

Introduction

The Nature and Aims of Archaeology

Archaeology is partly the discovery of the treasures of the past, partly the meticulous work of the scientific analyst, partly the exercise of the creative imagination. It is toiling in the sun on an excavation in the deserts of Central Asia, it is working with living Inuit in the snows of Alaska. It is diving down to Spanish wrecks off the coast of Florida, and it is investigating the sewers of Roman York. But it is also the painstaking task of interpretation so that we come to understand what these things mean for the human story. And it is the conservation of the world's cultural heritage – against looting and against careless destruction.

Archaeology, then, is both a physical activity out in the field, and an intellectual pursuit in the study or laboratory. That is part of its great attraction. The rich mixture of danger and detective work has also made it the perfect vehicle for fiction writers and film-makers, from Agatha Christie with *Murder in Mesopotamia* to Steven Spielberg with Indiana Jones. However far from reality such portrayals may be, they capture the essential truth that archaeology is an exciting quest – the quest for knowledge about ourselves and our past.

But how does archaeology relate to disciplines such as anthropology and history that are also concerned with the human story? Is archaeology itself a science? And what are the responsibilities of the archaeologist in today's world, where the past is manipulated for political ends and “ethnic cleansing” is accompanied by the deliberate destruction of the cultural heritage?

Archaeology as Anthropology

Anthropology at its broadest is the study of humanity – our physical characteristics as animals, and our unique non-biological characteristics that we call **culture**. Culture in this sense includes what the anthropologist Edward Tylor usefully summarized in 1871 as “knowledge, belief, art, morals, law, custom and any other capabilities and habits acquired by man as a member of society.” Anthropologists also use the term culture in a more restricted sense when they refer to the culture of a particular society, meaning the non-biological characteristics unique to that society which distinguish it from other societies. (An “archaeological

culture” has a specific and somewhat different meaning, as explained in Chapter 3.) Anthropology is thus a broad discipline – so broad that it is generally broken down into three smaller disciplines: biological anthropology, cultural anthropology, and archaeology.

Biological anthropology, or physical anthropology as it used to be called, concerns the study of human biological or physical characteristics and how they evolved.

Cultural anthropology – or social anthropology – analyzes human culture and society. Two of its branches are **ethnography** (the study at first hand of individual living cultures) and **ethnology** (which sets out to compare cultures using ethnographic evidence to derive general principles about human society).

Archaeology is the “past tense of cultural anthropology.” Whereas cultural anthropologists will often base their conclusions on the experience of actually living within contemporary communities, archaeologists study past humans and societies primarily through their material remains – the buildings, tools, and other artifacts that constitute what is known as the **material culture** left over from former societies.

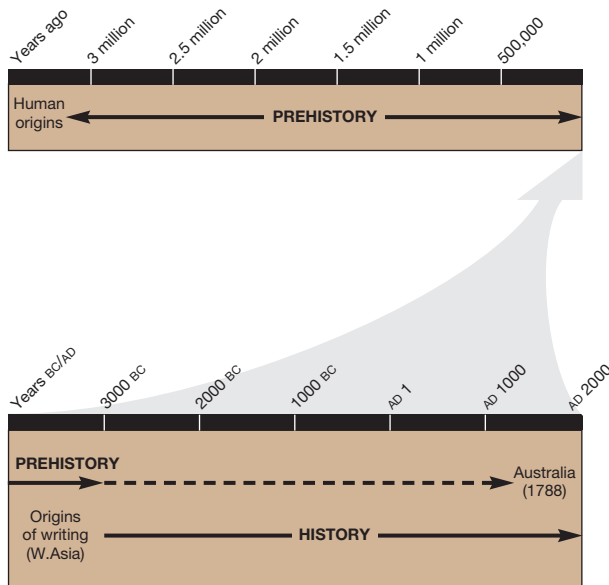
Nevertheless, one of the most challenging tasks for the archaeologist today is to know how to interpret material culture in human terms. How were those pots used? Why are some dwellings round and others square? Here the methods of archaeology and ethnography overlap. Archaeologists in recent decades have developed **ethnoarchaeology**, where like ethnographers they live among contemporary communities, but with the specific purpose of understanding how such societies use material culture – how they make their tools and weapons, why they build their settlements where they do, and so on.

Moreover, archaeology has an active role to play in the field of conservation. **Heritage studies** constitute a developing field, where it is realized that the world's cultural heritage is a diminishing resource, and one which holds different meanings for different people. The presentation of the findings of archaeology to the public cannot avoid difficult political issues, and the museum curator and the popularizer today have responsibilities which some can be seen to have failed.

Archaeology as History

If, then, archaeology deals with the past, in what way does it differ from history? In the broadest sense, just as archaeology is an aspect of anthropology, so too is it a part of history – where we mean the whole history of humankind from its beginnings over 3 million years ago. Indeed for more than 99 percent of that huge span of time archaeology – the study of past material culture – is the only significant source of information, if one sets aside physical anthropology, which focuses on our biological rather than cultural progress. Conventional historical sources begin only with the introduction of written records around 3000 BC in western Asia, and much later in most other parts of the world (not until AD 1788 in Australia, for example). A commonly drawn distinction is between *prehistory* – the period before written records – and history in the narrow sense, meaning the study of the past using written evidence. In some countries, “prehistory” is now considered a patronizing and derogatory term which implies that written texts are more valuable than oral histories, and which classifies their cultures as inferior until the arrival of Western ways of recording information. To archaeology, however, which studies all cultures and periods, whether with or without writing, the distinction between history and

The vast timespan of prehistory compared with the relatively short period for which we have written records (“history”). Before c. 3000 BC, material remains are our only evidence.



prehistory is a convenient dividing line that simply recognizes the importance of the written word in the modern world, but in no way denigrates the useful information contained in oral histories.

As will become abundantly clear in this book, archaeology can also contribute a great deal to the understanding even of those periods and places where documents, inscriptions, and other literary evidence do exist. Quite often, it is the archaeologist who unearths such evidence in the first place.

Archaeology as a Science

Since the aim of archaeology is the understanding of humankind, it is a humanistic discipline, a humane study. And since it deals with the human past it is a historical discipline. But it differs from the study of written history – although it uses written history – in a fundamental way. The material the archaeologist finds does not tell us directly what to think. Historical records make statements, offer opinions, pass judgments (even if those statements and judgments themselves need to be interpreted). The objects that archaeologists discover, on the other hand, tell us nothing directly in themselves. It is *we* today who have to make sense of these things. In this respect the practice of archaeology is rather like that of the scientist. The scientist collects data (evidence), conducts experiments, formulates a hypothesis (a proposition to account for the data), tests the hypothesis against more data, and then in conclusion devises a model (a description that seems best to summarize the pattern observed in the data). The archaeologist has to develop a picture of the past, just as the scientist has to develop a coherent view of the natural world. It is not found ready made.

Archaeology, in short, is a science as well as a humanity. That is one of its fascinations as a discipline: it reflects the ingenuity of the modern scientist as well as the modern historian. The technical methods of archaeological science are the most obvious, from radiocarbon dating to studies of food residues in pots. Equally important are scientific methods of analysis, of inference. Some writers have spoken of the need to define a separate “Middle Range Theory,” referring to a distinct body of ideas to bridge the gap between raw archaeological evidence and the general observations and conclusions to be derived from it. That is one way of looking at the matter. But we see no need to make a sharp distinction between theory and method. Our aim is to describe clearly the methods and techniques used by archaeologists in investigating the past. The analytical concepts of the archaeologist are as much a part of that battery of approaches as are the instruments in the laboratory.

The Variety and Scope of Archaeology

Today archaeology is a broad church, encompassing a number of different “archaeologies” which are nevertheless united by the methods and approaches outlined in this book. We have already highlighted the distinction between the archaeology of the long prehistoric period and that of historic times. This chronological division is accentuated by further subdivisions so that archaeologists specialize in, say, the earliest periods (the Old Stone Age or Paleolithic, before 10,000 years ago) or the later ones (the great civilizations of the Americas and China; Egyptology; the Classical archaeology of Greece and Rome). A major development in the last two or three decades has been the realization that archaeology has much to contribute also to the more recent historic periods. In North America and Australia historical archaeology – the archaeological study of colonial and postcolonial settlement – has expanded greatly, as has medieval and postmedieval archaeology in Europe. So whether we are speaking of colonial Jamestown in the United States, or medieval London, Paris, and Hamburg in Europe, archaeology is a prime source of evidence.

Cutting across these chronological subdivisions are specializations that can contribute to many different archaeological periods. Environmental archaeology is one such field, where archaeologists and specialists from other sciences study the human use of plants and animals, and how past societies adapted to the ever-changing environment. Underwater archaeology is another such field, demanding great courage as well as skill. In the last 30 years it has become a highly scientific exercise, yielding time capsules from the past in the form of shipwrecks that shed new light on ancient life on land as well as at sea.

Ethnoarchaeology, too, as we discussed briefly above, is a major specialization in modern archaeology. We now realize that we can only understand the archaeological record – that is to say, what we find – if we understand in much greater detail how it came about, how it was formed. Formation processes are now a focus of intensive study. It is here that ethnoarchaeology has come into its own: the study of living peoples and of their material culture undertaken with the aim of improving our understanding of the archaeological record. For instance, the study of butchery practices among living hunter-gatherers, undertaken by Lewis Binford among the Nunamiut Eskimo of Alaska gave him many new ideas about the way the archaeological record may have been formed, allowing him to re-evaluate the bone remains of animals eaten by very early humans elsewhere in the world.

Nor are these studies confined to simpler communities or small groups. Contemporary material culture has now become a focus of study in its own right. The archaeology

of the 21st century already ranges from the design of Coca-Cola bottles and beer cans to the forensic pathology increasingly used in the investigation of war crimes and atrocities, whether in Bosnia, West Africa, or Iraq. Actualistic studies in archaeology were pioneered in the Garbage Project set up by William L. Rathje, who studied the refuse of different sectors of the city of Tucson, Arizona, to give insights into the patterns of consumption of the modern urban population. Sites such as airfields and gun emplacements dating from World War II (1939–45) are now preserved as ancient monuments, as are telecommunication facilities from the era of the Cold

Today the conventions, idioms and findings of archaeology are increasingly referenced in contemporary society, including contemporary art. Antony Gormley's Field for the British Isles is made up of thousands of terracotta figures resembling prehistoric figurines from excavations in Mesoamerica or southeast Europe. For the viewer in front of them the effect is overpowering.

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War, and surviving fragments of the Berlin Wall which once divided East from West Germany but which was opened and torn down in 1989. The Nevada Test Site, established in 1950 as a continental location for United States weapons testing, is similarly now the subject of archaeological research and conservation.

The archaeology of the 20th century even had its looters: artifacts raised from the wreck of the *Titanic* have been sold for large sums to private collectors. And the archaeology of the 21st century had a grim start with the recovery work following the catastrophic destruction of the twin towers of the World Trade Center in New York on 11 September, 2001. Ground Zero, the conserved and protected site where the twin towers once stood, has taken its place as one of the most notable of the commemorative monuments of New York.

Archaeology today continues to develop new specialisms and sub-disciplines. Out of the environmental approach widely emphasized at the end of the 20th century bioarchaeology has emerged: the study of plants and animals (and other living things) in the human environment and diet. So too geoarchaeology: the application to archaeology of the geological sciences, for the reconstruction of early environments and the study of lithic materials. Archaeogenetics (see pp. 463–467), the study of the human past using the techniques of molecular genetics, is a rapidly expanding field. These, and other emerging areas, such as forensic anthropology, are the product both of developments in the sciences and of increasing awareness among archaeologists as to how such developments can be exploited in the study of the past.

The Ethics of Archaeology

Increasingly it is realized that the practice of archaeology raises many ethical problems, and that the uses of archaeology, politically and commercially, nearly always raise questions with a moral or ethical dimension (see Chapter 14). It is easy to see that the deliberate destruction of archaeological remains, such as the demolition of the Bamiyan Buddhas in Afghanistan or the destruction of the historic bridge at Mostar in Bosnia, are essentially evil acts, judged by most moral standards. So too has been the failure of the coalition forces which invaded Iraq to safeguard the archaeological treasures and sites of that country. But other issues are less obvious. In what circumstances should the existence of archaeological sites be allowed to impede the progress of important construction projects, such as new roads or new dams? During the Chinese Cultural Revolution, Chairman Mao coined the slogan “Let the past serve the present,” but that was sometimes used as an excuse for the deliberate destruction of ancient things.

The commercial exploitation of the past also raised many problems. Many archaeological sites are today over-visited, and the large numbers of well-meaning tourists pose real problems for their conservation. This has been a long-standing problem at Stonehenge, the major prehistoric monument in south Britain, and the failure of the UK government to do anything effective about the situation over many decades has brought general condemnation. But what to make of official support for nonsense archaeology – that is to say fantasy archaeology which does not rest upon sound evidence, such as the astonishing case of the so-called pyramid in Bosnia (see p. 572)? Most serious of all, perhaps, is the connivance of major museums in the looting of the world’s archaeological heritage through the purchase of illicit and unprovenanced antiquities. The restitution claims made by the Italian government against the Metropolitan Museum of Art in New York, the Getty Museum in Malibu and the Cleveland Museum of Art raise questions about the integrity of some museum directors and trustees – well-informed people whom one would expect to be the guardian and defenders of the past, not participants in the commercial processes which lead to its destruction.

Aims and Questions

If our aim is to learn about the human past, there remains the major issue of what we hope to learn. Traditional approaches tended to regard the objective of archaeology mainly as reconstruction: piecing together the jigsaw. But today it is not enough simply to re-create the material culture of remote periods, or to complete the picture for more recent ones.

A further objective has been termed “the reconstruction of the lifeways of the people responsible for the archaeological remains.” We are certainly interested in having a clear picture of how people lived, and how they exploited their environment. But we also seek to understand *why* they lived that way: why they had those patterns of behavior, and how their lifeways and material culture came to take the form they did. We are interested, in short, in *explaining* change. This interest in the processes of cultural change came to define what is known as **processual archaeology**. Processual archaeology moves forward by asking a series of questions, just as any scientific study proceeds by defining aims of study – formulating questions – and then proceeding to answer them.

The symbolic and cognitive aspects of societies are also important areas emphasized by recent approaches, often grouped together under the term **postprocessual** or **interpretive archaeology**, although the apparent unity of this perspective has now diversified into a variety of concerns. It is persuasively argued that in the “post-modern” world

different communities and social groups have their own interests and preoccupations, that each may have its voice and its own distinctive construction of the past, and that in this sense there are many archaeologies. This becomes particularly clear when one looks at the newly formed nations of the Third World where different and sometimes competing ethnic groups have their own traditions and interests, and in some senses their own archaeologies.

There are many big questions that preoccupy us today. We want to understand the circumstances in which our human ancestors first emerged. Was this in Africa and only in Africa, as currently seems the case? Were these early humans proper hunters or merely scavengers? What were the circumstances in which our own species *Homo sapiens* evolved? How do we explain the emergence of Paleolithic art? How did the shift from hunting and gathering to farming come about in western Asia, in Mesoamerica, and in other parts of the world? Why did this happen in the course of just a few millennia? How do we explain the rise of cities, apparently quite independently in different parts of the world? How are identities formed, both of individuals and of groups? How do we decide which aspects of the cultural heritage of a region or nation are worth conserving?

The list of questions goes on, and after these general questions there are more specific ones. We wish to know why a particular culture took the form it did: how its particularities emerged, and how they influenced developments. This book does not set out to review the provisional answers to all these questions – although many of the impressive results of archaeology will emerge in the following pages. In this book we examine rather the *methods* by which such questions can be answered.

Plan of the Book

The methods of archaeology could be surveyed in many different ways. As mentioned in the Preface, we have chosen to think in terms of the many kinds of *questions* to which we wish to have answers and we list them briefly again here. It could be argued that the whole philosophy of archaeology is implied in the questions we ask and the form in which we frame them.

Part I reviews the whole field of archaeology, looking first at the history of the subject, and then asking three specific questions: how are materials preserved, how are they found, and how are they dated?

Part II sets out further and more searching questions – about social organization, about environment, and about subsistence; about technology and trade, and about the way people thought and communicated. We then ask what they were like physically. And finally the interesting question is posed: *why* things changed.

Part III is a review of archaeology in practice, showing how the different ideas and techniques can be brought together in field projects. Five such projects are chosen as case studies: from southern Mexico, Florida in the south of the United States, northern Australia, Thailand, and urban York in England.

In conclusion there is a chapter on the subject of public archaeology, which discusses the uses and abuses of archaeology in the modern world, and the obligations these things have placed on the archaeologist and on all those who exploit the past for gain or for political purposes. In this way we plan that the book should give a good overview of the whole range of methods and ideas of archaeological investigation.

FURTHER READING

The following books give an indication of the rich variety of archaeology today. Most of them have good illustrations:

Bahn, P.G. (ed.). 2001. *The Penguin Archaeology Guide*. Penguin: London.

Bahn, P.G. (ed.). 2000. *The World Atlas of Archaeology*. Facts on File: New York.

Cunliffe, B., Davies, W. & Renfrew, C. (eds.). 2002. *Archaeology, the Widening Debate*. British Academy: London.

Delgado, J.P. (ed.). 1997. *The British Museum Encyclopedia of Underwater and Maritime Archaeology*. British Museum Press: London; Yale University Press: New Haven.

Fagan, B.M. (ed.). 1996. *The Oxford Companion to Archaeology*. Oxford University Press: Oxford & New York.

Fagan, B.M. (ed.). 2007. *Discovery! Unearthing the New Treasures of Archaeology*. Thames & Hudson: London & New York.

Forde, M. & Siliotti, A. (eds.). 1997. *Virtual Archaeology*. Thames & Hudson: London; Abrams: New York.

Gowlett, J. 1993. *Ascent to Civilization: The Archaeology of Early Humans*. (2nd ed.) McGraw-Hill: London & New York.

Scarre, C. (ed.). 1999. *The Seventy Wonders of the Ancient World. The Great Monuments and How they were Built*. Thames & Hudson: London & New York.

Schofield, J. (ed.). 1998. *Monuments of War: The Evaluation, Recording and Management of Twentieth-Century Military Sites*. English Heritage: London.