SETTLEMENT, SOCIETY AND COGNITION IN HUMAN EVOLUTION

This volume provides a landscape narrative of early hominin evolution, linking conventional material and geographic aspects of the early archaeological record with wider and more elusive social, cognitive and symbolic landscapes. It seeks to move beyond a limiting notion of early hominin culture and behaviour as dictated solely by the environment to present the early hominin world as the outcome of a dynamic dialogue between the physical environment and its perception and habitation by active agents. This international group of contributors presents theoretically informed yet empirically based perspectives on hominin and human landscapes.

Fiona Coward is Lecturer in Archaeological Science at Bournemouth University. Her research has been published in a variety of journals including *Science*, the *Journal of Archaeological Science* and the *Cambridge Archaeological Journal*, as well as in several edited volumes including *The Cognitive Life of Things* (2010) and *The Sapient Mind* (2009). She has been associate editor for archaeology for the *Journal of the Royal Anthropological Institute* since September 2013.

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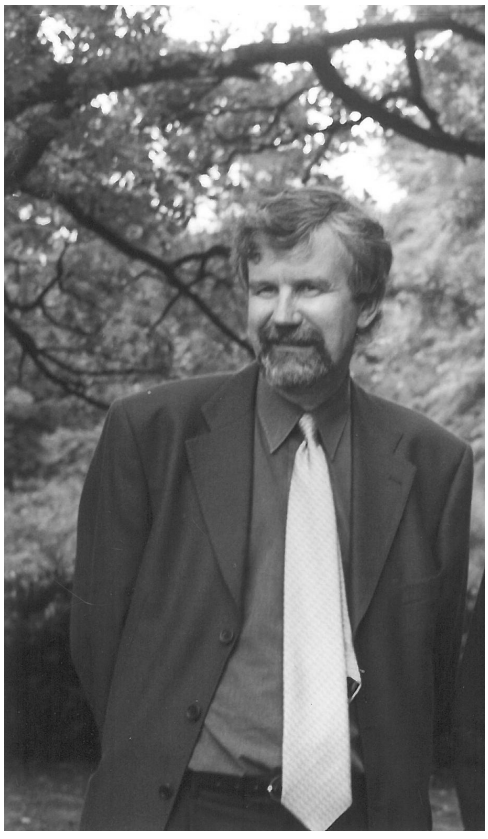

Professor Clive Gamble: Trustee of the British Museum; Fellow of the British Academy; Fellow and former Vice President of the Society of Antiquaries; Fellow and former President of the Royal Anthropological Institute, and supervisor of more than 30 PhD students, many of whom are now Professors, Associate Professors, Senior Lecturers, Lecturers and Researchers of all levels across the UK and internationally.

SETTLEMENT, SOCIETY AND COGNITION IN HUMAN EVOLUTION

Landscapes in mind

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PORR, M.

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SINCLAIR, A.

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Uppsala in 2003, for stimulating some of my early thinking on differential expertise contained within the paper. I would also like to thank two anonymous referees for their comments on an earlier draft of this paper alerting me both to new work in this area and considerably sharpening the thinking and language in this paper. All errors, of course, remain my own.

WRAGG SYKES, R.

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I am very grateful to the editors for inviting me to contribute; my thinking on many topics in Palaeolithic archaeology has been shaped by Clive Gamble's boundary-pushing work, especially his inspiring teaching and supervision during my MA studies at Southampton. I hope that this chapter expresses the debt I owe and contributes something new at the same time. Any errors are my own.

ASHTON, N.

I would like to thank Simon Lewis for providing useful comments on the first draft of this paper and to Kathy MacDonald and an anonymous referee for further helpful suggestions. I also thank Simon Parfitt, Chris Stringer, Wil Roebroeks, Robin Dennell, Andreu Ollé and Marina Mosquera for fruitful discussions. I am also very grateful to Dave Horne for providing the present-day climate data for Figure 8.2 and to Craig Williams for producing Figure 8.1. Finally I would like to thank Clive Gamble for setting a research agenda over 25 years ago that has dominated much of my own and others research. This paper is a contribution to the *Pathways into Ancient Britain Project* funded by the Calleva Foundation.

ELEFANTI, V. AND MARSHALL, G.

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BAR-YOSEF, O.

I thank the editors of this volume for inviting me to take part in a project honoring Clive Gamble for his contributions to world-wide prehistoric research. I thank the three anonymous reviewers who made substantial contributions for improving an earlier manuscript. I am grateful to Harvard China Fund, Asia Center and the American School of Prehistoric Research (Peabody Museum) Harvard University who funded my research in China. Without the cooperation of my Chinese colleagues Prof. Y. Wang, Prof. X. Xiaohong, Dr. T. Qu (School of Archaeology and Museology, Peking University), Prof. J. Xi (Director, Archaeological Museum of Shanxi), Dr. Y. Song (Shanxi University), Dr. D. Cohen and I. Patania (Boston University), I could not have written this paper. I thank Prof. D. Meltzer (Southern Methodist University) for his comments and careful editing of the manuscript. Needless to say, that all shortcomings are mine.

COLE, J.

This paper was based on my Ph.D. thesis supported by a full grant as part of the British Academy Centenary Project *'From Lucy to language: the archaeology of the social brain'* and I will be eternally grateful for the time, intellectual consideration and financial support graciously given by the project and its three directors, Clive Gamble, Robin Dunbar and John Gowlett. I would also like to thank Francis Wenban-Smith, Matt Pope, Rob Hosfield and Fiona Coward for inviting me to contribute to this Festschrift in honour of Clive Gamble; it truly is a privilege given all the advice and time that Clive has generously given me over the years. Special mention should also go to John McNabb and William Davies whose unceasing guidance through my thesis proved more

valuable that I can possibly say. Finally my thanks to the three anonymous reviewers whose time, considerations, comments and suggestions were hugely appreciated and extremely helpful. Any errors that remain within this paper are entirely my own.

PETTITT, P.

It is a pleasure to contribute this paper to Clive's festschrift. The healthy scattering of references to his work should make clear his inspiration in this field alone; long may his agency continue to haunt me! Some of this work is based on research published in 2011, and many colleagues helped in that, and are acknowledged in Pettitt 2011a. Katherine Cronin kindly provided information about the death of Masya's daughter. I am grateful for the comments of three anonymous referees who helped improved the draft considerably.

GAUDZINSKI-WINDHEUSER, S. AND JÖRIS, O.

The present paper is based on research undertaken at the MONREPOS Archaeological Research Centre and Museum for Human Behavioural Evolution at Monrepos, Neuwied (Germany). At MONREPOS historical processes underlying the evolution of human behaviour are examined through the contextualised and interdisciplinary study of Pleistocene and early Holocene material remains, following a research strategy that constitutes the interface between chronology and chorology, adaptive strategies and social networks, providing the synergies necessary for understanding the process of becoming human. This research was first presented at a conference held in Vienna in 2008 celebrating the 100-year anniversary of the discovery of the Willendorf Venus ('From Willendorf to Gönnersdorf'). We are grateful to the organisers of the Vienna meeting who gave us the opportunity to present our studies. It is a huge honour and pleasure to have the opportunity to dedicate the outcome of this research to Clive, one of the great inspirational researchers who interpreted the rich body of Palaeolithic female depictions in terms of Palaeolithic societies. We very much hope that Clive will enjoy our contribution. We thank Francis Wenban-Smith and Matt Pope for inviting us to contribute to Clive's Festschrift. Thanks to Regina Hecht and Gabi Rutkowsky for their care and patience in the preparation of Figures 16.3–16.15. Thanks to Paul Pettitt for all his energy to improve our Denglish and for his many valuable comments. Finally our thanks go to Geoff Smith for final editing.

MITHEN, S.

I am most grateful to Fiona Coward, Francis Wenban-Smith, Rob Hosfield and Matt Pope for inviting me to contribute to this volume. Since 2004 research on the Mesolithic of western Scotland has been undertaken in collaboration with Anne Pirie and Karen Wicks. I am indebted to their contributions, especially from Anne regarding analysis of chipped stone and from Karen with regarding fieldwork and Bayesian chronological analysis. I am grateful to the anonymous reviews of an initial version of this contribution and to Sue Jones for helping with its preparation.

FOREWORD

> What Roman villa has such in situ evidence for behaviour? What Iron Age rubbish pit allows the archaeologist to construct the shortest of inferential chains concerning the role of hominid behaviour among the process of site formation? ... The preservation of landscapes with a comparably high spatial resolution is rare indeed outside the Lower Palaeolithic.
>
> (Gamble, C. 1996. 'Hominid Behaviour in the Middle Pleistocene: an English Perspective', in Gamble, C. and Lawson, A. J. (eds.) *The English Palaeolithic Reviewed*. Salisbury: Wessex Archaeology, pp. 61–71: 64)

This volume seeks to promote a social and ecological narrative of early hominin evolution, one which is theoretically informed yet empirically based and which links conventional material and geographic perspectives on the early archaeological record with the more elusive, social, cognitive and symbolic landscapes. All of the volume's contributors seek to move beyond limiting notions of early hominin culture and behaviour as imposed on, or dictated by, an external world. Instead, they present the early hominin world, and human evolution, as the outcome of a dynamic interaction between the 'external' landscape of habitat, physical environment and other animals and the 'internal landscape' of the perception and experience of the world.

Many of the chapters in this volume focus on the settlement and social relations of early hominins as intrinsic to their ecological situation in the physical world and the process of human evolution. Others explore how communal identities and cognitive landscapes become embedded in, and constructed through, the material environment, addressing the role of material objects and the physical landscape, not as a backdrop or vehicle for social relations and symbolic behaviour, but rather as active participants in the construction and evolution of society. All, however, demonstrate that any hard-and-fast distinction between these perspectives is neither inevitable nor, indeed, sustainable. Palaeolithic archaeology is the richer for combining these ultimately complementary and mutually reinforcing lines of evidence to create more than the sum of their parts.

An introductory chapter by Gosden reviews and critiques recent attempts at moving Palaeolithic studies closer to current social and cultural theory, and in addressing the big question of what it means to be human, provides an overview of many of the big themes of the volume: the nature of consciousness and intelligence; the importance of sociality and the embeddedness of

humans in the world, as well as the role of material culture, technology and skill as modes of interacting with it.

ECOSYSTEMS, SETTLEMENT AND MIGRATION

This theme of the ecological situatedness of hominins and humans in the world is the starting – but certainly not the end – point for a number of contributions which focus first and foremost on the significance of ecological factors in the study of prehistoric societies, hominin evolution and the co-evolution of hominins and humans. However, each of these recognises the relevance of social factors as a driver for, rather than simply a by-product of, both physical evolution and cultural development. Dunbar and Grove explore the interplay between ecological and social factors in the evolution of cognition and behaviour, with specific reference to the socio-ecological context of fission-fusion in primate societies. They predict a series of thresholds in hominin cognitive evolution that can be evaluated against both the archaeological and fossil records of the Palaeolithic.

Gowlett and colleagues apply landscape and network perspectives to the major African Acheulean site of Kilombe. Combined with new work which has extended the site's archaeological timescales and landscapes, this chapter demonstrates how human activities can be mapped onto a framework comprised simultaneously of physical landscape, social constructs and cognitive routines.

At the other end of the Acheulean world, Ashton reviews the evidence for early human occupations of a diverse range of environments in northern Europe over 800 ka. Despite variations in climate and regional vegetation cover, he argues, hominins selected distinct ecological niches, predominantly in open grassland, close to a range of fresh-water habitats. However, these distinct niches are also argued to reflect pioneering populations who ultimately failed to successfully colonise northern latitudes until after 500 ka, when more sustained occupations may be the result of changes in technology, cognition or social structure, perhaps as part of a biological process of speciation.

The character of the more sustained post 500 ka occupation of northwest Europe is reviewed by Roebroeks and Bakels, whose contribution asks whether pre-sapiens hominins were capable of surviving in the forest environments that characterised European warm stages. New data from the Last Interglacial site of Neumark-Nord 2 is presented which suggests that not only were hominins able to survive in such habitats, but indeed that Neanderthals should perhaps be seen as active transformers of their surroundings, rather than passive pieces of 'forest furniture'. The impacts of challenging environments are also explored in the Balkans by Elefanti and Marshall, who discuss the contrasts between settlement in southeast Europe in the Middle and early Upper Palaeolithic and suggest that the region provided refugia during the

cold phases of MIS 3 and 4 and thus became the possible origin for founder populations in subsequent warmer phases.

The nature of the post-500 ka settlement in northern Europe – specifically the British Isles – is explored further by White, who utilises recent sea-level reconstructions and sub-stage climatic cycles to explore the settlement patterns documented by the British archaeological record from this period. White argues that the piecemeal and broken record of settlement, abandonment and recolonisation is one of intermittent population renewal, driven largely by hominin responses to climatic change and sea-level fluctuations, and broadens out his focus from the physical landscape to investigate how the ecological processes of habitat and landscape change interdigitate with question of demography, social network and processes of cultural transmission and learning via the cultural patterning evident in in modes of handaxe manufacture and handaxe shape.

Technology, skill and learning

Such questions, focused around the socio-ecological context in which adaptations for technology, skill and learning are selected for is another significant theme that emerges from several other papers. Read and van der Leeuw's bold contribution takes a 'big picture' view of the issue, surveying the broad sweep of human socio-technological evolution from the Palaeolithic right the way through to the Industrial Revolution and indeed the present day. They argue that cognitive evolution itself is only explicable in terms of the relationship between the 'external' and 'internal' worlds, themselves experienced via socio-technological 'idea' systems. During human evolution these systems developed from individual engagements with the world into communal social systems of shared categorical relations, thus freeing us from the constraints of our own individual brains and resulting in the runaway social and technological innovation that has marked human (pre-)history.

Sinclair's contribution focuses in on the knowledge, know-how and embodied skills required to create such elaborate material cultures. He notes that to date such work has lacked an appreciation of the social support for the lifelong development of individuals' experience, but also that there is clear, albeit fragmentary, evidence for the identification of expertise in the Upper Palaeolithic. The question of the potential adaptive cost of complex cognition and the acquisition of knowledge and skill explored by Sinclair provides an interesting counterpoint to Grove and Dunbar's more ecologically-based take on a similar theme.

Wragg Sykes' contribution focuses in on a specific example of specialist Palaeolithic knowledge from Neanderthal society: that of composite technologies and the use of birch bark pitch as a hafting mastic, and the implications for Neanderthal cognition, memory and spatial and temporal perception of

landscapes. Her focus on the ways in which micro-scale engagement with material culture can inform on the social and cognitive construction of wider landscapes echoes themes developed in Porr's contribution. Here the familiar Palaeolithic theme of hominin/human interaction with 'the environment' is given a relational and constructivist perspective more usually associated with the social archaeology of later prehistory, in order to investigate what such perspectives can add to our understandings of human evolution and early prehistoric hunter-gatherer society by extending our conceptualisation of 'social relations' beyond conspecifics to encompass other animal species.

Cole's contribution, meanwhile, ostensibly technological in focus, presents a new theoretical perspective exploring the potential links among hominin cognition, behavioural complexity and the development of language in terms of their significance for the production of material culture and its potential symbolising role in complex social interactions and hominin identity construction.

Identity and representation

These issues of the significance of technology as a potential means of construction of identity is also explored alongside more traditional Palaeolithic questions regarding the migration and colonisation of ecosystems by prehistoric hunter-gatherer groups by Bar Yosef, with reference to the little-known (at least in the West) Late Pleistocene foragers of China, Korea and Japan. Their 'micro-blade' industries provide a means of exploring the interaction between technological and ecological adaptations as a possible means of identifying and tracking the spread of specific groups, forming a complementary line of evidence to the genetic evidence for the migration of modern humans into East Asia, and to the palaeobotanical evidence for the emergence of cultivation in the China central plain.

The papers by Pettitt, Mussi and Gaudzinski-Windheuser and Jöris further develop the examination of the symbolising role played by material culture during social relations, and specifically the significance of overt symbolising practices, codes and behaviours. Although each tackles what could be rather over-familiar Palaeolithic topics such as Neanderthal burial and Palaeolithic female imagery, the papers investigate how interactions with others – living and dead – are part of the process of, and reflect the tensions between, the construction of individual and group identities and broader cultural repertoires. Incorporating ideas about the relationships between demographic factors, cultural transmission and social processes, Mussi and Gaudzinksi-Windheuser provide very different perspectives on the interpretation of human (particularly female) representations in Ice Age art of the European Upper Palaeolithic, Mussi proposes that subtle differences among the 'Venus' figurines provide evidence for the existence of formal rules of representation. However, misunderstandings during information transmission resulted in progressive distortion,

resulting in the exaggerated anatomical features which characterise many of the 'Venuses'. In contrast, Gaudzinski-Windheuser and Jöris compare the stylistic, spatial and temporal characteristics of Mid Upper Palaeolithic and late Magdalenian figurines to suggest that the schematic style of the latest Upper Palaeolithic figurines represents an artistic reflection of changes in the social role of women during a period of rapid population expansion.

Finally, Mithen's concluding chapter compares and contrasts the two interpretative approaches all the contributions to this volume have sought to reconcile in their very different ways: the 'archaeology of settlement' (as derived from Binford's ethnoarchaeological work) and the 'archaeology of society', with reference to late Pleistocene/early Holocene lithic evidence from western Scotland.

CLIVE GAMBLE IN MIND: THE ECOLOGICAL, SOCIAL AND SYMBOLIC ROLE OF A PALAEOLITHIC RESEARCHER

As most readers will notice, the following contributions draw heavily from the pioneering work of a major figure in Palaeolithic archaeology: Professor Clive Gamble. In his research and teaching career to date Clive has reinvented the Palaeolithic with his typically lively and often radical work integrating 'traditional' geographical and ecological approaches to prehistory with an approach which foregrounds the social and cognitive aspects of Palaeolithic life. In doing so, he has fundamentally altered the ecosystem of Palaeolithic archaeology, and forced us all to adapt. The early, influential *The Palaeolithic Settlement of Europe* (Gamble 1986) and the typically provocative 'Man the Shoveler' (Gamble 1987), demonstrated how Palaeolithic archaeology could move beyond a sterile description of early European prehistory as a succession of lithic cultural traditions, where chimpanzees enter an environmentally driven conveyor belt at one end to emerge at the other as *Homo sapiens*, to an understanding of the interplay between the material archaeological record and the socio-ecology of hominins and early hunter-gatherers on a global scale. Subsequent work has widely traversed the landscape of Prehistoric discourse, ranging in scope from the social context of Upper Palaeolithic art to large-scale patterns and mechanisms of global colonisation, via some minor early digressions into Bronze Age Greece. Publication in 1999 of *The Palaeolithic Societies of Europe* exemplified wider archaeological concerns over the role of human agency and social interactions as drivers of the material record, and led the way in bringing the study of the Palaeolithic and early hominin societies into the mainstream archaeological fold, stressing the significance of both physical and social environments for human evolution. Since then, exploring the social underpinnings of hominin evolution and colonisation has formed a primary axis of Palaeolithic research, crossing over into anthropology, psychology and sociology to investigate the roots of hominin sociality and the social brain, for instance

through the British Academy's Centenary Research Project *From Lucy to Language*.

However, the goal of this volume is not simply to celebrate Clive's previous work. The papers collected here are presented to act as a catalyst for distinctive and highly productive directions for new research into some key areas of hominin evolution, and new understanding of Palaeolithic societies across the globe and across the timespan of the Palaeolithic. In particular we hope that all of the papers stress an underlying theme of Clive's work, that research into the hunter-gatherers of the Palaeolithic and Mesolithic need not be limited to 'stomach-led' and 'brain-dead' models (Gamble 1999: 426). Instead the contributions to this volume seek to address the ways in which human social action and creativity are, and have always been, part and parcel of broader ecological patterns of adaptation to the world in which we live. This volume is offered in part as celebration of Clive's work, as a 'state-of-the-art' snapshot of work in the field of Palaeolithic archaeology and human evolution more generally, but also as a manifesto and call-to-arms to stimulate future research that will build on this to inspire future researchers to continue to push Palaeolithic research forward into new territory.

A PERSONAL NOTE

To paraphrase an un-named colleague of one of the editors: 'the Palaeolithic is much more interesting than when I used to teach it in the '80s'. Clive's inspirational research, teaching and leadership over the last four decades has been a huge factor in these changes, impacting upon academics, students, the wider public and, last but by no means least, funding bodies. Clive's hugely significant symbolic role in championing of the Palaeolithic through his involvement with such august institutions as the British Academy, the British Museum, the Royal Anthropological Institute, the REF panel and indeed Channel 5 has had a huge impact on the recognition and standing of all disciplines involved in Palaeolithic research. In addition, all the editors can attest to his significant social role in training, supporting and inspiring a new generation of Palaeolithic researchers.

We hope that Clive will recognise his own research in the roots of the papers presented here and not find too much evidence of 'dancing to the rhythms of the Pleistocene', and that his future will continue to bring us many new and thought-provoking contributions, perhaps on the wisdom of Arsenal buying Gareth Bale instead of Theo Walcott when pillaging Southampton's impressive youth setup, and ideally via Nevis and an occasional test match seat at Sabina Park.

Thank you

FIONA, ROB, MATT AND FRANCIS