Middle Pleistocene. He lists eight signs of a Middle Pleistocene hominin behavioral revolution: brain size increase, Levallois technology, composite tools, increasing use of fire, focus on prime-age prey, the use of wooden spears, increasing use of caves, and possible language evolution, and larger group size. He comments that the Levallois technology, focus on prime-age prey, and the use of wooden spears are not found in China and Java, and wonders whether Movius’s Line is a reality. However, he notes that cave sites are rare in Central Asia, North China, and Java, and concludes that differences in the archaeological record may be caused by this factor alone.

In summary, the authors of this book argue that a major hominin behavioral revolution occurred in the Middle Pleistocene on a global scale. Some evidence is irrefutable; other evidence is debatable. Brain size increase and advances in stone tool technology are not questionable, but arguments about sociality are not obvious. Social complexity that could be labeled “family life” or “domesticity” probably arrive during Neanderthal times, but evidence for such social complexity remains dubious at earlier time ranges.