These prehistoric paintings of animals, on the wall of a cave in Lascaux, France, date from 15,000 to 10,000 B.C.E. They show the centrality of the hunt in the economy and symbolism of hunting and gathering peoples.
Early Human Societies, 2.5 million–1000 B.C.E.: Origins and Development

Chapter 1  The Neolithic Revolution and the Birth of Civilization
Chapter 2  The Rise of Civilization in the Middle East and Africa
Chapter 3  Asia’s First Civilizations: India and China
THE OVERVIEW: MIGRATIONS AND REVOLUTIONARY CHANGES
IN HUMAN ECONOMY AND ORGANIZATION

The earliest known, fully human species lived in east Africa about 2.5 million years ago. Gradually humans developed a more erect stance and greater brain capacity. Early humans lived by hunting and gathering. Because hunting-and-gathering economies require a great deal of space—on average about 2.5 square miles per person—populations remained small, and people lived in small groups. Even a modest population increase in a hunting-and-gathering group required part of the group to migrate in search of new game. Tens of thousands of years ago, the most advanced of the human species, *Homo sapiens sapiens*, migrated from Africa into the Middle East, then into Europe, Asia, Australia, and the Americas. Early humans developed tools, first using stones, sticks, and other natural objects. Gradually, people learned to fashion tools and weapons from stone, bone, and wood.

Agriculture began at different times in different places, from about 10,000 years ago onward. It developed independently in at least three regions and perhaps more. The top map on the opposite page shows the early centers of food production. Gradually, agriculture spread widely, though not universally, from these initial centers.

The development of agriculture was a radical change in humans’ way of life. By providing a dependable source of food, it allowed people to live in larger groups. Later on, toolmaking technology advanced with the discovery of metalworking, which in turn further increased agricultural production. Increased production freed some members of the society to perform other kinds of work. This in turn encouraged a further series of organizational changes we call civilization.

Early civilizations arose in five different sites, four of them along the fertile shores of great rivers. At least three of these early civilizations arose independently of each other. The map of early civilizations to the right makes another point clear: large parts of the world were not involved in these developments. Early world history focuses on agricultural civilizations, but it must also pay attention to regions that developed different kinds of economies and different organizational structures.

**Big Concepts**

Each of the key phases of the long period of early human history (2.5 million B.C.E.–1000 B.C.E.) can be characterized by a central topic or Big Concept. The first of these is the development of human hunting skills, the adaptation of those skills to the shifting geography and climate of the Ice Age, and the patterns of human migration. The second Big Concept is the rise of agriculture and the changes in technology associated with the Neolithic revolution (9000 and 4000 B.C.E.). These changes set in motion the agricultural phase of the human experience that lasted until just a few centuries ago. The final Big Concept is the appearance of increasingly distinctive human societies through agriculture or nomadic pastoralism, and the earliest contacts among these first societies, particularly after 3500 B.C.E. when larger and more formally organized societies, often with early cities as well, emerged and began to develop more consistent patterns of interregional trade.

**TRIGGERS FOR CHANGE**

The key story in the long early phases of human history focuses on adaptation to environments, and particularly the search for adequate food supplies. Humans still react to their environment,
Initial Centers and Spread of Agriculture

Early Centers of Civilization
but the process was more apparent in earlier periods, when human ability to control aspects of the environment was less well developed. The early changes in human history—evolutionary development, more advanced toolmaking, and the extensive migrations—all occurred within the context of a hunting-and-gathering economy.

About ten thousand years ago, in the Black Sea region, hunting became less productive. With the end of the ice age, climate changes may have reduced big game animals in the region. Perhaps a human population increase led to excessive hunting, depleting the supply of animals. Hunting groups sometimes deliberately killed off too much game, far more than needed, with the unintended consequence of producing a food crisis. Whatever the causes of the shortage, people were forced to look for new sources of food. Women, as gatherers, had undoubtedly become aware of the possibility of deliberately planting seeds and harvesting grain. Thus the rise of agriculture was under way.

Even the advent of new social organizations associated with civilization involved efforts at greater environmental control. Early civilizations provided social structures that could coordinate projects like irrigation. Early civilizations also emerged after the invention of new kinds of tools. The wheel and metal hand tools, initially of bronze, could increase agricultural production and transport. But they also depended on new manufacturing skills. Greater specialization and greater productivity alike encouraged the kind of organization that early civilization involved. New technology helped shape another new stage in world history.

**THE BIG CHANGES**

Agriculture offered a very different set of opportunities and problems than hunting and gathering, and these had far-reaching consequences. Agriculture altered family forms, for example, by encouraging higher birth rates, both because more food was available and because more labor was needed. Permanent settlements arose fairly quickly, reducing local movements of people. By creating a surplus of food in most years, agriculture permitted a portion of the population to engage in occupations other than food production. This led to the development of unprecedented levels of social inequality, including heightened inequality between men and women. Agriculture altered the environment, sometimes resulting in over-cultivation that depleted the soil. It encouraged humans to live in larger groups, and by doing so it created new vulnerability to communicable diseases. While agriculture clearly generated a mixture of advantages and disadvantages, its greater food production helps explain why it tended to spread and why many people were willing to change basic aspects of their lives to create this economic shift.

As agriculture produced greater food supplies, the population grew rapidly. In the most fertile areas, agricultural centers ultimately developed the organizational forms associated with civilization, most notably

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<th>2.5 million B.C.E.</th>
<th>1.25 million B.C.E.</th>
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<tr>
<td>2.5 million Emergence of <em>Homo sapiens</em> in eastern Africa</td>
<td>1 million Emergence of <em>Homo erectus</em>, an upright, tool-using human</td>
<td>120,000 Emergence of <em>Homo sapiens sapiens</em>, which displaces other human species</td>
<td>30,000–25,000 Passage of first people to Americas</td>
<td>8500–6500 Domestication of sheep, pigs, goats, cattle</td>
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<td>600,000 Wide spread of human species across Asia, Europe, Africa; control of fire</td>
<td></td>
<td>15,000–12,000 Domestication of dogs</td>
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<td>8500–3500 Neolithic Age; development of farming in Middle East</td>
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formal political structures and cities. Not all did so: stateless, loosely organized agricultural societies persisted in quite a few places until relatively modern times. But more formal political structures—states—plus larger urban centers—cities—as places to exchange goods and ideas could further the direction of agricultural economies. It was no accident that the first four centers of civilization developed along river valleys, with their opportunities for irrigation: civilization resulted from the prosperity of this kind of agriculture but also responded to its organizational needs, for it took coordination to run irrigation systems. Civilizations also helped direct many of the surpluses of agricultural economies to upper-class groups—rulers, landlords, and sometimes priests. As with agriculture, though to a lesser extent, the arrival of civilizations had wider consequences. Most early civilizations, for example, developed monumental buildings often associated with religion and more formal art and culture were standard features of this final great innovation in early human history.

CONTINUITY

While the development of agriculture brought enormous changes, it is important to remember that major continuities persisted as well. Changes took place very slowly. It took thousands of years for humans to develop New Stone Age technologies such as fashioning tools rather than simply picking up suitably shaped objects, such as rocks.

The slow pace of change had two causes. First, inventing fundamentally new devices took time. In some cases, it never occurred at all: impressive agricultural societies flourished without ever developing the wheel or metal tools. In addition, many people remained attached to old ways. Because the food supply was so precarious, the risk of innovation probably seemed dangerous. This was one reason why agriculture, though it did fan out from its initial centers, took so long to spread widely. People cherished the habits long associated with local migrations. Many men valued the challenge of hunting. Many groups held out against agriculture, even when they knew of it.

Change could produce efforts to preserve older values in new ways. In hunting-and-gathering societies, men and women both had key productive roles; the roles were very different but they generated some mutual respect. With agriculture, men took on functions that probably seemed rather feminine, because they were linked to food gathering, which had been women’s responsibility before. Men had far less time to hunt or to enjoy the masculine rituals associated with hunting. So men looked for ways within agriculture to emphasize manhood. One common response was to claim new levels of superiority over women. This was a key change in gender relations, but it can also be seen as a kind of compensation. To this extent, men could feel that not all traditions were being lost.

Once established, agriculture generated its own impulses toward continuity. Many peasant farmers clung fervently to traditional techniques and village

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<td>7000 First town at Jericho</td>
<td>5600 Beans domesticated in Western Hemisphere</td>
<td>5000 Domestication of maize (corn) Yangshao culture in north China</td>
<td>4000–3000 Development of writing, bronze metalworking, wheel, plow in Middle East 3500–1800 Sumerian civilization</td>
<td>1850 Origins of Shang kingdom in China 1800 Formation of Babylonian Empire in Middle East 1700–1300 Rise of village culture in Mesoamerica</td>
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structures, regarding further change with great suspicion. Thus, a tension between change and continuity was built into early human experience.

**IMPACT ON DAILY LIFE: CHILDREN**

Children are an important part of any human society. Some aspects of children’s lives are doubtless natural, part of human experience at any time, in any place. But the arrival of agriculture had huge implications for children. Hunting-and-gathering societies depended on a relatively low birth rate, with few children per family. Too many children would overwhelm resources; and no family could easily transport more than one young child during migrations. So hunters and gatherers limited births, mainly by breast feeding each child for up to four or five years, which created chemical changes in women’s bodies that reduced the chances of new conception.

With agriculture, however, more children could be supported, and indeed children became a vital part of the family labor force. Infants began to be weaned at about 18 months on average, a huge change from earlier human patterns. Birth rates shot up—agricultural families usually averaged five to seven children, though some would die, as infant mortality rates were high. Childhood began to be defined in terms of work. Even young children had obligations. And by the time they were teenagers, their families depended on their labor. This was a dramatic redefinition of childhood, even as children became more numerous in the population at large.
Civilization, as an organizational form, had less impact on children, but it added its own changes. Most civilizations developed written language, though only a minority could afford the time to learn to write. As a result, the vast majority of children worked, but an elite minority were sent to school. Also, civilizations used codes of law and other prescriptions to emphasize the duties of children to their families. All agricultural civilizations emphasized the authority of parents over children and children's obligation to obey their parents. In this way, civilizations tried to instill in children a willingness to work for the benefit of their families. An early Chinese saying stated simply: “No parent is ever wrong.” Children could be loved and could flourish, but there was a distinctive tone of strict discipline and obedience in agricultural civilizations that bolstered the necessity of children's labor.

Small wonder that some hunting-and-gathering or herding groups, when they encountered civilizations, were shocked at how rigorously children were handled. Many American Indians were appalled by the harsh physical discipline European immigrants dealt out to their children. Here was an example of agriculture's profound impact on daily life.

**SOCIETIES AND TRENDS**

Chapter 1 describes the development of agriculture and the ways in which it changed the lives of early humans. It then describes how farming led, in fertile river valleys, to the development of civilization. It also notes the limits of these developments—the many regions that continued living by hunting and gathering as well as the different trajectory that was followed by societies whose people lived by herding animals rather than farming. Chapters 2 and 3 focus on the four major early civilizations in the river valley centers, in Mesopotamia, Egypt, the Indus valley (India), and the Yellow River valley (China). These civilizations shared a number of similar characteristics, such as forming states. The similarities suggest why people found these new organizational forms useful and how the forms responded to needs and opportunities within agriculture, but each also had its own flavor and specific history. This distinctiveness helped set in motion enduring differences among the world's civilizations. By comparing early civilizations in the Middle East with those in Egypt or China, Chapters 2 and 3 describe some patterns that have persisted through millennia.
One day about 10,000 years ago, in a rock shelter near the Pecos River, an early human inhabitant of what is today west Texas inserted the bloom stalk of a yucca plant into one of several holes worn into a fire-starting stick and, holding the stalk upright, twirled it between her hands, as depicted in the artist’s recreation on the next page. After much effort on the part of the young woman, the friction between the spinning stalk and the stick produced wisps of smoke, then sparks, then glowing embers. The woman used the embers to set fire to a small pile of dried yucca leaves that she had gathered. Yucca leaves have thin tendrils which, when dry, catch fire readily. Carefully tended, the leaves could be used to kindle a steady fire that provided not only warmth, but the means for cooking a meal. And, importantly, stalks, fire-sticks, and leaves could easily be carried by migratory groups of early humans.

Several yucca-based fire-starter kits, some including bows used in the place of hands to turn the yucca stalk, have been found across the American Southwest. These Neolithic (New Stone Age) kits send us a number of messages about early world history. Most obviously, early men and women were tool users. They not only deliberately selected branches, stones, and other natural objects from the environment, they crafted them into weapons, utensils, and tools that could be used to ward off animal and human enemies, hunt, trap, fish, prepare food, and construct shelters. This capacity to fashion tools distinguishes human beings from all other animals. Although a number of other animals, including apes, are tool users, only human beings construct their tools. By this time, humans had known how to make and use fire for thousands of years—another discovery unique to humans. The use of fire for cooking allowed early humans to eat a wider variety of foods, particularly animal protein.

The toolmakers of the American Southwest lived far from eastern Africa, where human beings first evolved. Just decades ago, it was believed that the first humans migrated from northeast Asia into what is now Alaska only 12,000 years ago. Vastly improved archeological techniques have recently revealed that the crossing had been made at least as early as 25,000 b.c.e. and that the migrants spread out quickly, probably traveling both overland and by boat along the Pacific Coast, from Alaska to Chile.

Finally, we know our early ancestors could talk. Human beings had developed what some call the “speech gene” about 70,000 years earlier, vastly improving the species’ capacity to communicate, beyond the sounds and gestures common to a number of animal groups. Neolithic humans were what we sometimes call “primitive,” but they had already experienced a number of fundamental changes and, in some places, they were poised to introduce some more.

The creation of fire-starters and other tools, including weapons, proved critical to the survival of early humans and to the development of ever larger communities and eventually whole societies. In the chapter that follows we will trace the successive stages of the early material and social development of the human species. We will explore the technological and organizational innovations that made it possible for what became the great majority of humans to move from tiny bands of wandering hunters and gatherers to sedentary village dwellers and then the builders of walled cities with populations in the thousands. More than any other factor, these transformations were made possible by the development of agriculture that increased and made more secure the supply of food by which more and more humans could be sustained.
The domestication of animals and the shift to agriculture were accompanied by major changes in the roles and relationships between men and women and patterns of childrearing. They also led to increasing social stratification, new forms of political organization, increasingly elaborate means of artistic expression, and more lethal ways of waging war. During the millennia of transition farming communities occupied only small pockets of the earth’s land area and only rarely ventured out on the sea or large rivers. Pastoral peoples who depended on herds of domesticated animals for their livelihood occupied a far greater share of the space where there was a human presence. An uneasy balance between the peoples who followed these two main adaptations to the diverse ecosystems in which humans proved able to survive was a dominant feature of the history of the species and the planet until five or six centuries ago.

Human Life in the Era of Hunters and Gatherers

A group of historians currently working on what they call Big History point out that the human experience is only a brief moment in the larger history of the earth itself and the origins of various forms of life. Big History furthers a discussion of when and how the human species emerged and what impact it would have, over time, on the physical environment and on other species. In this approach human history fits into a larger pattern of terrestrial change.

By the late Paleolithic Age (Old Stone Age) in 12,000 B.C.E., humans had evolved in physical appearance and mental capacity to roughly the same level as today. Our species, *Homo sapiens*, had been competing with increasing success for game and campsites with other humanlike creatures for nearly 100,000 years. *Homo sapiens’* large brain, critical to the survival of all branches of the genus *Homo*, was almost the same size as that of modern humans. As Figure 1.2 shows, the erect posture of Stone Age humans and related humanoids freed their hands. The combination of these free hands with opposable thumbs and a large brain enabled different human species to make and use tools and weapons of increasing sophistication. These implements helped to offset the humans’ marked inferiority in body strength and speed to rival predators, such as wolves and wild cats, as
well as to many of the creatures that humans hunted. A more developed brain ultimately allowed humans to transform cries and grunts into the patterned sounds that make up language. Language greatly enhanced the possibilities for cooperation and for cohesion within the small bands that were the predominant form of human social organization. By the end of the Paleolithic Age, these advantages had made *Homo sapiens* a species capable of changing its environment.

During the course of human evolution, one other interesting change occurred. In contrast to the great apes and other mammals, human children did not develop mature teeth until well after weaning. For human children to survive, their parents or other adults had to devote a much longer period to providing food. Family structures had to develop accordingly.

![Figure 1.2](image)

*Figure 1.2* As this artist’s illustration shows, the humanoids’ upright posture, which freed their hands, meant that over long periods of time *Homo sapiens* could develop tools and weapons. This meant that they became less fit for life in the tree canopy of forested areas. But their improving eyesight and ability to walk or run over greater distances proved highly advantageous in the open grassland areas they came to prefer.
Paleolithic Culture

By the late Paleolithic Age, human groups survived by combining hunting and fishing with the gathering of wild fruits, berries, grains, and roots. They had created many tools, such as those shown in Figure 1.3, for these purposes. Tools of wood and bone have perished; surviving stone tools such as these are our main evidence of the technology of this age. Early tools, crafted by species from which humans evolved, have been found at sites well over 2 million years old. These early species made tools by breaking off the edges of stones to create crude points or rough cutting surfaces. By the late Paleolithic Age, their fully human descendants had grown much more adept at working stone. They preferred to chip and sharpen flakes broken off a larger stone. These chips could be made into knife blades, arrow points, or choppers, which had a wide range of uses, from hunting and warfare to skinning animal carcasses and harvesting wild plants. Well before the Paleolithic—as many as half a million years ago—humans had also mastered fire.

Early human groups also left behind impressive evidence of artistic creativity. The late Paleolithic was a period of particularly intense artistic production. Fine miniature sculpture, beads and other forms of jewelry, and carved bones have been found in abundance at sites dating from this period. But the most striking works that survive from this period are the cave paintings that have been discovered at dwelling sites in areas as diverse as southern France, the plains of Africa south of the Sahara, and the Middle East. Some of these paintings appear to have religious significance. They may have been intended to depict prominent deities or to promote fertility. Paintings at some sites may represent early counting systems or primitive calendars. The art of the Old Stone Age indicates that humans were becoming increasingly interested in leaving lasting images of their activities and concerns.

The Spread of Human Culture

Migration was essential whenever hunting and gathering populations expanded, and it led to the surprisingly early peopling of the world’s major land masses. This forms the leading theme of the long first stage of the human experience.

As Map 1.1 illustrates, the possession of fire and tools with which to make clothing and shelters made it possible for different human species to extend the range of their habitation far beyond the areas where they had originated. During the last ice age, which began about 2.5 million years ago and ended in the 12,000s B.C.E., humans first moved northward from Africa into Europe and eastward from the present-day Middle East into central Asia, India, and east Asia. From there, some peoples migrated across a land bridge into the continents we now call North and South America. Rising waters with warmer temperatures eliminated the land bridge and further migration by 10,000 B.C.E. By 12,000 B.C.E., human colonies were found not only in North and South America but also in the south and west of Australia. People reached Australia by boat, but Southeast Asia extended much closer to Australia than is now the case, thanks to lower ocean levels and a larger land mass. Thus, by the late Paleolithic Age, groups of the Homo sapiens species had colonized all of the continents except Antarctica.

Human Society and Daily Life at the End of the Paleolithic Age

Most human societies in the Paleolithic Age consisted of small groups that migrated regularly in pursuit of game, animals, and wild plants. But recent archeological research has shown that in some places, natural conditions and human ingenuity permitted some groups to establish settlements, where they lived for much of the year and in some cases for generation after generation. These settled communities harvested wild grains that grew in abundance in many areas. After surviving for centuries in this way, some of these communities made the transition to true farming by
domesticating plants and animals near their permanent village sites. Others reverted to migration; there was no single pattern.

However successful a particular group proved to be at hunting and gathering, few could support a band larger than 20 to 30 men, women, and children. Dependence on migrating herds of game made these bands nomads, many of whom moved back and forth between the same forest and grazing areas year after year. These migration patterns meant that small numbers of humans needed a large land area to support themselves, so human population densities were very low.

Most of us imagine Stone Age peoples living in caves. But recent research suggests that most preferred to live on open ground. The migratory peoples who lived on hilltops or in forest clearings built temporary shelters of skins and leaves or grass thatching. Their flimsy campsites could be readily abandoned when movements of the herd animals they hunted or threats from competing bands prompted migration. Although it is likely that bands developed a sense of territoriality, boundaries were vague, and much conflict focused on rival claims to sources of game and wild foods.

Within each band, labor was divided according to gender. Men hunted and fished in riverine or coastal areas. Because they became skilled in the use of weapons in the hunt, it is also likely that men protected the band from animal predators and raids by other human groups. As the cave paintings featured in the Document section suggest, animal hunts were major events in the annual cycle of life in Paleolithic societies. Nearly all able-bodied men participated in the hunting parties, and women and children prepared and preserved the meat. Although women’s roles were less adventuresome and aggressive than men’s, they were arguably more critical to the survival of the band. Women gathered the foods that provided the basic subsistence of the band and permitted its survival in times when hunting parties were unsuccessful. Women also became adept at using medicinal plants, which were the only means Paleolithic peoples had to treat disease.

**Settling Down: Dead Ends and Transitions**

Although most humans lived in small hunting-and-gathering bands until well into the agrarian revolution, between 8500 and 3500 B.C.E., some prefarming peoples worked out a very different strategy of survival. They devised more intensive hunting-and-gathering patterns that permitted...
them to establish semipermanent and even permanent settlements and to support larger and more complex forms of social organization. Among the most spectacular Paleolithic settlements are those of central Russia. Apparently there was an abundance of large but slow woolly mammoths in that region some 20,000 years ago. These animals supplied meat that, when supplemented by wild plant foods gathered in the area, made it possible for local peoples to live in the same place throughout much of the year. Large numbers of mammoth bones found in what were in effect garbage pits at the settlement sites suggest how dependent they were on the mammoths. This reliance is equally vividly demonstrated by the extensive use of the bones of these huge mammals in building dwellings, such as that shown in Figure 1.4.

Remnants found in food storage pits and other artifacts from the central Russian settlements suggest that these people participated in trading networks with other peoples as far as 500 miles away in the area of the Black Sea. Burial patterns and differing degrees of bodily decoration also indicate clear status differences among the groups that inhabited the settlements. Mammoth bone communities lasted from about 18,000 to 10,000 B.C.E., when they suddenly disappeared for reasons that are still unknown.

Even more sophisticated than the central Russian settlements were those of the Natufian complex, which extended over much of present-day Palestine, Israel, Jordan, and Lebanon. Climate changes between 12,000 and 11,000 B.C.E. enabled wild barley and wheat plants to spread over much of this area. When supplemented with nuts and the meat of gazelles and other game, these wild grains were sufficient to support many densely populated settlements on a permanent basis. Between about 10,500 and 8000 B.C.E., the Natufian culture flourished. Population densities reached as high as six to seven times those of other early Neolithic communities. The Natufians developed
sophisticated techniques of storing grain, and they devised pestles and grinding slabs to prepare it for meals. They built circular and oval stone dwellings that were occupied year round for centuries. The evidence from housing layouts, burial sites, jewelry, and other artifacts indicates that, like the mammoth-hunting societies of central Russia, Natufian society was stratified. Clothing appears to have been used to distinguish a person’s rank, and grand burial ceremonies marked the death of community chieftains. There is also evidence that Natufian society was matrilocal (young men went to live with their wives’ families) and matrilineal (family descent and inheritance were traced through the female line). The fact that women gathered food crops in the wild may explain the power and influence they enjoyed in Natufian settlements.

The Natufian strategy for survival did not involve new tools or production techniques. It rested primarily on intensive gathering of wild grains and improvement of storage techniques. But the Natufians’ concentration on a couple of grain staples, gazelle meat, and nuts rendered the culture vulnerable. After 9000 B.C.E., the climate of the region where the Natufian settlements were located grew more and more arid. The grains and game on which they depended were reduced or vanished from many locations. One thousand years later, all the Natufian sites had been abandoned.

A Precarious Existence

Until the late Paleolithic, advances in human technology and social organization were remarkably slow compared with the advances that have occurred since about 8000 B.C.E. Millions of years of evolution of the genus *Homo* had produced small numbers of humans, mostly scattered in tiny bands across six continents. Probably no more than 8 million people lived worldwide on the eve of agriculture. On average, the lives of these humans were violent and short. They crouched around their campfires in constant fear of animal predators and human enemies. They were at the mercy of
the elements and helpless in the face of injury or disease. They had a few crude tools and weapons; their nomadic existence reflected their dependence on the feeding cycles of migrating animals.

The smaller numbers of human groups that lived in permanent settlements had better shelters, a more secure food supply, and larger communities on which to draw in their relentless struggle for survival. But their lifestyles were precarious; their specialized hunting-and-gathering practices meant that shifts in grazing patterns or the climate could undermine their carefully developed cultures. Late Paleolithic humans had improved greatly on earlier versions of the species. But there was little evidence that within a few thousand years they would radically transform their environments and dominate all other forms of life.

Agriculture and the Origins of Civilization: The Neolithic Revolution

There was nothing natural or inevitable about the development of agriculture. Because plant cultivation involves more labor than hunting and gathering, we can assume that Stone Age humans gave up their former ways of life reluctantly and slowly. In fact, peoples such as the Bushmen of southwest Africa still follow them today. But between about 8000 and 3500 B.C.E., increasing numbers of humans shifted to dependence on cultivated crops and domesticated animals for their subsistence. By about 7000 B.C.E., their tools and skills had advanced sufficiently to enable cultivating peoples to support towns with more than 1000 people, such as Jericho in the valley of the Jordan River and Çatal Hüyük (kah-THAL HOHY-uhk) in present-day Turkey. By 3500 B.C.E., agricultural peoples in the Middle East could support sufficient numbers of nonfarmers to give rise to the first civilizations. As this pattern spread to or developed independently in other parts of the world, the character of most human lives and the history of the species were fundamentally transformed. The Big History approach calls attention to what amounts to a long “agricultural period” of the human experience, running from the Neolithic until about 300 years ago.

Because there are no written records of the transition period between 8500 and 3500 B.C.E., we cannot be certain why and how some peoples adopted these new ways of producing food and other necessities of life. Climatic changes associated with the retreat of the glaciers late in the last ice age (from about 12,000 B.C.E.) may have played an important role. These climatic shifts prompted the migration of many big game animals to new pasturelands in northern areas. They also left a dwindling supply of game for human hunters in areas such as the Middle East, where agriculture first arose and many animals were first domesticated. Climatic shifts also led to changes in the distribution and growing patterns of wild grains and other crops on which hunters and gatherers depended.

In addition, it is likely that the shift to sedentary farming was prompted by an increase in human populations in certain areas. This population growth may have been caused by changes in the climate and plant and animal life. It is also possible that population growth occurred because the hunting-and-gathering pattern reached higher levels of productivity. Peoples such as the Natufians found that their human communities could grow significantly as they intensively harvested grains that grew in the wild. As the population grew, more and more attention was given to the grain harvest, which eventually led to the conscious and systematic cultivation of plants and thus the Neolithic revolution.

The Domestication of Plants and Animals

The peoples who first cultivated cereal grains had long observed them growing in the wild and collected their seeds as they gathered other plants for their leaves and roots. In late Paleolithic times, wild barley and wheat grew over large areas in the present-day Middle East. Hunting-and-gathering bands in these areas may have consciously experimented with planting and nurturing seeds taken from the wild, or they may have accidentally discovered the principles of domestication by observing the growth of seeds dropped near their campsites.

However it began, the practice of agriculture caught on only gradually. Archeological evidence suggests that the first agriculturists retained their hunting-and-gathering activities as a hedge
against the ever-present threat of starvation. But as Stone Age peoples became more adept at cultivating a growing range of crops, including various fruits, olives, and protein-rich legumes such as peas and beans, the effort they expended on activities outside agriculture diminished.

The earliest farmers probably sowed wild seeds, a practice that cut down on labor but sharply reduced the potential yield. Over the centuries, more and more care was taken to select the best grain for seed and to mix different strains in ways that improved crop yields and resistance to plant diseases. As the time needed to tend growing plants and the dependence on agricultural production increased, some roving bands chose to settle down, and others practiced a mix of hunting and **shifting cultivation** that allowed them to continue to move about.

Several animals may have been domesticated before the discovery of agriculture, and the two processes combined to make up the critical transformation in human culture called the Neolithic revolution. Different animal species were tamed in different ways that reflected both their own natures and the ways in which they interacted with humans. For example, dogs were originally wolves that hunted humans or scavenged at their campsites. As early as 12,000 B.C.E., Stone Age peoples, initially in east Asia, found that wolf pups could be tamed and trained to track and corner game. The strains of dogs that gradually developed proved adept at controlling herd animals such as sheep. Knowledge of dogs spread quickly over almost all inhabited areas—the later migrations to the Americas included Asian dogs—because they were so useful in hunting and herding. Docile and defenseless herds of sheep could be domesticated once their leaders had been captured and tamed. Sheep, goats, and pigs (which also were scavengers at human campsites) were first domesticated in the Middle East between 8500 and 7000 B.C.E. Horned cattle, which could run faster and were better able to defend themselves than wild sheep, were not tamed until about 6500 B.C.E.

Domesticated animals such as cattle and sheep provided New Stone Age humans with additional sources of protein-rich meat and in some cases milk. Animal hides and wool greatly expanded the materials from which clothes, containers, shelters, and crude boats could be crafted. Animal horns and bones could be carved or used for needles and other utensils. Because plows and wheels did not come into use until the Bronze Age, about 4000–3500 B.C.E., when stone tools and weapons gave way to metal ones, most Neolithic peoples made little use of animal power for farming, transportation, or travel. However, there is evidence that peoples in northern areas used tamed reindeer to pull sleds, and those farther south used camels to transport goods. More importantly, Neolithic peoples used domesticated herd animals as a steady source of manure to enrich the soil and thus improve the yield of the crops that were gradually becoming the basis of their livelihood.

Domestication of animals also increased the incidence of disease. Experts suggest that up to 80 percent of all human diseases came originally from animals, and particularly from the increased contact that developed. Improvements in food supply made the tradeoff worthwhile, but agricultural societies were burdened with new kinds of problems and anxieties as well.

**The Spread of the Neolithic Revolution**

The greater labor involved in cultivation, and the fact that it did not at first greatly enhance peoples’ security or living standards, caused many bands to stay with long-tested subsistence strategies. Through most of the Neolithic Age, sedentary agricultural communities coexisted with more numerous bands of hunters and gatherers, migratory farmers, and hunters and fishers. Long after sedentary agriculture became the basis for the livelihood of the majority of humans, hunters and gatherers and shifting cultivators held out in many areas of the globe.

The domestication of animals also gave rise to **pastoralism**, which has proved to be the strongest competitor to sedentary agriculture as a way of life throughout most of the world. Pastoralism, or a nomadic herding way of life, has thrived in semiarid areas such as central Asia, the Sudanic belt south of the Sahara desert in Africa, and the savanna zone of east and south Africa. These areas could not support dense or large populations, but they have produced independent and hardy peoples. Nomads were well versed in the military skills needed to challenge more heavily populated agrarian societies. Horse-riding nomads who herded sheep or cattle have destroyed powerful kingdoms and laid the foundations for vast empires. The camel nomads of Arabia played criti-
cal roles in the rise of Islamic civilization. The cattle-herding peoples of central, east, and south Africa produced some of the most formidable preindustrial military organizations. Interactions between herding nomads and agricultural peoples would form a major theme in world history until about 500 years ago.

Those who adopted agriculture gained a more stable base for survival and increased in numbers. They also passed on their production techniques to other peoples. The spread of key crops can be traced on Map 1.2. Wheat and barley spread throughout the Middle East and to India. These crops also spread northward to Europe, where oats and rye were added later. From Egypt, the cultivation of grain crops and fibers, such as flax and cotton used for clothing, spread to peoples along the Nile in the interior of Africa, along the north African coast, and across the vast savanna zone south of the Sahara desert.

Agriculture in the African rainforest zone farther south evolved independently in the 2nd millennium B.C.E. and was based on root crops such as cassava and tree crops such as bananas and palm nuts. In northern China during the Neolithic Age, a millet-based agricultural system developed along the Huang-he (hwahng huh) or Yellow River basin. From this core region, it spread in the last millennium B.C.E. east toward the North China Sea and southward toward the Yangzi (YANG-see) basin. A later but independent agricultural revolution based on rice began in mainland southeast Asia sometime before 5000 B.C.E. and slowly spread north toward south China and west toward India and across the islands of southeast Asia. In the Americas, agrarian systems based on maize (corn), manioc, and sweet potatoes arose in Mesoamerica (Mexico and Central America today) and present-day Peru. Long before the arrival of Columbus in the Americas in 1492 C.E., these and other crops had spread through large portions of the continents of the Western Hemisphere, from the temperate woodlands of the North Atlantic coast to the rain forests of the Amazon region. Thus, varying patterns of agricultural production were disseminated on all the inhabited continents except Australia to nearly all the regions of the globe with sufficient rainfall and suitable temperatures.

Map 1.2 The Spread of Agriculture  Agriculture appears to have spread in ways similar to human populations, but from a Middle Eastern rather than African epicenter. And in important cases, particularly in the Americas, a wide range of staple crops were known in only some parts of the world until Columbus's voyage in the late-15th century brought together the civilizations of the Americas and Afro-Euroasia.
The Transformation of Material Life

With the development of agriculture, humans began to transform more and more extensively the environments in which they lived. A growing portion of humans became sedentary farmers who cleared the lands around their settlements and controlled the plants that grew and the animals that grazed on them. The greater presence of humans was also apparent in the steadily growing size and numbers of settlements. These were found both in areas that humans had long inhabited and in new regions that farming allowed them to settle. This great increase in the number of sedentary farmers is primarily responsible for the leap in human population during the Neolithic Age. For tens of thousands of years before agriculture was developed, the total number of humans had fluctuated between an estimated 5 and 8 million. By 4000 B.C.E., after four or five millennia of farming, their numbers had risen to 60 or 70 million. Hunting-and-gathering bands managed to subsist in the zones between cultivated areas and continued to fight and trade with sedentary peoples. Areas devoted to pastoralism became even more important. But villages and cultivated fields became the dominant features of human habitation over much of the globe.

The sudden surge in invention and social complexity in the Neolithic Age marks one of the great turning points in human history. Increased reliance on sedentary cultivation led to the development of a wide variety of agricultural tools, such as digging sticks used to break up the soil, axes to clear forested areas, and the plow. Seed selection, planting, fertilization, and weeding techniques improved steadily. By the end of the Neolithic Age, human societies in several areas had devised ways to store rainwater and rechannel river water to irrigate plants. The reservoirs, canals, dikes, and sluices that permitted water storage and control represented another major advance in humans' ability to remake their environment.

More and better tools and permanent settlements gave rise to larger, more elaborate housing and community ritual centers. Houses usually were uniform in construction. Most of the early ones contained the features depicted in Figure 1.5 which shows an archeological reconstruction of a dwelling from the Neolithic Age. Building materials varied greatly by region, but sun-dried bricks, wattle (interwoven branches, usually plastered with mud), and stone structures were associated with early agricultural communities. Seasonal harvests made improved techniques of food storage essential. At first, baskets and leather containers were used. But already in the early Neolithic Age, pottery, which protected stored foods better from moisture and dust, was known to several cultures in the Middle East.

Social Differentiation

The surplus production that agriculture made possible was the key to the social transformations that made up another dimension of the Neolithic revolution. Surpluses meant that farmers could exchange part of their harvest for the specialized services and products of craftspeople such as toolmakers and weavers. Human communities became differentiated by occupations. Full-time political and religious leaders emerged and eventually formed elite classes. But in the Neolithic Age, the specialized production of stone tools, weapons, and pottery was a more important consequence of the development of agriculture than the formation of elites. Originally, each household crafted the tools and weapons it needed, just as it wove its own baskets and produced its own clothing. Over time, however, families or individuals who proved particularly skilled in these tasks began to manufacture implements beyond their own needs and to exchange them for grain, milk, or meat.

Villages in certain regions specialized in producing materials that were in demand in other areas. For example, flint, which is extremely hard, was the preferred material for axe blades. Axes were needed for forest clearing, which was essential to the extension of cultivation in much of Europe. The demand was so great that villagers who lived near flint de-
posits could support themselves by mining the flint or crafting the flint heads and trading, often with peoples who lived far from the sources of production. Such exchanges set precedents for regional specialization and interregional trade.

It is difficult to know precisely what impact the shift to agriculture had on the social structure of the communities that made the transition. Social distinctions probably were heightened by occupational differences, but well-defined social stratification, such as that which produces class identity, was nonexistent. Leadership remained largely communal, although village alliances may have existed in some areas. It is likely that property in Neolithic times was held in common by the community, or at least that all households in the community were given access to village lands and water.

By virtue of their key roles as food gatherers in pre-farming cultures, it can be surmised that women played a critical part in the domestication of plants. Nonetheless, their position declined in many agricultural communities. They worked the fields and have continued to work them in most

**Representations of Women in Early Art**

The earliest writing system we know of was not introduced until around 3500 B.C.E. in the civilization of Sumer in Mesopotamia (see Chapter 2). Consequently, evidence for piecing together the history of human life in the Paleolithic and Neolithic ages comes mainly from surviving artifacts from campsites and early towns. Stone tools, bits of pottery or cloth, and the remains of Stone Age dwellings can now be dated rather precisely. When combined with other objects from the same site and time period, they give us a fairly good sense of the daily activities and life cycle of the peoples who created them.

As we have seen in the Document on cave paintings, of all the material remains of the Stone Age era, none provide better insights into the social organization and thinking of early humans than works of art. Much of what we know about gender relations, or the status of males and females and the interaction between them, has been interpreted from the study of the different forms of artistic expression of Stone Age peoples. The stone carvings and figurines reproduced here illustrate themes and impressions of women and their roles that recur in the art of many prehistoric cultures.

Some of the earliest rock carvings, such as the Venus of Laussel (c. 25,000 B.C.E.) shown in the far-right image below, depict robust pregnant women. Figurines similar to the Laussel Venus, which was found in the remains of a campsite at St.-Germain-en-Laye in France, are among the most common artifacts of early human cultures. At other early sites, including Çatal Hüyük, women are depicted as goddesses. And at Hacilar, another prehistoric town uncovered in what is today Turkey, they are represented in figurines that may well have served as images of cult veneration and paintings that suggest they may have served as oracles or cult priestesses. As in the Laussel Venus, voluptuous women predominate, and in many of the clay sculptures their roles in reproduction and nurturing are celebrated. But female figures in postures suggesting political authority, such as the woman shown sitting on what may have been a throne with animal heads, have also been found. Many of these statuettes may also have been intended to depict goddesses and have served as objects of worship.

**QUESTIONS** On the basis of the sample provided in these illustrations, which roles in early human society were closely associated with women? What do these representations tell us about the extent and sources of power exercised by women in prehistoric times? What sort of requests might those who worshiped goddesses have made through their prayers and offerings?
cultures. But men took over tasks involving heavy labor, such as clearing land, hoeing, and plowing. Men monopolized the new tools and weapons devised in the Neolithic Age and later times, and they controlled the vital irrigation systems that developed in most early centers of agriculture. As far as we can tell, men also took the lead in taming, breeding, and raising the large animals associated with both farming and pastoral communities. Thus, although Neolithic art suggests that earth and fertility cults, which focused on feminine deities, retained their appeal (see Visualizing the Past), the social and economic position of women began to decline with the shift to sedentary agriculture.

The First Towns: Seedbeds of Civilization

Two of the earliest of these settlements were at Jericho, in present-day Palestine, and at Çatal Hüyük (kah-THAL HOHY-uhk) in present-day Turkey. With populations of about 2000 and 5000 people, respectively, Jericho and Çatal Hüyük would be seen today as little more than large villages or small towns. But in the perspective of human cultural development, they represented the first stirrings of urban life. Their ruling elites and craft specialists contributed to the introduction in the 4th millennium B.C.E. of critical inventions—such as the wheel, the plow, writing, and the use of bronze—that secured the future of civilized life as the central pattern of human history.

Jericho

Proximity to the Jordan River and the deep and clear waters of an oasis spring account for repeated human settlement at the place where the town of Jericho was built. By 7000 B.C.E., more than 10 acres were occupied by round houses of mud and brick resting on stone foundations. Most early houses had only a single room with mud plaster floors and a domed ceiling, but some houses had as many as three rooms. Entry to these windowless dwellings was provided by a single wood-framed doorway and steps down to the floor of the main room underground. Although there is no evidence that Jericho was fortified in the early stages of its growth, its expanding wealth made the building of walls for protection from external enemies necessary. The town was enclosed by a ditch cut into the rocky soil and a wall almost 12 feet high. The extensive excavation needed for this construction was impressive because the peoples who undertook it had neither picks nor shovels. The stones for the wall were dragged from a riverbed nearly a mile away. These feats suggest a sizeable labor force that was well organized and disciplined.

When Jericho was rebuilt in later centuries, the wall reached a height of nearly 15 feet, and the fortifications included a stone tower at least 25 feet high. The area covered by the town increased. Round houses gave way to rectangular ones, entered through larger and more elaborately decorated wooden doorways. Houses were made of improved bricks and provided with plaster hearths and stone mills for grinding grain. They were also furnished with storage baskets and straw mats. Small buildings have been uncovered that were used as religious shrines during the later stages of the town’s history.

Although Jericho’s economy was based primarily on wheat and barley farming, there is considerable evidence of reliance on hunting and trade. Domesticated goats provided meat and milk, and gazelles and various marsh birds were hunted for their flesh, hides, and feathers. The town was close to large supplies of salt, sulfur, and pitch. These materials, which were in great demand during this era, were traded for obsidian, a dark, glasslike volcanic rock; semiprecious stones from Anatolia; turquoise from the Sinai; and cowrie shells from the Red Sea.

The ruins excavated at Jericho indicate that the town was governed by a distinct and powerful ruling group, which probably was allied to the keepers of the shrine centers. There were specialized artisans and a small merchant class. In addition to fertility figurines and animal carvings like those found at many other sites, the inhabitants of Jericho sculpted life-sized, highly naturalistic human figures and heads. These sculptures, which may have been used in ancestral cults, give us vivid impressions of the physical features of the people who enjoyed the wealth and security of Jericho.

Çatal Hüyük

The first community at Çatal Hüyük in southern Turkey was founded around 7000 B.C.E., somewhat later than the earliest settlements at Jericho. But the town that grew up at this site was a good deal more extensive than that at Jericho and it contained a larger and more diverse population. Çatal
Hüyük was the most advanced human center of the Neolithic Age. At the peak of its power and prosperity, the city occupied 32 acres and contained as many as 6000 people. Its rectangular buildings, which were centers of family life and community interaction, were remarkably uniform and were built of mud-dried bricks. They had windows high in their walls and were entered from holes in their flat roofs. These entryways also served as chimneys. The presence of stored food in early towns such as Çatal Hüyük made the houses tempting targets for nomadic bands or rival settlements. For that reason they were increasingly fortified and, as Figure 1.6 illustrates, often quite ingeniously.

The standardization of housing and construction at Çatal Hüyük suggests an even more imposing ruling group than that found at Jericho. The many religious shrines at the site also indicate the existence of a powerful priesthood. The shrines were built in the same way as ordinary houses, but they contained sanctuaries surrounded by four or five rooms related to the ceremonies of the shrine's cult. The walls of these religious centers were filled with paintings of bulls and carrion eaters, especially vultures, suggesting fertility cults and rites associated with death. The surviving statuary indicates that the chief deity of the Çatal Hüyük peoples was a goddess.

The obvious importance of the cult shrines and the elaborate burial practices of the peoples of Çatal Hüyük reveal the growing role of religion in the lives of Neolithic peoples. The carefully carved sculptures associated with the sanctuaries and the fine jewelry, mirrors, and weapons found buried with the dead attest to the high level of material culture and artistic proficiency of these town dwellers.

Excavations also reveal an economic base that was much broader and richer than that of Jericho. Hunting remained important, but the breeding of goats, sheep, and cattle vastly surpassed that associated with Jericho. Çatal Hüyük’s inhabitants consumed a wide range of foods, including several grains, peas, berries, berry wine, and vegetable oils made from nuts. Trade was extensive with the peoples in the surrounding hills and also in places as distant as present-day Syria and the Mediterranean region. Çatal Hüyük was also a major center of production by artisans. Its flint and obsidian weapons, jewelry, and obsidian mirrors were some of the finest produced in the Neolithic Age. The remains of the town’s culture leave little doubt that its inhabitants had achieved a civilized level of existence.

**Figure 1.6** This artist’s rendering depicts the ancient settlement at Çatal Hüyük, in what is now southern Turkey. Movement within the settlement was mainly across the roofs and terraces of the houses. Because each dwelling had a substantial storeroom for food, the settlement was often the target of attacks by outsiders. As the painting shows, the houses were joined together to provide protection from such attacks; when the outside entrances were barricaded, the complex was transformed into a fortress.
The Idea of Civilization in World Historical Perspective

The belief that there are fundamental differences between civilized and “barbaric” or “savage” peoples is very ancient and widespread. For thousands of years the Chinese set themselves off from cattle- and sheep-herding peoples of the vast plains to the north and west of China proper, whom they saw as barbarians. To the Chinese, being civilized was cultural, not biological or racial. If barbarians learned the Chinese language and adopted Chinese ways—from the clothes they wore to the food they ate—they were regarded as civilized.

A similar pattern of demarcation and cultural absorption was found among the American Indian peoples of present-day Mexico. Those who settled in the valleys of the mountainous interior, where they built great civilizations, lived in fear of invasions by peoples they regarded as barbarous and called Chichimecs, meaning “sons of the dog.” The latter were nomadic hunters and gatherers who periodically moved down from the desert regions of north Mexico into the fertile central valleys in search of game and settlements to pillage. The Aztecs were simply the last, and perhaps the most fierce, of a long line of Chichimec peoples who entered the valleys and conquered the urban-based empires that had developed there. But after the conquerors settled down, they adopted many of the religious beliefs and institutional patterns and much of the material culture of defeated peoples.

The word civilization is derived from the Latin word civilis, meaning “of the citizens.” The term was coined by the Romans. They used it to distinguish between themselves as citizens of a cosmopolitan, urban-based civilization and the “inferior” peoples who lived in the forests and deserts on the fringes of their Mediterranean empire. Centuries earlier, the Greeks, who had contributed much to the rise of Roman civilization, made a similar distinction between themselves and outsiders. Because the languages of the non-Greek peoples to the north of the Greek heartlands sounded like senseless babble to the Greeks, they lumped all the outsiders together as barbarians, which meant “those who cannot speak Greek.” As in the case of the Chinese and Aztecs, the boundaries between civilized and barbarian for the Greeks and Romans were cultural, not biological. Regardless of the color of one’s skin or the shape of one’s nose, it was possible for free people to become members of a Greek polis—city-state—or to become Roman citizens by adopting Greek or Roman customs and swearing allegiance to the polis or the emperor.

Until the 17th and 18th centuries C.E., the priority given to cultural attributes (e.g., language, dress, manners) as the means by which civilized peoples set themselves off from barbaric ones was rarely challenged. But in those centuries, two major changes occurred among thinkers in western Europe. First, efforts were made not only to define the differences between civilized and barbarian but to identify a series of stages in human development that ranged from the lowest savagery to the highest civilization. Peoples such as the Chinese and the Arabs, who had created great cities, monumental architecture, writing, advanced technology, and large empires, usually won a place along with the Europeans near the top of these ladders of human achievement. Nomadic, cattle- and sheep-herding peoples, such as the Mongols of central Asia, usually were classified as barbarians. Civilized and barbarian peoples were pitted against various sorts of savages. These ranged from the hunters and gatherers who inhabited much of North America and Australia to many peoples in Africa and Asia, whom the Europeans believed had not advanced beyond the most primitive stages of social and political development.

The second major shift in Western ideas about civilization began at the end of the 18th century but did not really take hold until a century later. In keeping with a growing emphasis in Euro-

The 4th Millennium B.C.E.: Another Watershed

The level of specialization and political organization that developed in early towns, such as Jericho and Çatal Hüyük, proved critical to the invention and dissemination of new tools and production techniques during the 4th millennium B.C.E. The years from 4000 to 3000 B.C.E. saw a second wave of major transformations in human culture in the Middle East and nearby regions. During this transition era, the use of the plow significantly increased crop yields, and wheeled vehicles made it possible to carry more food and other raw materials over greater distances. Both developments meant that even larger populations could be supported and concentrated in particular locales. Although copper had been used for spear and axe heads for millennia, accident and experiment revealed that when copper was mixed with other metals such as tin, it formed bronze, a harder and more durable material. The bronze tools that resulted further enhanced agricultural production and contributed to the development of larger and more lethal military forces. Like agriculture earlier, the new technologies—the wheel, the plow, bronze—began to spread in Afro-Eurasia in the centuries after 3500 B.C.E.
European thinking and social interaction on racial or biological differences, modes of human social organization and cultural expression were increasingly linked by historians and others to what were alleged to be the innate capacities of each human race. Although no one could agree on what a race was or how many races there were, most European writers argued that some races were more inventive, moral, courageous, and artistic—thus more capable of building civilizations—than others. Of course, white (or Caucasian) Europeans were considered by white European authors to be the most capable of all. The hierarchy from savage to civilized took on a color dimension, with white at the top, where the civilized peoples clustered, to yellow, red, brown, and black in descending order.

Some authors, including many prominent historians, sought to reserve all the attainments of civilization for whites, or peoples of European stock. As the evolutionary theories of thinkers such as Charles Darwin came into vogue in the late 1800s, race and level of cultural development were seen in the perspective of thousands of years of human change and adaptation rather than as being fixed in time. Nevertheless, this new perspective had little effect on the rankings of different human groups. Civilized whites were simply seen as having evolved much further than backward and barbaric peoples.

The perceived correspondence between race and level of development and the hardening of the boundaries between civilized and “inferior” peoples affected much more than intellectual discourse about the nature and history of human society. These beliefs were used to justify European imperialist expansion, which was seen as a “civilizing mission” aimed at uplifting barbaric and savage peoples across the globe. In the last half of the 19th century, virtually all non-Western peoples came to be dominated by the Europeans, who were confident that they, as representatives of the highest civilization ever created, were best equipped to govern lesser breeds of humans.

In the 21st century much of the intellectual baggage that once gave credibility to the racially embedded hierarchies of civilized and savage peoples has been discarded by most historians and other social scientists. A number of 20th-century developments, including the revolt of colonized peoples and the crimes committed by the Nazis before and during World War II in the name of racial purification, discredited racist thinking. In addition, these ideas have failed because racial supremacists cannot provide convincing proof of innate differences in mental and physical aptitude between various human groups. These trends, as well as research that has resulted in a much more sophisticated understanding of evolution, have led to the abandonment of rigid and self-serving 19th-century ideas about civilization. Historians in particular have increasingly adopted a less Eurocentric or culturally specific definition of civilization that encompasses varied cultures across the globe.

Perhaps the best way to avoid the tendency to define the term with reference to one’s own society is to view civilization as we do in this world history as one of several human approaches to social organization rather than attempting to identify specific kinds of cultural achievement (e.g., writing, cities, monumental architecture). All peoples, from small bands of hunters and gatherers to farmers and factory workers, live in societies. All societies produce cultures: combinations of the ideas, objects, and patterns of behavior that result from human social interaction. But not all societies and cultures generate the surplus production that permits the levels of specialization, scale, and complexity that distinguish civilizations from other modes of social organization. All peoples are intrinsically capable of building civilizations, but many have lacked the resource base, historical circumstances, or desire to do so.

QUESTIONS
Identify a society you consider civilized. What criteria did you use to determine that it was civilized? Can you apply those criteria to other societies? Can you think of societies that might not fit your criteria and yet be civilizations? Do the standards that you and others use reflect your own society’s norms and achievements rather than neutral, more universal criteria?

As metalworking improved further, better tools and weapons facilitated the rise of more centralized and expansive states. These radically new political units, which were usually centered on fortified towns and cities, greatly increased contacts between farming and nomadic peoples in everything from war and conquest to trade and religious expression. Merchant groups in farming societies also nurtured trading networks that provided perhaps the first enduring linkages between the urban centers of different states and civilizations.

New modes of transportation, state patronage and protection, and a growing inventory of products to exchange made it possible to extend these networks across continents in Afro-Eurasia. Cross-cultural exchanges became ever more complex and vital for the societies that participated in them. The development of writing, first in Mesopotamia and later in India, China, and other centers of agrarian production, greatly improved communications and exchange within both these commercial networks and regional state systems. Writing enhanced the power of the political elites, who directed efforts at imperial expansion. Writing also played a key role in the emergence of each of the transcultural religions that arose in the ancient and classical eras.
The innovative technologies and modes of agrarian production that were at the heart of the Neolithic Revolution became the basis for an unparalleled spread and increase of human societies, and made possible the cross-cultural connections and ongoing exchanges that are the focus of world history. Once these processes were in motion, only the most isolated of societies were immune to influences from the outside.

Global Connections

The Neolithic Revolution as the Basis for World History

The fundamental transformations in society and culture that we include in the Neolithic revolution were essential to the development of cross-cultural and interregional linkages between formerly dispersed and isolated human groups, and eventually to the rise of world history. The diffusion of agriculture from its initial locations, though gradual, shows how human contacts could spread new ideas and technologies. The spread of foodstuffs initially native to one area across various parts of Asia, Africa, and Europe was another facet of early connections among regions. Nomadic herding groups provided additional contacts, and some developments, like the domestication of dogs, spread both rapidly and widely. The development of sedentary agriculture meant that ever larger numbers of humans could be supported on much smaller amounts of land than was possible for either hunting-and-gathering or pastoral peoples. In the Neolithic transition, farming was also linked to the domestication of animals, such as cattle and sheep, which provided further staple foods for the human diet as well as materials for clothing and modes of transportation.

Pastoralism, which has proved the major alternative to sedentary agriculture through most of recorded history, was much more narrowly dependent on animal husbandry. As a consequence, it has been a good deal more constricted in the options it offered for human social and cultural development. In contrast to pastoralism or hunting and gathering, farming made it possible to concentrate growing numbers of humans in towns and later cities. Because agrarian societies could generate surplus food production, they could also support occupational specialization on the part of groups like full-time blacksmiths, traders, or potterymakers. Surpluses also facilitated the emergence of nonfarming elite groups, like priests or warriors, which governed ever larger and increasingly diverse concentrations of human populations.

Further Readings

World historians have been drawn to Ronald Wright’s A Short History of Progress (2004), which attempts to show how even the most recent of humanity’s struggles can be better understood by examining its origins and early history. Perhaps the fullest account of human prehistory available is Brian Fagan’s People of the Earth (1998), which includes an extensive bibliography on prehistoric developments in virtually all regions of the world. A considerable literature has developed in recent years on early humans and the critical Neolithic transformations. John Mears’s pamphlet on Agricultural Origins in Global Perspective (American Historical Association, 2000) provides a concise and authoritative survey of this process in key regions over much of the globe. For other broad overviews that trace the archeological and historical discoveries that made it possible for us to understand these critical processes in the shaping of human history, see Robert J. Wenke’s Patterns in Prehistory (1984) and C. Wesley Cowan and Patty Jo Watson, eds., The Origins of Agriculture: An International Perspective (1992).

For a clear discussion of debates on the Neolithic revolution and references to major authors and works, see Stephen K. Sanderson, Social Transformations (1995). Several of these works are of special relevance, despite their sometimes technical language and details, especially Donald O. Henry’s From Foraging to Agriculture (1989), Douglas Price and James A. Brown, eds., Prehistoric Hunter-Gatherers: The Emergence of Cultural Complexity (1986), and Allen W. Johnson and Timothy Earle, The Evolution of Human Societies: From Foraging to Agriculture (1987).

For the origins of agriculture in the often neglected Americas, see Stuart J. Fiedel, Prehistory of the Americas (1992). M. C. and H. B. Quennell’s Everyday Life in the New Stone, Bronze, and Early Iron Ages (1955) is difficult to top for an imaginative reconstruction of life in the Neolithic Age, although some of it is now dated. The most reliable treatment of technology in this era can be found in volume 1 of C. Singer et al., A History of Technology (1954). The most readable introduction to the earliest towns is in James Mel-laratt’s Earliest Civilizations of the Near East (1965) and The Neolithic of the Near East (1975).

On the Web

A virtual tour revealing the social life of early humans in the Americas, including weaving and tool making, can be taken at http://pecosrio.com/. The dramatic findings at Olduvai Gorge made by the Leakey family that revolutionized knowledge about human prehistory and the continuing debate over human origins can be viewed at http://www.talkorigins.org/. An “interactive documentary experience” addressing human development is presented at http://www.becominghuman.org. Surveys of the debate over the origins of human beings can be found at http://www.talkorigins.org/. A Quick-Time file lets the viewer manipulate images of early
hominid skulls while providing information with each view (http://anthropology.si.edu/humanorigins/ha/qt/qtvr.html).

The Smithsonian Institution has developed a comprehensive site examining human origins (http://anthropology.si.edu/humanorigins/index.htm) that includes human phylogenetic tree, an eye-opening graphic that depicts the evolutionary relationships, that is set against a timescale of human development. See http://anthropology.si.edu/humanorigins/ha/a_tree.html. How cooking technology (including earth ovens or hearths) advanced and diet changed among early humans after the disappearance of the woolly mammoth is discussed at several related sites, including http://anthropology.tamu.edu/faculty/directory.php?ID=230&LOC=2 (click on first PDF listed), http://www.channel4.com/history/microsites/T/timeteam/snapshot_cooking.html, http://www.latimes.com/news/science/la-sci-earlyfoods27-2008dec27,0,6385869.story, and http://sci.tech-archive.net/Archive/sci.archaeology/2008-12/msg00319.html. The earth oven similar to that employed by early humans is still used today across the globe (see http://en.wikipedia.org/wiki/Earth_oven), including in Hawai'i, where it is known as an Umu (see http://www.hawaiiforvisitors.com/about/umu.htm).

A virtual walk through an exhibit on human prehistory at http://users.hol.gr/~dilos/prehis/prerm5.htm also includes a discussion of the views of Darwin and others on human evolution, a gallery of art and artifacts, and an artist’s reconstruction of Çatal Hüyük. Surveys of the debate over the origins of human beings can be found at http://www.talkorigins.org/. A Quick-Time file lets the viewer manipulate images of early hominid skulls while providing information with each view (http://anthropology.si.edu/humanorigins/ha/qt/qtvr.html). Views of Chauvet, a site rich in cave paintings, can be found at http://www.culture.gouv.fr/culture/arcnat/chauvet/en/. The diaries of archeologists working at Çatal Hüyük, recent photographs of the site and further links are among the many features of the official Çatal Hüyük Web page at http://www.catalhoyuk.com/. Daily life at the Neolithic site at Skara Brae in the Orkney Islands in Scotland is explored at http://www.orkneyjar.com/history/skarabrae/skarab2.htm.