Indian Ocean Sailing Vessel. Ships like this one, in a rock carving on the Buddhist temple of Borobodur in Java, probably carried colonists from Indonesia to Madagascar. (Allan Eaton/Ancient Art & Architecture)

- What factors contributed to the growth of trade along the Silk Road?
- How did geography affect Indian Ocean trade routes?
- Why did trade begin across the Sahara Desert?
- What accounts for the substantial degree of cultural unity in Africa south of the Sahara?
- Why do some goods and ideas travel more easily than others?
Around the year 800 C.E., a Chinese poet named Po Zhuyi nostalgically wrote:

Iranian whirling girl, Iranian whirling girl—
Her heart answers to the strings,
Her hands answer to the drums.
At the sound of the strings and drums, she raises her arms,
Like whirling snowflakes tossed about, she turns in her twirling dance.
Iranian whirling girl,
You came from Sogdiana*.
In vain did you labor to come east more than ten thousand tricents.
For in the central plains there were already some who could do the Iranian whirl,
And in a contest of wonderful abilities, you would not be their equal.↑

Po Zhuyi (boh joo-yee)  Sogdiana (sog-dee-A-nuh)
The western part of Central Asia, the region around Samarkand and Bukhara known in the eighth century C.E. as Sogdiana, was 2,500 miles (4,000 kilometers) from the Chinese capital of Chang’an. Caravans took more than four months to trek across the mostly unsettled deserts, mountains, and grasslands.

The Silk Road connecting China and the Middle East across Central Asia fostered the exchange of agricultural goods, manufactured products, and ideas. Musicians and dancing girls traveled, too—as did camel pullers, merchants, monks, and pilgrims. The Silk Road was not just a means of bringing peoples and parts of the world into contact; it was a social system. This and similar trading networks that have had a deep impact on world history deserve special scrutiny. With every expansion of territory, the growing wealth of temples, kings, and emperors enticed traders to venture ever farther afield for precious goods. For the most part, the customers were wealthy elites. But the new products, agricultural and industrial processes, and foreign ideas and customs these long-distance traders brought with them sometimes affected an entire society.

Travelers and traders seldom owned much land or wielded political power. Socially isolated (sometimes by law) and secretive because any talk about markets, products, routes, and travel conditions could help their competitors, they nevertheless contributed more to drawing the world together than did all but a few kings and emperors.

This chapter examines the social systems and historical impact of exchange networks that developed between 300 B.C.E. and 600 C.E. in Europe, Asia, and Africa. The caravans traversing the Silk Road, the sailing vessels plying the seaways of the Indian Ocean Maritime System, such as the one shown here, and the North African merchants exploring opportunities for trade across the Sahara Desert illustrate the nature of long-distance trade in this era.

Trading networks were not the only medium for the spread of new ideas, products, and customs. This chapter compares folk migration with developments along trade routes by looking at the rise of trans-Saharan caravan commerce and the simultaneous spread of Bantu-speaking peoples within sub-Saharan Africa. Chapter 5 discussed a third pattern of cultural contact and exchange, that taking place with the beginning of Christian missionary activity in Europe. This chapter further explores the process by examining the spread of Buddhism in Asia and Christianity in Africa and Asia.

**Origins and Operations**

The Seleucid kings who succeeded to the eastern parts of Alexander the Great’s empire in the third century B.C.E. focused their energies on Mesopotamia and Syria. This allowed an Iranian nomadic leader to establish an independent kingdom in northeastern Iran. The Parthians, a people originally from east of the Caspian Sea, had become a major force by 247 B.C.E. They left few written sources, and recurring wars with Greeks and Romans to the west prevented travelers from the Mediterranean region from gaining firm knowledge of their kingdom. It seems likely, however, that their being located on the threshold of Central Asia and sharing customs with steppe nomads farther to the east helped foster the Silk Road.

In 128 B.C.E. a Chinese general named Zhang Jian made his first exploratory journey across the deserts and mountains of Inner Asia on behalf of Emperor Wu of the Han dynasty. After crossing the broad and desolate Tarim Basin north of Tibet, he reached the fertile valley of Fergana and for the first time encountered westward-flowing rivers. There he found horse breeders whose animals far outclassed any horses he had seen. Later Chinese historians looked on General Zhang, who ultimately led eighteen expeditions, as the originator of overland trade with the western lands, and they credited him with personally introducing a whole garden of new plants and trees to China.

Long-distance travel suited the people of the steppes more than the Chinese. The populations of Fergana and neighboring regions included many nomads who followed their herds. Their migrations had little to do with trade, but they provided pack animals and controlled

Samarkand (SAM-mar-kand)  Bukhara (boo-CAR-ruh)  Chang'an (chahng-ahn)  Zhang Jian (jahn-gahn)  Fergana (fer-GAH-ruh)
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transit across their lands. The trading demands that brought the Silk Road into being were Chinese eagerness for western products, especially horses, and on the western end, the organized Parthian state, which had captured the flourishing markets of Mesopotamia from the Seleucids.

By 100 B.C.E., Greeks could buy Chinese silk from Parthian traders in Mesopotamian border entrepôts. Yet caravans also bought and sold goods along the way in prosperous Central Asian cities like Samarkand and Bukhara. These cities grew and flourished, often under the rule of local princes.

General Zhang definitely seems to have brought two plants to China: alfalfa and wine grapes. The former provided the best fodder for horses. In addition, Chinese farmers adopted pistachios, walnuts, pomegranates, sesame, coriander, spinach, and other new crops. Chinese artisans and physicians made good use of other trade products, such as jasmine oil, oak galls (used in tanning animal hides, dyeing, and making ink), sal ammoniac (for medicines), copper oxides, zinc, and precious stones.

Traders going west from China carried new fruits such as peaches and apricots, which the Romans mistakenly attributed to other eastern lands, calling them Persian plums and Armenian plums, respectively. They also carried cinnamon, ginger, and other spices that could not be grown in the West.

The Sasanid Empire, 224–600

The rise of the Sasanid Empire in Iran brought a continuation of the rivalry between Rome and the Parthians along the Euphrates frontier and an intensification of trade along the Silk Road; but otherwise it differed greatly from its Parthian predecessor: Ardashir, a descendant of an ancestor named Sasan, defeated the Parthians around 224. Unlike the Parthians, who originated as nomads in northeastern Iran, the Sasanids came from the southwest, the same region that earlier gave rise to the Achaemenids (see Chapter 4).

In contrast to the sparse material remains of the Parthian period, Sasanid silver work and silk fabrics testify to the sumptuous and sedentary lifestyle of the warrior elite. Cities in Iran were small walled communities that served more as military strongpoints protecting long-distance trade than as centers of population and production.

The Silk Road now brought many new crops to Mesopotamia. Sasanid farmers pioneered in planting cotton, sugar cane, rice, citrus trees, eggplants, and other...
Map 7.1 Asian Trade and Communication Routes

The overland Silk Road was vulnerable to political disruption, but it was much shorter than the maritime route from the South China Sea to the Red Sea, and ships were more expensive than pack animals. Moreover, China’s political centers were in the north.
Both Zoroastrianism and Christianity practiced intolerance. A late-third-century inscription in Iran boasts of the persecutions of Christians, Jews, and Buddhists carried out by the Zoroastrian high priest. Yet sizable Christian and Jewish communities remained, especially in Mesopotamia. Similarly, from the fourth century onward, councils of Christian bishops declared many theological beliefs heretical—so unacceptable that they were un-Christian.

Christians became pawns in the political rivalry with the Byzantines and were sometimes persecuted, sometimes patronized by the Sasanid kings. In 431 a council of bishops called by the Byzantine emperor declared the Nestorian Christians heretics for overemphasizing the humanness of Christ. The Nestorians believed that a human nature and a divine nature coexisted in Jesus and that Mary was not the mother of God, as many other Christians maintained, but the mother of the human Jesus. After the bishops' ruling, the Nestorians sought refuge under the Sasanid shah and engaged in missionary activities along the Silk Road.

A parallel episode within Zoroastrianism transpired in the third century. A preacher named Mani founded a new religion in Mesopotamia: Manichaeanism. Mani preached a dualist faith—a struggle between Good and Evil—theologically derived from Zoroastrianism. Although at first Mani enjoyed the favor of the shah, he and many of his followers were martyred in 276. His religion survived and spread widely, particularly along the Silk Road. Nestorian missionaries thus competed with Manichaean missionaries for converts in Central Asia.

crops adopted from India and China. Although the acreage devoted to new crops increased slowly, these products became important consumption and trade items in later centuries.

The Sasanids established their Zoroastrian faith (see Chapter 4), which the Parthians had not particularly stressed, as a state religion similar to Christianity in the Byzantine Empire (see Chapter 5). The proclamation of Christianity and Zoroastrianism as official faiths marked the fresh emergence of religion as an instrument of politics both within and between the empires. This politicization of religion greatly affected the culture of the Silk Road.

The Impact of the Silk Road

As trade became a more important part of Central Asian life, the Iranian-speaking peoples increasingly settled in trading cities and surrounding farm villages. By the sixth century C.E., nomads originally from the Altai Mountains farther east had spread across the steppes and become the dominant pastoral group. These peoples spoke Turkic languages unrelated to the Iranian tongues. The nomads continued to live in the round, portable felt huts called yurts that can still occasionally be seen in Central Asia, but prosperous individuals, both Turks and Iranians, built stately homes decorated with brightly colored wall paintings. The paintings show people wearing Chinese silks and Iranian brocades and riding on richly outfitted horses and camels. They also indicate an avid interest in Buddhism (see below), which competed with Nestorian Christianity, Manichaeanism, and Zoroastrianism in a lively and inquiring intellectual milieu.
Missionary influences exemplify the impact of foreign customs and beliefs on the peoples along the Silk Road. Military technology affords an example of the opposite phenomenon, steppe customs radiating into foreign lands. Chariot warfare and the use of mounted bowmen originated in Central Asia and spread eastward and westward through military campaigns and folk migrations that began in the second millennium B.C.E. and recurred throughout the period of the Silk Road.

Evidence of the stirrup, one of the most important inventions, comes first from the Kushan people who ruled northern Afghanistan in approximately the first century B.C.E. At first, a solid bar, then a loop of leather to support the rider’s big toe, and finally a device of leather and metal or wood supporting the instep, the stirrup gave riders far greater stability in the saddle—which itself was in all likelihood an earlier Central Asian invention.

Using stirrups, a mounted warrior could supplement his bow and arrow with a long lance and charge his enemy at a gallop without fear that the impact of his attack would push him off his mount. Far to the west, the stirrup made possible the armored knights who dominated the battlefields of Europe (see Chapter 9), and it contributed to the superiority of the Tang cavalry in China (see Chapter 10).

THE INDIAN OCEAN
MARITIME SYSTEM

A multilingual, multietnic society of seafarers established the Indian Ocean Maritime System, a trade network across the Indian Ocean and the South China Sea. These people left few records and seldom played a visible part in the rise and fall of kingdoms and empires, but they forged increasingly strong economic and social ties between the coastal lands of East Africa, southern Arabia, the Persian Gulf, India, Southeast Asia, and southern China.

This trade took place in three distinct regions: (1) In the South China Sea, Chinese and Malays (including Indonesians) dominated trade. (2) From the east coast of India to the islands of Southeast Asia, Indians and Malays were the main traders. (3) From the west coast of India to the Persian Gulf and the east coast of Africa, merchants and sailors were predominantly Persians and Arabs. However, Chinese and Malay sailors could and did voyage to East Africa, and Arab and Persian traders reached southern China.

From the time of Herodotus in the fifth century B.C.E., Greek writers regaled their readers with stories of marvelous voyages down the Red Sea into the Indian Ocean and around Africa from the west. Most often, they attributed such trips to the Phoenicians, the most fearless of Mediterranean seafarers. Occasionally a Greek appears. One such was Hippalus, a Greek ship’s pilot who was said to have discovered the seasonal monsoon winds that facilitate sailing across the Indian Ocean (see Diversity and Dominance: Travel Accounts of Africa and India).

Of course, the regular, seasonal alternation of steady winds could not have remained unnoticed for thousands of years, waiting for an alert Greek to happen along. The great voyages and discoveries made before written records became common should surely be attributed to the peoples who lived around the Indian Ocean rather than to interlopers from the Mediterranean Sea. The story of Hippalus resembles the Chinese story of General Zhang Jian, whose role in opening trade with Central Asia overshadows the anonymous contributions made by the indigenous peoples. The Chinese may indeed have learned from General Zhang and the Greeks from Hippalus, but other people played important roles anonymously.

Mediterranean sailors of the time of Alexander used square sails and long banks of oars to maneuver among the sea’s many islands and small harbors. Indian Ocean vessels relied on roughly triangular lateen sails and normally did without oars in running before the wind on long ocean stretches. Mediterranean shipbuilders nailed their vessels together. The planks of Indian Ocean ships were pierced, tied together with palm fiber, and caulked with bitumen. Mediterranean sailors rarely ventured out of sight of land. Indian Ocean sailors, thanks to the monsoon winds, could cover long reaches entirely at sea.

These technological differences prove that the world of the Indian Ocean developed differently from the world of the Mediterranean Sea, where the Phoenicians and Greeks established colonies that maintained contact with their home cities (see Chapters 3 and 4). The traders of the Indian Ocean, where distances were greater and contacts less frequent, seldom retained political ties with their homelands. The colonies they established were sometimes socially distinctive but rarely independent of the local political powers.

Origins of Contact and Trade

By 2000 B.C.E. Sumerian records indicate regular trade between Mesopotamia, the islands of the Persian Gulf, Oman, and the Indus Valley. However, this early trading
Travel Accounts of Africa and India

The most revealing description of ancient trade in the Indian Ocean and of the diversity and economic forces shaping the Indian Ocean trading system, "The Periplus of the Erythraean Sea," a sailing itinerary (periplus in Greek), was composed in the first century BCE by an unknown Greco-Egyptian merchant. It highlights the diversity of peoples and products from the Red Sea to the Bay of Bengal. Historians believe that the descriptions of market towns were based on firsthand experience. The following passages deal with East Africa and the coastal lands subcontinent (see Map 7.1).

Of the designated ports on the Erythraean Sea [Indian Ocean], and the market-towns around it, the first is the Egyptian port of Mussel Harbor. To those sailing down from that place, on the right hand . . . there is Berenice. The harbors of both are at the boundary of Egypt. . . .

On the right-hand coast next below Berenice is the country of the Berbers. Along the shore are the Fish-Eaters, living in scattered caves in the narrow valleys. Further inland are the Berbers, and beyond them the Wild-Flesh-Eaters and Calf-Eaters, each tribe governed by its chief; and behind them, further inland, in the country towards the west, there lies a city called Meroe.

Below the Calf-Eaters there is a little market-town on the shore . . . called Ptolemais of the Hunts, from which the hunters started for the interior under the dynasty of the Ptolemies . . . But the place has no harbor and is reached only by small boats. . . .

Beyond this place, the coast trend toward the south, there is the Market and Cape of Spices, an abrupt promontory, at the very end of the Berber coast toward the east . . . A sign of an approaching storm . . . is that the deep water becomes more turbid and changes its color. When this happens they all run to a large promontory called Tabae, which offers safe shelter . . .

Beyond Tabac (lies) . . . another market-town called Opone . . . (in it) the greatest quantity of cinnamon is produced . . . and slaves of the better sort, which are brought to Egypt in increasing numbers . . .

[Ships also come] from the places across this sea, from . . . Barygaza, bringing to these . . . market-towns the products of their own places; wheat, rice, clarified butter, sesame oil, cotton cloth . . . and honey from the reed called sacchari [sugar cane]. Some make the voyage especially to these market-towns, and others exchange their cargoes while sailing along the coast. This country is not subject to a King, but each market-town is ruled by its separate chief.

Beyond Opone, the shore trending more toward the south . . . this coast [the Somali region of Azania, or East Africa] is destitute of harbors . . . until the Ptolemy islands [Zanzibar]. . . . [A] little to the south of southeast . . . is the island Menuthias [Madagascar], about three hundred stadia from the mainland, low and wooded, in which there are rivers and many kinds of birds and the mountain-tortoise. There are no wild beasts except the crocodiles; but there they do not attack men. In this place there are sewed boats, and canoes hollowed from single logs . . .

Two days' sail beyond, there lies the very last market-town of the continent of Azania, which is called Rhapta [Dar es-Salaam]; which has its name from the sewed boats (rhapton phlaron) . . .; in which there is ivory in great quantity, and tortoise-shell. Along this coast live men of piratical habits, very great in stature, and under separate chiefs for each place . . .

And these markets of Azania are the very last of the continent that stretches down on the right hand from Berenice; for beyond these places the unexplored ocean curves around toward the west, and running along by the regions to the south of Aethiopia and Libya and Africa, it mingles with the western sea . . .

Now the whole country of India has very many rivers, and very great ebb and flow of the tides. . . . But about Barygaza [Broach] it is much greater, so that the bottom is suddenly seen, and now parts of the dry land are sea, and now it is dry where ships were sailing just before; and the rivers, under the inrush of the flood tide, when the whole force of the sea is directed against them, are driven upwards more strongly against their natural current . . .

The country inland from Barygaza is inhabited by numerous tribes. . . . Above these is the very warlike nation of the Bactrians, who are under their own king. And Alexander, setting out from these parts, penetrated to the Ganges . . . [to the
present day ancient drachmae are current in Barygaza, coming from this country, bearing inscriptions in Greek letters, and the devices of those who reigned after Alexander... Inland from this place and to the east, is the city called Ozene [Ujjain]... From this place are brought down all things needed for the welfare of the country about Barygaza, and many things for our trade: agate and carnelian, Indian muslins...

There are imported into this market-town, wine, Italian preferred, also Laodicean and Arabian; copper, tin, and lead; coral and topaz; thin clothing and inferior sorts of all kinds... gold and silver coin, on which there is a profit when exchanged for the money of the country... And for the King there are brought into those places very costly vessels of silver, singing boys, beautiful maidens for the harem, fine wines, thin clothing of the finest weaves, and the choicest ointments. There are exported from these places [spices], ivory, agate and carnelian... cotton cloth of all kinds, silk cloth...

Beyond Barygaza the adjoining coast extends in a straight line from north to south... The inland country back from the coast toward the east comprises many desert regions and great mountains; and all kinds of wild beasts—leopards, tigers, elephants, enormous serpents, hyenas, and baboons of many sorts; and many populous nations, as far as the Ganges...

This whole voyage as above described... they used to make in small vessels, sailing close around the shores of the gulfs; and Hippalus was the pilot who by observing the location of the ports and the conditions of the sea, first discovered how to lay his course straight across the ocean...

About the following region, the course trending toward the east, lying out at sea toward the west is the island Palaimundus, called by the ancients Taprobana [Sri Lanka]... It produces pearls, transparent stones, muslins, and tortoise-shell...

Beyond this, the course trending toward the north, there are many barbarous tribes, among whom are the Cirrhatae, a race of men with flattened noses, very savage; another tribe, the Bargysi; and the Horse-faces and the Long-faces, who are said to be cannibals.

After these, the course turns toward the east again, and sailing with the ocean to the right and the shore remaining beyond to the left, Ganges comes into view... And just opposite this river there is an island in the ocean, the last part of the inhabited world toward the east, under the rising sun itself; it is called Chryse; and it has the best tortoise-shell of all the places on the Erythraean Sea.

Asklepios, the Greek God of Medicine
This representation, found in the sea off the coast of Bahrain in the Persian Gulf, reflects the extension of Greek culture along sea routes into distant lands. Greek medical knowledge and principles became known as far away as India. The crude craftsmanship of this effigy indicates that it was locally made and not imported from Greece.

(Courtesy, Bahrain National Museum)
After this region under the very north, the sea outside ending in a land called This, there is a very great inland city called Thinae, from which raw silk and silk yarn and silk cloth are brought on foot... But the land of This is not easy of access; few men come from there, and seldom.

The Chinese traveler Xuanzang (600–664) journeyed across Inner Asia to India, making pilgrimage to Buddhist holy places and searching for Sanskrit scriptures to take back to China with him. His descriptions of the places he visited reflect his interests. The following passages come from his description of India.

**Towns and Buildings**

The towns and villages have inner gates; the walls are wide and high; the streets and lanes are tortuous, and the roads winding. The thoroughfares are dirty and the stalls arranged on both sides of the road with appropriate signs. Butchers, fishers, dancers, executioners, and scavengers, and so on, have their abodes without the city. In coming and going these persons are bound to keep on the left side of the road till they arrive at their homes. Their houses are surrounded by low walls, and form the suburbs. The earth being soft and muddy, the walls of the town are mostly built of brick or tiles. The towers on the walls are constructed of wood or bamboo; the houses have balconies and belvederes, which are made of wood, with a coating of lime or mortar, and covered with tiles. The different buildings have the same form as those in China: rushes, or dry branches, or tiles, or boards are used for covering them. The walls are covered with lime and mud, mixed with cow's dung for purity. At different seasons they scatter flowers about. Such are some of their different customs.

**Dress, Habits, etc.**

Their clothing is not cut or fashioned; they mostly affect fresh-white garments; they esteem little those of mixed color or ornamented. The men wind their garments round their middle, then gather them under the armpits, and let them fall down across the body, hanging to the right. The robes of the women fall down to the ground; they completely cover their shoulders. They wear a little knot of hair on their crowns, and let the rest of their hair fall loose. Some of the men cut off their moustaches, and have other odd customs... In North India, where the air is cold, they wear short and close-fitting garments... The dress and ornaments worn by the nonbelievers are varied and mixed. Some wear peacocks' feathers; some wear as ornaments necklaces made of skull bones; some have no clothing, but go naked; some wear leaf or bark garments; some pull out their hair and cut off their moustaches; others have bushy whiskers and their hair braided on the top of their heads. The costume is not uniform, and the color, whether red or white, not constant.

**QUESTIONS FOR ANALYSIS**

1. How do the differing interests of a trader and a religious pilgrim show up in what they report?
2. How do these narratives show the influence of the countries the authors are coming from?
3. Given the different viewpoints of travelers, what is the value of travel accounts as sources for history?

side of the Red Sea, southern Iran, and northern India (today’s Pakistan) were mostly barren desert. Ports in all these areas tended to be small, and many suffered from meager supplies of fresh water. Farther south in India, the monsoon provided ample water, but steep mountains cut off the coastal plain from the interior of the country. Thus few ports between Zanzibar and Sri Lanka had substantial inland populations within easy reach. The head of the Persian Gulf was one exception; ship-borne trade was possible from the port of Apologus (later called Ullala, the precursor of modern Basra) as far north as Babylon and, from the eighth century B.C., nearby Baghdad.

By contrast, eastern India, the Malay Peninsula, and Indonesia afforded more hospitable and densely populated shores with easier access to inland populations. Though the fishers, sailors, and traders of the western Indian Ocean system supplied a long series of kingdoms and empires, none of these consumer societies became primarily maritime in orientation, as the Greeks and Phoenicians did in the Mediterranean. In the east, in contrast, seaborne trade and influence seem to have been important even to the earliest states of Southeast Asia (see Chapter 6).

In coastal areas throughout the Indian Ocean system, small groups of seafarers sometimes had a significant social impact despite their usual lack of political power. Women seldom accompanied the men on long sea voyages, so sailors and merchants often married local women in port cities. The families thus established were bilingual and bicultural. As in many other situations in world history, women played a crucial though not well-documented role as mediators between cultures. Not only did they raise their children to be more cosmopolitan than children from inland regions, but they also introduced the men to customs and attitudes that they carried with them when they returned to sea. As a consequence, the designation of specific seafarers as Persian, Arab, Indian, or Malay often conceals mixed heritages and a rich cultural diversity.

**Routes Across the Sahara**

The windswept Sahara, a desert stretching from the Red Sea to the Atlantic Ocean and broken only by the Nile River, isolates sub-Saharan Africa from the Mediterranean world (see Map 7.2). The current dryness of the Sahara dates only to about 2500 B.C.E. The period of drying out that preceded that date lasted twenty-five centuries and encompassed several cultural changes. During that time, travel between a slowly shrinking number of grassy areas was comparatively easy. However, by 300 B.C.E., scarcity of water was restricting travel to a few difficult routes initially known only to desert nomads. Trade over trans-Saharan caravan routes, at first only a trickle, eventually expanded into a significant stream.

**Early Saharan Cultures**

Spreading sand dunes, sandy plains, and vast expanses of exposed rock make up most of the great desert. Stark and rugged mountain and highland areas separate its northern and southern portions. The cliffs and caves of these highlands, the last spots where water and grassland could be found as the climate changed, preserve rock paintings and engravings that constitute the primary evidence for early Saharan history.

Though dating is difficult, what appear to be the earliest images, left by hunters in much wetter times, include elephants, giraffes, rhinoceros, crocodiles, and other animals that have long been extinct in the region. Overlaps in the artwork indicate that the hunting societies were gradually joined by new cultures based on cattle breeding and well adapted to the sparse grazing that remained. Domestic cattle may have originated in western Asia or in North Africa. They certainly reached the Sahara before it became completely dry. The beautiful paintings of cattle and scenes of daily life seen in the Saharan rock art depict pastoral societies that bear little similarity to any in western Asia. The people seem physically akin to today’s West Africans, and the customs depicted, such as dancing and wearing masks, as well as the breeds of cattle, particularly those with piebald coloring (splochets of black and white), strongly suggest later societies to the south of the Sahara. These factors support the hypothesis that some southern cultural patterns originated in the Sahara.

Overlaps in artwork also show that horse herders succeeded the cattle herders. The rock art changes dramatically in style, from the superb realism of the cattle pictures to sketchier images that are often strongly geometric. Moreover, the horses are frequently shown drawing

**Map 7.2 Africa and the Trans-Saharan Trade Routes**

The Sahara and the surrounding oceans isolated most of Africa from foreign contact before 1000 C.E. The Nile Valley, a few trading points on the east coast, and limited transdesert trade provided exceptions to this rule; but the dominant forms of sub-Saharan African culture originated far to the west, north of the Gulf of Guinea.
light chariots. According to the most common theory, intrepid charioteers from the Mediterranean shore drove their flimsy vehicles across the desert and established societies in the few remaining grassy areas of the central Saharan highlands. Some scholars suggest possible chariot routes that refugees from the collapse of the Mycenaean and Minoan civilizations of Greece and Crete (see Chapter 3) might have followed deep into the desert around the twelfth century B.C.E. However, no archaeological evidence of actual chariot use in the Sahara has been discovered, and it is difficult to imagine large numbers of refugees from the politically chaotic Mediterranean region driving chariots into a waterless, trackless desert in search of a new homeland somewhere to the south.

As with the cattle herders, therefore, the identity of the Saharan horse breeders and the source of their passion for drawing chariots remain a mystery. Only with the coming of the camel is it possible to make firm connections with the Saharan nomads of today through the depiction of objects and geometric patterns still used by the veiled, blue-robed Tuareg people of the highlands in southern Algeria, Niger, and Mali.

Some historians maintain that the Romans inaugurated an important trans-Saharan trade, but they lack firm archaeological evidence. More plausibly, Saharan trade relates to the spread of camel domestication. Supporting evidence comes from rock art, where overlaps of images imply that camel riders in desert costume constitute the latest Saharan population. The camel-oriented images are decidedly the crudest to be found in the region.

The first mention of camels in North Africa comes in a Latin text of 46 B.C.E. Since the native camels of Africa probably died out before the era of domestication, the domestic animals probably reached the Sahara from Arabia, probably by way of Egypt in the first millennium B.C.E. They could have been adopted by peoples farther and farther to the west, from one central Saharan highland to the next, only much later spreading northward and coming to the attention of the Romans (see Environment and Technology: Camel Saddles). Camel herding made it easier for people to move away from the Saharan highlands and roam the deep desert.

Tuareg (TWAH-reg)
Camel Saddles

As seemingly simple a technology as saddle design can indicate a society’s economic structure. The south Arabian saddle, a Tunisian example of which is shown to the right, was good for riding, and baggage could easily be tied to the wooden arches at its front. It was militarily inefficient, however, because the rider knelt on the cushion behind the camel’s hump, which made it difficult to use weapons.

The north Arabian saddle, shown above, was a significant improvement that came into use in the first centuries B.C.E. The two arches anchoring the front end of the south Arabian saddle were separated and greatly enlarged, one arch going in front of the hump and the other behind. This formed a solid wooden framework to which loads could easily be attached, but the placement of the prominent front and rear arches seated the rider on top of the camel’s hump instead of behind it and thereby gave warriors a solid seat and the advantage of height over enemy horsemen. Arabs in northern Arabia used these saddles to take control of the caravan trade through their lands.

The lightest and most efficient riding saddles, shown below, come from the southern Sahara, where personal travel and warfare took priority over trade. These excellent war saddles could not be used for baggage because they did not offer a convenient place to tie bundles.

Camel Saddles

The militarily inefficient south Arabian saddle (above) seats the rider behind the animal’s hump atop its hindquarters. The rider controls his mount by tapping its neck with a long camel stick. The Tuareg saddle (below) seats the rider over the animal’s withers, leaving his hands free to wield a sword and let him control his mount with his toes. (above: Private collection; below: Fred Barendam/Peter Arnold, Inc.)

needed in their homelands from the other, or from the farming peoples of the Sahel—literally “the coast” in Arabic, the southern borderlands of the Sahara (see Map 7.2). Middlemen who were native to the Sahel played an important role in this trade, but precise historical details are lacking.

Sahel (SAH-hel)

In the north, Roman colonists supplied Italy with agricultural products, primarily wheat and olives. Surviving mosaic pavements depicting scenes from daily life show that people living on the farms and in the towns of the interior consumed Roman manufactured goods and shared Roman styles. This northern pattern began to change only in the third century C.E., with the decline of the Roman Empire, the abandonment of many Roman farms, the growth of nomadism, and a lessening of trade across the Mediterranean.
SUB-SAHARAN AFRICA

The Indian Ocean network and later trade across the Sahara provided sub-Saharan Africa, the portion of Africa south of the Sahara, with a few external contacts. The most important African network of cultural exchange from 300 B.C.E. to 1100 C.E., however, arose within the region and took the form of folk migration. These migrations and exchanges put in place enduring characteristics of African culture.

A Challenging Geography

Many geographic obstacles impede access to and movement within sub-Saharan Africa (see Map 7.2). The Sahara, the Atlantic and Indian Oceans, and the Red Sea form the boundaries of the region. With the exception of the Nile, a ribbon of green traversing the Sahara from south to north, the major river systems empty into the Atlantic, in the case of the Senegal, Niger, and Zaire Rivers, or into the Mozambique Channel of the Indian Ocean, in the case of the Zambezi. Rapids limit the use of these rivers for navigation.

Stretching over 50 degrees of latitude, sub-Saharan Africa encompasses dramatically different environments. A 4,000-mile (6,500-kilometer) trek from the southern edge of the Sahara to the Cape of Good Hope would take a traveler from the flat, semiarid steppes of the Sahel region to tropical savanna covered by long grasses and scattered forest, and then to tropical rain forest on the lower Niger and in the Zaire Basin. The rain forest gives way to another broad expanse of savanna, followed by more steppe and desert, and finally by a region of temperate highlands at the southern extremity, located as far south of the equator as Greece and Sicily are to its north. East-west travel is comparatively easy in the steppe and savanna regions—a caravan from Senegal to the Red Sea would have traversed a distance comparable to that of the Silk Road—but difficult in the equatorial rain-forest belt and across the mountains and deep rift valleys that abut the rain forest to the east and separate East from West Africa.

The Development of Cultural Unity

Cultural heritages shared by the educated elites within each region—heritages that some anthropologists call “great traditions”—typically include a written language, common legal and belief systems, ethical codes, and other intellectual attitudes. They loom large in written records as traditions that rise above the diversity of local customs and beliefs commonly distinguished as “small traditions.”

By the year 1 C.E. sub-Saharan Africa had become a distinct cultural region, though one not shaped by imperial conquest or characterized by a shared elite culture, a “great tradition.” The cultural unity of sub-Saharan Africa rested on similar characteristics shared to varying degrees by many popular cultures, or “small traditions.” These had developed during the region’s long period of isolation from the rest of the world and had been refined, renewed, and interwoven by repeated episodes of migration and social interaction. Historians know little about this complex prehistory. Thus, to a greater degree than in other regions, they call on anthropological descriptions, oral history, and comparatively late records of various “small traditions” to reconstruct the broad outlines of cultural formation.

Sub-Saharan Africa’s cultural unity is less immediately apparent than its diversity. By one estimate, Africa is home to two thousand distinct languages, many corresponding to social and belief systems endowed with distinctive rituals and cosmologies. There are likewise numerous food production systems, ranging from hunting and gathering—very differently carried out by the Mbuti Pygmies of the equatorial rain forest and the Khoisan peoples of the southwestern deserts—to the cultivation of bananas, yams, and other root crops in forest clearings and of sorghum and other grains in the savanna lands. Pastoral societies, particularly those depending on cattle, display somewhat less diversity across the Sahel and savanna belt from Senegal to Kenya.

Sub-Saharan Africa covered a larger and more diverse area than any other cultural region of the first millennium C.E. and had a lower overall population density. Thus societies and polities had ample room to form and reform, and a substantial amount of space separated different groups. The contacts that did occur did not last long enough to produce rigid cultural uniformity.

In addition, for centuries external conquerors could not penetrate the region’s natural barriers and impose a uniform culture. The Egyptians occupied Nubia, and some traces of Egyptian influence appear in Saharan rock art farther west, but the Nile cataracts and the vast swampland in the Nile’s upper reaches blocked movement farther south. The Romans sent expeditions against pastoral peoples living in the Libyan Sahara but
could not incorporate them into the Roman world. Not until the nineteenth century did outsiders gain control of the continent and begin the process of establishing an elite culture—that of European imperialism.

**European travelers who got to know the sub-Saharan region well in the nineteenth and twentieth centuries observed broad commonalities underlying African life and culture. In agriculture, the common technique was cultivation by hoe and digging stick. Musically, different groups of Africans played many instruments, especially types of drums, but common features, particularly in rhythm, gave African music as a whole a distinctive character. Music played an important role in social rituals, as did dancing and wearing masks, which often showed great artistry in their design.**

**African kingdoms varied, but kingship displayed common features, most notably the ritual isolation of the king himself (see Diversity and Dominance: Personal Styles of Rule in India and Mali in Chapter 13). Fixed social categories—age groupings, kinship divisions, distinct gender roles and relations, and occupational groupings—also show resemblances from one region to another, even in societies too small to organize themselves into kingdoms. Though not hierarchical, these categories played a role similar to the divisions between noble, commoner, and slave prevalent where kings ruled. Such indications of underlying cultural unity have led modern observers to identify a common African quality throughout most of the region, even though most sub-Saharan Africans themselves did not perceive it. An eminent Belgian anthropologist, Jacques Maquet, has called this quality “Africanity.”**

Some historians hypothesize that this cultural unity emanated from the peoples who once occupied the southern Sahara. In Paleolithic times, periods of dryness alternated with periods of wetness as the Ice Age that locked up much of the world’s fresh water in glaciers and icecaps came and went. When European glaciers receded with the waning of the Ice Age, a storm belt brought increased wetness to the Saharan region. Rushing rivers scoured deep canyons. Now filled with fine sand, those canyons are easily visible on flights over the southern parts of the desert. As the glaciers receded farther, the storm belt moved northward to Europe, and dryness set in after 5000 B.C.E. As a consequence, runs the hypothesis, the region’s population migrated southward, becoming increasingly concentrated in the Sahel, which may have been the initial incubation center for Pan-African cultural patterns. Increasing dryness and the resulting difficulty in supporting the population would have driven some people out of this core into more sparsely settled lands to the east, west, and south. In a parallel development farther to the east, migration away from the growing aridity of the desert seems to have contributed to the settling of the Nile Valley and the emergence of the Old Kingdom of Egypt (see Chapter 1).**

**Archaeology confirms that agriculture had become common between the equator and the Sahara by the early second millennium B.C.E. It then spread southward, displacing hunting and gathering as a way of life. Moreover, botanical evidence indicates that banana trees, probably introduced to southeastern Africa from Southeast Asia, made their way north and west, retracing in the opposite direction the presumed migration routes of the first agriculturists. Archaeology has also uncovered traces of copper mining in the Sahara from the early first millennium B.C.E. Copper appears in the Niger Valley somewhat later, and in the Central African copper belt after 400 C.E. Most important of all, iron smelting began in northern sub-Saharan Africa in the early first millennium C.E. and spread southward from there.**

Many historians believe that the secret of smelting iron, which requires very high temperatures, was discovered only once, by the Hittites of Anatolia (modern Turkey) around 1500 B.C.E. (see Chapter 3). If that is the case, it is hard to explain how iron smelting reached sub-Saharan Africa. The earliest evidence of ironworking from the kingdom of Meroë, situated on the upper Nile and in cultural contact with Egypt, is no earlier than the evidence from West Africa (northern Nigeria). Even less plausible than the Nile Valley as a route of technological diffusion is the idea of a spread southward from Phoenician settlements in North Africa, since archaeological evidence has failed to substantiate the vague Greek and Latin accounts of Phoenician excursions to the south.

A more plausible scenario focuses on Africans’ discovering for themselves how to smelt iron. Some historians suggest that they might have done so while firing pottery in kilns. No firm evidence exists to prove or disprove this theory.

Linguistic analysis provides the strongest evidence of extensive contacts among sub-Saharan Africans in the first millennium C.E.—and offers suggestions about the spread of iron. More than three hundred languages spoken south of the equator belong to the branch of the
The Niger-Congo family known as Bantu, after the word meaning "people" in most of the languages. The distribution of the Bantu languages both north and south of the equator is consistent with a divergence beginning in the first millennium B.C.E. By comparing core words common to most of the languages, linguists have drawn some conclusions about the original Bantu-speakers, whom they call "proto-Bantu." These people engaged in fishing, using canoes, nets, lines, and hooks. They lived in permanent villages on the edge of the rain forest, where they grew yams and grains and harvested wild palm nuts from which they pressed oil. They possessed domesticated goats, dogs, and perhaps other animals. They made pottery and cloth. Linguists surmise that the proto-Bantu homeland was near the modern boundary of Nigeria and Cameroon.

Because the presumed home of the proto-Bantu lies near the known sites of early iron smelting, migration by Bantu-speakers seems a likely mechanism for the southward spread of iron. The migrants probably used iron axes and hoes to hack out forest clearings and plant crops. According to this scenario, their actions would have established an economic basis for new societies capable of sustaining much denser populations than could earlier societies dependent on hunting and gathering alone. Thus, the period from 500 B.C.E. to 1000 C.E. saw a massive transfer of Bantu traditions and practices southward, eastward, and westward and their transformation, through intermingling with preexisting societies, into Pan-African traditions and practices.

The Spread of Ideas

Ideas, like social customs, religious attitudes, and artistic styles, can spread along trade routes and through folk migrations. In both cases, documenting the dissemination of ideas, particularly in preliterate societies, poses a difficult historical problem.

Ideas and Material Evidence

Historians know about some ideas only through the survival of written sources. Other ideas do not depend on writing but are inherent in material objects studied by archaeologists and anthropologists. Customs surrounding the eating of pork are a case in point. Scholars disagree about whether pigs became domestic in only one place, from which the practice of pig keeping spread elsewhere, or whether several peoples hit on the same idea at different times and in different places.

Southeast Asia was an important early center of pig domestication. Anthropological studies tell us that the eating of pork became highly ritualized in this area and that it was sometimes allowed only on ceremonial occasions. On the other side of the Indian Ocean, wild swine were common in the Nile swamps of ancient Egypt. There, too, pigs took on a sacred role, being associated with the evil god Set, and eating them was prohibited. The biblical prohibition on the Israelites' eating pork, echoed later by the Muslims, probably came from Egypt in the second millennium B.C.E.

In a third locale in eastern Iran, an archaeological site dating from the third millennium B.C.E. provides evidence of another religious taboo relating to pork. Although the area around the site was swampy and home to many wild pigs, not a single pig bone has been found. Yet small pig figurines seem to have been used as symbolic religious offerings, and the later Iranian religion associates the boar with an important god.

What accounts for the apparent connection between domestic pigs and religion in these far-flung areas? There is no way of knowing. It has been hypothesized that pigs were first domesticated in Southeast Asia by people who had no herd animals—sheep, goats, cattle, or horses—and who relied on fish for most of their animal protein. The pig therefore became a special animal to them. The practice of pig herding, along with religious beliefs and rituals associated with the consumption of pork, could conceivably have spread from Southeast Asia along the maritime routes of the Indian Ocean, eventually reaching Iran and Egypt. But no evidence survives to support this hypothesis. In this case, therefore, material evidence can only hint at the spread of religious ideas, leaving the door open for other explanations.

A more certain example of objects indicating the spread of an idea is the practice of hammering a carved die onto a piece of precious metal and using the resulting coin as a medium of exchange. From its origin in the Lydian kingdom in Anatolia in the first millennium B.C.E. (see Chapter 4), the idea of trading by means of struck coinage spread rapidly to Europe, North Africa, and India. Was the low-value copper coinage of China, made by pouring molten metal into a mold, also inspired by this practice from far away? It may have been, but it might also derive from indigenous Chinese metalworking. There is no way to be sure.
Gandharan Sculpture  The art of Gandhara in northwest Pakistan featured Hellenistic styles and techniques borrowed from the cities founded by Alexander the Great in Afghanistan. Though much Gandharan art is Buddhist in spirit, this fourth-century C.E. image of a flower-bearer is strongly Greek in the naturalistic treatment of the head and left arm. (Erich Lessing/Art Resource, NY)

The Spread of Buddhism  While material objects associated with religious beliefs and rituals are important indicators of the spread of spiritual ideas, written sources deal with the spread of today’s major religions. Buddhism grew to become, with Christianity and Islam (see Chapter 8), one of the most popular and widespread religions in the world. In all three cases, the religious ideas spread without dependency on a single ethnic or kinship group.

King Ashoka, the Mauryan ruler of India, and Kanishka, the greatest king of the Kushans of northern Afghanistan, promoted Buddhism between the third century B.C.E. and the second century C.E. However, monks, missionaries, and pilgrims who crisscrossed India, followed the Silk Road, or took ships on the Indian Ocean brought the Buddha’s teachings to Southeast Asia, China, Korea, and ultimately Japan (see Map 7.1).

Faxian began his trip in the company of a Chinese envoy to an unspecified ruler or people in Central Asia. After traveling from one Buddhist site to another across Afghanistan and India, he reached Sri Lanka, a Buddhist land, where he lived for two years. He then embarked for China on a merchant ship with two hundred men aboard. A storm drove the ship to Java, which he chose not to describe since it was Hindu rather than Buddhist. After five months ashore, Faxian finally reached China on another ship.

Less reliable accounts make reference to missionaries traveling to Syria, Egypt, and Macedonia, as well as to Southeast Asia. One of Ashoka’s sons allegedly led a band of missionaries to Sri Lanka. Later, his sister brought a company of nuns there, along with a branch of the sacred Bo tree under which the Buddha had received enlightenment. At the same time, there are reports of other monks traveling to Burma, Thailand, and Sumatra. Ashoka’s missionaries may also have reached Tibet by way of trade routes across the Himalayas.

The different lands that received the story and teachings of the Buddha preserved or adapted them in different ways. Theravada Buddhism, “Teachings of the Elder,” was centered in Sri Lanka. Holding closely to the Buddha’s earliest teachings, it maintained that the goal of religion, available only to monks, is nirvana, the total absence of suffering and the end of the cycle of rebirth (see

Faxian  (fah-shee-uhn)  Xuanzang  (shoo-wen-zahng)
Chapter 6). This teaching contrasted with Mahayana, or "Great Vehicle" Buddhism, which stressed the goal of becoming a bodhisattva, a person who attains nirvana but chooses to remain in human company to help and guide others.

The Spread of Christianity

The post-Roman development of Christianity in Europe is discussed in Chapter 8. The Christian faith enjoyed an earlier spread in Asia and Africa before its confrontation with Islam (described in Chapter 8). Jerusalem in Palestine, Antioch in Syria, and Alexandria in Egypt became centers of Christian authority soon after the crucifixion, but the spread of Christianity to Armenia and Ethiopia illustrates the connections between religion, trade, and imperial politics.

Situated in eastern Anatolia (modern Turkey), Armenia served recurrently as a battleground between Iranian states to the south and east and Mediterranean states to the west. Each imperial power wanted to control this region so close to the frontier where Silk Road traders met their Mediterranean counterparts. In Parthian times, Armenia's kings favored Zoroastrianism. The invention of an Armenian alphabet in the early fifth century opened the way to a wider spread of Christianity. The Iranians did not give up domination easily, but within a century the Armenian Apostolic Church had become the center of Armenian cultural life.

Far to the south Christians similarly sought to outflank Iran. The Christian emperors in Constantinople (see Chapter 5) sent missionaries along the Red Sea trade route to seek converts in Yemen and Ethiopia. In the fourth century C.E., a Syrian philosopher travelling with two young relatives sailed to India. On the way back the ship docked at a Red Sea port occupied by Ethiopians from the prosperous kingdom of Aksum. Being then at odds with the Romans, the Ethiopians killed everyone on board except the two boys, Aedius and Frumentius—who later narrated this story—and Frumentius. Impressed by their learning, the king made the former his cupbearer and the latter his treasurer and secretary.

When the king died, his wife urged Frumentius to govern Aksum on her behalf and that of her infant son, Ezana. As regent Frumentius sought out Roman Christians among the merchants who visited the country and helped them establish Christian communities. When he became king, Ezana, who may have become a Christian, permitted Aedius and Frumentius to return to Syria. The patriarch of Alexandria, on learning about the progress of Christianity in Aksum, elevated Frumentius to the rank of bishop, though he had not previously been a clergyman, and sent him back to Ethiopia as the first leader of its church.

The spread of Christianity into Nubia, the land south of Egypt along the Nile River, proceeded from Ethiopia rather than Egypt. Politically and economically, Ethiopia became a power at the western end of the Indian Ocean trading system, occasionally even extending its influence across the Red Sea and asserting itself in Yemen (see Map 7.2).
Occasional contacts across the heart of Asia undoubtedly occurred for many centuries before the Silk Road regularized communication. Cooperative relations between caravan traders and pastoral nomads in the Central Asian grasslands were key to this regularization. The fact that the Parthian rulers of Iran were themselves of nomadic origin played an important role. In later centuries, trans-Asian trade fared best when pastoral peoples dominated either China or Iran or both.

Maritime trade in general is strongly affected by such things as wind patterns, the presence of islands, and good seaports. The monsoon system in particular determined the seasons of trade across the Indian Ocean. In addition, coastal areas that had ample water supplies and easy communications with inland markets and population centers developed different relations with sea traders than did regions where coastal deserts were cut off from the interior by mountains.

If the Sahar Desert is visualized as a sea of sand and rock, the beginnings of trade across its barren wastes bear comparison with similar factors affecting the Silk Road and Indian Ocean trade. Political and economic contacts between pastoral nomads who supplied caravan animals played an important role, but trade was also influenced by the location of markets on both the northern and southern sides, as well as the connections those markets had with suppliers and consumers farther away from the desert.

Unlike a real sea, however, the Sahara changed over time from a verdant state to one of exceptional dryness. This change forced cattle-herding peoples who lived in the areas that were drying up to move southward. This movement, in turn, contributed to the widespread migrations of Bantu-speaking peoples. Their shared linguistic and cultural characteristics led to a high degree of cultural similarity despite the fact that the various migrating groups settled in places that were not so close together as to encourage complex political development stretching over large parts of the continent.

The Bantu migrations contrast with contacts made along trade routes in terms of the sorts of cultural characteristics that enjoy wide geographic spread. Migrating in groups, the Bantu were able to maintain their social structures and rituals along with their techniques of agriculture and metal using. Along overland and seaborne trade routes where the number of travelers was comparatively small, on the other hand, the social practices of the merchants had less influence than the goods they carried, which were often highly prized. To be sure, religious missionaries often traveled by caravan or ship, but the doctrines they preached seldom fully replaced earlier religions. The lives of the people they converted often differed greatly from the lives of the missionaries' own people.
### KEY TERMS

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### SUGGESTED READING


For a readable but sketchy historical overview of the Indian Ocean system, see August Troussaint, *History of the Indian Ocean* (1966). Alan Villiers recounts what it was like to sail dhows between East Africa and the Persian Gulf in *Sons of Sindbad* (1940).


NOTES

Oral Societies and the Consequences of Literacy

The availability of written documents is one of the key factors historians use to divide human prehistory from history. When we can read what the people of the past thought and said about their lives, we can begin to understand their cultures, institutions, values, and beliefs in ways that are not possible based only on the material remains unearthed by archaeologists.

There are profound differences between nonliterate and literate societies. However, literacy and nonliteracy are not absolute alternatives. Personal literacy ranges from illiteracy through many shades of partial literacy (the ability to write one’s name or to read simple texts with difficulty) to the fluent ability to read that is possessed by anyone reading this textbook. And there are degrees of societal literacy, ranging from nonliteracy through so-called craft literacy—in which a small specialized elite uses writing for limited purposes, such as administrative recordkeeping—and a spectrum of conditions in which more and more people use writing for more and more purposes, up to the near-universal literacy and the use of writing for innumerable purposes that is the norm in the developed world in our times.

The vast majority of human beings of the last five to six thousand years living in societies that possessed the technology of writing were not themselves literate. If most people in a society rely on the spoken word and memory, that culture is essentially “oral” even if some members know how to write. The differences between oral and literate cultures are immense, affecting not only the kinds of knowledge that are valued and the forms in which information is preserved, but also the very use of language, the categories for conceptualizing the world, and ultimately the hard-wiring of the individual human brain (now recognized by neuroscientists to be strongly influenced by individual experience and mental activity).

Ancient Greece of the Archaic and Classical periods (ca. 800–523 B.C.E.) offers a particularly instructive case study because we can observe the process by which writing was introduced into an oral society as well as the far-reaching consequences. The Greeks of the Dark Age and early Archaic period lived in a purely oral society; all knowledge was preserved in human memory and passed on by telling it to others. The Iliad and the Odyssey (ca. 700 B.C.E.), Homer’s epic poems, reflect this state of affairs. Scholars recognize that the creator of these poems was an oral poet, almost certainly not literate, who had heard and memorized the poems of predecessors and retold them his own way. The poems are treasuries of information that this society regarded as useful—events of the past; the conduct expected of warriors, kings, noblewomen, and servants; how to perform a sacrifice, build a raft, put on armor, and entertain guests; and much more.

Embedding this information in a story and using the colorful language, fixed phrases, and predictable rhythm of poetry made it easier for poet and audience to remember vast amounts of material. The early Greek poets, drawing on their strong memories, skill with words, and talent for dramatic performance, developed highly specialized techniques to assist them in memorizing and presenting their tales. They played a vital role in the preservation and transmission of information and thus enjoyed a relatively high social standing and comfortable standard of living. Analogous groups can be found in many other oral cultures of the past, including the bards of medieval Celtic lands, Norse skalds, west African griots, and the tribal historians of Native American peoples.

Nevertheless, human memory, however cleverly trained and well practiced, can only do so much. Oral societies must be extremely selective about what information to preserve in the limited storage medium of human memory, and they are slow to give up old information to make way for new.

Sometime in the eighth century B.C.E., the Greeks borrowed the system of writing used by the Phoenicians of Lebanon and, in adapting it to their language, created the first purely alphabetic writing, employing several dozen symbols to express the sounds of speech. The Greek alphabet, although relatively simple to learn as compared to the large and cumbersome sets of symbols in such craft literacy systems as cuneiform, hieroglyphics, or Linear B, was probably known at first only to a small number of people and used for restricted purposes. Scholars believe that it may have taken three or four centuries for knowledge of reading and writing to spread to...
large numbers of Greeks and for the written word to become the primary storage medium for the accumulated knowledge of Greek civilization. Throughout that time Greece was still primarily an oral society, even though some Greeks, mostly highly educated members of the upper classes, were beginning to write down poems, scientific speculations, stories about the past, philosophic musings, and the laws of their communities.

It is no accident that some of the most important intellectual and artistic achievements of the Greeks, including early science, history, drama, and rhetoric, developed in the period when oral and literate ways existed side by side. Scholars have persuasively argued that writing, by opening up a virtually limitless capacity to store information, released the human mind from the hard discipline of memorization and ended the need to be so painfully selective about what was preserved. This made previously unimaginable innovation and experimentation possible. The Greeks began to organize and categorize information in linear ways, perhaps inspired by the linear sequence of the alphabet; and they began to engage in abstract thinking now that it was no longer necessary to put everything in a story format. We can observe changes in the Greek language as it developed a vocabulary full of abstract nouns, accompanied by increasing complex sentence structure now that the reader had time to go back over the text.

Nevertheless, all the developments associated with literacy were shaped by the deeply rooted oral habits of Greek culture. It is often said that Plato (ca. 429-347 B.C.E.) and his contemporaries of the later Classical period may have been the first generation of Greeks who learned much of what they knew from books. Even so, Plato was a disciple of the philosopher Socrates, who wrote nothing, and Plato employed the oral form of the dialogue, a dramatized sequence of questions and answers, to convey his ideas in written form.

The transition from orality to literacy met stiff resistance in some quarters. Groups whose position in the oral culture was based on the special knowledge only they possessed—members of the elite who judged disputes, priests who knew the time-honored formulas and rituals for appeasing the gods, oral poets who preserved and performed the stories of a heroic past—resented the consequences of literacy. They did what they could to inflame the common people's suspicions of the impiety of literate men who sought scientific explanations for phenomena, such as lightning and eclipses, that had traditionally been attributed to the will and action of the gods.

The elite attacked the so-called Sophists, or “wise men,” who charged fees to teach what they claimed were the skills necessary for success, accusing them of subverting traditional morals and corrupting the young.

Other societies, ancient and modern, offer parallel examples of these processes. Oral “specialists” in antiquity, including the Brahmin priests of India and the Celtic Druids, preserved in memory valuable religious information about how to win the favor of the gods. These groups jealously guarded their knowledge because it was the basis of their livelihood and social standing. In their determination to select and to maintain control over those who received this knowledge, they resisted committing it to writing, even after that technology was available. The ways in which oral authorities feel threatened by writing and resist it can be seen in the following quotation from a twentieth-century C.E. “griot,” an oral rememberer and teller of the past in Mali in West Africa:

We griots are depositories of the knowledge of the past. . . . Other peoples use writing to record the past, but this invention has killed the faculty of memory among them. They do not feel the past anymore, for writing lacks the warmth of the human voice. With them everybody thinks he knows, whereas learning should be a secret. . . . What paltry learning is that which is congested in dumb books! . . . For generations we have passed on the history of kings from father to son. The narrative was passed on to me without alteration, for I received it free from all untruth.1

This point of view is hard for us to grasp, living as we do in an intensely literate society in which the written word is often felt to be more authoritative and objective than the spoken word. It is important, in striving to understand societies of the past, not to superimpose our assumptions on them and to appreciate the complex interplay of oral and literate patterns in many of them.