

Introduction

The Nature and Aims of Archaeology

Archaeology is partly the discovery of the treasures of the past, partly the work of the scientific analyst, and partly the exercise of the creative imagination. It is toiling in the sun on an excavation in the deserts of Central Asia, and it is working with contemporary 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 analysis of materials in the laboratory and the interpretation of what these things mean for the human story. Finally, archaeology is also the conservation of the world's cultural heritage, the understanding of stakeholders of the past, and the protection of the past from looting and careless destruction.

Broadly, archaeology is the study of the human past through its material remains. It is both a physical activity out in the field and a scientific and intellectual pursuit. Its many aspects are part of its great attraction. But how does archaeology relate to disciplines such as anthropology and history, which 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, marginalized groups are working to regain their past, and acts of terrorism are accompanied by the deliberate destruction of cultural heritage?

Archaeology as Anthropology

Anthropology at its broadest is the study of humanity—our physical characteristics as animals and our unique nonbiological characteristics, which we call culture. Culture in this sense includes what the anthropologist Edward Tylor (1832–1917) usefully summarized in his 1871 work *Primitive Culture* as “knowledge, belief, art, morals, law, custom and any other capabilities and habits acquired by man [humans] as a member of society.” Anthropologists also use the term “culture” in a more restricted sense when they refer to the beliefs, practices, and material culture (things)

of a particular society, or to the nonbiological characteristics that are unique to a society and that distinguish it from other societies. (The phrase “archaeological culture” has a specific and somewhat different meaning, as explained in Chapter 3.) Anthropology is a broad and holistic discipline, and is generally divided into four smaller disciplines:

- *Biological anthropology*, or physical anthropology as it used to be called, is 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 compares cultures, using ethnographic evidence to derive general principles about human society.
- *Linguistic anthropology*, the study of world languages, investigates how language influences culture and social interactions.
- *Archaeology* investigates cultures in the human past. Whereas cultural anthropologists will often base their conclusions on their experiences of living for extended periods within contemporary communities, archaeologists study past humans and societies primarily through the recovery of their material remains—the buildings, tools, and other artifacts that constitute what is known as the material culture and built environments (buildings and monuments) left behind by past societies. One of the most challenging tasks for the archaeologist today is to know how to interpret material culture in human terms. This is where archaeological theory comes in, as a means to make explicit the assumptions and models used to understand material evidence and to reconstruct the past.

Archaeology as History

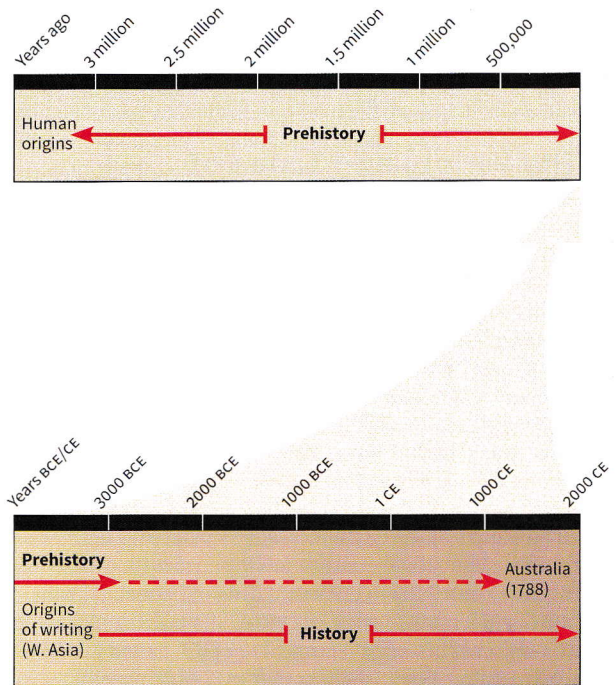
If archaeology deals with the past, in what way does it differ from history? In the broadest sense, just as archaeology is an aspect of anthropology, so too is archaeology a part of history—where we mean the whole history of humankind from its beginnings more than 3 million years ago. Indeed, for more than 99 percent of that huge span of time, archaeology is the only significant source of information, if we set aside physical anthropology, which focuses on our biological evolution rather than on cultural trajectories of change.

Conventional historical sources begin only with the introduction of written records (around 3000 BCE) in West Asia, and much later in most other parts of the world (not until 1788 CE in Australia, for example). A common distinction is that drawn between prehistory—the period before written records—and history in a narrow sense—the study of the past using written evidence [0.1]. In some countries, “prehistory” has been criticized as a patronizing and derogatory term that implies that written texts are more valuable than oral histories, and classifies cultures with the latter as inferior until the arrival of European ways of recording information. In archaeology, which studies all cultures and periods, with or without writing, the distinction between history and prehistory is often seen as a convenient dividing line that acknowledges the importance of the written word in the modern world but in no way denigrates the useful information contained in oral histories.

As we make abundantly clear in this book, archaeology can contribute a great deal to the understanding of the 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 discipline within the humanities. And, since it deals with the human past, it is allied to history. But archaeology differs in a fundamental way from the study of written history, although it uses written history. The material the archaeologist discovers does not tell us directly what happened in the past. Historical records make statements, offer opinions, and pass judgments—and those statements and judgments themselves need to be critically interpreted. The objects that archaeologists discover also tell us nothing directly in themselves. We have to make sense of these things. In this respect, the practice of archaeology involves scientific method. It also draws on approaches and concepts from the social sciences,



0.1 The vast timespan of “prehistory” compared to the relatively short period for which we have written records (“history”). Material remains are our only evidence for human history before c. 3000 BCE.

including social theory (as outlined in Chapter 12). The scientist collects data (evidence), formulates a hypothesis (a proposition to account for the data), conducts experiments, tests the hypothesis against more data, and then in conclusion devises a model (a description that seems to summarize best the patterns observed). The archaeologist has to develop a picture of the past, just as a natural scientist has to develop a coherent view of the natural world. It is not found readymade.

In short, archaeology is a science and a social science as well as a humanity. That breadth is a key fascination of archaeology as a discipline: it reflects the ingenuity of the modern scientist and of the modern social scientist and 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 and inference. Some writers have spoken of the need to define a separate middle-range theory, a distinct body of ideas to bridge the gap between raw archaeological evidence and the general observations and conclusions to be derived from it. This 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 types of questions asked, and 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 encompasses a number of different fields, 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 the archaeology of historic times. This chronological division is accentuated by further subdivisions, so that archaeologists specialize in, say, the earliest periods (the Paleolithic, or Old Stone Age, before 10,000 years ago) or later ones (e.g. the complex societies of the Americas or China or Africa; Egyptology; the Classical archaeology of Greece and Rome; the Pacific). A major development since the 1990s has been the realization that archaeology also has much to contribute to understanding more recent historic periods. North America and Australia have seen a great expansion of historical archaeology (also called modern-world archaeology: see Chapter 15), which investigates colonial and postcolonial settlements and interactions with Indigenous societies. In Europe medieval and postmedieval archaeology has seen similar growth. So, whether we are speaking of colonial Jamestown in the United States, Pacific Island groups, or medieval London, Paris, and Hamburg, archaeology is a prime source of evidence. Of equal importance has been study of the ways in which Indigenous peoples responded to European contact—how they adapted, resisted, or found ways of living with these unlooked-for changes. The troubling legacies of colonialism continue to affect many societies across the globe today, and archaeologists are increasingly seeking

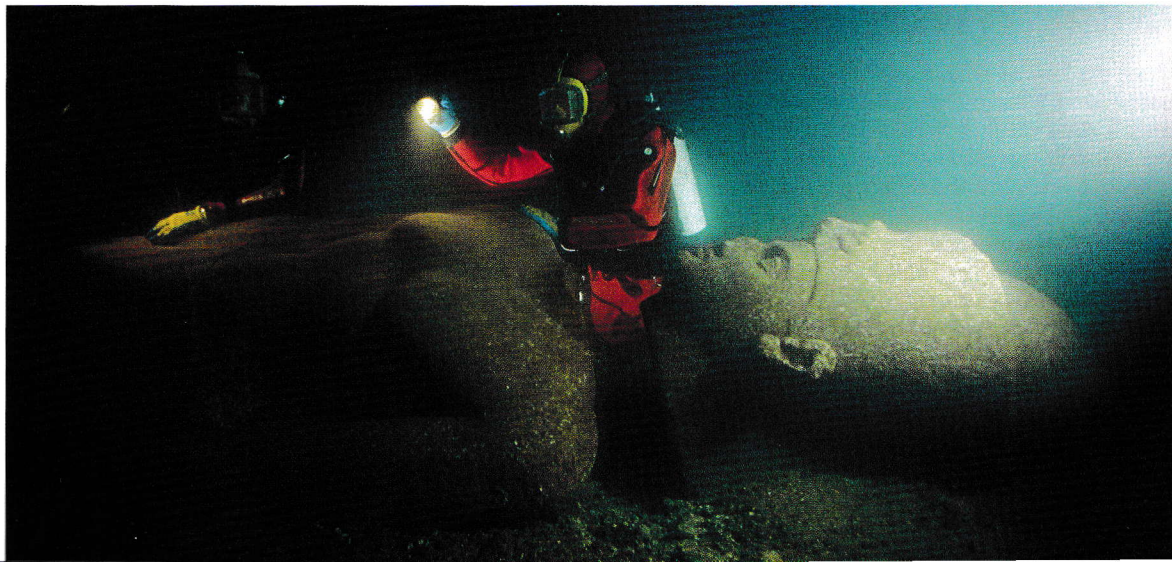
to contribute to difficult ongoing dialogues about past inequalities and racism.

Cutting across these chronological subdivisions are specializations that contribute invaluable insights to many different archaeological periods. *Environmental archaeology* is one, where archaeologists and specialists from other sciences study past human use of plants and animals, and how societies adapted to the ever-changing environment. *Underwater archaeology* is another, demanding courage as well as knowledge and skill [0.2]. In the last half century, it has become a highly scientific exercise and has yielded time capsules from the past in the form of shipwrecks that have shed new light on ancient life on land as well as at sea.

Ethnoarchaeology is another specialization in modern archaeology, where archaeologists live for some time in contemporary communities with the specific purpose of understanding how such societies use material culture [0.3]. We now realize that we can understand the archaeological record—that is, what we find—only if we understand in much greater detail how it came about and how it was deposited. Formation processes are now a focus of intensive study, as ethnoarchaeology has come into its own. For instance, the study of butchery practices among living hunter-gatherers undertaken by Lewis Binford (1931–2011) among the Nunamiut of Alaska generated new ideas about the way in which the archaeological record may have been formed. This allowed Binford to re-evaluate the bone remains of animals eaten by very early humans elsewhere in the world.

Nor are these studies confined to small communities. Contemporary material culture is now a focus of study in its own right. The archaeology of the twenty-first century already ranges from the design of Coca-Cola bottles and

0.2 Underwater archaeology: a huge Egyptian statue found in the now-submerged ruins of an ancient city near Alexandria.





0.3 An ethnarchaeologist in the field in Siberia, sharing and studying the lives of modern Orochen. Here they are making blood sausages from the intestines of a recently butchered reindeer.

0.4 Working in the on-site archaeobotanical laboratory to identify the preserved plant remains excavated from Çatalhöyük in Turkey (see pp. 42–43).



beer cans to the forensic pathology increasingly used in the investigation of homicide and war crimes and atrocities, whether in Bosnia, West Africa, or Iraq. *Actualistic studies* in archaeology were pioneered through the Garbage Project set up by William L. Rathje (1945–2012), which studied the rubbish discarded by 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 are now preserved as ancient monuments, as are telecommunication facilities from the Cold War era, and surviving fragments of the Berlin Wall, which divided East from West Germany but was torn down in 1989. The Nevada Test Site, established in 1950 as a continental location for US weapons testing, is similarly now the subject of archaeological research and conservation.

The archaeology of the twentieth century even had its looters; for example, artifacts taken from the wreck of the *Titanic* have been sold for large sums to private collectors. The archaeology of the twenty-first 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 September 11, 2001. The 9/11 Memorial & Museum, the conserved and protected site where the towers once stood, has taken its place as one of the most notable of the commemorative monuments of New York City.

Archaeology today continues to develop new specialties and subdisciplines. *Bioarchaeology*—the study of plants and animals (and other living things) in the human environment and diet—has emerged from the environmental approach widely emphasized at the end of the twentieth century [0.4]. Likewise *geoarchaeology*, the application of the geological sciences in archaeology, for the reconstruction of early environments and the study of lithic materials. *Archaeogenetics*, the study of the human past using the techniques of molecular genetics, is a rapidly expanding field, now transformed by the burgeoning development of ancient DNA studies. These and areas such as forensic anthropology are the product both of developments in the sciences and of increasing awareness among archaeologists of how such developments can be applied to the study of the past.

Some of the diversity of contexts and settings of archaeological research across the globe are illustrated on the following pages: 16–17 [0.5–0.9].

The Ethics of Archaeology

The practice of archaeology raises many ethical problems. Political and commercial uses of archaeology nearly always raise moral or ethical questions (see Chapters 14 and 15).



By most moral standards, the deliberate destruction of archaeological remains such as the Bamiyan Buddhas in Afghanistan (in 2001) or the leveling of Nineveh and other sites in northern Iraq (in 2015) by the so-called Islamic State (IS) were deplorable acts. Just as damaging in its consequences was the appalling failure of the Coalition forces that invaded Iraq in 2003 to safeguard the country's archaeological treasures and sites. But other issues are less obvious. In what circumstances should the existence of archaeological sites be allowed to impede or delay construction projects such as new roads or dams? One of Mao Zedong's slogans during the Chinese Cultural Revolution (1966–76), “Let the past serve the present,” was sometimes used as an excuse for the deliberate destruction of ancient artifacts.

Today, archaeology must also confront its own colonial past, and work harder to collaborate effectively with local and descendent communities, such as Indigenous groups in North America, Australia, Africa, the Pacific and northern Eurasia, to ensure that the past is representative of—and available to—everyone. This concern to address the power asymmetries of the past has brought about Indigenous archaeology, a subdiscipline of archaeology that seeks to engage and empower Indigenous people in the preservation of their heritage, as well as to contribute to public archaeology.

The commercial exploitation of the past also raises pressing problems. Many archaeological sites are overvisited,



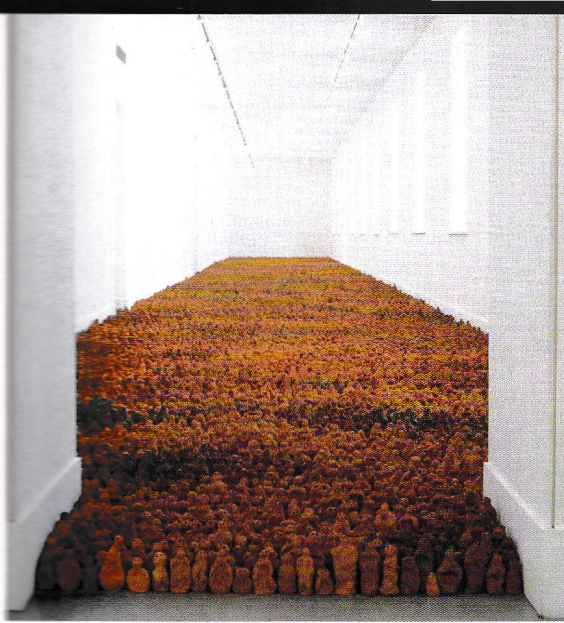
0.5 (Above) An Inka mummified body, now known as the Ice Maiden, or Juanita, is lifted from her resting place high up on the Ampato volcano in Peru (see p. 69).

0.6 (Left) Urban archaeology: excavation of a Roman site in the heart of London.

0.7 (Opposite, top) The conventions, idioms, and findings of archaeology are increasingly referenced in society today, including in contemporary art. Antony Gormley's *Field for the British Isles* (1993) is an installation made up of thousands of terra-cotta figures resembling prehistoric figurines from excavations in Mesoamerica or southeastern Europe. For the viewer in front of them, the effect is overpowering.

0.8 (Opposite, center) Piecing together fragments of an elaborate mural from the early Maya site of San Bartolo in Guatemala (see p. 425).

0.9 (Opposite, bottom) Salvaged in advance of development: a 2,000-year-old Western Han dynasty tomb is excavated at a construction site in Guangzhou, China.



and large numbers of well-meaning tourists pose real problems for conservation. A long-standing problem at Stonehenge, the major prehistoric monument in southern England, has led to many attempts to handle the ever-increasing visitor numbers, including the construction of a £27 million (approximately \$42 million) visitor center in 2013. Discussions about a tunnel for the busy road running alongside the monument remain controversial, as the construction of the tunnel risks damage to archaeological remains nearby, as well as to other natural resources.

Perhaps most serious of all is the connivance of major museums in the looting of the world's archaeological heritage through the purchase of illicit and unprovenanced antiquities, where the place of origin and history of the objects are unknown. The settlement in 2006–9 of the restitution claims by the Italian government against the Metropolitan Museum of Art in New York, the Getty Museum in Malibu, and the Cleveland Museum of Art, and the subsequent return to Italy of looted antiquities, raises questions about the integrity of some museum directors and trustees, well-informed people whom one would expect to be guardians and defenders of the past, not participants in the commercial processes that lead to its destruction.

Finally, many museums are engaging in the repatriation of objects, which involves either returning collections or individual items to the descendent communities from whom they were removed or sending objects back to their country of origin. Given the high-profile debate around the Parthenon Sculptures, also known as the Elgin Marbles, held at the British Museum, and recent decisions by many international institutions to return the Benin Bronzes in their collections, the terms under which museums own and display archaeological finds are currently under significant scrutiny, as discussed in Chapters 14 and 15.

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 from the nineteenth and twentieth centuries 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, beyond describing the human past, is understanding long-term patterns of change in culture or ways of life. 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 followed those patterns of behavior and how their ways of life and their material



culture came to take the form they did. We are interested, in short, in explaining change.

Many big questions 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 to have been the case? Were these early humans skilled 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 West Asia, Mesoamerica, and other parts of the world? Why did this transformation take place over the course of just a few millennia? How do we explain the apparently independent rise of cities in different parts of the world? How were 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, following on from each general question, more specific ones arise. Why did a particular culture take the form it did? How did its particularities emerge, and how did each trait or characteristic influence further change? This book sets out not so much to review the provisional answers to all these questions, although many of the impressive results of archaeology will emerge in the following pages. Instead, we examine the methods by which such questions can be answered, together with the concepts and theories that archaeologists employ.

In their desire for scientific rigor, modern archaeologists try to make their objectives explicit at the outset, outlining how they plan to achieve them. This procedure is called devising a research design, which broadly has four stages:

- 1 *formulating* a research strategy to resolve a particular question or test a hypothesis or idea;
- 2 *collecting and recording evidence* against which that idea can be evaluated, usually by organizing a team of specialists to conduct fieldwork—whether survey or excavation or both;
- 3 *processing and analyzing* that evidence, and interpreting it in the light of the original idea;
- 4 *publishing* the results in articles, reports, books, and so on.

In real life, there is seldom, if ever, a straightforward progression from the first to the final stage because a research strategy is continually refined as evidence is collected and analyzed. All too often, and inexcusably, publication is neglected (see Chapter 15), but in the best-planned research the overall objective—the broad question or questions to

be answered—will remain unchanged, even though the strategy and the methods for achieving it may evolve.

Archaeology is a richly rewarding field, offering the excitement of discovery, the challenge of digging and recording evidence from the past, and the rewards of working collaboratively with a team and with local communities to decide how best to interpret that evidence. This book discusses the ways in which archaeological research unfolds, revealing the richness of the human past through examples of discoveries from across the globe.

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.). 2000. *The World Atlas of Archaeology*. Facts on File: New York.
- Bahn, P. G. (ed.). 2001. *The Penguin Archaeology Guide*. Penguin: London.
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