

# First Peoples; First Farmers

## Most of History in a Single Chapter to 4000 B.C.E.

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“We do not want cattle, just wild animals to hunt and water that we can drink.”<sup>1</sup> That was the view of Gudo Mahiya, a prominent member of the Hadza people of northern Tanzania, when he was questioned in 1997 about his interest in a settled life of farming and cattle raising. The Hadza represent one of the very last peoples on earth to continue a way of life that was universal among humankind until 10,000 to 12,000 years ago. In 2014, only about 1,300 Hadza survived, and of these just several hundred still made a living by hunting game, collecting honey, digging up roots, and gathering berries and fruit. Those few lived in quickly assembled grass huts located in small mobile camps averaging eighteen people and moved frequently around their remote region, following animal migrations. Almost certainly, their way of life is doomed, as farmers, cattle herders, governments, missionaries, and now tourists push them toward extinction. The likely disappearance of their culture is among the final chapters of a very long story in which gathering, hunting, and fishing peoples have been unsuccessfully on the defensive against more numerous and powerful neighbors for 10,000 years.

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

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**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.

fishing. Known to scholars as “gathering and hunting” peoples, they were foragers or food collectors rather than food producers. Because they used stone rather than metal tools, they also have been labeled “Paleolithic,” or “Old Stone Age,” peoples.

Then, around 12,000 years ago, an enormous transformation began to unfold as a few human societies—in Eurasia, Africa, and the Americas alike—started to practice the deliberate cultivation of plants and the domestication of animals. This Agricultural or Neolithic (New Stone Age) Revolution marked a technological breakthrough of immense significance, with implications for every aspect of human life. This chapter, 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 that 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. Furthermore, the achievements of Paleolithic peoples—the initial settlement of the planet, the creation of the earliest human societies, the beginnings of reflection on the great questions of life and death—surely deserve our attention. And the breakthrough to agriculture arguably represents the single most profound transformation of human life in all of history. 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: First Migrations

The first 150,000 years or more of human experience was an exclusively African story. Around 200,000 to 250,000 years ago, in the grasslands of eastern and southern Africa, *Homo sapiens* first emerged, following in the footsteps of many other hominid or human-like species before it. Time and climate have erased much of the record

## A MAP OF TIME (All dates B.P.: Before the Present)

250,000–200,000	Earliest <i>Homo sapiens</i> 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 8,000	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
1,000–800	Human entry into New Zealand (last major region to receive human settlers)

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?<sup>2</sup> 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 suggests the kind of social and symbolic behavior that has characterized human activity ever since. The earliest evidence for this kind

**AP® EXAM TIP**

Global migration patterns of early humans are an important concept in world history. Also see the map on pages 16–17.

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 setting 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*

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.

Farther east, archeologists have uncovered still other remarkable Paleolithic adaptations to Ice Age conditions. Across the vast plains of Central Europe, Ukraine, and Russia, new technologies emerged, including bone needles, multilayered clothing, weaving, nets, storage pits, baskets, and pottery. Partially underground dwellings constructed from the bones and tusks of mammoths compensated for the absence of caves and rock shelters. All of this suggests that some of these people had lived in more permanent settlements, at least temporarily abandoning their nomadic journeys. Associated with these Eastern European peoples were numerous female figurines, the oldest of which was uncovered in 2008 in Germany and dated to at least 35,000 years ago. Carved from stone, antlers, mammoth tusks, or, occasionally, baked clay, these so-called Venus figurines depict the female form, often with

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**Guided Reading Question****CHANGE**

What was the sequence of human migration across the planet?

**AP® EXAM TIP**

The ways humans have interacted with their environments are a key theme on the AP® exam.

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?

### *Into Australia*

Early human migration to Australia, perhaps 60,000 years ago, came from Indonesia and involved another first in human affairs—the use of boats. Over time, people settled in most regions of this huge continent, though quite sparsely. Scholars estimate the population of Australia at about 300,000 in 1788, when the first Europeans arrived. Over tens of thousands of years, the peoples of Australia developed perhaps 250 languages; learned to collect a wide variety of bulbs, tubers, roots, seeds, and cereal grasses; and became proficient hunters of large and small animals, as well as birds, fish, and other marine life. A relatively simple technology, appropriate to a gathering and hunting economy, sustained Australia's Aboriginal people into modern times. 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 Aboriginals' technological simplicity and traditionalism was the development of an elaborate and complex outlook on the world, known as the Dreamtime. (See *Working with Evidence*, page 49, for more on the Dreamtime.) Expressed in endless stories, in extended ceremonies, and in the evocative rock art of the continent's peoples, the Dreamtime recounted the beginning of things: how ancestral beings crisscrossed the land, creating its rivers, hills, rocks, and waterholes; how various peoples came to inhabit the land; and how they related to animals and to one another. In this view of the world, everything in the natural order was a vibration, an echo, a footprint of these ancient happenings, which linked the current inhabitants intimately to particular places and to timeless events in the past.

The journeys of the Dreamtime's ancestral beings reflect the networks of migration, communication, and exchange that linked the continent's many Paleolithic



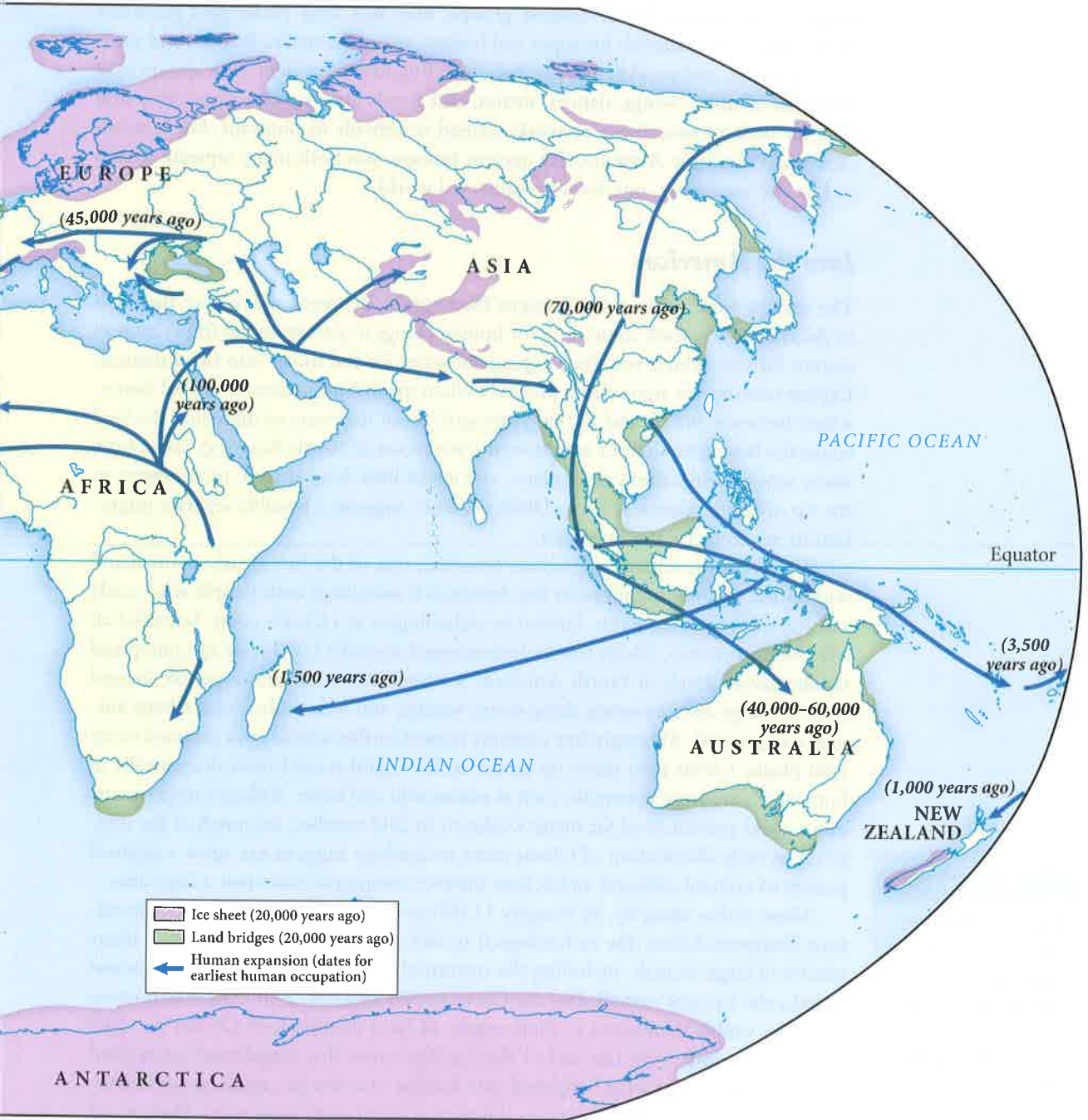
#### **Australian Rock Art**

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. (Aboriginal rock painting from the Kakadu National Park/Werner Forman Archive/Bridgeman Images)



### Map 1.1 The Global Dispersion of Humankind

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





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

### *Into the Americas*

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

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

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

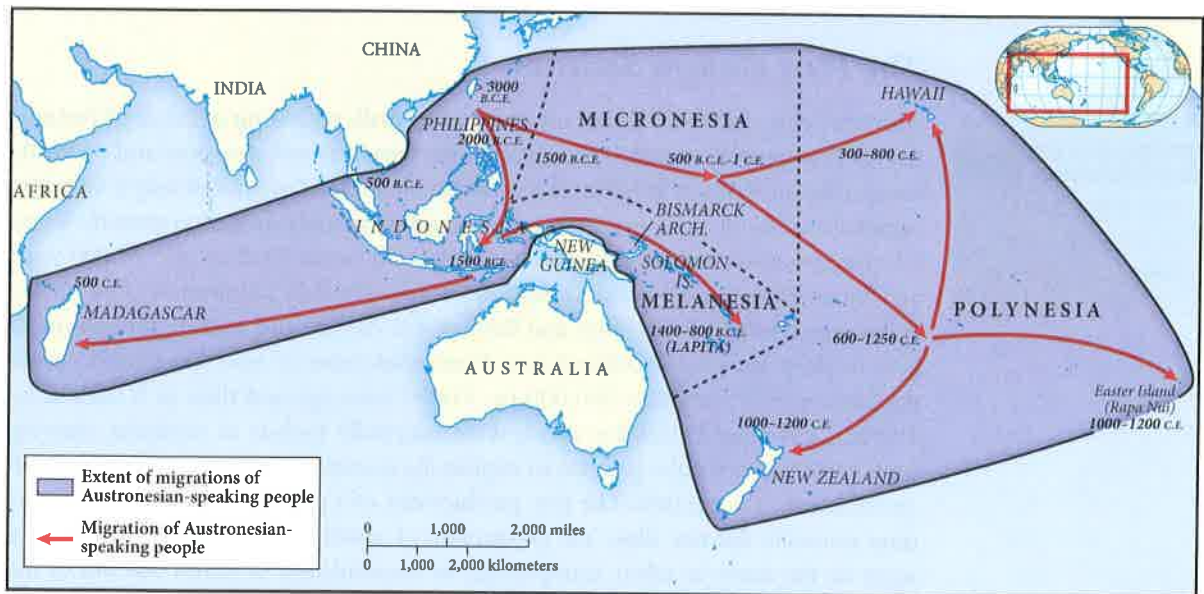
#### AP® EXAM TIP

It is important that you understand the concept of “diffusion,” including cultural, technological, and biological diffusion.

hunting way of life into modern times, while others became farmers and, in a few favored regions, later developed cities and large-scale states.

### *Into the Pacific*

The last phase of the great human migration 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 Austronesian trading networks, reaching some 5,000 miles from western Indonesia to the mid-Pacific, the most extensive. With the occupation of Aotearoa (New Zealand) and Rapa Nui (Easter Island) around 1000 to 1200 c.e., the initial human settlement of the planet was finally complete (see Map 1.2).



**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.

### Guided Reading Question

#### ■ 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 a profound ecological impact of this initial intrusion into a pristine environment: extensive deforestation and the quick extinction of many species of animals, especially large flightless birds such as the *moa* of New Zealand, which largely vanished within a century of human arrival. (See Chapter 6, pages 258–62, for more on the historical development of Pacific Oceania.)

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

### The First Human Societies

Above all else, these Paleolithic societies were small, consisting of bands of twenty-five to fifty people, in which all relationships were intensely personal and normally understood in terms of kinship. The available technology permitted only a very low population density and ensured an extremely slow rate of population growth. 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.<sup>3</sup> 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

#### AP® EXAM TIP

Take good notes on the features of Paleolithic societies.

women were perhaps freer of human 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.

Relationships between women and men usually were far more equal than in later societies. As the primary food gatherers, women provided the bulk of the family's sustenance. One study 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.<sup>4</sup>

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

They live in a Tranquillity which is not disturb'd by the Inequality of Conditions: The Earth and sea of their own accord furnishes them with all things necessary for life, they covet not Magnificent houses, Household-stuff. . . . In short they seem'd to set no value upon any thing we gave them. . . . They think themselves provided with all the necessaries of Life.<sup>5</sup>

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

### Guided Reading Question

#### ■ CHANGE

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



#### 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)

beatings of wives by their husbands.<sup>6</sup> And some 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.<sup>7</sup> 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.

### *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.<sup>8</sup> 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 ecosystems, especially small ones like Pacific islands, the arrival of humans resulted in the rapid extinction of some native plants and animals. Other hominid, or human-like, species, such as the Neanderthals in Europe or “Flores man,” discovered in 2003 in Indonesia, also perished after living side by side with *Homo sapiens* for millennia.

Whether their disappearance occurred through massacre, interbreeding, peaceful competition, or something unrelated to the human presence, ultimately they did not survive the rise of humankind. Thus the biological environment inhabited by gathering and hunting peoples was not wholly natural but was shaped in part by their own hands.

### *The Realm of the Spirit*

The religious or spiritual dimension of Paleolithic culture has been hard to pin down, because bones and stones tell us little about what people thought, art is subject to many interpretations, and the experience of contemporary gathering and hunting peoples may not reflect the distant past. Clear evidence exists, however, for a rich 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 sometimes entered an altered state of consciousness or a trance while performing the ceremonies, often with the aid of psychoactive drugs.

Precisely how Paleolithic people understood the nonmaterial world is hard to reconstruct, and speculation abounds. Linguistic evidence from ancient Africa suggests a variety of understandings: some Paleolithic societies were apparently monotheistic; others saw several levels of supernatural beings, including a creator deity, various territorial spirits, and the spirits of dead ancestors; still others believed in an impersonal force suffused throughout the natural order that could be accessed by shamans during a trance dance.<sup>9</sup> 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.<sup>10</sup> Many gathering and hunting peoples likely developed a cyclical view of time derived from recurring natural cycles: sunrise and sunset; changing seasons; the phases of the moon; patterns of female fertility—birth, menstruation, pregnancy, new birth—and, of course, life, death, and new life. These understandings of the cosmos, which saw endlessly repeated patterns of regeneration and disintegration, differed from later Western views, which saw time moving in a straight line toward some predetermined goal. Nor did Paleolithic people make sharp distinctions between the material and spiritual worlds, for they understood that animals, rocks, trees, mountains, and much more were animated by 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

#### **The Willendorf Venus**

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



**SNAPSHOT** Paleolithic Era in Perspective

	Paleolithic Era (from 10,000 to 250,000 years ago)	Agricultural Era (from 200 to 10,000 years ago)	Modern Industrial Era (since 1800)
Duration of each era, as a percentage of 250,000 years <sup>11</sup>	96%	4%	0.08%
Percentage of people who lived, out of 80 billion total	12%	68%	20%
Percentage of years lived in each era (reflects changing life expectancies)	9%	62%	29%

accounts generally avoid the term, preferring to focus on the specifics of particular religious traditions rather than some overall evolutionary scheme.

### *Settling Down: The Great Transition*

Though glacially slow by contemporary standards, changes in Paleolithic cultures occurred over time as people moved into new environments, as populations grew, as climates altered, and as different human groups interacted with one another. For example, all over the Afro-Eurasian world after 25,000 years ago, a tendency toward the miniaturization of stone tools is evident, analogous perhaps to the miniaturization of electronic components in the twentieth century. Known as micro-blades, these smaller and more refined spear points, arrowheads, knives, and scrapers were carefully struck from larger cores and often mounted in antler, bone, or wooden handles. Another important change 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 that had struggled

#### **Guided Reading Question**

##### **CHANGE**

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

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. Some of the most stunning and unexpected achievements of such sedentary Paleolithic people come from the archeological complex of Göbekli Tepe (goh-BEHK-lee TEH-peh) in southeastern Turkey, described more fully in the Zooming In feature on page 26.

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

#### PRACTICING AP® HISTORICAL THINKING

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



## Göbekli Tepe: Monumental Construction before Agriculture

Perhaps the most stunning archeological discovery of recent decades comes from the site known as Göbekli Tepe, or “potbelly hill,” in southeastern Turkey, which has been under excavation since the mid-1990s. Dating to almost 12,000 years ago, this twenty-five-acre complex currently consists of about 200 massive limestone pillars, some as tall as eighteen feet and weighing as much as fifty tons. Carved in a T shape, perhaps to represent human beings with arms outstretched, they were arranged in a set of walled circles or rings. Five such circles have been unearthed so far, with another twenty or so awaiting excavation. Gracefully carved wild animals—gazelles, snakes, boars, foxes, lions, scorpions, vultures—decorate the pillars. Göbekli Tepe was probably a ceremonial or religious site, for little evidence of long-term human habitation has been found. Dubbed “the world’s oldest temple,” it likely attracted worshippers or pilgrims from many miles around and



Göbekli Tepe.

animals has emerged. Rather, the tens of thousands of animal bone fragments found at the site suggest that those who built the complex dined on wild gazelles, pigs, sheep, deer, vultures, and ducks, as well as wild plants native to the area. Thus Göbekli Tepe represents a kind of monumental construction long associated only with agricultural societies and civilizations, forcing scholars to rethink their understanding of the late Paleolithic era.

photo: Vincent J. Musi/National Geographic Creative

may well have served as a place of ritual burials, although no actual graves have yet been found.

The most amazing feature of Göbekli Tepe involves those who constructed it, for they were clearly gathering and hunting peoples, living at least part of the year in settled villages. No evidence of agriculture or domesticated

## Breakthroughs to Agriculture

### AP® EXAM TIP

The Agricultural Revolution and its effects are important concepts on the AP® exam.

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

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

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



Carved lion on a stone pillar at Göbekli Tepe.

human impulse to worship collectively played a significant role in generating the epic transformation of the Agricultural Revolution.

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

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

photo: © Vincent J. Musi/National Geographic Society/Corbis

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

This was “domestication”—the taming, and the changing, of nature for the benefit of humankind—but it created a new kind of mutual dependence. Many domesticated plants and animals could no longer survive in the wild and relied on

#### AP® EXAM TIP

Pay close attention to the domestication of plants and animals and their effects on societies.

human action or protection to reproduce successfully. Similarly, farmers and herders became dependent on their domesticated plants and animals, for as their populations grew, those larger numbers could no longer sustain themselves in the older gathering, hunting, and fishing fashion. 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. In many agricultural communities, however, gathering, hunting, and fishing did not quickly disappear, but long continued to supplement agriculture and animal husbandry as food sources. Even in modern industrial societies, hunting continues as a sport, gathering wild mushrooms and berries persists as an enjoyable pastime, and fishing for both profit and pleasure remains a widespread activity. In such ways, the original human style of living resonates still, even in the twenty-first century.

A further revolutionary aspect of the agricultural age is summed up in the term “intensification.” It means getting more for less, in this case more food and resources—far more—from a much smaller area of land than was possible with a gathering and hunting technology. More food meant more people. Growing populations in turn required an even more intensive exploitation of the environment. 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, Southeast Asia, New Guinea, Mesoamerica, the Andes, and eastern North America (see Map 1.3). Even more remarkably, all of this took place at roughly the same time (at least as measured by the 250,000-year span of human history on the planet)—between 12,000 and 4,000 years ago. 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?

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-

#### **AP® EXAM TIP**

Take good notes on how the Neolithic Revolution developed around the world and the similarities and differences of these developments.

#### **Guided Reading Question**

##### **■ CHANGE**

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

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 in some areas, even as rising sea levels inundated other regions (see Map 1.1). Combined perhaps with active hunting by human societies, climate change in some places helped to push into extinction various species of large mammals on which Paleolithic people had depended, thus adding to the pressure to find new food sources. The warmer, wetter, and more stable conditions, particularly in the tropical and temperate regions of the earth, also permitted the flourishing of more wild plants, especially cereal grasses, which were the ancestors of many domesticated crops. What climate change took away with one hand, it apparently gave back with the other.

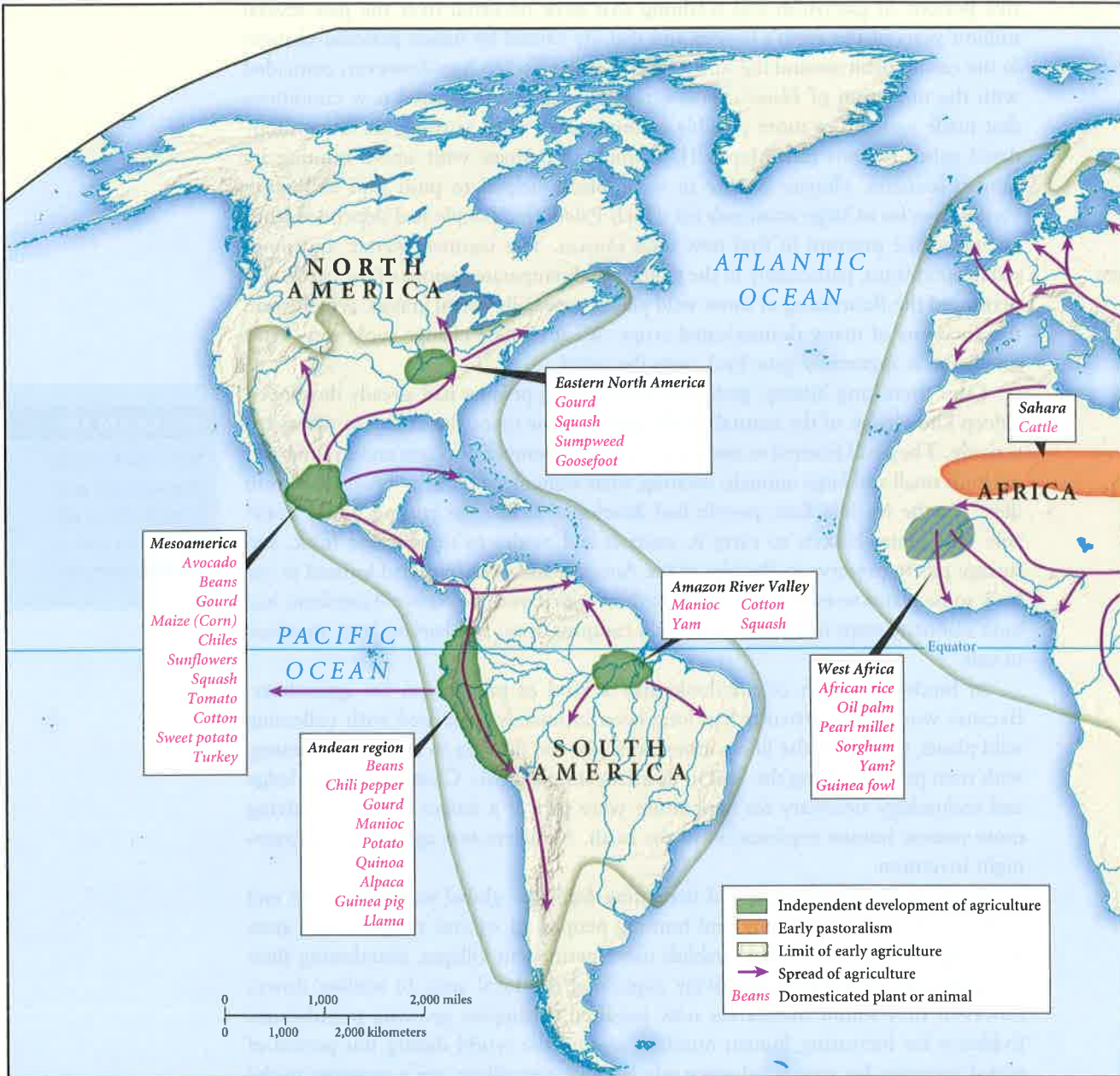
Over their long history, gathering and hunting peoples had already developed a deep knowledge of the natural world and, in some cases, the ability to manage it actively. They had learned to make use of a large number of plants and to hunt and eat both small and large animals, creating what archeologists call a “broad-spectrum diet.” In the Middle East, people had developed sickles for cutting newly available wild grain, baskets to carry it, mortars and pestles to remove the husk, and storage pits to preserve it. 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 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.

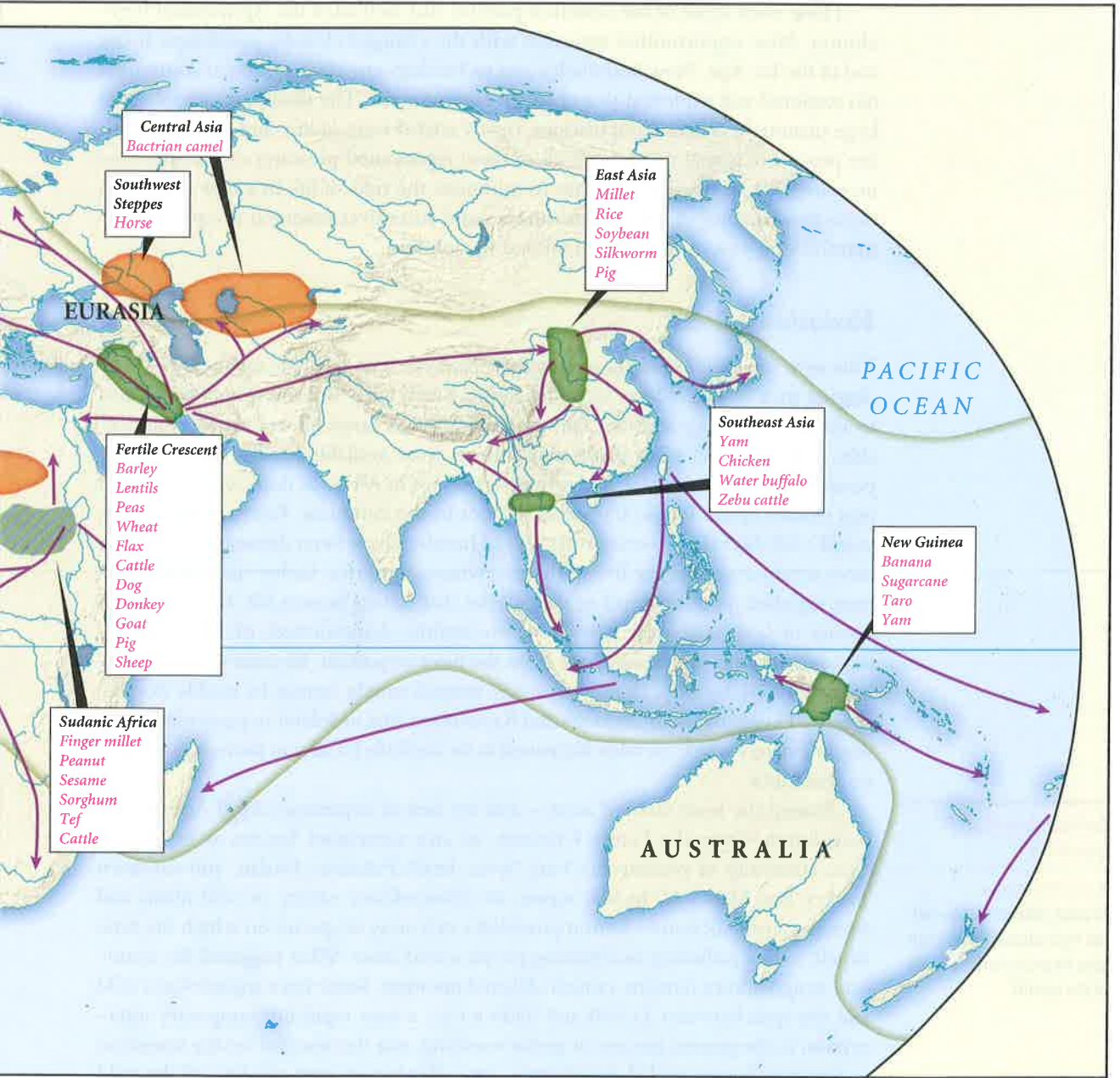
**AP® EXAM TIP**

You should know the features and contributions of gathering and hunting peoples.



**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.



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

### *Variations*

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

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#### **Guided Reading Question**

##### **■ COMPARISON**

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

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



**Map 1.4** The Fertile Crescent

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

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. From this point on, global climate remained remarkably stable, when compared to sharp variations of earlier times, which proved to be a great advantage for settled life and agricultural development.

At roughly the same time, or perhaps a bit later, another process of domestication was unfolding on the African continent in the eastern part of what is now the

**AP® EXAM TIP**

The regions where the Neolithic Revolution developed are a “must know” for the AP® exam.



Sahara in present-day Sudan. Between 10,000 and 5,000 years ago, 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.”<sup>12</sup> 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 was also domesticated in northeastern Africa near the Red Sea and spread from there into Southwest Asia, even as the practice of raising sheep and goats moved in the other direction. In terms of farming, the African pattern again was somewhat different. Unlike the Fertile Crescent, where a number of plants were domesticated in a small area, sub-Saharan Africa witnessed the emergence of several widely scattered farming practices. Sorghum, which grows well in arid conditions, was the first grain to be “tamed” in the eastern Sahara region. In the highlands of Ethiopia, teff, a tiny, highly nutritious grain, as well as enset, a relative of the banana, came under cultivation. In the forested region of West Africa, yams, oil palm trees, okra, and the kola nut (used as a flavoring for cola drinks) emerged as important crops. The scattered location of these domestications generated a less productive agriculture than in the more favored and compact Fertile Crescent, but a number of African domesticates—sorghum, castor beans, gourds, millet, the donkey—subsequently spread to enrich the agricultural practices of Eurasian peoples.

**AP® EXAM TIP**

You should still be taking notes on how the Neolithic Revolution developed around the world. Be sure to note differences as well as similarities.

Yet another pattern of agricultural development took shape in the Americas. Like the Agricultural Revolution in Africa, the domestication of plants in the Americas occurred separately in a number of locations—in the coastal Andean regions of western South America, in Mesoamerica, in the Mississippi River valley, and perhaps in the Amazon basin. Surely the most distinctive common feature of these regions was the relative absence of animals that could be domesticated. Of the fourteen major species of large mammals that have been brought under human control, just two, the llama and alpaca, existed in the Western Hemisphere, and only in the Andes region, where they proved enormously useful for food, fiber, and transportation. Without goats, sheep, pigs, cattle, or horses, the peoples of the Americas lacked sources of protein, manure (for fertilizer), and power (to draw plows or pull carts, for example) that were widely available to societies in the Afro-Eurasian world. Because they could not depend on domesticated animals for meat, many agricultural peoples in the Americas relied more on hunting and fishing than did peoples in the Eastern Hemisphere. Europe too lacked most of the animals that could be readily domesticated, but it was geographically closer to areas that had them and so could borrow from neighboring regions. Farmers in the Americas could not.

While the Americas lacked the cereal grains that were widely available in Afro-Eurasia, they had maize or corn, first domesticated in southern Mexico by 4000 to 3000 B.C.E. Unlike the cereal grains of the Fertile Crescent, which closely resemble their wild predecessors, the ancestor of corn, a mountain grass called teosinte (tee-



### 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 multi-roomed stone houses; cultivated barley, wheat, peas, beans, and lentils; and herded domesticated goats. These remarkable statues, around three feet tall and made of limestone plaster applied to a core of bundled reeds, were among the most startling finds at that site. Did they represent heroes, gods, goddesses, or ordinary people? No one really knows. (Courtesy, Department of Antiquities of Jordan [DoA]/Photo by John Tsantesi, Courtesy, Dr. Gary O. Rollefson)

uh-SIHN-tee), looks nothing like what we now know as corn or maize. Thousands of years of selective adaptation were required to develop a sufficiently large cob and number of kernels to sustain a productive agriculture, an achievement that one geneticist has called “arguably man’s first, and perhaps his greatest, feat of genetic engineering.”<sup>13</sup> Thus while Middle Eastern societies quite rapidly replaced their gathering and hunting economy with agriculture, that process took several thousand years in Mesoamerica. Beyond maize, Native American farmers domesticated squash, beans, potatoes, sunflowers, quinoa, pigweed, and goosefoot, which were harvested on a large scale.

Another difference in the unfolding of the Agricultural Revolution lay in the north/south orientation of the Americas, which required agricultural practices to move through, and adapt to, quite distinct climatic and vegetation zones if they were to spread. The east/west axis of North Africa / Eurasia meant that agricultural innovations could spread more rapidly because they were entering roughly similar

environments. Thus corn, beans, and squash, which were first domesticated in Mesoamerica, took several thousand years to travel the few hundred miles from their Mexican homeland to the southwestern United States and another thousand years or more to arrive in eastern North America. The llama, guinea pig, quinoa, and potato, which were domesticated in the Andean highlands, never reached Mesoamerica.

### Guided Reading Question

#### CONNECTION

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

#### AP® EXAM TIP

The continuing existence of gathering and hunting groups even after agriculture developed is an important concept.

#### AP® EXAM TIP

Questions about the Bantu migrations are common on the AP® exam.

## The Globalization of Agriculture

From the various places where it originated, agriculture spread gradually to much of the rest of the earth, although for a long time it coexisted with gathering and hunting ways of life, even as it eroded and diminished those cultures. 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 underpinned the spread of agriculture to new regions, and the adoption of farming practices was at times accompanied by the spread of languages as well. For instance, between 6500 and 4000 B.C.E. the agricultural package of Southwest Asia spread into Europe, Central Asia, Egypt, and North Africa. In the case of Europe, the adoption of agriculture was accompanied by the spread into the region of Indo-European languages, which had originated further east in Anatolia or, as some scholars suggest, in the area north of the Black and Caspian Seas. 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 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, page 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 highland New Guinea, for example, generated a number of domesticated plants including yams, taro, bananas, and sugarcane. But while these spread to parts of Island Southeast Asia, they did not pass to the nearby peoples of Australia, who remained steadfastly committed to gathering and hunting ways of life. The people of the west coast of North America, arctic regions, and southwestern Africa also maintained their gathering and hunting economies into the modern era. A very few, such as the Hadza, described at the beginning of this chapter, practice it still in vanishing numbers.

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 that long story are being written in our own times. (See *Zooming In*, page 38, 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



**Bantu Migrations**

### Guided Reading Question

#### CHANGE

What changes did the Agricultural Revolution bring in its wake?

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.

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.

## Ishi, the Last of His People



Ishi.

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 inappropriate 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, who were only too glad to “clean up the Indians,” killing and scalping

photo: Courtesy of The Bancroft Library, University of California, Berkeley

### AP® EXAM TIP

Demographic (population) patterns over time are important.

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 under way, and shot up to some 50 million by 5,000 years ago and 250 million by the beginning of the Common Era. Here was the real beginning of the human dominance over other forms of life on the planet.

That dominance was reflected in major environmental transformations. In a growing number of places, forests and grasslands became cultivated fields and grazing lands. Human selection modified the genetic composition of numerous plants and animals. In parts of the Middle East, within a thousand years after the beginning of settled agricultural life, some villages were abandoned when soil erosion and

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, who lived 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 camps. 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 movable 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—starting a fire and fashioning tools and weapons of stone and bone, 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, and his fondness for laughing and joking. Alfred Kroeber, the primary anthropologist involved with Ishi, observed, "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."<sup>14</sup>

**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?

deforestation led to declining crop yields, which could not support mounting populations. The advent of more intensive agriculture associated with city-based civilizations only heightened this human impact on the landscape.

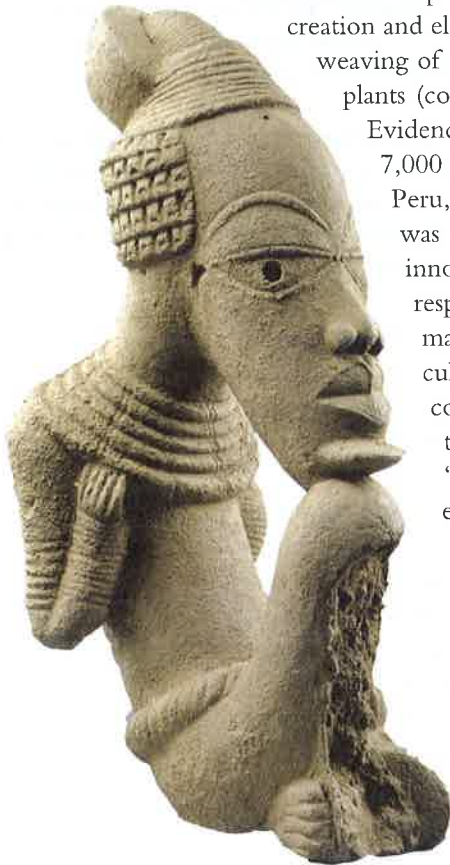
Human life too changed dramatically in farming communities, and not necessarily for the better. Farming involved hard work and more of it than in many earlier gathering and hunting societies. The remains of early agricultural people show some deterioration in health—more tooth decay, malnutrition, and 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.

**AP® EXAM TIP**

Be able to compare features of agricultural peoples with those of gathering and hunting peoples.

Agriculture also imposed constraints on human communities. Some Paleolithic people had settled in permanent villages, but most agricultural people did so, as farming usually 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.

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. 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.

**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 “thinkers.” Does it seem more likely that this notion reflects a present-day sensibility or that it is an insight into the mentality of the ancient artist who created the image? (Musée du Quai Branly/Scala/Art Resource, NY)

A further set of technological changes, beginning around 4000 B.C.E., has been labeled the “secondary products revolution.”<sup>15</sup> These technological innovations involved new uses for domesticated animals, beyond their meat and hides. Agricultural people in parts of Europe, Asia, and Africa learned to milk their animals, to harvest their wool, and to enrich the soil with their manure. Even more important, they learned to ride horses and camels and to hitch various animals to plows and carts. Because these animals did not exist in the Americas, this revolutionary new source of power and transportation was available only in the Eastern Hemisphere.

Finally, the Agricultural Revolution presented to humankind the gift of wine and beer, often a blessing, sometimes a curse. As barley, wheat, rice, and grapes were domesticated, their potential for generating alcoholic beverages soon became apparent. 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.<sup>16</sup> In the Americas, an alcoholic beverage known as *chicha* had been produced from maize, manioc, honey, and various fruits from ancient times and was the drink of choice in the Inca court.

## Social Variation in the Age of Agriculture

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

### *Pastoral Societies*

One variation of great significance grew out of the difference between the domestication of plants and the domestication of animals. Many societies made use of both, but in regions where farming was difficult or impossible—arctic tundra, certain grasslands, and deserts—some people came to depend far more extensively on their animals, such as sheep, goats, cattle, horses, camels, or reindeer. Animal husbandry was a “distinct form of food-producing economy,” relying on the products of animals.<sup>17</sup> Those animals could turn grass or waste products into meat, fiber, hides, and milk; they were useful for transport and warfare; and they could walk to market. Known as herders, pastoralists, or nomads, peoples largely dependent on their

### Guided Reading Question

#### ■ COMPARISON

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





### The Domestication of Animals

Although farming often gets top billing in discussions of the 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. The white ovals represent a group of huts. (Fresco from Tassili n'Ager, Algeria, Henri Lhote Collection/Musée de l'Homme, Paris, France/Erich Lessing/Art Resource, NY)

domesticated animals emerged most prominently in Central Asia, the Arabian Peninsula, the Sahara, and parts of eastern and southern Africa. What they had in common was mobility, for they moved seasonally as they followed the changing patterns of the vegetation necessary as pasture for their animals. Some lived a nomadic existence of constant seasonal movement, but for others it was possible to combine permanent settlements in lowland areas and the movement of animals to more mountainous pasturelands in the summer.

The particular animals central to pastoral economies differed from region to region. The domestication of horses by 4000 B.C.E. and the mastery of horseback-riding skills several thousand years later enabled the growth of pastoral peoples all across the steppes of Central Asia by the first millennium B.C.E. Although organized primarily in kinship-based clans or tribes, these nomads periodically created powerful military confederations, which played a major role in the history of Eurasia for thousands of years. In the Inner Asian, Arabian, and Saharan deserts, domesticated camels made possible the human occupation of forbidding environments. (See *Zooming In: The Arabian Camel*, Chapter 7, page 302.) The grasslands south of the Sahara and in parts of eastern Africa supported cattle-raising pastoralists. In the Americas, llamas and alpacas were tremendously important in the economy of Andean civilizations, but only in a few pockets in the Andes did human communities rely as heavily on their domesticated animals as did the pastoral peoples of the Afro-Eurasian world.

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

societies also served to enrich and to change both sides. 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 women’s work was so essential. Women were centrally involved in milking animals, in processing that milk, and in producing textiles such as felt, which was widely used in Central Asia for tents, beds, rugs, and clothing. Among the Saka pastoralists in what is now Azerbaijan, women rode horses and participated in battles along with men. A number of archeological sites around the Black Sea have revealed high-status women buried with armor, swords, daggers, and arrows. In the Xinjiang region of western China, still other women were buried with the apparatus of healers and shamans, strongly suggesting an important female role in religious life.

### *Agricultural Village Societies*

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

An example of this type of social order can be found at Çatalhöyük (chah-TAHL-hoo-YOOK), a very early agricultural village in southern Turkey, which flourished between 7400 and 6000 B.C.E. A careful excavation of the site revealed a population of several thousand people who buried their dead under their houses and then filled the houses with dirt and built new ones on top, layer upon layer. No streets divided the houses, which were constructed adjacent to one another. People moved about the village on adjoining rooftops, from which they entered their homes. Despite the presence of many specialized crafts, few signs of inherited social inequality have surfaced. Nor is there any indication of male or female dominance, although men were more closely associated with hunting wild animals and women with plants and agriculture. “Both men and women,” concludes one scholar, “could carry out a series of roles and enjoy a range of positions, from making tools to grinding grain and baking to heading a household.”<sup>18</sup>

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

#### **AP® EXAM TIP**

The AP® exam typically features questions about interactions between pastoral communities and agricultural communities and the role these interactions played in conveying culture, disease, and technology.

Anatolia, which has suggested to her a widespread cult of the Goddess, focused on “the mystery of birth, death and the renewal of life.”<sup>19</sup> But early agriculture did not produce identical gender systems everywhere. Some societies practiced patrilineal descent and required a woman to live in the household of her husband. Grave sites in early Eastern European farming communities reveal fewer adult females than males, indicating perhaps the practice of female infanticide. Some early written evidence from China suggests a long-term preference for male children. These variations in practice suggest that gender roles were likely determined more by cultural preference than by any biological need for a sexual division of labor and power.

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

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

#### AP® EXAM TIP

Note the features of early agricultural villages and chiefdoms.

### *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



### 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)

to compel the obedience of their subjects. Instead, chiefs relied on their generosity or gift giving, their ritual status, or their personal charisma to persuade their followers. The earliest such chiefdoms seem to have emerged in the Tigris–Euphrates river valley called Mesopotamia (present-day Iraq), sometime after 6000 B.C.E., when temple priests may have organized irrigation systems and controlled trade with nearby societies.

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

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

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

The distinctions that historians make among various kinds of human communities—gathering and hunting peoples, pastoral societies, agricultural village communities, chiefdoms, civilizations—do not represent hard-and-fast differences, but lie on a continuum. Many gathering and hunting societies were nomadic, but some became sedentary; many agricultural and pastoral peoples continued to enrich their diets with foods hunted, gathered, or fished; the line between chiefdoms and civilizations is not always obvious. Such terms are useful for identifying variations in human history, but lived experience is usually messier and less clear than our tidy concepts.

#### PRACTICING AP® HISTORICAL THINKING

What was revolutionary about the Agricultural Revolution?

### REFLECTIONS

## The Uses of the Paleolithic

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

In more recent decades, however, growing numbers of people, disillusioned with modernity, have looked to the Paleolithic era for material with which to criticize, rather than celebrate, contemporary life. Feminists have found in gathering and hunting peoples a much more gender-equal society and religious thinking that featured the divine feminine, qualities that encouragingly suggested that patriarchy was neither inevitable nor eternal. Environmentalists have sometimes identified peoples in the distant past who were uniquely in tune with the natural environment rather than seeking to dominate it. Some nutritionists have advocated a “Paleolithic diet” of wild plants and animals as well suited to our physiology. Critics of modern

materialism and competitive capitalism have been delighted to discover societies in which values of sharing and equality predominated over those of accumulation and hierarchy. Still others have asked, in light of the long Paleolithic era, whether the explosive population and economic growth of recent centuries should be considered normal or natural. Perhaps they are better seen as extraordinary, possibly even pathological. All of these uses of the Paleolithic have been a way of asking, “What have we lost in the mad rush to modernity, and how can we recover it?”

Both those who look with disdain on Paleolithic “backwardness” and those who praise, often quite romantically, its simplicity and equality seek to use these ancient people for their own purposes. 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 with the many men and women who have inhabited it. Despite its remoteness from us in time and manner of living, the Paleolithic era resonates still in the twenty-first century, reminding us of our kinship with these distant people and the significance of that kinship to finding our own way in a very different world.

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## Chapter Review

### What’s the Significance?

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

**Next Steps: For Further Study**

- Elizabeth Wayland Barber, *Women's Work: The First 20,000 Years* (1994). Explores the role of women in early technological development, particularly textile making.
- 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.
- 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.
- Mark B. Tauger, *Agriculture in World History* (2011). An overview of the origins and significance of farming on a global scale.
- "The Agricultural Revolution," [http://www.youtube.com/watch?v=Yocja\\_N5s1l](http://www.youtube.com/watch?v=Yocja_N5s1l). An eleven-minute animated survey from John Green's *Crash Course World History* series.
- "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.

## WORKING WITH EVIDENCE

## Stories of the Australian Dreamtime

The Aboriginal, or native, peoples of Australia have lived on their island/continent for tens of thousands of years, and until the arrival of Europeans in the late eighteenth century, they practiced a gathering and hunting way of life. These peoples have persisted into the twenty-first century as a small minority in modern Australia, and a dwindling few of them still practice their ancient culture. Over an enormously long period of time, these peoples developed an elaborate body of myths, legends, and stories that gave expression to an Aboriginal cosmology, or understanding of the world. Known collectively as the Dreamtime, these stories served to anchor the landscape and its human and animal inhabitants to distant events and mythical ancestors.

In this cosmology, long before humans appeared, ancestral beings emerged from the earth and traversed the land. Their places of emergence became waterholes or caves; their journeys gave rise to rivers and gorges; trees grew where their digging sticks were stuck in the ground; plants arose from their footsteps. In Aboriginal thinking, the numerous rock paintings that dot the landscape were not the product of human hands but the continuing presence, image, or shadow of these ancestral beings.

A contemporary Aboriginal artist, Semon Deeb, explains:

Around the beginning the Ancestral Beings rose from the folds of the earth and stretching up to the scorching sun they called, “I am!” As each Ancestor sang out their name, “I am Snake,” “I am Honey Ant,” they created the most sacred of their songs. Slowly they began to move across the barren land naming all things and thus bringing them into being. Their words forming verses as the Ancestors walked about, they sang mountains, rivers and deserts into existence. Wherever they went, their songs remained, creating a web of Songlines over the Country. As they travelled the Ancestors hunted, ate, made love, sang and danced leaving a trail of Dreaming along the songlines. Finally at the end of their journey the Ancestral Beings sang “back into” the earth where they can be seen as land formations, sleeping.<sup>20</sup>

Transmitted orally and changing over time, numerous Dreamtime stories have been collected and set down in writing over the past two centuries. The tales presented here illustrate these Aboriginal efforts to give meaning and shape to their experience.



## Source 1.1

### Understanding Creation

People everywhere have sought to understand the beginnings of things and through doing so to frame human life in some larger and more meaningful context. In this and other stories from Australia, creation occurred in the Dreamtime, or the “time before time,” when ancient ancestral beings brought into existence the latent possibilities of a world that was frozen or asleep. Then they disappeared when their work was finished. But they remained present in the sun, moon, and stars, in the features of the landscape, in the animals of the world, or in paintings on the walls of rock faces.

- How might you compare this creation story with the biblical account in Genesis?
- How much of a difference does it make that both male and female figures participated in creation?
- What is the relationship between Yhi and Baiame in creating and sustaining the world? Do they play equal roles, or is one superior to the other?
- In what ways are human beings and other living creatures made aware of their connection to the spirit world?

### *Yhi Brings Life to the World*

(oral tradition recorded in twentieth century)

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

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

Then the whisper came, the whisper that woke the world. Sleep fell away from the goddess like a garment falling to her feet. Her eyes opened and the darkness was dispelled by their shining. . . .

The Nullarbor Plain was bathed in a radiance that revealed its sterile wastes.

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

Her first joyous task completed, Yhi, the sun goddess, rested on the Nullarbor Plain, looked around her, and knew that the Great Spirit was pleased with the result of her labour.

“The work of creation is well begun,” Baiame said, “but it has only begun. The world is full of

beauty, but it needs dancing life to fulfill its destiny. Take your light into the caverns of earth and see what will happen."

Yhi rose and made her way into the gloomy spaces beneath the surface. There were no seeds there to spring to life at her touch. Harsh shadows lurked behind the light. Evil spirits shouted, "No, no, no," until the caverns vibrated with voices that boomed and echoed in the darkness. The shadows softened. Twinkling points of light sparkled in an opal mist. Dim forms stirred restlessly.

"Sleep, sleep, sleep," the evil spirits wailed, but the shapes had been waiting for the caressing warmth of the sun goddess. Filmy wings opened, bodies raised themselves on long legs. . . . Soon Yhi was surrounded by myriads of insects, creeping, flying, swarming from every dark corner. . . . They followed her out into the world, into the sunshine, into the embrace of the waiting grass and leaves and flowers. . . . There was work for the insects to do in the world, and time for play, and time to adore the goddess.

"Caves in the mountains, the eternal ice," whispered Baiame. Yhi sped up the hill slopes. . . . She disappeared into the caverns, chilled by the black ice that hung from the roofs and walls. . . . [There her light awakened snakes, reptiles, birds, and many other animals.] Birds and animals gathered round her, singing in their own voices, racing down the slopes, choosing homes for themselves, drinking in a new world of light, colour, sound, and movement.

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

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

"I shall send you the seasons of summer and winter—summer with warmth which ripens fruit ready for eating, winter for sleeping while the cold winds sweep through the world and blow away the refuse of summer. These are changes that I shall

send you . . . , the creatures of my love. Soon I shall leave you and live far above in the sky. When you die your bodies will remain here, but your spirits will come to live with me."

She rose from the earth and dwindled to a ball of light in the sky, and sank slowly behind the western hills. All living things sorrowed, and their hearts were filled with fear, for with the departure of Yhi darkness rushed back into the world.

Long hours passed, and sorrow was soothed by sleep. Suddenly there was a twittering of birds, for the wakeful ones had seen a glimmer of light in the east. It grew stronger and more birds joined in until there came a full-throated chorus as Yhi appeared in splendour and flooded the plains with the morning light.

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

The river spirit and the lake spirit grieve most of all when Yhi sinks to rest. They long for her warmth and light. They mount up into the sky, striving with all their might to reach the sun goddess. Yhi smiles on them and they dissolve into drops of water which fall back upon the earth as rain and dew, freshening the grass and the flowers and bringing new life.

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

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

### Source 1.2

## Understanding the Significance of Animals

The platypus is a semi-aquatic mammal that lays eggs, has fur, and sports a duck-like bill, a beaver-like tail, and otter-like feet. A spur on its rear foot delivers poisonous venom. Aboriginal Australians have long revered this rather strange and eclectic creature and have considered killing it taboo. A widely told story explains Aboriginal thinking about the platypus. Here is one version of that story.

- To what social problems might this story respond? What social meaning might it carry for a land of many small societies and interacting peoples?
- Does this tale bear something of universal human wisdom, or is it a more distinctly Aboriginal Australian story?

### *The Platypus*

(oral tradition recorded in twentieth century)

In the Dreamtime all the creatures on earth thought that they belonged to the most important group of creatures. Each group had their own special meetings. . . . The animals thought that they were the most special because they had fur on their bodies and could run across the land. The birds thought that they were even more special because they could fly and lay eggs. And the water creatures thought that they were even more special still because they could swim and explore all the water-ways on earth and because “there is more water than land anyway,” they said.

But then someone in each group remembered that shy Platypus belong to no group at all and each one of them resolved to ask Platypus to join their own Very Special Group. . . . [In response to each of these requests,] Platypus asked them to come back after he had thought about their offer.

Now Platypus asked his friends and family whose group he should join, but no one could help him. . . . After thinking hard about it for some time, Platypus called all the animals and bird and water creatures to his place. They all gathered around, all wondering which group Platypus would join. Platypus came out of his home, climbed a log and

when all the creatures were quiet, Platypus spoke. “Thank you all for coming today. I have decided not to join any group at all.”

All the creatures were shocked. “You have to join someone’s group,” they cried.

“Please listen,” said Platypus patiently. “Everyone is special in their own special way, and I don’t have to join any group to prove that. After all, I have a bit of animal in me because of my fur and because I like running across the land, but I have a bit of bird in me too, because my wife lays eggs and we both have beaks. And if that’s not enough, I also have a bit of water creature in me because my home is near the water’s edge, and I like swimming and exploring the underwater world. So you see, I don’t have to join any special group to be special. But it’s not only me—every one of us has something that makes us special in our own very special way.”

All the creatures agreed and from that time onwards, Platypus has been considered very wise and very special indeed.

Source: Pauline McLeod, *Aboriginal Art and Stories* (Carlingford, New South Wales: Intechinics, 1994), <http://trove.nla.gov.au/work/11650463?q&versionId=45880979>.

### Source 1.3

## Understanding Men and Women

No theme in human history and human interactions is more universal than the relationship of men and women. Many Aboriginal stories seek to justify the superiority of men, while hinting at the possibility of an earlier time when women had the upper hand and implying that they might challenge male authority once again.

- What does this story suggest about the relationships between women and men? Does it support or undermine notions of gender equality among Paleolithic peoples?
- What was the source of Mutjinga's power? How does the story explain her abuse of that power?
- What aspects of a gathering and hunting way of life are reflected in this tale? What elements of Dreamtime cosmology appear in the story?

### *The Man-Eater: The Mutjinga Myth*

(oral tradition recorded in twentieth century)

In the Dreamtime, in the land of the Murinbata people, a great river flowed from the hills through a wide plain to the sea. As it is today, the land then was rich with much fish and game. From the river rose at one place a series of high hills, where lived an old woman named Mutjinga, a woman of power. She it was who called the invisible spirits to her side with secret incantations that none other knew. She was a *kirman*, leader of the ceremonies in which the people sang and danced the exploits of the totemic beings so their spirits would be pleased and would bring food in its season and many children for the people. In those days, all the things in the world had both a physical form that could be touched, seen, and felt, and a spirit form, which was invisible. When living things died, their spirits went to a secret cave where they remained until it was time for them to be born again. Mutjinga was caretaker of this cave. Only she knew where it was. In the cave, she kept the sacred totems to which the spirits returned.

Mutjinga could speak with the spirits. Because she had this power, she could do many things which the men could not. She could send the spirits to frighten away game, to waylay people at night, or to cause a child to be born without life. The men feared the power of Mutjinga and did not consort with her. They called upon her to lead their dances and teach them songs, but none came to sit by her fire.

Mutjinga became lonely and sent for her young granddaughter to keep her company. Mutjinga and the girl gathered bulbs and nuts and caught small game, but Mutjinga found no satisfaction in this food, for she craved the flesh of men. . . .

*[The story then recounts how Mutjinga dug a hole and covered it with branches in order to trap unsuspecting hunters. Magically turning herself into a goanna (a lizard), she appeared to hunters, led them to their deaths in the hole, and then ate them. This fate befell even the younger brother of her granddaughter, despite the girl's unsuccessful efforts to save him. He too was killed and*

*partially eaten, while Mutjinga kept the rest of his body in a nearby stream.]*

The next morning, the little girl was at her early chores when she saw two men coming up the hillside. As she watched, recognition lit her face and she turned toward Mutjinga.

"It is my father and brother who come. Please do not harm them," she implored.

"I crave their flesh. If you trick me again I shall eat you, as well as your father and brother," Mutjinga warned. "This time I shall wait beside you until the men appear so you cannot deceive me."

The men approached the fire, paid their respects to the old woman, and greeted the child warmly. "Daughter, have you seen your brother who came hunting this way yesterday?" the father asked.

Mutjinga hastened to reply for the child. "No, we have not seen him," she said. "It is too bad, for nearby are many goanna holes. There is a large goanna right there," and she pointed to the hole where she kept the club.

"I thirst. First give me water," said the father.

"There is cold water in the stream," the little girl told him as she pointed down the hill.

The two men walked through the bush to the stream. As the father bent to drink, he saw the leg of his elder son, which Mutjinga had weighted down in the water with a large rock. At once he understood.

"The old woman will kill us unless we kill her first," he said to his younger son, and the two men returned to the fire.

"The goanna went into the tall grass," Mutjinga told them when they appeared. "Leave your spears and light a fire to burn the grass. This will drive the goanna out, and when it runs toward its hole, you can kill it with your spears."

The men went to fire the grass. As soon as they were out of sight, the father said, "Son, climb this

tree and watch the old woman closely. She works powerful magic."

This the son did, and he saw Mutjinga speak the magic words. She repeated them twice. He watched as the woman and the girl changed into goannas. From the limb of the tree, he observed the larger goanna chase the smaller one into the bush. Soon great billows of smoke were rising from the burning grass. The small goanna scuttled from the bush, its companion nipping at its heels. They ran past the hunters and disappeared down the hole.

"Get the spears," the father commanded and ran toward the hole. Just as the son returned, spears in hand, the ground beneath the father gave way and he plunged through. Waiting at the bottom was Mutjinga, club raised for the kill. But the son hurled his spear and Mutjinga fell bleeding to the ground.

The father seized her roughly. "Say the magic words that will release my daughter or we shall kill you," he threatened.

Painfully Mutjinga did as she was bidden. The daughter changed into her human form and the two men and the girl climbed from the hole.

"Daughter, show us the secret cave where the spirits are hidden," said the father, "and teach us the magic words you have learned from the old woman. We shall take the spirits to another place, and we shall have the power."

And so it was. The father took the totems from that place and hid them in another cave. He became the *kirman*, the song leader, and he taught the people the sacred dances and ceremonies. To him they brought their problems and he judged between them when they quarreled. And to this day, the men have kept the power.

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Source: Louis A. Allen, *Time Before Morning* (New York: Thomas Y. Crowell, 1975), 145–48.

### Source 1.4

## Understanding Death

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

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

### *How Death Came: The Purukapali Myth*

(oral tradition recorded in twentieth century)

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

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

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

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

As soon as he was well out of sight, Tjapara quickly circled back through the bush and came

upon Bima as she bent over her digging stick. Softly he crept upon her and clasped her from behind.

"Lie with me," he urged.

Only a moment did the wife of Purukapali resist. Then the long hours slipped quickly by. In the camp the child cried for his mother's milk. Still the couple tarried. From the camp came the faint voice of Purukapali calling his wife. Bima started to rise, but Tjapara was still eager. "Soon," he said and pulled her toward him.

Now the Sun Woman carried her torch to the horizon and the shadows grew long. Again the voice of Purukapali sounded, angry and stricken. Bima rose to answer, but Tjapara placed his hand over her mouth.

"We must go bathe, or Purukapali will know we have lain together," he said.

The two went to a hidden cove and entered the water. They played together in the coolness and ate some crabs they found near the shore. This was Tjapara's favorite food. But Purukapali's angry voice again reached their hearing. The frightened Bima took her net bag and hurried to camp. She found Djinini on the grass, cold and still. Death

had come to him in the early darkness. Bima lifted the child and pressed him to her breast.

Now Purukapali turned on his wife. "He was hungry. He cried for you and you did not come. Now he is gone from us and will not return," said the father, and he wrested the dead infant from Bima's arms.

Bima began to moan and beat her breast. "I am a bad woman, for I let my son die," she cried.

Hearing this, great anger came to Purukapali. Still holding his dead son, he turned on Bima and began to beat her with his freed hand. As she bent before his blows, Tjapara stepped from the bush and thrust himself between the couple.

"Give the child to me, brother, and I will bring him back to life in three days," he said.

But Bima lashed out at Tjapara in despair. "You killed him!" she accused, "for you would not let me go."

Now did Purukapali understand. Still holding fast to the child, he picked up a forked fighting stick and attacked. "You, too, shall die!" he screamed at his brother.

Tjapara refused to run and begged again for the child. But Purukapali threw the stick in response and struck his brother in the eye. "You will die as the baby died," he shouted. In his excitement, Purukapali dropped the lifeless body of Djinini.

Half blinded, Tjapara fought back. Soon the two men were locked in combat. Blood gushed from Tjapara's gouged eye and from the gashes on his face. He began to weaken.

Now Bima picked up Djinini and held him out to her husband. "Take the child you loved so dearly," she pleaded. "Do not kill your brother."

Her plea went unheard as Purukapali again hurled his killing stick. Tjapara fled to a tall tree and frantically began to climb. When he reached

the top limb, he let out a great shout and leaped into the sky, rising higher and higher until he reached the moon.

Purukapali returned to camp and took Djinini's body in his arms. "I shall die with my son," he announced to the Tiwi people. "And all who now live also shall die."

Then he danced the first ceremony of death and sang of the events that led to it. "This shall be your pukamani ceremony," he decreed, "and you shall dance it to remember those who die." Purukapali wrapped his son in paperbark, walked backward into the sea, and disappeared. As he sank beneath the surface, a whirlpool formed which marks the spot to this day.

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

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

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

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

## DOING HISTORY

## Stories of the Australian Dreamtime

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