

First Peoples; First Farmers

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



© De Agostini Picture Library/age fotostock

Out of Africa: First Migrations

Into Eurasia
Into Australia
Into the Americas
Into the Pacific

The Ways We Were

The First Human Societies
Economy and the Environment
The Realm of the Spirit

Settling Down: The Great Transition

Breakthroughs to Agriculture
Common Patterns
Variations

The Globalization of Agriculture

Triumph and Resistance
The Culture of Agriculture

Social Variation in the Age of Agriculture

Pastoral Societies
Agricultural Village Societies
Chieftoms

Reflections: The Uses of the Paleolithic

Zooming In: Göbekli Tepe:
Monumental Construction
before Agriculture

Zooming In: Ishi, the Last of His
People
Working with Evidence: Stories of
the Australian Dreamtime

"We do not want cattle, just wild animals to hunt and water that we can drink."¹ That was the view of Gudo Mahiya, a prominent member of the Hadza people of northern Tanzania, when he was questioned in 1997 about his interest in a settled life of farming and cattle raising. The Hadza represent one of the very last peoples on earth to continue a way of life that was universal among humankind until 10,000 to 12,000 years ago. In 2014, only about 1,300 Hadza survived, and of these just several hundred still made a living by hunting game, collecting honey, digging up roots, and gathering berries and fruit. 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

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.

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, archaeologists 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

AP® EXAM TIP

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

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.

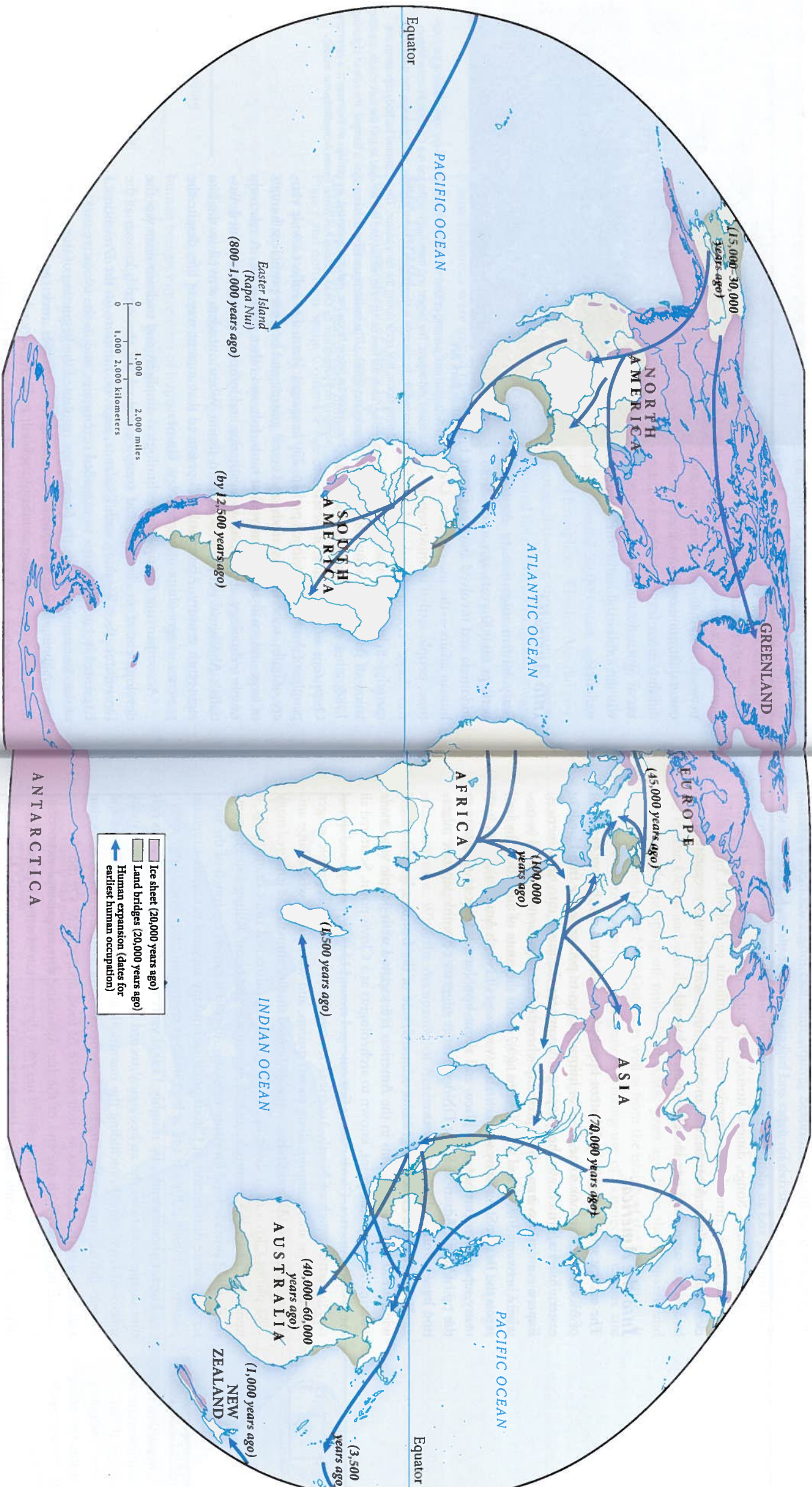
Accompanying Aboriginals' technological simplicity and traditionalism was the development of an elaborate and complex outlook on the world, known as the Dreamtime. (See Working with Evidence, page 49, for more on the Dreamtime.) Expressed in endless stories, in extended ceremonies, and in the evocative 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 Namargon, 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 Barroinj, 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/Biggame 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 particulate stones, pigments, materials for ropes and baskets, wood for spears, feathers and shells for ornaments, and an addictive psychoactive drug known as *pinini* 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

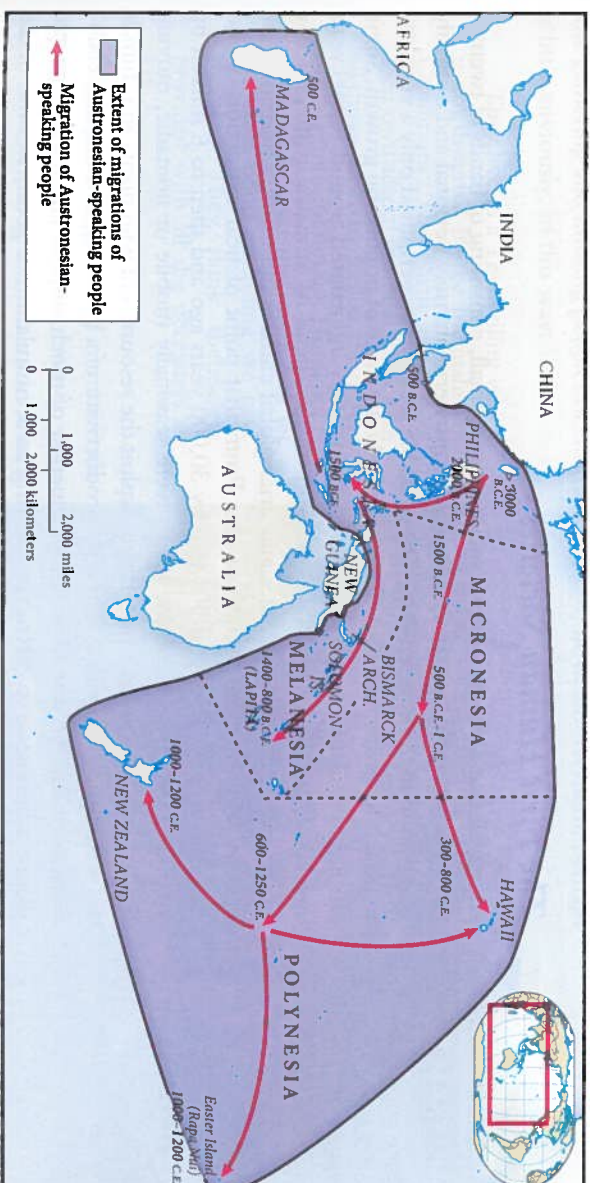
AP® EXAM TIP

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 archaeological 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.³ Paleolithic bands were seasonally mobile or nomadic, moving frequently and in regular patterns to exploit the resources of wild plants and animals on which they depended. The low productivity of a gathering and hunting economy normally did not allow the production of much surplus, and because people were on the move so often, transporting an accumulation of goods was out of the question.

All of this resulted in highly egalitarian societies, lacking the many inequalities of wealth and power that came later with agricultural and urban life. With no formal chiefs, kings, bureaucrats, soldiers, nobles, or priests, Paleolithic men and

women were perhaps freer of 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.⁴

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:

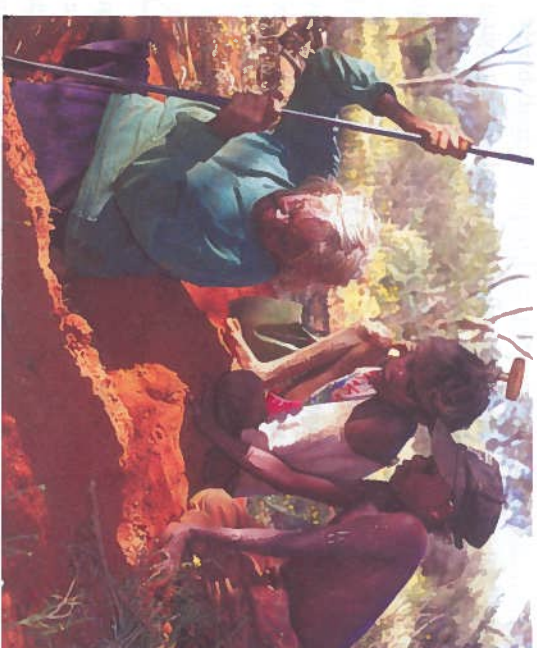
They live in a Tranquillity which is not disturb'd by the Inequality of Conditions: The Earth and sea of their own accord furnishes them with all things necessary for life, they covet not Magnificent houses, Household-stuff. . . . In short they seem'd to set no value upon any thing we gave them. . .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

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?

AP® EXAM TIP
Take good notes on the features 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.⁶ 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.⁷ 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.⁸ 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.⁹ 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.¹⁰ 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/All-Meyer/Brandegemay 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 ¹¹	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.

Setting 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

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, bows, 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 archaeological 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 archaeological complex of Göbekli Tepe (geh-BEHK-lee TEH-peh) in southeastern Turkey, described more fully in the Zooning 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.

**Guided Reading
Question**

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

PRACTICING AP® HISTORICAL THINKING

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

ZOOMING IN

Göbekli Tepe: Monumental Construction before Agriculture

Perhaps the most stunning archeological discovery of recent decades comes from the site known as Göbekli Tepe, or “potbelly hill,” in southeastern Turkey, which has been under excavation since the mid-1990s. Dating to almost 12,000 years ago, this twenty-five-acre complex currently consists of about 200 massive limestone pillars, some as tall as eighteen feet and



Göbekli Tepe.

weighing as much as fifty tons. Carved in a T shape, perhaps to represent human beings with arms outstretched, they were arranged in a set of walled circles or rings. Five such circles have been unearthed so far, with another twenty or so awaiting excavation. Gracefully carved wild animals—gazelles, snakes, boars, foxes, lions, scorpions, vultures—decorate the pillars. Göbekli Tepe was probably a ceremonial or religious site, for little evidence of long-term human habitation has been found. Dubbed “the world’s oldest temple,” it likely attracted worshippers or pilgrims from many miles around and

may well have served as a place of ritual banals, 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

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

Breakthroughs to Agriculture

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

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

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 archaeologist 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.

where 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 societal

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

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?

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-

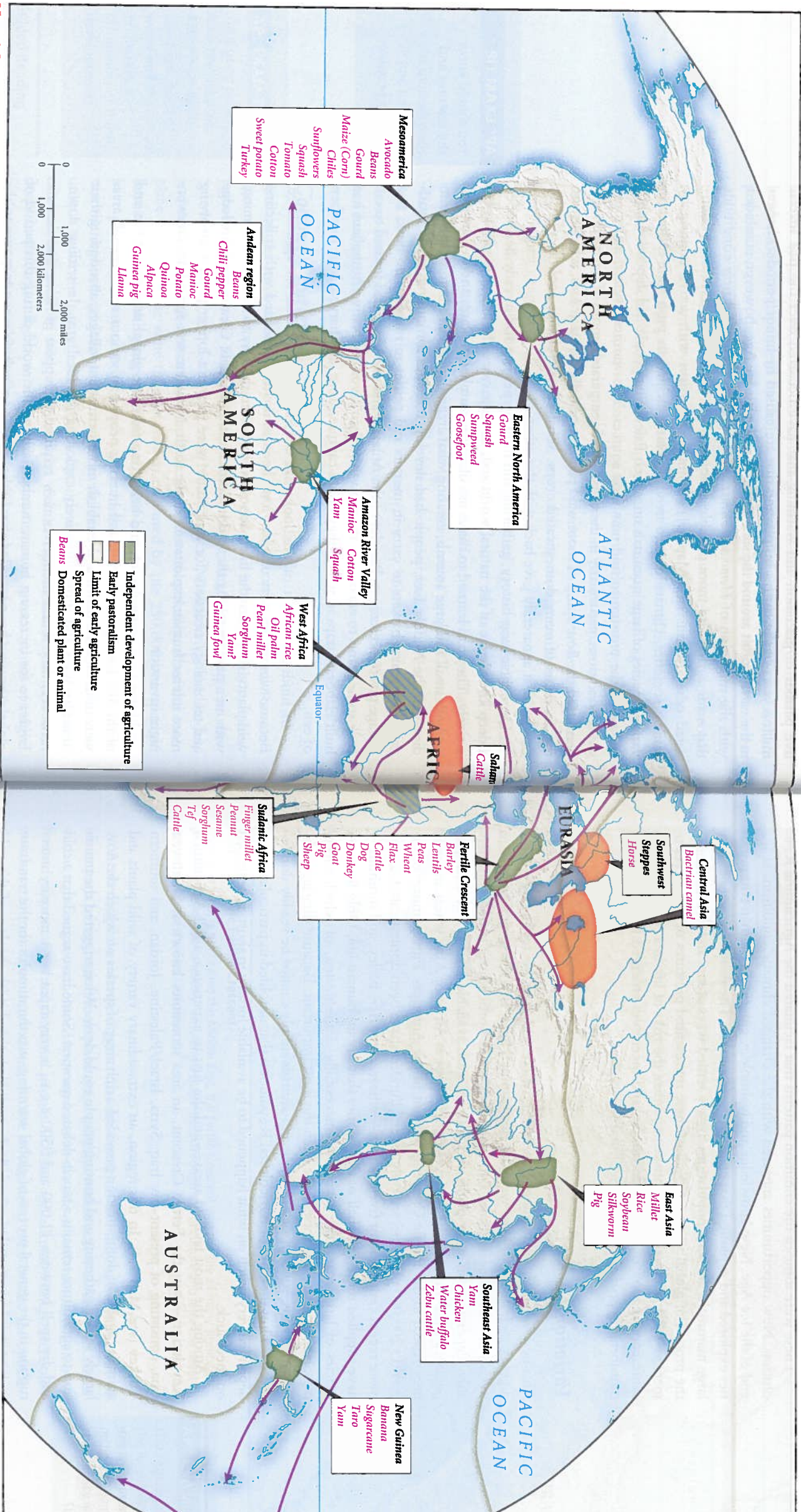
five periods of glaciation and warming that have occurred over the past several million years of the earth’s history and that are caused by minor periodic changes in the earth’s orbit around the sun. The end of the last Ice Age, however, coincided with the migration of *Homo sapiens* across the planet 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.

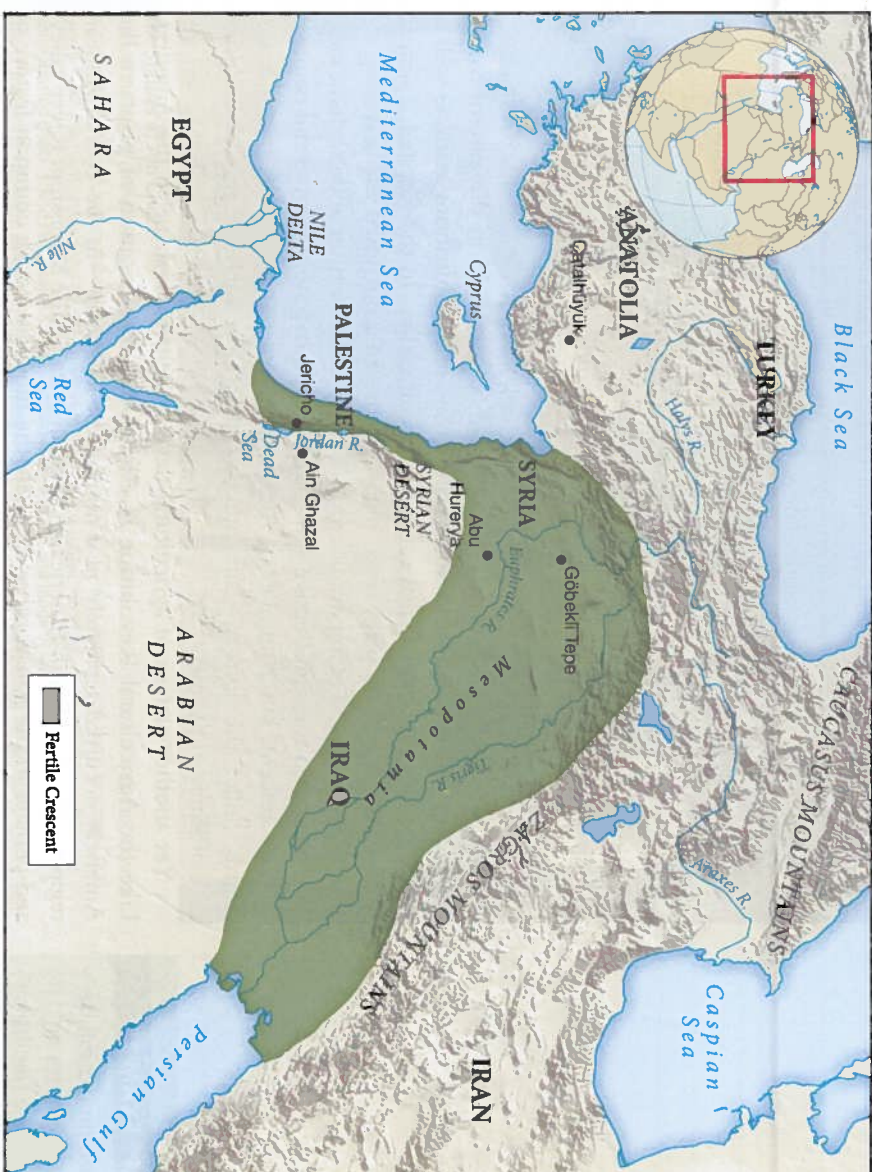


These were some of the common patterns that facilitated the Agricultural Revolution. New opportunities appeared with the changed climatic conditions at the end of the Ice Age. New knowledge and technology emerged as human communities explored and exploited that changed environment. The disappearance 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.

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.

Archaeological 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, archaeologists 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

Guided Reading Question

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

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.”¹² 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, tef, a tiny, highly nutritious grain, as well as enset, a relative of the banana, came under cultivation. In the forested region of West Africa, yams, oil palm trees, okra, and the kola nut (used as a flavoring for cola drinks) emerged as important crops. The scattered location of these domestications generated a less productive agriculture than in the more favored and compact Fertile Crescent, but a number of African domesticates—sorghum, castor beans, gourds, millet, the donkey—subsequently spread to enrich the agricultural practices of Eurasian peoples.

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



The Statues of Ain Ghazal

Among the largest of the early agricultural settlements investigated by archaeologists 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 Tsamtsi, Courtesy, Dr. Gary O. Rollefson)

uh-SHIN-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.”¹³ 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

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.

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

The 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

Guided Reading

Question

CONNECTION

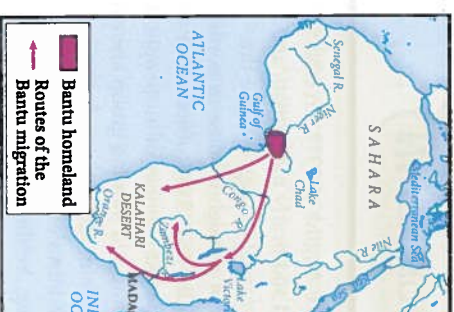
In what ways did agriculture spread? Where and why was it sometimes resisted?

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.



Bantu Migrations

Guided Reading

Question

CHANGE

What changes did the Agricultural Revolution bring in its wake?

ZOOMING IN

Ishi, the Last of His People

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



Ishi.

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.

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

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

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; 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, 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 endurance.”¹⁴

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?

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

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.”¹⁵ 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.¹⁶ 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.¹⁷ 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'Ajjer, Algeria, Henri Lhote Collection/Musée de l'Homme, Paris, France/Ernst 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 archaeological 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 Catalhöyük (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.”¹⁸

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. Archaeologist 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.”¹⁹ 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.

Chieftoms

In other places, agricultural village societies came to be organized politically as chieftoms, in which inherited positions of power and privilege introduced a more distinct element of inequality, but unlike later kings, chiefs could seldom use force

AP® EXAM TIP

Note the features of early agricultural villages and chieftoms.



Cahokia
Pictured here in an artist’s reconstruction, Cahokia (near St. Louis, Missouri) was the center of an important agricultural chieftom 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 chieftoms 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 chieftoms followed in all parts of the world, and the more recent ones have been much studied by anthropologists. For example, chieftoms 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 chieftoms 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.

Chapter Review

What’s the Significance?

Venus figurines, 14; 23	Fertile Crescent, 28; 32
Dreamtime, 15	teosinte, 34
Clovis culture, 18	diffusion, 36
megafaunal extinction, 18	Bantu migration, 37
Austronesian migrations, 19	Ishi, 38
“the original affluent society,” 22	Banpo, 40
shamans, 23	“secondary products revolution,” 41
trance dance, 23	pastoral societies, 41
Paleolithic settling down, 24	Çatalhöyük, 43
Göbekli Tepe, 25	chiefdoms, 44

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?