Ways of the World

A Global History with Sources For AP*

PART ONE

First Things First

Beginnings in History

TO 500 B.C.E.



Contents

THE BIG PICTURE

Turning Points in Early World History

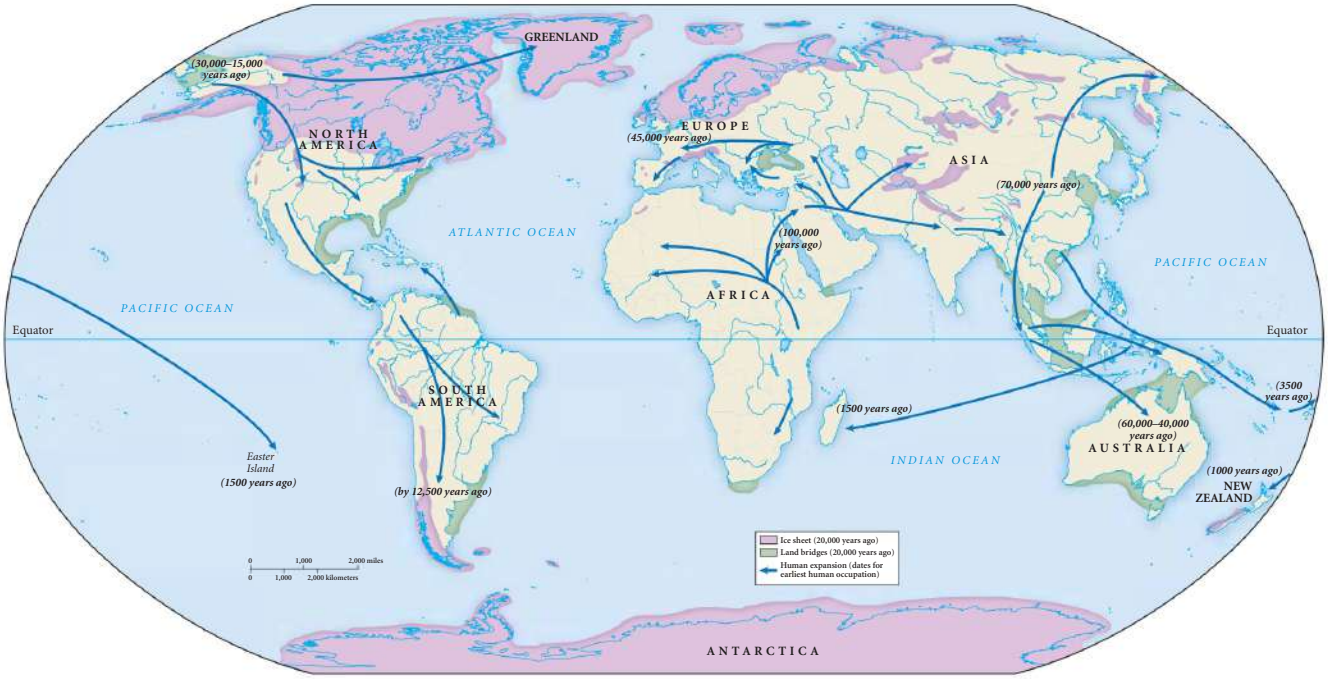
Human beings have long been inveterate storytellers. Our myths, legends, "fairy tales," oral traditions, family sagas, and more have sought to distill meaning from experience, while providing guidance for the living. Much the same might be said of modern historians, although they must operate within accepted rules of evidence. But all tellers of stories—ancient and modern alike—have to decide at what point to begin their accounts and what major turning points in those narratives to highlight. For world historians seeking to tell the story of humankind as a whole, four major "beginnings," each of them an extended historical process, have charted the initial stages of the human journey.

The Emergence of Humankind

Ever since Charles Darwin, most scholars have come to view human beginnings in the context of biological change on the planet. In considering this enormous process, we operate on a timescale quite different from the billions of years that mark the history of the universe and of the earth. According to archeologists and anthropologists, the evolutionary line of descent leading to *Homo sapiens* diverged from that leading to chimpanzees, our closest primate relatives, some 5 million 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. In 1976, the archeologist Mary Leakey uncovered in what is now Tanzania a series of footprints of three such hominid individuals, preserved in cooling volcanic ash about 3.5 million years ago. Two of them walked side by side, perhaps holding hands.

Over time, these hominid species changed. Their brains grew larger, as evidenced by the size of their skulls. About 2.3 million years ago, a hominid creature known as *Homo habilis* began to make and use simple stone tools. Others started to eat meat, at least occasionally. 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. This species is also associated with the first controlled use of fire.

Eventually all of these earlier hominid species died out, except one: *Homo sapiens*, ourselves. With a remarkable capacity for symbolic language that permitted the accumulation and transmission of learning, we too emerged first in Africa and quite recently, probably no more than 250,000 years ago (although specialists constantly debate these matters). For a long time, all of the small number of *Homo sapiens* lived in Africa,



Map 1.1 The Global Dispersion of Humankind (pp. 16–17)

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 great experiment of human history had begun.

The Globalization of Humankind

Today, every significant landmass on earth is occupied by human beings, but it was not always so. A mere half million years ago our species did not exist, and only 100,000 years ago that species was limited to Africa and numbered, some scholars believe, fewer than 10,000 individuals. These ancient ancestors of ours, rather small in stature and not fast on foot, were armed with a very limited technology of stone tools with which to confront the multiple dangers of the natural world. But then, in perhaps the most amazing tale in all of human history, they moved from this very modest and geographically limited role in the scheme of things to a worldwide and increasingly dominant presence. What kinds of societies, technologies, and understandings of the world accompanied, and perhaps facilitated, this globalization of humankind?

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 food-collecting or gathering and hunting way of life, before agriculture allowed people to grow food or raise animals deliberately. Lasting until roughly 11,000 years ago, the Paleolithic era represents over 95 percent of the time that human beings have inhabited the earth, although it accounts for only about 12 percent of the total number of people who have lived on the

planet. It was during this time that *Homo sapiens* colonized the world, making themselves at home in every environmental niche, from the frigid Arctic to the rain forests of Central Africa and Brazil, in mountains, deserts, and plains. It was an amazing achievement, accomplished by no other large species. Accompanying this global migration were slow changes in the technological tool kits of early humankind as well as early attempts to impose meaning on the world through art, ritual, religion, and stories. 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

In 2012, almost all of the world's 7 billion people lived from the food grown on farms and gardens and from domesticated animals raised for their meat, milk, or eggs. But before 11,000 years ago, no one survived in this fashion. Then, repeatedly and fairly rapidly, at least in world history terms, 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 represents another "first" in the human story. After countless millennia of relying on the gathering of wild foods and the hunting of wild animals, why and how did human societies begin to practice farming and animal husbandry? What changes to human life did this new technology bring with it?

This food-producing revolution, also considered in Chapter 1, surely marks the single most significant and enduring transformation of the human condition. The entire period from the beginning of agriculture to the Industrial Revolution around 1750 might be considered a single phase of the human story—the age of agriculture—calculated now on a timescale of millennia or centuries rather than the more extended periods of earlier eras. Although the age of agriculture was far shorter than the immense Paleolithic era that preceded it, farming and raising animals allowed for a substantial increase in human numbers.

In the various beginnings of food production lay the foundations for some of the most enduring divisions within the larger human community. Much depended on the luck of the draw—on the climate and soils, on the various wild plants and animals that were available for domestication. Many agricultural peoples lived in small settled villages, independent of larger political structures, while drawing their food supply from their own gardens and farms. Some depended on root crops, such as potatoes in the Andes; others relied on tree crops, such as the banana; in the most favored areas, highly nutritious wild grains such as rice, wheat, or corn could be domesticated. In more arid regions where farming was difficult, some peoples, known as pastoralists, came to depend heavily on their herds of domesticated animals. Because they moved frequently and in regular patterns to search for pasturelands, they are often referred to as nomads. With regard to animal husbandry, the Americas were at a distinct disadvantage, for there were few large animals that could be tamed—no goats, sheep,

Mohenjo Daro (p. 70)

pigs, horses, camels, or cattle. In the Afro-Eurasian world, conflicts between settled agricultural peoples and more mobile pastoral peoples represented an enduring pattern of interaction across the region.

The Turning Point of Civilization

The most prominent and powerful human communities to emerge from the Agricultural Revolution were those often designated as "civilizations," more complex societies that were based in bustling cities and governed by formal states. Virtually all of the world's people now live in such societies, so that states and cities have come to seem almost natural. In world history terms, however, their appearance is a rather recent phenomenon. 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 gave rise to empires of increasing size, to enduring cultural and religious traditions, to new technologies, to sharper class and gender inequalities, to new conceptions of masculinity and femininity, and to large-scale warfare.

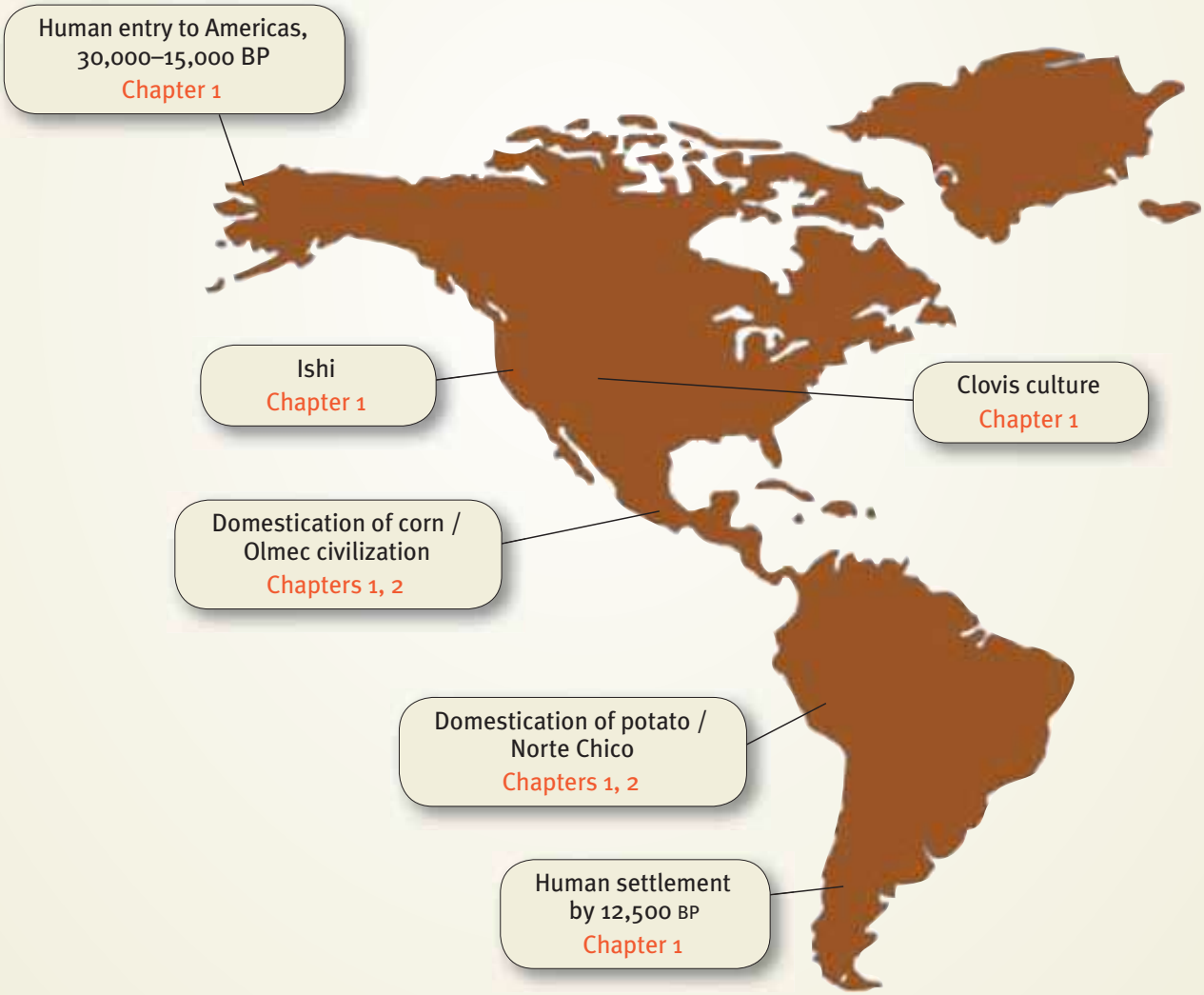
For all of these reasons, civilizations have featured prominently in accounts of world history, sometimes crowding out the stories of other kinds of human communities. The earliest civilizations, which emerged in at least seven separate locations between 3500 and 500 B.C.E., have long fascinated professional historians and lovers of history everywhere. What was their relationship to the Agricultural Revolution? What new ways of living did they bring to the experience of humankind? These are the questions that inform Chapter 2.

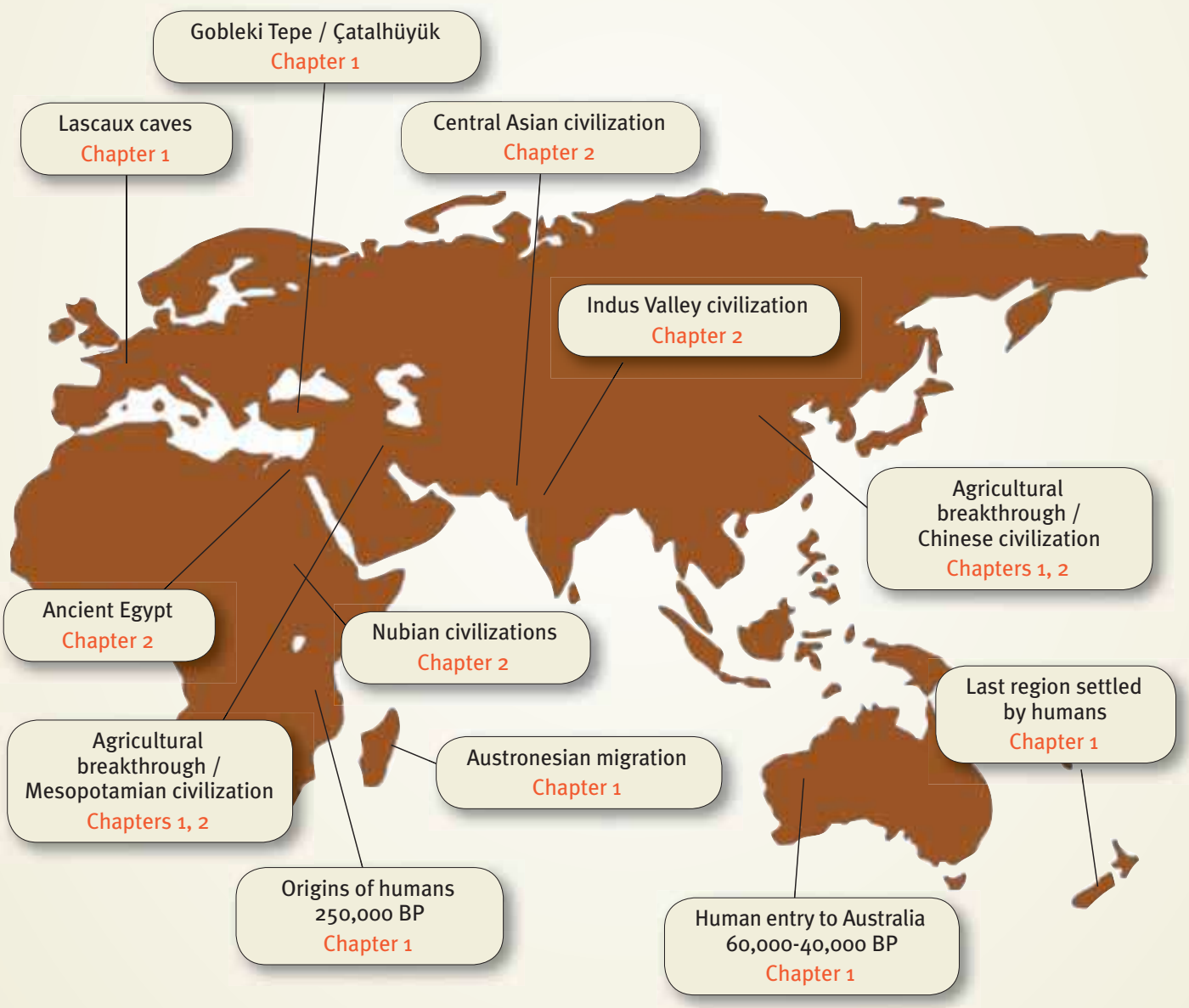
A Note on Dates

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 BP (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 reckoned time. 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 maps of time that we construct reflect the cultures in which we have been born and the historical experience of our societies.

Mapping Part One




Gobleki Tepe / Çatalhüyük
Chapter 1
Lascaux caves
Chapter 1
Central Asian civilization
Chapter 2
Indus Valley civilization
Chapter 2
Agricultural breakthrough / Chinese civilization
Chapters 1, 2
Ancient Egypt
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Last region settled by humans
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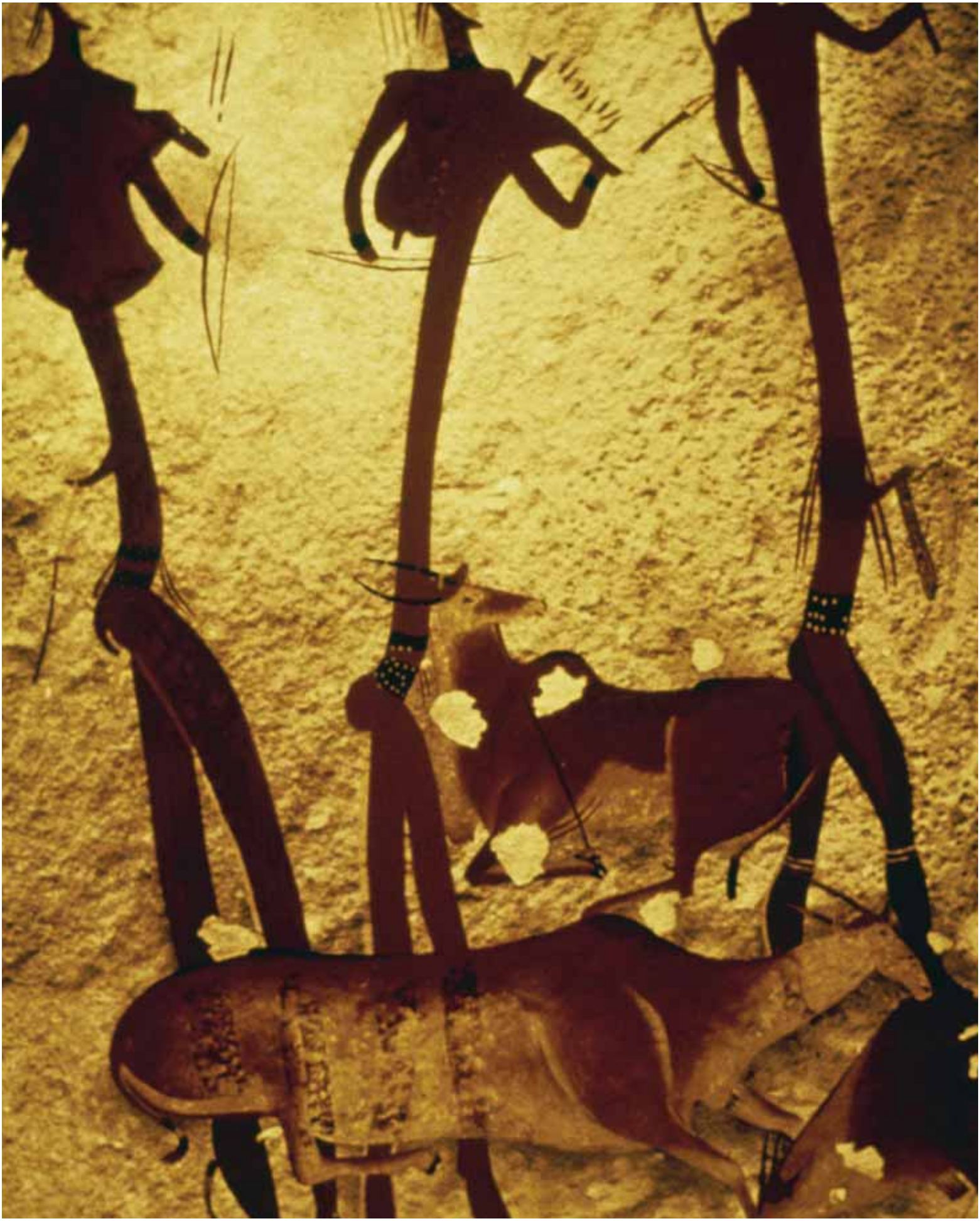
Agricultural breakthrough / Mesopotamian civilization
Chapters 1, 2
Austronesian migration
Chapter 1
Origins of humans 250,000 BP
Chapter 1
Human entry to Australia 60,000-40,000 BP
Chapter 1



CHAPTER ONE

First Peoples; First Farmers

Most of History in a Single Chapter

TO 4000 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 then represented 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. At the beginning of the twenty-first century, several hundred Hadza still made a living by hunting game, collecting honey, digging up roots, and gathering berries and fruit. They lived in quickly assembled grass huts located in small mobile camps averaging eighteen people and moved frequently around their remote region. Almost certainly their way of life is doomed, as farmers, governments, missionaries, and now tourists descend on them. The likely disappearance of their culture parallels the experience of many other such societies, which have been on the defensive against more numerous and powerful neighbors for 10,000 years.

NONETHELESS, THAT WAY OF LIFE SUSTAINED HUMANKIND for more than 95 percent of the time that our species has inhabited 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

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.

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.

And then, around 12,000 ago years 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, then, 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 around 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. 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 no change meant no history.

But does it make sense to ignore the first 200,000 years or more of human experience? Although written records are absent, scholars have learned a great deal about Paleolithic and Neolithic peoples through their material remains: stones and bones, fossilized seeds, rock paintings and engravings, and much more. Archeologists, biologists, botanists, demographers, linguists, and anthropologists have contributed much to our growing understanding of gathering and hunting peoples and early agricultural societies. (See Documents and Visual Sources: History before Writing, pp. 46–59.) Furthermore, the achievements of Paleolithic peoples—the initial settlement of the planet, the creation of the earliest human societies, the beginning of reflection on the great questions of life and death—deserve our attention. And the breakthrough to agriculture arguably represents the single most profound transformation of human life in all of history. The changes wrought by our early ancestors, though far slower than those of more recent times, were extraordinarily rapid in comparison to the transformation experienced by any other species. Those changes were almost entirely cultural or learned, rather than the product of biological evolution, and they provided the foundation on which all subsequent human history was constructed. 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 to the Ends of the Earth: 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

A Map of Time (All dates BP: Before the Present)

250,000–200,000	Earliest *Homo sapiens* in Africa
100,000–60,000	Beginnings of migration out of Africa
70,000	Human entry into eastern Asia
60,000–40,000	Human entry into Australia (first use of boats)
45,000	Human entry into Europe
30,000	Extinction of large mammals in Australia
30,000–15,000	Human entry into the Americas
30,000–17,000	Cave art in Europe
25,000	Extinction of Neanderthals
16,000–10,000	End of last Ice Age (global warming)
12,000–10,000	Earliest agricultural revolutions
11,000	Extinction of large mammals in North America
After 6,000	First chiefdoms in Mesopotamia
6,000–5,000	Beginning of domestication of corn in southern Mexico
3,500–1,000	Austronesian migration to Pacific islands and Madagascar
1,000–700	Human entry into New Zealand (last major region to receive human settlers)

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 have 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, human beings began to inhabit new environments within Africa—forests and deserts—where no hominids had lived before. Accompanying these movements of people were technological innovations of various kinds: stone blades and points fastened to shafts replaced the earlier hand axes; tools made from bones appeared, and so did grindstones. Evidence of hunting and fishing, not just the scavenging of dead animals, marks a new phase in human food collection. 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 such as ochre as well as possible planned

burials suggest 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 dating to around 100,000 years ago, well before such behavior surfaced elsewhere in the world.

Then, 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 (see Map 1.1). In occupying the planet, members of our species accomplished the remarkable feat of learning to live in virtually every environmental niche on earth, something that no other large animal had done; and they did it with only stone tools and a gathering and hunting technology to aid them. Furthermore, much of this long journey occurred during the difficult climatic conditions of the 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

Change
What was the sequence of human migration across the planet?

Human migration out of Africa led first to the Middle East and from there westward into Europe about 45,000 years ago and eastward into Asia. Among the most carefully researched areas of early human settlement in Eurasia are those in southern France and northern Spain. Colder Ice Age climates around 20,000 years ago apparently pushed more northerly European peoples southward into warmer regions. There they altered their hunting habits, focusing on reindeer and horses, and developed new technologies such as spear throwers and perhaps the bow and arrow as well as many different kinds of stone tools. Most remarkably, they also 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 the cave paintings (see Visual Source 1.1, p. 52).

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 earliest 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. 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?

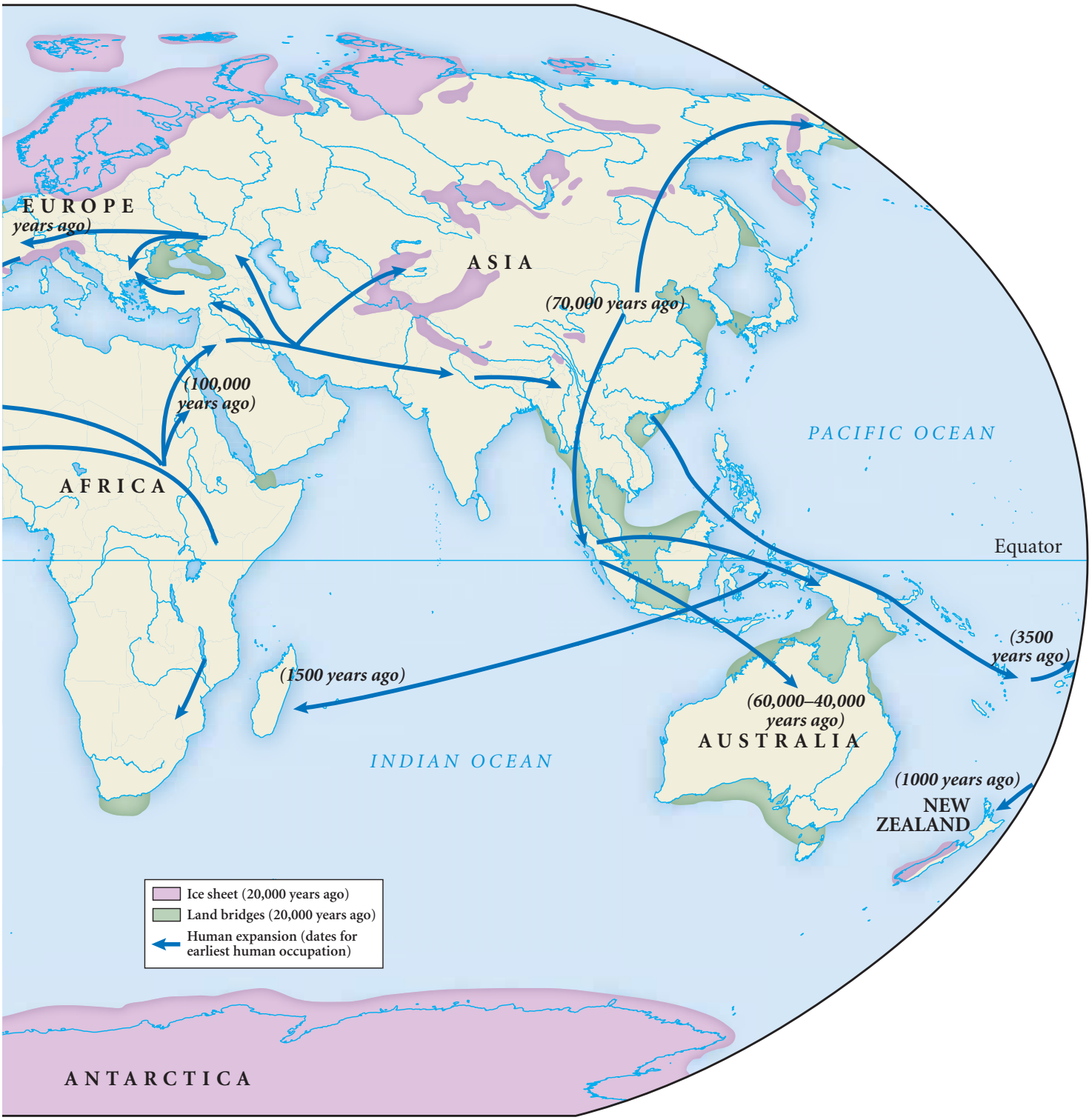
Australian Rock Art
This Australian rock painting utilized the distinctive Aboriginal X-ray style, showing the internal bones and organs. The largest and main figure at the top is a Creation Ancestor known as Namondjok. To the right is Namarrgon, or Lightning Man, who generates the tremendous lightning 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 the people below her, elaborately dressed, are perhaps on their way to a ceremony. (J. Marshall/Visual Connection Archive)

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, they had developed perhaps 250 languages; collected a wide variety of bulbs, tubers, roots, seeds, and cereal grasses; and hunted 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. When outsiders arrived in the late eighteenth century, Aboriginals still practiced that ancient way of life, despite the presence of agriculture in nearby New Guinea.

Accompanying their technological simplicity and traditionalism was the development of an elaborate and complex outlook on the world, known as 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 link the current inhabitants intimately to particular places and to timeless events in the past.

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 niche on the planet over the past 100,000 years.


EUROPE
years ago)
ASIA
(70,000 years ago)
(100,000
years ago)
AFRICA
PACIFIC OCEAN
Equator
(3500
years ago)
(1500 years ago)
(60,000–40,000
years ago)
AUSTRALIA
INDIAN OCEAN
(1000 years ago)
NEW
ZEALAND
Ice sheet (20,000 years ago)
Land bridges (20,000 years ago)
Human expansion (dates for earliest human occupation)
ANTARCTICA

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 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.[3] 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.[4] There is, however, good evidence of human activity in southern Chile by 12,500 years ago.

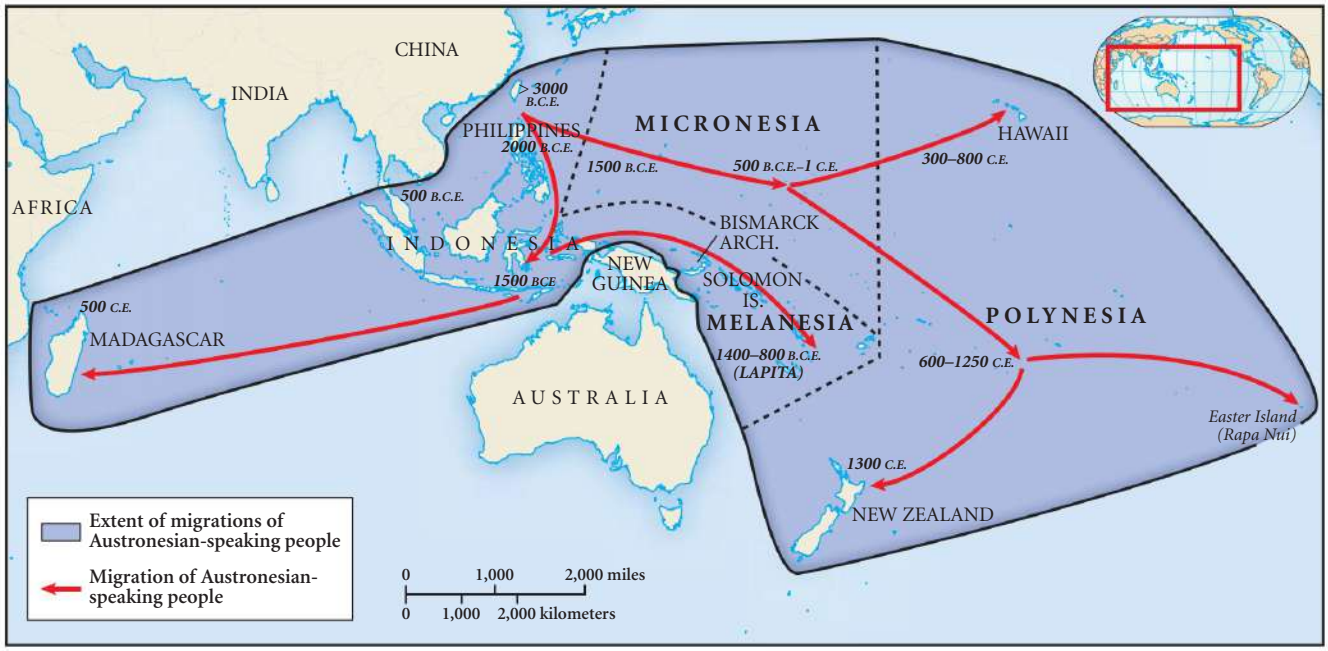
One of the first clearly defined and widespread cultural traditions in the Americas is associated with people who made a distinctive projectile point, known to archeologists as a Clovis point. Scattered all over North America, Clovis culture flourished briefly around 13,000 years ago. Scattered bands of Clovis people ranged over huge areas, 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, 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? 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

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.[5]

Into the Pacific

The last phase of the great human migration to the ends of the earth took place in the Pacific Ocean and was distinctive in many ways. In the first place, 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. This extraordinary process of expansion made the Austronesian family of languages the most geographically widespread in the world and their trading networks, reaching some 5,000 miles from western Indonesia to the mid-Pacific, the most extensive. With the occupation of Aotearoa (New Zealand) around 1000 to 1300 C.E., the initial human settlement of the planet was finally complete (see Map 1.2).



Map 1.2 Migration of Austronesian-Speaking People
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.

Comparison
How did Austronesian migrations differ from other early patterns of human movement?

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. In Hawaii, an elite class of chiefs with political and military power ruled over a mass of commoners. The other development involved 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 human arrival. On Rapa Nui (Easter Island) between the fifteenth and seventeenth centuries C.E., deforestation accompanied famine, violent conflict, and a sharp population decline in this small island society, while the elimination of large trees ensured that no one could leave the island, for they could no longer build the canoes that had brought them there.[6]

The Ways We Were

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 imposed some commonalities on these ancient people. Based on the archeological record and on gathering and hunting societies that still exist in modern times, 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. Some scholars speculate that this growth was dramatically interrupted around 70,000 years ago by an enormous volcanic eruption on the island of Sumatra in present-day Indonesia, resulting in a cooler and drier global climate and causing human numbers to drop to some 10,000 or less. From that point of near extinction, world population grew slowly to 500,000 by 30,000 years ago and then to 6 million by 10,000 years ago.[7] 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, lacking 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 tyranny and oppression than any subsequent 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.

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

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 income. One study 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.[8]

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 Magnificient 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.[9]

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.[10] And some

Native Australians
A small number of Aboriginal Australians maintained their gathering and hunting way of life well into the twentieth century. Here an older woman shows two young boys how to dig for honey ants, a popular food. (Bill Bachman/Alamy)

Aboriginal myths sought to explain how men achieved power over women. Among the San, frequent arguments about the distribution of meat or the laziness or stinginess of particular people generated conflict, as did rivalries among men over women. Richard Lee identified twenty-two murders that had occurred between 1920 and 1955 and several cases in which the community came together to conduct an execution of particularly disruptive individuals. 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.[11] 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 without conferring permanent power on individuals. (See Document 1.1, pp. 47–50, for an insider's description of a contemporary gathering and hunting society.)

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.[12] 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 to encourage the growth of particular plants certainly changed the landscape and in Australia led to the proliferation of fire-resistant eucalyptus trees at the expense of other plant species. In many parts of the world—Australia, North America, Siberia, Madagascar, Pacific islands—the extinction of various large animals followed fairly quickly after the arrival of human beings, leading scholars to suggest that Paleolithic humankind played a major role, coupled perhaps with changing climates, in the disappearance of these animals. Other hominid, or humanlike,

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, or peaceful competition, they were among the casualties of 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 interior 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 often 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.[13] 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.[14] Many gathering and hunting peoples likely developed a cyclical view of time that drew on the changing phases of the moon and on the cycles of female fertility — birth, menstruation, pregnancy, new birth, and death. 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.[15] 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 spirit or possessed souls of their own. Earlier scholars sometimes dubbed such views as "animistic" and regarded them as "primitive" or "simple" in comparison to later literate religions. More recent accounts generally avoid the term, preferring to focus on the specifics of particular religious traditions rather than some overall evolutionary scheme.

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/The Bridgeman Art Library)

Snapshot **Paleolithic Era in Perspective**[16]

	Paleolithic Era (from 250,000 to 10,000 years ago)	Agricultural Era (from 10,000 to 200 years ago)	Modern Industrial Era (since 1800)
Duration of each era, as a percentage of 250,000 years	96%	4%	0.08%
Percent of people who lived, out of 80 billion total	12%	68%	20%
Percent of years lived in each era (reflects changing life expectancies)	9%	62%	29%

Settling Down: The Great Transition

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

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.[17] Another important change in the strategies of Paleolithic people involved the collection of wild grains, which represented a major addition to the food supply beyond the use of roots, berries, and nuts. This innovation originated in northeastern Africa around 16,000 years ago.

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 unable to survive 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 accommodating 100 people appear in the archeological record. 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.

Among the most stunning and unexpected achievements of such sedentary Paleolithic people comes from the archeological complex of Göbekli Tepe (goh-BEHK-lee TEH-peh) in southeastern Turkey, under excavation since 1994. Dating to 11,600

Göbekli Tepe
This monumental ceremonial site in southern Turkey, constructed by gathering and hunting people around 11,600 years ago, has surprised scholars, who have normally regarded such structures as the product of agricultural peoples. (Vincent J. Musi/National Geographic Stock)

years ago, it consists of massive limestone pillars, some weighing as much as sixteen tons, which were carved in a T shape and arranged in a set of some twenty circles or rings. Gracefully carved animals—gazelles, snakes, boars, foxes—decorate the pillars. Göbekli Tepe was probably a ceremonial site, for little evidence of human habitation has been found. Those who constructed or staffed the complex dined on animals hunted at a distance. Dubbed the "world's oldest temple," Göbekli Tepe was the product of people practicing a gathering and hunting way of life though living at least part of the year in settled villages. It represents a kind of monumental construction long associated only with agricultural societies and civilizations.[18]

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 process of settling down among gathering and hunting peoples—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 wandering people. Therefore, it is perhaps not surprising that among the innovations that emerged in these more complex gathering and hunting societies was yet another way for increasing the food supply—agriculture.

SUMMING UP SO FAR

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

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" or "Agricultural Revolution" 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

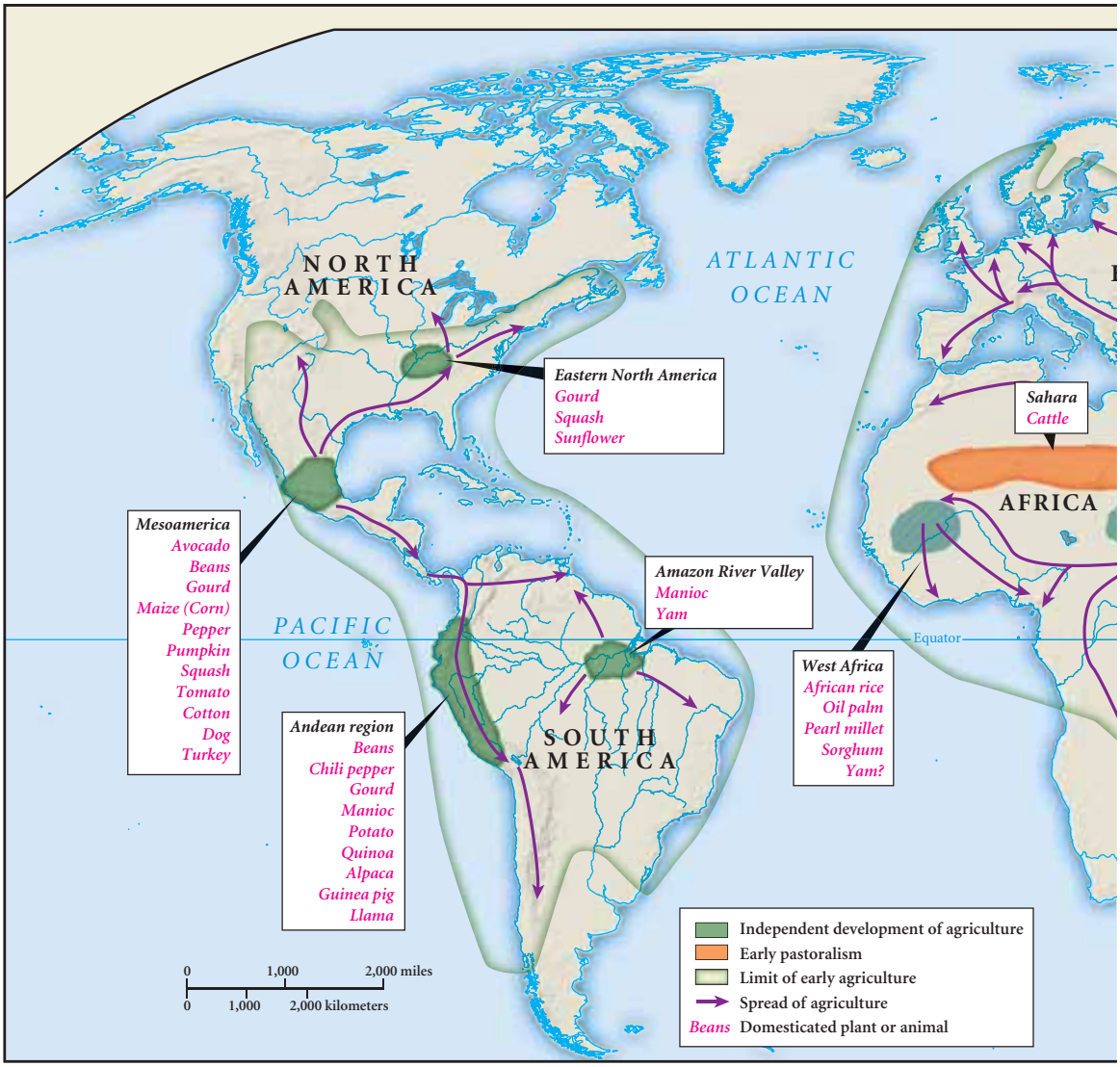
not simply using what they found in nature but were actively changing nature as well. They were consciously "directing" the process of evolution. The actions of farmers in the Americas, for example, transformed corn from a plant with a cob of an inch or so to one measuring about six inches by 1500. Later 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—but it created a new kind of mutual dependence. Many domesticated plants and animals could no longer survive in the wild and relied on human action or protection to reproduce successfully. Similarly, human beings in the agricultural era lost the skills of their gathering and hunting ancestors, and in any event there were now too many people to live in that older fashion. As a consequence, farmers and herders became dependent on their domesticated plants and animals. From an outside point of view, it might well seem that corn and cows had tamed human beings, using people to ensure their own survival and growth as a species, as much as the other way around.

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 greater need for the intensive exploitation of the environment. And so was launched the continuing human effort to "subdue the earth" and to "have dominion over 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, 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. These facts have generated many questions with which historians have long struggled. 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?

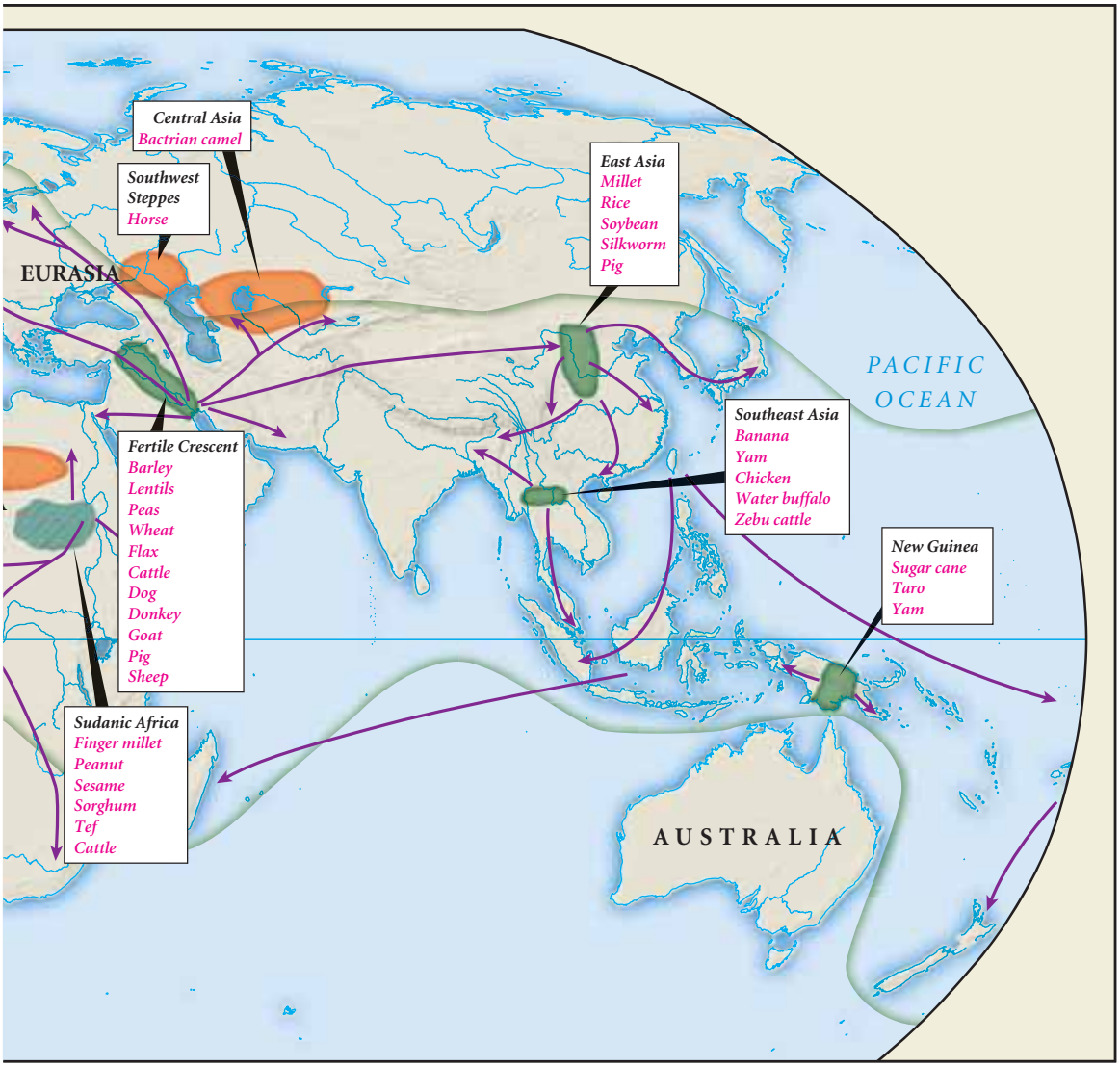


Map 1.3 The Global Spread of Agriculture and Pastoralism
From ten or more separate points of origin, agriculture spread to adjacent areas, eventually encompassing almost all of the world's peoples.

Change

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

It is 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. This was but the latest of some twenty-five periods of glaciation and warming that have occurred over the past several million years of the earth's history and that are 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. Combined with active hunting by human societies, climate change in some areas 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 tem-



perate 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. Peoples of the Amazon and elsewhere had learned to cut back some plants to encourage the growth of their favorites. Native Australians had built elaborate traps in which they could capture, store, and harvest large numbers of eels.

In hindsight, much of this looks like a kind of 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. Clearly the knowledge and technology necessary for agriculture were part of a longer process involving more intense human exploitation of the earth. Nowhere was agriculture an overnight invention.

Using such 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 soon lost some of the skills of their ancestors and 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.

Göbekli Tepe in Turkey provides a possible example of the process. Klaus Schmidt, the chief archeologist at the site, argues that the need for food to supply those who built and maintained this massive religious complex may well have stimulated the development of agriculture in the area. Certainly, some of the earliest domesticated wheat in the region 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 in a village-based setting played a significant role in generating the epic transformation of the Agricultural Revolution.

These were some of the common patterns that facilitated the Agricultural Revolution. New opportunities appeared with the improved 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.[19] 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 just five of these—wheat, corn, rice, barley, and sorghum—supply 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. Because they are stubborn, nervous, solitary, or finicky, many animals simply cannot be readily domesticated.[20] In short, the kind of Agricultural Revolution that unfolded in particular places depended very much on what happened to be available locally, and that in turn depended on sheer luck.

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

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

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 the first breakthrough to agriculture and later the development of some of the First Civilizations.

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, it seems, was a cold and dry spell between 11,000 and 9500 B.C.E., a temporary interruption in the general process of global warming. Larger settled populations were now threatened with the loss of the wild plants and animals on which they had come to depend. Their solution was domestication. 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, and most productive, 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 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.[21]

At roughly the same time, 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, however, scholars tell us that there was no desert in this region, which received more rainfall than currently, had extensive grassland vegetation, and was "relatively hospitable to human life."[22] It seems likely that cattle were domesticated in this region about 1,000 years before they were separately brought under human control in the Middle East and India. At about the same time, the donkey also was 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 the 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 west-

ern South America, in Mesoamerica, in the Mississippi River valley, and perhaps in the Amazon basin—but surely its most distinctive feature lay in the absence of animals that could be domesticated. Of the fourteen major species of large mammals that have been brought under human control, only one, the llama/alpaca, existed in the Western Hemisphere. 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, agricultural peoples in the Americas relied more on hunting and fishing than did peoples in the Eastern Hemisphere.

Furthermore, the Americas lacked the rich cereal grains that were widely available in Afro-Eurasia. Instead 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, a mountain grass called teosinte (tee-uh-SIHN-tee), looks nothing like what we now know as corn or maize.

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: Freer Gallery of Art and Arthur M. Sackler Gallery, Washington, DC)

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."[23] Even then, corn was nutritionally poorer than the protein-rich cereals of the Fertile Crescent. To provide sufficient dietary protein, corn had to be supplemented with squash and beans, which were also domesticated in the Americas. Thus while Middle Eastern societies quite rapidly replaced their gathering and hunting economy with agriculture, that process took 3,500 years in Mesoamerica.

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, and potato, which were domesticated in the Andean highlands, never reached Mesoamerica.

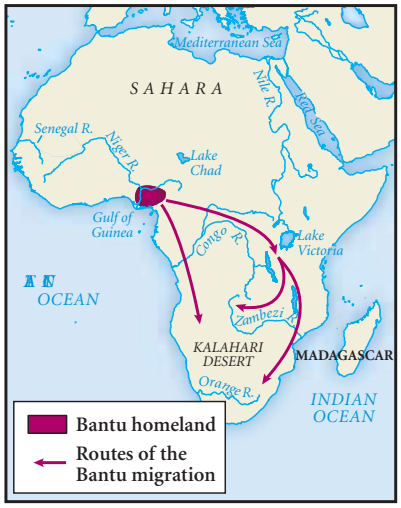
The Globalization of Agriculture

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

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. 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. Often this meant the conquest, absorption, or displacement of the earlier gatherers and hunters, along with the spread of the languages and cultures of the migrating farmers. In many places, both processes took place.

Triumph and Resistance

Some combination of diffusion and migration took the original agricultural package of Southwest Asia and spread it widely into Europe, Central Asia, Egypt, and North Africa between 6500 and 4000 B.C.E. Languages originating in the core region accompanied this movement of people and farming practices. Thus Indo-European languages, which originated probably in Turkey and are widely spoken even today from India to Europe, reflect this movement of culture associated with the spread of agriculture. In a similar process, the Chinese farming system moved into Southeast Asia and elsewhere, and with it a number of related language families developed. India



Bantu Migrations

received agricultural influences from the Middle East, Africa, and China alike.

Within Africa, the development of agricultural societies in the southern half of the continent is associated with the migration 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. The Bantus 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. Later, Austronesian speakers carried agriculture to the uninhabited islands of the Pacific and to Madagascar off the coast of southeastern Africa (see Map 1.2, p. 19).

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 New Guinea, for example, did not spread much beyond its core region. In particular, it 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. A very few, such as the Hadza, described at the beginning of this chapter, practice it still.

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. If that process meant "progress" in certain ways, it also claimed many victims as the relentlessly expanding agricultural frontier slowly destroyed gathering and hunting societies. Whether this process occurred through the peaceful diffusion of new technologies, through intermarriage, through disease, or through the violent displacement of earlier peoples, the steady erosion of this ancient way of life has been a persistent thread of the human story over the past 10,000 years. The final chapters of

Change
What changes did the Agricultural Revolution bring in its wake?

PORTRAIT

Ishi, The Last of His People

In late August of 1911, an emaciated and nearly naked man, about fifty years old, staggered into the corral of a slaughterhouse in northern California. As it turned out, he was the last member of his people, a gathering and hunting group known as the Yahi, pushed into extinction by the intrusion of more powerful farming, herding, and "civilized" societies. It was a very old story, played out for over 10,000 years since the Agricultural Revolution placed Paleolithic cultures on the defensive, inexorably eroding their presence on the earth. The tragic story of this individual allows us to put a human face on that enormous and largely unrecorded process.

Ishi (Courtesy of The Bancroft Library, University of California, Berkeley)

Within a few days, this bedraggled and no doubt bewildered man was taken into the care of several anthropologists from the University of California, who brought him to a museum in San Francisco, where he lived until his death from tuberculosis in 1916. They called him Ishi, which means "person" in his native language, because he was unwilling to provide them with his own given name. In his culture, it was highly impolite to reveal one's name, especially to strangers.

In the mid-nineteenth century, the Yahi consisted of about 300 to 400 people living in a rugged and mountainous area of northern California. There they hunted, fished, gathered acorns, and otherwise provided for themselves in a fashion familiar to gathering and hunting peoples the world over. But the 1849 California gold rush brought a massive influx of American settlers, miners, and farmers that quickly pushed the Yahi to the edge of extinction. Yahi raiding and resistance was met by massacres at the hands of local militias and vigilantes, only too glad to "clean up the In-

that long story are being written in our own times. (See the Portrait of Ishi, above, for a recent example of this process.) After the Agricultural Revolution, the future, almost everywhere, lay with the farmers and herders and with the distinctive societies that they created.

The Culture of Agriculture

What did that future look like? In what ways did societies based on the domestication of plants and animals differ from those rooted in a gathering and hunting economy? In the first place, the Agricultural Revolution led to an increase in human population, as the greater productivity of agriculture was able to support much larger numbers. An early agricultural settlement uncovered near Jericho in present-day Israel probably had 2,000 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 got underway, and shot up to some 50 million by 5,000 years ago and

dians," killing and scalping hundreds. One such massacre in 1865 likely killed Ishi's father, while the young Ishi, his mother, and a few others escaped.

By 1870, Ishi's community had dwindled to fifteen or sixteen people, living in an even more inaccessible region of their homeland. In these desperate circumstances, traditional gender roles blurred, even as they undertook great efforts to conceal their presence. To avoid making footprints when traveling, they jumped from rock to rock; they ground acorns on smooth stones rather than on more obvious hollowed out rocks and carefully camouflaged their thatched dwellings and campfires. By 1894, this tiny Yahi community numbered only five people: Ishi, his mother, his sister or cousin, and an older man and woman.

Then in 1908, a group of American surveyors came across a naked Ishi harpooning fish in the river, and a few days later they found the tiny settlement that sheltered the remaining Yahi. Only Ishi's aged mother was present, hidden under a pile of skins and rags. They did not harm her, but they took away every moveable item—tools, food, baskets, bows and arrows—as souvenirs. Ishi returned to carry his mother away and she soon died. He never saw his sister/cousin or the others again. For some time, then, Ishi lived absolutely alone until he stumbled into the slaughterhouse on August 29, 1911, his hair burned short in a Yahi sign of mourning.

In his new home in the museum, Ishi became something of a media sensation, willingly demonstrating his skills for visitors—fashioning tools and weapons of stone and bone, starting a fire, but refusing to make baskets, because it was women's work. Actively cooperating with anthropologists who sought to document the culture of his people, he took them on a hunt one summer, teaching them how to track and kill deer and to process the meat on the spot. All who met him remarked on his gentleness and kindness, his love of company, his delight in children, his fondness for laughing and joking. According to Alfred Kroeber, the primary anthropologist involved with Ishi: "He was the most patient man I ever knew . . . without trace of self-pity or of bitterness to dull the purity of his cheerful enduringness."[24]

Questions: What accounts for the ability of Ishi's people to survive into the twentieth century? What emotional or moral posture toward Ishi's life seems most appropriate? What perspective does it lend to the larger story of the gradual erosion of gathering and hunting societies the world over?

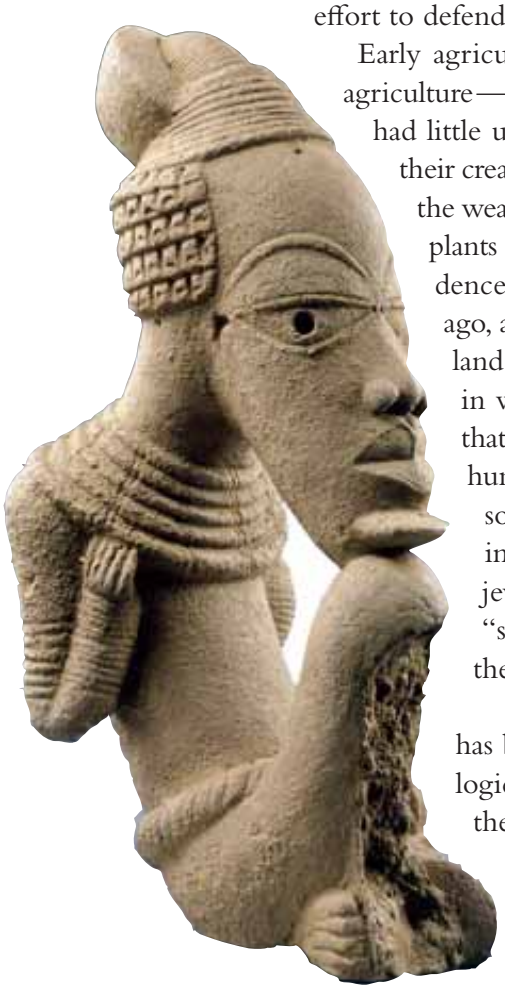
250 million by the beginning of the Common Era. Here was the real beginning of the human dominance over other forms of life on the planet.

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.[25] The advent of more intensive agriculture associated with city-based civilizations only heightened this human impact on the landscape.

Human life too changed dramatically in farming communities, and not necessarily for the better. 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, and anemia, 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, relying on a small number of plants or animals rendered early agricultural societies vulnerable to famine, in case of crop failure, drought, or other catastrophes. The advent of agriculture bore costs as well as benefits.

Agriculture also imposed constraints on human communities. Some Paleolithic people had settled in permanent villages, but all agricultural people did so, as farming required a settled life. A good example of an early agricultural settlement comes from northern China, one of the original independent sources of agriculture, where the domestication of rice, millet, pigs, and chickens gave rise to settled communities by about 7,000 years ago. In 1953, workers digging the foundation for a factory uncovered the remains of an ancient village, now called Banpo, near the present-day city of Xian. 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.



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 600 B.C.E. and 600 C.E. Some scholars have dubbed this and many similar Nok sculptures as "thinkers." Does it seem more likely that this notion reflects a present-day sensibility or that it might be an insight into the mentality of the ancient artist who created the image? (Musée du Quai Branly/Scala/Art Resource, NY)

Early agricultural villages such as Banpo reveal another feature of the age of agriculture—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. It was a task that was compatible with child-rearing responsibilities, which virtually all human societies assigned primarily to women.[26] 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."[27] 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 was soon discovered. Evidence for wine making in the mountains of present-day northwestern Iran dates to around 5400 B.C.E., though its expense rendered it an elite beverage for millennia. Chinese wine making can be traced to around 4000 B.C.E. Drunken debauchery and carousing among the aristocracy prompted an unsuccessful effort by one Chinese ruler around 1046 B.C.E. to outlaw the beverage. 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.[28]

Social Variation in the Age of Agriculture

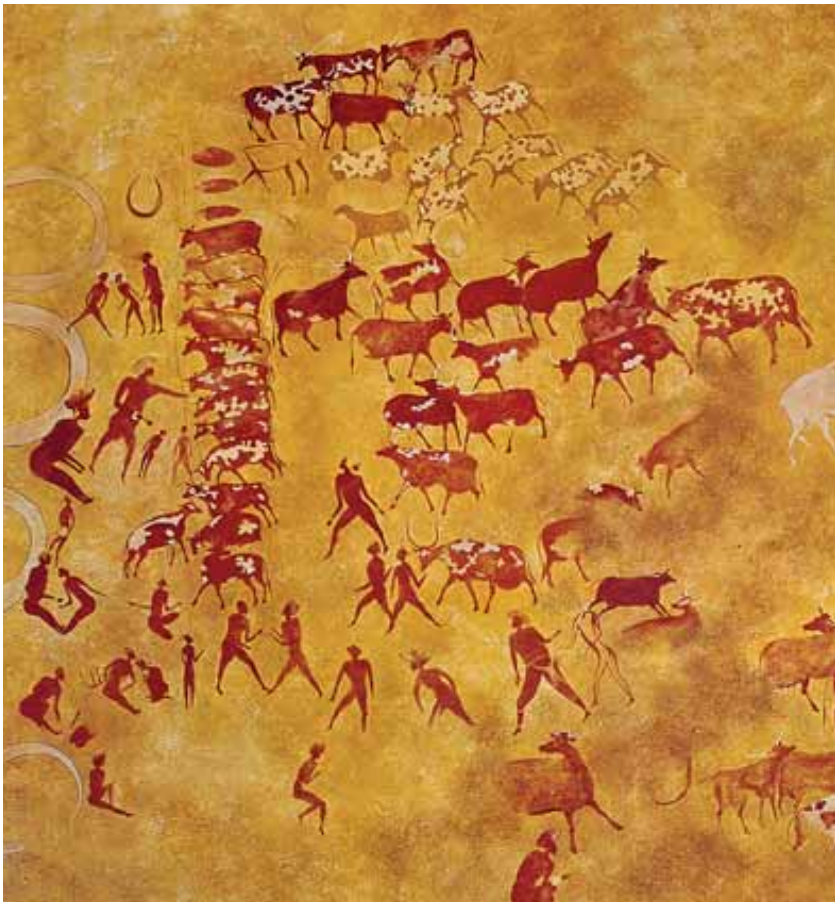
■ Comparison
What different kinds of societies emerged out of the Agricultural Revolution?

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 milk, meat, and blood of animals.[29] Known as herders, pastoralists, or nomads, such people emerged 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 vegetation necessary as pasture for their animals.

The particular animals central to pastoral economies differed from region to region. The domestication of horses by 4000 B.C.E. and several thousand years later the mastery of horseback-riding skills 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. The grasslands



The Domestication of Animals
Although farming often gets top billing in discussions of the Neolithic 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. (Document Henry Lhote's expedition/Visual Connection Archive)

south of the Sahara and in parts of eastern Africa supported cattle-raising pastoralists. The absence of large animals capable of domestication meant that no pastoral societies emerged in the Americas.

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. In the chapters that follow, we will encounter pastoral societies repeatedly, particularly as they interact with neighboring agricultural and "civilized" peoples.

Within pastoral communities the relative equality of men and women, characteristic of most Paleolithic societies, persisted, perhaps because their work was so essential. Women were centrally involved in milking animals, in processing that milk, and in producing textiles such as felt, so 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

The most characteristic early agricultural societies were those of settled village-based horticultural farmers, such as those living in Banpo or Jericho. Many such societies 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. 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."[30] (See Visual Source 1.2, p. 54.)

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, suggesting to her a widespread cult of the Goddess, focused on "the mystery of birth, death and the renewal of life."[31] But early agriculture did not produce identical gender systems everywhere. Some 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.

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. 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.

Given the frequent oppressiveness of organized political power in human history, agricultural village societies represent an intriguing alternative to 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.[32] 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.

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 much 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

Cahokia
Pictured here in an artist's reconstruction, Cahokia (near St. Louis, Missouri) was the center of an important agricultural chiefdom around 1100 C.E. See Chapter 6 for details. (Cahokia Mounds State Historic Site, Illinois. Painting by Lloyd K. Townsend)

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."

SUMMING UP SO FAR

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 have long been 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. In our efforts to puzzle out the past, all of us—historians and students of history very much included—stand somewhere. 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 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

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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 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. "The Agricultural Revolution provides evidence for 'progress' in human affairs." How would you evaluate this statement?

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.

Peter Bellwood, *First Farmers: The Origins of Agricultural Societies* (2005). An up-to-date account of the Agricultural Revolution, considered on a global basis.

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).

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.

Andrew Shryock and Daniel Lord Smail, *Deep History* (2011). An interdisciplinary mapping of the human past with a focus on very long periods of time.

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.

"The Agricultural Revolution," http://www.public.wsu.edu/gened/learn-modules/top_agrev/agrev-index.html. A Web-based tutorial from Washington State University.

"Prehistoric Art," http://witcombe.sbc.edu/ARTHprehistoric.html#general. An art history Web site with a wealth of links to Paleolithic art around the world.

For Web sites and additional documents related to this chapter, see **Make History** at bedfordstmartins.com/highschool/strayer.

Documents

Considering the Evidence: History before Writing: How Do We Know?

Written records have long been the chief source of data for historians seeking to reconstruct the past. But writing is a quite recent innovation in the long journey of humankind, emerging with the advent of the first civilizations only about 5,000 years ago. This absence of written records for earlier phases of human history is one of the reasons many world historians have neglected or avoided the Paleolithic and Neolithic eras.

And yet, all manner of techniques for probing the more distant past have evolved over the last century or so. An emerging field known as genetic anthropology uses DNA analysis to trace the movement of people across the planet. Linking genetic evidence with fossil remains, scholars have reached a general consensus that sub-Saharan Africa was the original home of our species, *Homo sapiens*. Historical linguistics, rooted in the changes that languages undergo, has also aided in tracking human movement and defining the character of particular cultures by analyzing their vocabularies. Our understanding of the widespread cultures of Indo-European- and Bantu-speaking peoples derive largely from such linguistic analysis. Archeologists have contributed much to our grasp of the unwritten past through their study of human fossil remains, tools, pottery, buildings, art, and more.

Yet another, and somewhat controversial, technique for doing history before writing lies in analogies with more recent nonliterate peoples. In the twentieth century, anthropologists and other scholars descended on the few remaining gathering and hunting peoples, studying their cultures and collecting their stories, myths, and oral traditions. For good reasons historians are often skeptical about the usefulness of such material for understanding the distant past of Paleolithic societies. Since all societies change over time, is it reasonable to think that contemporary gathering and hunting societies would resemble in any way their ancestors thousands of years ago? Furthermore, there is the problem of contamination. After all, gatherers and hunters in recent times have often mixed and mingled with agricultural societies, come under European colonial rule, or made contact with elements of modern civilization. Other scholars, and particularly teachers, have embraced these materials, even while recognizing their limitations, for they provide at least a glimpse into ways of living and

thinking that have almost completely vanished from the earth. Document 1.1 allows you to make a judgment about the usefulness of this approach to history before writing.

Document 1.1

A Paleolithic Woman in the Twentieth Century

In 1971 the American anthropologist Marjorie Shostak was conducting research among the San people of the Kalahari Desert on the border of Botswana and South Africa. There she became acquainted with a fifty-year-old woman named Nisa. Although Nisa had interacted with neighboring cattle-keeping people and with Europeans, she had lived most of her life "in the bush," fully participating in the gathering and hunting culture of her ancestors. Nisa proved willing to share with Shostak the intimate details of her life, including her memories of childhood, her several marriages, the birth of her children, her relationships with various lovers, and the deaths of loved ones. Those interviews became the basis for the remarkable book from which the following excerpts derive.

- How useful do you find Nisa's account for understanding the life of much earlier Paleolithic people? What evidence of contact with a wider world can you find in her story?
- What does her account indicate about San attitudes toward sex and marriage? How might you compare those attitudes with those of contemporary society?
- How does Nisa understand God, or the divine? How does she understand the purpose of the curing rituals in which she took part?
- How would you describe Nisa's overall assessment of San life? Do you find it romanticized, realistic, or critical? What evidence from the passages supports your conclusions?

Nisa

The Life and Words of an !Kung Woman

1969–1976

Life in the Bush

We are people who live in the bush, and who belong in the bush. We are not village people. I have no goats. I have no cattle. I am a person who owns nothing.

Source: Marjorie Shostak, *Nisa: The Life and Words of an !Kung Woman* (Cambridge, MA: Harvard University Press, 1981), 37, 63, 79, 80, 138–139, 140, 149, 189, 190, 203–204, 243, 267, 268, 269, 283, 284.

That's what people say I am: a poor person. . . . No donkey, either. I still carry things myself, in my kaross [an animal hide cloak] when I travel. . . .

We lived and lived, and as I kept growing, I started to carry my little brother around on my shoulders. My heart was happy then; I had grown to love him and carried him everywhere. I'd play with him for a while and whenever he would start to cry, I'd take him to Mother so he could nurse. Then I'd take him back with me and we'd play together again.

That was when Kumsa was little. But once he was older and started to talk and then to run around, that's when we were mean to each other and hit and fought all the time. . . .

We lived in the bush and my father set traps and killed steenbok and duiker and gemsbok and we lived, eating the animals and foods of the bush. We collected food, ground it in a mortar, and ate it. We also ate sweet nin berries and tsin beans. When I was growing up, there were no cows or goats. . . . I had never seen other peoples and didn't know anything other than life in the bush. . . .

Whenever my father killed an animal and I saw him coming home with meat draped over a stick, balanced on one shoulder—that's what made me happy. I'd cry out, "Mommy! Daddy's coming and he's bringing *meat!*" My heart would be happy when I greeted him, "Ho, ho, Daddy! We're going to eat meat!" Or honey. Sometimes he'd go out and come home with honey. I'd be sitting around with my mother and then see something coming from way out in the bush. I'd look hard. Then, "Oooh, Daddy found a beehive! Oh, I'm going to eat honey!" . . . And I'd thank him and call him wonderful names. . . .

When we were living in the bush, some people gave and others stinged. But there were always enough people around who shared, people who liked one another, who were happy living together, and who didn't fight. And even if one person did sting, the other person would just get up and yell about it, whether it was meat or anything else, "What's doing this to you, making you not give us meat?"

When I was growing up, receiving food made my heart happy. There really wasn't anything, other than stingy people, that made me unhappy. I didn't like people who wouldn't give a little of what they had. . . .

It's the same today. Here I am, long since an adult, yet even now, if a person doesn't give something to me, I won't give anything to that person. . . .

Marriage

. . . The day of the wedding, everyone was there. All of Tashay's friends were sitting around, laughing and laughing. His younger brother said, "Tashay, you're too old. Get out of the way so I can marry her. Give her to me." . . . They were all sitting around, talking like that. They all wanted me.

I went to my mother's hut and sat there. I was wearing lots of beads and my hair was completely covered and full with ornaments. . . . That night there was another dance. We danced, and some people fell asleep and others kept dancing. . . .

The next day they started [to build the marriage hut]. There were lots of people there—Tashay's mother, my mother, and my aunt worked on the hut; everyone else sat around, talking. Late in the day, the young men went and brought Tashay to the finished hut. They set him down beside it and stayed there with him, sitting around the fire. . . .

They came and brought me back. Then they laid me down inside the hut. I cried and cried. People told me, "A man is not something that kills you; he is someone who marries you, who becomes like your father or your older brother. He kills animals and gives you things to eat."

I listened and was quiet. Later, we went to sleep. Tashay lay down beside the opening of the hut, near the fire, and I lay down inside; he thought I might try and run away again. He covered himself with a blanket and slept. . . .

We lived and lived, the two of us, together, and after a while I started to really like him and then, to love him. I had finally grown up and had learned how to love. I thought, "A man has sex with you. Yes, that's what a man does. I had thought that perhaps he didn't."

We lived on and I loved him and he loved me. I loved him the way a young adult knows how to love; I just *loved* him. Whenever he went away and I stayed behind, I'd miss him. I'd think, "Oh, when is my husband ever coming home? How come he's been gone so long?" I'd miss him and want him.

When he'd come back my heart would be happy, "Eh, hey! My husband left and once again has come back."

I . . . gave myself to him, gave and gave. We lay with each other and my breasts were very large. I was becoming a woman.

Loss

It was while we were visiting in the Tswana village [of cattle-keeping people] and just after Kxau was born that Tashay died. . . . I lay there and thought, "Why did this happen? The two of us gave so much to each other and lived together so happily. Now I am alone, without a husband. I am already a widow. Why did God trick me and take my husband? God is stingy! He just takes them from you. God's heart is truly far from people." . . .

Then I was without my husband and my heart was miserable. Every night I missed him and every night I cried, "I am without the man I married." I thought, "Where will I see the food that will help my children grow? Who is going to help me raise this newborn? My older brother and my younger brother are far away. Who is going to help me now?"

In your heart, your child, your mother, and your father are all equal. When any one of them dies, your heart feels pain. When your child dies, you think, "How come this little thing I held beside me and watched all that she did, today has died and left me? She was the only child I had with me. . . . This God . . . his ways are foul! Why did he give me a little one and then take her away?" . . .

The death of your parents, husband, or children—they are equal in the amount of pain you feel when you lose them. But when they all die and you have no family left, then you really feel pain. There is no one to take care of you; you are completely alone. . . .

That's the way it is. God is the one who destroys. It isn't people who do it. It is God himself.

Lovers

. . . Besa [Nisa's fourth husband] and I did argue a lot, usually about sex. . . . Every night Besa wanted me and every night he would make love to me. That Besa, something was wrong with his brain! . . . After a while, I realized I didn't like his ways. That's when I thought, "Perhaps I will leave him. Perhaps I'll find another man and see what he is like."

I didn't leave him, not for many years. But I did have lovers and so did he. . . . Because affairs . . . is something that even people from long ago knew. Even my father's father's father's father knew. There have also always been fights where poison arrows are shot and people are killed because of that. Having affairs is one of the things God gave us. . . .

When you are a woman, you don't just sit still and do nothing—you have lovers. You don't just sit with the man of your hut, with just one man. One man can give you very little. One man gives you only one kind of food to eat. But when you have lovers, one brings you something and another brings you something else. One comes at night with meat, another with money, another with beads. Your husband also does things and gives them to you. But sitting with just one man? We don't do that. Does one man have enough thoughts for you? . . .

A Healing Ritual

. . . N/um—the power to heal—is a very good thing. This is a medicine very much like your medicine because it is strong. As your medicine helps people, our n/um helps people. But to heal with n/um means knowing how to trance. Because, it is in trance that the healing power sitting inside the healer's body—the n/um—starts to work. Both men and women learn how to cure with it, but not everyone wants to. Trance-medicine really hurts! As you begin to trance, the n/um slowly heats inside you and pulls at you. It rises until it grabs your insides and takes your thoughts away. Your mind and your senses leave and you don't think clearly. Things become strange and start to change. You can't listen to people or understand what they say. You look at them and they suddenly become very tiny. You think, "What's happening? Is God doing this?" All that is inside you is the n/um; that is all you can feel.

You touch people, laying on hands, curing those you touch. When you finish, other people hold you and blow around your head and your face. Suddenly your senses go "Phah!" and come back to you.

You think, "Eh hey, there are people here," and you see again as you usually do. . . .

N/um is powerful, but it is also very tricky. Sometimes it helps and sometimes it doesn't, because God doesn't always want a sick person to get better. . . . I was a young woman when my mother and her younger sister started to teach me about drum-medicine. There is a root that helps you learn to trance, which they dug for me. My mother put it in my little leather pouch and said, "Now you will start learning this, because you are a young woman already." She had me keep it in my pouch for a few days. Then one day, she took it and pounded it along with some bulbs and some beans and cooked them together. It had a horrible taste and made my mouth feel foul. I threw some of it up. If she hadn't pounded it with the other foods, my stomach would have been much more upset and I would have thrown it all up; then it wouldn't have done anything for me. I drank it a number of times and threw up again and again. Finally I started to tremble. People rubbed my body as I sat there, feeling the effect getting stronger and stronger. My body shook harder and I started to cry. I cried while people touched me and helped me with what was happening to me.

Eventually, I learned how to break out of myself and trance. When the drum-medicine songs sounded, that's when I would start. Others would string beads and copper rings into my hair. As I began to trance, the women would say, "She's started to trance, now, so watch her carefully. Don't let her fall." They would take care of me, touching me and helping. If another woman was also in a trance, she laid on hands and helped me. They rubbed oil on my face and I stood there — a lovely young woman, trembling — until I was finished.

Visual Sources

Considering the Evidence: History before Writing: How Do We Know?

Physical remains provide yet another point of entry into the history of nonliterate peoples. Among these, creative artistic representation has been especially useful, for it is as old as humankind itself, long preceding the emergence of urban civilizations. The most ancient of these artistic traditions are the rock paintings that Paleolithic people created all across the world. Some in Australia date to 40,000 years ago, and the tradition has continued into the twentieth-first century as artists retouched and repainted ancient images and created new ones. A contemporary Aboriginal artist explained what those paintings meant to him:

> When I look at my [dreaming] paintings it makes me feel good—happy in heart, spirit. Everything is there: all there in the caves, not lost. . . . The people keep their ceremony things and pictures—they make them new. They bring young boys for learning to the caves, telling the stories, giving the laws from grandfathers' fathers, learning to do the paintings—[the dreaming] way.[33]

Perhaps the most well-known Paleolithic rock art comes from the Lascaux caves in southern France, discovered by several teenage boys in 1940. Dating to at least 17,000 years ago, the cave walls depict various kinds of animals: numerous horses, stags, and bison; seven felines; and a single bear, rhinoceros, and bird. But no reindeer are included, although they were the main source of meat for the artists. Abstract designs consisting of dots and lines accompany many of the paintings.

Scholars have debated endlessly what insights these remarkable images might provide into the mental world of Paleolithic Europeans. Were they examples of "totemic" thinking—the belief that particular groups of men and women were associated with, or descended from, particular animals? Did they represent "hunting magic" intended to enhance the success of these early hunters? Because many of the paintings were located deep within caves, were they perhaps part of religious or ritual practices or rites of passage? Were they designed to pass on information to future generations? Were the abstract designs star charts, as one scholar has suggested? Or did these images represent

Visual Source 1.1 Lascaux Rock Art (bpk berlin/Art Resource, NY)

the visions of shamans as some have also suggested for the South African rock painting on page 10? No one really knows.

But beyond their uncertain meaning as archeological evidence for Paleolithic life, modern humans have recognized the artistic value of the Lascaux paintings, appreciating their graceful lines, use of color, and distinctive sense of perspective and sometimes movement. Tradition has it that the great twentieth-century artist Pablo Picasso remarked after viewing the caves that "we have learned nothing in 12,000 years."[34] Furthermore the art of the Lascaux caves was part of a very long artistic tradition in the region that adhered over many millennia to a set of aesthetic conventions. Thus it was a conservative tradition, linked to a long-established social order and very much unlike modern art that generally challenges contemporary society.

One of the most dramatic and perplexing images from Lascaux, shown here as Visual Source 1.1, depicts a human male figure lying in front of a wounded and enraged bison, pierced with a broken spear, and with its entrails hanging out. To the left is a rhinoceros and beneath its tail two rows of three dots.

- Based on this image as well as those on pages 10 and 15, what information about Paleolithic life might historians derive from the rock art of gathering and hunting peoples?
- No one knows for certain if the three figures in this image were painted at the same time. But if they were, it represents a very early narrative composition. How might you tell the story that the painting depicts? Is the man dead or wounded? What message would such a story convey?
- The explicit rendering of the penis indicates a male figure, but why might the artist have shown him with a bird-like face? How might he be related to the bird on a staff pictured beside him?
- What differences do you notice between the portrayal of the human figure and that of the animals?
- Do you respond to this image more as archeological evidence for Paleolithic life or from the viewpoint of cultural and artistic appreciation?

In seeking to understand the Neolithic age—occurring between the beginnings of settled agriculture and the rise of literate civilizations—historians confront much the same problem as do scholars of the preceding Paleolithic era. In the absence of writing, they must depend heavily on material remains such as art, artifacts, and architecture. In comparison with Paleolithic art, the new economy generated by agriculture gave rise to many artistic innovations. Weaving and pottery making became major industries, offering new opportunities for creative expression. While animals continued to be a focus of Neolithic art, human figures became more prominent and were more realistically depicted than in the cave paintings and Venus figurines of the Paleolithic era. But observers—both expert and amateur—continue to debate the meaning of these representations with no consensus in sight.

Among Neolithic sites, few have generated more controversy than Çatalhüyük in modern Turkey, particularly about the role of women in the religious and social life of this early agricultural village (see pp. 41–42). The first major dig at the site, undertaken by James Mellaart in the 1960s, uncovered a number of small female figurines, the most famous of which is shown here as Visual Source 1.2. It dates to about 5000 B.C.E. and is some eight inches in height. The baked-clay figure depicts a seated female whose arms are resting on two lionesses or leopards. For Mellaart, this was evidence for an ancient and powerful cult of the "mother Goddess," an idea that other scholars have dismissed. Despite the controversy, some goddess devotees have come to view Çatalhüyük as a pilgrimage site.

- Without trying to interpret this statue, how would you simply describe it?
- What features of this statue might support Mellaart's view? What alternative understandings can you imagine?

Visual Source 1.2 Women, Men, and Religion in Çatalhüyük (The Art Archive at Art Resource, NY)

- Why might feminist scholars have been attracted to Mellaart's interpretation of this figure?

Later archeological research, ongoing since 1993 under the leadership of Ian Hodder, has called some aspects of this "mother Goddess" interpretation into question. Hodder, for example, doubts the existence of an organized cult with an attached priesthood, as Mellaart theorized. Rather, Hodder noted that the image suggests "a close connection between ritual and daily functions." He added:

> I do not think that there was a separate religious elite. I think the religion was an integral part of daily life. It may be wrong to think of the Çatal art as religious or symbolic at all. It may be more that people thought that they had to paint, or make relief sculptures, in order to achieve certain practical ends (such as make the crops grow, or prevent children from dying).[35]

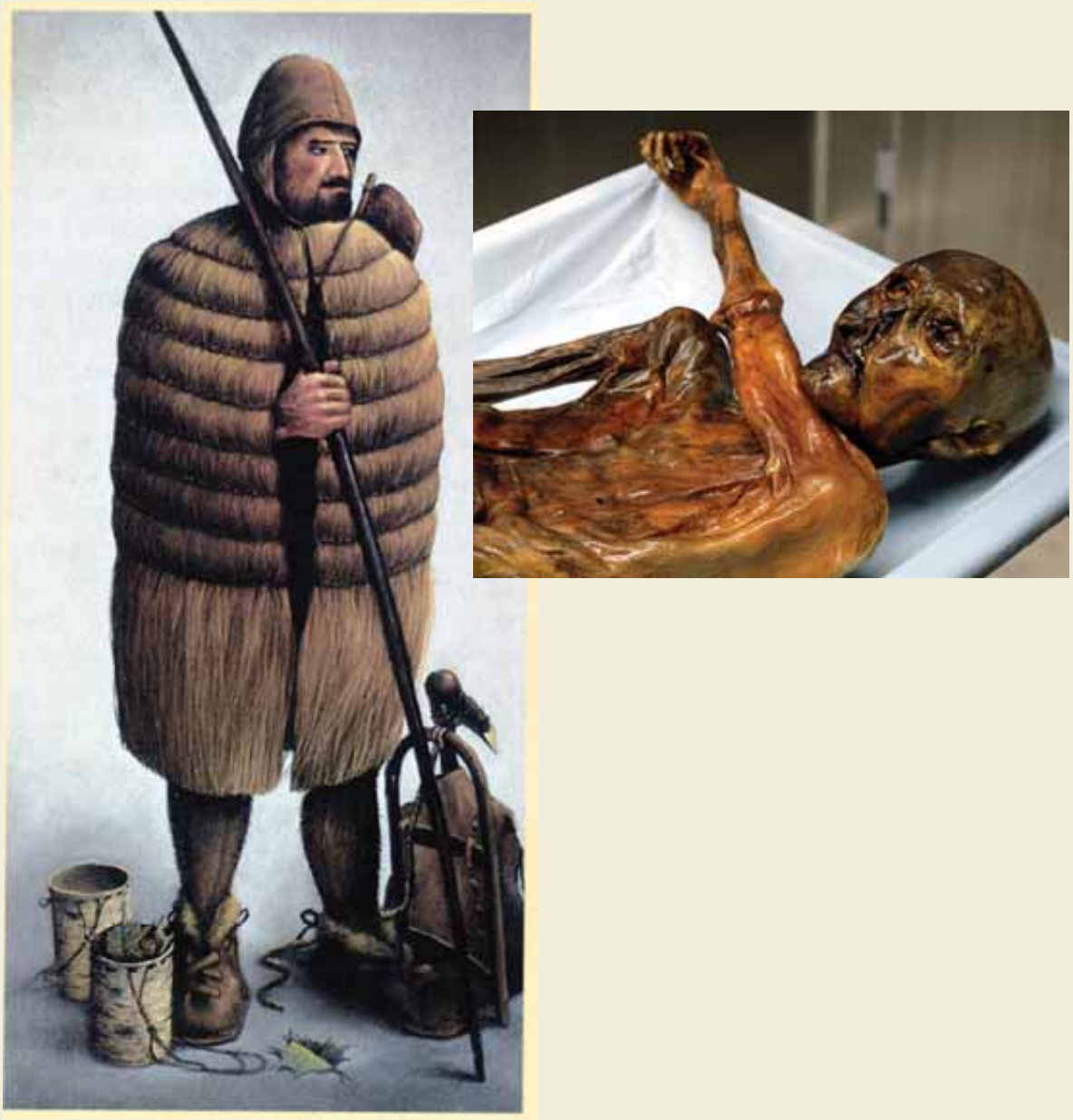
Furthermore, Hodder suggested that while women were certainly prominent in the symbolism of the village, there is little evidence for a "matriarchal society" in which women dominated. Rather, he wrote that "men and women had the same social status. There was a balance of power."[36]

- Why do you think the life of this small Neolithic village from 7,000 or more years ago continues to provoke such passionate debate? (You might want to do a little research about the controversies surrounding Çatalhüyük.)

Beyond the artistic products of people without writing, historians have also learned much from their burial sites. Analysis of human remains often discloses something about diet, nutrition, and disease, while variations in burial materials can provide indications of social status, technology, religion, and more. Among the more famous burials of the Neolithic era was that of Otzi the Iceman, a forty-six-year-old man, about 5'5" tall, whose body was discovered in 1991 frozen in a glacier high in the Italian Alps. Properly speaking, it was not a burial at all, for Otzi, named for the region in which he was found, died far from home about 5,300 years ago in this remote mountainous area, his body left to the elements, which miraculously preserved it for over five millennia.

In his mid-forties, Otzi was an old man for his time and place, no doubt full of aches and pains. The condition of his bones and evidence of frostbite suggest that he spent much of his life in steep, cold mountainous terrain. Some fifty-seven tattoos, made by small incisions into which charcoal was rubbed, probably reflect treatments for pain relief. Traces of arsenic in his hair indicate that he was exposed to the smelting of copper. His last meals included wild goat and deer meat as well as threshed and processed wheat, perhaps in the form of bread, which suggests that he lived in an agricultural community. A gash in his hand points to hand-to-hand fighting not long before his death; a flint arrow that lodged in his back and severed an artery, as well as evidence of a blow to his head, show that Otzi did not die a natural death but was killed. His attacker appears to have then pulled out the shaft of the arrow, perhaps fearing it could identify him, for no such shaft was found among his remains. So we know how Otzi died, but not why. Even so, it is about as close as we get to a particular event in history before writing.

Materials accompanying his body fill out the picture of his life. His clothing consisted of a leather loincloth and leggings, a coat of stitched animal furs,



Visual Source 1.3 Otzi the Iceman (Iceman Drawing: W. Smetek/STERN/Picture Press; Skeleton: South Tyrol Museum of Archaeology, www.iceman.it)

and covering all of this, a cape of woven grass. A belt, a bearskin cap, and waterproof shoes made of bearskin and deer hide and stuffed with grass as insulation completed his outfit. An ax with a copper blade reveals that Otzi was living at the beginning of the age of metals, while stone scrappers and a flint knife indicate continued reliance on an earlier technology. He was well provisioned for a substantial journey with several small baskets, a birch bark drinking cup, several dried mushrooms, replacement materials of leather straps and

sinew, a drill and a tool for sharpening flint blades, a six-foot bow and a quiver full of arrows, and a wood-framed backpack. We know that Otzi was far from his home, probably located considerably to the south of the Alpine mountain chain where he died, but no one knows why he chose to go there. Was he a shepherd herding his flock, part of an armed party involved in a skirmish with enemies, or a solitary traveler attacked by local people?

Visual Source 1.3 shows an artist's reconstruction of the Iceman and some of his accompanying materials, while the small insert shows the actual head and torso of his preserved body.

- What elements of the above description are visible in the reconstructed drawing?
- Do you think that the inferences about his life made by scholars are justified based on the evidence available?
- Create a story that takes account of what is known about Otzi, while imaginatively fleshing out something of his life and death. What additional archeological evidence would be useful in doing so?

Structures or buildings also offer insights into the life of people without writing. In the Neolithic age of agriculture, more large-scale stone structures, known as megaliths, appeared in various places, and settled farming communities required more elaborate dwellings, including some substantial stone fortifications. Among the most famous sites of the early agrarian era is Stonehenge, a series of earthworks accompanied by circles of standing stones located in southern England, where the Agricultural Revolution emerged around 4000 B.C.E. Construction of the Stonehenge site began around 3100 B.C.E. and continued intermittently for another 1,500 years.

- Have a close look at the aerial photograph of Stonehenge in Visual Source 1.4. How would you describe its major features to someone who had never seen it? What questions about the site come to mind?

Almost everything about Stonehenge has been a matter of controversy and speculation. Prominent among those debates have been the questions of motivation and function. Why was it constructed? What purposes did it serve for those early farming peoples who used it? The discovery of the cremated remains of some 240 individuals, dating to the first five centuries of its existence, has convinced some scholars that it was a burial site, perhaps for members of a single high-ranking family. It was the "domain of the dead" or an abode of the ancestors, argued one archeologist, linked ritually perhaps to a nearby village of Durrington Walls, a "land of the living" consisting of 300 to 1,000 homes.[37] Others have cast Stonehenge as an astronomical observatory, aligned with the solstices and able to predict eclipses and the movement of heavenly bodies, or perhaps a center of sun worship. Most recently, it has been

Visual Source 1.4 Stonehenge (© Skycan/Corbis)

depicted as "a place of pilgrimage for the sick and injured of the Neolithic world," based on the number of burials in the area that show signs of serious illness, trauma, or deformity as well as the presence of many bluestone rock chips thought to have magical healing properties.[38]

Whatever its purposes, still other controversies surround the manner of its construction. How were those huge slabs of rock, some as heavy as fifty tons and others coming from a location 240 miles away, transported to Stonehenge and put into place? Were they dragged overland or transported partway by boat along the Avon River? Or did the movement of earlier glaciers deposit them in the region?

- What does a structure of the magnitude of Stonehenge suggest about the Neolithic societies that created it?
- What kinds of additional evidence would be most useful to scholars seeking to puzzle out the mysteries of Stonehenge?

Using the Evidence: History before Writing: How Do We Know?

1. **Comparing sources:** Which of these sources seems most useful in understanding human history before writing? Do you find Nisa's contemporary account more or less insightful than the physical remains from long ago? What are the advantages and drawbacks of each?
2. **Noticing the Great Transition:** How do these sources illustrate the transition from a Paleolithic gathering and hunting way of life (Nisa and the Lascaux rock art) to a Neolithic or agricultural society?
3. **Connecting past and present:** In what ways do these sources retain their ability to speak to people living in industrial societies of the twenty-first century? Or do they have meaning only for those who created them? Which sources do you relate to most strongly?
4. **Reflecting on speculation:** Our understanding of all of these works is highly uncertain, inviting a considerable amount of speculation, guesswork, or imagination. Why are historians willing to articulate uncertain interpretations of these ancient sources? Is this an appropriate undertaking for historians, or should scholars remain silent when the evidence does not allow them to speak with certainty and authority?

Chapter 1 Wrap Up

STEP ONE

The Word to Know: Migration

The *Oxford England Dictionary* (2012) defines *migration* as "the movement of a person or people from one country, locality, place of residence, etc., to settle in another." Use the word migration in an original sentence to explain the Bantu migrations (see p. 35).

STEP TWO

Mapping Migrations

Use the following sources, as well as the text itself and answer the questions that follow: A Map of Time, p. 13; Map 1.1 The Global Dispersion of Humankind, pp. 16–17; Map 1.2, Migration of Austronesian-Speaking People, p. 19; Map 1.3, The Global Spread of Agriculture and Pastoralism, pp. 28–29.

Questions

1. Explain the chronological sequence of migration across the globe.
2. Calculate approximately how far Austronesian-speaking peoples traveled by boat as they migrated to Hawaii, New Zealand, and Madagascar over the centuries from the Philippines (use the map scale). To which of the three locations did people arrive first?
3. Compare the migration of people to the spread of agriculture.
4. In your own words, explain why people migrated.
5. What were at least two effects of these migrations?

STEP THREE

Visual Sources as Historical Evidence

This exercise will help you to understand how historians use visual images to interpret the past before written history.

1. Begin by examining the image entitled "Domestication of Animals" on p. 40.
   a. What evidence in the painting is there of pastoralism?
   b. What other observations might be drawn from this image (think about gender roles, religious rituals, and technology)?
   c. The attribution indicates this image to be from the Sahara desert, produced around 6000 years ago. Other rock art found in this same location — the Tassili Plateau — shows giraffes, savanna-like vegetation, and wells. What conclusions might you make about how the climate has changed in this area since that time?
2. Next consider these images and answer the questions that follow: Paleolithic Art, p. 10; Australian Rock Art, p. 15; Lascaux Rock Art, Visual Source 1.1, p. 52 .
   a. What can you tell about natural resources (vegetation, animals, water, sources of food, clothing, shelter) from viewing these images?
   b. What claims can you make about economics (e.g., how they made a living)?
   c. What evidence is there of each society's culture (art, religion, values)?