1 From Human Prehistory to the Early Civilizations

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, as shown here, 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 nearby. 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 was accompanied by major changes in the roles and relationships between men and women and patterns of childrearing. They also led

Figure 1.1 Crouching against a wall to shelter the first sparks from wind, a Neolithic woman spins a dried yucca stalk against a much-used fire-starter to generate heat that will kindle a fire on the dried plant material she has placed under the fire-starting stick.

to increasing social stratification, new forms of political organization, increasingly elaborate means of artistic expression, and more lethal ways of waging war, During these 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.

Human Life in the Era of Hunters and Gatherers

Hunting and gathering economies dominated human history until 9000 B.C.E. These economies helped propel migration over most of the lands on earth.

The human species has accomplished a great deal in a relatively short period of time. There are significant disagreements over how long an essentially human species, as distinct from other primates, has existed. However, a figure of 2 or 2.5 million years seems acceptable. This is approximately 1/4000 of the time the earth has existed. That is, if one thinks of the whole history of the earth to date as a 24-hour day, the human species began at about 5 minutes before midnight. Human beings have existed for less than 5 percent of the time mammals of any sort have lived. Yet in this brief span of time—by earth-history standards—humankind has spread to every landmass (with the exception of the polar regions) and, for better or worse, has taken control of the destinies of countless other species.

To be sure, human beings have some drawbacks as a species, compared to other existing models. They are unusually aggressive against their own kind: While some of the great apes, notably chimpanzees, engage in periodic wars, these conflicts can hardly rival human violence. Human babies are dependent for a long period, which requires some special child-care arrangements and often has limited the activities of many adult women. Certain ailments, such as back problems resulting from an upright stature, also burden the species. And, insofar as we know, the human species is alone in its awareness of the inevitability of death—a knowledge that imparts some unique fears and tensions.

Transition Phase			Neolithic Age		Metal Age	
2.5 Million B.C.E.	30,000 B.C.E.	10,000 B.C.E.	6000 B.C.E.	4000 B.C.E.	3000 B.C.E.	2000 B.C.E.
2.5 million Emergence of more humanlike species, initially in eastern Africa 750,000 Further development of human species into *Homo erectus* 600,000 Wide spread of human species across Asia, Europe, Africa; development of fire use 240,000–100,000 Apparent completion of basic human evolution; migrations from Africa begin; *Homo sapiens sapiens* displaces other human species	25,000 Migration of people from Siberia to tip of South America 14,000 End of great ice age 12,000 Fashioning of stone tools; end of Paleolithic (Old Stone) Age	10,000–8000 Development of farming in the Middle East 9000 Domestication of sheep, pigs, goats, cattle 8000 Transition of agriculture; introduction of silk weaving in China	6000 First potter's wheel 5500 Çatal Hüyük at its peak 5000 Domestication of maize (corn) in Mesoamerica	4000 Yangshao culture in China 4000–3000 Age of innovation in the Middle East: introduction of writing, bronze metalwork, wheel, plow 3500–1800 Civilization of Sumer; cuneiform alphabet 3100 Rise of Egyptian civilization	2500 Emergence of Harappan (Indus) civilization	2000 Kotosh culture in Peru 2000 Conversion to agriculture in northern Europe, southern Africa 1500 Emergence of Shang kingdom in China; writing develops 1500 First ironwork in the Middle East 1200 Jews settle near the Mediterranean; first monotheistic religion 1122 Western Zhou kings

Distinctive features of the human species account for considerable achievement as well. Like other primates, but unlike most other mammals, people can manipulate objects fairly readily because of the grip provided by an opposable thumb on each hand. Compared to other primates, human beings have a relatively high and regular sexual drive, which aids reproduction. Being omnivores, they are not dependent exclusively on plants or animals for food, which helps explain why they can live in so many different climates and settings. The unusual variety of their facial expressions aids communication and enhances social life. The distinctive human brain and a facility for elaborate speech are even more important: much of human history depends on the knowledge, inventions, and social contracts that resulted from these assets. Features of this sort explain why many human cultures, including the Western culture that many Americans share, promote a firm separation between human and animal, seeing in our own species a power and rationality, and possibly a spark of the divine, that "lower" creatures lack.

Although the rise of humankind has been impressively rapid, its early stages can also be viewed as painfully long and slow. Most of the two million plus years during which our species has existed are described by the term **Paleolithic (Old Stone) Age.** Throughout this long time span, which runs until about 14,000 years ago, human beings learned only simple tool use, mainly through employing suitably shaped rocks and sticks for hunting and warfare. Fire was tamed about 750,000 years ago. The nature of the species also gradually changed during the Paleolithic, with emphasis on more erect stature and growing brain capacity. Archeological evidence, remnants of tools from early settlements, also indicates some increases in average size. A less apelike species, whose larger brain and erect stance allowed better tool use, emerged between 500,000 and 750,000 years ago; it is called, appropriately enough, *Homo erectus.* Several species of *Homo erectus* developed and spread in Africa, then to Asia and Europe, reaching a population size of perhaps 1.5 million 100,000 years ago.

Paleolithic Age The Old Stone Age ending in 12,000 B.C.E.; typified by use of crude stone tools and hunting and gathering for subsistence.

Late Paleolithic Developments

Considerable evidence suggests that more advanced types of humans killed off or displaced many competitors over time, which explains why there is only one basic human type throughout the world today, rather than a number of rather similar human species, as among monkeys and apes. There was also a certain amount of intermarriage. The newest human breed, ***Homo sapiens sapiens,*** of which all humans in the world today are descendants, originated about 240,000 years ago, also in Africa. The success of this subspecies means that no major changes in the basic human physique or brain size have occurred since its advent.

Homo sapiens The humanoid species that emerged as most successful at the end of the Paleolithic period.

The Toolmaker

Even after the appearance of *Homo sapiens sapiens,* human life faced important constraints. People who hunted food and gathered nuts and berries could not support large numbers or elaborate societies. Most hunting groups were small, and they had to roam widely for food. Two people required at least one square mile for survival. Population growth was slow, partly because women breast-fed infants for several years to limit their own fertility. On the other hand, people did not have to work very hard—hunting took about seven hours every three days on average. Women, who gathered fruits and vegetables, worked harder, but there was significant equality between the sexes based on common economic contributions.

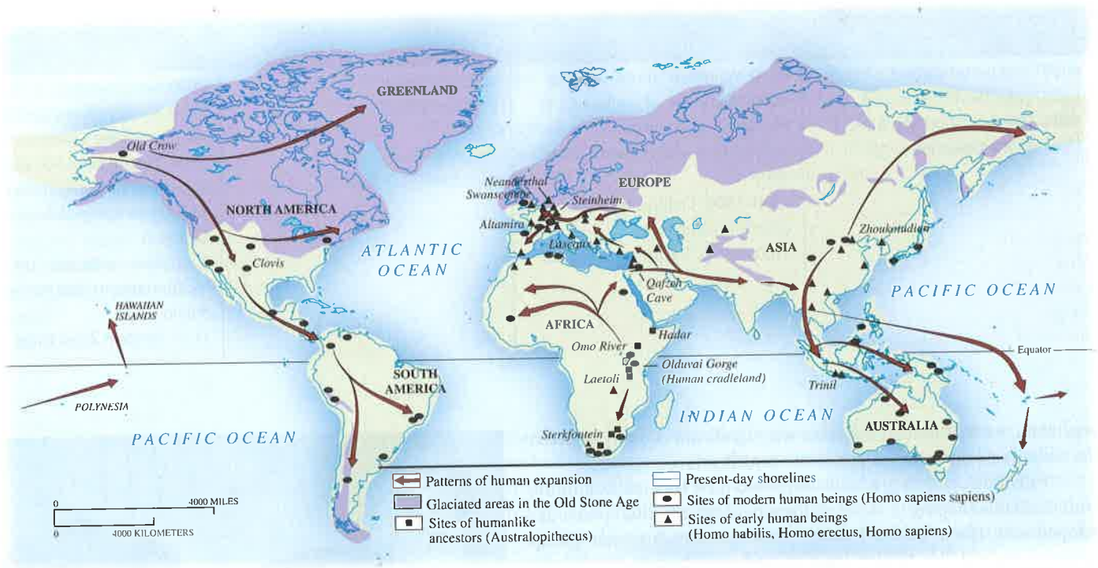
Paleolithic people gradually improved their tool use, beginning with the crude shaping of stone and wooden implements. Speech developed with *Homo erectus* 100,000 years ago, allowing more group cooperation and the transmission of technical knowledge. By the later Paleolithic period, people had developed rituals to lessen the fear of death and created cave paintings to express a sense of nature's beauty and power (Figure 1.2). Goddesses often played a prominent role in the religious pantheon. Thus, the human species came to develop cultures—that is, systems of belief that helped explain the environment and set up rules for various kinds of social behavior. The development of speech provided rich language and symbols for the transmission of culture and its growing sophistication. At the same time, different groups of humans, in different locations, developed quite varied belief systems and corresponding languages.

Figure 1.2 In Lascaux, France, in 1940, four boys happened upon a long-hidden cave filled with thousands of complex and beautiful Stone Age paintings like this one. Most of the paintings are of animals, some of which were extinct by the time they were painted. No one knows for sure why Stone Age artists painted these pictures, but they remain a powerful reminder of the sophistication of so-called primitive peoples.

The greatest achievement of Paleolithic people was the sheer spread of the human species over much of the earth's surface. The species originated in eastern Africa; most of the earliest types of human remains come from this region, in the present-day countries of Tanzania, Kenya, and Uganda. But gradual migration, doubtless caused by the need to find scarce food, steadily pushed the human reach to other areas. Key discoveries, notably fire and the use of animal skins for clothing—both of which enabled people to live in colder climates—facilitated the spread of Paleolithic groups. The first people moved out of Africa about 750,000 years ago. Human remains (Peking man, Java man) dating from 600,000 and 350,000 years ago have been found in China and southeast Asia, respectively. Humans inhabited Britain 250,000 years ago. They first crossed to Australia 60,000 years ago, followed by another group 20,000 years later; these combined to form the continent's aboriginal population. Dates of the migration from Asia to the Americas are under debate. Most scholars now believe that humans crossed what was then a land bridge from Siberia to Alaska about 30,000 years ago, with several subsequent migration waves until warmer climates and rising ocean levels eliminated the land bridge by 8000 B.C.E.*

The Spread of Human Populations

* In Christian societies, historical dating divides between years "before the birth of Christ" (B.C.) and after (A.D., *anno Domini,* or "year of our Lord"). This system came into wide acceptance in Europe in the 18th century, as formal historical consciousness increased (although ironically, 1 A.D. is a few years late for Jesus' actual birth). China, Islam, Judaism, and many other societies use different dating systems, referring to their own history. This text, like many recent world history materials, uses the Christian chronology (one has to choose some system) but changes the terms to B.C.E. ("before the common era") and C.E. ("of the common era") as a gesture to less Christian-centric labeling.



Map 1.1 The Spread of Human Populations, c. 10,000 B.C.E. As the map indicates, *Homo sapiens sapiens* first emerged in a single core area in east Africa and then migrated over long periods of time north to the Mediterranean and Europe, east to Asia, and then ultimately across the seas to the Americas and Oceania.

Many of the new arrivals quickly spread out, reaching the tip of the South American continent possibly within a mere thousand years. Settlers from China reached Taiwan, the Philippines, and Indonesia 4500 to 3500 years ago.

In addition, soon after this time—roughly 14,000 years ago—the last great ice age ended, which did wonders for living conditions over much of the Northern Hemisphere. Human development began to accelerate. In the Mesolithic (Middle Stone) Age, a span of several thousand years, from about 12,000 to 8000 B.C.E., human ability to fashion stone tools and other implements improved greatly. People learned to sharpen and shape stone, to make better weapons and cutting edges. Animal bones were used to make needles and other precise tools. People built log rafts and dugouts, which improved fishing, and manufactured pots and baskets for food storage. Mesolithic people domesticated more animals, such as cows, which again improved food supply. Population growth accelerated, which also resulted in more conflicts and wars. Skeletons from this period show frequent bone breaks and skull fractures caused by weapons.

In time, better tool use, somewhat more elaborate social organization, and still more population pressure led people in many parts of the world to the final Stone Age—the **Neolithic (New Stone) Age** (Map 1.1). From Neolithic people, in turn, came several more dramatic developments that changed the nature of human existence—the invention of agriculture, the creation of cities, and other foreshadowings of civilization, which ended the Stone Age altogether throughout much of the world.

eolithic Age The New Stone Age between 8000 nd 5000 B.C.E.; period in which adaptation of edentary agriculture occurred; domestication of lants and animals accomplished.

The Neolithic Revolution

The Neolithic revolution centered on the development of agriculture.

Agriculture generated a variety of important changes in human cultures. Human achievements during the various ages of stone are both fascinating and fundamental, and some points are hotly debated. Our knowledge of Stone Age society is of course limited, although archeologists have been creative in their interpretations of tool remains and other evidence, such as cave paintings and burial sites, that Stone Age people produced in various parts of the world. What people accomplished during this long period of prehistory remains essential to human life today; our ability to make and manipulate tools thus depends directly on what our Stone Age ancestors learned about physical matter.

However, it was the invention of agriculture that most clearly moved the human species toward more elaborate social and cultural patterns of the sort that people today would find recognizable. With agriculture, human beings were able to settle in one spot and focus on particular economic, political, and religious goals and activities. Agriculture also spawned a great increase in the sheer number of people in the world—from about 6 to 8 million across the earth's surface during early Neolithic times, to about 100 million some 3000 years later.

The Spread of Agriculture MAP

The initial development of agriculture—that is, the deliberate planting of grains for later harvest—was probably triggered by two results of the ice age's end. First, population increases, stemming from improved climate, prompted people to search for new and more reliable sources of food. Second, the end of the ice age saw the retreat of certain big game animals, such as mastodons. Human hunters had to turn to smaller game, such as deer and wild boar, in many forested areas. Hunting's overall yield declined. Here was the basis for new interest in other sources of food. There is evidence that by 9000 B.C.E., in certain parts of the world, people were becoming increasingly dependent on regular harvests of wild grains, berries, and nuts. This undoubtedly set the stage for the deliberate planting of seeds (probably accidental to begin with) and the improvement of key grains through the selection of seeds from the best plants.

As farming evolved, new animals were also domesticated. Particularly in the Middle East and parts of Asia, by 9000 B.C.E. pigs, sheep, goats, and cattle were being raised. Farmers used these animals for meat and skins and soon discovered dairying as well. These results not only contributed to the development of agriculture but also served as the basis for nomadic herding societies.

The Geography of Early Agriculture

Farming was initially developed in the Middle East, in an arc of territory running from present-day Turkey to Iraq and Israel. This was a very fertile area, more fertile in those days than at present. Grains such as barley and wild wheat were abundant. At the same time, this area was not heavily forested, and animals were in short supply, presenting a challenge to hunters. In the Middle East, the development of agriculture may have begun as early as 10,000 B.C.E., and it gained ground rapidly after 8000 B.C.E. Gradually during the Neolithic centuries, knowledge of agriculture spread to other centers, including parts of India, north Africa, and Europe. Agriculture also developed independently; for example, with the rise of rice cultivation in southeast Asia, from which it spread to China. Thus, within a few thousand years agriculture had spread to the parts of the world that would produce the first human civilizations (Map 1.2). We will see that agriculture spread later to much of Africa south of the Mediterranean coast, reaching west Africa by 2000 B.C.E., although here too there were additional developments with an emphasis on local grains and also root crops such as yams. Agriculture had to be invented separately in the Americas, based on corn cultivation, where it was also a slightly later development (about 5000 B.C.E.).

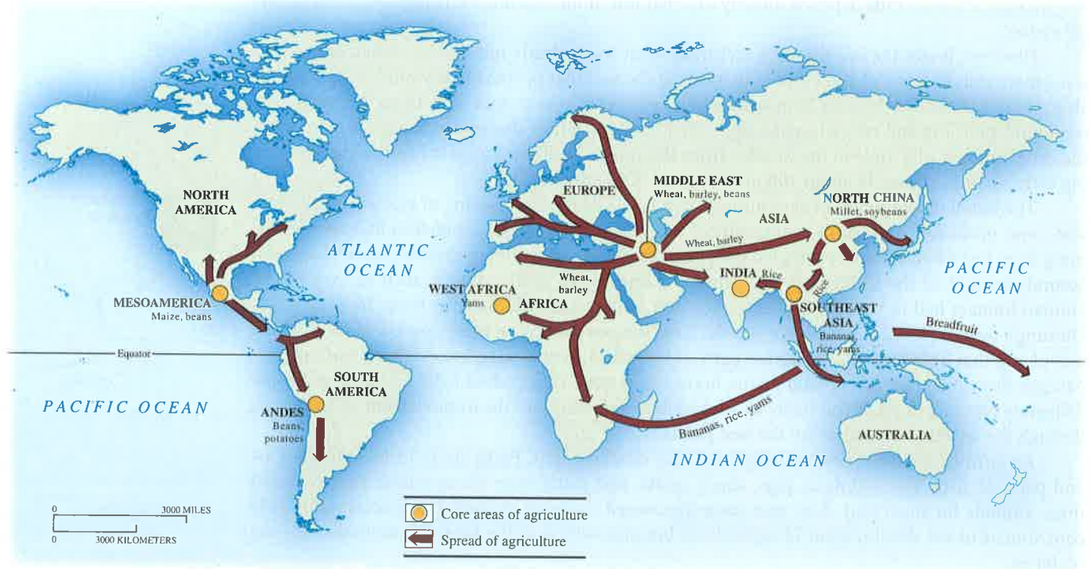
Many scholars have termed the development of agriculture a **Neolithic revolution.** The term is obviously misleading in one sense: agriculture was no sudden transformation, even in the Middle East where the new system had its roots. Learning the new agricultural methods was difficult, and many peoples long combined a bit of agriculture with considerable reliance on the older systems of **hunting and gathering.** A "revolution" that took over a thousand years, and then several thousand more to spread to key population centers in Asia, Europe, and Africa, is hardly dramatic by modern standards.

Neolithic revolution The succession of technological innovations and changes in human organization that led to the development of agriculture, 8500–3500 B.C.E.

hunting and gathering The original human economy, ultimately eclipsed by agriculture; groups hunt for meat and forage for grains, nuts, and berries.

Patterns of Change

The concept of revolution is, however, appropriate in demonstrating the magnitude of change involved. Early agriculture could support far more people per square mile than hunting ever could; it also allowed people to settle more permanently in one area. The system was nonetheless not easy. Agriculture required more regular work, at least of men, than hunting did. Hunting groups today, such as the pygmies of the Kalahari Desert in southwest Africa, work an average of 2.5 hours a day, alternating long, intense hunts with periods of idleness. As much as agriculture was demanding, it



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.

was also rewarding. Agriculture supported larger populations, and with better food supplies and a more settled existence, agricultural peoples could afford to build houses and villages. Domesticated animals provided not only hides but also wool for more varied clothing.

We know next to nothing of the debates that must have raged when people were first confronted with agriculture, but it is not hard to imagine that many would have found the new life too complicated, too difficult, or too unexciting. Most evidence suggests that gathering-and-hunting peoples resisted agriculture as long as they could. Gradually, of course, agriculture did gain ground. Its success was hard to deny. And as farmers cleared new land from forests, they automatically drove out or converted many hunters. Disease played a role: settled agricultural societies suffered from more contagious diseases because of denser population concentrations. Hunting-and-gathering peoples lacked resistance and often died when agriculturists who had developed immunity to these diseases carried them into their areas.

Not all the peoples of the world came to embrace the slowly spreading wave of agriculture, at least not until very recently. Important small societies in southern Africa, Australia, the islands of southeast Asia, and even northern Japan were isolated for so long that news of this economic system simply did not reach them. The light-skinned hunting tribes of northern Japan flourished until about a hundred years ago. Northern Europeans and southern Africans converted to agriculture earlier, about 2000 years ago, but well after the Neolithic revolution had transformed other parts of their continents. Agriculture was initiated in the Americas as early as 5000 B.C.E. and developed vigorously in Central America and the northern part of South America. However, most Indian tribes in North America continued a hunting-and-gathering existence, sometimes combined with limited agriculture, until recent centuries. Finally, the peoples of the vast plains of central Asia long resisted a complete conversion to agriculture, in part because of a harsh climate; herding, rather than grain-growing, became the basic socioeconomic system of this part of the world. From this area would come waves of tough, nomadic invaders whose role in linking major civilizations was a vital force in world history until a few centuries ago.

Further Technological Change

Development possibilities among people who became agriculturists were more obvious than those among smaller populations who resisted or simply did not know of the system. Agriculture set the basis for more rapid change in human societies. Greater wealth and larger populations freed some people for other specializations, from which new ideas or techniques might spring. Agriculture itself depended on control over nature that could be facilitated by newly developed techniques and objects. For example, during the Neolithic period, farming people needed storage facilities for grains and seeds, which promoted the development of basket-making and pottery. The first potter's wheel came into existence around 6000 B.C.E., and this, in turn, encouraged faster and higher-quality pottery production. Agricultural needs also encouraged certain kinds of science, supporting the human inclination to learn more about weather or flooding.

Much of what we think of as human history involves the doings of agricultural societies—societies, that is, in which most people are farmers and in which the production of food is the central economic activity. Nonagricultural groups, like the nomadic herders in central Asia, made their own mark, but their greatest influence usually occurred in interactions with agricultural peoples. Many societies remain largely agricultural today. The huge time span we have thus far considered, including the Neolithic revolution itself, is all technically "prehistorical"—involved with human patterns before the invention of writing allowed the kinds of recordkeeping historians prefer. In fact, since we now know how to use surviving tools and burial sites as records, the prehistoric–historic distinction means less than it once did. The preagricultural–agricultural distinction is more central. Fairly soon after the development of agriculture—although not, admittedly, right away—significant human change began to occur in decades and centuries, rather than in the sizeable blocks of time, several thousand years or more, that describe preagricultural peoples.

Indeed, one basic change took place fairly soon after the introduction of agriculture, and, again, societies in the Middle East served as its birthplace. The discovery of metal tools dates back to about 4000 B.C.E. Copper was the first metal with which people learned how to work, although a more resilient metal, bronze, soon entered the picture. In fact, the next basic age of human existence was the **Bronze Age.** By about 3000 B.C.E., metalworking had become so commonplace in the Middle East that the use of stone tools dissipated, and the long stone ages were over at last—although, of course, an essentially Neolithic technology persisted in many parts of the world, even among some agricultural peoples.

Bronze Age From about 4000 B.C.E., when bronze tools were first introduced in the Middle East, to about 1500 B.C.E., when iron began to replace it.

Metalworking was extremely useful to agricultural or herding societies. Metal hoes and other tools allowed farmers to work the ground more efficiently. Metal weapons were obviously superior to those made from stone and wood. Agricultural peoples had the resources to free up a small number of individuals as toolmakers, who would specialize in this activity and exchange their products with farmers for food. Specialization of this sort did not, however, guarantee rapid rates of invention; indeed, many specialized artisans seemed very conservative, eager to preserve methods that had been inherited. But specialization did improve the conditions or climate for discovery, and the invention of metalworking was a key result. Like agriculture, knowledge of metals gradually fanned out to other parts of Asia and to Africa and Europe.

Gradually, the knowledge of metal tools created further change, for not only farmers but also manufacturing artisans benefited from better tools. Woodworking, for example, became steadily more elaborate as metal replaced stone, bone, and fire in the cutting and connecting of wood. We are still living in the metal ages today, although we rely primarily on iron—whose working was introduced around 1500 B.C.E. by herding peoples who invaded the Middle East—rather than copper and bronze.

Civilization

The emergence of civilization occurred in many though not all agricultural societies.

Agriculture encouraged the formation of larger as well as more stable human communities than had existed before Neolithic times. A few Mesolithic groups had formed villages, particularly where opportunities for fishing were good, as around some of the lakes in Switzerland. However, most

Early civilizations formed in Mesopotamia, Egypt, the Indus River basin, and China.

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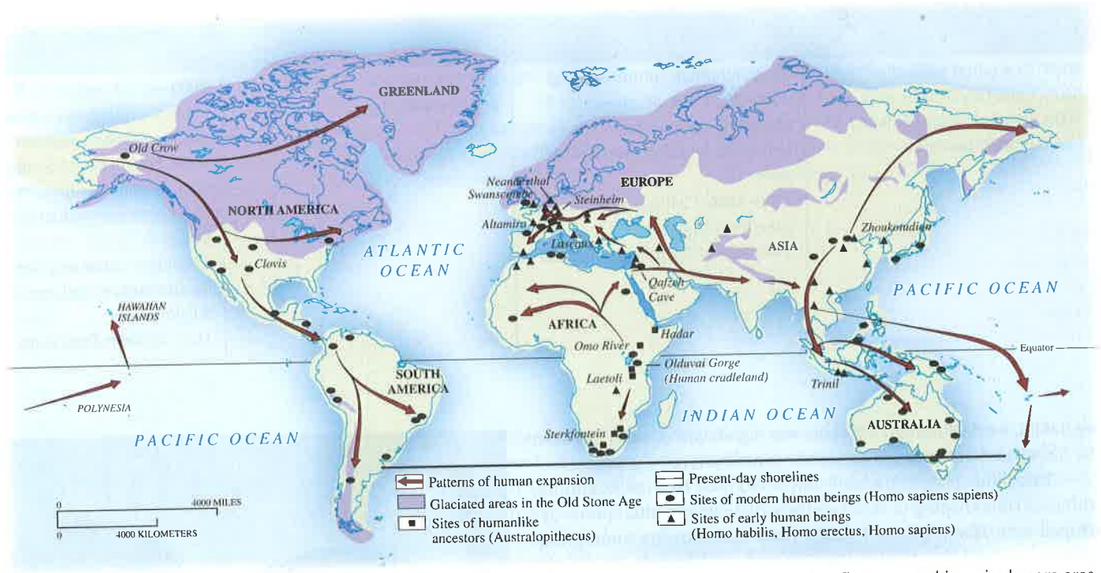
Paleolithic people gradually improved their tool use, beginning with the crude shaping of stone and wooden implements. Speech developed with *Homo erectus* 100,000 years ago, allowing more group cooperation and the transmission of technical knowledge. By the later Paleolithic period, people had developed rituals to lessen the fear of death and created cave paintings to express a sense of nature's beauty and power (Figure 1.2). Goddesses often played a prominent role in the religious pantheon. Thus, the human species came to develop cultures—that is, systems of belief that helped explain the environment and set up rules for various kinds of social behavior. The development of speech provided rich language and symbols for the transmission of culture and its growing sophistication. At the same time, different groups of humans, in different locations, developed quite varied belief systems and corresponding languages.

Figure 1.2 In Lascaux, France, in 1940, four boys happened upon a long-hidden cave filled with thousands of complex and beautiful Stone Age paintings like this one. Most of the paintings are of animals, some of which were extinct by the time they were painted. No one knows for sure why Stone Age artists painted these pictures, but they remain a powerful reminder of the sophistication of so-called primitive peoples.

The greatest achievement of Paleolithic people was the sheer spread of the human species over much of the earth's surface. The species originated in eastern Africa; most of the earliest types of human remains come from this region, in the present-day countries of Tanzania, Kenya, and Uganda. But gradual migration, doubtless caused by the need to find scarce food, steadily pushed the human reach to other areas. Key discoveries, notably fire and the use of animal skins for clothing—both of which enabled people to live in colder climates—facilitated the spread of Paleolithic groups. The first people moved out of Africa about 750,000 years ago. Human remains (Peking man, Java man) dating from 600,000 and 350,000 years ago have been found in China and southeast Asia, respectively. Humans inhabited Britain 250,000 years ago. They first crossed to Australia 60,000 years ago, followed by another group 20,000 years later; these combined to form the continent's aboriginal population. Dates of the migration from Asia to the Americas are under debate. Most scholars now believe that humans crossed what was then a land bridge from Siberia to Alaska about 30,000 years ago, with several subsequent migration waves until warmer climates and rising ocean levels eliminated the land bridge by 8000 B.C.E.*

The Spread of Human Populations

* In Christian societies, historical dating divides between years "before the birth of Christ" (B.C.) and after (A.D., *anno Domini,* or "year of our Lord"). This system came into wide acceptance in Europe in the 18th century, as formal historical consciousness increased (although ironically, 1 A.D. is a few years late for Jesus' actual birth). China, Islam, Judaism, and many other societies use different dating systems, referring to their own history. This text, like many recent world history materials, uses the Christian chronology (one has to choose some system) but changes the terms to B.C.E. ("before the common era") and C.E. ("of the common era") as a gesture to less Christian-centric labeling.



Map 1.1 The Spread of Human Populations, c. 10,000 B.C.E. As the map indicates, *Homo sapiens sapiens* first emerged in a single core area in east Africa and then migrated over long periods of time north to the Mediterranean and Europe, east to Asia, and then ultimately across the seas to the Americas and Oceania.

Many of the new arrivals quickly spread out, reaching the tip of the South American continent possibly within a mere thousand years. Settlers from China reached Taiwan, the Philippines, and Indonesia 4500 to 3500 years ago.

In addition, soon after this time—roughly 14,000 years ago—the last great ice age ended, which did wonders for living conditions over much of the Northern Hemisphere. Human development began to accelerate. In the Mesolithic (Middle Stone) Age, a span of several thousand years, from about 12,000 to 8000 B.C.E., human ability to fashion stone tools and other implements improved greatly. People learned to sharpen and shape stone, to make better weapons and cutting edges. Animal bones were used to make needles and other precise tools. People built log rafts and dugouts, which improved fishing, and manufactured pots and baskets for food storage. Mesolithic people domesticated more animals, such as cows, which again improved food supply. Population growth accelerated, which also resulted in more conflicts and wars. Skeletons from this period show frequent bone breaks and skull fractures caused by weapons.

In time, better tool use, somewhat more elaborate social organization, and still more population pressure led people in many parts of the world to the final Stone Age—the **Neolithic (New Stone) Age** (Map 1.1). From Neolithic people, in turn, came several more dramatic developments that changed the nature of human existence—the invention of agriculture, the creation of cities, and other foreshadowings of civilization, which ended the Stone Age altogether throughout much of the world.

Neolithic Age The New Stone Age between 8000 and 5000 B.C.E.; period in which adaptation of sedentary agriculture occurred; domestication of plants and animals accomplished.

The Neolithic Revolution

Agriculture generated a variety of important changes in human cultures. Human achievements during the various ages of stone are both fascinating and fundamental, and some points are hotly debated. Our knowledge of Stone Age society is of course limited, although archeologists have been creative in their interpretations of tool remains and other evidence, such as cave paintings and burial sites, that Stone Age people produced in various parts of the world. What people accomplished during this long period of prehistory remains essential to human life today; our ability to make

The Neolithic revolution centered on the development of agriculture.

and manipulate tools thus depends directly on what our Stone Age ancestors learned about physical matter.

However, it was the invention of agriculture that most clearly moved the human species toward more elaborate social and cultural patterns of the sort that people today would find recognizable. With agriculture, human beings were able to settle in one spot and focus on particular economic, political, and religious goals and activities. Agriculture also spawned a great increase in the sheer number of people in the world—from about 6 to 8 million across the earth's surface during early Neolithic times, to about 100 million some 3000 years later.

The initial development of agriculture—that is, the deliberate planting of grains for later harvest—was probably triggered by two results of the ice age's end. First, population increases, stemming from improved climate, prompted people to search for new and more reliable sources of food. Second, the end of the ice age saw the retreat of certain big game animals, such as mastodons. Human hunters had to turn to smaller game, such as deer and wild boar, in many forested areas. Hunting's overall yield declined. Here was the basis for new interest in other sources of food. There is evidence that by 9000 B.C.E., in certain parts of the world, people were becoming increasingly dependent on regular harvests of wild grains, berries, and nuts. This undoubtedly set the stage for the deliberate planting of seeds (probably accidental to begin with) and the improvement of key grains through the selection of seeds from the best plants.

As farming evolved, new animals were also domesticated. Particularly in the Middle East and parts of Asia, by 9000 B.C.E. pigs, sheep, goats, and cattle were being raised. Farmers used these animals for meat and skins and soon discovered dairying as well. These results not only contributed to the development of agriculture but also served as the basis for nomadic herding societies.

The Spread of Agriculture

The Geography of Early Agriculture

Farming was initially developed in the Middle East, in an arc of territory running from present-day Turkey to Iraq and Israel. This was a very fertile area, more fertile in those days than at present. Grains such as barley and wild wheat were abundant. At the same time, this area was not heavily forested, and animals were in short supply, presenting a challenge to hunters. In the Middle East, the development of agriculture may have begun as early as 10,000 B.C.E., and it gained ground rapidly after 8000 B.C.E. Gradually during the Neolithic centuries, knowledge of agriculture spread to other centers, including parts of India, north Africa, and Europe. Agriculture also developed independently; for example, with the rise of rice cultivation in southeast Asia, from which it spread to China. Thus, within a few thousand years agriculture had spread to the parts of the world that would produce the first human civilizations (Map 1.2). We will see that agriculture spread later to much of Africa south of the Mediterranean coast, reaching west Africa by 2000 B.C.E., although here too there were additional developments with an emphasis on local grains and also root crops such as yams. Agriculture had to be invented separately in the Americas, based on corn cultivation, where it was also a slightly later development (about 5000 B.C.E.).

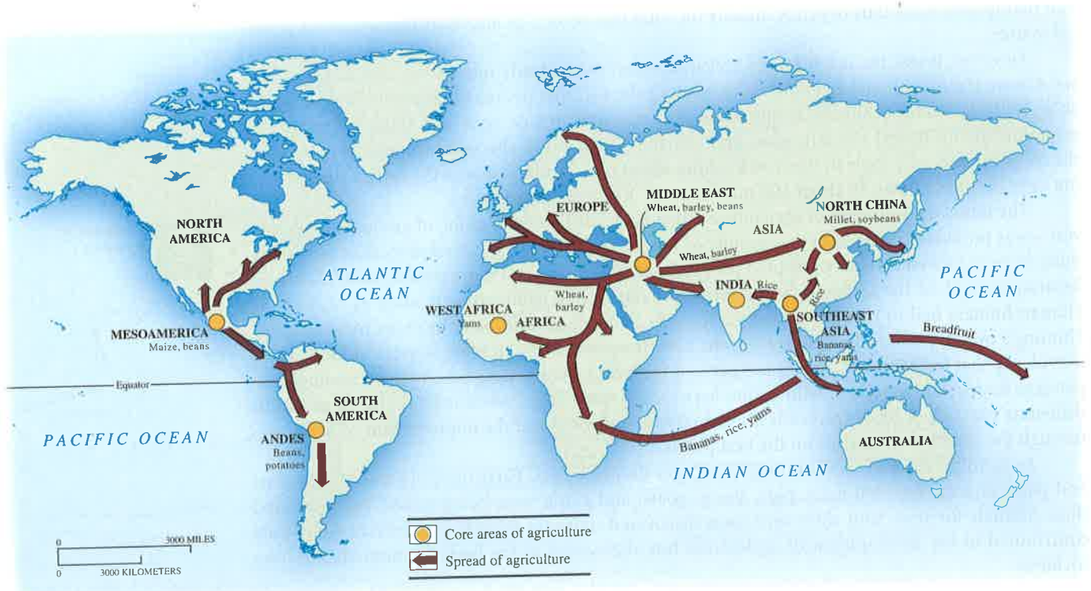
Many scholars have termed the development of agriculture a **Neolithic revolution.** The term is obviously misleading in one sense: agriculture was no sudden transformation, even in the Middle East where the new system had its roots. Learning the new agricultural methods was difficult, and many peoples long combined a bit of agriculture with considerable reliance on the older systems of **hunting and gathering.** A "revolution" that took over a thousand years, and then several thousand more to spread to key population centers in Asia, Europe, and Africa, is hardly dramatic by modern standards.

Neolithic revolution The succession of technological innovations and changes in human organization that led to the development of agriculture, 8500–3500 B.C.E.

hunting and gathering The original human economy, ultimately eclipsed by agriculture; groups hunt for meat and forage for grains, nuts, and berries.

Patterns of Change

The concept of revolution is, however, appropriate in demonstrating the magnitude of change involved. Early agriculture could support far more people per square mile than hunting ever could; it also allowed people to settle more permanently in one area. The system was nonetheless not easy. Agriculture required more regular work, at least of men, than hunting did. Hunting groups today, such as the pygmies of the Kalahari Desert in southwest Africa, work an average of 2.5 hours a day, alternating long, intense hunts with periods of idleness. As much as agriculture was demanding, it



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.

was also rewarding. Agriculture supported larger populations, and with better food supplies and a more settled existence, agricultural peoples could afford to build houses and villages. Domesticated animals provided not only hides but also wool for more varied clothing.

We know next to nothing of the debates that must have raged when people were first confronted with agriculture, but it is not hard to imagine that many would have found the new life too complicated, too difficult, or too unexciting. Most evidence suggests that gathering-and-hunting peoples resisted agriculture as long as they could. Gradually, of course, agriculture did gain ground. Its success was hard to deny. And as farmers cleared new land from forests, they automatically drove out or converted many hunters. Disease played a role: settled agricultural societies suffered from more contagious diseases because of denser population concentrations. Hunting-and-gathering peoples lacked resistance and often died when agriculturists who had developed immunity to these diseases carried them into their areas.

Not all the peoples of the world came to embrace the slowly spreading wave of agriculture, at least not until very recently. Important small societies in southern Africa, Australia, the islands of southeast Asia, and even northern Japan were isolated for so long that news of this economic system simply did not reach them. The light-skinned hunting tribes of northern Japan flourished until about a hundred years ago. Northern Europeans and southern Africans converted to agriculture earlier, about 2000 years ago, but well after the Neolithic revolution had transformed other parts of their continents. Agriculture was initiated in the Americas as early as 5000 B.C.E. and developed vigorously in Central America and the northern part of South America. However, most Indian tribes in North America continued a hunting-and-gathering existence, sometimes combined with limited agriculture, until recent centuries. Finally, the peoples of the vast plains of central Asia long resisted a complete conversion to agriculture, in part because of a harsh climate; herding, rather than grain-growing, became the basic socioeconomic system of this part of the world. From this area would come waves of tough, nomadic invaders whose role in linking major civilizations was a vital force in world history until a few centuries ago.

Further Technological Change

Development possibilities among people who became agriculturists were more obvious than those among smaller populations who resisted or simply did not know of the system. Agriculture set the basis for more rapid change in human societies. Greater wealth and larger populations freed some people for other specializations, from which new ideas or techniques might spring. Agriculture itself depended on control over nature that could be facilitated by newly developed techniques and objects. For example, during the Neolithic period, farming people needed storage facilities for grains and seeds, which promoted the development of basket-making and pottery. The first potter's wheel came into existence around 6000 B.C.E., and this, in turn, encouraged faster and higher-quality pottery production. Agricultural needs also encouraged certain kinds of science, supporting the human inclination to learn more about weather or flooding.

Much of what we think of as human history involves the doings of agricultural societies—societies, that is, in which most people are farmers and in which the production of food is the central economic activity. Nonagricultural groups, like the nomadic herders in central Asia, made their own mark, but their greatest influence usually occurred in interactions with agricultural peoples. Many societies remain largely agricultural today. The huge time span we have thus far considered, including the Neolithic revolution itself, is all technically "prehistorical"—involved with human patterns before the invention of writing allowed the kinds of recordkeeping historians prefer. In fact, since we now know how to use surviving tools and burial sites as records, the prehistoric–historic distinction means less than it once did. The preagricultural–agricultural distinction is more central. Fairly soon after the development of agriculture—although not, admittedly, right away—significant human change began to occur in decades and centuries, rather than in the sizeable blocks of time, several thousand years or more, that describe preagricultural peoples.

Indeed, one basic change took place fairly soon after the introduction of agriculture, and, again, societies in the Middle East served as its birthplace. The discovery of metal tools dates back to about 4000 B.C.E. Copper was the first metal with which people learned how to work, although a more resilient metal, bronze, soon entered the picture. In fact, the next basic age of human existence was the **Bronze Age.** By about 3000 B.C.E., metalworking had become so commonplace in the Middle East that the use of stone tools dissipated, and the long stone ages were over at last—although, of course, an essentially Neolithic technology persisted in many parts of the world, even among some agricultural peoples.

Bronze Age From about 4000 B.C.E., when bronze tools were first introduced in the Middle East, to about 1500 B.C.E., when iron began to replace it.

Metalworking was extremely useful to agricultural or herding societies. Metal hoes and other tools allowed farmers to work the ground more efficiently. Metal weapons were obviously superior to those made from stone and wood. Agricultural peoples had the resources to free up a small number of individuals as toolmakers, who would specialize in this activity and exchange their products with farmers for food. Specialization of this sort did not, however, guarantee rapid rates of invention; indeed, many specialized artisans seemed very conservative, eager to preserve methods that had been inherited. But specialization did improve the conditions or climate for discovery, and the invention of metalworking was a key result. Like agriculture, knowledge of metals gradually fanned out to other parts of Asia and to Africa and Europe.

Gradually, the knowledge of metal tools created further change, for not only farmers but also manufacturing artisans benefited from better tools. Woodworking, for example, became steadily more elaborate as metal replaced stone, bone, and fire in the cutting and connecting of wood. We are still living in the metal ages today, although we rely primarily on iron—whose working was introduced around 1500 B.C.E. by herding peoples who invaded the Middle East—rather than copper and bronze.

Civilization

The emergence of civilization occurred in many though not all agricultural societies.

Agriculture encouraged the formation of larger as well as more stable human communities than had existed before Neolithic times. A few Mesolithic groups had formed villages, particularly where opportunities for fishing were good, as around some of the lakes in Switzerland. However, most

Early civilizations formed in Mesopotamia, Egypt, the Indus River basin, and China.

hunting peoples moved in relatively small groups, or tribes, each containing anywhere from 40 to 60 individuals, and they could not settle in a single spot without the game running out. With agriculture, these constraints changed. To be sure, some agricultural peoples did move around. A system called **slash and burn agriculture** existed in many parts of the world, including portions of the American South, until about 150 years ago. Here, people would burn off trees in an area, farm intensively for a few years until the soil was depleted, and then move on—often returning to earlier sites every 20–30 years. Herding peoples also moved in tribal **bands,** with strong kinship ties. The rise of nomadic herding economies was a vital development in Central Asia, the Middle East, the Sudan and elsewhere.

n and burn agriculture A system of cultiva- typical of shifting cultivators; forest floors ed by fire are then planted.

d A level of social organization normally con- ng of 20 to 30 people; nomadic hunters and erers; labor divided on a gender basis.

Settled Societies

The Neolithic Village — CASE STUDY

The major agricultural regions, however, involved more permanent settlements. There were advantages to staying put: houses could be built to last, wells built to bring up water, and other "expensive" improvements afforded because they would serve many generations. In the Middle East, China, and parts of Africa and India, a key incentive to stability was the need for irrigation devices to channel river water to the fields. This same need helps explain why agriculture generated communities and not a series of isolated farms. Small groups simply could not regulate a river's flow or build and maintain irrigation ditches and sluices. Irrigation and defense encouraged villages—groupings of several hundred people—as the characteristic pattern of residence in almost all agricultural societies from Neolithic days until our own century. Neolithic settlements spread widely in agricultural societies. New ones continued to be founded as agriculture spread to regions such as northern Europe, as late as 1500 B.C.E. (Figure 1.3).

tal Hüyük [kah-THAL HOHY-uhk] Early an culture based on sedentary agriculture; lo- ed in modern southern Turkey; was larger in pulation than Jericho, had greater degree of so- l stratification.

Figure 1.3 Skara Brae, located in the Orkney Islands off the coast of Scotland, is an excellent example of a late Neolithic settlement. It dates from 1500 B.C.E. Houses included special storage areas for grain, water, and other essentials. Most were centered on clay or stone hearths that were ventilated through a hole in the roof or built into the wall. More dependable and varied food supplies and sturdy houses greatly enhanced the security and comfort of the people who lived in these settlements. Better conditions spurred higher birth rates and lowered mortality rates, at least in times when crop yields were high.

One Neolithic village, **Çatal Hüyük** (kah-THAL HOHY-uhk) in southern Turkey, has been elaborately studied by archeologists. It was founded about 7000 B.C.E. and was unusually large, covering about 32 acres. Houses were made of mud bricks set in timber frameworks, crowded together, with few windows. People seem to have spent a good bit of time on their rooftops in order to experience daylight and make social contacts—many broken bones attest to frequent falls. Some houses were lavishly decorated, mainly with hunting scenes. Religious images, both of powerful male hunters and "mother goddesses" devoted to agricultural fertility, were common, and some people in the village seem to have had special religious responsibilities. The village produced almost all the goods it consumed. Some trade was conducted with hunting peoples who lived in the hills surrounding the village, but apparently it was initiated more to keep the peace than to produce economic gain (Figure 1.4). By 5500 B.C.E., important production activities developed in the village, including those of skilled toolmakers and jewelers. With time also came links with other communities. Large villages like Çatal Hüyük ruled over smaller communities. This meant that some families began to specialize in politics, and military forces were organized. Some villages became small cities, ruled by kings who were typically given divine status.

By 3000 B.C.E., Çatal Hüyük had become part of a civilization. Although many of the characteristics of civilization had existed by 6000 or 5000 B.C.E. in this Middle Eastern region, the origins of civilization, strictly speaking, approximately date to only 3500 B.C.E. The first civilization arose in the Middle East along the banks of the Tigris and Euphrates rivers. Another center of civilization started soon thereafter in northeast Africa (Egypt), and a third by around 2500 B.C.E. along the banks of the Indus River in northwestern India. These three early centers of civilization had some interaction. The fourth and fifth early civilization centers, a bit later and considerably more separate, arose in China and Central America.

Figure 1.4 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.

Defining Civilization

Unlike an agricultural society, which can be rather precisely defined, **civilization** is a more subjective construct. Some scholars prefer to define civilizations only as societies with enough economic surpluses to form divisions of labor and a social hierarchy involving significant inequalities. This is a very inclusive definition, and under it most agricultural societies and even some groups like North American Indians who combined farming with hunting would be drawn in. Others, however, press the concepts of civilization further, arguing, for example, that a chief difference between civilizations and other societies (whether hunting or agricultural) involves the emergence of formal political organizations, or states, as opposed to dependence on family or tribal ties. Most civilizations produce political units capable of ruling large regions, and some characteristically produce huge kingdoms or empires.

civilization Societies distinguished by reliance on sedentary agriculture, ability to produce food surpluses, and existence of nonfarming elites, as well as merchant and manufacturing groups.

The word *civilization* itself comes from the Latin term for *city,* and in truth most civilizations do depend on the existence of significant cities. In agricultural civilizations, most people do not live in cities. But cities are crucial because they amass wealth and power, and they allow the rapid exchange of ideas among relatively large numbers of people, thereby encouraging intellectual thought and artistic expression. Cities also promote specialization in manufacturing and trade and encourage the emergence of centers of political power.

Most civilizations developed writing, starting with the emergence of **cuneiform** (kyoo-NAY-uh-form) (writing based on wedgelike characters) in the Middle East around 3500 B.C.E. Societies that employ writing can organize more elaborate political structures because of their ability to send messages and keep records. They can tax more efficiently and make contracts and treaties. Societies with writing also generate a more explicit intellectual climate because of their ability to record data and build on past, written wisdom. (One of the early written records from the Middle East is a recipe for making beer—a science of a sort.) Some experts argue that the very fact of becoming literate changes the way people think, encouraging them to consider the world as a place that can be understood by organized human inquiry, or "rationally," and less by a host of spiritual beliefs. In all agricultural civilizations—that is, in all human history until less than 200 years ago—only a minority

cuneiform [kyoo-NAY-uh-form] A form of writing developed by the Sumerians using a wedge-shaped stylus and clay tablets.

of people was literate, and usually that was a small minority. Nonetheless, the existence of writing did make a difference in such societies.

Since civilizations employ writing and are by definition unusually well organized, it is not surprising that almost all recorded history is about what has happened to civilized societies. We simply know the most about such societies, and we often are particularly impressed by what they produce in the way of great art or powerful rulers. It is also true that civilizations tend to be far more populous than nomadic or hunting-and-gathering societies. Therefore, the history of civilization generally covers the history of most people.

But the history of civilization does not include everybody. Few hunting or nomadic peoples could generate a civilization—they lacked the stability and resources, and, with the exception of a limited number of signs and symbols, they never developed writing, unless it came from the outside. Furthermore, some agricultural peoples did not develop a full civilization, *if* our definition of civilization goes beyond the simple acquisition of economic surplus to formal states, cities, and writing. Portions of west Africa, fully agricultural and capable of impressive art, have long lacked writing, major cities, or more than loose regional government.

People in civilizations, particularly during the long centuries when they were surrounded by nomadic peoples, characteristically looked down on any society lacking in civilization. The ancient Greeks coined the word *barbarian* to describe such cases—indeed, they were prone to regard all non-Greeks as barbarians. As a result of labels like this, it is easy to think of much human history as divided between civilizations and primitive **nomads.**

ads Cattle- and sheep-herding societies nor-
y found on the fringes of civilized societies;
monly referred to as "barbarian" by civilized
eties.

Such a distinction is incorrect, however, and it does not follow from the real historical meaning of civilization. In the first place, like agriculture, civilization brings losses as well as gains. As Çatal Hüyük moved toward civilization, distinctions based on social class and wealth increased. Civilizations often have firmer class or caste divisions, including slavery, than do "simpler" societies. They also often promote greater separation between the rulers and ruled, monarchs and subjects. Frequently, they are quite warlike, and there is greater inequality between men and women than in hunter-gatherer societies. With civilization, more fully patriarchal structures emerged. In cities, male superiority was even clearer than in agriculture, as men did most of the manufacturing and assumed political and religious leadership, thus relegating women to subordinate roles. "Civilization," then, is not a synonym for "good."

By the same token, nomadic or hunter-gatherer societies may be exceptionally well regulated, with complex and imaginative cultures. Many such societies, in fact, have more regulations—in part, because they depend on rules transmitted by word of mouth—than civilized societies. Some of the societies most eager to repress anger and aggression in human dealings, such as Zuni Indians in the American Southwest, are based at least in part on hunting and gathering. Although some hunting-gathering societies treat old people cruelly, others display more respect and veneration toward elders than most civilizations do. Many nomadic societies may be shocked by the doings of civilized peoples. For example, American Indians were appalled at the insistence of European settlers on spanking their children, a behavior they regarded as vicious and unnecessary. A fascinating, although probably unanswerable, question involves determining whether or not the civilization form has left more or less good in its wake.

It is also important to note that many nomadic peoples contributed greatly to world history. While many remaining hunting-and-gathering peoples became increasingly isolated, except in parts of the Americas, nomadic herding economies continued to flourish in many places. They depended on the domestication of animals and on key technological improvements, for example in riding equipment and weaponry. Precisely because they traveled widely, nomadic peoples could play vital roles in world trade and in developing contacts among more settled areas. Nomadic groups in central Asia would play a particularly great role in world history, but groups in the Middle East and Africa were significant as well.

Despite the importance of alternatives, it remains true that the development of civilization most obviously continued the process of technological change and political organization. Civilizations also generated the largest populations and the most elaborate artistic and intellectual forms. It is in this context that the term has real meaning and in which it legitimately commands the attention of most historians.

Civilizations also increased human impact on the environment. For example, the first center of copper production in Europe, along the Danube valley, led to such deforestation that the fuel supply was destroyed, and the industry collapsed after about 3000 B.C.E. The extensive agriculture

needed to support Indus River cities opened the land to erosion and flooding because of overuse of the soil and removal of trees.

Having started in 3500 B.C.E., civilization developed in its four initial centers—the Middle East, Egypt, northwestern India, and northern China—over the following 2500 years. (An early civilization would also emerge in Central America, though slightly later in time.) These areas covered only a tiny portion of the inhabited parts of the world, although they were the most densely populated. Such early civilizations, all clustered in key river valleys, were in a way pilot tests of the new form of social organization. Only after about 1000 B.C.E. did a more consistent process of development and spread of civilization begin—and with it came the main threads of world history. However, the great civilizations unquestionably built on the achievements of the river valley pioneers, and so some understanding of this contribution to the list of early human accomplishments is essential.

Tigris–Euphrates Civilization

The most noteworthy achievements of the earliest civilizations were early versions of organizational and cultural forms that most of us now take for granted: writing, formal codes of law, city planning and architecture, and institutions for trade, including the use of money. Once developed, most of these building blocks of human organization did not have to be reinvented, although in some cases they spread only slowly to other parts of the world.

It is not surprising then, given its lead in agriculture, metalworking, and village structure, that the Middle East generated the first example of human civilization. Indeed, the first civilization, founded in the valley of the Tigris and Euphrates rivers in a part of the Middle East long called **Mesopotamia** (Map 1.3), forms one of only a few cases of a civilization developed absolutely from scratch—and with no examples from anyplace else to imitate. (Chinese civilization and civilization in Central America also developed independently.) By 4000 B.C.E., the farmers of Mesopotamia were familiar with bronze and copper and had already invented the wheel for transportation. They had a well established pottery industry and interesting artistic forms. Farming in this area, because of the need for irrigation, required considerable coordination among communities, and this in turn served as the basis for complex political structures.

Mesopotamia Literally "between the rivers"; the civilizations that arose in the alluvial plain of the Tigris and Euphrates river valleys.

By about 3500 B.C.E., a people who had recently invaded this region, the **Sumerians,** developed a cuneiform alphabet, the first known case of human writing. Their alphabet at first used different pictures to represent various objects but soon shifted to the use of geometric shapes to symbolize spoken sounds. The early Sumerian alphabet may have had as many as 2000 such symbols, but this number was later reduced to about 300. Even so, writing and reading remained complex skills, which only a few had time to master. Scribes wrote on clay tablets, using styluses shaped quite like the modern ballpoint pen.

Sumerians People who migrated into Mesopotamia c. 4000 B.C.E.; created first civilization within region; organized area into city-states.

Sumerian art developed steadily, as statues and painted frescoes were used to adorn the temples of the gods. Statues of the gods also decorated individual homes. Sumerian science aided a complex agricultural society, as people sought to learn more about the movement of the sun and stars—thus founding the science of astronomy—and improved their mathematical knowledge. (Astronomy defined the calendar and provided the astrological forecasts widely used in politics and religion.) The Sumerians employed a system of numbers based on units of 10, 60, and 360 that we still use in calculating circles and hours. In other words, Sumerians and their successors in Mesopotamia created patterns of observation and abstract thought about nature that a number of civilizations, including our own, still rely on, and they also introduced specific systems, such as charts of major constellations, that have been current at least among educated people for 5000 years, not only in the Middle East, but by later imitation in India and Europe as well.

ziggurats [ZIG-uh-rat] Massive towers usually associated with Mesopotamian temple complexes.

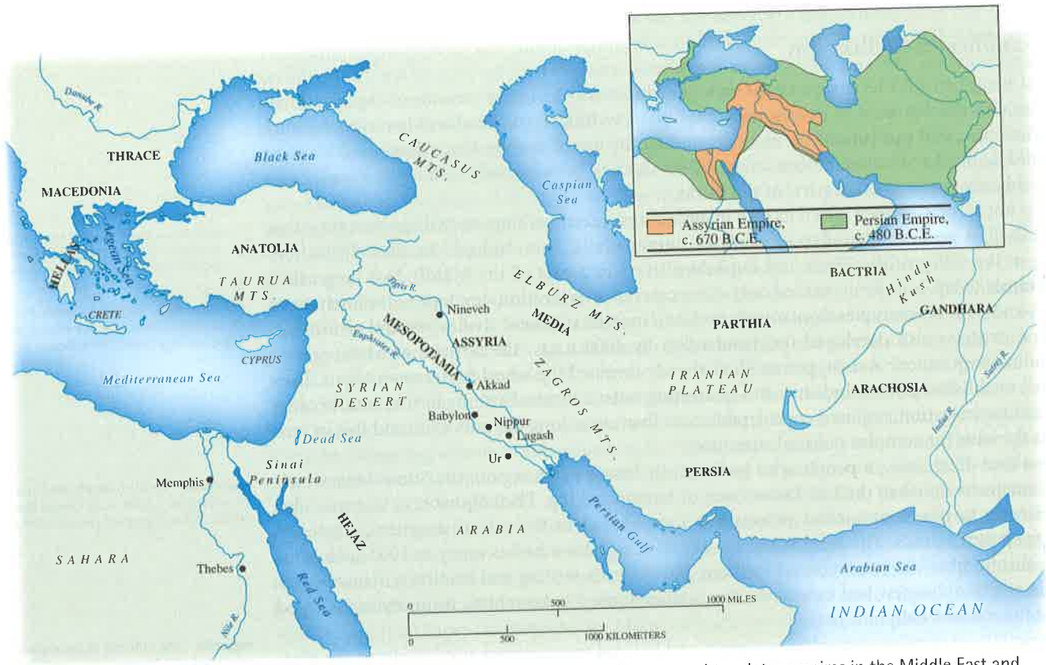
Sumerians developed complex religious rituals. Each city had a patron god and erected impressive shrines to please and honor this and other deities. Massive towers, called **ziggurats** (ZIG-uh-rat), formed the first monumental architecture in this civilization. Professional priests operated these temples and conducted the rituals within. Sumerians

Map 1.3 Early Sumer

Mesopotamia in Maps

Throughout their centuries of existence, the Mesopotamian civilizations steadily expanded from their roots in the fertile valley between the Tigris and Euphrates Rivers. Reading the maps can help explain the nature of the civilizations in the region.

QUESTIONS What do these maps suggest about the relationship between Mesopotamian civilizations and the topography of the Middle East? Does geography suggest reasons for invasion and political instability in this civilization center? Did later empires in the region have the same relationship to river valleys as did the earlier states? What were the potential contacts between Mesopotamia and other river valley civilization centers? Why has the Middle East been so significant in European, African, and Asian history?



Map 1.4 Mesopotamia and the Middle East This map shows the location of Sumer and two later empires in the Middle East and eastern Mediterranean.

city-state A form of political organization typical of Mesopotamian civilizations; consisted of agricultural hinterlands ruled by an urban-based king.

Babylonian Empire Unified all of Mesopotamia c. 1800 B.C.E.; collapsed due to foreign invasion c. 1600 B.C.E.

Hammurabi (r. 1792–1750 B.C.E.) The most important ruler of the Babylonian empire; responsible for codification of law.

pharaoh Title of kings of ancient Egypt.

pyramids Monumental architecture typical of Old Kingdom Egypt; used as burial sites for pharaohs.

believed in many powerful gods, for the nature on which their agriculture depended often seemed swift and unpredictable. Prayers and offerings to prevent floods as well as to protect good health were a vital part of Sumerian life. Sumerian ideas about the divine force in natural objects—in rivers, trees, and mountains—were common among early agricultural peoples. A religion of this sort, which sees gods in many aspects of nature, is known as polytheism. More specifically, Sumerian religious notions, notably their ideas about the gods' creation of the earth from water and about the divine punishment of humans through floods, later influenced the writers of the Old Testament and thus continue to play a role in Jewish, Christian, and Muslim cultures. Sumerian religious ideas, which had a decidedly gloomy cast, also included a belief in an afterlife of punishment—an original version of the concept of hell.

Sumerian political structures stressed tightly organized **city-states,** ruled by a king who claimed divine authority. The Sumerian state had carefully defined boundaries, unlike the less formal territories of precivilized villages in the region. Here is a key early example of how civilization and a more formal political structure came together. The government helped regulate religion and

enforce its duties; it also provided a court system in the interests of justice. Kings were originally military leaders during times of war, and the function of defense and war, including leadership of a trained army, remained vital in Sumerian politics. Kings and the noble class, along with the priesthood, controlled considerable land, which was worked by slaves. Thus began a tradition of slavery that would long mark Middle Eastern societies. Warfare remained vital to ensure supplies of slaves taken as prisoners during combat. At the same time, slavery was a variable state of existence, and many slaves were able to earn money and even buy their freedom.

The Sumerians added to their region's agricultural prosperity not only by using wheeled carts but also by learning about fertilizers and by adopting silver as a means of exchange for buying and selling—an early form of money. However, the region was also hard to defend and proved a constant temptation to outside invaders from Sumerian times to the present. The Sumerians themselves fell to a people called the Akkadians, who continued much of Sumerian culture. Another period of decline was followed by conquest by the **Babylonians,** who extended their own empire and thus helped bring civilization to other parts of the Middle East. It was under Babylonian rule that the king **Hammurabi** introduced the most famous early code of law, boasting of his purpose: "to promote the welfare of the people, I, Hammurabi, the devout, god-fearing prince, cause justice to prevail in the land by destroying the wicked and the evil, that the strong might not oppress the weak." Hammurabi's code established rules of procedure for courts of law and regulated property rights and the duties of family members, setting harsh punishments for crimes.

For many centuries during and after the heyday of Babylon, peace and civilization in the Middle East were troubled by the invasions of hunting and herding groups. Indo-European peoples pressed in from the north, starting about 2100 B.C.E. In the Middle East itself, invasions by Semitic peoples from the south were more important, and Semitic peoples and languages increasingly dominated the region. The new arrivals adopted the culture of the conquered peoples as their own, so the key features of the civilization persisted. But large political units declined in favor of smaller city-states or regional kingdoms, particularly during the centuries of greatest turmoil, between 1200 and 900 B.C.E. Thereafter, new invaders, first the Assyrians and then the Persians, created large new empires in the Middle East.

Kush An African state that developed along the upper reaches of the Nile c. 1000 B.C.E.; conquered Egypt and ruled it for several centuries.

DOCUMENT Hammurabi's Law Code

Egyptian Civilization

A second center of civilization sprang up in northern Africa, along the Nile River. Egyptian civilization, formed by 3000 B.C.E., benefited from the trade and technological influence of Mesopotamia, but it produced a quite different society and culture. Less open to invasion, Egypt retained a unified state throughout most of its history. The king, or **pharaoh,** possessed immense power. The Egyptian economy was more fully government-directed than its Mesopotamian counterpart, which had a more independent business class. Government control may have been necessary because of the complexity of coordinating irrigation along the Nile. It nonetheless resulted in godlike status for the pharaohs, who built splendid tombs for themselves—the **pyramids**—from 2700 B.C.E. onward. During periods of weak rule and occasional invasions, Egyptian society suffered a decline, but revivals kept the framework of Egyptian civilization intact until after 1000 B.C.E. (Map 1.5). At key points, Egyptian influence spread up the Nile to the area now known as the Sudan, with an impact on the later development of African culture. The kingdom of **Kush** interacted with Egypt and invaded it at some point.

Neither Egyptian science nor the Egyptian alphabet was as elaborate as its Mesopotamian equal, although mathematics was more advanced in this civilization. Egyptian art was exceptionally lively; cheerful and colorful

Map 1.5 Egypt, Kush, and Axum, Successive Dynasties. As Egypt weakened, kingdoms farther up the Nile and deeper into Africa rose in importance.

gure 1.5 This detail from yptian tomb art shows a sband and wife harvesting ain. As dictated by patriarchal ues, the husband takes the d in the work and the wife lows, but in Egypt, unlike esopotamia, men and women ere depicted working together.

pictures decorated not only the tombs—where the belief in an afterlife made people want to be surrounded by objects of beauty—but also palaces and furnishings. Egyptian architectural forms were also quite influential, not only in Egypt but in other parts of the Mediterranean as well. Egyptian mathematics produced the idea of a day divided into 24 hours, and here too Egypt influenced the development of later Mediterranean cultures (Figure 1.5).

Indian and Chinese River Valley Civilizations

River valley civilizations developed in two other centers. A prosperous urban civilization emerged along the **Indus River** by 2500 B.C.E., supporting several large cities, including **Harappa** and **Mohenjo Daro** (moh-HEN-joh-DA-roh), whose houses even had running water. Indus River peoples had trading contacts with Mesopotamia, but they developed their own distinctive alphabet and artistic forms. Infiltrations by Indo-Europeans, however, plus natural calamities, resulted in such destruction that it makes it hard to speak with confidence about either the nature of this culture or its subsequent influence on India. Harappan writing, for example, has yet to be deciphered. It remains true that civilization never had to be fully reinvented in India. The Indo-European migrants combined their religious and political ideas with those that had taken root in the early cities. In recent times, Indians' pride in their early civilized history has become an important part of their national identity.

Early Civilization in India MAP

ndus River valley River sources in Himalayas o mouth in Arabian Sea; location of Harappan ivilization.

Harappa Along with Mohenjodaro, major urban complex of the Harappan civilization; laid out on planned grid pattern.

Mohenjo Daro [moh-HEN-joh-DA-roh] Along with Harappa, major urban complex of the Harappan civilization; laid out on planned grid pattern.

The Great Cities of the Indus Valley

Though hundreds of miles apart, Harappa, Mohenjo Daro, and other urban centers were remarkably similar in layout and construction. Both were built on a square grid pattern that was divided by main roads into 12 precisely measured segments. Each city was surrounded by walls, which extended a mile from east to west and one-half mile from north to south. The buildings and the city walls were usually made of standardized kiln-dried bricks. Coordinated construction on such a massive scale might have meant an effective central government that could organize and supervise the daily tasks of large numbers of laborers.

The existence of a strong ruling class is also indicated by the presence of large, well fortified citadels in each capital city. These citadels may have served as sanctuaries for the cities' populations in times of attack and as community centers in times of peace. The citadel at Mohenjo Daro included a very large building that may have been a palace. Both citadels contained what are believed to have been audience and assembly halls or places of worship as well as public bathing tanks. The elaborately decorated bath at Mohenjo Daro was surrounded by a cloister, which opened onto many small rooms that may have housed priests. Large granaries near each of the citadels suggest that the state stored grain for ceremonial purposes, times of shortage, and possibly the regulation of grain production and sale.

The great cities and many towns of the Harappan complex were supported by a rather advanced agricultural system based on the cultivation of wheat, rye, peas, and possibly rice. Cotton was widely cultivated, and numerous domesticated animals were reared. It is likely that irrigation systems were built to catch and control waters from the monsoon and the rivers, and that fish caught in the rivers were a dietary staple. Local goods were carried by riverboats and ox carts, reproduced in clay models.

The cities of Harappa were major trading centers. Jade from China and precious jewels from what later became Burma have been unearthed at various Indus sites. Stone seals produced in the Indus region, such as those shown in Figure 3.5, have been found in the urban ruins of other ancient civilizations such as Sumer in Mesopotamia. In addition to realistic depictions of animals and human figures, the seals contain a complex writing system that no one has ever deciphered. The fact that Harappan merchants used large numbers of the seals to ensure that crates and urns were not opened during transport suggests that trade was highly developed in the Indus valley civilization.

Despite these overseas contacts, Harappan peoples appear to have been conservative and highly resistant to innovations introduced from the outside. They cast tools and weapons in bronze, but most of their implements were inferior to those of Mesopotamian peoples, with whom they had contact. Their weapons were even more primitive and would have left them vulnerable to invasions by peoples more adept at warfare.

Harappan society appears to have been dominated by a powerful priestly class, which ruled from the citadel of each capital. The priests would have derived this control from their role as intermediaries between the Harappan populace and a number of gods and goddesses, who controlled fertility. Representations of mother goddesses appear to have been objects of worship for the common people, whereas a horned god was apparently favored by the priests and upper classes. The presence of these figures in Sumer and other urban sites in the Persian Gulf region suggests that large quantities of various commodities were traded in the region spanning Mesopotamia and the Indus River valley.

It is likely that a combination of factors led to Harappa's demise. There is evidence of severe flooding at Mohenjo Daro and other sites. Short-term natural disasters, including severe earthquakes, may have compounded the adverse effects of long-term climatic changes. Shifts in the monsoon pattern and changes in temperature may have begun the process of desertification that eventually transformed the region into the arid steppe that it has been for most of recorded history. Rapid changes in pottery types suggest sudden waves of migrants into the region. It is possible that the Harappans were too weak militarily to prevent these incoming peoples from settling down or taking over their towns and cities. In many cases these centers of urban life had already been abandoned in response to natural calamities, particularly flooding. A marked decline in the quality of building and town planning suggests that the priestly elite may have lost control over the artisans and laborers.

Some of the migrants were bands of Aryan herders who entered the Indus region over an extended period of time rather than in militant waves. But the Aryan pastoralists may have consciously destroyed or neglected the dikes and canals on which the agrarian life of the Harappan peoples had once depended. Cattle raising would then have replaced crop cultivation, further undermining the economic basis of the civilization. That there was a good deal of violent conflict in this transition cannot be ruled out. Groups of skeletons with smashed skulls or in postures of flight from floods or foreign invaders have been found on the stairways at some sites. Thus, environmental changes and related administrative decline may have combined with the effects of nomadic migrations to undermine south Asia's first civilization.

Early Civilization in China

Civilization along the **Yellow River** in China developed in considerable isolation, although some overland trading contact with India and the Middle East did develop. Huang he civilization was the subject of much later Chinese legend, which praised the godlike kings of early civilization, starting with the mythic ancestor of the Chinese, P'an Ku. The Chinese had an unusually elaborate concept of their remote origins, and they began early to record a part-fact, part-fiction history of their early kings. What is clear is the following: First, an organized state existed that carefully regulated irrigation in the fertile but flood-prone river valley. Second, by about 2000 B.C.E. the Chinese had produced an advanced technology and developed an elaborate intellectual life. They had learned how

Ancient China MAP

Yellow River Also known as the Huanghe; site of development of sedentary agriculture in china.

DOCUMENT

Aryan Poetry in Praise of a War Horse

The following early Vedic hymn exults in the power of a great Aryan war horse.

Rushing to glory, to the capture of herds,
Swooping down as a hungry falcon,
Eager to be first, he darts amid the ranks of the chariots
Happy as a bridegroom making a garland,
Spurning the dust and champing at the bit.
And the victorious steed and faithful,
His body obedient to his driver in battle,
Speeding on through the melee,
Stirs up the dust to fall on his brows.
And at his deep neigh, like the thunder of heaven,
The foemen tremble in fear,
For he fights against thousands, and none can resist him,
So terrible is his charge.

QUESTIONS In what ways does this poem convey the Aryans' delight in warfare? What does it tell us about the way they fought their battles and their attitudes toward the herd animals that were so central to their culture? How does it convey the Aryans' ideals of manliness, heroism, and loyalty, and what does it say about their attitudes toward death?

Figure 1.6 This elaborately decorated vessel from the Shang era, with its whimsical elephant figure, shows the sophisticated artistic expression achieved very early in Chinese history. It also demonstrates a high level of metalworking ability, which carried over into Shang weapons and tools. Although the design of these ritual vessels often was abstract, mythical creatures such as dragons and sacred birds were deftly cast in bronzes that remain some of the great treasures of Chinese art.

to ride horses and were skilled in pottery; they used bronze well and by 1000 B.C.E. had introduced iron, which they soon learned to work with coal. Their writing progressed from scratches of lines on bone to the invention of **ideographic** symbols. Science, particularly astronomy, arose early. Chinese art emphasized delicate designs, and the Chinese claim an early interest in music (Figure 1.6).

By 1500 B.C.E., one of the tribes in the north China, the Shang, conquered most of the other tribes and established a kingdom that would lay the foundations of Chinese civilization. Until recent decades we knew little more about the **Shang** than about their Xia predecessors. But extensive excavation of Shang sites at Anyang (ahn-yahng), Zhengzhou (jehng-joh), and elsewhere have given us insights into many aspects of Shang culture and society. In some respects they were very much like the Aryans, who were conquering northern India during this same period. Like the Aryans, the Shang were warlike nomads. They fought on horseback and from chariots with deadly bronze weapons. Non-Shang subject peoples provided the foot soldiers that made up the bulk of their armies. Like those of Aryan India and Homeric Greece, Shang battles were wild clashes between massed soldiers that hinged on hand-to-hand combat between a few champions on each side. But unlike the Aryans and ancient Greeks, the Shang warriors were ruled by strong kings, who drew on their vassals' energies and military prowess to build an extensive empire.

The Shang monarch was seen as the intermediary between the supreme being, Shangdi (shahng-dee), and ordinary mortals. His kingdom was viewed as the center of the world, and he claimed dominion over all humankind. Shang rulers directed the affairs of state and bore ritual responsibilities for the fertility of their kingdom and the well-being of their subjects. In the springtime, they participated in special ceremonies that included a symbolic mating with female fertility spirits. In times of drought and famine, Shang rulers, or perhaps designated surrogates, were obliged to perform ritual dances in the nude. The dancer—presumably the surrogate—was later burned alive to placate the spirits whose anger had caused the natural calamities.

The Shang Kingdom

MAP

Shang First Chinese dynasty for which archeological evidence exists; capital located in Ordos bulge of the Huanghe; flourished 1600 to 1046 B.C.E.

Shang monarchs were served by a sizeable bureaucracy in the capital city at Anyang and the surrounding areas. But most of the peasant and artisan populations of the kingdom were governed by vassal retainers: subordinate leaders serving the king and great lords and usually bound to them by personal ties. These officials were recruited from the former ruling families and the aristocratic classes of the many subordinate states. The vassals depended on the produce and labor of the commoners in these areas to support their families and military forces. In return for grants of control over varying numbers of peasants, warrior aristocrats collected tribute (usually in the form of agricultural produce), which went to support the monarch and his court. They supplied soldiers for the king's armies in times of war, and they kept the peace and administered justice among the peasants and townspeople.

Like the elites of many early civilizations, the Shang rulers and nobility were preoccupied with rituals, oracles, and sacrifices. In addition to the fertility functions of the ruler, the entire elite was involved in persuading spirits to provide good crops and large families. Shang artistic expression reached its peak in the ornately carved and expertly cast bronze vessels that were used to make these offerings. Offerings included fine grain, incense, wine, and animals, but Shang records also tell of water festivals at which ritual contests were waged between rival boats, each attempting to sink the other. Those aboard the losing craft drowned when it capsized, and they were offered up to the deities responsible for fertility and good harvests.

Concern for abundant harvests and victory in war led the Shang elite to put great stock in the predictions of shamans, or priests, who served as **oracles**—sacred people who could prophesy the future. Much of Shang artistic expression went into producing the ritual objects used by the oracles. Warriors about to go into battle, officials embarking on long journeys, or families negotiating marriage alliances routinely consulted these oracles to ensure that their efforts would turn out well. This reliance on the shamans strongly influenced beliefs and behavior in the Shang era.

oracles Shamans or priests in Chinese society who foretold the future through interpretations of animal bones cracked by heat; inscriptions on bones led to Chinese writing.

The actual procedures followed by the shamans who presided over these rituals gave rise to perhaps the single most important element in Chinese culture—writing. Since pre-Shang times, Chinese oracles had based their predictions on readings taken from animal bones or tortoise shells. A bone or shell was drilled with a hole and seared with a red-hot iron poker. The bone or shell cracked, and the patterns of the cracks were interpreted by a shaman or priest. Over time the practice evolved of inscribing the bones and shells with painted designs that became part of the patterns

the shamans read. These designs gradually were standardized and came to form the basis of a written Chinese language.

Like the hieroglyphics of the ancient Egyptians, early Chinese characters were pictographic. Thus, they readily conveyed the ideas they were intended to express. The original character for the sun, for example, was a circle with a dot in the center, the character for a tree was a single tree, and a forest was a set of three trees. Combinations of characters made it possible for the Chinese elite to convey increasingly complex ideas. The character for emperor, for example, combined elements of the **ideographs** for king, heaven, earth, and harmony.

ideographs Pictographic characters grouped together to create new concepts; typical of Chinese writing.

Over time the number of characters increased substantially. By the end of the Shang period, there were an estimated 3000 characters. A well educated scholar in the modern era would need to master some 8000 characters. The way they are written also changed significantly. Many characters were simplified, and most were stylized so that they are less pictographic. The bones or bronze vessels on which the characters were originally carved gradually gave way to bamboo slips, silk scrolls, and wooden plates, and they in turn were supplanted in the 1st century C.E. by paper (a critical Chinese invention). Assorted fine brushes and inks were developed to paint the characters, which themselves became a major mode of artistic expression in later periods.

Writing became the key to Chinese identity and the growth of civilization in China. The peoples of the loess region and the north China plain spoke a bewildering variety of languages, often unintelligible from one group to the next. They were surrounded by nomadic herders to the north and shifting cultivators to the south, whose contacts with and movements into the loess zone further complicated the linguistic muddle. But the use of increasingly standardized and sophisticated written characters provided the bond that gave growing numbers of these loess zone peoples a common identity. This sense of identity was felt most keenly by the elite groups, who monopolized the use of the characters, but eventually it filtered down to the cultivating and artisan classes. With the persistence and growth of this identity, the Chinese people entered history for the first time.

The Heritage of the River Valley Civilizations

Many accomplishments of the river valley civilizations had a lasting impact. Monuments such as the Egyptian pyramids have long been regarded as one of the wonders of the world. Other achievements, although more prosaic, are fundamental to world history even today: the invention of the wheel, the taming of the horse, the creation of usable alphabets and writing implements, the production of key mathematical concepts such as square roots, the development of well organized monarchies and bureaucracies, and the invention of functional calendars and other divisions of time. These basic achievements, along with the awe that the early civilizations continue to inspire, are vital legacies to the whole of human history. Almost all the major alphabets in the world today are derived from the writing forms pioneered in the river valleys, apart from the even more durable concept of writing itself. For this reason, almost all later civilizations are built on the massive foundations first constructed in the river valleys.

Most river valley civilizations declined after about 1200 B.C.E.

A number of small centers emerged in the Middle East that introduced further innovations, including the religion of Judaism.

Despite these accomplishments, most of the river valley civilizations were in decline by 1000 B.C.E. The civilizations had flourished for as many as 2500 years, although of course with periodic disruptions and revivals. But, particularly in India, the new waves of invasion did produce something of a break in the history of civilization, a dividing line between the river valley pioneers and later cultures.

Heritage of Early Civilizations

This break raises one final question: besides the vital achievements—the fascinating monuments and the indispensable advances in technology, science, and art—what legacies did the river valley civilizations impart for later ages? The question is particularly important for the Middle East and Egypt. In India, there is still much ignorance about possible links between Indus River accomplishments and what came later. In China, there is a definite connection between the first civilization and subsequent forms. Indeed, the new dynasty in China, the Zhou, took over from the Shang about 1000 B.C.E., ruling a loose coalition of regional lords; recorded Chinese history flowed smoothly at this point. But what was the legacy of Mesopotamia and Egypt for later civilizations in or near their centers?

Europeans, even North Americans, are sometimes prone to claim these cultures as the "origins" of the Western civilization in which we live. These claims should not be taken too literally. It is

ne Idea of Civilization in World istorical Perspective

e belief that there are fundamental differ-ces between civilized and "barbaric" or "sav-" peoples is very ancient and widespread. r thousands of years the Chinese set them-ves off from cattle- and sheep-herding peo-s of the vast plains to the north and west of ina proper, whom they saw as barbarians. To e Chinese, being civilized was cultural, not bi-ogical or racial. If barbarians learned the inese language and adopted Chinese ways—om the clothes they wore to the food they ate—they were re-rded as civilized.

A similar pattern of demarcation and cultural absorption was und among the American Indian peoples of present-day Mexico. hose who settled in the valleys of the mountainous interior, where ey built great civilizations, lived in fear of invasions by peoples ey regarded as barbarous and called **Chichimecs,** meaning "sons f the dog." The latter were nomadic hunters and gatherers who pe-odically moved down from the desert regions of north Mexico nto the fertile central valleys in search of game and settlements to illage. The Aztecs were simply the last, and perhaps the fiercest, of long line of Chichimec peoples who entered the valleys and con-uered the urban-based empires that had developed there. But after ne conquerors settled down, they adopted many of the religious eliefs and institutional patterns and much of the material culture f defeated peoples.

The word *civilization* is derived from the Latin word *civilis,* neaning "of the citizens." The term was coined by the Romans. They sed it to distinguish between themselves as citizens of a cosmopoli-an, 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.

> The word *civilization* is derived from the Latin word *civilis,* meaning "of the citizens."

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, a major change occurred among thinkers in western Europe. 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. Depending on the writer in question, candidates for civilization ranged from Greece and Rome to (not surprisingly) Europe of the 17th and 18th centuries. Most of the other peoples of the globe, whose "discovery" since the 15th century had prompted the efforts to classify them in the first place, were ranked in increasingly complex hierarchies. Nomadic cattle- and sheep-herding peoples, such as the Mongols of central Asia, usually were classified as barbarians. In the 19th century, racial differences were added to the hierarchy, with white people seen as having evolved the most advanced civilizations.

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 European thinking and social interaction on racial or biological differences, modes of human social organization and cultural expression were increasingly linked 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 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 20th century, much of the intellectual baggage that once gave credibility to the racially embedded hierarchies of civilized and savage peoples was discarded. Racist thinking was discredited by 20th-century developments, including the revolt of the colonized peoples and the crimes committed by the Nazis before and during World War II in the name of racial purification. 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. Yet even though non-European peoples such as the Indians and Chinese are increasingly given credit for their civilized attainments, much ethnocentrism remains in the ways social theorists determine who is civilized and who is not.

Perhaps the best way to avoid the tendency to define the term with reference to one's own society is to view civilization 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?

not altogether clear that either Egypt or Mesopotamia contributed much to later political traditions, although the Roman Empire emulated the concept of a godlike king, as evidenced in the trappings of the office, and the existence of strong city-state governments in the Middle East itself continued to be significant. Ideas about slavery may also have been passed on from these early civilizations. Specific scientific achievements are vital, as the Greeks, for example, carefully studied Egyptian mathematics. Scholars argue, however, over how much of a connection exists between Mesopotamian and Egyptian science and later Greek thinking, aside from certain techniques of measuring time or charting the stars.

Some historians of philosophy have asserted a basic division between a Mesopotamian and Chinese understanding of nature, which they claim affected later civilizations around the Mediterranean in contrast to China. Mesopotamians were prone to stress a gap between humankind and nature, whereas Chinese thinking developed along ideas of basic harmony. It is possible, then, that some fundamental thinking helped shape later outlooks, but the continuities here are not easy to assess. Mesopotamian art and Egyptian architecture had a more measurable influence on Greek styles, and through these, in turn, later European and Muslim cultures. The Greeks thus learned much about temple building from the Egyptians, whose culture had influenced island civilizations, such as Crete, which then affected later Greek styles.

New Societies in the Middle East

There was a final connection between early and later civilizations in the form of regional cultures that sprang up under the influence of Mesopotamia and Egypt, along the eastern shores of the Mediterranean mainly after 1200 B.C.E. Although the great empires from Sumer through Babylon were disrupted and the Egyptian state finally declined, civilization in the Middle East had spread widely enough to encourage a set of smaller cultures capable of surviving and even flourishing after the great empires became weak. These cultures produced important innovations that would affect later civilizations in the Middle East and throughout the Mediterranean. They also created a diverse array of regional identities that would continue to mark the Middle East even as other forces, like the Roman Empire or the later religion of Islam, took center stage. Several of these small cultures proved immensely durable, and in their complexity and capacity to survive, they would influence other parts of the world as well.

A people called the **Phoenicians,** for example, devised a greatly simplified alphabet with 22 letters around 1300 B.C.E.; this alphabet, in turn, became the predecessor of Greek and Latin alphabets. The Phoenicians also improved the Egyptian numbering system and, as great traders, set up colony cities in north Africa and on the coasts of Europe. Another regional group, the Lydians, first introduced coined money.

Phoenicians Seafaring civilization located on the shores of the eastern Mediterranean; established colonies throughout the Mediterranean.

Judaism

The most influential of the smaller Middle Eastern groups, however, were the Jews, who gave the world the first clearly developed monotheistic religion. We have seen that early religions, both before and after the beginnings of civilization, were polytheistic, claiming that many gods and goddesses worked to control nature and human destiny. The Jews, a Semitic people influenced by Babylonian civilization, settled near the Mediterranean around 1200 B.C.E. The Jewish state was small and relatively weak, retaining independence only when other parts of the Middle East were in political turmoil. What was distinctive about this culture was its firm belief that a single God guided the destinies of the Jewish people. Priests and prophets defined and emphasized this belief, and their history of God's guidance of the Jews formed the basis for the Hebrew Bible. The Jewish religion and moral code persisted even as the Jewish state suffered domination by a series of foreign rulers, from 772 B.C.E. until the Romans seized the state outright in 63 B.C.E. Jewish **monotheism** has sustained a distinctive Jewish culture to our own day; it would also serve as a key basis for the development of both Christianity and Islam as major world religions.

notheism The exclusive worship of a single ; introduced by the Jews into Western lization.

Because Judaism stressed God's special compact with the chosen Jewish people, there was no premium placed on converting non-Jews. This belief helps explain the durability of the Jewish faith itself; it also kept the Jewish people in a minority position in the Middle East as a whole. However, the elaboration of monotheism had a wide, if not immediate, significance. In Jewish hands, the concept of God became less humanlike, more abstract. This represented a basic change in not only religion but also humankind's overall outlook. God had not only a power but also a rationality far different from what the traditional gods of the Middle East or Egypt possessed. These gods were whimsical and capricious; the Jewish God was orderly and just, and individuals would know what to expect if they obeyed God's rules. God was also linked to ethical conduct, to proper moral behavior. Religion for the Jews was a way of life, not merely a set of rituals and ceremonies. The full impact of this religious transformation on Middle Eastern civilization would be realized only later, when Jewish beliefs were embraced by other, proselytizing faiths. However, the basic concept of monotheistic religion was one of the legacies of the end of the first great civilization period to the new cultures that would soon arise.

Assessing the Early Civilization Period

Overall, the river valley civilizations, flourishing for many centuries, created a basic set of tools, intellectual concepts such as writing and mathematics, and political forms that would persist and spread to other parts of Europe, Asia, and Africa. Invasion and natural calamities in India, and invasion and political decline in Egypt, marked a fairly firm break between the institutions of these river valley civilizations and those that would later develop. Huang he civilization, in contrast, flowed more fully into the more extensive Chinese civilization that would follow. The Middle East, where civilization had first been born, provided the most complex heritage of all. Here too there was a break between the initial series of riverine empires and the civilizations of Greece and Persia that would later dominate the region. However, the development of smaller cultures, such as that of the Jews, provided a bridge between the river valley period and later Middle Eastern society, producing vital new inventions and ideas. The smaller cultures also generated a deeply entrenched network of regional or minority values and institutions that would continue to make the Middle East a complex, vibrant, and sometimes troubled part of the world.

One final result of the first, long period of human civilization is certainly clear: a pattern of division among the world's peoples. The diffusion of *Homo sapiens sapiens* set the initial stage. Small groups of people spread to almost every corner of the world but maintained little contact with each other thereafter. Separate languages and cultures developed widely. The rise of agriculture stimulated new links, and the spread of farming and new technologies began to cut into local isolation. Trade soon entered the picture. Although most commerce centered within a region, linking a city to its hinterland, a few routes traveled greater distances. By 1000 B.C.E., Phoenicians traded with Britain for metals (they bought lead to make bronze), while Chinese silk was reaching Egypt. Here we have one of the basic themes of world history: steadily proliferating contacts against a background of often fierce local identity.

The rise of civilization further reduced local autonomy, as kings and priests tried to spread trade contacts and cultural forms and warred to gain new territory. Civilization itself was an integrating force at a larger regional level, although, as we have seen in the Middle East, smaller identities persisted. However, individual civilizations had only sporadic contacts with each other. They, and their leading institutions and cultural forms, developed separately. Thus, four distinct centers of civilization developed (five, if the emerging Olmec culture in Mexico is included), each with widely varied patterns, from style of writing to beliefs about nature.

The early civilizations shared important features, including cities, trade, and writing, that helped them meet the common basic definition of civilization in the first place. They also frequently developed some mutual relationships, although the Huang he culture in China is one example of a civilization that flourished in relative isolation. Egypt and Mesopotamia, in particular, had recurrent contacts through trade and war. But the values or belief systems of each civilization, and their manifestation in political and business styles, were not so easily disseminated. Even relatively close neighbors, such as Egypt and Mesopotamia, developed radically different political attitudes, beliefs about death, and artistic styles. Civilization and considerable diversity thus coexisted hand in hand.

Global Connections

The Early Civilizations and the World

Mesopotamia and Egypt presented two different approaches to relationships outside the home region. Mesopotamia was flat, with few natural barriers to recurrent invasion from the north. Perhaps for this reason, Mesopotamian leaders thought in terms of expansion. Many conquering emperors expanded their territory, though within the Middle East. Many traders pushed outward, dealing either with merchants to the east or sending expeditions into the Mediterranean and beyond, and also to India. The Middle East's role as active agent in wider contact was clearly being established.

Egypt, though not isolated, was more self-contained. There was important trade and interaction along the Nile to the south, which brought mutual influences with the peoples of Kush and Ethiopia. Trade and influence also linked Egypt to Mediterranean islands like Crete, south of Greece. A few interactions, finally, occurred with Mesopotamia. But most Egyptians, including the leaders, thought of Egypt as its own world. There was less need or desire to learn of wider horizons. Correspondingly, ancient Egypt played less of a role as intermediary among regions than did Mesopotamia.

River valley civilization in China had fewer far-reaching contacts than its counterpart in Mesopotamia. Ultimately, however, contacts with China would shape developments in Japan, Korea, and Vietnam. Already in the river valley period, the Chinese were advancing new technologies, for example in the manufacture of silk, which would have wide influence on later interregional trade. Chinese irrigation systems became increasingly sophisticated, involving engineering principles that would gain wider scope later on.

Harappan society traded widely with Mesopotamia, but there is little evidence of significant influence. The decline of Harappan civilization also limited the civilization's impact on later developments in world history. Harappan civilization proved much more vulnerable to natural disasters and climate change, particularly in contrast to China. Comparison of the early civilizations thus emphasizes quite different patterns of scope and legacy.

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).

Two excellent studies can guide additional work on early civilization in Mesopotamia: C. L. Redman's *The Rise of Civilization: From Early Farmers to Urban Society in the Ancient Near East* (1988) and Marc Van de Mieroop, *King Hammurabi of Babylon: A Biography* (2005). See also Trevor Bryce, *The Trojans and Their Neighbors* (2006); Sarah Iles Johnston, *Ancient Religions* (2007); C. B. F. Walker, *Cuneiform* (1987); G. W. Bowersock, *Mosaics as History: The Near East from Late Antiquity to Islam* (2006); and

W. F. Saggs, *Babylonians* (1995). Important studies of Egypt include T. G. H. James, *Ancient Egypt: The Land and Its Legacy* (1988); C. Grimal, *A History of Ancient Egypt* (1992); Christiance Ceches Noblecourt, *Gifts from the Pharaohs: How Egyptian Civiation Shaped the Modern World* (2007); Zahi Hawass, and *ountains of the Pharaohs: The Untold Story of the Pyramid uilders* (2006). See also Donald B. Redford's *From Slave to haraoh: The Black Experience of Ancient Egypt* (2004).

For an excellent study of non-Western science beginning th the Egyptians and Mesopotamians, see Dick Teresi, *Lost Disveries: The Ancient Roots of Modern Science—From the Babyloni-s to the Maya* (2002).

For the most authoritative, up-to-date and detailed coverage of aspects of Harappan civilization, see Gregory L. Possehl, *Indus Age: he Beginnings* (1999); and Mark Kenoyer, *Ancient Cities of the Indus alley Civilization* (1998). For a sense of the state of archeological research and recent discoveries, see the sometimes technical essays in ossehl, ed., *Harappan Civilization: A Contemporary Perspective* 982); and N. N. Bhattacharyya, *Ancient Indian History and Civiliza-on: Trends and Perspectives* (1988). On ancient Indian political sysms, see A. C. Pandey, *Government in Ancient India* (2000).

For ancient China, the most current interpretations can be ound in the superb essays in Michael Loewe and Edward L. haughnessy, eds., *The Cambridge History of Ancient China: From he Origins of Civilization to 221 B.C.* (1999). The nomadic impact n the formation of China is treated mainly from the Chinese perpective by Nicola Di Cosmo, *Ancient China and Its Enemies* (2002).

On the Web

virtual tour of the social life of early humans in the Americas, ncluding weaving and toolmaking can be taken at http://ecosrio.com/. The dramatic findings at Olduvai Gorge made by he Leakey family that revolutionized knowledge about human rehistory can be viewed at http://www.talkorigins.org/. Views of Chauvet, rich in cave paintings, can be found at http://www.culture.gouv.fr/culture/arcnat/chauvet/en/. A virtual walk through n exhibit on human prehistory is offered at http://users.hol.gr/dilos/prehis/prerm5.htm includes a gallery of art and artifacts, nd an artist's reconstruction of Çatal Hüyük. Çatal Hüyük is erved by an exciting interactive site at http://okapi.dreamhosters.com/remixing/mainpage.html.

It is possible to make a virtual visit to the Mesopotamian ity of Ur at http://www.mnsu.edu/emuseum/archaeology/sites/middle_east/ur.html and also the city of Nippur at http://oi.uchicago.edu/research/projects/nip/nsc.html.

It is also possible to take virtual tours of key sites of Egyptan (http://www.ancientegypt.co.uk/menu.html) and Nubian/Kushite ivilizations (http://www.nubianet.org/about/about_history6.html nd http://oi.uchicago.edu/OI/PROJ/NUB/NUBX92/NUBX92_brochure.html). A head-turning virtual three-dimensional walk hrough an Egyptian pyramid is offered at http://www.pbs.org/vgbh/nova/pyramid/explore/khufu.html. The daily life of ancient Egyptians is addressed at http://homepage.powerup.com.au/~ancient/life1.htm and http://www.touregypt.net/historicalessays/lifeinEgypt11.htm. How the Egyptian goddess Isis may have influenced the women of ancient Nubia is explored at http://wysinger.homestead.com/nubianwomen.html. The ancient civilizations of Persia can be viewed at http://members.ozemail.com.au/~ancientpersia/intro_frm.html, while the Persian capital of Persepolis receives close treatment at http://oi.uchicago.edu/museum/collections/pa/persepolis/ and http://www.crystalinks.com/iran.html.

Ancient mathematical and writing systems are examined at http://www.math.wichita.edu/history/topics/ancient.html, http://www-groups.dcs.st-andrews.ac.uk/~history/Indexes/Egyptians.html, http://oi.uchicago.edu/museum/virtual/eg/d.html, and at the amazingly colorful http://www.eyelid.co.uk/hiromenu.htm.

The history of early Judaism and its traditions can be studied at http://www.dinur.org/1.html?rsID=219, http://www.pbs.org/wnet/heritage/index.html, http://score.rims.k12.ca.us/activity/ancient_hebrews/, and http://www.jewishvirtuallibrary.org/jsource/Archaeology/archtoc.html (accessed also via http://www.jewishvirtuallibrary.org/). For Judaism's place among other Abrahamic religions (Christianity and Islam), see http://en.wikipedia.org/wiki/Abrahamic_religions.

The Yellow River as the cradle of Chinese civilization is analyzed at http://www.cis.umassd.edu/~gleung/ and http://wsu.edu/~dee/ANCCHINA/YELLOW.HTM. Early Chinese oracle bones and their place in the evolution of writing are explored at http://en.wikipedia.org/wiki/Oracle_bone. Images drawn from early Chinese history and culture can be viewed at http://www.chaos.umd.edu/history/ancient1.html and http://www.chinapage.com/content.html . Early Chinese ethical systems are discussed at http://www.san.beck.org/EC13-Chou.html.

An overview of early Indian history and culture may be found at http://www.mnsu.edu/emuseum/prehistory/india/indus/geography.html, http://pubweb.cc.u-tokai.ac.jp/indus/english/index.html, and http://library.thinkquest.org/11372/data/history.htm.Two principal cities of the Indus Valley, Harappa and Mohenjo Daro, can be visited virtually at http://www.harappa.com/index.html and http://www.harappa.com/indus/slideindex.html.

The art of the Indus Valley is explored at http://www.art-and-archaeology.com/timelines/india/early.html and http://www.accd.edu/sac/vat/arthistory/arts1303/India1.htm. The cultures of ancient Sumer and India are compared at http://www.hyperhistory.net/apwh/essays/comp/cw02summeriansharappans34100118.htm. Early daily life among Indo-European speaking people in Greece and India is compared at http://www.oldandsold.com/articles32n/history-outline-94.shtml.

The influence of India and China on early trade patterns in Southeast Asia is discussed at http://www.seasite.niu.edu/Tagalog/Tagalog_Default_files/Philippine_Culture/trade_and_early_empires.htm and http://findarticles.com/p/articles/mi_m1310/is_1984_June/ai_3289705. Early trade between India and China is briefly surveyed at http://www.historyforkids.org/learn/india/economy/ and http://depts.washington.edu/silkroad/exhibit/trade/trade.html.

AP* Test Prep

1. The transformation that was most responsible for initially moving humans toward civilization was the
   (A) the introduction of the use of iron.
   (B) growth of towns and cities.
   (C) rise of agriculture.
   (D) rise of specialized classes.

2. The emergence of sedentary agriculture
   (A) occurred simultaneously in various places and spread around the world.
   (B) began only in the savannas of West Africa.
   (C) started in the Middle East first but developed independently in other areas.
   (D) arose in the river valleys of the Huang he and Yangtze.

3. Cuneiform and other types of writing are important in part because they
   (A) help organize elaborate political structures.
   (B) normally reduce social stratification.
   (C) can compel leaders to follow written guidelines of behavior.
   (D) hinder economic development in certain circumstances.

4. Which of the following is NOT a feature of Sumerian civilization?
   (A) a simplified alphabet of 22 letters.
   (B) ziggurats.
   (C) cuneiform.
   (D) a numeric system based on 10, 60, and 360.

5. Unlike Sumer and Egypt, the Indus Valley or Harappan civilization
   (A) became a geographic center for a unified, continuous culture lasting millennia.
   (B) is particularly difficult to study because its writing has not been deciphered.
   (C) was secure from nomadic incursions and invasions.
   (D) never developed a military social class.

6. Compared to river valley cultures in Egypt and Mesopotamia, Chinese civilization
   (A) probably developed after civilizations in the Nile Valley and Mesopotamia.
   (B) predates the rise of civilization in both Egypt and Mesopotamia.
   (C) developed simultaneously with Egypt and Mesopotamia.
   (D) did not rely on heavy irrigation as year round water was plentiful.

7. Stone tools, hunting and gathering, and an increasing number of *Homo sapiens sapiens* are features of the
   (A) Late Paleolithic Age.
   (B) Bronze Age.
   (C) Early Copper Age.
   (D) River valley civilizations.

Free-Response Question

To what extent was the Neolithic revolution responsible for the development of early civilizations? What are the problems in positing a direct connection?