

PERIOD I: Technological and Environmental Transformations, to c. 600 B.C.E.

Chapter 1 From Hunter-Foragers to Settled Societies

Chapter 2 The First Civilizations

Period Overview

From their origins in East Africa, nomadic humans slowly migrated across the earth, hunting and foraging for food. The development of farming and herding around 8000 B.C.E. (10,000 years ago) was revolutionary. With a more dependable food supply, villages grew into cities, people specialized in jobs, powerful states emerged, and people developed the first writing systems. Trade expanded, spreading new goods and ideas more rapidly than before. By 600 B.C.E., Mesopotamia, India, Egypt, China, Mesoamerica, and the Andes had impressive civilizations that would provide the core of later civilizations in their regions.

Key Concepts

1.1 Big Geography and the Peopling of the Earth

- I. Archeological evidence indicates that during the Paleolithic era, hunting-foraging bands of humans gradually migrated from their origin in East Africa to Eurasia, Australia, and the Americas, adapting their technology and cultures to new climate regions.

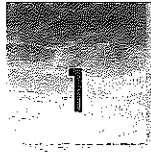
1.2 The Neolithic Revolution and Early Agricultural Societies

- I. Beginning about 10,000 years ago, the Neolithic Revolution led to the development of new and more complex economic and social systems.
- II. Agriculture and pastoralism began to transform human societies.

1.3 The Development and Interactions of Early Agricultural, Pastoral, and Urban Societies

- I. Core and foundational civilizations developed in a variety of geographical and environmental settings where agriculture flourished, including Mesopotamia in the Tigris and Euphrates River Valleys, Egypt in the Nile River Valley, Mohenjo-Daro and Harappa in the Indus River Valley, Shang in the Yellow River or Huang He Valley, Olmecs in Mesoamerica, and Chavín in Andean South America.
- II. The first states emerged within core civilizations in Mesopotamia and the Nile Valley.
- III. Culture played a significant role in unifying states through laws, language, literature, religion, myths, and monumental art.

Source: AP[®] World History Curriculum Framework, 2016–2017



From Hunter-Foragers to Settled Societies

"Civilizations take ages to be born, to settle, and to grow."

—Fernand Braudel, *A History of Civilizations*

Achieving an understanding of early human history is difficult. But even though prehistoric peoples did not have a written language, they left evidence of how they lived in their bones and in their *artifacts*, objects made by people in the past. For example, the size and composition of skeletons can suggest how well nourished people were. Chipped stones indicate they made tools with sharp edges. The remains of burnt logs show they used fire. And since prehistoric people often buried their dead with jewelry and religious tokens, they left clues about what they considered valuable. By studying these physical remains, people today can trace the movements of the earliest humans across the globe, understand how they traded with each other, and learn about the new technologies they developed.

Migrating Across the Globe

Modern humans, the group *Homo sapiens sapiens*, first appeared in East Africa between 200,000 and 100,000 years ago. They survived by hunting animals and foraging for seeds, nuts, fruits, and edible roots, so they are labeled as *hunter-foragers* or hunter-gatherers. Always on the search for food, they migrated from place to place, gradually expanding the region of human settlement. If the population became too dense in one area or if the climate shifted, they might be pushed to move. Other times, they might be pulled to a new region by new sources of food or fresh water. As people encountered new climates and environments, they developed new cultural patterns and new forms of technology.

One force pushing migration was climate change. As the climate warmed and cooled, animal and plant habitats shifted. People adjusted by following the animals and plants. Each time the climate cooled—a dip in the average daily temperature of several degrees—habitats would shift toward the equator and glaciers would grow, covering up land. As the climate warmed, habitats would shift away from the equator and more land would open up for occupation. As the animals and plants moved, so did people.

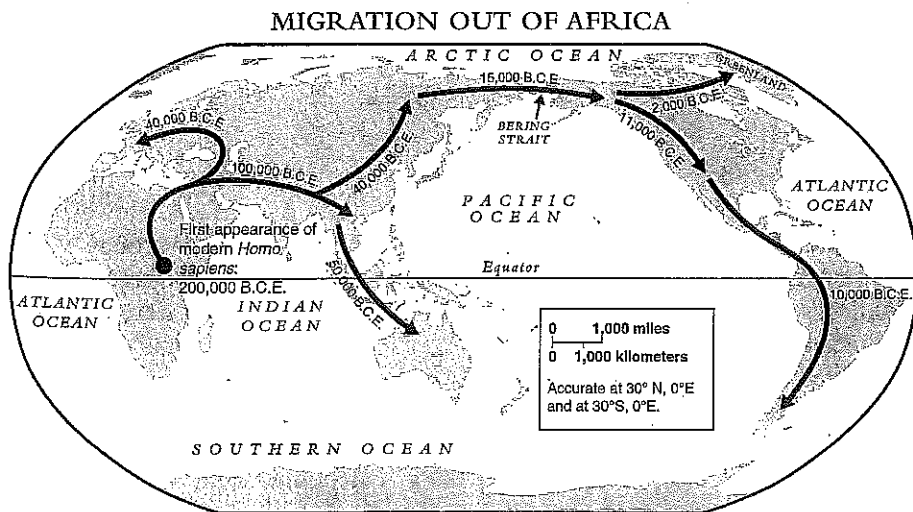
During one cooler period, so much water froze into ice that the ocean levels fell as much as 400 feet below today's level. The level was low enough that land connected northeastern Asia and what is now Alaska. This land, now submerged under the Bering Strait, provided a bridge between Asia and the Americas. Nomadic hunters followed herds of animals that wandered across this land. When temperatures increased and ocean levels rose, these people, the first Americans, were cut off from their Asian ancestors. Over time, they slowly moved farther south along the coast.

By 10,000 B.C.E., possibly far earlier, humans lived on every continent except Antarctica. In each region, people developed distinctive cultures.

The Paleolithic Period

The early years of human history are part of the *Paleolithic Period*, which began 2.5 million years ago and ended about 10,000 years ago (8000 B.C.E.). Because humans used stone tools and weapons in this period, it is often called the Stone Age. In addition to stone, people made tools from wood, animal bones, and antlers. Many of their tools included a sharp point or blade. For example, they had digging sticks for uncovering roots they could eat, and they had spears, harpoons, and arrows for killing animals.

Adapting to the Environment As people migrated in search of animals and edible plants, they found certain tools to be particularly useful in the new environment they encountered. For example, as they moved into cooler climates as far north as the tundra, they needed scrapers for cleaning the flesh off of animals' skins they wore for warmth. In the warmer regions such as the tropics, nets for catching fish were particularly valuable. As they reached the coasts of the Mediterranean Sea and the Pacific Ocean, they built strong rafts to venture out onto the water. In forested areas, they used axes to cut down trees to make shelters. People adapted technology to new conditions.



Control of Fire One of the greatest accomplishments of people in the Paleolithic Period was to learn to control fire. It changed their lives by providing

- light to allow them to see better after the sun went down
- heat so they could live in colder climates than before
- protection against wild animals
- smoke to pacify bees, which made obtaining honey easier
- help in hunting by scaring animals to race to their death over a cliff

Possibly the most influential use of fire was to prepare food. Cooking made protein-rich and starchy foods (both hunted and foraged) easier to digest and, hence, more nutritious.

Hunter-Forager Society As early humans developed new technology, they also established more complex social structures. At the center of society was the nuclear family, which then expanded outward to include ties between related families. Several related families that moved together in search of food were called a *kinship group*. A typical group might include 20 to 40 people. Smaller groups might have difficulty finding enough food. Larger groups would use up the food supply of an area more quickly, which would require more frequent moving. Kinship groups were often nearly self-sufficient. They could make most or all of what they needed to survive.

Though kinship groups traveled on their own and were close to self-sufficient, they were not isolated. They were often part of a larger group of relatives called a *clan*. And sometimes multiple clans combined into still larger units called a *tribe*. An individual did not have to be related to other members to be considered part of a tribe. The tribes were formed for purposes of group hunting or mutual defense from enemies and were usually led by chiefs and priests.

Between groups at each level of organization—kinship group, clan, and tribe—people were also tied together by trade. Besides trading goods such as tools and clothing, they also traded people. A person from one group might join another group to help balance out the size of each group. Through these trades in goods and people, ideas spread. People learned new methods for making tools, new thoughts about religion, and new information about the world.

Roles in Society Since early people did not leave written records, most modern knowledge of them comes from the study of artifacts. However, in modern times, anthropologists have also studied hunter-forager groups whose way of life probably resembles that of earlier nomads. From these modern studies, scholars have inferred that Paleolithic groups probably were relatively egalitarian. They did not have many layers of leaders, and only small differences separated the poorest and the wealthiest individuals in a kinship group.

Functions in hunter-forager societies were often divided by gender. These societies were *patriarchal*, ones dominated by men. Paleolithic males took charge of hunts, warfare, and heavy labor. Paleolithic women gathered and



Source: iStockphoto

The oldest known paintings were created about 40,000 years ago..

prepared food and looked after the children. Anthropologists believe that the women breast-fed their children for as long as five years, a practice that provided high nutrition for the children as well as a very rudimentary form of family planning. (Test Prep: Write a paragraph connecting early hunter-forager groups with such groups in Russia. Read about the Slavic peoples on page 137)

Religion and Art Paleolithic people developed a system of religious beliefs centered around the worship of gods they associated with the forces of nature. The belief that animals, rivers, and other elements of nature embody spirits is called *animism*. The first religious leaders were probably *shamans*, people believed to have special abilities to cure the sick and influence the future. Ritual sacrifices to these gods and evidence of burial practices suggest a belief in the afterlife that dates back 100,000 years. Evidence of artistic expression has been found in the form of cave paintings, which date back to 32,000 years ago, and musical instruments, such as flutes, dating to 30,000 years ago. Paleolithic art may have been connected to religious ceremonies.

Neolithic Revolution

Around 10,000 years ago (8000 B.C.E.), as the climate was warming up from an Ice Age, a collection of social and political developments coalesced into what is called the *Neolithic Revolution*, a set of dramatic changes in how people lived based on the development of agriculture. These changes are sometimes called the Agricultural Revolution. This “revolution” did not happen instantaneously, nor did it occur everywhere at the same time, nor did it affect everyone directly. For example, the Neolithic Revolution in China dates to 5000 B.C.E., whereas in the Middle East, it can be dated to around 8000 B.C.E. It can be characterized by several major developments:

1. agriculture
2. pastoralism
3. specialization of labor
4. towns and cities
5. governments
6. religions
7. technological innovations

Agriculture Taking advantage of a warmer global climate following the end of the last Ice Age, some hunter-forager cultures learned to grow crops by putting seeds of wild plants into the ground. They gave up their nomadic way of life to stay in one place and take up *agriculture*, the practice of raising crops or livestock on a continual and controlled basis. As they learned to plant, tend, and harvest crops, people found they often had a *surplus*, or more than they needed for themselves. The development of agriculture occurred first in lands just east of the Mediterranean Sea. It also occurred independently at several other places and from these places spread throughout the world.

These early farmers domesticated the crops that were already growing wild in their region: wheat and barley in Southwest Asia, millet in Northern China, rice in Southeast Asia, and maize (corn) in Mesoamerica. As cultivation of these crops spread, the natural diversity of plants in a region decreased. With that change came reductions in the diversity of insects and animals that depended on the other crops.

The availability of these farmed crops also made the diets of people less diversified. Usually people in an area would grow just one or two crops, and they would eat foods prepared with those crops at every meal. People continued to hunt animals and to gather wild fruits and nuts when seasonably available, but overall the farmers’ diets lacked the variety of full-time hunter-foragers. By cultivating just one or two plants, they eliminated other plants that had been part of people’s diets.

Pastoralism Even before people settled down as farmers, people in Africa, Europe, and Asia had begun to tame wild animals so they could be brought up to live with humans, a process called *domestication*. The first animal that

people domesticated was the dog. Initially, humans employed dogs to assist with hunting and to provide warnings about the approach of dangerous animals. Goats were domesticated next. They provided both meat and milk. Other animals were domesticated soon after—cattle, horses, sheep, pigs, and chickens—that provided labor or food. As people began to keep larger herds of animals, they began to lead them from one grazing land to another. Their way of life is called *nomadic pastoralism*, or simply pastoralism, because it was based on people moving herds of animals from pasture to pasture. Like hunters and foragers, pastoralists were mobile. Like farmers, pastoralists controlled their food supply. Pastoralism first emerged in grassland regions of Africa and Eurasia.

Domestication of Plants and Animals						
Area	18,000 to 15,000 B.C.E.	15,000 to 12,000 B.C.E.	12,000 to 9,000 B.C.E.	9,000 to 6,000 B.C.E.	6,000 to 3,000 B.C.E.	3,000 to 1 B.C.E.
Europe	• Dogs			• Sheep • Pigs • Goats • Cattle	• Wheat	
Middle East			• Cattle • Barley • Wheat	• Goats • Sheep		
Africa				• Cattle	• Sorghum	• Rice
Asia			• Rice • Pigs	• Millet • Cattle		
Americas				• Maize • Squash	• Beans	

Like farmers, pastoralists made the shift away from hunting-foraging hoping to create a more dependable food supply for themselves. And like farmers, pastoralists affected the environment dramatically. At times, pastoralists would allow their animals to graze an area so heavily that the animals would destroy the grass. When rains came, without grass to hold the soil in place, the soil would wash away and the land became infertile.

However, pastoralists were unlike farmers in one important way: While farmers settled in one place, pastoralists moved regularly. Hence, while farmers accumulated belongings, pastoralists usually owned very little. And while farmers had only a little contact with people in other communities, pastoralists were in contact with new items and new ideas. Over the past

10,000 years, pastoralists have played an important role in spreading ideas and trading goods among people. (Test Prep: Create a chart comparing Paleolithic pastoralists with later pastoralists such as the Mongols. See page 241.)

Specialization of Labor The growth of agriculture and pastoralism reduced plant and animal diversity, but the surpluses of food they produced led to dramatic changes. For the first time in history, some workers were free to focus on tasks other than producing food. Some people became *artisans*, people who made objects people needed, such as woven cloth or pottery. Others became *merchants*, people who buy and sell goods for a living. Still others became soldiers, religious leaders, or politicians. This process of allowing people to focus on limited tasks is called the *specialization of labor*.

The impact of specialization of labor was far-reaching. Freed from work on the farms, artisans made weapons, tools, and jewelry. A merchant class, engaged with trading these objects, emerged. The surplus of food and goods, combined with the needs of religious ceremonies and a rudimentary system of taxation, led to the invention of writing, which was first used to keep records about trades and tax payments. People later began to use writing to communicate with one another, to record descriptions of events, and to write down religious stories. The development of writing marked the transition from prehistory to history.

Growth of Villages, Towns, and Cities The food surplus encouraged both a growth in population and an opportunity to do work not related to producing food. Permanent dwellings and villages and towns multiplied as tribes abandoned their nomadic lifestyles and, eventually, some cities emerged. With the change in food production came *social stratification*. This means that some people accumulated wealth in the form of jewelry and other coveted items and by building larger and better decorated houses. The idea of private property became increasingly important. People with more wealth or more power to control the surplus formed an elite. In general, the elites were men.

One of humankind's first cities was *Jericho*, which was built on the west bank of the Jordan River. The oldest evidence of human settlement there dates from about 9000 B.C.E. Another ancient city, *Catal Huyuk*, in present-day Turkey, was founded in 7500 B.C.E. along a river that has since dried up. The city existed for about 2,000 years, but its well-preserved remains have helped modern people understand life long ago. Although both cities were significant population centers, and while Jericho has tremendous significance in the Judeo-Christian tradition, neither city became a major site of an emerging civilization.

Governments The surplus of food also led to the creation of governmental institutions. People had to work together to clear land and, in many places, provide irrigation to water the crops. To coordinate these efforts required a government. And if the community produced a surplus, powerful leaders were required to supervise how it was used, and soldiers were needed to protect it from other groups. Priests were needed, not only to supervise religious ceremonies, but also to explain how the behavior and rulings of leaders were based on religious doctrine.

The leaders of farming communities and towns developed the earliest forms of government. Those who owned the most land or livestock became the wealthiest and thus the most powerful. They became the leaders of local governments.

Religions Given the unpredictable nature of weather and longer-term climate changes, Neolithic farmers experienced temporary interruptions and problems, just as farmers do today. Moreover, agricultural land could lose its fertility through *overfarming* unless it was left fallow or it was fertilized, usually by the spreading of animal manure. Pastures could erode due to *overgrazing*, or the continual eating of grasses or their roots, without allowing them to regrow. As people tried to persuade the spirits of nature to help with their crops and herds, religious ceremonies became more elaborate. These ceremonies became so important and elaborate, a special class of *priests* and *priestesses* developed to conduct them.

In some regions, new religious beliefs became highly organized before 600 B.C.E. For example, along the eastern coast of the Mediterranean Sea, the Hebrews emerged under the leadership of Abraham. They were among the first religious groups to worship only one deity, a practice called *monotheism*. In South Asia, the Vedic religion included a variety of deities and a heavy emphasis on rituals. In what is now Iran, a teacher named Zoroaster inspired the religion of Zoroastrianism, which focused on the eternal battle between two forces, one good and one evil.

Technological Innovations Societies advanced as people adopted new tools and skills. In some cases, these advances were probably made in one place. In other cases, they were made in several places independently. Either way, most people learned about new technology through trade, war, or other forms of contact with other societies:

- To store food and carry water, they invented waterproof clay pots. People shaped pots out of wet clay and then hardened them in fire. Sometimes people decorated the pots before firing by etching designs on them. Since these pots are one of the artifacts that has lasted thousands of years, they provide insight into how people lived and what they thought was important.
- People improved on the drilling stick, creating a plow. The plow could be pulled by oxen or other animals, which made cultivating crops much easier. In addition, turning over the soil disrupted the growth of weeds, which enabled crops to grow better and increased their yield.
- The development of the wheel with an axle revolutionized transportation and trade. A wheeled cart could transport a load with about 3 percent of the effort needed to drag it. People could transport everything more easily, from grain for overseas trade to stones for building monumental architecture. Adding wheels to a plow made planting crops easier.

- The production of *textiles*, items made of cloth, included several steps. Weavers, who were usually women, learned to spin hair from animals or fibers from plants into threads and then weave the threads into cloth. Workers would often decorate the textiles by dyeing the threads and making patterns. All of this work was usually done in the home.
- People gradually learned *metallurgy*, the science of the study of metals. They replaced their stone tools and weapons with ones made from metal, a process made easier as they learned to heat metals with fire. They first used *copper*, which they found in a pure state in the ground. Through experimentation, they learned that melting tin and copper together made a stronger metal, *bronze*. This metal marked such an advance that it gave the period a new name: the *Bronze Age*, which began at different locations at different times but generally between 3300 and 2300 B.C.E.

The First Civilizations

The seven developments of the Neolithic Revolution that began around 8000 B.C.E. created the foundation for a new form of human society to emerge over several thousand years. This new form is *civilization*, a large society with cities and powerful states. In early civilizations, many people continued to hunt and forage, often mixing those activities with farming or herding.

Trends that began to emerge in the Neolithic Revolution became even stronger in the early civilizations. For example, society became more stratified into clearly different socio-economic classes, human impact on the environment became more intense, government and religious and military institutions became larger and more complex, and trade increased. Elites grew more powerful as they became increasingly wealthy. The gap between the rich and the poor grew wider, and the relative power of men and women in society diverged more noticeably. Most societies became *patriarchies*, ones ruled by men. (Test Prep: Write a paragraph comparing the Neolithic Revolution with the Industrial Revolution. See pages 421–433.)

The first four civilizations that grew out of the Neolithic Revolution developed independently in river valleys scattered around the earth. The first one was in Southwest Asia, in the valleys of the Tigris and the Euphrates, a region called Mesopotamia. The next three were in the Nile River valley in Egypt, the Huang He (Yellow) River valley in China, and the Indus River valley in India. Two other early civilizations, in Mesoamerica and the Andes Mountains, were not tied closely to a major river valley.

All six of these civilizations developed ways of life, such as language, religious beliefs, and economic practices, that would heavily influence successor civilizations in their regions. Because of their influence, they are examples of *core and foundational* civilizations.

HISTORICAL PERSPECTIVES: WAS FARMING A MISTAKE?

Scholars who study the development of agriculture disagree about its impact of. Many see it as advance, but others note its high cost.

Criticism of Farming Evolutionary biologist Jared Diamond called the development of agriculture the “worst mistake in the history of the human race.” He argued that reducing the variety of food in people’s diets increased malnourishment. Relying on fewer food sources made people more susceptible to famine. Living in concentrated settlements increased everyone’s risk for disease. Together, Diamond concluded, these changes reduced the average life span.

Reducing Violence In contrast, evolutionary psychologist Steven Pinker argued that agriculture and pastoralism reduced violence. He cited studies that suggest that hunter-forager societies had high murder rates and frequent warfare. These societies were dangerous because they lacked governments strong enough to maintain peace.

Costs and Benefits Evolutionary anthropologist Jay Stock saw both negatives and positives in the Neolithic Revolution. From a study of 9,000 skeletons from ancient Egypt, he found that hunter-foragers who lived before the agricultural revolution averaged 5 feet, 8 inches tall. However, those who lived in the first several thousand years after the development of farming averaged 4 inches shorter. Still, he noted the long-term benefits of agriculture: “Without the surplus of food you get through farming, we couldn’t have the runaway technological innovation we see today.”

KEY TERMS BY THEME

ENVIRONMENT	STATE-BUILDING	SOCIAL STRUCTURE
overfarming	Jericho	kinship group
overgrazing	Catal Huyuk	clan
		tribe
CULTURE	ECONOMICS	patriarchal
artifacts	textiles	artisans
<i>Homo sapiens sapiens</i>	specialization of labor	merchants
Paleolithic Period	copper	social stratification
Neolithic Revolution	bronze	priests
monotheism	hunter-forager	priestesses
Bronze Age	agriculture	
civilization	surplus	
core and foundational	domestication	
	nomadic pastoralism	

The First Civilizations

Create Babylon, whose construction you requested! Let its mud bricks be molded, and build high the shrine!

—The Epic of Creation, 1st Millennium B.C.E., a Sumerian version of how the world began.

Four of the first civilizations emerged in river valleys. In one or more of these, as well as in other early civilizations, people developed large urban areas, extensive trade, formal legal codes, sophisticated writing systems, and other critical developments that have become standard features of civilizations ever since.

The Sumerians

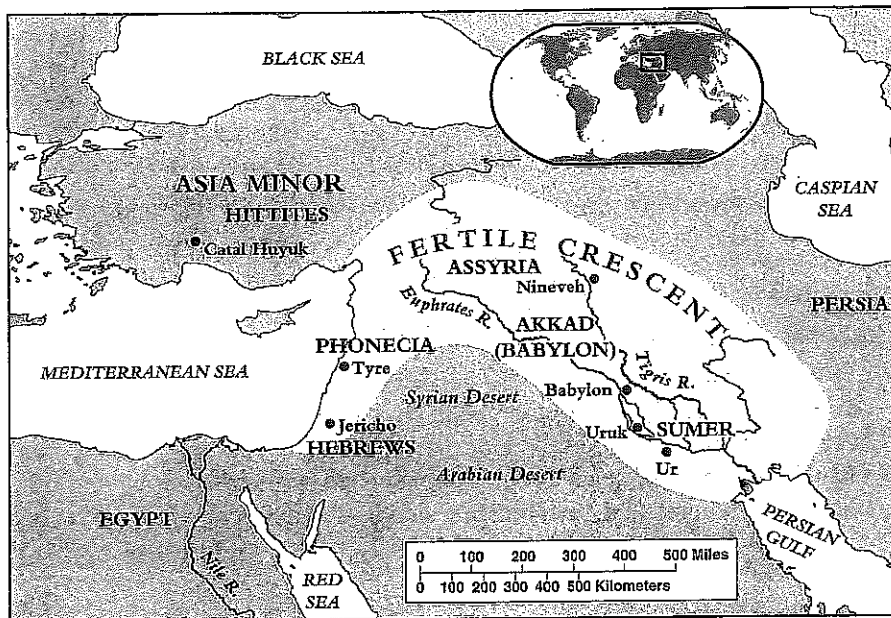
In Southwest Asia, the *Tigris* and *Euphrates* rivers flow south from modern-day Turkey through what is now Iraq to empty into the Persian Gulf. The area between these two rivers was once known as *Mesopotamia*, which comes from a Greek word meaning “between rivers.” Because so many ancient civilizations arose there, the region is now called “the cradle of civilization.” A larger area, the *Fertile Crescent*, overlaps with Mesopotamia but also includes an area to the west, along the Mediterranean coast.

The geography of Mesopotamia presented numerous agricultural benefits. Frequent flooding from the Tigris and Euphrates would leave deposits of silt, which made the soil very fertile. The water and fertile soil of Mesopotamia, combined with a warm climate, provided the resources the Neolithic people who lived in the region needed to begin farming.

Sometime before 5000 B.C.E., a group of nomadic pastoralists called *Sumerians* migrated into Mesopotamia, settling alongside people already living there. Over time, these new migrants created the civilization of *Sumer*. They built cities, canals to carry river water to fields, and dams to control the rivers’ unpredictable flooding. The first complex governments arose to coordinate these tasks. While Sumer is not a separate country today, the civilization it created provided the core and the foundation of several other civilizations in the Middle East, and its influence is evident throughout the world today.

Sumerian Government By 3000 B.C.E., some cities in Sumer were home to between 2,000 and 10,000 people. By 2700 B.C.E., the largest city, *Uruk*, had a population of 50,000. Most city dwellers were farmers, who made daily trips to the countryside to work in the fields.

SUMERIA AND OTHER CITY-STATES AND EMPIRES



Each Sumerian city and the land it controlled formed a *city-state*, which typically covered several hundred square miles. The city-states were independent, each with its own government. Since the Sumerians believed that land belonged to the gods, the first rulers were the city-states' priests. They assigned fields to the farmers, distributed the harvested crops at the city's temple, and managed all trade.

As the Sumerian city-states grew in size and number, they began to compete with each other for land and water. Wars resulted. To defend themselves, urban governments built massive stone walls around their cities and organized armies. Over time, Sumerian military leaders became more important than priests. These military rulers, called *kings*, ruled over a territory known as a *kingdom*. Religion and politics were blended in Sumerian civilization in the sense that kings were also high priests. This practice increased social stability, since the king was perceived as being a direct link between the people and the gods.

Sumerian Religion The people of Sumer were *polytheistic*, worshiping many gods. They believed that the gods controlled the natural forces around them. The priests explained the gods' will to the people and directed worship at the temple. To win the gods' favor, Sumerians made offerings and prayed that the gods would cause the rivers to flood at the right times for growing crops.

Because the floods were so important—and so uncertain—in Mesopotamia, satisfying the gods was very important to Sumerians. This may explain why they devoted so much effort and wealth to constructing monumental architecture that was religious. They placed temples and altars in large stepped pyramids,

called *ziggurats*. They believed that the gods punished humans in this life for bad behavior, but they did not believe in reward or punishment after death. Instead, they believed that the dead simply turned to dust.

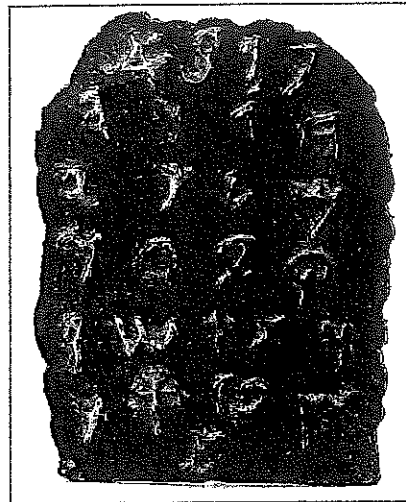
Sumerian Economy and Trade Sumerians learned to farm the land intensely. As a result, they were able to produce an agricultural surplus, which had all of the effects described in Chapter 1, particularly a *division of labor*. Many Sumerians engaged in work other than producing food. They made pottery, wove cloth, cast utensils in bronze, and engaged in other crafts.

The agricultural surplus also allowed Sumerians to trade extensively, not only throughout the region of Mesopotamia but interregionally with other civilizations. While some of the trade was over land, they also sailed seven-person canoes into the Mediterranean Sea and through the Persian Gulf and into the Arabian Sea. Major trade goods included gold from Egypt and tin from Persia. Through their trading networks, the Sumerians obtained goods from even farther away. They traded for beads, wood, resin, lapis lazuli, and obsidian that originated in Southeastern Africa, from the region that is the present-day country of Mozambique. From India, they obtained pearls, copper, and ivory. Many of these trade items were used by artists to create impressive and ornate sculptures and jewelry, much of which had religious significance.

Sumerian Social Structure As Sumerians became more specialized in their work, distinctions between classes became sharper. And as the society grew wealthier, the gap between the poor and the rich increased. One sign of the increase in social stratification was that a new class of nobles and wealthy landowners joined priests and kings at the top of society. The middle classes comprised merchants, farmers, and professionals such as architects. Hired workers made up the lower class. At the very bottom of society were slaves—foreign prisoners of war or Sumerian families who could not pay their debts. About 40 percent of the people living in Sumerian cities may have been slaves. Many people were needed to build the massive stone structures in cities and to create and maintain the vast irrigation systems in the countryside that formed the basis of Sumer's wealth.

Women in Sumer Upper-class Sumerian women enjoyed some freedom. They could own property and have incomes separate from those of their husbands. However, only their boys attended school; their girls were educated at home. Also, all marriages were arranged by men.

Cultural and Scientific Contributions To manage their surplus crops, manufacturing, and trade, the Sumerians needed to keep records. To accomplish this, they created the world's first writing system, called *cuneiform*, which consisted of marks carved onto wet clay tablets. (This early writing gives us the modern expression of "set in stone" because once the tablets had been hardened in ovens, the markings were unchangeable.) The development of a complex writing system required the emergence of a separate class of people who were skilled at cuneiform. Called *scribes*, these individuals were charged first with record-keeping and later with the writing of history and myths.



Source: Thinkstock (left and above)

Cuneiform wedges (left) were the first writing system. Phoenician letters (above) became the basis for the modern alphabet used by writers of English and many other languages.

Sumerians made several advances in thought and technology. They pioneered many important inventions related to farming, including carts and metal plows, as well as sundials and a 12-month calendar with which the Sumerians attempted to predict the flooding of the Tigris and Euphrates rivers. A final noteworthy invention was the Sumerian number system, which was based on 60. They used 60 because it could be divided into whole segments by 2, 3, 4, and 5. Today, people still divide an hour into 60 minutes, a minute into 60 seconds, and a circle into 360 degrees.

It was during the time of Sumer's power that *The Epic of Gilgamesh*, perhaps the oldest written story on the earth, was produced. It was originally composed on 12 clay tablets in cuneiform script. The epic concerns the adventures of a real Sumerian king named Gilgamesh who ruled the city-state of Uruk somewhere between 2750 and 2500 B.C.E. From *The Epic of Gilgamesh*, historians know something about the people who lived in the land between the Tigris and Euphrates rivers in the 2nd and 3rd millenniums B.C.E. and what they valued in a leader. (Test Prep: Write a paragraph comparing Gilgamesh with the Greek heros in Homer. See page 56.)

Sumerian Decline Mesopotamia had supplies of water and fertile land, so it attracted other groups who wanted to control the region. And because there were few natural barriers to prevent invasions, and because of the independent nature of the city-states, the Sumerian city-states fell to invaders around 2300 B.C.E. However, the culture they developed became the core and foundation of later empires in the region.

The Babylonian Empire

Sometime during the several centuries following the decline of Sumer, a new weapon appeared in Mesopotamia: the compound or composite, bow. This bow combined wood with animal bone or horn to make a stronger, and hence more deadly, bow. It was either developed in Mesopotamia or by nomadic pastoralists in central Asia. The bow gave its first users an advantage over rivals.

Around 1900 B.C.E., a Persian people from what is now Iran invaded and took control of Mesopotamia. The invaders built a new capital city called Babylon, so they became known as the *Babylonians*. They would eventually control a large territory that included diverse cultural groups, called an *empire*.

King Hammurabi The Babylonians' most powerful king was *Hammurabi*. He conquered all of Mesopotamia and ruled for more than 40 years, until about 1750 B.C.E. Hammurabi abolished local governments and appointed officials who were responsible only to him. Later, he reorganized the tax structure. These changes made it easier for his representatives to collect the tax and also increased the amounts collected. The taxes were used primarily to maintain irrigation canals to improve agricultural productivity.

Hammurabi is famous for creating a set of laws: the *Code of Hammurabi*. He had the 282 laws carved into stone monuments, one of the first instances of laws being put into writing for everyone to see. Hammurabi's laws dealt with topics such as property rights, wages, contracts, marriage, and various crimes.

The Code's main purpose was to protect people's rights. It was built on the idea of "an eye for an eye." That is, the punishment should fit the crime, often very precisely. For example: "If a builder builds a house for someone, and does not construct it properly, and the house that he built falls in and kills its owner, then that builder shall be put to death. If it kills the son of the owner, then the son of that builder shall be put to death."

Hammurabi's system of justice, though harsh, was not as violent or unpredictable as the retribution people often carried out when they felt injured. By replacing individual vengeance with a well-publicized system administered by government, Hammurabi brought greater stability and justice to society.

Babylonian Society and Culture Babylonian culture resembled that of Sumer in several ways. For example, Babylonians adopted many of the Sumerians' religious beliefs and was a *patriarchal* society, one dominated by men. However, under Babylonian rule, women enjoyed more rights than the women in Sumer had. Babylonian women could be merchants, traders, and even scribes. Marriages were arranged by parents. A Babylonian woman could leave her husband if he was cruel, although she could not divorce him. However, if she did leave him, she could take her property with her.

Some Babylonians were skilled astronomers. They could accurately predict the movement of planets and eclipses of the moon. From this knowledge, they devised a lunar calendar. In Babylonia, *astronomy*, the study of objects outside Earth's atmosphere, was linked to the Babylonians' religious practices of fortune-telling and *astrology*, predicting the future by studying movements of stars and planets.

The Phoenicians

The *Phoenicians* occupied parts of present-day Lebanon, Israel, and Jordan around 3000 B.C.E. With strong sailing ships, the Phoenicians developed a wide trade network across the Mediterranean Sea, even venturing into the eastern Atlantic Ocean. The Phoenicians exported cedar logs, colorful textiles, glass, and pottery, among other items. The Phoenicians were at their peak from 1200 to 1100 B.C.E., during which time they expanded their empire around the Mediterranean. *Carthage*, a Phoenician colony on the coast of North Africa, became a significant outpost in the region.

The Phoenicians are remembered for developing an *alphabetic script*, a system of symbols (letters) that represent the sounds of speech, as an alternative to cuneiform around 1000 B.C.E. The Phoenician 22-letter alphabet was a great help to increased trade, and it was later modified by the Greeks and Romans, who spread the alphabet across their empires. It is now used by much of the Western world. The Arabic and Hebrew alphabets also evolved from the basic system pioneered by the Phoenicians. (Test Prep: Create a chart comparing the Phoenician alphabet with the Chinese writing system. See page 35.)

The Hebrews

The *Hebrews*, whose descendants became known as *Israelites* and later as *Jews*, lived in the region of Canaan—present-day Israel, Palestine, and Lebanon. What historians know of Hebrew civilization comes partly from their sacred writings, the Hebrew scriptures, which Christians have traditionally referred to as the Old Testament. In addition, archeologists have unearthed a great deal of information about the Hebrews. According to Hebrew scriptures, Canaan was founded by *Abraham* who left Mesopotamia to settle there in approximately 2000 B.C.E. Today, Jews, Christians, and Muslims all trace their religious heritage to him.

A severe drought in Canaan forced some Hebrews to migrate to Egypt where they were later enslaved for several centuries. According to Hebrew scriptures, about 1300 B.C.E., the Hebrews were led out of Egypt by *Moses* and eventually returned to Canaan. Moses also introduced the *Ten Commandments*, a code of conduct that became very influential in areas dominated by Christianity.

Monotheism Like most other groups, the early Hebrews were polytheistic. However, they were one of the first groups to adopt *monotheism*, a belief in only one deity.

Division and Diaspora Over the following centuries, the Hebrews divided into two separate kingdoms, which weakened their power. The two kingdoms were conquered by the Assyrians and the Babylonians, and the descendants of Abraham were enslaved for the second time in their history. Now known as Israelites, many fled or were driven out of their homes. This movement was the beginning of the *Jewish Diaspora*, the spreading of Jews throughout the Mediterranean world and the Middle East. Jews were able to

return to Jerusalem only after the Persians, who were more tolerant of religious diversity, conquered the region in 539 B.C.E.

However, Persian rule did not last. As less tolerant rulers controlled the region, Jews again suffered discrimination. Many migrated to North Africa, southern Europe, and elsewhere, continuing the Jewish Diaspora. Because of this movement of people, Jewish ideas and culture spread and would eventually spread throughout the world. While the Jews did not have their own country, they did maintain a strong sense of identity.

The Geography of Africa

Geographers have divided Africa into four major climate zones:

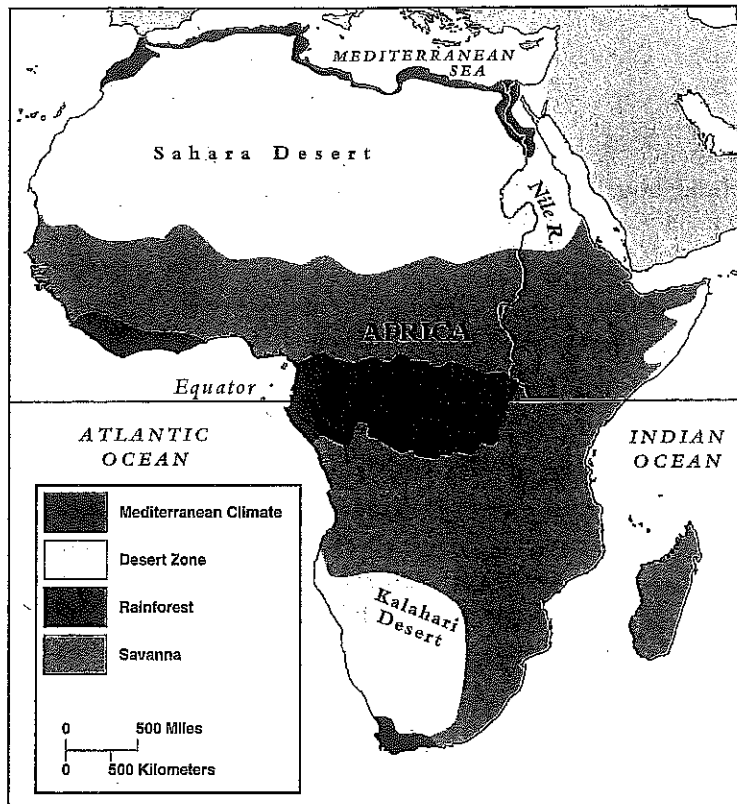
1. A Mediterranean climate zone, with its mild seasons and temperate weather, consists of a strip of land along the northern edge of Africa—the southern coast of the Mediterranean Sea.
2. A desert zone consists of the continent's two deserts—the *Sahara* in northern Africa and the *Kalahari* in southern Africa.
3. The rain forest zone stretches east to west and lies on both sides of the equator. Though many people think of rain forest as typical of Africa, this zone makes up only about 10 percent of the continent.
4. The final climate zone is the savanna, made up of broad grasslands with small trees and shrubs. Two major bands of savanna are located just north and south of the tropical rain forest zone. Ten thousand years ago, the northern savanna band was much larger, covering much of the area that is now the Sahara.

Ancient Egypt

The *Nile River* begins in the interior of Africa and flows north to empty into the Mediterranean Sea. In ancient times, rich black soil covered the banks and delta of the river, making the length of the Nile ideal for agriculture, especially wheat, barley, and the papyrus plant, which was used for writing material and also for making baskets, sandals, and other items. Annual floods would deposit silt, replenishing the soil. (Since the building of the Aswan Dam in 1968, the Nile River no longer experiences annual flooding.)

Introduction of Agriculture and Pastoralism In the Nile River Valley, people began to practice agriculture and pastoralism around 6000 B.C.E. or 5000 B.C.E. From people in Mesopotamia, Egyptians learned to grow wheat and barley. From people living in the grassy savanna land to the south, Egyptians learned to grow gourds, watermelons, and sorghum and to raise donkeys and cattle. Over the span of two thousand years, Egyptians domesticated animals, began mining copper to make jewelry and tools, and had enough agricultural surplus for towns to emerge. Just as the Sumerian civilization influenced later

AFRICA CLIMATE ZONES



people in Mesopotamia, so the earliest Egyptian civilization became the core and foundation of later ways of life in the Mediterranean world.

However, Egypt was making these advances as the climate was changing. Beginning around 5000 B.C.E., declining rainfall across North Africa was causing *desertification*, the creation of desert-like conditions. The Sahara was growing larger and dryer, and the savanna region was growing smaller.

Like the Sumerians, the Egyptians dug irrigation canals to spread the floodwaters and increase the amount of land they could farm. Indeed, some scholars think that the Egyptians may have learned this technology from trading with the Sumerians. The Egyptians may also have learned from the Sumerians about the wheel, the plow, bronze-making, and writing.

Transportation and Trade The wind blows south through the Nile Valley from the Mediterranean Sea. This geographic feature allowed early Egyptians to use the Nile River for transportation and trade. They could move south against the Nile's current by putting sails on their boats. To travel north, all they had to do was let the current carry them. As a result, Egyptians not only traded locally, but traded through the region of northeast Africa. From the mouth of the Nile, traders engaged in interregional trade with Mesopotamia.

Another feature of the Nile that promoted Egypt's prosperity was that it flowed through a vast desert. The dry lands to the west and east provided natural barriers against attacks. While invaders attacked Mesopotamia many times, Egypt developed for more than 1,300 years before its first major invasion.

Early Governments Desertification brought more people to settle near the Nile River. The need to work together to feed this larger population caused local chiefs to emerge. Strong leaders gradually united the towns into two kingdoms. One was Lower Egypt, in the north, where the Nile flows into the Mediterranean. The other, Upper Egypt, was farther south and more upstream. Around 3100 B.C.E., *King Menes* united the two kingdoms, a turning point in Egyptian history. Menes also established his capital at the city of Memphis, located at the southern end of the Nile Delta.

Historians have divided much of subsequent ancient Egyptian history into three long periods of stability: the *Old Kingdom*, *Middle Kingdom*, and *New Kingdom*. Separating these periods were shorter ones of turmoil.

The Old Kingdom (2660–2160 B.C.E.) Unlike Mesopotamia, which remained divided into city-states during the third century B.C.E., Egypt began developing a strong central government. The king or queen leading this government is now known as a *pharaoh*, although the term did not come into use until the New Kingdom. From Memphis, the kings and queens ruled as *theocrats*, rulers holding both religious and political power. Egypt's kings wielded their considerable authority to undertake extensive building projects, including the famous pyramids.

Since Egyptians believed that the pharaohs were descended from the gods and were immortal, they supported great efforts to preserve and honor their bodies after death. Most of Egypt's large pyramids were built during the Old Kingdom as tombs for rulers. Each pharaoh's body was preserved as a mummy and placed in a pyramid with jewelry and other items for use in the afterlife.

At first, all land belonged to the pharaoh, who appointed the governors and other government officials in each of the kingdom's provinces. Some pharaohs rewarded their officials with land as payment for their services. Over time, these lands and positions began to be passed from father to son. A class of nobles eventually developed as a result.

As the noble class grew stronger, some of them began to challenge the authority of the pharaohs. The pharaohs' power was further weakened by a period of drought, which resulted in famine and starvation. This all led to civil unrest, rivalries among the provinces, and the collapse of the Old Kingdom. The kingdom again split into Upper Egypt and Lower Egypt. For more than 100 years, civil wars swept Egypt as nobles competed for power and the throne.

The Middle Kingdom (2040–1786 B.C.E.) In 2040 B.C.E., Mentuhotep II took power. He moved the capital to Thebes, farther south on the Nile, and reunited Egypt under a central government, reducing the power of the provincial governors and eventually gaining control over all of Egypt. (Test Prep: Write a paragraph comparing Mentuhotep II's takeover of Egypt to similar takeovers in history. See chart on page 73.)

The pharaohs of the Middle Kingdom had a different approach to governing than had their predecessors. To encourage loyalty, they had statues and other art created that pictured them as wise and caring protectors of the people. These images, along with writings that gave the same message, were part of a great renewal in art, religion, and literature. Many temples to the gods were built during this period.

Pharaohs used their power to construct huge irrigation projects that increased the size of Egypt's farmland. In addition, they expanded their country's borders. Their armies pushed east to control the Sinai Peninsula and south into Nubia, which was rich in gold and other resources.

The Middle Kingdom ended after an invasion by a pastoral nomadic people called the *Hyksos* from modern Syria. The Hyksos used their superior technology—horse-drawn chariots and greatly improved bows and arrows—to defeat the Egyptians.

The New Kingdom (1570–1070 B.C.E.) The Hyksos occupied Egypt for a short period of time. As Egyptians learned to use the same battle technology, they were able to defeat the Hyksos, beginning the era known as the New Kingdom. Using the newly powerful army, pharaohs expanded southward into Nubia and north into Mesopotamia. Through negotiation and conquest, Egypt gained access to highly prized resources such as bronze and wood.

Around 1350 B.C.E., the pharaoh *Akhenaton* tried to change Egypt's religion. He called for the worship of one god, a sun god called *Aten*. Such a change would have dramatically changed the role of priests in Egyptian society. Many priests opposed worshiping just one god, and Akhenaton's struggle with them disrupted Egypt and weakened his power. After his death, Egypt's old religion was restored. Moreover, the priests became more powerful than ever.

A powerful pharaoh, *Ramses the Great*, took the throne around 1290 B.C.E. He remained in power for a remarkably long time—nearly 67 years—during which he successfully expanded the empire into Southwest Asia. Ramses built more temples and erected more statues than any other pharaoh. However, Egypt's empire had become a tempting target for invaders. One of these were the *Hittites*, who had a military advantage over the Egyptians because they were beginning to use iron tools and weapons. Although Ramses made peace with the attacking Hittites, his successors lacked his power and skills.

After Ramses' death, Egypt began a long period of decline. Besides carrying out expensive but failed wars against neighbors, Egypt suffered from repeated invasions from Libyans, Kushites, Assyrians, the Persians, the Macedonians, and the Romans, among others. Combined with internal revolts, these dismantled the once-mighty Egyptian Empire. Egypt did not regain its independence until modern times.

Egyptian Society The social hierarchy in Egypt was complex, with royal families, nobles, and priests at the top. Artisans worked in shops attached to temples and were paid by the government. Below this class was a large lower class, predominantly of farmers. Farmers' crops belonged to the owner of the land—the government, a temple, or a noble family. In addition to doing their own farming, farmers were required to work on irrigation and other government

construction projects. Below the farmers—at the lowest level—were the slaves, who usually hailed from lands conquered by Egypt. Except for slaves, all classes of people were equal under the law, but Egypt's class system was very rigid. It was difficult to advance from one class to a higher one. (Test Prep: Create a chart comparing Egyptian society with Indus Valley society. See page 30.)

Egyptian women had more rights and freedoms than most ancient women. They could own property, make contracts, divorce, and pursue legal disputes in court. Two women, Hatshepsut and Cleopatra, even became pharaohs. A few women held posts at temples. However, most women were not educated. They usually did not take part in government and had little political power.

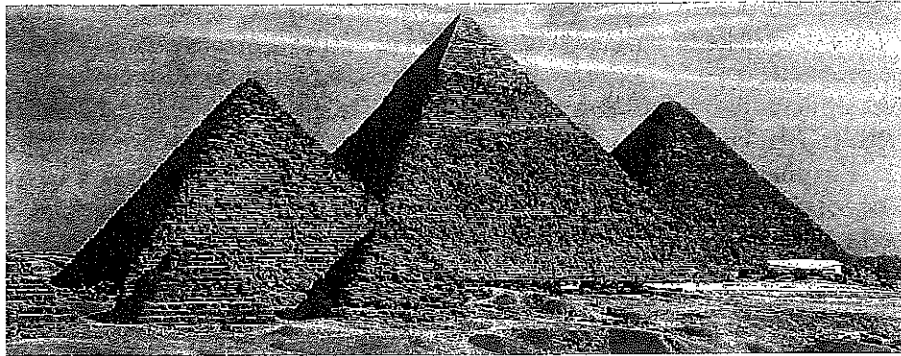
Religion Like the Mesopotamians, the ancient Egyptians were polytheistic, worshipping many gods. Among these were Ra, the sun god; Osiris, the god of life and death; and Isis, wife of Osiris, who was the goddess of nature. The gods were represented by statues and small idols. People believed that the god was present in these objects. They prayed and made offerings to the god to win the god's favor and protection.

The Egyptians believed in life after death. At first, this belief applied only to pharaohs. Later, it was extended to all people and even animals. But the Egyptians believed the body must be preserved for the dead to have an afterlife. Some people were mummified and buried in tombs. *Mummification* involved removing the body's internal organs, drying the body with salts, and packing its insides and wrapping it with chemically treated cloth. The body was then put in a sealed coffin. Only the rich could afford mummification. Poor people were buried in the desert, where the dry environment preserved their bodies.

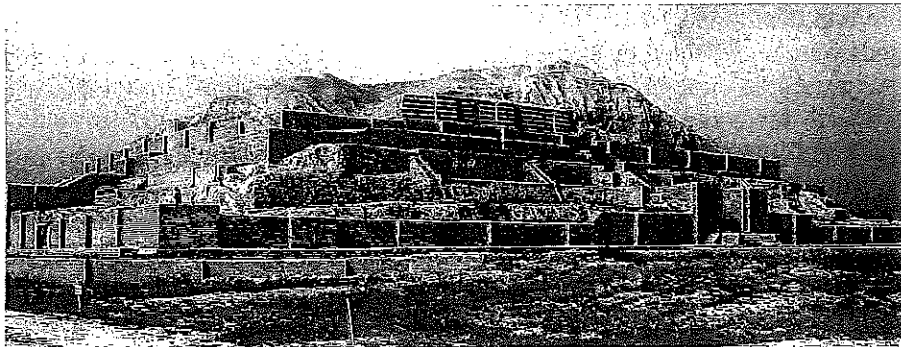
Continuous Egyptian Culture The long periods of unity under the Old, Middle, and New Kingdoms allowed a stable Egyptian culture to develop. This culture remained largely intact, even when Egypt was ruled by outsiders. In fact, invaders often adopted aspects of Egyptian culture.

Egyptian Writing By about 3000 B.C.E., people in the Nile Valley were using a form of picture-writing known as *hieroglyphics*. This writing system was much like the Sumerians' cuneiform, with the addition of symbols that represented ideas and sounds. Instead of writing on clay tablets, however, the Egyptians found a better material. They mashed *papyrus*, a type of plant that grew along the Nile River, using its fibers to create a type of paper; indeed, the English word "paper" comes from this plant's name. The *Book of the Dead* was a paper book that Egyptians put in the coffins of dead pharaohs and some nobles; each version of the book was different since it told the story of the dead person. The Egyptians also wrote hieroglyphs on the inside walls of tombs of the mummified dead to tell stories of the dead.

Scientific Contributions Ancient Egypt's pyramids and temples were engineering marvels, built with great accuracy using simple tools and surveying instruments. Egyptians cut the massive stone blocks used in their construction in distant quarries in the desert and transported them to a construction site. They then moved these heavy blocks up ramps to their place on the pyramid. Egyptians developed math and engineering skills to build the various pyramids.



Source: Thinkstock



Source: Thinkstock

Monumental architecture such as pyramids in Egypt (upper) and ziggurats in Mesopotamia (lower) reflected the power of early governments to organize workers to build large structures.

The ancient Egyptians developed a number system based on 10 that was very much like the system we use today. They had knowledge of the concept of fractions as well as whole numbers. Their knowledge of geometry helped them to build the pyramids and to restore the boundaries of fields after a flooding of the Nile. They also developed a calendar based on a year that contained 365 days. The calendar was created to track the stars for religious purposes and to monitor the flooding of the Nile.

The practice of mummification gave the ancient Egyptians much knowledge about the human body—knowledge that many future civilizations would draw upon and benefit from. Egyptian physicians were able to set broken bones, amputate limbs, and stitch up wounds. They soaked cloth bandages in honey to prevent infection. They used plants and herbs to relieve pain and to treat conditions like asthma. Nevertheless, adult life expectancy was only about 35 years, and about one-third of ancient Egyptians died in infancy.

Nubia, Kush, and Axum

Just south of Egypt, three other ancient kingdoms developed. Though none were as wealthy as Egypt was at its peak, each prospered through regional trade along the Nile River, and carried on interregional trade across the Red Sea.

Nubia Nubia emerged in the Upper Nile Valley around 3500 B.C.E. Egyptian traders went to Nubia in search of gold, ivory, incense, cattle, animal skins, and slaves. Nubians were recruited to serve as mercenaries in Egyptian forces. Nubia was basically an agricultural country, growing most of the same crops and raising the same domesticated animals as Egypt. Unlike Egypt, though, the flood plain was not as wide. Therefore, Nubian farmers had to make more use of irrigation networks to water their fields.

The Nubians were heavily influenced by Egyptian culture, in part because of their close proximity to the land of the pharaohs. For example, the Nubians built Egyptian-type pyramids and palaces. They also worshiped some of the Egyptian gods and adopted Egyptian burial practices. However, the Nubians retained some of their gods as well. Likewise, the Nubians used Egyptian hieroglyphics in writing, but they also developed their own script, which was alphabetic.

Nubia lasted for nearly a thousand years before falling into decline, only to reemerge as the kingdom of *Kush*, around 2500 B.C.E.

Kush Kush remained dependent on Egypt, only establishing some political and cultural independence by about 1000 B.C.E. Kush even conquered Egypt briefly before they themselves were overthrown by the Assyrians in 663 B.C.E. Even without control of Egypt, however, Kush became an important kingdom economically, trading with the Roman Empire, India, and Arabia. Kushites exported slaves as well as ivory, gold, and cattle. The Kushites mined iron ore from which they made tools and weapons in furnaces fueled by timber. The city of Meröe was a particularly important trade center.

Kush enjoyed its greatest power from about 300 B.C.E. to 100 C.E. Afterward, their power and influence declined, partly because of *deforestation*. Kushites cut down trees in order to make the charcoal used in smelting iron. In the 340s C.E., Kush was conquered by the civilization of *Axum*.

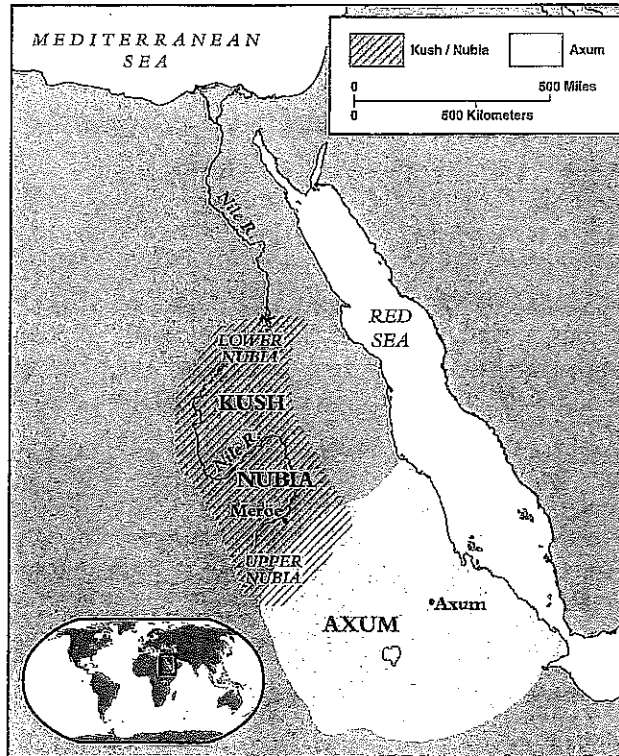
Axum The civilization of Axum was founded on the plateau of present-day Ethiopia in the first century C.E. Its capital city was also called Axum. The state had an agricultural economy, with farmers using plows to cultivate wheat, barley, and millet. Axumites also established a successful trading colony on the Red Sea called Adulis, where traders sold products from the African interior (such as hides, ivory, and slaves) in exchange for money or products from India, Arabia, and the Roman Empire. Adulis and Axum as a whole grew rich by taxing foreign trade and by requiring conquered lands to pay tribute.

Because of their trading connections with the Roman Empire, some Axum people converted to Christianity. The religion's popularity continued to increase, helping to create a more cohesive society. In 330 C.E., Christianity was decreed the official religion of Axum by then-king King Ezana.

The Axumites defeated the Kushites in Meröe in the 340s C.E. In the 500s, Axum expanded its territories to include modern Yemen, on the Arabian Peninsula. From Arabia, Axum borrowed a script for its written language.

Axum began declining around 600 C.E., but it remained strong enough to counter efforts to convert Axumites to Islam in the seventh and eighth centuries. Christianity stayed the dominant religion in the area, as it is in Ethiopia today.

NUBIA, KUSH, AND AXUM, 3500 B.C.E. TO 600 C.E.



Indus Valley Civilizations

Like civilizations in Mesopotamia and Egypt, the *Indus River Valley* civilizations developed near water and became the core and foundation of later civilizations in the region. Between 2500 and 2000 B.C.E., indigenous peoples of the Indian subcontinent, known as *Dravidians*, established two sophisticated urban centers in the Indus River Valley: *Harappa* and *Mohenjo-Daro*. Their written language, mainly in the form of pictographs, has not yet been deciphered, but it seems to be loosely connected to the Dravidian languages still existing in contemporary southern and central India. Archaeologists came to know about Harappan society's existence only in the 1920s.

Much of the archaeological evidence from Harappa and Mohenjo-Daro sites comes from a collection of artifacts as well as the remains of city walls and numerous buildings. Archaeological remains reveal evidence of an advanced civilization with division of labor. Jewelers, potters, architects, and artists all resided within these cities. Archeologists can infer that a social hierarchy existed in the Indus Valley because the foundations of homes in the Harappa's center were found to be of varying sizes. And since most residents, rich and poor, had private toilets that drained into a municipal sewage system, the cities must have had sophisticated technology and urban planning.

Agriculture and the Environment Because so few residents of Mohenjo-Daro and Harappa were farmers, archeologists conclude that rural areas were providing ample amounts of food to these urban areas. Evidence also shows that Harappans traded by sea and land with Sumer and Egypt and by land with the societies in eastern India. If civilization can be defined by the existence of an agricultural surplus and a resulting division of labor among a society's residents, then the Indus Valley societies should be considered civilized.

Environmental degradation probably caused the gradual decline and eventual disappearance of the Harappan and Mohenjo-Daro civilizations. Their people removed so many trees from their lands that this deforestation caused the soil to erode. Another possible reason for the disappearance of the Harappan and Mohenjo-Daro societies is the ferocious and temperamental Indus River, which often flooded. Floods could have destroyed their cities as well as the cities' remains. Earthquakes are considered to be another possibility.

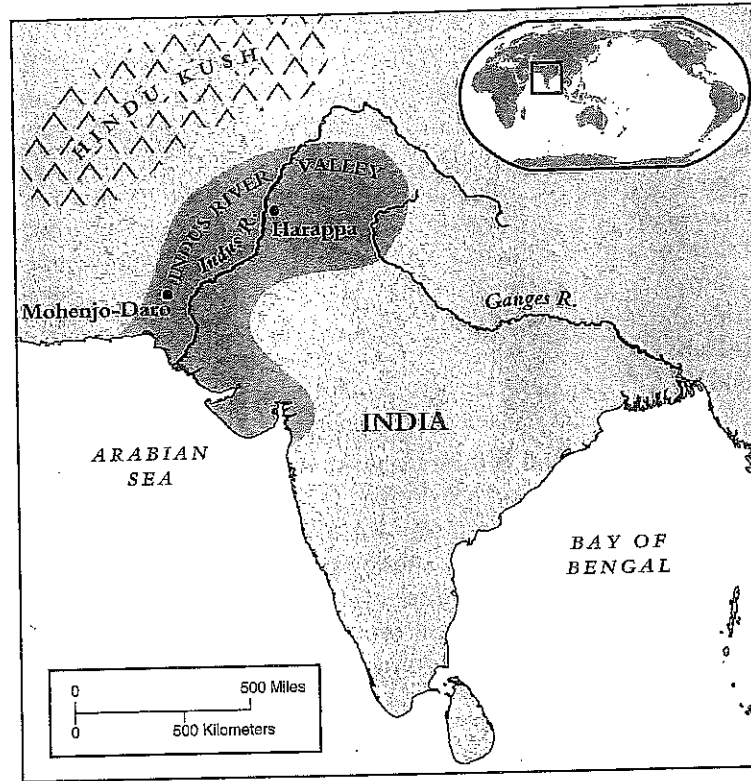
Aryan Migrations and Interactions Very few, if any, features of Harappan society are found today in South Asia. The group that arrived 500 years after its decline left a more lasting mark on South Asian culture. *Aryans*, Indo-European-speaking peoples originally from Central Asia, traveled from Persia through the Hindu Kush Mountains over a period of several centuries, beginning in 1500 B.C.E. The nomadic, pastoral Aryans brought the first horses into India. Native Indian peoples were no match for Aryan warriors on horseback and in horse-drawn chariots. Over time, Aryan settlements and culture spread east along the Ganges River and its surrounding plains.

Importance of Clans Each Aryan tribe was divided into *clans*, each with its own territory and each headed by a male chief who ruled with advice from a committee of clan members. Unlike Egypt, the people had no central government, and at times, the clans fought each other. The first Aryans continued their herding lifestyle, raising horses, cattle, goats, and sheep. Eventually, though, most of them settled in villages and began to farm, intermingling with the native peoples. Wheat and barley were their main crops, but they also grew sugar cane, gourds, peas, beans, and other vegetables.

Although poor transportation made trade difficult, other types of goods gradually appeared in their villages. Early trade was by *barter*—a system by which one thing is exchanged for another. By 500 B.C.E., though, their use of silver and copper coins led to an increase in trade and in the number of craftspeople and merchants.

Aryan Language Aryans brought their sacred language, *Sanskrit*, with them to South Asia. At first, stories were passed orally from generation to generation, but sometime between 1200 and 1000 B.C.E., the Aryans developed a writing system. While most literary and religious works were recorded in this language, they also had a commonly used tongue which would evolve into *Hindi*. Because of the Aryans' Indo-European origins, Sanskrit shares traits with Latin, another *Indo-European language*. For example, the word for *king* is *rex* in Latin and *raja* in Sanskrit. Sanskrit continues to be studied by religious scholars, while Hindi is still spoken widely among many northern Indian societies.

INDUS RIVER VALLEY



Aryan Religious Traditions The *Vedas*, Sanskrit for “knowledge,” are a collection of Aryan religious hymns, poems, and songs. The *Rig-Veda* is the most famous; it sheds light on ancient Indian society, particularly the conflicts that occurred between the Dravidian and the Aryan peoples. The *Rig-Veda* outlined proper priestly (*brahmin*) behavior, which included performing several daily rituals honoring the gods. These responsibilities placed brahmins in a position of authority in Indian society. The importance of the Vedas in Indian spiritual life had waned a bit by 500 B.C.E. as Vedic knowledge began to meld with the spiritual contributions made by Dravidians.

Aryan and Dravidian Beliefs Many aspects of the Aryans’ language, religious traditions, and social organization continue today in South Asia. Their interactions with indigenous peoples of India, particularly the Dravidians, also had a lasting impact on Indian society.

The late *Vedic Age* (800–400 B.C.E.) was marked by the Aryans’ growing awareness of Dravidian beliefs. The interaction of both traditions came to fruition in the *Upanishads*, a collection of religious thought that illuminated several new religious concepts: *brahma*, *dharma*, *karma*, and *moksha*.

Brahma is an overarching, universal soul that connects all creatures on Earth. Each individual human being is not a separate entity; his or her individual soul is not the essence of truth or reality. An individual soul is not terribly important; one must try to escape a cycle of life and death and join

the universal soul, brahma. In order to escape the seemingly endless cycle of birth and rebirth, one must perform righteous duties and deeds, known as one's dharma. This dharma then determines one's karma, or fate, in the next life. If someone's soul carries a heavy karmic burden, then one could perhaps be reborn as a lower-class person or even in a lower life form.

Conversely, a person who performs good deeds throughout life is believed to have good karma, which in turn may help his or her soul in a future life. A soul's ultimate goal should be to attain *moksha*, or eternal peace and unity with brahma. Believers can attain moksha through intense meditation and the casting off of worldly pleasures.

The *Upanishads* is a foundational text for the set of religious beliefs that later became known as Hinduism. It is historically significant because it reflects the blending of Aryan and Dravidian religious values, and also because it reflects the social structures of Ancient India.

China's First Civilization

The fourth core and foundational river civilization developed in eastern China. China includes two major rivers, the *Huang He* (Yellow) and the *Chiang Jiang* (Yangtze). The Chiang Jiang stretches almost 4,000 miles across central China. The Huang He, while shorter at 2,400 miles, connects China's northern interior to the Yellow Sea. The river takes its name from the deposits of *loess*, a type of fertile soil that is yellow in color. For thousands of years, the flooding of the Huang He has deposited this silt across a wide area.

In addition to the advantage of the two rivers, much of eastern China experiences a reliable, moderate climate. Meanwhile, two geographical features protected China from invasion: the Gobi Desert in the west and the world's tallest mountain range, the Himalayas, in the southwest.

As early as 6500 B.C.E., Neolithic people of the Yangtze Valley were growing rice. Then around 5800 B.C.E., people began farming near the Huang He. Their main crops were soybeans and a grain called millet. By 3000 B.C.E., groups along the Huang He had taken up rice farming, too. Meanwhile, both groups had begun domesticating chickens and pigs.

According to Chinese tradition, the first silk production also began around 3000 B.C.E. People wove fine silk cloth from the threads of silkworms, which fed on the leaves of the region's mulberry trees. They also made items from copper and carvings from a precious stone called jade.

China's First Rulers Although ancient Chinese civilization faced no outside threats, villages along the Huang He were sometimes attacked by nomadic peoples who lived in the nearby hills. According to Chinese legend, a man named Yu brought order to the region around 2100 B.C.E. He organized projects to build roads to encourage trade, create ditches to control flooding, and drain swamps to create farmland. He also organized the region's villages into zones for defense and placed each zone under a local leader who reported to him.

Yu passed his power to his son Qi, and with his rule what is known as the *Xia Dynasty* began. (A *dynasty* is a series of rulers who all belong to the same family.) The Xia Dynasty lasted for about 400 years. Little is known about the

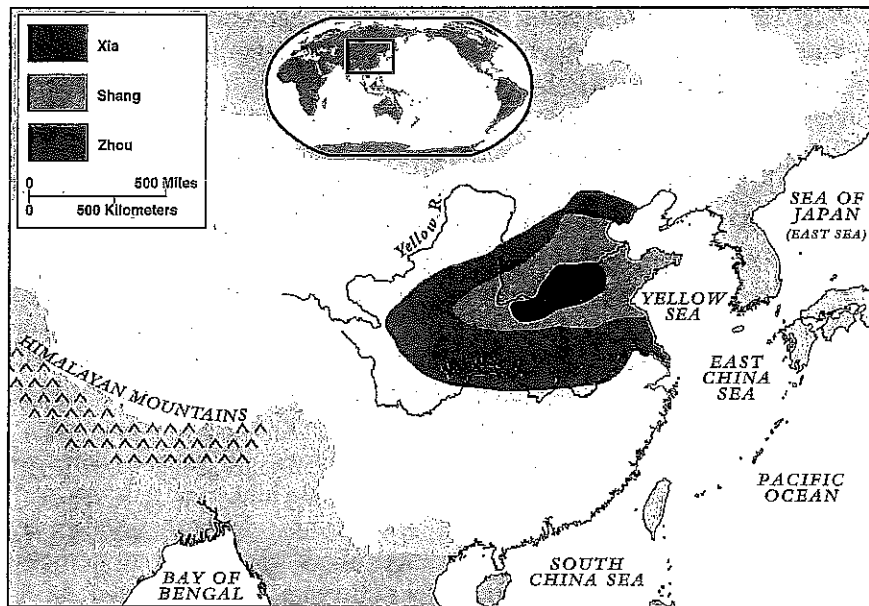
Xia Dynasty, since the early Chinese had no writing system. The only written information about the Xia kings was recorded more than a thousand years later. In recent times, though, archeologists have unearthed evidence that a Xia kingdom did indeed exist.

The Shang Dynasty Around 1750 B.C.E., a local leader named Tang overthrew the Xia king and took power. This event marked the beginning of the *Shang Dynasty*, which ruled for the next 600 years. During this time, Shang rulers conquered neighboring peoples, establishing an empire. From a succession of capital cities, the Shang kings wielded tremendous economic and religious power. (Test Prep: Create a chart comparing the Shang with other empires of its time, such as the New Kingdom in Egypt (page 26), Mohenjo-Daro in India (page 30), and the Sumerians in Mesopotamia (page 17).)

Economy, Technology, and Trade The Shang economy was primarily based on agriculture. Most people were peasants, but others worked at skilled crafts, making pottery, carving jewelry from ivory and jade, and crafting weapons, tools, wheels, and other items from bronze. Artisans and merchants lived in the capital and in towns across the empire. The bronze technology came from Southwest Asia via migrating Indo-European peoples who settled in what is now western China. Traders also brought tin from Southeast Asia and jade from Central Asia.

The Shang rulers controlled the copper and tin mines in China, and they kept a monopoly over the production of bronze in the country. Their bronze weapons and armor and their horse-drawn chariots made them stronger than anyone who dared to oppose them. The Shang kings and their nobles waged frequent wars on enemies inside and outside the empire, capturing prisoners who were then enslaved or slaughtered as sacrifices to the gods.

EARLY DYNASTIES IN CHINA, TO C. 400 B.C.E.



Religion Like other early river civilizations, the Shang were polytheistic. They believed that several different gods controlled the forces of nature. The gods worshiped during the Shang Dynasty included gods of the sun, moon, clouds, and wind. Efforts to communicate with the gods produced the earliest known examples of writing from the Shang period. People would inscribe questions for the gods on oracle bones, which were turtle shells, oxen bones, or the bones of other animals. Then they would insert heated pins into the oracle bones. The heat would cause cracks to form, and the cracks could be interpreted to gain an answer to the question. Shang kings relied on the bones to tell them such things as whether to attack an enemy and if the crops would be successful.

China's long tradition of *ancestor veneration* also began during the Shang Dynasty. The ancient Chinese believed that the spirits of their ancestors could speak to the gods for them. They made offerings to their ancestors, hoping to win their favor. The Shang kings made almost daily sacrifices to the ancestors, seeking the gods' help in making their rule a success. There was no organized priesthood in ancient China.

Historians know that ancient Chinese believed in life after death because objects were buried with the dead for their use in the afterlife. When a king or noble died, some of his servants and pets were killed so that they could travel with him to the next world.

Cultural and Scientific Contributions The Shang developed a written script of *pictographs*, or graphic symbols, each of which represented an idea, concept, or object, rather than representing a single sound, as letter systems do. Like other early writing systems, the Chinese one was very complicated, and as in Mesopotamia and Egypt, usually only scribes could read and write. The written script invented during the Shang Dynasty is the forerunner of the script used by Chinese today.

Standard systems of measurement helped the Shang rule the empire. Their calendar had 12 alternating months of 29 and 30 days. Royal astronomers added extra days as needed to get to a 365-day year.

The Shang made contributions in the arts as well. Shang artisans created bronze castings, ivory carvings, silk garments, and white clay pottery. The first Chinese musical instruments also appeared during the Shang Dynasty. Drums, bells, stone chimes, and a simple wind instrument called an ocarina played melodies that have long been lost to time.

The End of the Shang Dynasty Like all civilizations, the Shang Dynasty experienced a rise and fall. Over time, the Shang kings had become weaker, and in 1045 B.C.E., a military man named Wu raised his own army and challenged Shang rule. The king was killed, the Shang Dynasty ended, and Wu established the *Zhou Dynasty* in its place.

The Zhou Dynasty Zhou kings ruled for about 900 years, making their dynasty the longest in Chinese history. The first 200 years of Zhou rule has become known as China's first *Golden Age*, a period in a society of relative peace, prosperity, and innovation.

The success of the Zhou Dynasty resulted from the kings' abilities to centralize and hold power, bringing stability to the region. They also expanded the territory under their control, making the reach of the Zhou Dynasty much larger than what the Shang's had been. Another key element in the Zhou leaders' success was the introduction of a concept called the *Mandate of Heaven*, which was the idea that a just ruler's power was bestowed by the gods. Zhou kings were thus referred to as "sons of heaven." However, invasions or natural events such as a severe earthquake were often taken as signs that a ruler no longer had



Source: Shutterstock

During the Shang Dynasty, people wrote on tortoise shells.

the Mandate of Heaven. The Zhou had used the concept to justify overthrowing the Shang. This became a precedent. Throughout China's history, the overthrow of rulers has been justified by the charge that a particular ruler had lost the Mandate of Heaven. (Test Prep: Write a paragraph comparing the Mandate from Heaven with the "divine right of kings." See page 284.)

Government The Zhou kings expanded their territory to such an extent that eventually they could not control it directly. Instead, the kingdom divided into many regions, each under the control of relatives or loyal friends who owed allegiance to the king. These regions functioned much like city-states. The local rulers governed as they wished, paying taxes to the king and providing soldiers for his army. From time to time, the regional leaders had to visit the king's court to proclaim their loyalty. The Zhou kings also made alliances with kings who ruled territory along their borders. These alliances protected the Zhou kingdom by helping to shield it from invasion by nomadic peoples from the north and west. The network of regional rulers, with relationships based on mutual defense agreements, created the basics of *feudalism*, which would reappear in many cultures later in history.

The Zhou governmental system broke down over time as regional authorities began to assert themselves. Some stopped sending the collected taxes to the king, keeping the money for their own use. Some stopped sending soldiers to serve under the king and instead formed their own armies.

Developments in metals also affected the central-regional power balance. Bronze weapons continued to be important, but the Chinese began using iron weapons during the Zhou Dynasty. Regional rulers grabbed centers that produced iron and bronze weapons, which were sometimes then used against the Zhou rulers and each other.

Trade and Agriculture China experienced great changes during the long Zhou rule. Internal trade expanded and there was some foreign trade. The first Chinese money came into use in the form of copper coins, with different ones minted in different regions.

The development of iron technology around the sixth century B.C.E. (the Iron Age) changed Chinese agriculture. Using iron tools, Chinese peasants built dikes, reservoirs, and irrigation canals to better control their water supply. Iron plows drawn by oxen allowed more land to be farmed and more food produced than ever before. This resulted in a steady population growth.

Most Chinese were peasant farmers who did not own the land they lived on. They lived in small villages and farmed the village fields together. They also had to devote a number of days of labor each year to work on roads, canals, and other local projects. (Test Prep: Create a chart comparing China's work requirement with the Incan mit'a system in the fifteenth century C.E., see page 261; and the French corvée system in the nineteenth century C.E., see page 417.)

Urbanization The trade among the regions led to the growth of towns and some cities. These urban areas needed artisans and metal production workers, although this class of people remained small. Merchants set up shops in towns and cities, selling goods from around China. Those cities that were seats of national or regional power attracted administrators, soldiers, scribes, and others.

Zhou Achievements Another reason why the Zhou Dynasty is considered a "golden age" is the large number of technological achievements attributed to it. The Zhou military benefited from the invention of the crossbow and the iron sword, and armies also began using mounted cavalry in this period. Meanwhile, Zhou farmers developed plows and improved irrigation systems in order to better exploit the waters of the Huang He and Yangtze rivers. Last but not least, roads were improved, which bolstered trade and brought increased contact with outsiders.

The Decline of the Zhou Dynasty By the 800s B.C.E., the Zhou kings had begun to lose control. Uprisings by local leaders combined with invasions from the west combined to weaken the central government. By the 400s B.C.E., the Zhou kings had little power outside their own city-state. The other states of the Zhou kingdom fought among themselves for control.

The First American Civilizations

In response to the varied climates and geographic regions in the Americas, people evolved into distinctive cultures as they moved from place to place. By 3000 B.C.E., some of the indigenous peoples, possibly first in Mexico, discovered that food could be grown and harvested, not simply gathered from wild plants. One of the first important plants to be grown by the indigenous Americans was *maize* (corn). This plant, native to the Western Hemisphere, was domesticated from wild types into several different varieties. Other important native crops were beans, potatoes, peppers, pumpkins, cotton, and tobacco.

The Chavin About the same time human settlements developed in *Mesoamerica* (Central America and what is now Mexico), settlements began near the Andes Mountains. Along the coast of what is now Peru, the *Chavin civilization* existed from around 1000 to 200 B.C.E. and centered at Chavín de Huántar, a ceremonial center north of today's Lima. Chavín de Huántar was home to an elaborate temple made of white granite and black limestone. Since these materials are not native to the region, they had to be obtained by trade. Drainage ditches were built under the temple to prevent flooding during rainy seasons. Shamans interpreted the temple's many sculptures and carvings.

Most of the Chavin people lived in the valleys, growing cotton, maize, potatoes, and quinoa (a food grain). Llamas provided meat, often eaten in a dried form known as jerky; wool, woven into clothes; and transport. Like earlier river valley civilizations in Afro-Eurasia, they developed irrigation systems. Because of their agricultural surpluses, the Chavin population increased, and the Chavin developed three urban centers, each with more than 10,000 people.

The Chavin developed impressive techniques in gold, silver, and copper metallurgy. They learned how to solder pieces together by melting metal. The Chavin are also remembered for the artistry of their pottery and cotton textiles, including making fishnets out of cotton thread.

Although religion united the Chavin people, their political structure was weak. Once the religious authority went into decline, there was little to hold the Chavin together, and their civilization dissolved into various regional groups.

The Olmec Mesoamerica became the site of several advanced civilizations. The foundation, or core, of all of these was the *Olmec*. Their language, beliefs, art, and athletics influenced the later civilizations, such as the Maya and the Aztec. The Olmec flourished in east and central Mexico from around 1200 to 400 B.C.E. Like other early civilizations, the Olmec were primarily agricultural, growing corn, beans, squash, and avocados in the warm, humid climate.

And like many early civilizations, the Olmec developed near water. Several small rivers crossed their land, so fresh water was plentiful and transportation was easy. They traded with regions as far as 250 miles away, obtaining jade and obsidian, out of which they made small jewelry, sculptures, and religious symbols portraying jaguars, snakes, feathered serpents, and half-human, half-animal figures. But the Olmec are most famous for carving enormous basalt monuments of human heads. About 17 of these have been found, with the largest about 10 feet tall and weighing thousands of pounds. Thousands of slaves were used to drag and float the heavy basalt blocks from sites 50 miles away.

The Olmec also built large earthen pyramids under which they buried jewelry, sculptures, mirrors, and mosaics. They built arenas for playing a kind of ball game that may have had religious significance.

The Olmec developed a calendar, a numbering system that included a zero (rare among early number systems), and the first writing system in the Americas. The system used *glyphs*, pictures and symbols of real objects. While the Olmec's language, use of feathered serpents, and ritual ball games provided the core and foundation of later cultures in Mesoamerica, later writing systems in the region do not seem to be based on the one of the Olmec.

The Pacific Peoples

The first people arrived in *Oceania*, the vast region in the Pacific Ocean that includes New Guinea, Australia, and more than a thousand other islands, about 60,000 years ago. They were hunter-foragers. Because of an Ice Age, sea levels were lower, and distances between islands were less. Thus these migrants would have needed only rafts or small boats to go from island to island.

The Austronesian Speakers The *Austronesian-speaking* people probably originated in southern China and later moved to Taiwan and the Philippines. Around 5000 to 2500 B.C.E., they began migrating to New Guinea also. They introduced agriculture (farming and herding) to the people of New Guinea. The Austronesians assimilated with the existing population. However, agriculture did not spread to Australia's *aboriginals*, who remained hunter-foragers.

During the next 1,000 years, the Austronesian people migrated by boat across a distance of over 10,000 miles. To the east, they went from one Pacific Island to another. By then, they had developed double-hull canoes that could go vast distances, reaching the islands of *Polynesia*, including Samoa, Hawaii, Easter Island, and New Zealand. Another group of Austronesians migrated west all the way to the African island of Madagascar. Wherever they went, they took along pigs, chickens, yams, and taro, so they could maintain their agricultural way of life. They supplemented this food by hunting and fishing.

Easter Island The settlers on *Easter Island* divided into clans, with a chief for each clan and one chief over all clans. They constructed large stone statues that represented ancestor-gods. For centuries, the Easter Islanders traded with other islands across vast distances. They cultivated sweet potatoes, which they probably first obtained from the coast of South America. From Easter Island, sweet potatoes spread to other Pacific islands, including New Zealand.

Gradually, the population of Easter Island grew until the island became overpopulated, lacking enough resources to support the people. Deforestation, coupled with wars between factions, caused the population size to plummet sometime before Europeans first visited the island in 1722 C.E.

HISTORICAL PERSPECTIVES: WHY DO CIVILIZATIONS RISE AND FALL?

Why do some cultures become innovative and prosperous and then lose these traits? Historians have offered various explanations.

Rise and Decline German Oswald Spengler (1880–1936) was among the first Europeans to search for global patterns in the fate of civilizations. During his life, European culture dominated the world but was showing signs of weakening. In *Decline of the West* (1917), he theorized that civilizations go through a cycle akin to the four seasons: rise of agriculture (spring), growth of towns (summer), development of large cities and centralized governments (autumn), and materialism, imperialism, and *nihilism*, the rejection of moral or ethical principles (winter). The final stage leads to a collapse in power and influence.

Links Across Culture Most scholars rejected Spengler's cyclical view. French historian Fernand Braudel (1902–1985), writing as radios, ships, and planes were connecting people across the globe, saw the path of civilization as building a web of human relationships through trade and communication. In contrast, British historian Christopher Dawson (1889–1970) argued that religion, not material things, builds relationships and civilization. More recently, British-born historian Felipe Fernández-Armesto viewed various civilizations as responses by people to the challenges in their immediate environments.

KEY TERMS BY THEME

<p>ENVIRONMENT Tigris and Euphrates Mesopotamia Fertile Crescent Carthage Sahara Kalahari Nile River desertification Indus River Valley environmental degradation deforestation Huang He Chiang Jiang loess Mesoamerica maize Oceania and Polynesia</p> <p>ECONOMICS division of labor barter</p> <p>CULTURE: RELIGION polytheistic ziggurats astronomy, astrology Hebrews, Israelites, Jews Abraham Moses Ten Commandments monotheism</p>	<p>Jewish Diaspora theocrats Aten mummification Aryans Hindi Vedas and Vedic Age brahmin brahma dharma karma moksha ancestor veneration Golden Age</p> <p>CULTURE: LITERATURE scribes <i>The Epic of Gilgamesh</i> cuneiform alphabetic script hieroglyphics papyrus <i>Book of the Dead</i> Indo-European Sanskrit <i>Rig-Veda</i> <i>Upanishads</i> pictographs, glyphs Austronesian speakers</p> <p>SOCIAL STRUCTURE patriarchal clans feudalism</p>	<p>STATE-BUILDING: KINGDOMS Sumer and Sumerians Uruk city-states king and kingdom Babylonians empire Phoenicians Old, Middle, and New Kingdoms Hyksos Hittites Kush Axum Dravidians Harappa Mohenjo-Daro Chavin civilization Olmec Easter Island aboriginals</p> <p>STATE-BUILDING: LEADERS Hammurabi King Menes pharaoh Akhenaton Ramses the Great Xia Dynasty Shang Dynasty Mandate of Heaven Zhou Dynasty</p>
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