One of the most troubling problems in archaeology is to determine about what or in what manner did prehistoric people think. A fundamental challenge is to develop the theory, methodology and tools to understand human cognition. Cognitive archaeology as a subject is still in its infancy, and archaeologists are adopting a variety of approaches. One direction has been to develop an ‘interpretationist’, anti-scientific, literary approach. Another has been to use a linguistic framework and develop a hermeneutic, semiotic approach. A third approach develops a new direction in prehistoric cognitive research which is rooted in the scientific tradition and in an empirical methodology. It draws upon the cognitive, the mathematical and the computer sciences in an attempt to understand what techniques can be used appropriately on archaeological data, and how to implement them efficiently. This is the approach adopted by the contributors of The ancient mind. Together, they begin to develop a science of cognitive archaeology.
The ancient mind
NEW DIRECTIONS IN ARCHAEOLOGY

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The ancient mind

Elements of cognitive archaeology

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Preface

One of the most taxing problems in archaeology is to determine what and in what manner did prehistoric people think. Is it possible to make the ‘mute stones speak’, and will they tell us how (if not what) our predecessors were thinking? A fundamental challenge in archaeology is to develop the theory, methodology and tools to understand prehistoric cognition. It appears that as processual archaeology revolutionized archaeology in the 1960s and 1970s, cognitive archaeology will revolutionize the 1990s and even the early part of the twenty-first century. Cognitive science is still in its childhood and cognitive archaeology is in its infancy. One direction (already followed by some) has been to develop an ‘interpretationist’, anti-scientific literary approach. This view, allied to the relativist philosophy of ‘post-modernism’, has been associated with Hodder, Shanks and Tilley, and Leone. A second, recent approach has been to use a linguistic framework and develop a hermeneutic, semiotic approach. This direction has been espoused by Gardin and Peebles.

However, some workers have sought a rather different direction in prehistoric cognitive research. It is rooted in the scientific tradition and in an empirical methodology. This scientific view of the ancient mind seeks to draw upon the cognitive, and the mathematical and computer sciences. These researchers are beginning to understand which techniques may appropriately be used on archaeological data and how to implement them efficiently. The ancient mind is a collection of chapters written in this spirit which seeks to make effective use of cognition in prehistoric research. Together, they begin to lay some of the foundations for a science of cognitive archaeology.

The book is the product of a conference, generously sponsored by the McDonald Institute for Archaeological Research, which was held at Lucy Cavendish College, Cambridge in April 1990. An attempt was made to delineate:

1. what are the trends in artificial intelligence, cognitive psychology and cognitive anthropology that are applicable to cognitive archaeology;
2. what is the present level of theory in cognitive archaeology;
3. what tools and scientific methodology are necessary for cognitive archaeology;
4. what problems are amenable to solutions given the present state of cognitive archaeology;
5. how do different scholars in different cognitive fields examine archaeological data in order to make cognitive inferences.

The book is divided into seven sections. To introduce the book Renfrew examines the general issues of cognitive archaeology and outlines some of the philosophical, archaeological and scientific background for this new direction.

In the section entitled ‘The interdisciplinary underpinning’, Bell examines philosophical issues, Segal the relevance of the cognitive sciences, and Mithen considers some basic issues in the emergence of the cognitive abilities of Homo sapiens: Schnapp uses written as well as material evidence to illuminate a specific question: the place of image making in ancient Greek society and religion.

In four chapters concerning ‘Approaches to cult practice and transcendental belief systems’, some new directions are indicated towards the elucidation of the ideologies of pre-historic communities. Renfrew considers the role of religion in early societies and the manner in which cult practice may be identified. Flannery and Marcus show how ceremonial space can be determined and how it changes over time in the New World. Scarre and Hill provide examples of value in the symbolic dimensions of death and burials in the Old and New Worlds respectively.

The section entitled ‘Prehistoric conceptions of space and time’ offers three papers. Bradley investigates how prehistoric inhabitants of Britain perceived boundaries and used symbolic means to demarcate space. Zubrow determined what are some of the prehistorically determined definitions of a village distribution in parts of the New World. He uses the concepts of knowledge representation and ‘figure and ground’ in conjunction with a testing methodology based upon Geographical Information Systems. Frake explores the relationship between space and time and its material representation in early historic populations.

The next two sections of the book, ‘The material basis of cognitive inference: technology’ and ‘The material basis of cognitive inference: writing systems’, are closely
related. In the former, the two major areas of prehistoric technology are explored. Van der Leeuw examines prehistoric decision making in pottery production, while the cognitive aspects of stone technology, drawing upon the useful concept of the ‘chaine opératoire’, are discussed in two papers by Schlaeger and by Karlin and Julien. Similarly, concrete cognitive aspects of writing systems from the Old World are analysed in papers by Justeson and Stephens and by Postgate. In conclusion Zubrow re-examines cognitive archaeology, placing the entire subject in a broader context for the profession, as well as delineating some areas of future research.

In organizing the seminar which gave rise to this volume we owe much to the energetic administration of Dr Chris Scarre. The very substantial task of putting into publishable form the papers subsequently submitted has been undertaken by Dr Christine Morris, to whom we are most grateful. Our thanks also to Dr Jessica Kuper at Cambridge University Press for her encouragement and support.