**Encyclopedic Entry archaeology**

For Teachers

For the complete encyclopedic entry with media resources, visit:

http://education.nationalgeographic.com/education/encyclopedia/archaeology/

Archaeology is the study of the human past using material remains. These remains can be any objects that people created, modified, or used.

Portable remains are usually called artifacts. Artifacts include tools, clothing, and decorations. Non-portable remains, such as pyramids or post-holes, are called features.

Archaeologists use artifacts and features to learn how people lived in specific times and places. They want to know what these people’s daily lives were like, how they were governed, how they interacted with each other, and what they believed and valued.

Sometimes, artifacts and features provide the only clues about an ancient community or civilization. Prehistoric civilizations did not leave behind written records, so we cannot read about them.

Understanding why ancient cultures built the giant stone circles at Stonehenge, England, for instance, remains a challenge 5,000 years after the first monoliths were erected. Archaeologists studying Stonehenge do not have ancient manuscripts to tell them how cultures used the feature. They rely on the enormous stones themselves— how they are arranged and the way the site developed over time.

Most cultures with writing systems leave written records that archaeologists consult and study. Some of the most valuable written records are everyday items, such as shopping lists and tax forms. Latin, the language of ancient Rome, helps archaeologists understand artifacts and features discovered in parts of the Roman Empire. The use of Latin shows how far the empire’s influence extended, and the records themselves can tell archaeologists what foods were available in an area, how much they cost, and what buildings belonged to families or businesses.

Many ancient civilizations had complex writing systems that archaeologists and linguists are still working to decipher. The written system of the Mayan language, for instance, remained a mystery to scholars until the 20th century. The Maya were one of the most powerful pre-Columbian civilizations in North America, and their Central American temples and manuscripts are inscribed with a collection of squared glyphs, or symbols. A series of circles and lines represents numbers.

By deciphering the Mayan script, archaeologists were able to trace the ancestry of Mayan kings and chart the development of their calendar and agricultural seasons. Understanding the basics of the Mayan writing system helps archaeologists discover how Mayan culture functioned—how they were governed, how they traded with some neighbors and went to war with others, what they ate, and what gods they worshipped.

As archaeologists become more fluent in Mayan writing, they are making new discoveries about the culture every day. Today, some archaeologists work with linguists and poets to preserve the once-lost Mayan language.

**History of Archaeology**

The word “archaeology” comes from the Greek word “arkhaios,” which means “ancient.” Although some archaeologists study living cultures, most archaeologists concern themselves with the distant past.

People have dug up monuments and collected artifacts for thousands of years. Often, these people were not scholars, but looters and grave robbers looking to make money or build up their personal collections.

For instance, grave robbers have been plundering the magnificent tombs of Egypt since the time the Pyramids were built. Grave robbing was such a common crime in ancient Egypt that many tombs have hidden chambers where the family of the deceased would place treasures.

In Egypt in the mid-1800s, an Egyptian man searching for a lost goat stumbled across the tomb of Pharaoh Ramses I. (Many archaeologists doubt this story and say grave robbers, working as an organized group, routinely scouted and plundered many tombs in the area.) Ramses I ruled for a short time in the 1290s BCE. Besides the body of the pharaoh, the tomb held artifacts such as pottery, paintings, and sculpture. The man sold the mummies and artifacts from the tomb to anyone who would pay.

The mummy of Ramses I wound up in a museum in Niagara Falls, Ontario, Canada, where it remained until the museum closed in 1999. The Canadian museum sold the Egyptian collection to the Michael C. Carlos Museum in Atlanta, Georgia, which confirmed the mummy’s royal status through the use of CT scanners, X-rays, radiocarbon dating, computer imaging, and other techniques. Ramses I was returned to Egypt in 2003.

One of the most well-known archaeological finds is the tomb of Pharaoh Tutankhamun, also known as King Tut. Unlike many other Egyptian tombs, grave robbers had never discovered King Tut. His resting place lay undisturbed for thousands of years, until it was discovered in 1922. In addition to mummies of Tutankhamun and his family, the tomb contained some 5,000 artifacts.

Many early archaeologists worked in the service of invading armies. When Gen. Napoleon Bonaparte of France successfully invaded Egypt in 1798, he brought artists, archaeologists, and historians to document the conquest. Napoleon’s troops took home hundreds of tons of Egyptian artifacts: columns, coffins, stone tablets, monumental statues. Today, these Egyptian antiquities take up entire floors of the Louvre Museum in Paris, France.

Some archaeologists of this time were wealthy adventurers, explorers, and merchants. These amateur archaeologists often had a sincere interest in the culture and artifacts they studied. However, their work is often regarded as an example of colonialism and exploitation. The so-called Elgin Marbles are an example of this controversy.

In 1801, Greece had been taken over by the Ottoman Empire. The British ambassador to the Ottoman Empire, Lord Elgin, received permission to remove half of the sculptures from the famous Acropolis of Athens, Greece. These marble sculptures were a part of buildings such as the Parthenon. Lord Elgin claimed he wanted to protect the valuable sculptures from damage caused by conflict between the Greeks and the Ottomans.

The government of Greece has been lobbying for the return of the Elgin Marbles ever since. Most Greeks view the sculptures as part of their cultural heritage. Greece has cut off diplomatic relations to the United Kingdom several times, demanding the return of the sculptures, which remain in the British Museum in London.

Eventually, archaeology evolved into a more systematic discipline. Scientists started using standard weights and measures and other formalized methods for recording and removing artifacts. They required detailed drawings and drafts of the entire dig site, as well as individual pieces. Archaeologists began to work with classicists, historians, and linguists to develop a unified picture of the past.

In the 20th century, archaeologists began to re-assess their impact on the cultures and environments where they dig. Today, in most countries, archaeological remains become the property of the country where they were found, regardless of who finds them. Egypt, for example, is scattered with archaeological sites sponsored by American universities. These teams must obtain permission from the Egyptian government to dig at the sites, and all artifacts become the property of Egypt.

**Disciplines of Archaeology**

Archaeology is based on the scientific method. Archaeologists ask questions and develop hypotheses. They use evidence to choose a dig site, then use scientific sampling techniques to select where on the site to dig. They observe, record, categorize, and interpret what they find. Then they share their results with other scientists and the public.

Underwater archaeologists study materials at the bottom of lakes, rivers, and oceans. Underwater archaeology encompasses any prehistoric and historic periods, and almost all sub-disciplines as archaeology. Artifacts and features are simply submerged.

Artifacts studied by underwater archaeologists could be the remains of a shipwreck. In 1985, National Geographic Explorer-in-Residence Dr. Robert Ballard helped locate the wreck of RMS *Titanic*, which sank in the North Atlantic Ocean in 1912, killing about 1,500 people. Ballard and other scientists used sonar to locate the wreck, which had been lost since the ocean liner sank. By exploring *Titanic* using remote-controlled cameras, Ballard and his crew discovered facts about the shipwreck (such as the fact the ship broke in two large pieces as it sank) as well as hundreds of artifacts, such as furniture, lighting fixtures, and children’s toys.

Underwater archaeology includes more than just shipwrecks, however. Sites include hunt camps on the continental shelf of the Gulf of Mexico, and portions of the ancient city of Alexandria, Egypt, submerged due to earthquakes and sea level rise.

This basic framework carries across many different disciplines, or areas of study, within archaeology.

*Prehistoric and Historic Archaeology*

There are two major disciplines of archaeology: prehistoric archaeology and historic archaeology. Within these groups are subdisciplines, based on the time period studied, the civilization studied, or the types of artifacts and features studied.

Prehistoric archaeology deals with civilizations that did not develop writing. Artifacts from these societies may provide the only clues we have about their lives. Archaeologists studying the Clovis people, for instance, have only arrowheads—called projectile points— and stone tools as artifacts. The unique projectile points were first discovered in Clovis, New Mexico, in the United States, and the culture was named after the town. So-called Clovis points establish the Clovis people as one of the first inhabitants of North America. Archaeologists have dated Clovis points to about 13,000 years ago.

A subdiscipline of prehistoric archaeology is paleopathology. Paleopathology is the study of disease in ancient cultures. (Paleopathology is also a subdiscipline of historical archaeology.) Paleopathologists may investigate the presence of specific diseases, what areas lacked certain diseases, and how different communities reacted to disease. By studying the history of a disease, paleopathologists may contribute to an understanding of the way modern diseases progress. Paleopathologists can also find clues about people’s overall health. By studying the teeth of ancient people, for example, paleopathologists can deduce what kinds of food they ate, how often they ate, and what nutrients the foods contained.

Historic archaeology incorporates written records into archaeological research. One of the most famous examples of historic archaeology is the discovery and decipherment of the Rosetta Stone. The Rosetta Stone is a large slab of marble discovered near Rashid, Egypt, by French archaeologists in 1799. It became an important tool of historic archaeology.

The stone is inscribed with a decree made on behalf of Pharaoh Ptolemy V. The decree was written and carved into the stone in three different languages: hieroglyphic, demotic, and Greek. Hieroglyphics are the picture-symbols used for formal documents in ancient Egypt. Demotic is the informal script of ancient Egypt. Before the discovery of the Rosetta Stone, Egyptologists did not understand hieroglyphics or demotic. They could, however, understand Greek. Using the Greek portion of the Rosetta Stone, archaeologists and linguists were able to translate the text and decipher hieroglyphs. This knowledge has contributed vastly to our understanding of Egyptian history.

Historic archaeology contributes to many disciplines, including religious studies. The Dead Sea Scrolls, for instance, are a collection of about 900 documents. The tightly rolled parchment and other writing sheets were found between 1947 and 1956 in 11 caves near Qumran, West Bank, near the Dead Sea. Among the scrolls are texts from the Hebrew Bible, written in Hebrew, Aramaic, and Greek.

The Dead Sea Scrolls are the oldest versions of Biblical texts ever found, dating from between the third century BCE to the first century CE. The scrolls also contain texts, psalms, and prophecies that are not part of today’s Bible. Discovery of the scrolls has increased our knowledge of the development of Judaism and Christianity.

A subdiscipline of historic archaeology is industrial archaeology. Industrial archaeologists study materials that were created or used after the Industrial Revolution of the 1700s and 1800s. The Industrial Revolution was strongest in Western Europe and North America, so most industrial archaeologists study artifacts found there.

One of the most important sites for industrial archaeologists is the Ironbridge Gorge in Shropshire, England. The River Severn runs through the gorge, and during the Industrial Revolution, it allowed for the transport of raw materials such as coal, limestone, and iron. In fact, the world’s first iron bridge spans the Severn there. By studying artifacts and features (such as the iron bridge), industrial archaeologists are able to trace the area’s economic development as it moved from agriculture to manufacturing and trade.

*Other Disciplines*

Ethnoarchaeologists study how people use and organize objects today. They use this knowledge to understand how people used tools in the past. Archaeologists researching the ancient San culture of southern Africa, for instance, study the way modern San culture functions. Until the mid-20th century, the San, sometimes called the Bushmen, maintained a somewhat nomadic lifestyle based on hunting and gathering. Although the San culture had evolved significantly, archaeologists studying the tools of the modern San could still study the way ancient San tracked and hunted animals and gathered native plants.

Environmental archaeologists help us understand the environmental conditions that influenced people in the past. Sometimes, environmental archaeology is called human paleoecology. Environmental archaeologists discovered that the expansion of the Taquara/Itararé people of the Brazilian highlands is closely linked with the expansion of the evergreen forest there. The forest grew as the climate became wetter. As the forest provided more resources to the Taquara/Itararé people (timber, as well as plants and animals that depended on the evergreen trees), they were able to expand their territory.

Experimental archaeologists replicate the techniques and processes people used to create or use objects in the past. Often, re-creating an ancient workshop or home helps experimental archaeologists understand the process or method used by ancient people to create features or artifacts. One of the most famous examples of experimental archaeology is the *Kon-Tiki*, a large raft built by Norwegian explorer Thor Heyerdahl. In 1947, Heyerdahl sailed the *Kon-Tiki* from South America to Polynesia to show that ancient mariners, with the same tools and technology, could have navigated the vast Pacific Ocean.

Forensic archaeologists sometimes work with geneticists to support or question DNA evidence. More often, they excavate the remains of victims of murder or genocide in areas of conflict. Forensic archaeology is important to the understanding of the “Killing Fields” of Cambodia, for instance. The Killing Fields are the sites of mass graves of thousands of victims of the Khmer Rouge regime of the 1970s. After the fall of the Khmer Rouge, forensic archaeologists studied the remains of the bodies in the Killing Fields, discovering how and when they died. The forensic archaeologists helped establish that the Khmer Rouge used starvation and overwork, as well as direct killing, to silence opponents of the regime.

Archaeologists working in the field of cultural resource management help assess and preserve remains on sites where construction is scheduled to occur. Archaeologists working as cultural resource managers often collaborate with local governments to balance the infrastructure and commercial needs of a community with historic and cultural interests represented by artifacts and features found on construction sites.

**Where to Dig?**

Most archaeology involves digging. Winds and floods carry sand, dust and soil, depositing them on top of abandoned features and artifacts. These deposits build up over time, burying the remains. Sometimes catastrophes, like volcanic eruptions, speed up this burial process. In places where earth has been carved away— like in the Grand Canyon in the U.S. state of Arizona—you can actually see the layers of soil that have built up over the centuries, like layers of a cake.

Cities and communities also tend to be built in layers. Rome, Italy, has been an urban center for thousands of years. The streets of downtown Rome today are several meters higher than they were during the time of Julius Caesar. Centuries of Romans have built it up—medieval home on top of ancient home, modern home on top of medieval home.

Establishing a dig site in an inhabited area can be a very difficult process. Not only are the inhabitants of the area inconvenienced, archaeologists don’t know what they may find. Archaeologists looking for an ancient Roman fortress, for instance, may have to first excavate a Renaissance bakery and medieval hospital.

Because most artifacts lie underground, scientists have developed methods to help them figure out where they should dig. Sometimes they choose sites based on old myths and stories about where people lived or where events occurred. The ancient city of Troy, written about by Greek poet Homer as early as 1190 BCE, was thought to be a work of fiction. Homer’s epic poem the *Iliad* was named after Troy, which the Greeks knew as Ilion. Using the *Iliad* as a guide, German amateur archaeologist Heinrich Schliemann discovered the ruins of the city near the town of Hisarlik, Turkey, in 1870. Schliemann’s find helped provide evidence that the Trojan War may have actually taken place, and that ancient manuscripts may be based on fact.

Sometimes, archaeologists use historical maps to find ancient artifacts. In 1973, for instance, archaeologists used historical maps and modern technology to locate the wreck of the USS *Monitor*, an “ironclad” ship used by the Union during the Civil War. The *Monitor* sunk in a storm off the coast of Cape Hatteras, North Carolina, in 1862. After archaeologists identified the ironclad, the United States designated the area as the nation’s first marine sanctuary.

Before securing a site, an archaeological team surveys the area, looking for signs of remains. These might include artifacts on the ground or unusual mounds in the earth. New technology has greatly increased their ability to survey an area. For example, aerial and satellite imagery can show patterns that might not be visible from the ground.

Other technologies give clues about what lies under the surface. These techniques involve radar and sonar. Radar and sonar technologies often use radio waves, electrical currents, and lasers. Archaeologists send these signals into the earth. As the signals hit something solid, they bounce back up to the surface. Scientists study the time and paths the signals take to familiarize themselves with the underground landscape.

Accidental finds can also lead archaeologists to dig sites. For instance, farmers plowing their fields might come across sherds of pottery. A construction crew might discover ruins beneath a building site.

Another monumental discovery was made by accident. In 1974, agricultural workers in Xian, China, were digging a well. They discovered the remains of what turned out to be an enormous mausoleum for Qin Shi Huangdi, China’s first emperor. The complex includes 8,000 life-sized clay soldiers, horses, chariots, and artillery, popularly known as the Terra Cotta Warriors. The archaeological research surrounding the Terra Cotta Warriors has provided insight on the organization and leadership style of Qin Shi Huangdi and the development of Chinese culture.

Once a site is chosen, archaeologists must get permission to dig from the landowner. If it is public land, they must obtain the proper permits from the local, state, or federal government.

Before moving a single grain of dirt, archaeologists make maps of the area and take detailed photographs. Once they begin digging, they will destroy the original landscape, so it is important to record how things looked beforehand.

The last step before digging is to divide the site into a grid to keep track of the location of each find. Then archaeologists choose sample squares from the grid to dig. This allows the archaeological team to form a complete study of the area. They also leave some plots on the grid untouched. Archaeologists like to preserve portions of their dig sites for future scientists to study—scientists who may have better tools and techniques than are available today.

For example, during the Great Depression in the 1930s, programs to create jobs led to many archaeological digs around the United States. Some scientists on these digs removed artifacts, such as pottery, but threw away charcoal and animal bones. These items were considered junk. Today, scientists are able to carbon-date the charcoal and analyze the bones to see what kinds of animals people were domesticating and eating at the time. It is important that archaeologists today keep some parts of each site pristine.

Not all archaeology involves digging in the earth. Archaeologists and engineers work with sophisticated technology to probe the earth below without disturbing the ground. National Geographic Emerging Explorer Dr. Albert Yu-Min Lin leads an innovative archaeological project centered in Mongolia. The Valley of the Khans project is using digital imaging, aerial photography, radar, and digital surveying to locate the tomb of Genghis Khan. Using satellite technology, Lin and his team can access information about the project without disturbing the land or even going to Mongolia.

**The Big Dig**

The process of researching and securing a dig site can take years. Digging is the field work of archaeology. On occasion, archaeologists might need to move earth with bulldozers and backhoes. Usually, however, archaeologists use tools such as brushes, hand shovels, and even toothbrushes to scrape away the earth around artifacts.

The most common tool that archaeologists use to dig is a flat trowel. A trowel is a hand-held shovel used for smoothing as well as digging. Archaeologists use trowels to slowly scrape away soil. For very small or delicate remains, archaeologists might also dig with dental picks, spoons, or very fine blades. Often, they will sift dirt through a fine mesh screen. Tiny remains, such as beads, can often be found this way.

Archaeologists take lots of notes and photographs along each step of the process. Sometimes they include audio and video recordings. Global positioning system (GPS) units and data from geographic information systems (GIS) help them map the location of various features with a high level of precision.

When archaeologists find remains, they are often broken or damaged after hundreds or even thousands of years underground. Sunlight, rain, soil, animals, bacteria, and other natural processes can cause artifacts to erode, rust, rot, break, and warp.

Sometimes, however, natural processes can help preserve materials. For example, sediments from floods or volcanic eruptions can encase materials and preserve them. In one case, the chill of an Alpine glacier preserved the body of a man for more than 5,300 years! The discoverer of the so-called “Iceman,” found in the Alps between Switzerland and Italy, thought he was a recent victim of murder, or one of the glacier’s crevasses. Forensic archaeologists studying his body were surprised to learn that he was a murder victim—the crime just took place more than 5,000 years ago.

**Uncovered Artifacts**

As artifacts are uncovered, the archaeological team records every step of the process through photos, drawings, and notes. Once the artifacts have been completely removed, they are cleaned, labeled, and classified.

Particularly fragile or damaged artifacts are sent to a conservator. Conservators have special training in preserving and restoring artifacts so they are not destroyed when exposed to air and light. Textiles, including clothing and bedding, are especially threatened by exposure. Textile conservators must be familiar with climate, as well as the chemical composition of the cloth and dyes, in order to preserve the artifacts.

In 1961, Swedish archaeologists recovered the ship *Vasa*, which sank in 1628. Conservators protected the delicate oak structure of *Vasa* by spraying it with polyethylene glycol (PEG). The ship was sprayed with PEG for 17 years, and allowed to dry for nine. Today, *Vasa* sits in its own enormous museum, a hallmark of Swedish heritage.

Then the artifacts are sent to a lab for analysis. This is usually the most time-consuming part of archaeology. For every day spent digging, archaeologists spend several weeks processing their finds in the lab.

All of this analysis—counting, weighing, categorizing—is necessary. Archaeologists use the information they find and combine it with what other scientists have discovered. They use the combined data to add to the story of humanity’s past. When did people develop tools, and how did they use them? What did they use to make clothing? Did their clothing styles indicate their social ranks and roles? What did they eat? Did they live in large groups or smaller family units? Did they trade with people from other regions? Were they warlike or peaceful? What were their religious practices? Archaeologists ask all of these questions and more.

The scientists write up their findings and publish them in scientific journals. Other scientists can look at the data and debate the interpretations, helping us get the most accurate story. Publication also lets the public know what scientists are learning about our history.

**Source: Boston University – Dept. of Anthropology Website**

***What is Anthropology?***

Are you as interested as I am in knowing how, when, and where human life arose, what the first human societies and languages were like, why cultures have evolved along diverse but often remarkably convergent pathways, why distinctions of rank came into being, and how small bands and villages gave way to chiefdoms and chiefdoms to mighty states and empires?
—**Marvin Harris**, Our Kind

Those words, written by the American anthropologist Marvin Harris, convey some of his fascination with the field of anthropology. But what is anthropology?

**Study of Humankind**

The word *anthropology* itself tells the basic story. From the Greek *anthropos* (“human”) and *logia* (“study”), it is the study of humankind, from its beginnings millions of years ago to the present day.

Nothing human is alien to anthropology. Indeed, of the many disciplines that study our species, *Homo sapiens*, only anthropology seeks to understand the whole panorama—in geographic space and evolutionary time—of human existence.

Though easy to define, anthropology is difficult to describe. Its subject matter is both exotic (e.g., star lore of the Australian aborigines) and commonplace (anatomy of the foot). And its focus is both sweeping (the evolution of language) and microscopic (the use-wear of obsidian tools). Anthropologists may study ancient Mayan hieroglyphics, the music of African Pygmies, and the corporate culture of a U.S. car manufacturer.

But always, the common goal links these vastly different projects: to advance knowledge of who we are, how we came to be that way—and where we may go in the future.

“I am a human, and nothing human can be of indifference to me.”
—**Terence**, The Self-Torturer

*Curiosity*. In a sense, we all “do” anthropology because it is rooted in a universal human trait: curiosity. We are curious about ourselves and about other people, the living as well as the dead, here and around the globe. We ask anthropological questions:

* Do all societies have marriage customs?
* As a species, are human beings innately violent or peaceful?
* Did the earliest humans have light or dark skins?
* When did people first begin speaking a language?
* How related are humans, monkeys and chimpanzees?
* Is *Homo sapiens’s* brain still evolving?

Such questions are part of a folk anthropology practiced in school yards, office buildings, and neighborhood cafes. But if we are all amateur anthropologists, what do the professionals study? How does the science of anthropology differ from ordinary opinion sharing and “common sense”?

*Comparative Method.* As a discipline, anthropology begins with a simple yet powerful idea: Any detail of our behavior can be understood better when it is seen against the backdrop of the full range of human behavior. This, the comparative method, attempts to explain similarities and differences among people holistically, in the context of humanity as a whole.

Anthropology seeks to uncover principles of behavior that apply to all human communities. To an anthropologist, diversity itself—seen in body shapes and sizes, customs, clothing, speech, religion, and worldview—provides a frame of reference for understanding any single aspect of life in any given community.

To illustrate, imagine having our entire lives in a world of red. Our food, our clothing, our car—even the street we live on—everything around us a different shade of red. And yet ironically, in a scarlet world, isn’t it true that we will have no real grasp of the color red itself, nor even the concept of color, without being able to compare red with yellow, blue, green, and all the hues of the rainbow?

We [anthropologists] have been the first to insist on a number of things: that the world does not divide into the pious and the superstitious; that there are sculptures in jungles and paintings in deserts; that political order is possible without centralized power and principled justice without codified rules; that the norms of reason were not fixed in Greece, the evolution of morality not consummated in England. Most important, we were the first to insist that we see the lives of others through lenses of our own grinding and that they look back on ours through ones of their own.
—**Clifford Geertz**

**Evolutionary Perspective**

As a field, anthropology brings an explicit, evolutionary approach to the study of human behavior. Each of anthropology’s four main subfields—sociocultural, biological, archaeology, linguistic anthropology—acknowledges that *Homo* has a long evolutionary history that must be studied if one is to know what it means to be a human being.

**Cultural Anthropology**

In North America, the discipline’s largest branch, cultural anthropology, applies the comparative method and evolutionary perspective to human culture. Culture represents the entire database of knowledge, values, and traditional ways of viewing the world, which have been transmitted from one generation ahead to the next—nongenetically, apart from DNA—through words, concepts, and symbols.

Cultural anthropologists study humans through a descriptive lens called the ethnographic method, based on participant observation in tandem with face-to-face interviews, normally conducted in the native tongue. Ethnographers compare what they see and hear themselves with the observations and findings of studies conducted in other societies. Originally, anthropologists pieced together a complete way of life for a culture, viewed as a whole. Today, the more likely focus is on a narrower aspect of cultural life, such as economics, politics, religion, or art.

Cultural anthropologists seek to understand the internal logic of another society. It helps outsiders make sense of behaviors that, like face painting or scarification, may seem bizarre or senseless. Through the comparative method, an anthropologist learns to avoid “ethnocentrism,” the tendency to interpret strange customs on the basis of preconceptions derived from one’s own cultural background. Moreover, this same process helps us see our own society—the color “red” again—through fresh eyes.

We can turn the principle around and see our everyday surroundings in a new light, with the same sense of wonder and discovery anthropologists experience when studying life in a Brazilian rain-forest tribe. Though many picture cultural anthropologists thousands of miles from home residing in thatched huts amid wicker fences, growing numbers now study U.S. groups instead, applying anthropological perspectives to their own culture and society.

**Linguistic Anthropology**

One aspect of culture holds a special fascination for most anthropologists: language, hallmark of the human species. The organization of systems of sound into language has enabled *Homo sapiens* to transcend the limits of individual memory. Speech is the most efficient medium of communication since DNA for transmitting information across generations. It is upon language that culture itself depends—and within language that humanity’s knowledge resides.

“As you commanded me, I, Spider Woman, have created these First People. They are fully and firmly formed; they have movement. But they cannot talk. That is the proper thing they lack. So I want you to give them speech.”

So Sotuknang gave them speech, a different language to each color, with respect for each other’s difference. He gave them also the wisdom and the power to reproduce and multiply.
—**Hopi Indian Emergence Myth**

Linguistic anthropologists, representing one of the discipline’s traditional branches, look at the history, evolution, and internal structure of human languages. They study prehistoric links between different societies, and explore the use and meaning of verbal concepts with which humans communicate and reason. Linguistic anthropologists seek to explain the very nature of language itself, including hidden connections among language, brain, and behavior.

Language is the hallmark of our species. It is upon language that human culture itself depends.

Linguistic anthropologists, of course, are not the only ones who study historical dimensions of culture. Anthropologists recognize that, in seeking to understand today’s society, they should not confine attention only to present-day groups. They also need information about what came before. But how can they trace the long-ago prehistory, reaching far back into the millennia, of societies that left no written record?

**Archaeology**

Fortunately, the human record is written not only in alphabets and books, but is preserved in other kinds of material remains—in cave paintings, pictographs, discarded stone tools, earthenware vessels, religious figurines, abandoned baskets—which is to say, in tattered shreds and patches of ancient societies. Archaeologists interpret this often fragmentary but fascinating record to reassemble long-ago cultures and forgotten ways of life.

Archaeologists, long interested in the classical societies of Greece, Rome, and Egypt, have extended their studies in two directions—backward some 3 million years to the bones and stone tools of our protohuman ancestors, and forward to the reconstruction of lifeways and communities of 19th-century America. Regarding the latter, many archaeologists work in the growing field of cultural resource management, to help federal, state, and local governments preserve our nation’s architectural, historical, and cultural heritage.

**Biological Anthropology**

But human history begins in a different place further back in time. It starts about 8 million years ago, when a population of apelike creatures from eastern Africa turned onto a unique evolutionary road. Thus, the anthropologist’s comparative perspective must be expanded to include more than prehistoric human societies, for behavior has primate roots as well. To fully understand humankind we must learn more about its place in the natural habitat of living things.

Biological (or physical) anthropology looks at *Homo sapiens* as a genus and species, tracing their biological origins, evolutionary development, and genetic diversity. Biological anthropologists study the biocultural prehistory of *Homo* to understand human nature and, ultimately, the evolution of the brain and nervous system itself.

These, then, are the four main branches that make anthropology whole: cultural, linguistic, archaeology, and biological anthropology. Anthropology asks a most difficult and most important question: What does it mean to be human? While the question may never be fully answered, the study of anthropology—what the noted anthropologist Loren Eiseley has called the “immense journey”—has attracted some of the world’s greatest thinkers, whose discoveries forever changed our understanding of ourselves.

Know then thyself . . .
—**Alexander Pope**