ZOOMING IN

Working with Primary Sources

Two sets of primary sources accompany each chapter of *Ways of the World*. **Working with Evidence** collections appear at the end of each chapter in the book, while *Thinking through Sources* sets are available either as a print supplement or in LaunchPad—the interactive course space for this text. Both collections typically feature written sources, such as inscriptions, letters, diaries, law codes, official records; and sacred texts, alongside visual sources—paintings, sculptures, engravings, photographs, posters, cartoons, buildings, and artifacts. Both collections are followed by a pair of secondary sources—short extracts from the writings of modern historians, archeologists, and other scholars. Collectively these sources provide an opportunity for you to practice the work of historians in a kind of guided "history laboratory." In working with this evidence, you are "doing history," much as students conducting lab experiments in chemistry or biology courses are "doing science."

Since each feature explores a theme of a particular chapter, the chapter narrative itself provides a broad context for analyzing these sources. Furthermore, brief introductions to each feature and to each document or image offer more specific context or background information, while questions provide things to look for as you examine each source. Other more integrative questions offer a focus for using those sources together to probe larger historical issues. What follows are a few more specific suggestions for assessing these raw materials of history.

Working with Documents

Written sources or documents are the most common type of primary source that historians use. For example, a number of ancient religious texts are sampled in the Working with Evidence feature of Chapter 4, while the documents in Chapter 13 present ideas about political authority in Mughal India, France, and the Inca Empire.

Analysis of such documents usually begins with the basics:

- Who wrote the document?
- When and where was it written?
- What type of document is it (for example, a letter to a friend, a political decree, an exposition of a religious teaching)?

Sometimes the document itself will provide answers to these questions. On other occasions, you may need to rely on the introductions.

Once these basics have been established, a historian is then likely to consider several further questions that situate the document in its particular historical context:

- Why was the document written, for what audience, and under what circumstances?
- What point of view does it reflect? What other views or opinions is the document arguing against? Can you get a sense of the larger conversation in which this document is participating?

Inspiration and intention are crucial factors that shape the form and content of a source. For instance, one might examine a document differently depending on whether it was composed for a private or a public readership, or whether it was intended to be read by a small elite or a wider audience.

Still another level of analysis seeks to elicit useful information from the document.

- What material in the document is believable, and what is not?
- What might historians learn from this document?
- What can the document tell us about the individual who produced it and the society from which he or she came?

In all of this, historical imagination is essential. Informed by knowledge of the context and the content of the document, your imagination will help you read it through the eyes of its author and its audience. You should ask yourself: how might this document have been understood at the time it was written? But in using your imagination, you must take care not to read into the documents your own assumptions and understandings. It is a delicate balance, a kind of dance that historians constantly undertake. Even documents that contain material that historians find unbelievable can be useful, for we seek not only to know what actually happened in the past but also to grasp the world as the people who lived that past understood it. And so historians sometimes speak about reading documents "against the grain," looking for meanings that the author might not have intended to convey.

Working with Images

Visual sources derive from the material culture of the past—religious icons or paintings that add to our understanding of belief systems, a family portrait that provides insight into presentations of self in a particular time and place, a building or sculpture that reveals how power and authority were displayed in a specific empire. These kinds of evidence represent another category of primary source material that historians can use to re-create and understand the past. But such visual sources can be even more difficult to interpret than written documents. The ideas that animated the creators of particular images or artifacts are often not obvious. Nor are the meanings they conveyed to those who viewed or used them. The lovely images from the ancient Indus River valley civilization contained in the Working with Evidence feature for Chapter 2, for example, remain enigmatic although still engaging to twenty-first-century viewers. Propaganda posters, frequently used in the source features for Volume 2, convey vividly how various groups or governments understood their own times. Despite the difficulties of interpretation, visual sources can provide insights not offered by written documents.

To use visual sources, we must try as best we can to see these pieces of evidence through the eyes of the societies that produced them and to decode the symbols and other features that imbue them with meaning. Thus context is, if anything, even more crucial for analyzing visual evidence than it is for documents. For example, understanding artistic depictions from the life of Muhammad, featured in Chapter 9, depends heavily on some knowledge of Islamic history and culture. A set of basic questions, similar to those you would ask about a written document, provides a starting point for analyzing visual sources:

- When and where was the image or artifact created?
- Who made the image or artifact? Who paid for or commissioned it? For what audience(s) was it intended?
- Where was the image or artifact originally displayed or used?

Having established this basic information about the image or artifact, you may simply want to describe it, as if to someone who had never seen it before.

- If the source is an image, who or what is depicted? What activities are shown? How might you describe the positioning of figures, their clothing, hairstyles, and other visual cues?
- If the source is an object or building, how would you describe its major features?

Finally, you will want to take a stab at more interpretive issues, making use of what you know about the context in which the visual source was created.

- What likely purpose or function did the image or artifact serve?
- What message(s) does it seek to convey?

- How could it be interpreted differently depending on who viewed or used it?
- What are the meanings of any symbols or other abstract features in the visual source?
- What can the image or artifact tell us about the society that produced it and the time period in which it was created?

Beyond analyzing particular sources, you will be invited to draw conclusions from sets of related sources—both visual and written—that address a central theme in the chapter. What can you learn, for example, about the life of Chinese elites from the sources in Chapter 8? And what do the images and documents in the Working with Evidence feature of Chapter 15 disclose about the reception of Christianity in various cultural settings?

Alongside these primary sources, the **Historians' Voices** features offer you the opportunity to consider how contemporary scholars make historical arguments and draw sound conclusions. While primary sources—documentary and visual alike—are the foundation for all historical accounts, students and scholars gain further perspective from reading the analysis of modern experts who use their deep knowledge of the sources to examine and explain the past. Immersing yourself in documents, images, and the writings of modern scholars allows you to catch a glimpse of the messiness, the ambiguity, the heartaches, and the achievements of history as it was lived and as it has been recorded.

Using these sources effectively, however, is no easy task. In fact, the work of historians might well be compared with that of Sisyphus, the ancient Greek king who, having offended the gods, was condemned to eternally roll a large rock up a mountain, only to have it ceaselessly fall back down. Like Sisyphus, historians work at a mission that can never be completely successful—to recapture the past before it is lost forever in the mists of time and fading memory. The evidence available is always partial and fragmentary. Historians and students of history alike are limited and fallible, for we operate often at a great distance—in both time and culture—from those we are studying. And we rarely agree on important matters, divided as we are by sex, nationality, religion, race, and values, all of which shape our understandings of the past.

Despite these challenges, scholars and students have long found their revisiting of the past a compelling project—intensely interesting, personally meaningful, and even fun—particularly when working with "primary" or "original" sources, which are the building blocks of all historical accounts. Such sources are windows into the lives of our ancestors, though these windows are often smudged and foggy. We hope that working with the evidence contained in these sources will enrich your own life as you listen in on multiple conversations from the past, eavesdropping, as it were, on our ancestors.

Prologue

From Cosmic History to Human History

History books in general, and world history textbooks in particular, share something in common with those Russian nested dolls in which a series of carved figures fit inside one another. In much the same fashion, all historical accounts take place within some larger context, as stories within stories unfold. Individual biographies and histories of local communities, particularly modern ones, occur within the context of one nation or another. Nations often find a place in some more encompassing civilization, such as the Islamic world or the West, or in a regional or continental context such as Southeast Asia, Latin America, or Africa. And those civilizational or regional histories in turn take on richer meaning when they are understood within the even broader story of world history, which embraces humankind as a whole.

In recent decades, some world historians have begun to situate that remarkable story of the human journey in the much larger framework of both cosmic and planetary history, an approach that has come to be called "big history." It is really the "history of everything" from the big bang to the present, and it extends over the enormous, almost unimaginable timescale of some 13.8 billion years, the current rough estimate of the age of the universe.[1]

The History of the Universe

To make this vast expanse of time even remotely comprehensible, some scholars have depicted the history of the cosmos as if it were a single calendar year (see Snapshot). On that cosmic calendar, most of the action took place in the first few milliseconds of January 1. As astronomers, physicists, and chemists tell it, the universe that we know began in an eruption of inconceivable power and heat. Out of that explosion of creation emerged matter, energy, gravity, electromagnetism, and the "strong" and "weak" forces that govern the behavior of atomic nuclei. As gravity pulled the rapidly expanding cosmic gases into increasingly dense masses, stars formed, with the first ones lighting up around 1 to 2 billion years after the big bang, or the end of January to mid-February on the cosmic calendar.

Hundreds of billions of stars followed, each with its own history, though following common patterns. They emerge, flourish for a time, and then collapse and die. In their final stages, they sometimes generate supernovae, black holes, and pulsars—phenomena at least as fantastic as the most exotic of earlier creation stories. Within the stars, enormous nuclear reactions gave rise to the elements that are reflected in the periodic table known to all students of chemistry. Over eons, these stars came together in galaxies, such as our own Milky Way, which probably emerged in March or early April, and in even larger structures called groups, clusters, and superclusters. Adding to the strangeness of our picture of the cosmos is the recent and controversial notion that perhaps 90 percent or more of the total mass of the universe is invisible to us, consisting of a mysterious and mathematically predicted substance known to scholars only as "dark matter."

The contemplation of cosmic history has prompted profound religious or philosophical questions about the meaning of human life. For some, it has engendered a sense of great insignificance in the face of cosmic vastness. In disputing the earth- and human-centered view of the cosmos, long held by the Catholic Church, the eighteenth-century French thinker Voltaire wrote: "This little globe, nothing more than a point, rolls in space like so many other globes; we are lost in this immensity."[2] Nonetheless, human consciousness and our awareness of the mystery of this immeasurable

SNAPSHOT The History of the Universe as a Cosmic Calendar

Big bang	January 1	13.7 billion years ago
Stars and galaxies begin to form	End of January / mid-February	12 billion years ago
Milky Way galaxy forms	March / early April	10 billion years ago
Origin of the solar system	September 9	4.7 billion years ago
Formation of the earth	September 15	4.5 billion years ago
Earliest life on earth	Late September / early October	4 billion years ago
Oxygen forms on earth	December 1	1.3 billion years ago
First worms	December 16	658 million years ago
First fish, first vertebrates	December 19	534 million years ago
First reptiles, first trees	December 23	370 million years ago
Age of dinosaurs	December 24–28	66 to 240 million years ago
First human-like creatures	December 31 (late evening)	2.7 million years ago
First agriculture	December 31: 11:59:35	12,000 years ago
Birth of the Buddha / Greek civilization	December 31: 11:59:55	2,500 years ago
Birth of Jesus	December 31: 11:59:56	2,000 years ago

Adapted from Carl Sagan, *The Dragons of Eden* (New York: Random House, 1977), 13–17.

universe render us unique and generate for many people feelings of awe, gratitude, and humility that are almost religious. As tiny but knowing observers of this majestic cosmos, we have found ourselves living in a grander home than ever we knew before.

The History of a Planet

For most of us, one star, our own sun, is far more important than all the others, despite its quite ordinary standing among the billions of stars in the universe and its somewhat remote location on the outer edge of the Milky Way galaxy. Circling that star is a series of planets, formed of leftover materials from the sun's birth. One of those planets, the third from the sun and the fifth largest, is home to all of us. Human history—our history—takes place not only on the earth but also as part of the planet's history.

That history began with the emergence of the entire solar system about two-thirds of the way through the history of the universe, some 4.7 billion years ago, or early September on the cosmic calendar. Geologists have learned a great deal about the history of the earth: the formation of its rocks and atmosphere; the movement of its continents; the collision of the tectonic plates that make up its crust; and the constant changes of its landscape as mountains formed, volcanoes erupted, and erosion transformed the surface of the planet. All of this has been happening for more than 4 billion years and continues still.

The most remarkable feature of the earth's history—and so far as we know unrepeated elsewhere—was the emergence of life from the chemical soup of the early planet. It happened rather quickly, only about 600 million years after the earth itself took shape, or late September on the cosmic calendar. Then for some 3 billion years, life remained at the level of microscopic single-celled organisms. According to biologists, the many species of larger multicelled creatures—all of the flowers, shrubs, and trees as well as all of the animals of land, sea, and air—have evolved in an explosive proliferation of life-forms over the past 600 million years, or since mid-December on the cosmic calendar. The history of life on earth has, however, been periodically punctuated by massive die-offs, at least five of them, in which very large numbers of animal or plant species have perished. The most widespread of these "extinction events," known to scholars as the Permian mass extinction, occurred around 250 million years ago and eliminated some 96 percent of living species on the planet. That catastrophic diminution of life-forms on the earth has been associated with massive volcanic eruptions, the release of huge quantities of carbon dioxide and methane into the atmosphere, and a degree of global warming that came close to extinguishing all life on the planet. Much later, around 66 million years ago, another such extinction event decimated about 75 percent of plant and animal species, including what was left of the dinosaurs. Most scientists now believe that it was caused primarily by the impact of a huge asteroid that landed near the Yucatán Peninsula off the coast of southern Mexico, generating enormous earthquakes, tsunamis, fireballs, and a cloud of toxic dust and debris. Many scholars believe we are currently in the midst of a sixth extinction event, driven, like the others, by major climate change, but which, unlike the others, is the product of human actions.

So life on earth has been and remains both fragile and resilient. Within these conditions, every species has had a history as its members struggled to find resources, cope with changing environments, and deal with competitors. Egocentric creatures that we are, however, human beings have usually focused their history books and history courses entirely on a single species—our own, *Homo sapiens*, humankind. On the cosmic calendar, *Homo sapiens* is an upstart primate whose entire history occurred in the last few minutes of December 31. Almost all of what we normally study in history courses—agriculture, writing, civilizations, empires, industrialization—took place in the very last minute of that cosmic year. The entire history of the United States occurred in the last second.

Yet during that very brief time, humankind has had a career more remarkable and arguably more consequential for the planet than any other species. At the heart of human uniqueness lies our amazing capacity for accumulating knowledge and skills. Other animals learn, of course, but for the most part they learn the same things over and over again. Twenty-first-century chimpanzees in the wild master much the same set of skills as their ancestors did a million years ago. But the exceptional communication abilities provided by human language allow us to learn from one another, to express that learning in abstract symbols, and then to pass it on, cumulatively, to future generations. Thus we have moved from stone axes to lasers, from spears to nuclear weapons, from "talking drums" to the Internet, from grass huts to the pyramids of Egypt, the Taj Mahal of India, and the skyscrapers of modern cities.

This extraordinary ability has translated into a human impact on the earth that is unprecedented among all living species.[3] Human populations have multiplied far more extensively and have come to occupy a far greater range of environments than has any other large animal. Through our ingenious technologies, we have appropriated for ourselves, according to recent calculations, some 25 to 40 percent of the solar energy that enters the food chain. We have recently gained access to the stored solar energy of coal, gas, and oil, all of which have been many millions of years in the making, and we have the capacity to deplete these resources in a few hundred or a few thousand years. Other forms of life have felt the impact of human activity, as numerous extinct or threatened species testify. Human beings have even affected the atmosphere and the oceans as carbon dioxide and other emissions of the industrial age have warmed the climate of the planet in ways that broadly resemble the conditions that triggered earlier extinction events. Thus human history has been, and remains, of great significance, not for ourselves alone, but also for the earth itself and for the many other living creatures with which we share it.

The History of the Human Species . . . in a Single Paragraph

The history of our species has occurred during roughly the last 200,000–300,000 years, conventionally divided into three major phases, based on the kind of technology that was most widely practiced. The enormously long Paleolithic age, with its gathering and hunting way of life, accounts for 95 percent or more of the time that humans have occupied the planet. People utilizing a stone-age Paleolithic technology initially settled every major landmass on the earth and constructed the first human societies (see Chapter 1). Then beginning about 12,000 years ago with the first Agricultural Revolution, the domestication of plants and animals increasingly became the primary means of sustaining human life and societies. In giving rise to agricultural villages and chiefdoms, to pastoral communities depending on their herds of animals, and to state- and city-based civilizations, this agrarian way of life changed virtually everything and fundamentally reshaped human societies and their relationship to the natural order. Finally, around 1750 a quite sudden spurt in the rate of technological change, which we know as the Industrial Revolution, began to take hold. That vast increase in productivity, wealth, and human control over nature once again transformed almost every aspect of human life and gave rise to new kinds of societies that we call "modern."

Here then, in a single paragraph, is the history of humankind—the Paleolithic era, the agricultural era, and, most recently and briefly, the modern industrial era. Clearly this is a big picture perspective, based on the notion that the human species as a whole has a history that transcends any of its particular and distinctive cultures. That perspective—known variously as planetary, global, or world history—has become increasingly prominent among those who study the past. Why should this be so?

Why World History?

Not long ago—in the mid-twentieth century, for example—virtually all college-level history courses were organized in terms of particular civilizations or nations. In the United States, courses such as Western Civilization or some version of American History served to introduce students to the study of the past. Since then, however, a set of profound changes has pushed much of the historical profession in a different direction.

The world wars of the twentieth century, revealing as they did the horrendous consequences of unchecked nationalism, persuaded some historians that a broader view of the past might contribute to a sense of global citizenship. Economic and cultural globalization has highlighted both the interdependence of the world's peoples and their very unequal positions within that world. Moreover, we are aware as never before that our problems—whether they involve economic well-being, global warming, disease, or terrorism—respect no national boundaries. To many thoughtful people, a global present seemed to call for a global past. Furthermore, as colonial empires shrank and new nations asserted themselves on the world stage, these peoples also insisted that their histories be accorded equivalent treatment with those of Europe and North America. An explosion of new knowledge about the histories of Asia, Africa, and pre-Columbian America erupted from the research of scholars around the world. All of this has generated a "world history movement,"

reflected in college and high school curricula, in numerous conferences and specialized studies, and in a proliferation of textbooks, of which this is one.

This world history movement has attempted to create a global understanding of the human past that highlights broad patterns cutting across particular civilizations and countries, while acknowledging in an inclusive fashion the distinctive histories of its many peoples. This is, to put it mildly, a tall order. How is it possible to encompass within a single book or course the separate stories of the world's various peoples? Surely it must be something more than just recounting the history of one civilization or culture after another. How can we distill a common history of humankind as a whole from the distinct trajectories of particular peoples? Because no world history book or course can cover everything, what criteria should we use for deciding what to include and what to leave out? Such questions have ensured no end of controversy among students, teachers, and scholars of world history, making it one of the most exciting fields of historical inquiry.

Context, Change, Comparison, and Connection: The Four Cs of World History

Despite much debate and argument, most scholars and teachers of world history would probably agree on four major emphases of this remarkable field of study. The first lies in the observation that in world history, nothing stands alone. Every event, every historical figure, every culture, society, or civilization gains significance from its inclusion in some larger framework. This means that **context** is central to world history and that contextual thinking is the essential skill that world history teaches. And so we ask the same question about every particular occurrence: where does it fit in the larger scheme of things?

A second common theme in world history involves **change** over time. Most often, it is the "big picture" changes—those that affect large segments of humankind—that are of greatest interest. How did the transition from a gathering and hunting economy to one based on agriculture take place? How did cities, empires, and civilizations take shape in various parts of the world? What impact did the growing prominence of Europe have on the rest of the world in recent centuries? A focus on change provides an antidote to a persistent tendency of human thinking that historians call "essentialism." A more common term is "stereotyping." It refers to our inclination to define particular groups of people with an unchanging or essential set of characteristics. Women are nurturing; peasants are conservative; Americans are aggressive; Hindus are religious. Serious students of history soon become aware that every significant category of people contains endless divisions and conflicts and that those human communities are constantly in flux. Peasants may often accept the status quo, except of course when they rebel, as they frequently have. Americans have experienced periods of isolationism and withdrawal from the world as well as times of aggressive engagement with it. Things change.

But some things persist, even if they also change. We should not allow an emphasis on change to blind us to the continuities of human experience.

A recognizably Chinese state has operated for more than 2,000 years. Slavery and patriarchy persisted as human institutions for thousands of years until they were challenged in recent centuries, and in various forms they exist still. The teachings of Buddhism, Christianity, and Islam have endured for centuries, though with endless variations and transformations.

A third element that operates constantly in world history books and courses is that of **comparison**. Whatever else it may be, world history is a comparative discipline, seeking to identify similarities and differences in the experience of the world's peoples. What is the difference between the development of agriculture in the Middle East and in Mesoamerica? Was the experience of women largely the same in all patriarchal societies? Why did the Industrial Revolution and a modern way of life evolve first in Western Europe rather than somewhere else? What distinguished the French, Russian, and Chinese revolutions from one another? Describing and, if possible, explaining such similarities and differences are among the major tasks of world history. Comparison has proven an effective tool in efforts to counteract Eurocentrism, the notion that Europeans or people of European descent have long been the primary movers and shakers of the historical process. That notion arose in recent centuries when Europeans were in fact the major source of innovation in the world and did for a time exercise something close to world domination. But comparative world history sets this recent European prominence in a global and historical context, helping us to sort out what was distinctive about the development of Europe and what similarities it bore to other major regions of the world. Puncturing the pretensions of Eurocentrism has been high on the agenda of world history.

A fourth emphasis within world history, and in this book, involves the interactions, encounters, and **connections** among different and often distant peoples. Focusing on cross-cultural connections—whether those of conflict or more peaceful exchange—represents an effort to counteract a habit of thinking about particular peoples, states, or cultures as self-contained or isolated communities. Despite the historical emergence of many separate and distinct societies, none of them developed alone. Each was embedded in a network of relationships with both near and more distant peoples.

Moreover, these cross-cultural connections did not begin with Columbus. The Chinese, for example, interacted continuously with the nomadic peoples on their northern border; generated technologies that diffused across all of Eurasia; transmitted elements of their culture to Japan, Korea, and Vietnam; and assimilated a foreign religious tradition, Buddhism, that had originated in India. Though clearly distinctive, China was not a self-contained or isolated civilization. Thus world history remains always alert to the networks, webs, and encounters in which particular civilizations or peoples were enmeshed.

Context, change, comparison, and connection—all of them operating on a global scale—represent various ways of bringing some coherence to the multiple and complex stories of world history. They will recur repeatedly in the pages that follow.

A final observation about this account of world history: *Ways of the World*, like all other world history textbooks, is radically unbalanced in terms of coverage. Chapter 1, for example, takes on some 95 percent of the human story, well over 200,000 years of our history. By contrast, the last century alone occupies four entire chapters. In fact, the six major sections of the book deal with progressively shorter time periods, in progressively greater detail. This imbalance owes much to the relative scarcity of information about earlier periods of our history. But it also reflects a certain "present mindedness," for we look to history, always, to make sense of our current needs and circumstances. And in doing so, we often assume that more recent events have a greater significance for our own lives in the here and now than those that occurred in more distant times. Whether you agree with this assumption or not, you will have occasion to ponder it as you consider the many and various "ways of the world" that have emerged in the course of the human journey and as you contemplate their relevance for your own journey.

Ways of the World

A Brief Global History with Sources

PART 1

First Things First: Beginnings in History

to 600 B.C.E.



THE BIG PICTURE

Turning Points in Early World History

Human beings have long been inveterate storytellers, and so too are contemporary historians. They tell stories about individuals, communities, nations, civilizations, and, in the case of world history, about humankind as a whole. All tellers of stories—ancient and modern alike—have to decide where to begin their accounts and what major turning points in those narratives to highlight. For world historians seeking to tell the story of "all under Heaven," as the Chinese put it, four major "beginnings," each of them an extended historical process, have marked the initial stages of the human journey.

PHOTOS: left, De Agostini Picture Library/AGE fotostock; center, Courtesy, Department of Antiquities of Jordan (DoA)/Photo by John Tsantesi, Courtesy, Dr. Gary O. Rollefson; right, Musée du Louvre, Paris, France/© RMN – Grand Palais/Art Resource, NY

The Emergence of Humankind

The first large-scale process in the human story lies in biological evolution. According to archeologists and anthropologists, the evolutionary line of descent leading to *Homo sapiens* separated from that of chimpanzees, our closest primate relatives, some 5 to 6 million years ago, and it happened in eastern and southern Africa. There, perhaps twenty or thirty different species emerged, all of them members of the Homininae (or hominid) family of human-like creatures. What they all shared was bipedalism, the ability to walk upright on two legs. Over time, these hominid species changed. Their brains grew larger; they began to make and use simple stone tools; some started to eat meat, at least occasionally; eventually they learned to control fire. By 1 million years ago, some hominid species, especially *Homo erectus*, began to migrate out of Africa, and their remains have been found in various parts of Eurasia.

But all of these earlier hominid species finally died out, except one: *Homo sapiens*, ourselves. With a remarkable capacity for symbolic language that permitted the accumulation and transmission of learning, our species too appeared first in Africa and quite recently, probably no more than 250,000 years ago. For a long time, all of the small number of *Homo sapiens* lived in Africa, but sometime after 100,000 years ago, they too began to migrate out of Africa onto the Eurasian landmass, then to Australia, and ultimately into the Western Hemisphere and the Pacific islands.

The Globalization of Humankind

This amazing journey represents the second major turning point in the human story. Our ancient ancestors—small in stature, not fast on foot, and armed with a very limited technology of stone tools—were able to adapt to almost every environmental setting on the planet. The phase of human history during which these initial migrations took place is known to scholars as the Paleolithic era. The word "Paleolithic" literally means the "old stone age," but it refers more generally to a gathering, hunting, and fishing way of life, before agriculture allowed people to grow crops or raise animals deliberately. Lasting until roughly 12,000 years ago, and in many places much longer, the Paleolithic era represents over 95 percent of the time that human beings have inhabited the earth. Although often neglected by historians and history textbooks, this long period of the human experience merits greater attention and is the focus of the initial sections of Chapter 1.

The Revolution of Farming and Herding

Then, a third process began to completely reshape the human experience. Around 12,000 years ago, human communities in parts of the Middle East, Asia, Africa, and the Americas began the laborious process of domesticating animals and selecting seeds to be planted. This momentous accomplishment, often called the Agricultural Revolution, surely marks the single most significant and enduring transformation of our history. Now our species learned

to exploit and manipulate particular organisms, both plant and animal. Farming and raising animals allowed for a substantial increase in human numbers and over many centuries generated a profound transformation of the environment. Forests were felled, arid lands irrigated, meadows plowed, and mountains terraced. Increasingly, the landscape reflected human intentions and actions.

The Turning Point of Civilization

The most prominent and powerful human communities to emerge from this Agricultural Revolution were those often designated as "civilizations," more complex societies that were based in bustling cities and governed by formal states. Their emergence in Eurasia, Africa, and the Americas marked the fourth major transformation in human history. Because almost all of the world's people now live in such societies, states and cities have come to seem almost natural. In world history terms, however, their appearance is quite recent. Not until several thousand years *after* the beginning of agriculture did the first cities and states emerge, around 3500 B.C.E. Well after 1000 C.E., substantial numbers of people still lived in communities without any state or urban structures. Nonetheless, people living in state- and city-based societies or civilizations have long constituted the most powerful and innovative human communities on the planet. They have given rise to empires of increasing size, enduring cultural and religious traditions, new technologies, sharper class and gender inequalities, new conceptions of masculinity and femininity, and large-scale warfare. The earliest of these civilizations provide the focus of Chapter 2.

Time and World History

Reckoning time is central to all historical study, for history is essentially the story of change over time. Recently it has become standard in the Western world to refer to dates prior to the birth of Christ as B.C.E. (before the Common Era), replacing the earlier B.C. (before Christ) usage. This convention is an effort to become less Christian-centered and Eurocentric in our use of language, although the chronology remains linked to the birth of Jesus. Similarly, the time following the birth of Christ is referred to as C.E. (the Common Era) rather than A.D. (*Anno Domini*, Latin for "year of the Lord"). Dates in the more distant past are designated in this book as B.P. (before the present), or simply as so many "years ago." Of course, these conventions are only some of the many ways that human societies have charted time, and they reflect the global dominance of Europeans in recent centuries. But the Chinese frequently dated important events in terms of the reign of particular emperors, while Muslims created a new calendar beginning with Year 1, marking Muhammad's forced relocation from Mecca to Medina in 622 C.E. As with so much else, the ways we represent change over time reflect the cultures in which we have been born and the historical experience of our societies.

World history frequently deals with very long periods of time, often encompassing many millennia or centuries in a single paragraph or even in a single sentence. This panoramic perspective provides context, a big picture framework in which we can situate particular events, societies, and individual experiences. Doing so allows us to discern patterns and trends that may be invisible from the viewpoint of a local community, a single nation, or one civilization. In the narrative that follows, there will be plenty of particulars—events, places, people—but always embedded in some larger setting that heightens their significance.

Landmarks in World History (to ca. 600 B.C.E.) *(All dates are B.C.E.)*

27,000 26,000 25,000 24,000 23,000 22,000 21,000 20,000 19,000 18,000 17,000 16,000 15,000

AFRICA

250,000–200,000 Emergence of *Homo Sapiens*

100,000–70,000 Earliest evidence of human symbolic behavior

100,000–60,000 Human migration out of Africa into Eurasia

EURASIA

70,000 Human entry into Asia

45,000 Human entry into Europe

35,000 Earliest female figurines from Germany

33,000–15,000 Paleolithic cave art in Europe

25,000 Extinction of Neanderthals

THE AMERICAS AND PACIFIC OCEANIA

60,000–40,000 Human entry into Australia

30,000 Extinction of large mammals in Australia

30,000–15,000 Human entry into the Americas

14,000 13,000 12,000 11,000 10,000 9000 8000 7000 6000 5000 4000 3000 2000 1000

AFRICA

14,000–8000
Harvesting of wild grains in northeastern Africa

8000–4000
Cattle-based pastoral societies in Africa

4000
Domestication of donkey in northeastern Africa

3400–3200
Nubian kingdom of Ta-Seti

3500–3000
Beginnings of Egyptian civilization

3000–1000
Agricultural breakthroughs in sub-Saharan Africa

3000–2000
Beginning of Bantu migrations

1259
Treaty ending conflict between Egypt and the Hittites

1000–500
Ironworking in sub-Saharan Africa

EURASIA

14,000–8000
Global warming and end of last Ice Age

10,000
Göbekli Tepe: monumental Paleolithic construction

10,000–8000
Earliest agricultural revolutions

6000
Early chiefdoms in Mesopotamia

5400 Wine making in Iran

4000 Domestication of horses

3500–3000 Beginnings of Mesopotamian civilization

2200–2000
Beginnings of Chinese, Indian, and Central Asian civilizations

THE AMERICAS AND PACIFIC OCEANIA

11,000
Clovis culture in North America

9000
Extinction of various large mammals in North America

3000–1800 Norte Chico civilization in Peru

3000–2000
Domestication of potatoes, quinoa, and manioc in the Andes

1500
Human entry into Pacific Oceania

1400–800
Lapita culture in Melanesia

4000–3000
Domestication of corn in Mexico

1200
Olmec civilization in Mesoamerica

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CHAPTER 1

First Peoples; First Farmers

Most of History in a Single Chapter

to 3500 B.C.E.

"We do not want cattle, just wild animals to hunt and water that we can drink."[1] That was the view of Gudo Mahiya, a prominent member of the Hadza people of northern Tanzania, when he was questioned in 1997 about his interest in a settled life of farming and cattle raising. The Hadza represent one of the very last peoples on earth to continue a way of life that was universal among humankind until 10,000 to 12,000 years ago. In 2014, only about 1,300 Hadza survived, and of these just several hundred still made a living by hunting game, collecting honey, digging up roots, and gathering berries and fruit. Almost certainly, Gudo Mahiya's way of life is doomed, as farmers, cattle herders, governments, missionaries, and now tourists push the Hadza toward extinction. The likely disappearance of the Hadza people and their culture is among the final chapters of a very long story in which gathering, hunting, and fishing peoples have been unsuccessfully on the defensive against more numerous and powerful neighbors for 10,000 years. ■

« **Paleolithic Art** The rock art of gathering and hunting peoples has been found in Africa, Europe, Australia, and elsewhere. This image from the San people of southern Africa represents aspects of their outer life in the form of wild animals and hunters with bows as well as the inner life of their shamans during a trance, reflected in the elongated figures with both human and animal features.

Nonetheless, that way of life sustained humankind for more than 95 percent of our time on the earth. During countless centuries, human beings successfully adapted to a wide variety of environments without benefit of deliberate farming or animal husbandry. Instead, our early ancestors wrested a livelihood by gathering wild foods such as berries, nuts, roots, and grain; by scavenging dead animals; by hunting live animals; and by fishing. Known to scholars as "gathering and hunting" peoples, they were foragers or food collectors

rather than food producers. Because they used stone rather than metal tools, they also have been labeled Paleolithic, or Old Stone Age, peoples.

Then, around 12,000 years ago, an enormous transformation began to unfold as a few human societies—in Eurasia, Africa, and the Americas alike—started to practice the deliberate cultivation of plants and the domestication of animals. This Agricultural or **Neolithic** (New Stone Age) **Revolution** marked a technological breakthrough of immense significance, with implications for every aspect of human life. This chapter, dealing with the long **Paleolithic era** and the initial transition to an agricultural way of life, represents most of human history—everything, in fact, before the advent of urban-based civilizations, which began only 5,500 years ago.

And yet history courses and history books often neglect this long phase of the human journey and instead choose to begin the story with the early civilizations of Egypt, Mesopotamia, China, and elsewhere. Some historians identify "real history" with writing and so dismiss the Paleolithic and Neolithic eras as largely unknowable because their peoples did not write. (See Controversies: Debating the Timescales of History, page 12.) Others, impressed with the rapid pace of change in human affairs in more recent times, assume that nothing much of real significance happened during the long Paleolithic era—and that no change meant no history.

But does it make sense to ignore the first 200,000 years or more of human experience? The achievements of Paleolithic peoples—the initial settlement of the planet, the creation of the earliest human societies, the beginnings of reflection on the great questions of life and death—surely deserve our attention. And the breakthrough to agriculture arguably represents the single most profound transformation of human life in all of history. Our grasp of the human past is incomplete—massively so—if we choose to disregard the Paleolithic and Neolithic eras.

SEEKING THE MAIN POINT

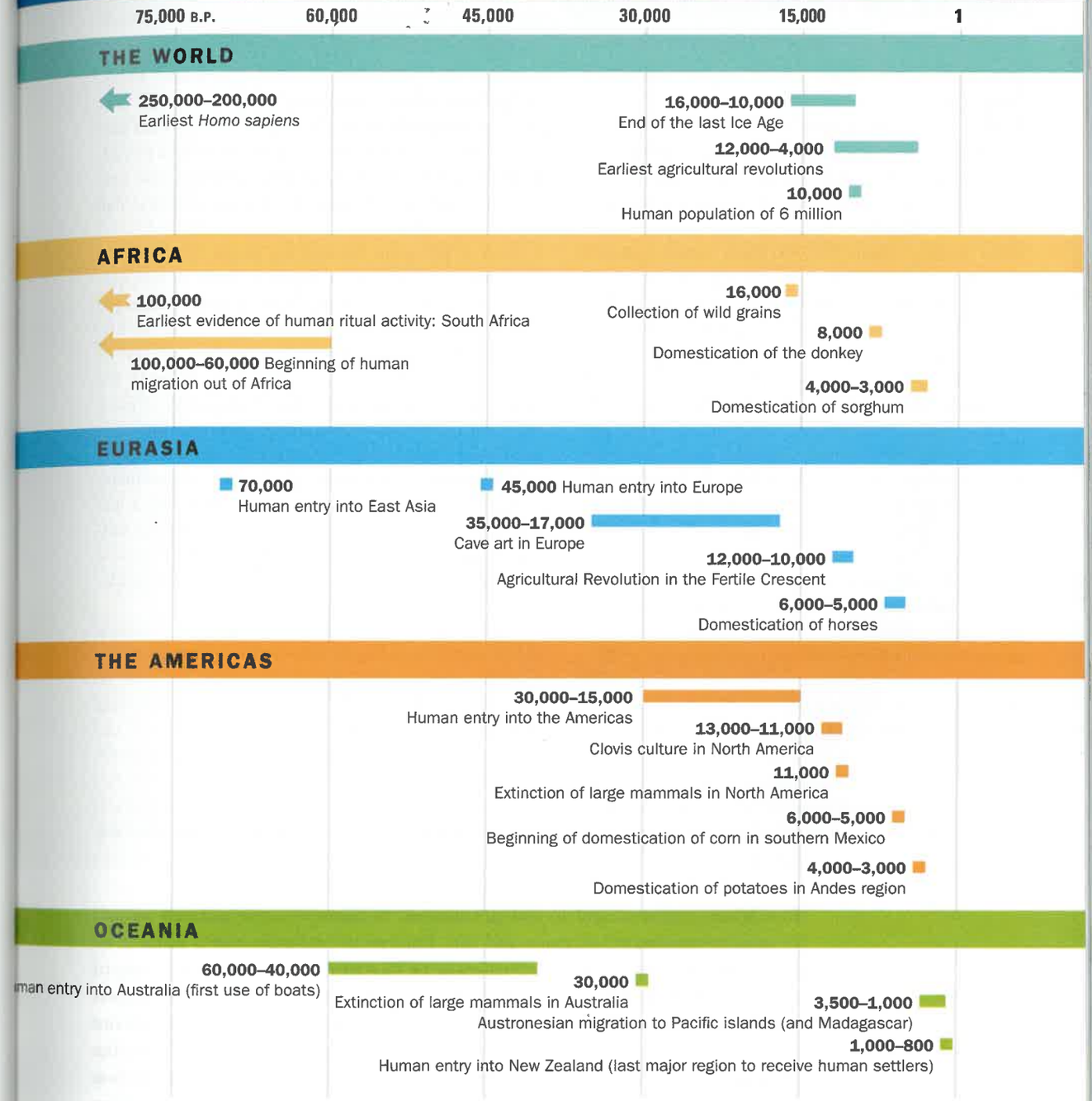
What arguments does this chapter make for paying serious attention to human history before the coming of "civilization"?

Out of Africa: First Migrations

The first 150,000 years or more of human experience was an exclusively African story. Around 200,000 to 250,000 years ago, in the grasslands of eastern and southern Africa, *Homo sapiens* first emerged, following in the footsteps of many other hominid or human-like species before it. Time and climate have erased much of the record of these early people, and Africa has witnessed much less archeological research than other parts of the world. Nonetheless, scholars have turned up evidence of distinctly human behavior in Africa long before its appearance elsewhere. Africa, almost certainly, was the place where the "human revolution" occurred, where "culture," defined as learned or invented ways of living, became more important than biology in shaping behavior.

What kinds of uniquely human activity show up in the early African record?[2] In the first place, our ancient African ancestors began to create new technologies as stone blades and points fastened to shafts replaced the earlier hand axes; tools made

Landmarks for Chapter 1*



*All dates are B.P. or Before the Present, and all dates are approximate.

CONTROVERSIES

Debating the Timescales of History

So when does world history begin? And does it matter?

If "world history" refers to the story of humankind, professional historians until recently were largely in agreement that history began with writing, for as one book published in 1898 put it, "No documents, no history."[3] While humans clearly existed before writing—some 200,000 years, in fact—historians viewed their pasts as almost completely unrecoverable from the few physical remains that survived. They described these earlier peoples as prehistoric or "before history" and left their study to archeology and what was later called paleoanthropology. But writing emerged only about 5,500 years ago, and even then was limited to a few places. Furthermore, until the last several centuries writing was confined largely to elites, who wrote primarily about "the wars they fought, the literature they wrote, and the gods they worshipped."[4] Thus an understanding of the human journey based only on written records was massively skewed and incomplete.

From the mid-twentieth century onward, increasingly accurate and affordable scientific techniques—including radio-carbon dating, DNA testing, and advances in linguistics and archeology—allowed scholars to date artifacts and the movements of human populations that occurred tens or even hundreds of thousands of years ago. A much clearer understanding of early human history emerged as scholars were able to trace chronologically such crucial developments as the spread of our species across the planet and the dissemination of bronze-working technologies. The world before writing no longer seemed so unrecoverable, and many scholars—historians, archeologists, and others—broadened the definition of "history" to incorporate not only peoples of the distant past but also the lives of those who had left no written record. While large gaps in our knowledge persisted, the new techniques opened up windows into the past that had been mostly shut before.

Even as historians debated the extent to which the "prehistory" of our species should or could be incorporated into historical accounts, a related question emerged about how—or whether—to locate all of human history within some greater context. Over the past several decades, some historians have begun to integrate the human story into the much larger frameworks of planetary and cosmic evolution, an approach that has come to be called "big history." Remarkable advances in the natural sciences—astronomy, geology, and evolutionary biology—suggest that the cosmos as a whole has a history, as do the stars, the solar system, the planets, including the earth, and life itself. They have a history because they have changed over time, for change is the fundamental feature of all historical accounts.

Such understandings have caused some to conclude that human history can be fully understood only if contextualized in the changing patterns of the cosmos. As the historian William McNeill has written, "Human beings, it appears, do indeed belong to the universe and share its unstable, evolving character . . . what happens among human beings and what happens among the stars looks to be part of a grand, evolving story."[5] Supporters of this view assert that big history "offers a powerful way of understanding the place of our own species, *homo sapiens*, within the universe. By doing so it helps us to understand better what human history is all about."[6]

But not all historians agree with this perspective. Some critics of "big history" argue that its almost unimaginable timescales, measured in billions or many millions of years, leave too little room for the human story, reducing it to insignificance. The types of problems or questions that have long occupied professional historians, such as the legacies of the Chinese warring states period or World War I, are worthy of little more than a mention in big history timescales. Others complain that the careful reading and analysis of documents have been replaced by scientific forms of inquiry. Is "big history," they ask, really history at all?

Whatever one may think of these debates, big history represents the latest chapter in a remarkable rethinking of when world history begins. At the turn of the twentieth century few historians could conceive of history beginning more than 6,000 years ago, but by the early twenty-first century some argue that the human story finds its most appropriate place in a process that began over thirteen billion years earlier.

Clearly the timescales of human history matter, because they shape the questions we ask and the techniques of inquiry that we employ. If we seek to understand the ups and downs of civilizations over the past five millennia, written records are essential. Without them, we would know little about the evolution of Buddhism, the rise and fall of empires, the Industrial Revolution, and much more. But if we want to know something of the process by which humans came to occupy almost every environmental niche on the earth, then written records are of little help, because almost all of that process took place long before writing was invented anywhere. So we must rely on DNA analysis, carbon dating, and linguistics.

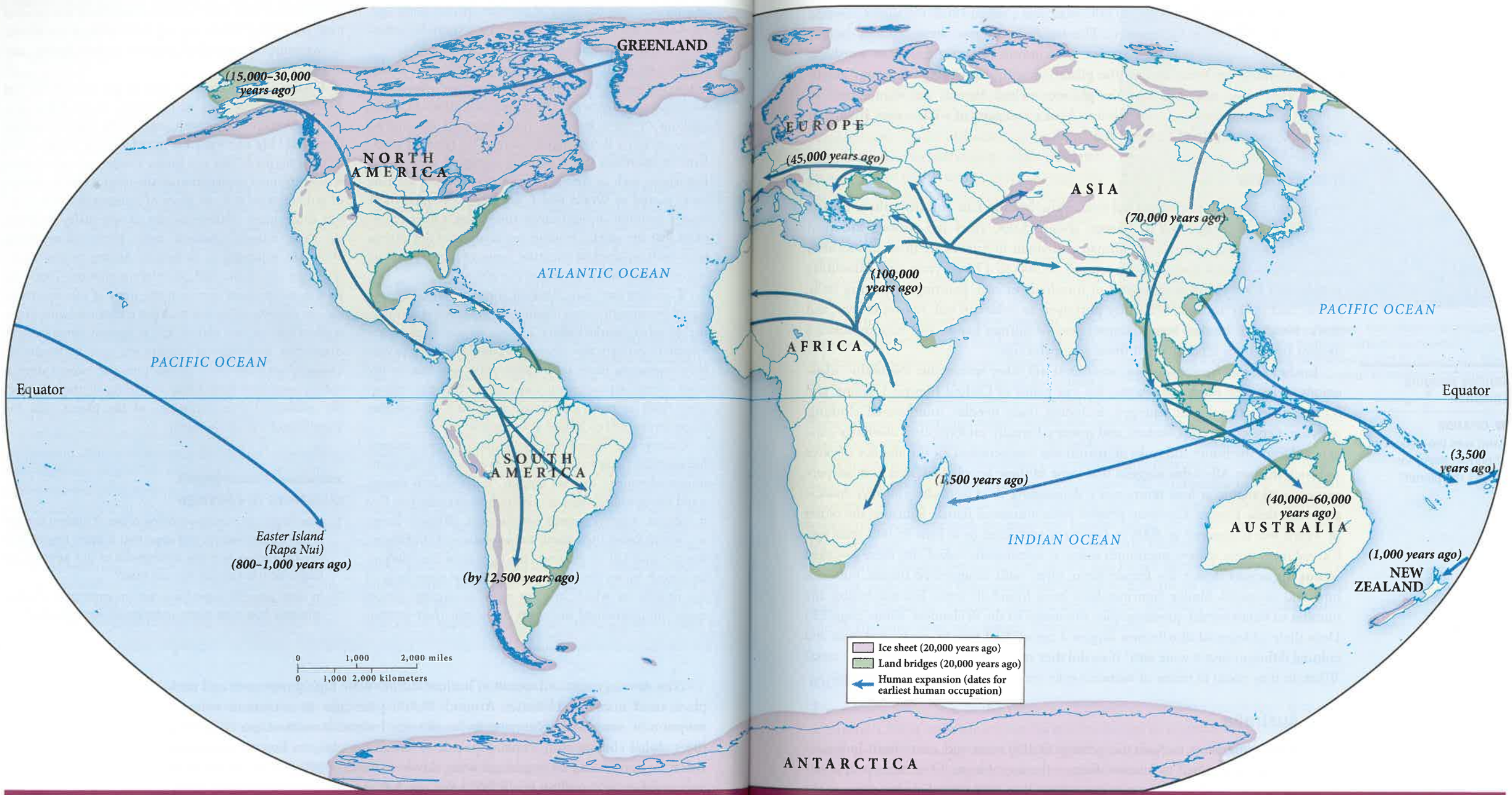
Finally, when historians turn to the cosmic or "big history" timescale, they are motivated by still other concerns. For David Christian, one of the leading practitioners of "big history," that grand scale of things offers a "creation myth" for our times, a coherent and scientifically informed explanation of the origins and evolution of our universe and the place of humankind within it.[7] For those more philosophically or spiritually inclined, the "big history" outlook raises profound questions about the relationship of human history to the larger narrative of cosmic and planetary evolution. Does the human experiment represent the story of just one more species thrown up by the ceaseless transformations of the web of life on this planet? Or is human consciousness distinctive, representing perhaps the cosmos becoming aware of itself? In these perspectives the human story is solidly anchored within the unfolding of the universe, the geological transformations of the planet, and the evolution of life on the earth.

QUESTIONS TO CONSIDER

1. How might your understanding of world history change if you subscribed to the idea that history began with writing, began with the emergence of our species, or began at the start of the universe?
2. In what specific ways have advancements in science affected how historians understand world history?

from bones appeared, and so did grindstones. Settlements were planned around the seasonal movement of game and fish. Patterns of exchange over a distance of almost 200 miles indicate larger networks of human communication. The use of body ornaments, beads, and pigments as well as possible planned burials suggests the kind of social and symbolic behavior that has characterized human activity ever since. The earliest evidence for this kind of human activity comes from the Blombos Cave in South Africa, where excavations in 2008 uncovered a workshop for the processing of ochre (a naturally occurring earth pigment with a red, yellow, or brown color) dating to around 100,000 years ago, well before such behavior surfaced elsewhere in the world.

The development and spread of human culture were highly uncertain and took place amid immense obstacles. Around 70,000 years ago an enormous volcanic eruption on the island of Sumatra in present-day Indonesia resulted in a cooler and drier global climate and, scholars speculate, something close to human extinction. But human numbers recovered, growing slowly to perhaps 500,000 by 30,000 years ago and then to 6 million by 10,000 years ago.[8] As this recovery took shape, sometime between 100,000 and 60,000 years ago, human beings began their long trek out of Africa and into Eurasia, Australia, the Americas, and, much later, the islands of the Pacific, where they encountered vastly different environments (see Map 1.1). Much of this long journey occurred during the difficult climatic conditions of the



MAPPING HISTORY

Map 1.1 The Global Dispersion of Humankind

With origins in Africa perhaps 250,000 years ago, members of our species (*Homo sapiens*) have migrated to every environmental setting on the planet over the past 100,000 years.

READING THE MAP: Trace the routes of human migration and settlement from the point where our species first left Africa. In what order were the regions of the world settled, and how long did it take for that settlement to unfold?

INTERPRETING THE MAP: Identify those regions where humans settled last. What geographic factors may have delayed the settlement of these regions?

last Ice Age (at its peak around 20,000 years ago), when thick ice sheets covered much of the Northern Hemisphere. The Ice Age did give these outward-bound human beings one advantage, however: the amount of water frozen in northern glaciers lowered sea levels around the planet, creating land bridges among various regions that were separated after the glaciers melted. Britain was then joined to Europe; eastern Siberia was connected to Alaska; and parts of what is now Indonesia were linked to mainland Southeast Asia.

Into Eurasia

Human migration out of Africa led first to the Middle East and from there to Asia about 70,000 years ago and to Europe about 45,000 years ago. Among the most carefully researched areas of early human settlement in Eurasia are those in southern France and northern Spain. There, around 35,000 to 17,000 years ago, Paleolithic peoples left a record of their world in hundreds of cave paintings depicting bulls, horses, and other animals, brilliantly portrayed in colors of red, yellow, brown, and black. Images of human beings, impressions of human hands, and various abstract designs sometimes accompanied these cave paintings.

Guided Reading Question

CHANGE

What was the sequence of human migration across the planet?

Farther east, archeologists have uncovered still other remarkable Paleolithic adaptations to Ice Age conditions. Across the vast plains of Central Europe, Ukraine, and Russia, new technologies emerged, including bone needles, multilayered clothing, weaving, nets, storage pits, baskets, and pottery. Partially underground dwellings constructed from the bones and tusks of mammoths compensated for the absence of caves and rock shelters. All of this suggests that some of these people had lived in more permanent settlements, at least temporarily abandoning their nomadic journeys. Associated with these Eastern European peoples were numerous female figurines, the oldest of which was uncovered in 2008 in Germany and dated to at least 35,000 years ago. Carved from stone, antlers, mammoth tusks, or, occasionally, baked clay, these so-called **Venus figurines** depict the female form, often with exaggerated breasts, buttocks, hips, and stomachs. Similar figurines have been found all across Eurasia, raising any number of controversial questions. (See the image of the Willendorf Venus, page 23.) Does their widespread distribution suggest a network of human communication and cultural diffusion over a wide area? If so, did they move from west to east or vice versa? What do they mean in terms of women's roles and status in Paleolithic societies?

Into Australia

Early human migration to Australia, perhaps 60,000 years ago, came from Indonesia and involved another first in human affairs—the use of boats. Over time, people settled in most regions of this huge continent, though quite sparsely. Scholars estimate the population of Australia at about 300,000 in 1788, when the first Europeans arrived. Over tens of thousands of years, the peoples of Australia had developed perhaps 250 languages; learned to collect a wide variety of bulbs, tubers, roots, seeds, and cereal grasses; and become proficient hunters of large and small animals, as well as birds, fish, and other marine life. A relatively simple technology, appropriate to a gathering and hunting economy, sustained Australia's Aboriginal people into modern times.

Accompanying Aboriginals' technological simplicity and traditionalism was the development of an elaborate and complex outlook on the world, known as the **Dreamtime**. (See Working with Evidence, page 44, for more on the Dreamtime.) Expressed in endless stories, in extended ceremonies, and in the evocative rock art of the continent's peoples, the Dreamtime recounted the beginning of things: how ancestral beings crisscrossed the land, creating its rivers, hills, rocks, and waterholes; how various peoples came to inhabit the land; and how they related to animals and to one another. In this view of the world, everything in the natural order was a vibration, an echo, a footprint of these ancient happenings, which linked the current inhabitants intimately to particular places and to timeless events in the past.

Australian Rock Art: The Rainbow Serpent Associated with creation, fertility, and social harmony, the Rainbow Serpent has figured prominently in Australian Aboriginal mythology and in its rock art. See a story associated with the Rainbow Serpent in Working with Evidence, Source 1.2. (Prisma by Dukas Presseagentur GmbH/Alamy)

The journeys of the Dreamtime's ancestral beings reflect the networks of migration, communication, and exchange that linked the continent's many Paleolithic peoples. Far from living as isolated groups, they had long exchanged particular stones, pigments, materials for ropes and baskets, wood for spears, feathers and shells for ornaments, and an addictive psychoactive drug known as *pituri* over distances of hundreds of miles. Songs, dances, stories, and rituals likewise circulated. Precisely how far back in time these networks extend is difficult to pinpoint, but it seems clear that Paleolithic Australia, like ancient Europe, was both many separate worlds and, at the same time, one loosely connected world.

Into the Americas

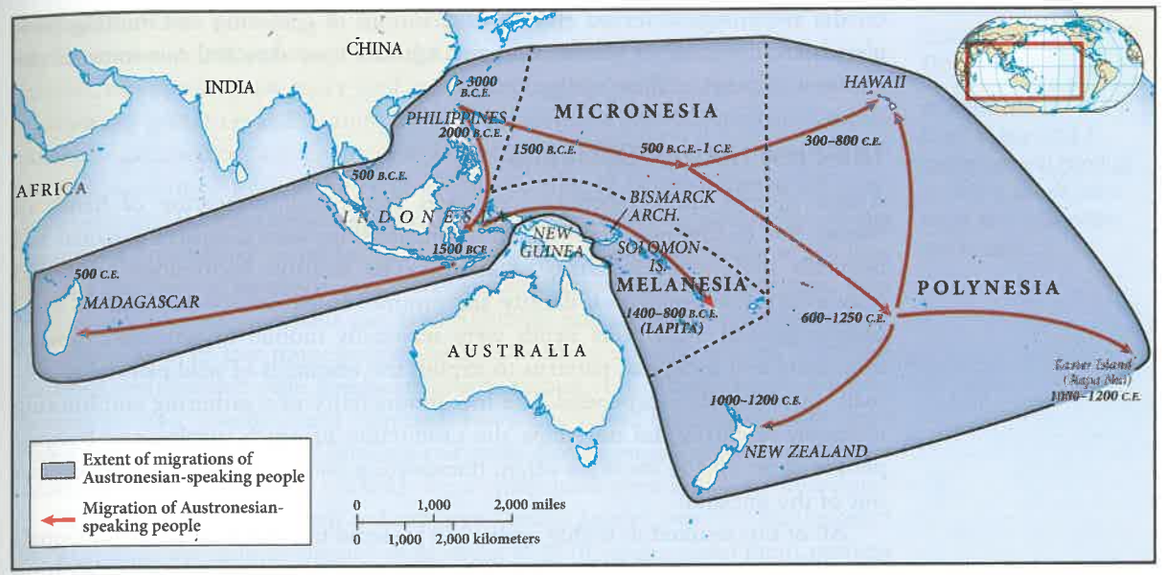
The earliest settlement of the Western Hemisphere occurred much later than that of Australia, for it took some time for human beings to penetrate the frigid lands of eastern Siberia, which was the jumping-off point for the move into the Americas. Experts continue to argue about precisely when the first migrations occurred (somewhere between 30,000 and 15,000 years ago), about the route of migration (by land across the Bering Strait or by sea down the west coast of North America), about how many separate migrations took place, and about how long it took to penetrate to the tip of South America. Some DNA evidence suggests a possible separate migration by sea from Pacific Polynesia.

Whenever the earliest migrations occurred, one of the first clearly defined and widespread cultural traditions in the Americas is associated with people who made a distinctive projectile point, known to archeologists as a Clovis point. Scattered all over North America, **Clovis culture** first emerged around 13,000 years ago and spread rapidly across much of North America. Scattered bands of Clovis people ranged over this huge area, camping along rivers, springs, and waterholes, where large animals congregated. Although they certainly hunted smaller animals and gathered many wild plants, Clovis men show up in the archeological record most dramatically as hunters of very large mammals, such as mammoths and bison. Killing a single mammoth could provide food for many weeks or, in cold weather, for much of the winter. The wide distribution of Clovis point technology suggests yet again a regional pattern of cultural diffusion and at least indirect communication over a large area.

Then, rather abruptly, by roughly 11,000 years ago, all trace of the Clovis culture disappeared from the archeological record at about the same time that many species of large animals, including the mammoth and several species of horses and camels, also became extinct. Did the Clovis people hunt these animals to extinction and then vanish themselves as their source of food disappeared? Or did the drier climate that came with the end of the Ice Age cause this **megafaunal extinction** (extinction of large animals)? Experts disagree, but what happened next was the creation of a much greater diversity of cultures as people adapted to this new situation in various ways. Hunters on the Great Plains continued to pursue bison, which largely avoided the fate of the mammoths. Others learned to live in the desert, taking advantage of seasonal plants and smaller animals, while those who lived near the sea, lakes, or streams drew on local fish and birds. Many peoples of the Americas retained their gathering and hunting way of life into modern times, while others became farmers and, in a few favored regions, later developed cities and large-scale states.

Into the Pacific

The last phase of the great human migration took place in the Pacific Ocean and was distinctive in many ways. It occurred quite recently, jumping off only about 3,500 years ago from the Bismarck and Solomon Islands near New Guinea as well as from the islands of the Philippines. It was everywhere a waterborne migration, making use of oceangoing canoes and remarkable navigational skills, and it happened very quickly and over a huge area of the planet. Speaking Austronesian languages that trace back to southern China, these oceanic voyagers had settled every habitable piece of land in the Pacific basin within about 2,500 years. Other Austronesians had sailed west from Indonesia across the Indian Ocean to settle the island of Madagascar off the coast of eastern Africa. These extraordinary **Austronesian migrations** made the Austronesian family of languages the most geographically widespread in the world and Austronesian trading networks, reaching some



Map 1.2 Migration of Austronesian-Speaking Peoples
People speaking Austronesian languages completed the human settlement of the earth quite recently as they settled the islands of the vast Pacific and penetrated the Indian Ocean to Madagascar, off the coast of southeast Africa.

5,000 miles from western Indonesia to the mid-Pacific, the most extensive. With the occupation of Aotearoa (New Zealand) and Rapa Nui (Easter Island) around 1000 to 1200 C.E., the initial human settlement of the planet was finally complete (see Map 1.2).

In contrast with all of the other initial migrations, these Pacific voyages were undertaken by agricultural people who carried both domesticated plants and animals in their canoes. Both men and women made these journeys, suggesting a deliberate intention to colonize new lands. Virtually everywhere they went, two developments followed. One was the creation of highly stratified societies or chiefdoms, of which ancient Hawaiian society is a prime example. The other development was extensive deforestation and the quick extinction of many species of animals, especially large flightless birds such as the *moa* of New Zealand, which largely vanished within a century of this human intrusion into a pristine environment.

Guided Reading Question

■ **COMPARISON**
How did Austronesian migrations differ from other early patterns of human movement?

Paleolithic Lifeways

During their long journeys across the earth, Paleolithic people created a multitude of separate and distinct societies, each with its own history, culture, language, identity, stories, and rituals, but the limitations of a gathering and hunting technology using stone tools also imposed some commonalities on these ancient people. Based

on the archeological record and on observations of gathering and hunting peoples that still existed in recent centuries, scholars have sketched out some of the common features of these early societies.

The First Human Societies

Above all else, these Paleolithic societies were small, consisting of bands of twenty-five to fifty people, in which all relationships were intensely personal and normally understood in terms of kinship. The available technology permitted only a very low population density and ensured an extremely slow rate of population growth. Paleolithic bands were seasonally mobile or nomadic, moving frequently and in regular patterns to exploit the resources of wild plants and animals on which they depended. The low productivity of a gathering and hunting economy normally did not allow the production of much surplus, and because people were on the move so often, transporting an accumulation of goods was out of the question.

All of this resulted in highly egalitarian societies that lacked the many inequalities of wealth and power that came later with agricultural and urban life. With no formal chiefs, kings, bureaucrats, soldiers, nobles, or priests, Paleolithic men and women were perhaps freer of human tyranny and oppression than any later kind of human society, even if they were more constrained by the forces of nature. Without specialists, most people possessed the same set of skills, although male and female tasks often differed sharply. The male role as hunter, especially of big game, perhaps gave rise to one of the first criteria of masculine identity: success in killing large animals.

Contemporary Gathering and Hunting Peoples: The San of Southern Africa
A very small number of gathering and hunting peoples have maintained their ancient way of life into the twenty-first century. Here two young men from the Jul'hoan !Kung San of southern Africa set a trap for small animals in 2009.
(robertharding/Alamy)

Relationships between women and men usually were far more equal than in later societies. As the primary food gatherers, women provided the bulk of the family's sustenance. One study undertaken during the 1960s of the San people, a surviving gathering and hunting society in southern Africa, found that plants, normally gathered by women, provided 70 percent of the diet, while meat, hunted by men, accounted for just 30 percent. This division of labor underpinned what anthropologist Richard Lee called "relative equality between the sexes with no-one having the upper hand." Among the San, teenagers engaged quite freely in sex play, and the concept of female virginity was apparently unknown, as were rape, wife beating, and the sexual double standard. Although polygamy was permitted, most marriages were in fact monogamous because women strongly resisted sharing a husband with another wife. Frequent divorce among very young couples allowed women to leave unsatisfactory marriages easily. Lee found that longer-term marriages seemed to be generally fulfilling and stable. Both men and women expected a satisfying sexual relationship, and both occasionally took lovers, although discreetly.[9]

Guided Reading Question

CHANGE
In what ways did a gathering and hunting economy shape other aspects of Paleolithic societies?

When the British navigator and explorer Captain James Cook first encountered the gathering and hunting peoples of Australia in 1770, he described them, perhaps a little enviously, in this way:

> They live in a Tranquillity which is not disturb'd by the Inequality of Conditions: The Earth and sea of their own accord furnishes them with all things necessary for life, they covet not Magnificent houses, Household-stuff. . . .
> In short they seem'd to set no value upon any thing we gave them. . . . They think themselves provided with all the necessarys of Life.[10]

The Europeans who settled permanently among such people some twenty years later, however, found a society in which physical competition among men was expressed in frequent one-on-one combat and in formalized but bloody battles. It also meant recurrent, public, and quite brutal beatings of wives by their husbands.[11] This evidence coincides with Richard Lee's observations about conflict and violence among the San of southern Africa, where frequent arguments about the distribution of meat or the laziness or stinginess of particular people generated serious disputes, as did rivalries among men over women. More generally, recent studies have found that in Paleolithic societies some 15 percent of deaths occurred through violence at the hands of other people, a rate far higher than in later civilizations, where violence was largely monopolized by the state.[12] Although sometimes romanticized by outsiders, the relative equality of Paleolithic societies did not always ensure a utopia of social harmony.

Like all other human cultures, Paleolithic societies had rules and structures. A gender-based division of labor usually cast men as hunters and women as gatherers. Values emphasizing reciprocal sharing of goods resulted in clearly defined rules about distributing the meat from an animal kill. Various rules about incest and adultery governed sexual behavior, while understandings about who could hunt or gather in particular territories regulated economic activity. Leaders arose as needed

to organize a task such as a hunt, but permanent power was not conferred on individuals.

Economy and the Environment

For a long time, modern people viewed their gathering and hunting ancestors as primitive and impoverished, barely eking out a living from the land. In more recent decades, anthropologists studying contemporary Paleolithic societies—those that survived into the twentieth century—began to paint a different picture. They noted that gathering and hunting people frequently worked fewer hours to meet their material needs than did people in agricultural or industrial societies and so had more leisure time. One scholar referred to them as **"the original affluent society,"** not because they had so much but because they wanted or needed so little.[13] Nonetheless, life expectancy was low, probably little more than thirty-five years on average. Life in the wild was surely dangerous, and dependency on the vagaries of nature rendered it insecure as well.

But Paleolithic people also acted to alter the natural environment substantially. The use of deliberately set fires in the landscape to encourage the growth of particular plants certainly changed the environment and in Australia led to the proliferation of fire-resistant eucalyptus trees at the expense of other plant species. In many ecosystems, especially small ones like Pacific islands, the arrival of humans resulted in the rapid extinction of some native plants and animals. In Australia and North America the majority of large animals disappeared long before our ancestors learned to farm or fashion weapons from metal. Other hominid, or human-like, species (such as the Neanderthals in Europe or "Flores man," discovered in 2003 in Indonesia) also perished after living side by side with *Homo sapiens* for millennia. Whether their disappearance occurred through massacre, interbreeding, peaceful competition, or something unrelated to the human presence, ultimately they did not survive the rise of humankind. Thus the biological environment inhabited by gathering and hunting peoples was not wholly natural but was shaped in part by their own hands.

The Realm of the Spirit

The religious or spiritual dimension of Paleolithic culture has been hard to pin down, because bones and stones tell us little about what people thought, art is subject to many interpretations, and the experience of contemporary gathering and hunting peoples may not reflect the distant past. Clear evidence exists, however, for a rich and distinctive spiritual life. The presence of rock art deep inside caves and far from living spaces suggests a "ceremonial space" separate from ordinary life. The extended rituals of contemporary Australian Aboriginals, which sometimes last for weeks, confirm this impression, as do numerous and elaborate burial sites found throughout the world. No full-time religious specialists or priests led these ceremonies, but part-time **shamans** (people believed to be especially skilled at dealing with the spirit world) emerged as the need arose. Such people sometimes entered an altered state of consciousness or a trance while performing the ceremonies, often with the aid of psychoactive drugs.

Precisely how Paleolithic people understood the nonmaterial world is hard to reconstruct, and speculation abounds. Linguistic evidence from ancient Africa suggests a variety of understandings: some Paleolithic societies were apparently monotheistic; others saw several levels of supernatural beings, including a creator deity, various territorial spirits, and the spirits of dead ancestors; still others believed in an impersonal force suffused throughout the natural order that could be accessed by shamans during a trance dance.[14] The prevalence of Venus figurines and other symbols all across Europe has convinced some, but not all, scholars that Paleolithic religious thought had a strongly feminine dimension, embodied in a Great Goddess and concerned with the regeneration and renewal of life.[15] Many gathering and hunting peoples likely developed a cyclical view of time derived from recurring natural cycles: sunrise and sunset; changing seasons; the phases of the moon; patterns of female fertility—birth, menstruation, pregnancy, new birth—and, of course, life, death, and new life. These understandings of the cosmos, which saw endlessly repeated patterns of regeneration and disintegration, differed from later Western views, which saw time moving in a straight line toward some predetermined goal. Nor did Paleolithic people make sharp distinctions between the material and spiritual worlds, for they understood that animals, rocks, trees, mountains, and much more were animated by spirits or possessed souls of their own.

The Willendorf Venus Less than four and a half inches in height and dating to about 25,000 years ago, this female figure, which was found near the town of Willendorf in Austria, has become the most famous of the many Venus figurines. Certain features—the absence of both face and feet, the coils of hair around her head, the prominence of her breasts and sexual organs—have prompted much speculation among scholars about the significance of these intriguing carvings. (Naturhistorisches Museum, Vienna, Austria/Ali Meyer/Bridgeman Images)

Settling Down: The Great Transition

Though glacially slow by contemporary standards, changes in Paleolithic cultures occurred over time as people moved into new environments, as populations grew, as climates altered, and as different human groups interacted with one another. For example, all over the Afro-Eurasian world after 25,000 years ago, a tendency toward the miniaturization of stone tools is evident, analogous perhaps to the miniaturization of electronic components in the twentieth century. Known as micro-blades, these smaller and more refined spear points, arrowheads, knives, and scrapers were carefully struck from larger cores and often mounted in antler, bone, or wooden handles. Another important change involved the collection of wild grains. This innovation originated in northeastern Africa around 16,000 years ago and represented a major addition to the food supply beyond the use of roots, berries, and nuts.

But the most striking and significant change in the lives of Paleolithic peoples occurred as the last Ice Age came to an end between 16,000 and 10,000 years ago. What followed was a general global warming, though one with periodic fluctuations and cold snaps. Unlike the contemporary global warming, generated by human activity and especially the burning of fossil fuels, this ancient warming phase was a wholly natural phenomenon, part of a long cycle of repeated heating and cooling characteristic of the earth's climatic history. Plants and animals that had

Guided Reading Question

■ **CHANGE**

Why did some Paleolithic peoples abandon earlier, more nomadic ways and begin to live a more settled life?

struggled in the Ice Age climate now flourished and increased their range, providing a much richer and more diverse environment for many human societies. Under these improved conditions, human populations grew, and some previously nomadic gathering and hunting communities, but not all of them, found it possible to settle down and live in more permanent settlements or villages. These societies were becoming both larger and more complex, and it was less possible to simply move away if trouble struck. Settlement also meant that households could store and accumulate goods to a greater degree than previously. Because some people were more energetic, more talented, or luckier than others, the thin edge of inequality gradually began to wear away the egalitarianism of Paleolithic communities.

Changes along these lines emerged in many places. Paleolithic societies in Japan, known as Jomon, settled down in villages by the sea, where they greatly expanded the number of animals, both land and marine, that they consumed. They also created some of the world's first pottery, along with dugout canoes, paddles, bows, bowls, and tool handles, all made from wood. A similar pattern of permanent settlement, a broader range of food sources, and specialized technologies is evident in parts of Scandinavia, Southeast Asia, North America, and the Middle East between 12,000 and 4,000 years ago. In Labrador, longhouses appear in the archeological record between 7,500 and 3,500 years ago, some of them accommodating 100 people. Far more elaborate burial sites in many places testify to the growing complexity of human communities and the kinship systems that bound them together. Separate cemeteries for dogs suggest that humankind's best friend was also our first domesticated animal friend. Some of the most stunning and unexpected achievements of such sedentary Paleolithic people come from the archeological complex of **Göbekli Tepe** (goh-BEHK-lee TEH-peh) in southeastern Turkey, described more fully in the Zooming In feature on page 25.

Studies of more recent gathering and hunting societies, which were able to settle permanently in particular resource-rich areas, show marked differences from their more nomadic counterparts. Among the Chumash of southern California, for example, early Spanish settlers found peoples who had developed substantial and permanent structures accommodating up to seventy persons; hereditary political elites; elements of a market economy, including the use of money and private ownership of some property; and the beginnings of class distinctions.

This **Paleolithic settling down**—and the changes that followed from it—marked a major turn in human history, away from countless millennia of nomadic journeys by very small communities. It also provided the setting within which the next great transition would occur. Growing numbers of men and women, living in settled communities, placed a much greater demand on the environment than did small bands of people on the move. Therefore, it is perhaps not surprising that among the innovations that emerged in some of these more complex gathering and hunting societies was yet another way for increasing the food supply—agriculture.

PRACTICING HISTORICAL THINKING

How do you understand the significance of the long Paleolithic era in the larger context of world history?

ZOOMING IN

Göbekli Tepe: Monumental Construction before Agriculture

Perhaps the most stunning archeological discovery of recent decades comes from the site known as Göbekli Tepe, or "potbelly hill," in southeastern Turkey, which has been under excavation since the mid-1990s. Dating to almost 12,000 years ago, this twenty-five-acre complex currently consists of about 200 massive limestone pillars, some as tall as eighteen feet and weighing as much as fifty tons. Carved in a T shape, perhaps to represent human beings with arms outstretched, they were arranged in a set of walled circles or rings. Five such circles have been unearthed so far, with another twenty or so awaiting excavation. Gracefully carved wild animals—gazelles, snakes, boars, foxes, lions, scorpions, vultures—decorate the pillars. Göbekli Tepe was probably a ceremonial or religious site, for little evidence of long-term human habitation has been found. Dubbed "the world's oldest temple," it likely attracted worshippers or pilgrims from many miles around and may well have served as a place of ritual burials, although no actual graves have yet been found.

Göbekli Tepe.

Carved Lion on a Stone Pillar at Göbekli Tepe.

The most amazing feature of Göbekli Tepe involves those who constructed it, for they were clearly gathering and hunting peoples, living at least part of the year in settled villages. No evidence of agriculture or domesticated animals has emerged. Rather, the tens of thousands of animal bone fragments found at the site suggest that those who built the complex dined on wild gazelles, pigs, sheep, deer, vultures, and ducks, as well as wild plants native to the area. Thus Göbekli Tepe represents a kind of monumental construction long associated only with agricultural societies and civilizations, forcing scholars to rethink their understanding of the late Paleolithic era.

How did such pre-agricultural peoples with only the simplest of stone tools carve, transport, and erect such enormous structures? What kind of social organization facilitated their remarkable achievement? What did this complex mean to those who created it? Since stones and bones tell us little about these matters, many mysteries remain.

Although Göbekli Tepe was the product of pre-agricultural peoples, the process of its construction may well have played a role in the breakthrough to farming in this region. Klaus Schmidt, the chief archeologist at the site for many years, argued that the need for food to supply those who built and maintained this massive religious complex may well have triggered the development of agriculture in the area. Certainly, some of the earliest domesticated wheat has been located just twenty miles away and at roughly the same date. If this connection holds, it suggests that the human impulse to worship collectively played a significant role in generating the epic transformation of the Agricultural Revolution.

Scholars have long believed that large-scale construction, settled village life, and institutional religion were generated by agricultural societies. The finds at Göbekli Tepe and elsewhere now suggest that these achievements may have figured in the creation of those farming communities. Perhaps they were precursors to agriculture rather than products of it.

QUESTIONS

In what ways has Göbekli Tepe forced historians to rethink earlier views? How does this archeological discovery affect your own understanding of the Paleolithic era?

photos: Vincent J. Musi/National Geographic Creative

Breakthroughs to Agriculture

The chief feature of the long Paleolithic era—and the first human process to operate on a global scale—was the initial settlement of the earth. Then, beginning around 12,000 years ago, a second global pattern began to unfold—agriculture. The terms "Neolithic (New Stone Age) Revolution" and "Agricultural Revolution" both refer to the deliberate cultivation of particular plants as well as the taming and breeding of particular animals. Thus a whole new way of life gradually replaced the earlier practices of gathering and hunting in most parts of the world. Although it took place over centuries and millennia, the coming of agriculture represented a genuinely revolutionary transformation of human life all across the planet and provided the foundation for almost everything that followed: growing populations, settled villages, animal-borne diseases, horse-drawn chariot warfare, cities, states, empires, civilizations, writing, literature, and much more.

Among the most revolutionary aspects of the age of agriculture was a new relationship between humankind and other living things, for now men and women were not simply using what they found in nature but actively changing nature as well. They were consciously "directing" the process of evolution. The actions of farmers in the Americas, for example, transformed corn from a plant with a cob of an inch or so to one measuring about six inches by 1500. Later efforts more than doubled that length. Farmers everywhere stamped the landscape with a human imprint in the form of fields with boundaries, terraced hillsides, irrigation ditches, and canals. Animals too were transformed, as selective breeding produced sheep that grew more wool, cows that gave more milk, and chickens that laid more eggs than their wild counterparts. This was "domestication"—the taming, and the changing, of nature for the benefit of humankind. In many agricultural communities, however, gathering, hunting, and fishing did not quickly disappear, but long continued to supplement agriculture and animal husbandry as food sources.

A further revolutionary aspect of the agricultural age is summed up in the term "intensification." It means getting more for less, in this case more food and resources—far more—from a much smaller area of land than was possible with a gathering and hunting technology. More food meant more people. Growing populations in turn required an even more intensive exploitation of the environment. Thus was launched the continuing human effort to "fill the earth and subdue it," as the biblical story in Genesis recorded God's command to Adam and Eve.

Common Patterns

Perhaps the most extraordinary feature of the Neolithic or Agricultural Revolution was that it occurred, separately and independently, in many widely scattered parts of the world: the Fertile Crescent of Southwest Asia, several places in sub-Saharan Africa, China, Southeast Asia, New Guinea, Mesoamerica, the Andes, and eastern North America (see Map 1.3). Even more remarkably, all of this took place at roughly the same time (at least as measured by the 250,000-year span of human history on the planet)—between 12,000 and 4,000 years ago. So why was the Agricultural Revolution so late in the history of humankind? What was unique about the period after 10,000 B.C.E. that may have triggered or facilitated this vast upheaval? In what different ways did the Agricultural Revolution take shape in its various locations? How did it spread from its several points of origin to the rest of the earth? And what impact did it have on the making of human societies?

Guided Reading Question

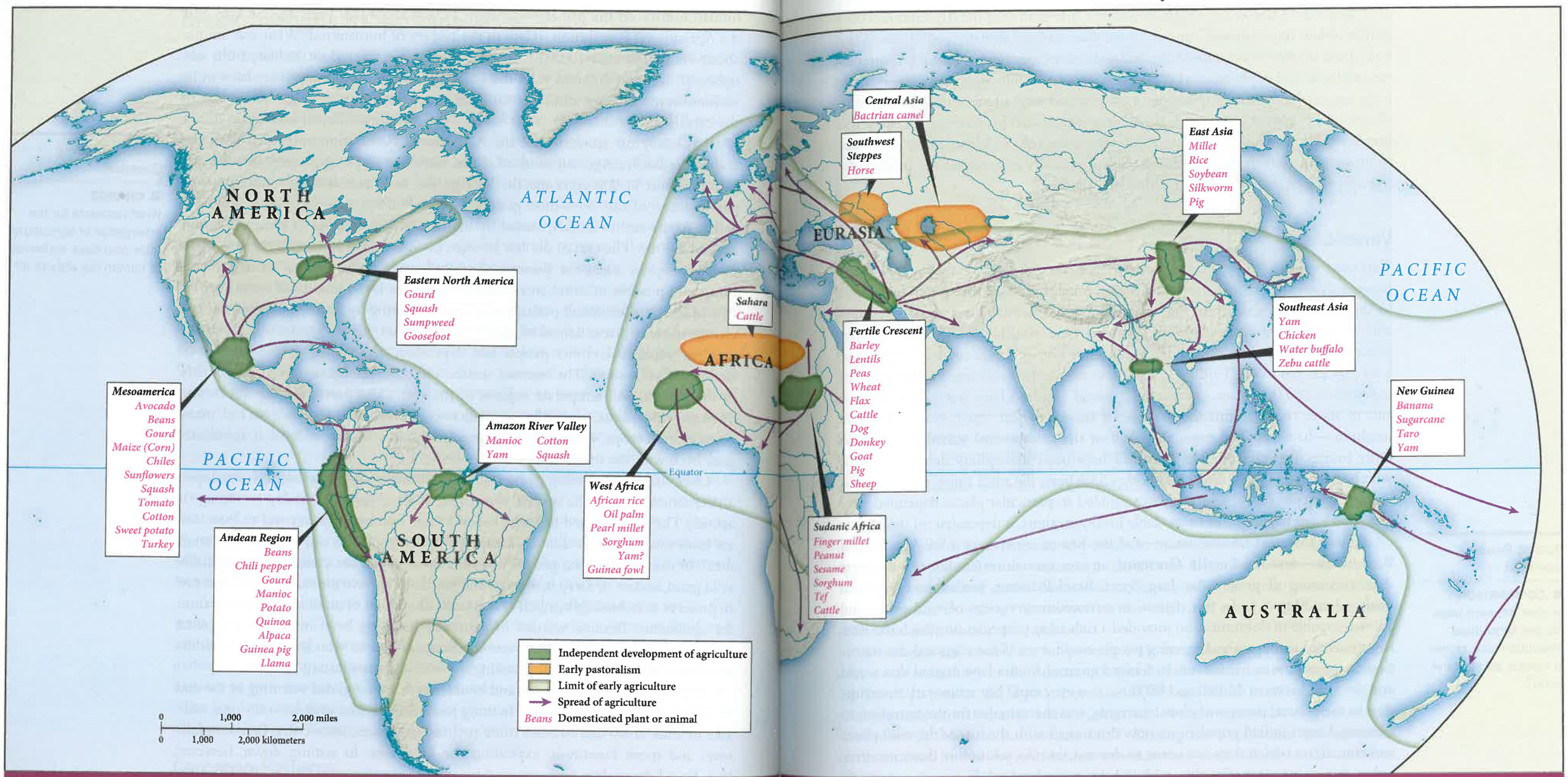
■ **CHANGE**

What accounts for the emergence of agriculture after countless millennia of human life without it?

It is surely no accident that the Agricultural Revolution coincided with the end of the last Ice Age, a process of global warming that began some 16,000 years ago. By about 11,000 years ago, the Ice Age was over, and climatic conditions similar to those of our own time generally prevailed. Ice ages had come and gone earlier in the earth's history, caused by minor periodic changes in the earth's orbit around the sun. The end of the last Ice Age, however, coincided with the migration of *Homo sapiens* across the planet and created new conditions that made agriculture more possible in some areas, even as rising sea levels inundated other regions (see Map 1.1). Combined perhaps with active hunting by human societies, climate change in some places helped to push into extinction various species of large mammals on which Paleolithic people had depended, thus adding to the pressure to find new food sources. The warmer, wetter, and more stable conditions, particularly in the tropical and temperate regions of the earth, also permitted the flourishing of more wild plants, especially cereal grasses, which were the ancestors of many domesticated crops. What climate change took away with one hand, it apparently gave back with the other.

Over their long history, gathering and hunting peoples had already developed a deep knowledge of the natural world and, in some cases, the ability to manage it actively. They had learned to make use of a large number of plants and to hunt and eat both small and large animals, creating what archeologists call a "broad-spectrum diet." In the Middle East, people had developed sickles for cutting newly available wild grain, baskets to carry it, mortars and pestles to remove the husk, and storage pits to preserve it. In hindsight, much of this looks like a kind of unintentional preparation for agriculture. Because women in particular had long been intimately associated with collecting wild plants, they were the likely innovators who led the way to deliberate farming, with men perhaps taking the lead in domesticating animals.

Using available technologies, and benefiting from the global warming at the end of the last Ice Age, gathering and hunting peoples in various resource-rich areas were able to settle down and establish more permanent villages, abandoning their nomadic ways and more intensively exploiting the local area. In settling down, however, they found themselves now required to support growing populations. Evidence for increasing human numbers around the world during this period of global warming has persuaded some scholars that agriculture was a response to the need for additional food, perhaps even a "food crisis." Such conditions surely motivated people to experiment and to innovate in an effort to increase the food supply. Clearly, many of the breakthroughs to agriculture occurred only *after* gathering and hunting peoples had already grown substantially in numbers and had established a sedentary way of life.



MAPPING HISTORY

Map 1.3 The Global Spread of Agriculture and Pastoralism

From ten or more separate points of origin, agriculture spread to adjacent areas, eventually encompassing almost all of the world's peoples.

READING THE MAP: On which continents did early pastoral societies develop? Which continents fostered no early pastoral societies?

INTERPRETING THE MAP: How might you describe the climatic regions where agriculture developed independently? Were they in equatorial tropical zones, arctic zones, and/or in regions in between called temperate zones? What factors might explain this distribution?

These were some of the common patterns that facilitated the Agricultural Revolution. New opportunities appeared with the changed climatic conditions at the end of the Ice Age. New knowledge and technology emerged as human communities explored and exploited that changed environment. The disappearance of many large mammals, growing populations, newly settled ways of life, and fluctuations in the process of global warming—all of these represented pressures or incentives to increase food production and thus to minimize the risks of life in a new era. From some combination of these opportunities and incentives emerged the profoundly transforming process of the Agricultural Revolution.

Variations

This new way of life initially operated everywhere with a simple technology—the digging stick or hoe. Plows were developed much later. But the several transitions to this hoe-based agriculture, commonly known as horticulture, varied considerably, depending on what plants and animals were available locally. For example, potatoes were found in the Andes region, but not in Africa or Asia; wheat and wild pigs existed in the Fertile Crescent, but not in the Americas. Furthermore, of the world's 200,000 plant species, only several hundred have been domesticated, and in more recent centuries just five of these—wheat, corn, rice, barley, and sorghum—have supplied more than half of the calories that sustain human life. Only fourteen species of large mammals have been successfully domesticated, of which sheep, pigs, goats, cattle, and horses have been the most important. Thus the kind of Agricultural Revolution that unfolded in particular places depended very much on what happened to be available locally; in short, it depended on sheer luck.

Guided Reading Question

■ **COMPARISON**

In what different ways did the Agricultural Revolution take shape in various parts of the world?

Among the most favored areas—and the first to experience a full Agricultural Revolution—was the **Fertile Crescent**, an area sometimes known as Southwest Asia, consisting of present-day Iraq, Syria, Israel/Palestine, Jordan, and southern Turkey (see Map 1.4). In this region, an extraordinary variety of wild plants and animals capable of domestication provided a rich array of species on which the now largely settled gathering and hunting people could draw. What triggered the transition to agriculture remains a much-debated question. Some have argued that a cold and dry spell between 11,000 and 9500 B.C.E., a very rapid but temporary interruption in the general process of global warming, was the stimulus for the transition to farming. Larger settled populations, now threatened with the loss of the wild plants and animals on which they had come to depend, found a solution in domestication, either during or soon after this cold and dry period passed. Figs were apparently the first cultivated crop, dating to about 9400 B.C.E. In the millennium or so that followed, wheat, barley, rye, peas, lentils, sheep, goats, pigs, and cattle all came under human control, providing the foundation for the world's first agricultural societies.

Archeological evidence suggests that the transition to a fully agricultural way of life in parts of this region took place quite quickly, within as few as 500 years. Signs of that transformation included large increases in the size of settlements, which now

Map 1.4 The Fertile Crescent

Located in what is now called the Middle East, the Fertile Crescent was the site of many significant processes in early world history, including a major breakthrough to agriculture and later the development of one of the First Civilizations.

housed as many as several thousand people. In these agricultural settings, archeologists have found major innovations: the use of sun-dried mud bricks; the appearance of monuments or shrine-like buildings; displays of cattle skulls; more elaborate human burials, including the removal of the skull; and more sophisticated tools, such as sickles, polished axes, and awls.

At roughly the same time, or perhaps a bit later, another process of domestication was unfolding on the African continent in the eastern part of what is now the Sahara in present-day Sudan. Between 10,000 and 5,000 years ago, this region received more rainfall than it currently does, had extensive grassland vegetation, and was "relatively hospitable to human life."[16] During these millennia, domesticated cattle appeared in the region, though whether they were tamed locally or were introduced from the Fertile Crescent is still debated. Around 6,000 years ago, the donkey was also domesticated in northeastern Africa near the Red Sea and spread from there into Southwest Asia, even as the practice of raising sheep and goats moved in the other direction.

In terms of farming, the African pattern again was somewhat different. Unlike the Fertile Crescent, where a number of plants were domesticated in a small area, sub-Saharan Africa witnessed the emergence of several widely scattered farming

practices. Sorghum, which grows well in arid conditions, was the first grain to be "tamed" in the eastern Sahara region. In the highlands of Ethiopia, teff, a tiny, highly nutritious grain, as well as enset, a relative of the banana, came under cultivation. In the forested region of West Africa, yams, oil palm trees, okra, and the kola nut (used as a flavoring for cola drinks) emerged as important crops. The scattered location of these domestications generated a less productive agriculture than in the more favored and compact Fertile Crescent, but a number of African domesticates—sorghum, castor beans, gourds, millet, the donkey—subsequently spread to enrich the agricultural practices of Eurasian peoples.

Yet another pattern of agricultural development took shape in the Americas. Like the Agricultural Revolution in Africa, the domestication of plants in the Americas occurred separately in a number of locations—in the coastal Andean regions of western South America, in Mesoamerica, in the Mississippi River valley, and perhaps in the Amazon basin. Surely the most distinctive common feature of these regions was the relative absence of animals that could be domesticated. Of the fourteen major species of large mammals that have been brought under human control, just two, the llama and alpaca, existed in the Western Hemisphere, and only in the Andes region, where they proved enormously useful for food, fiber, and transportation. Without goats, sheep, pigs, cattle, or horses, the peoples of the Americas lacked sources of protein, manure (for fertilizer), and power (to draw plows or pull carts, for example) that were widely available to societies in the Afro-Eurasian world. Because they could not depend on domesticated animals for meat, many agricultural peoples in the Americas relied more on hunting and fishing than did peoples in the Eastern Hemisphere. While the Americas lacked the cereal grains that were widely available in Afro-Eurasia, they had **maize** or corn, first domesticated in southern Mexico by 4000 to 3000 B.C.E. Unlike the cereal grains of the Fertile Crescent, which closely resemble their wild predecessors, the ancestor of corn was a mountain grass that looks nothing like what we now know as corn or maize. Thousands of years of selective adaptation were required to develop a sufficiently large cob and number of kernels to sustain a productive agriculture, an achievement that one geneticist has called "arguably man's first, and perhaps his greatest, feat of genetic engineering."[17] Thus while Middle Eastern societies quite rapidly replaced their gathering and hunting economy with agriculture, that process took several thousand years in Mesoamerica. Beyond maize, Native American farmers domesticated squash, beans, potatoes, sunflowers, quinoa, pigweed, and goosefoot, which were harvested on a large scale.

Another difference in the unfolding of the Agricultural Revolution lay in the north/south orientation of the Americas, which required agricultural practices to move through, and adapt to, quite distinct climatic and vegetation zones if they were to spread. The east/west axis of North Africa / Eurasia meant that agricultural innovations could spread more rapidly because they were entering roughly similar environments. Thus corn, beans, and squash, which were first domesticated in Mesoamerica, took several thousand years to travel the few hundred miles from their Mexican homeland to the southwestern United States and another thousand years or more to arrive in eastern North America. The llama, guinea pig, quinoa, and potato, which were domesticated in the Andean highlands, never reached Mesoamerica.

The Statues of Ain Ghazal Among the largest of the early agricultural settlements investigated by archeologists is that of Ain Ghazal, located in the modern state of Jordan. Inhabited from about 7200 to 5000 B.C.E., in its prime it was home to some 3,000 people, who lived in multiroomed stone houses; cultivated barley, wheat, peas, beans, and lentils; and herded domesticated goats. These remarkable statues, around three feet tall and made of limestone plaster applied to a core of bundled reeds, were among the most startling finds at that site. Did they represent heroes, gods, goddesses, or ordinary people? No one really knows. (Courtesy, Department of Antiquities of Jordan [DoA]/Photo by John Tsantesi, Courtesy, Dr. Gary O. Rollefson)

The Globalization of Agriculture

From the various places where it originated, agriculture spread gradually to much of the rest of the earth, although for a long time it coexisted with gathering and hunting ways of life, even as it eroded and diminished those practices. Broadly speaking, this extension of farming occurred in two ways. The first, known as diffusion, refers to the gradual spread of agricultural techniques, and perhaps of the plants and animals themselves, but without the extensive movement of agricultural people. Neighboring groups exchanged ideas and products in a down-the-line pattern of communication. A second process involved the slow colonization or migration of agricultural peoples as growing populations pushed them outward.

Triumph and Resistance

Guided Reading Question

CONNECTION

In what ways did agriculture spread? Where and why was it sometimes resisted?

Some combination of diffusion and migration underpinned the spread of agriculture to new regions, and the adoption of farming practices was at times accompanied by the spread of languages as well. For instance, between 6500 and 4000 B.C.E. the agricultural package of Southwest Asia spread into Europe, Central Asia, Egypt, and North Africa. In the case of Europe, the adoption of agriculture was accompanied by the spread into the region of Indo-European languages, which had originated further east in Anatolia or, as some scholars suggest, in the area north of the Black and Caspian Seas. Within Africa, the development of agricultural societies in the southern half of the continent is associated with the **Bantu migration**, the movement of peoples speaking one or another of the some 400 Bantu languages. Beginning from what is now southern Nigeria or Cameroon around 3000 B.C.E., Bantu-speaking people moved east and south over the next several millennia, taking with them their agricultural, cattle-raising, and, later, ironworking skills, as well as their languages. They generally absorbed, killed, or drove away the indigenous Paleolithic peoples or exposed them to animal-borne diseases to which they had no immunities. A similar process brought agricultural Austronesian-speaking people, who originated in southern China, to the Philippine and Indonesian islands, with similar consequences for their earlier inhabitants (see Map 1.2, page 19).

Bantu Migration

The globalization of agriculture was a prolonged process, lasting 10,000 years or more after its first emergence in the Fertile Crescent, but it did not take hold everywhere. The Agricultural Revolution in highland New Guinea, for example, generated a number of domesticated plants including yams, taro, bananas, and sugarcane. But while these spread to parts of Island Southeast Asia, they did not pass to the nearby peoples of Australia, who remained steadfastly committed to gathering and hunting ways of life. The people of the west coast of North America, arctic regions, and southwestern Africa also maintained their gathering and hunting economies into the modern era.

Some of those who resisted the swelling tide of agriculture lived in areas unsuitable to farming, such as harsh desert or arctic environments; others lived in regions of particular natural abundance, so they felt little need for agriculture. Such societies found it easier to resist agriculture if they were not in the direct line of advancing, more powerful farming people. But many of the remaining gathering and hunting peoples knew about agricultural practices from nearby neighbors, suggesting that they quite deliberately chose to resist it in favor of the freer life of their Paleolithic ancestors. Nonetheless, by the beginning of the Common Era, the global spread of agriculture had reduced gathering and hunting peoples to a small and dwindling minority of humankind.

Guided Reading Question

CHANGE

What changes did the Agricultural Revolution bring in its wake?

The Culture of Agriculture

In many accounts, the Agricultural Revolution is presented as "progress"—a great leap forward—for humankind. If evolutionary success or an increase in numbers is a measure of progress, then the Agricultural Revolution certainly fits that description, for it led to a substantial increase in human population, as the greater productivity of agriculture was able to support many more people. By 8000 B.C.E. an early agricultural settlement uncovered near Jericho in present-day Israel probably had 2,000 to 3,000 people, a vast increase in the size of human communities compared to much smaller Paleolithic bands. On a global level, scholars estimate that the world's population was about 6 million around 10,000 years ago, before the Agricultural Revolution had a pervasive impact, and shot up to some 50 million by 5,000 years ago and 250 million by the beginning of the Common Era. Here was the real beginning of the human dominance over other forms of life on the planet.

That dominance was reflected in major environmental transformations. In a growing number of places, forests and grasslands became cultivated fields and grazing lands. Human selection modified the genetic composition of numerous plants and animals. In parts of the Middle East, within a thousand years after the beginning of settled agricultural life, some villages were abandoned when soil erosion and deforestation led to declining crop yields, which could not support mounting populations. Human life too changed dramatically in farming communities, for agriculture usually required a settled, village-based way of life. An example of such an early agricultural settlement, now called **Banpo**, has been uncovered in northern China, dating to around 6,000 years ago. Millet, pigs, and dogs had been domesticated, but diets were supplemented with wild plants, animals, and fish. Some forty-five houses covered with thatch laid over wooden beams provided homes to perhaps 500 people. More than 200 storage pits permitted the accumulation of grain, and six kilns and pottery wheels enabled the production of various pots, vases, and dishes, many decorated with geometric designs and human and animal images. A large central space suggests an area for public religious or political activity, and a trench surrounding the village indicates some common effort to defend the community.

But beyond growing populations, did such villages represent "progress," so often associated with the Agricultural Revolution? Farming involved hard work and more of it than in many earlier gathering and hunting societies. The remains of early agricultural people show some deterioration in health—more tooth decay, malnutrition, anemia, slipped disks, arthritis, and hernias; a shorter physical stature; and diminished life expectancy. Living close to animals subjected humans to new diseases—smallpox, flu, measles, chicken pox, malaria, tuberculosis, rabies—while living in larger communities generated epidemics for the first time in human history. Furthermore, since farming peoples often relied heavily on a single plant (rice, wheat, or potatoes), they were vulnerable to famine in case of crop failure, drought, or other catastrophes, while their foraging ancestors had drawn on a much wider range of food resources. The advent of agriculture bore costs as well as benefits.

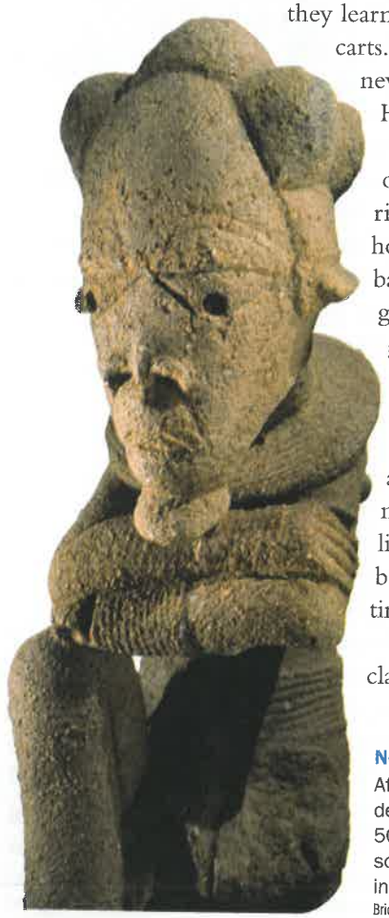
Agricultural villages, however, also generated an explosion of technological innovation. Mobile Paleolithic peoples had little use for pots, but such vessels were essential for settled societies, and their creation and elaboration accompanied agriculture everywhere. So too did the weaving of textiles, made possible by collecting

the fibers of domesticated plants (cotton and flax, for example) and raising animals such as sheep. Evidence for the invention of looms of several kinds dates back to 7,000 years ago, and textiles, some elaborately decorated, show up in Peru, Switzerland, China, and Egypt. Like agriculture itself, weaving was a technology in which women were probably the primary innovators, as it was a task compatible with their childbearing and child-rearing responsibilities. Another technology associated with the Agricultural Revolution was metallurgy. The working of gold and copper, then bronze, and, later, iron became part of the jewelry-, tool-, and weapon-making skill set of humankind. The long "stone age" of human technological history was coming to an end, and the age of metals was beginning.

A further set of technological changes, beginning around 4000 B.C.E., has been labeled the **secondary products revolution**.[18] These technological innovations involved new uses for domesticated animals, beyond their meat and hides. Agricultural people in parts of Europe, Asia, and Africa learned to milk their animals, to harvest their wool, and to enrich the soil with their manure. Even more important, they learned to ride horses and camels and to hitch various animals to plows and carts. Because these animals did not exist in the Americas, this revolutionary new source of power and transportation was available only in the Eastern Hemisphere.

Finally, the Agricultural Revolution presented to humankind the gift of wine and beer, often a blessing, sometimes a curse. As barley, wheat, rice, and grapes were domesticated, their potential for generating alcoholic beverages soon became apparent. The Chinese were making a rice-based wine combined with honey and fruit by about 7000 B.C.E., while grape wine was consumed in Iran by 5400 B.C.E., only 600 years after grapes were domesticated in nearby regions. The precise origins of beer are unclear, but its use was already quite widespread in the Middle East by 4000 B.C.E., when a pictogram on a seal from Mesopotamia showed two figures using straws to drink beer from a large pottery jar. Regarded as a gift from the gods, beer, like bread, was understood in Mesopotamia as something that could turn a savage into a fully human and civilized person.[19] In the Americas, an alcoholic beverage known as *chicha* had been produced from maize, manioc, honey, and various fruits from ancient times and was the drink of choice in the Inca court.

If the Agricultural Revolution meant "progress" in certain ways, it also claimed many victims. While the farming frontier expanded relentlessly,



Nok Culture The agricultural and iron-using Nok culture of northern Nigeria in West Africa generated a remarkable artistic tradition of terra-cotta, or fired-clay, figures depicting animals and, especially, people. This one dates to somewhere between 500 B.C.E. and 50 C.E. Some scholars have dubbed this and many similar Nok sculptures "thinkers." Does this notion reflect a present-day sensibility, or is it an insight into the mentality of the ancient artist who created the image? (Werner Forman Archive/ Bridgeman Images)

gathering and hunting societies were almost everywhere eroded as foragers became farmers or married into farming communities; as diseases spread from agricultural neighbors; and as more powerful farming communities violently displaced Paleolithic peoples. The plaintive cry of Gudo Mahiya, recorded at the beginning of this chapter, was certainly an echo of many such laments over many centuries.

And what of the animals? Like their human counterparts, certain animals such as cattle, pigs, sheep, and chickens greatly increased their numbers as their habitats became global. But they lost, of course, the freedom of the wild as they lived under the constraint, and often the lash, of their human masters. Many suffered a much shortened life-span as they were slaughtered at a young age for human consumption. Others were required to pull carts and plows or to transport humans on their backs, while some were castrated or branded. Mothers and their offspring were frequently separated shortly after birth. No wonder one scholar has called the Agricultural Revolution a "terrible catastrophe" for the majority of domesticated animals. For humans and animals alike, reproductive success for the species often translated into great suffering for many individuals.[20]

Social Variation in the Age of Agriculture

The resources generated by the Agricultural Revolution opened up vast new possibilities for the construction of human societies, but they led to no single or common outcome. Differences in the natural environment, the encounter with strangers, and, sometimes, deliberate choices gave rise to several distinct kinds of societies early on in the age of agriculture, all of which have endured into modern times.

Pastoral Societies

One variation of great significance grew out of the difference between the domestication of plants and the domestication of animals. Many societies made use of both, but in regions where farming was difficult or impossible—arctic tundra, certain grasslands, and deserts—some people came to depend far more extensively on their animals, such as sheep, goats, cattle, horses, camels, or reindeer. Animal husbandry was a "distinct form of food-producing economy," relying on the products of animals.[21] Those animals could turn grass or waste products into meat, fiber, hides, and milk; they were useful for transport and warfare; and they could walk to market. Known as herders, pastoralists, or nomads, peoples largely dependent on their domesticated animals emerged most prominently in Central Asia, the Arabian Peninsula, the Sahara, and parts of eastern and southern Africa. What they had in common was mobility, for they moved seasonally as they followed the changing patterns of the vegetation necessary as pasture for their animals. Some lived a nomadic existence of constant seasonal movement, but for others it was possible to combine permanent settlements in lowland areas and the movement of animals to more mountainous pasturelands in the summer.

Guided Reading Question

■ **COMPARISON**

What different kinds of societies emerged out of the Agricultural Revolution?

The Domestication of Animals Although farming often gets top billing in discussions of the Agricultural Revolution, the raising of animals was equally important, for they provided meat, pulling power, transportation (in the case of horses and camels), and manure. Animal husbandry also made possible pastoral societies, which were largely dependent on their domesticated animals. This rock art painting from the Sahara (now southeastern Algeria) dates to somewhere around 4000 B.C.E. and depicts an early pastoral community. The white ovals represent a group of huts. (Musée de l'Homme, Paris, France/Erich Lessing/Art Resource, NY)

The particular animals central to pastoral economies differed from region to region. The domestication of horses by 4000 B.C.E. and the mastery of horseback-riding skills several thousand years later enabled the growth of pastoral peoples all across the steppes of Central Asia by the first millennium B.C.E. Although organized primarily in kinship-based clans or tribes, these nomads periodically created powerful military confederations, which played a major role in the history of Eurasia for thousands of years. In the Inner Asian, Arabian, and Saharan deserts, domesticated camels made possible the human occupation of forbidding environments. (See Zooming In: The Arabian Camel, Chapter 7, page 296.) The grasslands south of the Sahara and in parts of eastern Africa supported cattle-raising pastoralists. In the Americas, llamas and alpacas were tremendously important in the economy of Andean civilizations, but only in a few pockets in the Andes did human communities rely as heavily on their domesticated animals as did the pastoral peoples of the Afro-Eurasian world.

The relationship between nomadic herders and their farming neighbors has been one of the enduring themes of Afro-Eurasian history. Frequently, it was a relationship of conflict, as pastoral peoples, unable to produce their own agricultural products, were attracted to the wealth and sophistication of agrarian societies and sought access to their richer grazing lands as well as their food crops and manufactured products. The biblical story of the deadly rivalry between two brothers—Cain, a "tiller of the ground," and Abel, a "keeper of sheep"—reflects this ancient conflict, which persisted well into modern times. But not all was conflict between pastoral and agricultural peoples. The more peaceful exchange of technologies, ideas, products, and people across the ecological frontier of pastoral and agricultural societies also served to enrich and to change both sides.

Within **pastoral societies**, the relative equality of men and women, characteristic of most Paleolithic societies, persisted, perhaps because women's work was so essential. Women were centrally involved in milking animals, in processing that milk, and in producing textiles such as felt, which was widely used in Central Asia for tents, beds, rugs, and clothing. Among the Saka pastoralists in what is now Azerbaijan, women rode horses and participated in battles along with men.

A number of archeological sites around the Black Sea have revealed high-status women buried with armor, swords, daggers, and arrows. In the Xinjiang region of western China, still other women were buried with the apparatus of healers and shamans, strongly suggesting an important female role in religious life.

Agricultural Village Societies

For thousands of years, people practiced agriculture using digging sticks or hoes, rather than plows, and even after plows came into use, many societies continued with hoe-based or horticultural farming. Most such hoe-based agricultural peoples lived in settled villages such as Banpo or Jericho, but to varying degrees they continued to augment their agricultural livelihood with gathering, hunting, and fishing. They also retained much of the social and gender equality of gathering and hunting communities, as they continued to do without kings, chiefs, bureaucrats, or aristocracies.

An example of this type of social order can be found at **Çatalhüyük** (cha-TAHL-hoo-YOOK), a very early agricultural village in southern Turkey, which flourished between 7400 and 6000 B.C.E. A careful excavation of the site revealed a population of several thousand people who buried their dead under their houses and then filled the houses with dirt and built new ones on top, layer upon layer. No streets divided the houses, which were constructed adjacent to one another. People moved about the village on adjoining rooftops, from which they entered their homes. Despite the presence of many specialized crafts, few signs of inherited social inequality have surfaced. Nor is there any indication of male or female dominance, although men were more closely associated with hunting wild animals and women with plants and agriculture. "Both men and women," concludes one scholar, "could carry out a series of roles and enjoy a range of positions, from making tools to grinding grain and baking to heading a household."[22]

In many horticultural villages, women's critical role as farmers as well as their work in the spinning and weaving of textiles no doubt contributed to a social position of relative equality with men. Some such societies traced their descent through the female line and practiced marriage patterns in which men left their homes to live with their wives' families. Archeologist Marija Gimbutas has highlighted the prevalence of female imagery in the art of early agricultural societies in Europe and Anatolia, which has suggested to her a widespread cult of the Goddess, focused on "the mystery of birth, death and the renewal of life."[23] But early agriculture did not produce identical gender systems everywhere. Some societies practiced patrilineal descent and required a woman to live in the household of her husband. Grave sites in early Eastern European farming communities reveal fewer adult females than males, indicating perhaps the practice of female infanticide. Some early written evidence from China suggests a long-term preference for male children. These variations in practice suggest that gender roles were likely determined more by cultural preference than by any biological need for a sexual division of labor and power.

In all of their diversity, many village-based agricultural societies flourished well into the modern era, usually organizing themselves in terms of kinship groups or lineages, which incorporated large numbers of people well beyond the immediate or extended family. Such a system provided the framework within which large numbers of people could make and enforce rules, maintain order, and settle disputes without going to war. In short, the lineage system performed the functions of government, but without the formal apparatus of government, and thus did not require kings or queens, chiefs, or permanent officials associated with a state organization. Despite their democratic qualities and the absence of centralized authority, village-based lineage societies sometimes developed modest social and economic inequalities. Elders could exploit the labor of junior members of the community and sought particularly to control women's reproductive powers, which were essential for the growth of the lineage. People with special knowledge, skills, or experience could achieve higher status and greater influence. Among the Igbo of southern Nigeria well into the twentieth century, "title societies" enabled men and women of wealth and character to earn a series of increasingly prestigious "titles" that set them apart from other members of their community, although these honors could not be inherited. Lineages also sought to expand their numbers, and hence their prestige and power, by incorporating war captives or migrants in subordinate positions, sometimes as slaves.

Cahokia: A Nursing Mother Effigy Bottle Among the artifacts uncovered in the North American chiefdom of Cahokia is this effigy bottle in the shape of a nursing mother, dating from 1200 to 1400 C.E. (Photo © The Detroit Institute of Arts/St. Louis Museum of Science & Natural History, Missouri, USA/Bridgeman Images)

Given the frequent oppressiveness of organized political power in human history, agricultural village societies represent an intriguing alternative to the states, kingdoms, and empires so often highlighted in the historical record. They pioneered the human settlement of vast areas; adapted to a variety of environments; maintained a substantial degree of social and gender equality; created numerous cultural, artistic, and religious traditions; and interacted continuously with their neighbors.

Chiefdoms

In other places, agricultural village societies came to be organized politically as **chiefdoms**, in which inherited positions of power and privilege introduced a more distinct element of inequality, but unlike later kings, chiefs could seldom use force to compel the obedience of their subjects. Instead, chiefs relied on their generosity or gift giving, their ritual status, or their personal charisma to persuade their followers. The earliest such chiefdoms seem to have emerged in the Tigris-Euphrates river valley called Mesopotamia (present-day Iraq), sometime after 6000 B.C.E., when temple priests may have organized irrigation systems and controlled trade with nearby societies.

Many chiefdoms followed in all parts of the world, and the more recent ones have been much studied by anthropologists. For example, chiefdoms emerged

everywhere in the Pacific islands, which had been colonized by agricultural Polynesian peoples. Chiefs usually derived from a senior lineage, tracing their descent to the first son of an imagined ancestor. With both religious and secular functions, chiefs led important rituals and ceremonies, organized the community for warfare, directed its economic life, and sought to resolve internal conflicts. They collected tribute from commoners in the form of food, manufactured goods, and raw materials. These items in turn were redistributed to warriors, craftsmen, religious specialists, and other subordinates, while chiefs kept enough to maintain their prestigious positions and imposing lifestyle. In North America as well, a remarkable series of chiefdoms emerged in the eastern woodlands, where an extensive array of large earthen mounds testify to the organizational capacity of these early societies. The largest of them, known as Cahokia, flourished around 1100 C.E. (See "North America: Ancestral Pueblo and Mound Builders" in Chapter 6.)

Thus the Agricultural Revolution radically transformed both the trajectory of the human journey and the evolution of life on the planet. This epic process granted to one species, *Homo sapiens*, a growing power over many other species of plants and animals and made possible an increase in human numbers far beyond what a gathering and hunting economy could support.

But if agriculture provided humankind with the power to dominate nature, it also, increasingly, enabled some people to dominate others. This was not immediately apparent, and for several thousand years, and much longer in some places, agricultural villages and pastoral communities retained elements of the social equality that had characterized Paleolithic life. Slowly, though, many of the resources released by the Agricultural Revolution accumulated in the hands of a few. Rich and poor, chiefs and commoners, landowners and dependent peasants, rulers and subjects, dominant men and subordinate women, slaves and free people—these distinctions, so common in the record of world history, took shape most extensively in highly productive agricultural settings, which generated a substantial economic surplus. There the endless elaboration of such differences, for better or worse, became a major feature of those distinctive agricultural societies known to us as "civilizations."

PRACTICING HISTORICAL THINKING

What was revolutionary about the Agricultural Revolution?

REFLECTIONS

The Uses of the Paleolithic

Even when it is about the distant past, history is also about those who tell it in the present. We search the past, always, for our own purposes. For example, modern people were long inclined to view their Paleolithic or gathering and hunting ancestors as primitive or superstitious, unable to exercise control over nature, and ignorant of its workings. Such a view was, of course, a kind of self-congratulation,

designed to highlight the "progress" of modern humankind. It was a way of saying, "Look how far we have come."

In more recent decades, however, growing numbers of people, disillusioned with modernity, have looked to the Paleolithic era for material with which to criticize, rather than celebrate, contemporary life. Feminists have found in gathering and hunting peoples a much more gender-equal society and religious thinking that featured the divine feminine, qualities that encouragingly suggested that patriarchy was neither inevitable nor eternal. Environmentalists have sometimes identified peoples in the distant past who were uniquely in tune with the natural environment rather than seeking to dominate it. Some nutritionists have advocated a "Paleolithic diet" of wild plants and animals as well suited to our physiology. Critics of modern materialism and competitive capitalism have been delighted to discover societies in which values of sharing and equality predominated over those of accumulation and hierarchy. Still others have asked, in light of the long Paleolithic era, whether the explosive population and economic growth of recent centuries should be considered normal or natural. Perhaps they are better seen as extraordinary, possibly even pathological. All of these uses of the Paleolithic have been a way of asking, "What have we lost in the mad rush to modernity, and how can we recover it?"

Both those who look with disdain on Paleolithic "backwardness" and those who praise, often quite romantically, its simplicity and equality seek to use these ancient people for their own purposes. None of us can be entirely detached when we view the past, but this is not necessarily a matter for regret. What we may lose in objectivity, we gain in passionate involvement with the historical record and with the many men and women who have inhabited it. Despite its remoteness from us in time and manner of living, the Paleolithic era resonates still in the twenty-first century, reminding us of our kinship with these distant people and the significance of that kinship to finding our own way in a very different world.

Second Thoughts

What's the Significance?

Neolithic Revolution, 10
Paleolithic era, 10
Venus figurines, 16
Dreamtime, 17
Clovis culture, 18
megafaunal extinction, 18
Austronesian migrations, 18
"the original affluent society," 22
shamans, 22
Göbekli Tepe, 24
Paleolithic settling down, 24
Fertile Crescent, 30
maize, 32
Bantu migration, 34
Banpo, 35
secondary products revolution, 36
pastoral societies, 38
Çatalhüyük, 39
chiefdoms, 40

Big Picture Questions

1. In what ways did various Paleolithic societies differ from one another, and how did they change over time?
2. The Agricultural Revolution marked a decisive and progressive turning point in human history. What evidence might you offer to support this claim, and how might you argue against it?
3. How did early agricultural societies differ from those of the Paleolithic era?
4. Was the Agricultural Revolution inevitable? Why did it occur so late in the story of humankind?
5. In what different ways did human beings relate to the natural world during the early and long phases of our history explored in the chapter?

Next Steps: For Further Study

Elizabeth Wayland Barber, *Women's Work: The First 20,000 Years* (1994). Explores the role of women in early technological development, particularly textile making.

David Christian, *This Fleeting World: A Short History of Humanity* (2008). A lovely essay by a leading world historian, which condenses parts of his earlier *Maps of Time* (2004).

Jean Clottes, *What Is Paleolithic Art?*, 2016. A personal and contemplative examination of Paleolithic art and its relationship to shamanism by a prominent French archeologist.

Steven Mithen, *After the Ice: A Global Human History, 20,000–5000 B.C.* (2004). An imaginative tour of world archeological sites during the Agricultural Revolution.

Lauren Ristvet, *In the Beginning* (2007). A brief account of human evolution, Paleolithic life, the origins of agriculture, and the First Civilizations, informed by recent archeological discoveries.

Fred Spier, *Big History and the Future of Humanity* (2011). An effort to place human history in the context of cosmic, geological, and biological history with a focus on the growth of complexity.

James Suzman, *Affluence without Abundance: The Disappearing World of the Bushmen* (2017). A thoughtful and readable account of the Bushmen, a gathering and hunting society in southern Africa, and their encounter with the modern world.

Mark B. Tauger, *Agriculture in World History* (2011). An overview of the origins and significance of farming on a global scale.

"The Agricultural Revolution," http://www.youtube.com/watch?v=Yocja_N5s1I. An eleven-minute animated survey from John Green's *Crash Course World History* series.

The Bradshaw Foundation, "The Cave Paintings of the Lascaux Cave," http://www.bradshawfoundation.com/lascaux/index.php. Text, images, and videos introduce the Paleolithic paintings from the Lascaux Cave in France.

The Australian Dreamtime

The Aboriginal, or native, peoples of Australia have inhabited their continent for tens of thousands of years, living in hundreds of distinct social and linguistic groups. Until the arrival of Europeans in the late eighteenth century, they practiced a gathering and hunting way of life. These peoples have persisted into the twenty-first century as a small minority in modern Australia, and a dwindling few of them still practice their ancient culture. Over an enormously long period of time, they developed an elaborate cosmology, or understanding of the world. Known collectively as the Dreamtime, this cosmology found expression in an evolving body of orally transmitted traditions or stories and in numerous rock art paintings scattered across Australia and frequently retouched or painted over. These stories and images linked the landscape and its human and animal inhabitants to distant events and ancient ancestors.

A contemporary Aboriginal artist, Semon Deeb, explains:

> Around the beginning the Ancestral Beings rose from the folds of the earth and stretching up to the scorching sun they called, "I am!" As each Ancestor sang out their name, "I am Snake," "I am Honey Ant," they created the most sacred of their songs. Slowly they began to move across the barren land naming all things and thus bringing them into being. Their words forming verses as the Ancestors walked about, they sang mountains, rivers and deserts into existence. Wherever they went, their songs remained, creating a web of Songlines over the Country. As they traveled, the Ancestors hunted, ate, made love, sang and danced leaving a trail of Dreaming along the songlines. Finally at the end of their journey the Ancestral Beings sang "back into" the earth where they can be seen as land formations, sleeping.[24]

Over the past two centuries, many Dreamtime stories have been collected and set down in writing, even as new versions have emerged. And the prolific rock art of ancient Aboriginal peoples, which also expressed the Dreamtime outlook, has attracted the attention of many scholars. The tales and images presented here illustrate these Aboriginal efforts to give meaning and shape to their experience.

SOURCE 1.1 Understanding Creation

People everywhere have sought to understand the beginnings of things and in doing so to frame human life in some larger and more meaningful context. In this and other stories from Australia, creation occurred in the Dreamtime, or the "time before time," when ancient ancestral beings brought into existence the latent possibilities of a world that was frozen or asleep. Then they disappeared when their work

was finished. But they remained present in the sun, moon, and stars, in the features of the landscape, in the animals of the world, and in paintings on the surface of large rock formations.

- How might you compare this story to creation accounts in other societies?
- What is the relationship between Yhi and Baiame in creating and sustaining the world? Do they play equal roles, or is one superior to the other?
- In what ways are human beings and other living creatures made aware of their connection to the spirit world?

Yhi Brings Life to the World | Oral tradition recorded in 20th century

In the beginning the world lay quiet, in utter darkness. There was no vegetation, no living or moving thing on the bare bones of the mountains. No wind blew across the peaks. There was no sound to break the silence.

The world was not dead. It was asleep, waiting for the soft touch of life and light. . . . Somewhere in the immensity of space Yhi [a sun goddess of light and creation] stirred in her sleep, waiting for the whisper of Baiame, the Great Spirit [a creator deity, Sky Father], to come to her.

Then the whisper came, the whisper that woke the world. . . . Yhi floated down to earth and began a pilgrimage that took her far to the west, to the east, to north, and south. Where her feet rested on the ground, there the earth leaped in ecstasy. Grass, shrubs, trees, and flowers sprang from it, lifting themselves towards the radiant source of light. Yhi's tracks crossed and recrossed until the whole earth was clothed with vegetation.

Her first joyous task completed, Yhi, the sun goddess, rested on the Nullarbor Plain. . . .

"The work of creation is well begun," Baiame said, "but it has only begun. . . . Take your light into the caverns of earth and see what will happen."

Yhi rose and made her way into the gloomy spaces beneath the surface. There were no seeds there to spring to life at her touch. Harsh shadows lurked behind the light. . . . "Sleep, sleep, sleep," the evil spirits wailed, but the shapes had been waiting for the caressing warmth of the sun goddess. Filmy wings opened, bodies raised themselves on long legs. . . . Soon Yhi was surrounded by myriads of insects, creeping, flying, swarming from every dark corner. . . . They followed her out into the world, into the sunshine, into the embrace of the waiting grass and leaves and flowers. . . . [Now] Yhi sped up the hill slopes. . . . She disappeared into the caverns, chilled by the black ice that hung from the roofs and walls. . . . Birds and animals gathered round her, singing in their own voices, racing down the slopes, choosing homes for themselves, drinking in a new world of light, colour, sound, and movement.

"It is good. My world is alive," Baiame said.

Yhi took his hand and called in a golden voice to all the things she had brought to life. "This is the land of Baiame. It is yours forever, to enjoy. Baiame is the Great Spirit. He will guard you and listen to your requests. I have nearly finished my work, so you must listen to my words."

"I shall send you the seasons of summer and winter—summer with warmth which ripens fruit ready for eating, winter for sleeping while the cold winds sweep through the world and blow away the refuse of summer. These are changes that I shall send you . . . , the creatures of my love. Soon I shall leave you and live far above in the sky. When you die your bodies will remain here, but your spirits will come to live with me."

One by one the birds and animals woke up, as they have done every morning since the first dawn. After the first shock of darkness they knew that day would succeed night, that there would always be a new sunrise and sunset, giving hours of daylight for work and play, and night for sleeping. . . .

One last deed remained to be done, because the dark hours of night were frightening for some of the creatures. Yhi sent the Morning Star to herald her coming each day. Then, feeling sorry for the star in her loneliness, she gave her Bahloo, the Moon, for her husband. A sigh of satisfaction arose from the earth when the white moon sailed majestically across the sky, giving birth to myriads of stars, making a new glory in the heavens.

Source: "Yhi Brings Life to the World," in A. W. Reed, *Aboriginal Stories of Australia* (Chatsworth, New South Wales: New Holland, 1980), 11–14.

■ ■ ■

SOURCE 1.2 The Rainbow Serpent

A common theme of many Dreamtime stories involved the Rainbow Serpent, which was usually associated with creation, fertility, or social harmony. Images of the Rainbow Serpent in the rock art of Australia date back many thousands of years. (See an image of the Rainbow Serpent on page 17.)

- What does this version of the Rainbow Serpent story seek to explain?
- In what ways does the story relate to social problems of Aboriginal peoples?

The Rainbow Serpent Awakens | **Oral tradition recorded in 20th century**

In the Dreamtime all earth lay sleeping. Nothing moved. Nothing grew. One day the Rainbow Serpent awoke from her slumber and came out from under the ground. She travelled far and wide and eventually grew tired and curled up and slept. She left marks of her sleeping body and her winding tracks. Then she returned to the place where she had first appeared, and called to the frogs, "Come out!"

The frogs came out slow because their bellies were heavy with water, which they had stored in their sleep. The Rainbow Serpent tickled their stomachs and when the frogs laughed, water ran all over the earth to fill the tracks of the Rainbow Serpents' wanderings. This is how lakes and rivers were formed.

With water, grass and trees sprang up. Also all animals awoke and followed the Rainbow Serpent across the land. They were happy on earth and each lived and gathered food with his own tribe. Some animals live in rocks, others on the plains and others in trees and in the air.

The Rainbow Serpent made laws that they all were to obey, but some became quarrelsome and made trouble. The Rainbow Serpent said, "Those who keep my laws will be rewarded; I shall give them human form. Those who break my laws will be punished and turned to stone, never to walk the earth again."

The lawbreakers became stone and turned to mountains and hills, but those who kept the laws were turned into human form. The Rainbow Serpent gave each of them their own totem of the animal, bird or reptile from whence they came. The tribes knew themselves by their totems. Kangaroo, emu, carpet snake, and many, many more. So no one would starve, the Rainbow Serpent ruled that no man should eat of his totem, but only of other totems. This way there was food for everyone.

The tribes lived together on the land given to them by the Rainbow Serpent or Mother of Life and knew the land would always be theirs, and no one should ever take it from them.

Source: http://www.expedition360.com/australia_lessons_literacy/2001/09/dreamtime_stories_the_rainbow.html

■ ■ ■

SOURCE 1.3 Explaining the World in Aboriginal Rock Art ▶

The Dreamtime found expression, not only in orally transmitted stories, but also in the rock art of the Aboriginal peoples all across Australia. Created in the unrecorded past by unknown artists, some of these paintings date to 20,000 or more years ago, and many have been repainted or touched up repeatedly over the centuries. Aboriginal peoples have understood these images, not as the work of human artists, but as the actual ancestral beings themselves, able to convey their spiritual energy to their descendants. By engaging with these paintings, Aboriginal peoples "explain and map the landscape. . . . Rock-art is a tangible expression of the continuing presence of Ancestral Beings who moulded and humanized the landscape."[25]

In Source 1.3, painted on a rock face in northern Australia's Kakudu National Park, the largest and main figure at the top is Namondjok, a Creation Ancestor, who according to some accounts can be seen in the sky at night as a dark spot in the Milky Way galaxy. To the right is Namarrgon, or Lightning Man, who generates the tremendous lightning storms that occur during the rainy season. The arc around his body represents the lightning, while the axes on his head, elbow, and feet are used to split the dark clouds, creating thunder and lightning. The female figure beneath Namondjok is Barrginj, the wife of Lightning Man, while below her is a group of elaborately dressed people.

- What might an Aboriginal viewer learn about nature from this painting?
- What might he or she understand about the cosmic hierarchy and the position of human beings within it?
- Why do you think the artist positioned ordinary people at the bottom of the picture? What might they be doing? Could the positioning of Barrginj have meaning as well?
- Notice the distinctive X-ray style, which depicts the internal bones and organs of the figures while also showing their outward appearance. What intentions might lie behind such a style?

Namondjok and the Lightning Man

Kakadu National Park, Northern Territory, Australia/ Werner Forman Archive/Bridgeman Images

■ ■ ■

SOURCE 1.4 Understanding Death

Death marks the end of a life, but an awareness of death shapes much of the living of our lives. And so humans everywhere have sought to understand death, with an eye perhaps to avoiding or delaying it. In the Australian Dreamtime, the immortal ancestor Purukapali was responsible for the introduction of death into the world. The story that follows is one version of this event.

- How does this story account for the entry of death into human life?
- What responses to death are suggested in the story?
- Does such a story carry any meaning to people today?

How Death Came: The Purukapali Myth | **Oral tradition recorded in 20th century**

In the pleasant land of the Tiwi people, Purukapali lived with his wife, Bima, and their infant son, Djinini. This was in the earliest days when spirits became men and death had not yet come to the earth. In their camp also lived Purukapali's younger brother, Tjapara, strong and handsome. Many times the brothers stalked wallaby together, but most often it was Purukapali who carried game into the camp and received the women's praise.

Tjapara had no wife and he hungered for Bima. One morning after the brothers had returned from the hunt, Bima rose and placed the sleeping Djinini beside her husband, who was skinning a slain wallaby.

"I go find yams," she said. "Guard the child. He will sleep now and will have my milk when I return."

She picked up a net bag and walked off into the bush. Tjapara watched her swinging hips and said, "I saw shellfish at the shore. I will go gather them," and he strode off toward the beach, leaving Purukapali with the sleeping child.

As soon as he was well out of sight, Tjapara quickly circled back through the bush and came upon Bima as she bent over her digging stick. Softly he crept upon her and clasped her from behind. "Lie with me," he urged.

[*And so she did, spending the entire day with Tjapara. Meanwhile, her young child died for lack of his mother's milk. When she finally returned to her home*], she found Djinini on the grass, cold and still. Death had come to him in the early darkness. . . . Now Purukapali turned on his wife. "He was hungry. He cried for you and you did not come. Now he is gone from us and will not return," said the father. . . . Bima began to moan and beat her breast. "I am a bad woman, for I let my son die," she cried. . . .

Bima lashed out at Tjapara in despair. "You killed him!" she accused, "for you would not let me go." Now did Purukapali understand. . . . He picked up a forked fighting stick and attacked. "You, too, shall die!" he screamed at his brother. . . . Tjapara fled to a tall tree and frantically began to climb. When he reached the top limb, he let out a great shout and leaped into the sky, rising higher and higher until he reached the moon.

Purukapali returned to camp and took Djinini's body in his arms. "I shall die with my son," he announced to the Tiwi people. "And all who now live also shall die." Then he danced the first ceremony of death and sang of the events that led to it. "This shall be your pukamani [funeral] ceremony," he decreed, "and you shall dance it to remember those who die." Purukapali wrapped his son in paperbark, walked backward into the sea, and disappeared. As he sank beneath the surface, a whirlpool formed which marks the spot to this day.

Bima lived on, but grief soon made her haggard and old. She too wandered about the camp, complaining in a shrill voice until she too died. Her spirit lived on as the curlew bird, which still flits and cries mournfully about the beaches.

Tjapara became the Moon Man. He can be seen in the night sky, his face marked by the bruises and wounds that Purukapali inflicted. He still feels Purukapali at his heels, for he never ceases his restless journey. Hungry from his travels, he gorges on crabmeat, growing rounder and fatter each day until he has feasted so much he falls sick. His wasting body is the waning moon. Each month he dies, but after three days he comes back to life and begins his journey once again. His loneliness is over, for he has found many wives, the planets, who accompany him on his journey across the sky.

So death comes to the people of earth, the Tiwi say, but always life returns.

Source: Louis A. Allen, *Time before Morning* (New York: Thomas Y. Crowell, 1975), 215–19.

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SOURCE 1.5 Hunting in Aboriginal Rock Art ▶

This painting depicts a hunting scene, featuring either ordinary people or the thin Mimi spirits, said to inhabit the nooks and crannies of the area's rock formations and credited with teaching humans how to paint, hunt, and cook kangaroo meat. Notice the spears that the hunters carry. Various kinds of spears and spear-throwing devices had earlier replaced or supplemented the boomerang. The painting is located at the Ubirr art site in Australia's Kakadu National Park, where rock art dates to many thousands of years ago.

- If the painting depicts real people or hunters, what purposes might it serve?
- What different understandings might emerge if the painting is seen as portraying Mimi spirits?
- How do Sources 1.3 and 1.5 reflect the outlook of the Dreamtime stories?

Aboriginal Hunters

Kakadu National Park, Northern Territory, Australia/ullstein bild/Getty Images

DOING HISTORY

1. **Considering human commonality and diversity:** The study of world history highlights both the common humanity of people from all times and places and the vast differences that have separated particular cultures from one another. How might these sources illustrate both of these perspectives?
2. **Linking sources and text narrative:** How do these sources support or amplify the narrative account of the Paleolithic era in Chapter 1? How might they challenge or contradict that narrative?
3. **Considering the relationship of technology and culture:** How might the gathering and hunting technology of these Australian peoples have shaped their cultural understandings as expressed in these stories and paintings? Does it make sense to evaluate technology as more or less "advanced"? Should culture be assessed in the same way?
4. **Pondering relevance:** How might these sources from a very different time and place speak to us in the modern world of the twenty-first century? Or are they only of historical interest?
5. **Thinking about sources:** These stories were only committed to writing over the past two centuries and the paintings may have been redone many times; how does this affect their usefulness as historical sources for the distant past?

HISTORIANS' VOICES

Australian Aboriginal Culture

Since written sources are absent, stories and art are often ambiguous, and the dating of events is uncertain, scholars interested in ancient Aboriginal culture have relied heavily on observations and accounts from more recent times. What follows are two such descriptions of ancient Aboriginal life. Voice 1.1, focusing on economic and social life, comes from a historian, Dale Kerwin, who is himself an Aboriginal Australian. Voice 1.2, from an anthropologist, Barbara West, examines the Dreamtime cosmology of Aboriginal peoples.

- To what extent do these selections emphasize broad similarities between Aboriginal and more modern societies, and in what ways do they stress the differences?
- What conception of "time" is conveyed in Voice 1.2 and its notion of "the everywhen"? In what ways does this Aboriginal understanding compare with how modern historians approach time?
- How do these selections complement or challenge the narrative description of Paleolithic life in Chapter 1?
- **Integrating Primary and Secondary Sources:** How might evidence from the Dreamtime stories and rock art support or challenge the ideas contained in these selections?

VOICE 1.1

Dale Kerwin on the Economic and Social Life of Aboriginal Australians | 2012

Aboriginal people mastered the environment and because of this had ample spare time to pursue other activities such as the arts and political gatherings. Not all people were engaged in food gathering activities; some were engaged in ceremonial activities and trade. . . . [S]ome Aboriginal people choose to travel long distances to trade nuts, stories, and material goods. . . . There is much evidence that Aboriginal society was, and is, dynamic with the sharing of ceremonies and songs with each other and the adoption of various creator spirits. . . . The dynamic nature of Aboriginal society can also be seen in the development of technologies that master the environment. The spearthrower is a multipurpose tool, which when used as a launcher would extend the throwing range of a spear. It would also be used for carrying tools, so that it became a toolbox. The spearthrower was also used as digging tool and a bowl for food and the stone adze attached to one end would be used as a knife. . . . Aboriginal societies had some members who toiled and collected sufficient food to sustain people in specialized positions such as religious practitioners, specialized craft practitioners, . . . or merchants.

Source: Dale Kerwin, *Aboriginal Dreaming Paths and Trading Routes* (Eastbourne: Sussex Academic Press, 2012), 8, 9, 14.

VOICE 1.2

Barbara West on Aboriginal Dreamtime Cosmology | 2010

Dreaming stories form the basis of Australian Aboriginal religion. They provide explanations for why the world is the way it is. They usually relate to the actions of ancestors, who created the world. The world depicted in these stories is much more complex than that of most westerners for whom the natural and supernatural, past and present, sacred and profane are separate. For Aboriginal Australians, these planes of existence are intertwined. Ancient ancestors created the world and everything in it including rocks, lakes, animals, humans, the wind, and rain, but are also active in the present. Their past actions cannot be separated from present actions especially in ritual which remakes the world each time it is undertaken. The songlines or footprints of these ancient ancestors continue to cross the Australian continent and carry information back and forth from one community to another. Sacred spaces along these lines coexist with everyday or profane spaces, often materialize in rocks, rivers, and other geological features. . . . Anthropologists sometimes use "the everywhen" to refer to the context of the Dreaming stories in order to indicate their timelessness.

Source: Barbara A. West and Francis Murphy, *A Brief History of Australia* (New York: Facts on File, 2010), 27.