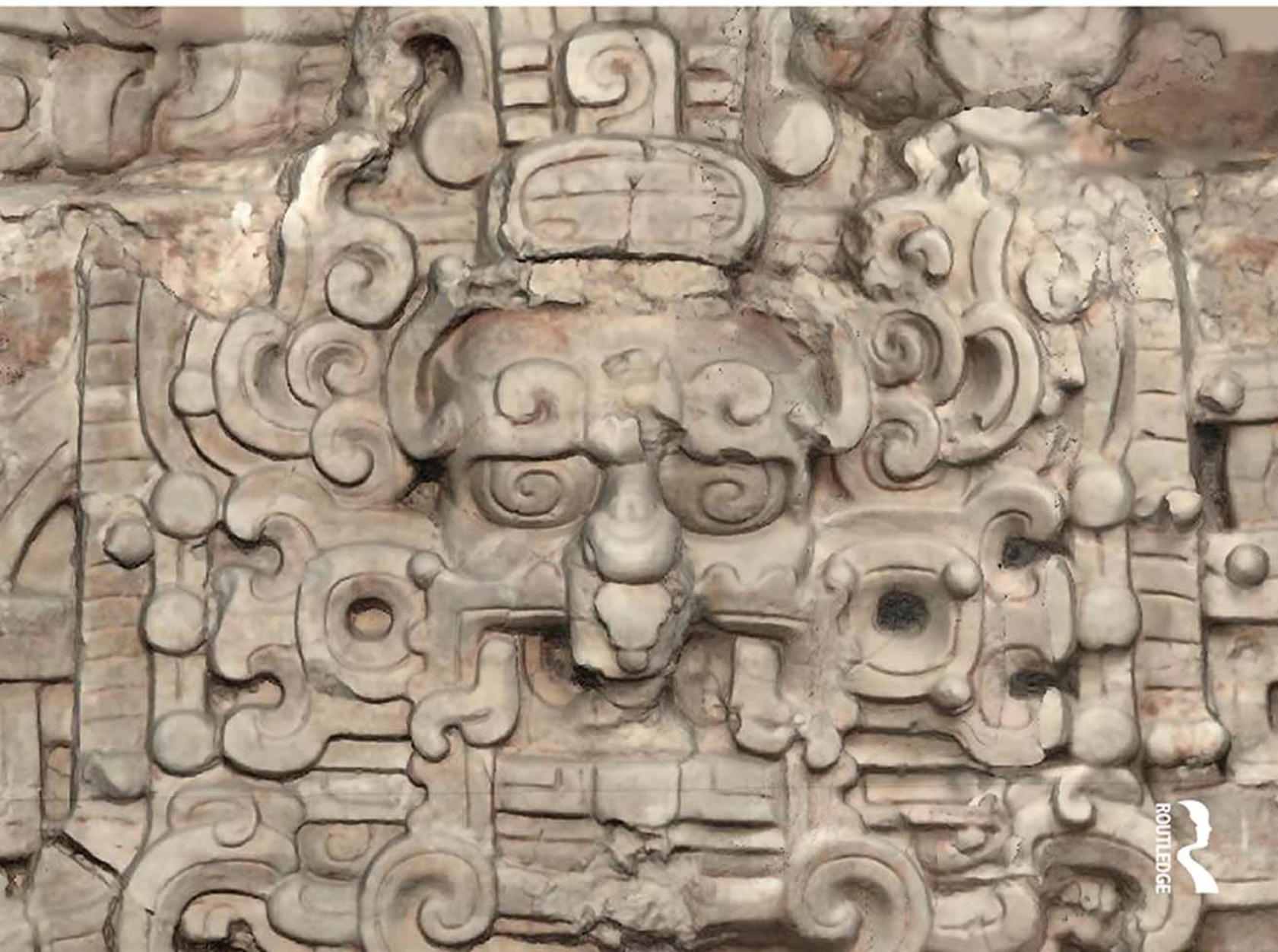


MICHAEL CHAZAN

FOURTH EDITION

**WORLD  
PREHISTORY AND  
ARCHAEOLOGY**  
**PATHWAYS THROUGH TIME**



# WORLD PREHISTORY AND ARCHAEOLOGY

## An Integrated Picture of Prehistory as an Active Process of Discovery

*World Prehistory and Archaeology: Pathways through Time*, fourth edition, provides an integrated discussion of world prehistory and archaeological methods. This text emphasizes the relevance of how we know and what we know about our human prehistory. A cornerstone of *World Prehistory and Archaeology* is the discussion of prehistory as an active process of discovery. Methodological issues are addressed throughout the text to engage readers.

Archaeological methods are introduced in the first two chapters. Succeeding chapters then address the question of how we know the past to provide an integrated presentation of prehistory. The fourth edition involves readers in the current state of archaeological research, revealing how archaeologists work and interpret what they find. Through the coverage of various new research, author Michael Chazan shows how archaeology is truly a global discipline.

## Learning Goals

Upon completing this book, readers will be able to:

- Gain new perspectives and insights into who we are and how our world came into being.
- Think about humanity from the perspective of archaeology.
- Appreciate the importance of the archaeological record for contemporary society.

**Michael Chazan** is a professor in the Department of Anthropology and the director of the Archaeology Centre at the University of Toronto, Canada. He earned his PhD in anthropology at Yale University, USA. Before coming to Toronto, Professor Chazan was a postdoctoral fellow with the Centre National de la Recherche Scientifique in Paris, France, and at the Hebrew University in Jerusalem, Israel. His field experience includes excavations in New Jersey, France, Israel, Jordan, Egypt, and South Africa. Professor Chazan's previous publications include a monograph on the Lower Paleolithic site of Holon, Israel, coauthored with Liora Kolska-Horwitz.



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**PATHWAYS THROUGH TIME**

**FOURTH EDITION**

**MICHAEL CHAZAN**

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# PREFACE

## New for the Fourth Edition

These are exciting times to be an archaeologist. Major social movements are leading us to take a new look at our past. Fears of the impact of global warming have stimulated interest of how prehistoric societies reacted to climate change and have led to the proposal that we recognize our contemporary world as part of the Anthropocene, a distinctive geological epoch shaped by human activity. Occupy Wall Street and the Bernie Sanders presidential campaign have raised awareness of growing social inequality. As a result, there is a new relevance to the question of how inequality became an established element of human society. An increasing awareness of and sensitivity to the rights of transgender people raise new questions about how we think about the origins of gender roles. Sadly, we are also confronted by the massive destruction of archaeological heritage as a casualty of war. These atrocities, along with the less visible destruction wrought by development, challenge us to come up with mechanisms to protect our fragile and irreplaceable cultural heritage.

At the same time that archaeology is increasingly relevant to global and local social issues, we are in the process of fundamental changes in the practice of archaeology. The digital revolution is having reverberations across the discipline in the way we collect data in the field, image artifacts in the lab, and make the results of our research publicly available. The rapid advances in molecular biology are providing a new perspective on the past, as geneticists excavate the genomes of living humans and extinct hominins, as well as domesticated plants and animals, to uncover a buried past. Archaeology increasingly works at the microscopic and molecular scale, a far cry from the heroic days of massive excavations.

This book is built around a view of archaeology as a dynamic study of the past. Archaeology is both socially engaged and at the cutting edge of science. In this new edition the emphasis on the social engagement is found throughout the text in the *Archaeology in the World* features and in the reports from archaeologists on their experiences of working in the field. New material includes discussion of the origin of the 1%, and the impact of the conflict in Syria. The first chapter introduces the methods of archaeology and in this edition includes a new section on biomolecular archaeology and isotopic analysis as well as digital imaging techniques, including 3D scanning, photogrammetry, and LIDAR.

Archaeology is not just a collection of methods for recovering data but also ways of thinking about the past. In this edition there is new discussion of the archaeology of gender, the Anthropocene, and niche construction theory. The shift to digital technology raises new ethical issues of access to information that are discussed in the context of the role of open-source publishing in archaeology.

The preparation of a new edition also provides an opportunity to incorporate new discoveries. In the archaeology of human origins these include the discovery of *Homo naledi*, new data on Neanderthal diet, the role of fire in early hominin societies and adaptation, the origins of stone-tipped spears, and the ecological context of hominin occupation at Olduvai Gorge. There is also expanded discussion of the advances made by genetic studies in understanding the relationship between

modern humans, Neanderthals, and the enigmatic Denisovans. No area has seen more significant activity than the study of early human occupation in the Americas, with major new discoveries in Mexico, Brazil, Peru, Chile, Florida, and Alaska.

In the study of the origins of agriculture, genetic research has begun to have an impact on our understanding of animal and plant domestication. This edition includes discussion of new field discoveries in Europe, the Middle East, the Amazon, and China. There are also new insights into poorly understood domesticates, including turkeys, chili, bottle gourds, and cacao.

In the study of the origin of social complexity we have added new discussion of spatial analysis of Angkor, the bioarchaeology of the Ur burials, the development of the ceremonial center at the Maya site of Ceibal, and evidence for pre-Nasca lines in Peru.

The epilogue looks at the archaeology of the modern world. The topics covered include the archaeological perspectives on capitalism and slavery.

Archaeology has never been more exciting. It is a field of exploration. In approaching the material presented here, bring your questions, critical thinking, and ideas. These are the tools that advance our understanding of the archaeological past.

## Organization

Part One of this book, “The Past Is a Foreign Country: Getting from Here to There,” presents an introduction to archaeological method and theory. The first chapter, “Getting Started in Archaeology,” begins in the field and discusses how archaeologists locate and excavate sites. From the field, we move into the laboratory to look at how the remains recovered in an excavation are analyzed. Archaeology involves not only conducting field and laboratory work, but also developing a framework for thinking about the past. In Chapter 2, “Putting the Picture Together,” we consider how well we know the past and how much we can learn about it. This chapter presents a brief history of the ways archaeologists have thought about the past.

From here, we turn to what we currently know about prehistory. The next three parts of the text examine human evolution, agricultural beginnings, and the development of political complexity, respectively. Part Two, “Human Evolution,” covers the period from the first evidence of tool manufacture to the spread of modern humans (*Homo sapiens*) throughout the globe. Human evolution involves the interaction between changes in human anatomy and changes in the way humans lived and in the tools they used. The four chapters in this part follow the process of biological evolution while tracking the geographic spread of human populations and developments in the way they lived.

Part Three, “Perspectives on Agriculture,” examines the shift to an agricultural way of life. The development of agricultural societies demanded a profound reorientation of the way humans related to plants and animals, along with equally significant changes in society and technology. Because the transition to agriculture took place independently in several distinct regions, it is possible to take a comparative approach to the origins of this new way of life to gain a broad understanding of the process. Chapter 7, “Towers, Villages, and Longhouses,” presents the archaeological record pointing to the beginnings of agriculture in the Middle East and the spread of agriculture into Europe. Chapter 8, “Mounds and Maize,” focuses on the origin of maize (corn) agriculture in Mesoamerica and its spread into North America. The adoption of maize agriculture in eastern North America is particularly interesting and complex, as maize was integrated into an existing indigenous agricultural system. Chapter 9, “A Feast of Diversity,” broadens the comparative perspective by briefly considering a number of other civilizations in Africa, China, New Guinea,

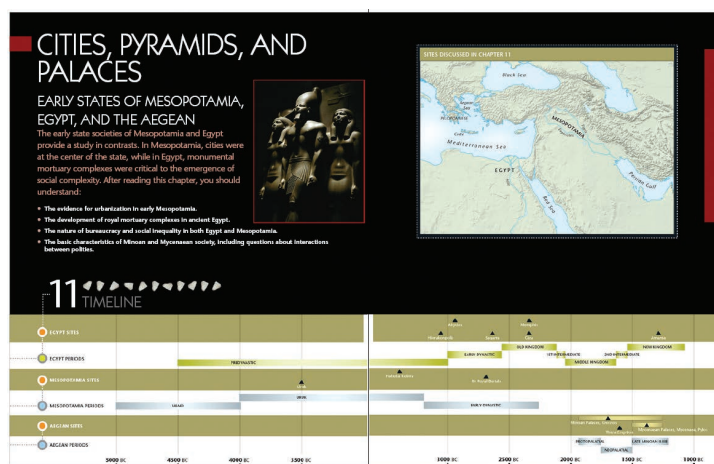
and Peru. It becomes clear that the development of agriculture often spanned a period of several thousands of years and that the process differed significantly among regions.

Following the adoption of agriculture, societies in many parts of the world expanded in scale and increased in population, which in turn led to increased social inequality. Power and access to resources came to be controlled by a smaller segment of people, resulting in the emergence of state societies. The final part, Part Four, “The Development of Social Complexity,” covers many of the world’s most spectacular and enigmatic archaeological sites, including Stonehenge, the pyramids at Giza, and the cities of the Maya. As with agriculture, social complexity developed independently in a number of regions. Thus, it is again possible to use a comparative approach to gain a broad understanding of this process.

The first chapter of Part Four—Chapter 10, “Complexity without the State”—considers the monumental sites of Stonehenge, Pueblo Bonito, Cahokia, and Great Zimbabwe, constructed by societies that were characterized by emerging social inequality. The remaining chapters present case studies of early states and empires and are organized geographically. Coverage has been expanded to include Japan and Angkor. Coverage of early states in China, Mesoamerica, and the Andes has also been expanded. The text concludes with an epilogue entitled “Bringing It Back Home,” in which we look at the traces of the past in our familiar world.

## Pedagogy

Every chapter contains a number of pedagogical elements to guide students through the text. Each chapter opener includes satellite location maps and timelines to orient students in time and place to the sites discussed. Learning objectives help students focus their reading of each chapter. Key terms, concepts, and place names are defined or described when they first appear within the text; they are also defined in the margin of the page. Subsequently, they are all listed together in a section at the end of each chapter called *Key Terms*, along with a *Chapter Summary* and a list of *Review Questions*. Each chapter contains dozens of stunning illustrations and photographs to engage students in the subject matter, demonstrate key concepts, and visually convey the spectacular nature of our stops along the pathways through time.



## Distinctive Features

The main purpose of this book is to present an integrated picture of prehistory as an active process of discovery. From this perspective, we cannot relegate methodological issues to the opening chapters alone. After students are introduced to archaeological method in the first two chapters, the question of *how* we know the past comes up on numerous occasions throughout the remaining text. A number of features have been developed to draw together an integrated presentation of prehistory.

### ■ Toolbox Sections

*Toolboxes* introduce aspects of archaeological methods that are particularly relevant to the material covered. There are two *Toolboxes* per chapter. *Toolboxes* are critical for



## The Cover Image

The cover shows a spectacular 1.5-meter-tall stucco mask depicting the storm god Chahk found on the top of the El Diablo Pyramid at the Maya city of El Zotz, Guatemala (A.D. 350–400). The image on the cover was created using photogrammetry rather than traditional photography, which allowed archaeologists to capture the detail of this complex monumental structure in 3D. The use of photogrammetry at El Zotz by the Proyecto Arqueológico El Zotz, Brown University, is an example of how digital technology is transforming archaeological practice. You can read more about El Zotz in S. Houston, S. Newman, E. Roman, and T. Garrison’s 2015 *Temple of the Night Sun: A Royal Tomb at El Diablo, Guatemala*, Mesoweb Books, San Francisco.

## A Final Note

Australian aboriginal societies speak of the *dreamtime* as the time when their ancestors walked the land. The actions of ancestors are inscribed in the land and experienced in the landscape. Archaeology explores the “scientific dreamtime”—the time of our ancestors that we discover through archaeological research. This book is an introduction to the current state of archaeology. It is not a simple catalogue of finds, but rather an attempt to give coherence to the vast expanses of human experience studied by archaeologists. Our hope is that readers will keep in mind the uncertainty that characterizes the study of prehistory. What is meant by “uncertainty”? Archaeology is a constant process of questioning and improving our understanding of the past. As in any science, all claims can and should be questioned. Archaeology is a report on the current state of the human endeavor to understand our own past. We invite you to join this endeavor, in which we reveal the present state of archaeological knowledge and introduce you to the methods used to gain that knowledge. We hope that these tools will enable you to actively engage in thinking about humanity from the perspective of archaeology, to think about processes that stretch over millennia and are global in scale, and to walk the pathways of our own “scientific dreamtime.”

MICHAEL CHAZAN

FOURTH EDITION  
**WORLD  
PREHISTORY AND  
ARCHAEOLOGY**  
PATHWAYS THROUGH TIME



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Since *World Prehistory and Archaeology: Pathways through Time* is used as a course text, I hope that instructors and students may wish to contact me. I would appreciate receiving questions, comments, and criticisms at [mchazan@chass.utoronto.ca](mailto:mchazan@chass.utoronto.ca).

I would like to take the opportunity to thank my parents, who have been a constant source of inspiration and support. I am delighted to have shared this project with my wife, Michelle Fost, and our children, Gabriel and Nathan. This has been in every sense a team effort.

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**WORLD**  
**PREHISTORY**  
**AND**  
**ARCHAEOLOGY**  
PATHWAYS THROUGH TIME

# PART ONE

## THE PAST IS A FOREIGN COUNTRY: GETTING FROM HERE TO THERE

INTRODUCTION QUESTIONS OF TIME AND ETHICS

CHAPTER 1 GETTING STARTED IN ARCHAEOLOGY

CHAPTER 2 PUTTING THE PICTURE TOGETHER

**A**rchaeology is the study of the human past through the traces of the past that exist in the present. After reading this introduction, you should understand:

- The structure of the discipline of archaeology.
- The fundamental elements of archaeological ethics.

## Introduction: Questions of Time and Ethics

*The thing the Time Traveller held in his hand was a glittering metallic framework, scarcely larger than a small clock, and very delicately made. There was ivory in it, and some transparent crystalline substance. “This little affair,” said the Time Traveller, resting his elbows on the table and pressing his hands together above the apparatus, “is only a model. It is my plan for a machine to travel through time.”* (Wells [1895] 1984, 39)

Time travel, as imagined by H.G. Wells in his visionary novel *The Time Machine* and by others in countless subsequent films and books, remains a tantalizing impossibility. We cannot climb into the saddle of an apparatus, or for that matter the seat of a DeLorean, that will whisk us back in time. We are rooted firmly in the present.

Archaeologists have developed a solution to the problem of time travel that is every bit as intricate as the mechanism built by Wells’s hero. Archaeological excavation and analysis is a highly developed scientific discipline that allows us a means of access to the human past. Archaeology does not take us into the past, but enables us to read the traces of the past that exist with us in the present.

A simple “thought experiment” can give a sense of how archaeology works. Imagine a building that you are familiar with, perhaps your family home or a school you have attended. Picture how this structure looks today, and then attempt to remove any elements that were added in the past 20 years. If the building is old, try pushing back 40, 60, or even 100 years. Now extend your view to encompass a larger landscape, perhaps a neighborhood or a town. Although we cannot reenter the past, we are surrounded by its material traces. Uncovering and understanding these traces is the archaeologist’s task (Figure I.1).

Because archaeological remains can take many forms—objects made or modified by people, organic material, geological features—the discipline of archaeology is diverse. As a result, archaeology is often found spread across academic disciplines. In the United States, archaeology is considered a subfield of anthropology, and departments of archaeology are rare. Anthropologists study the diversity of human experience, and archaeology provides an important bridge between biological anthropologists and anthropologists studying modern society and culture. Archaeology also provides time depth and gives a clear material focus to anthropology. Archaeologists working on the ancient civilizations of Mesopotamia, Egypt, and the biblical world are often found in departments of Near or Middle Eastern studies, while archaeologists of classical Greece and Rome are usually in departments of classics or art history. Archaeologists are also employed as curators in museums.

Archaeologists today tend to work outside of the university or museum setting. In the United States, most professional archaeologists are employed by private companies, dedicated to excavating and surveying areas in advance of impending construction. This type of archaeology, usually referred to as cultural resource management, or CRM, is critical to preserving our heritage in the face of development.



**FIGURE I.1** In Boston, the Old South Meeting House stands in stark contrast to the surrounding modern city



**FIGURE I.2** Archaeologists from Cultural Surveys Hawaii sift through sediment at a site in a parking lot in Lahaina, Hawaii

CRM is increasingly a global enterprise and includes firms that operate internationally. Other archaeologists work in various branches of the government, particularly the National Park Service. Archaeologists working in the public sector play a critical role in both the preservation and the presentation of cultural heritage (Figure I.2). Archaeologists have also begun to find employment in law enforcement, interdicting illegally traded artifacts and halting illegal excavation. Finally, archaeologists contribute to the development of methods of forensic science and remain active in projects documenting crime scenes, both on the local level and internationally in conjunction with investigations of war crimes.

Training in archaeology is based on a combination of university course work and practical experience. Most professional archaeologists have advanced training, at least at the master's level. Archaeological research is expensive, supporting both the process of excavation and the scientific analysis of the recovered materials. For CRM firms, the costs of excavation are paid by the landowner, as required by law. In most cases, the firm has to bid for a contract, the terms of which bind and limit the firm. Academic and museum-based archaeologists have the luxury of pursuing projects that develop from a program of research rather than from the imperatives of development. However, to pursue research, it is necessary to raise funds from government and private agencies. In the United States, the National Science Foundation and the National Endowment for the Humanities provide critical funding for archaeological research.

**FIGURE I.3** In Jerusalem, the close juxtaposition of the sacred remains of the past and the modern city creates a landscape fraught with tension, highlighting the ethical dimension of archaeology



Archaeology is a varied field of study, and archaeologists follow a range of career paths. However, the discipline is bound both by shared methods and interests and by a shared ethic. Archaeologists have recently begun to recognize the importance of exploring and codifying archaeological ethics (Figure I.3). The Register of Professional Archaeologists (RPA) was founded in 1998 as a listing of archaeologists with both graduate training and practical experience who agree to abide by an explicit code of conduct and standards of research performance ([www.rpanet.org](http://www.rpanet.org)). The Society for American Archaeology has set out the following eight principles of archaeological ethics ([www.saa.org/public/resources/ethics.html](http://www.saa.org/public/resources/ethics.html)):

- **Stewardship.** The archaeological record is irreplaceable, and archaeologists are responsible for acting as stewards, working for long-term conservation and protection of the archaeological record. Stewards are caretakers and advocates who work for the benefit of all people. The archaeological record includes archaeological materials, sites, collections, records, and reports.
- **Accountability.** Archaeologists are accountable to the public and must make an effort to consult actively with all groups affected by their research.
- **Commercialization.** Archaeologists should discourage and avoid the enhancement of the

commercial value of archaeological objects, particularly those not curated in public institutions or those inaccessible to the public.

- **Public Education and Outreach.** Archaeologists should reach out to and cooperate with interested members of the public.
- **Intellectual Property.** Original materials and documents from archaeological research should not be treated as personal possessions. After a limited and reasonable time, these materials should be made available to others.
- **Public Reporting and Publication.** Knowledge gained from archaeological research should be published within a reasonable length of time to a wide range of interested publics. If necessary for the preservation of a site, its location and nature may be obscured in publications.
- **Records and Preservation.** Archaeologists should actively work for the preservation of archaeological records and reports.
- **Training and Resources.** Archaeologists must have adequate training, facilities, and support before carrying out research.

Archaeologists study the past, but they work for the present and the future. Although we are motivated by the excitement of discovery, we are also compelled by the importance of conservation. The practical decision of how much of a site to excavate offers an example of maintaining a balance between exploration and conservation. While archaeologists might like to clean out every nook and cranny of a site as they search for critical pieces of data, such an approach is acceptable only in situations where the site faces imminent destruction. In all other cases, the desire to explore is tempered by the imperative of leaving material for future generations of archaeologists who may arrive with new methods capable of unlocking aspects of the archaeological record that are inaccessible today.

From Indiana Jones to Lara Croft, archaeologists have become popular movie heroes. The irony is that the reality of archaeology is much closer to moviemaking than to the exploits of a movie hero. Like making a film, archaeology involves the logistics of working with a team on location, for long hours, and with an eye toward pragmatic compromise. Like filmmakers, archaeologists do a great deal of unglamorous pre- and postproduction work. Archaeology calls less for bravery in battle than it does for the courage to take creative leaps based on intuition. The result of archaeological research is not triumphantly grasping a trophy, but rather reaching conclusions that open an entirely new vista of questions.

## SUMMARY

- Because archaeological remains can take many forms, including objects made or modified by people, organic material, and even geological features, the discipline of archaeology is highly varied.
- In the United States and Canada, the academic discipline of archaeology is usually found in departments of anthropology, as well as in departments of Near or Middle Eastern studies, classics, and fine arts.
- Most archaeologists today work outside of academia, in either cultural resource management firms or government agencies.
- Archaeological ethics are based on the idea that archaeologists should act as stewards of the archaeological record.

## REVIEW QUESTIONS

1. Can you think of a place you are familiar with where the physical remains of the past are apparent?
2. How does stewardship of the archaeological record differ from ownership?
3. In what ways do archaeologists work for the future?

# GETTING STARTED IN ARCHAEOLOGY

This chapter introduces you to how archaeologists find and excavate sites, as well as to the basics of archaeological laboratory research. After reading the chapter, you should understand:

- The goals of archaeological survey.
- The methods of horizontal and vertical excavation.
- The use of quantification in artifact and ecofact analysis.
- The methods used to construct an archaeological chronology.

1



A surveyor works at the Chac restoration site in Mexico.



**W**e experience the past at almost every instant. Think of how you hear a piece of music. You do not simply hear a succession of notes as they unfold in time. Rather, your hearing of each note is shaped by your memory of the preceding notes and your anticipation of what is to come. The human present is created through a fusion of past, present, and future.

As humans, we live in a present shaped by our consciousness of the past. Our sense of the past exists in our memories—in our visual, auditory, and olfactory images and sensations. Athletes also speak of a “body memory” that allows them to carry out elaborate, fine-tuned sequences of action. But memory goes far beyond our minds and our bodies. Writing systems and, more recently, computer technologies store memory externally. Anthropologists speak of collective memories—particularly memories of traumas, such as the events of September 11—that are held by a group rather than being the property of an individual. Objects and places can also embody memory; most families have heirlooms that carry a memory and a direct connection to previous generations (Lillios 1999).

Archaeology is a science that probes the depths of the human past. But archaeology is not time travel: Archaeologists and the objects they study remain firmly anchored in the present. The essential trick of archaeology is how to use static objects that exist in the present to infer the dynamics of past societies (Binford 1983). Put more simply, the goal of archaeological method is to be able to use the objects we dig up to understand the lives of people who lived in the past.

The goal of this chapter is to introduce you to archaeological method—to show you how archaeologists look at the world. We begin with fieldwork, first the way that archaeologists locate sites and then how sites are excavated. Archaeological excavation draws heavily on tools used in geology, so we also take time to consider aspects of geological stratigraphy. We then move to the laboratory to see how the objects recovered in excavations and surveys are analyzed. We pay particular attention to the quantitative methods archaeologists use to glean information from the totality of the recovered material.

## 1.1 Reading the Landscape

The first challenge facing archaeologists is finding the traces of human action. The purpose of an archaeological **survey** is to map the physical remains of human activity. The scale of surveys can range from an entire region to the surface of a single site. The evidence recorded can be as fine-grained as individual stone tools and potsherds or as massive as large standing structures.

### ■ Survey Design

The most obvious reason for carrying out an archaeological survey is to discover sites, be they sunken ships, buried cities, or hunter-gatherer camps. But archaeologists also use surveys to understand the distribution of sites within a region, how sites are distributed across the landscape, or where different activities took place within a site. In some cases, the goal is to determine whether sites will be destroyed by construction projects. Often, there is pressure to gain as complete a picture as possible at the lowest possible cost.

Archaeological surveys must be designed with the goals of the project in mind (Banning 2002). Simply recording everything is rarely possible, or even necessary, so archaeologists usually determine a strategy to sample the survey area. Statistical

**survey** An archaeological survey maps the physical remains of human activity.

sampling in archaeological survey works on the same basis as in a public-opinion poll. In both cases, a carefully selected sample is used to represent a larger population. The goals of survey research can range widely. In an important survey project carried out in southern Iraq, Robert McCormick Adams and his colleagues were able to trace the hierarchy of settlements surrounding the large urban centers of early Mesopotamia (Adams and Nissen 1972). Archaeologists working across the western United States have used similar survey methods to track the mobility of small-scale societies of hunter-gatherers (Kelly 1988).

**in situ** Archaeological material is considered to be in situ when it is found in the place where it was originally deposited.

## ■ Geological Factors

It would be naïve to expect that we can simply walk across the landscape and find traces of all past human activity. Archaeological survey must take into consideration geological factors that affect the preservation and visibility of sites. Often, sites are so deeply buried that no artifacts are visible on the surface. Early prehistoric sites in East Africa, such as Olduvai Gorge, are examples of this kind of deeply buried context. At Olduvai Gorge, sites can be discovered only where natural erosion has cut through the accumulation of sediments, exposing fossil- and artifact-bearing levels.

Although erosion is often the archaeologists' indispensable ally, erosion can also complicate the interpretation of survey results. In many cases, stream channels have cut through archaeological sites and redeposited material far downstream. Archaeologists must take care to determine whether archaeological material picked up on a survey is actually in the place where it was originally deposited or whether it has been redeposited by erosion. Archaeologists refer to material that is in the place where it was originally deposited as **in situ**. It is often possible to identify archaeological material that has been transported by water on the basis of characteristic wear patterns and the absence of very small fragments.

## ■ Recovery Methods and GIS

Most surveys involve little more than a team of archaeologists walking slowly, with heads bent, across the landscape. The problems faced in surface collection vary tremendously according to the context of the research. On the one hand, in locations where there is heavy brush coverage, actually seeing artifacts can be extremely challenging (see Figure 1.1). On the other hand, there are areas where one is walking on a "carpet of artifacts"—a situation that is problematic because one has to decide what to pick up and record.

In a depositional environment, where there is a constant buildup of sediments, artifacts may not always be found on the surface. In such a context, many archaeologists rely on a strategy of digging small test pits to find buried artifacts. The type of survey and the extent of available resources together determine the placement of the test pits.

**FIGURE 1.1** Ground-penetrating radar survey at the Bestwood site, South Africa. In this case geophysical survey provides a map of the prehistoric landscape now covered by a thick layer of sand.

