**Agrarian Civilizations in Central and South America: Aztec, Maya, and Inca, 1500 B.C.-1600 B.C.** *DISCovering World History*. Online Detroit: Gale, 2003. *Junior Reference Collection*. Gale. North Carolina WiseOwl. 16 May. 2012

In the centuries before Europeans first arrived in the Americas, native peoples were building great cities, worshiping a multitude of gods, and creating massive empires, all within the bounds of agrarian lifestyles and without the benefit of Old World innovations such as the wheel, iron and other metals for tools, and beasts of burden. Using Stone Age tools and the simplest of engineering methods, the Maya, Aztec, and Inca cultures of Central and South America developed the New World's greatest early civilizations.

**The Maya**

The Maya civilization of Mesoamerica grew out of a very early agrarian way of life, beginning around 2500 B.C. in the tropical rain forest lowlands of northern Guatemala (the area now known as El Petén). These lowlands were well settled by 800 B.C., and scholars think the Maya were influenced in their development by the Olmec who lived in the area west of El Petén, and by the far-reaching culture of the Teotihuacános in the Valley of Mexico. The Maya built cities throughout southern Mesoamerica; ruins have been found in the Mexican states of Campeche, Yucatán, and Quintana Roo, parts of Tabasco and Chiapas, and in the Central American countries of Belize, most of Guatemala, and parts of El Salvador and Honduras. The Maya are divided into three chief groups: the Yucatán Maya, the Lowlands Maya, and the Guatemalan Highlands Maya.

The Maya were farmers whose lives depended upon the success of their crops, chiefly maize (corn), and who developed beliefs in more than one hundred and sixty gods, each influencing some part of Maya life. Aside from their peaceful daily lives spent cultivating the land and raising their families, the Maya took part in training for warfare against enemy tribes. Religious ritual, including human and animal sacrifice, was an ever-present part of the Maya world, and a lifetime spent living under the possibility of being the next sacrificial victim often contributed to an air of resignation at the sacrificial altar.

Maya priests and scholars, both men and women, were numerous, and they had the privilege of studying such subjects as astronomy, astrology, mathematics, and other sacred arts at great centers for learning.

The Maya lived in harmony with their tropical environment and built a great civilization that would influence the Aztecs of the Valley of Mexico. Maya civilization has been divided into five periods: the Formative period (1500-1000 B.C. to about A.D. 150); the Proto- (or Pre-) Classic period (A.D. 150-300), the Classic period (A.D. 300-925), the Inter-regnum period (lasting for about fifty years in the tenth century A.D.), and the Post-Classic (or Mexican) period (A.D. 900 to the arrival of the Spaniards in the sixteenth century).

When Classic Maya civilization collapsed in the ninth century A.D., many of the great cities were reclaimed by the jungles, not to be rediscovered until the late eighteenth century. (Archaeologists today are still uncovering Maya cities in the jungles of Central America.) After this collapse, many Maya migrated to the Yucatán and, during the Post-Classic period, built additional cities that thrived until the coming of the Europeans.

The Spaniards who began arriving in Central America and Mexico early in the sixteenth century finally defeated the Maya in battle, destroying many of their cities, burning their written records, and converting them to Christianity. The Maya people still live in Central America today, retaining their culture as farmers and artisans.

**Agriculture**

The early Maya, like the Olmec and other Mesoamerican civilizations that came before them, cleared land by using stone tools and the slash-and-burn method (cutting down larger vegetation and burning away the underbrush), then used stone and wooden digging implements to plant seeds in the ashes. The repeated use of slash-and-burn farming techniques, however, is detrimental to the land, and some historians believe that exhaustion of the soil by increasing populations contributed to the decline of the Classic Maya way of life.

In addition to maize, the Maya grew beans, squash, avocados, tomatoes, and chili peppers. They hunted and fished, raised turkeys, and kept bees for honey; they also gathered wild vegetables and fruit. Maize was their principal food, and tortillas were a staple in their diets, as they are today. The Maya also made an alcoholic drink called *balche* with maize, using honey and a spicy bark for sweetening.

For years it has been believed that the Maya farmed land around their great ceremonial centers, but did not live within the cities. New archaeological discoveries and the use of aerial photography and other techniques have revealed signs that the Maya created large networks of canals and raised fields around such cities as Tikal, using this type of agriculture to support as many as ten thousand people within the city itself and perhaps forty thousand in the surrounding area. Also discovered were moats and parapets that were used to defend the city from invaders.

**Architecture**

Like the Olmec, Zapotec, and Teotihuacános, the Maya built great cities, using the flat-topped pyramid as the basis for their temples and other buildings and aligning them along plazas. Priests climbed the long rows of steps to the temples to perform ceremonies during major religious festivals on the Maya New Year and for each Maya month. Modern architects have discovered that the pyramids were aligned so they would transmit voices perfectly from the summit temples to the plazas below.

The Maya used primarily limestone in their construction, but in some areas used other local stone, such as trachyte (at Copán); rhyolite and sandstone (at Quirigua); green sandstone (at Lubaantun); reddish sandstone; and clay-fired brick. Most commonly, the pyramids consisted of a substructure of stone rubble and mortar, faced with cut stones or stucco. Wood or stone was used for door lintels in temples and other buildings, and corbeled arches were used in Classic Maya construction. The stone vault roof was most common, and was built by placing rows of stones closer and closer inward until a narrow gap at the top could be closed by a single capstone. Thatching was used for many roofs. The Maya are also known for their roof combs, placed on the tops of buildings, especially temples, to make them seem to reach the sky. Some roof combs were perforated in order to catch the wind, resulting in eerie sounds touted as voices of the gods. Modern engineers and architects are impressed by the beauty of the structures the ancient Maya were able to create using only stone tools, human muscles, and probably levers, rollers, plumb bobs, and water levels.

Maya farmers lived in much simpler structures, usually houses built from poles lashed together and covered with palm leaves or grass, with thatched roofs. The common people were without doubt held in awe when they visited the great cities for ceremonies and worship throughout the year.

**Art**

Much of Maya art was concentrated on the buildings themselves. The Maya carved figures of rulers, gods, certain animals, and scenes from battle—often along with hieroglyphs recounting brave deeds and historical events—on the stone fronts of buildings, and on stairways, lintels, and other structures. The Maya also erected stone monuments called *stelae* in the plazas at regular time intervals (some sources say every five years, some every twenty). These stone slabs were carved with figures and glyphs. In addition, the Maya painted numerous scenes on the insides and outsides of their structures, first covering the stone with stucco or plaster. Maya murals found to date show mostly historical scenes, some featuring rulers participating in ritual or battle. Murals discovered at Bonampak dating to the eighth century A.D. have proved to historians that the Maya were as warlike as other ancient Mesoamerican peoples. Along with scenes of a new ruler succeeding to the throne were bloody battle scenes showing warriors and leaders torturing and defeating their enemies, as well as scenes of priests and priestesses preparing for sacrifical bloodletting.

The Maya put their hieroglyphs into folding books (codices) made from fig tree bark or maguey plant paper. These books—most of which were destroyed by Spanish missionaries in their efforts to convert the Maya to Catholicism—contained astronomical tables, calendars of planting days, and information about religious ceremonies, agriculture, hunting, and disease. The four surviving partial codices are the *Dresden Codex*, the *Paris Codex*, the *Codex Troano*, and the *Codex Cortesiano*. The latter two are parts of the same document and have been combined as the *Tro-Cortesiano*, or *MadridCodex*. A later Maya book, the *Popol Vuh* (Book of Counsel) is an important Post-Classic book of the Quiché Maya of Guatemala. The *Popol Vuh* outlines a history of the Quiché and contains their legends of the sacred Hero Twins. One Maya play, the *Rabinal Achi,* has also survived.

The Maya carved stone figurines and made clay figures and fine pottery equaled only by that of the ancient Peruvians. They wore copper, gold, silver, shells, jade, and colorful feathers as decoration for their bodies, and they excelled at dyeing, spinning, and weaving cotton textiles. Maya carvings and sculpture show figures wearing the round ear plugs for which the Incas and other early Indians of Peru are known.

**Mathematics, Calendar, and Astronomy**

The Maya continued to use the mathematical system of dots and bars conceived by the Olmec, but they also developed the concept of zero. A dot represented one and a bar, five; zero was represented by a shell symbol. The Maya system was based on the number 20, instead of 10 as in the decimal system.

The Maya are said to have worshiped time. They used the calendar system of the Olmec and the Teotihuacános, in which two separate calendrical cycles ran in tandem, resulting in a common beginning day every fifty-two years, which called for a ceremony to renew life on earth. The Mesoamerican calendar was based on the number 20, called *katun*, and contained eighteen cycles of twenty days each, for a total of 360 days, with five unlucky days added. A 260-day ritual cycle was also part of the calendar.

The ancient Maya were said to have been scholars of astronomy and to have taken a young man's and woman's astrology into serious account when it came time for matchmaking. Maya priests observed the sun, moon, and stars, and predicted eclipses and the orbit of Venus. Temple structures were aligned to correspond with certain astronomical events. The sacred ball game, called *pok-a-tok*, is said to have symbolized the origins of the Maya and the relationship of the everyday world to the movement of celestial bodies. The rings through which the ball had to pass were intertwined with carvings of serpents and said to represent the movement of planets through the heavens.

**The Great Cities**

It is believed that in the heart of Maya civilization—lowlands Guatemala—more than three thousand structures, including two hundred stelae, lie within the rain forest. The major Maya cities of Piedras Negras, Tikal, and Uaxactún were developed there, but throughout Maya lands rulers had workmen building, probably during most of Maya history.

One of the oldest Maya sites is at the city of Dzibilchaltún, in the Yucatán, northwest of Mérida, believed to have originated about 2000 B.C. Belize is said to contain some of the oldest Maya settlements. Those of Altun Ha and Lamanai date as far back as 2500 B.C., and pollen studies have shown that maize was under cultivation by 1500 B.C. at Lamanai. The later city of Caracol in Belize contains glyphs that show the inhabitants defeating the great city of Tikal in 562 A.D. Caracol is believed to have been larger than Tikal, with some forty-five hundred structures over an area of six miles.

The city of Tikal (sometimes translated as "place where the cycles of cosmic time remain registered") thrived from A.D. 600-900 in the El Petén rain forest of Guatemala. Some fifty thousand people are thought to have lived in and around the city. It was a center for government, education, economics, science, and ceremony. The Central Acropolis at Tikal was a kind of university for students of cosmic science and other sacred arts. Tikal was a spiritual mecca for the Maya. It is one location where sweatbaths (*temescal*) have been found. As mentioned previously, great agricultural earthworks, as well as fortifications against invasion, have been discovered around the city. The oldest known Maya construction is a pyramid with four staircases in the city of Uaxactún, about sixteen miles north-west of Tikal.

The city of Palenque lies in Chiapas, Mexico, near the Usumacinta River. It is thought to be the most beautiful of Maya ceremonial centers, with its spacious construction and a multitude of bas-relief carvings painted in bright colors and located throughout the city. With a seven-story tower for astronomical observation, it was a center for scientific study as well. Palenque was the westernmost city of the Maya and was considered sacred because it lay in the place where the sun set.

A wealthy tomb in the Temple of the Inscriptions made history as one of the greatest finds in American archaeology (1952 by Alberto Ruz Lhuiller), with its carved sarcophagus and cache of magnificent jade objects.

The city of Uxmal, in the dry part of the Yucatán, was built for the rain god, Chac, and is thought to have been a center for women priestesses. Its name was originally Uc-mal, which means "place of the eternal moon." For this reason the city has been associated with sexual energy, fertility, and the renewal of life. Carvings of serpents are believed to represent the sexual energy (*kundalini*) used to attain an enlightened state. Roads, known as *sacbeob*, connect Uxmal with nearby villages.

Copán (place of the clouds) is located on Río Copán, just inside Honduras near the Guatemala border, on an ancient trade route from the Pacific Coast to the Montagua River. At its height it is believed to have supported ten thousand residents. The Hieroglyphic Stairway in the city has been called one of the great ancient archaeological achievements in the world. It contains more than twenty-five hundred individual Maya glyphs and is thought to have been constructed during the reign of Copán's fifteenth ruler, Smoke Shell, in the eighth century.

Chichén Itzá, a city on the northern Yucatán Peninsula, was populated by hunter-gatherers as early as 8000 B.C.; it later became one of the largest cities of the northern Yucatán, along with nearby Cobá. The city had an advanced observatory and an initiation school for men and women, with large dormitories. The largest ritual ball court in the Americas (545 feet long) is at Chichén Itzá, one of nine ball courts in the city. Evidence of human sacrifice is abundant here. A *tzompantli* (skull platform) beside the great ball court is covered with carvings of skulls in low relief, and was thought to have been used as the Aztec *tzompantli* were—for the display of heads of captured enemies or sacrificial victims. Human sacrifice is thought to have taken place in the temple atop the Pyramid of Kukulcán, since temple artwork depicts sacrificed ball players. Kukulcán was the Mayan name for the Toltec god Quetzalcoátl, who was introduced at Chichén Itzá after a Toltec invasion. In a sacred well, or *cenote*, near the city human skeletal remains and gold and jade objects were found.

Situated on a sandstone cliff on the east coast of Quintana Roo, Tulum was dedicated to the Diving God. The city is oriented to the four cardinal directions, with certain buildings aligned to mark the summer and winter solstice and spring and fall equinox cycles. Tulum had strong Toltec influences, even to beliefs shared with the Maya about the planet Venus. Both cultures believed that as Venus returned from an eight-day journey through the underworld human life was reborn. The Temple of Venus was built to observe this planetary mystery.

**Religion**

Religion was a major part of the everyday lives of the Maya. With more than one hundred sixty different gods, the Maya spent much time fasting, praying, and offering sacrifices to the deities in hopes that they would bring rain and good crops, good health, and good luck. The universal creative force was referred to as Hunab K'U, and the towering ceiba tree was called the *axis mundi*, or tree of life, which was thought to reside in all three levels of the cosmos: roots in the underworld (*Xibalba*), trunk in the middle world, and branches in the heavens. Trees were thought to represent the sustainer of life because of their role in rain cycles, and the Maya believed that when the last tree disappeared so would the people. The Maya had a corn god, a rain god, a sun god, and a moon goddess, among many others. Each god or goddess influenced a part of Maya life. For example, the goddess of the moon, Ix Chel, was said to control medicine and weaving.

In the great ceremonial centers, priests and priestesses were often involved in vision-producing rites that would supposedly allow them to communicate with the gods. Maya carvings and paintings show men and women ceremoniously piercing parts of their bodies to shed blood and induce higher states of consciousness. Women often pierced their tongues and men their penises, using stingray spines, flints, or thorns. Blood dripped onto bark paper and the paper was burned as an offering to the gods.

Humans, often captured enemy warriors, were ritually sacrificed to appease the gods. The victim would be held down upon an altar and a priest would slit his chest under the rib cage and tear out the heart. Stone carvings of a reclining figure known as the Chac Mool, which is pictured holding a bowl or platform for a bowl, were thought to be receptacles for sacrificed hearts or blood. Captives were also tortured, bled, and decapitated. Some sacrificial victims were tossed into deep natural water holes (*cenotes*) to plead with the rain god for water. When an important person or ruler died, his servants were often killed and buried with him.

While Maya rulers and priests were buried in lavish tombs, the everyday Mayan of the cities was buried under the floor of the house in which he or she had lived. Corpses were painted with red ocher (iron ore pigment) and wrapped in straw mats with some belongings before burial.

**Everyday Life**

The common Maya lived and worked within their extended families. Men and boys farmed, hunted, and fished, while the women cooked, made clothing, helped with the harvests, raised children, and kept the house supplied with firewood and water.

Men wore loincloths, and the women wore long, loose dresses. Garments were woven of cotton and other fibers. Maya administrators and priests and other upper classes wore decorated and embroidered clothing with large elaborate headdresses and many items of jade and shell jewelry.

The Maya practiced skull deformation, beginning by binding the heads of infants between two boards, to achieve the elongated skull shape that was considered beautiful. The upper classes are said to have tabooed themselves, pierced various parts of their bodies for ornaments, and to have filed their teeth to sharp points and inlaid them with jade.

For entertainment the Maya attended religious festivals in the cities; danced; played music on pan pipes, bells, drums, and other instruments; feasted; and watched ball games.

Little is known about Maya medicine, but it is believed they practiced a mixture of herbal medicine and magic for healing.

**Decline and Defeat of the Maya**

The Maya, like other Mesoamerican cultures, warred upon enemy tribes and were attacked in turn. The fierce and successful Toltecs of the Valley of Mexico, who built the great city of Tula, conquered Maya cities in the Post-Classic period, around 950, leaving their influence on Maya architecture and beliefs. By that time, however, the Maya had already stopped erecting stelae and building cities, and their culture was falling into decline. Some historians believe the Maya civilization declined because of crop failure or widespread disease. Others say Maya commoners revolted against a harsh government.

After the Toltec civilization collapsed in the mid-1100s, new Maya rulers raised a capital at Mayapán, but ritual gave way to business, and the Maya became prosperous land and sea traders. When the Mayapán capital fell in the 1400s, war again broke out. Not long after, the first Spaniards in Mesoamerica defeated the Maya and converted them to Christianity. They would eventually do the same to the Maya's powerful northern neighbors, the Aztecs.

**The Aztecs**

The Aztecs of Mexico believed they were fulfilling a prophecy when they settled in a marshy area on the west side of Lake Texcoco in the Valley of Mexico, one of many immigrant peoples who came to the valley after the fall of the Toltec civilization in the eleventh and twelfth centuries A.D. According to Aztec priests, the people were destined to settle in a place where they saw a cactus growing from a rock, and an eagle perched on the cactus, eating a snake. The priests claimed this is just what they saw at the tiny island that would by the year 1325 become the beginnings of the great city of Tenochtitlán. Tenochtitlán was built at the site of modern-day Mexico City.

The Aztecs—who later, it is said, rewrote their history to suit themselves—claimed they came from a mythical northern homeland called Azatlán. They also called themselves the Mexica. The Aztec language is Nahuatl, a Uto-Aztecan language.

From their small piece of dry land and the swamp that surrounded it, the Aztecs built raised gardens by piling up lake-bottom soil into artificial islands called *chinampas* (which can still be seen today as "the floating gardens" of Lake Xochimilco). They built causeways and bridges to connect their city to the mainland, built aqueducts, and constructed canals throughout the city for easy transport of goods and people. Tenochtitlán was dubbed the Venice of the New World by the Spanish when they first saw it in the early 1500s. The Aztecs accomplished much in engineering, astronomy, and mathematics, and they recorded their history in codices, as the Maya did.

The enterprising Aztecs were at first under the rulership of Azcapotzalco, a strong city-state in the Valley of Mexico. The Aztecs later gathered help from neighboring tribes and conquered the great Azcapotzalco. Tenochtitlán formed a triple alliance in 1431 with the nearby cities of Texcoco and Tlatelóco and the three soon controlled the Valley of Mexico. Through military conquests they continued to conquer lands until they were defeated by the Spaniards. The Aztec empire extended from central Mexico to the border of Guatemala, with Tenochtitlán at its head.

The Aztecs ruled with harsh military tactics, however, and when the Spaniards arrived it was easy for them to rally local Indians against their Aztec emperors. By 1521 the Aztec had fallen to the Europeans, partly because of a weak emperor, Moctezuma II, who believed the white stranger Hernán Cortés, in his armor and on horseback, was the god Quetzalcóatl, returning as legend had stated he would.

**Tenochtitlán**

The great Aztec center of Tenochtitlán was dominated, like other ancient Mesoamerican cities, by large flat-topped pyramids crowned by temples. Tenochtitlán shared the artificially created island with the city of Tlatelóco. The Aztecs, like the Maya, built with limestone.

The city is said to have been laid out according to astronomical principles, beginning with the Temple of the Aztec sun and war god, Huitzilopochtli, at the calculated spot where the Aztec priest first saw the cactus, the eagle, and the snake.

Tenochtitlán-Tlatelóco consisted of two main ceremonial precincts and a large marketplace. Some twenty-five pyramid temples were said to adorn the city's center alone, with nine attached priests' quarters, seven skull racks, two ball courts, shops, and other features. From ten to thirty people could live in one residence household. Six main canals ran north to south through the city, and two east to west, with many smaller ones feeding into them.

The huge marketplace at Tenochtitlán could accommodate up to sixty thousand people, and goods came into the city as tribute from conquered territories throughout Mesoamerica, among them, food to feed the huge population in the city. Also in tribute, the Aztecs received gold, copper, the feathers of tropical birds, rubber, chocolate, gemstones, jaguar skins, jade, and amber.

Though copper and bronze had begun to be used as tools, the use of the wheel to do work was still unconceived of in Aztec times. Materials for building were carried on the backs of workers or in canoes on the canals.

**Social Structure**

Loosely connected urban communities made up the Aztec empire. They were called *calpullis* (clans) and consisted of a few families that shared communal farmland. Social classes among the Aztec fell into three basic categories: the ruling elite, the commoners, and slaves.

Boys were required to attend schools and study martial arts. A central bureaucracy collected taxes, made laws and oversaw punishment, provided food to the hungry, and controlled trade within the market. Special merchants were devoted to long-range commerce, and caravans traveled as far as the Yucatán and Guatemala, where they traded with the Maya. Religion fell to the priests, who were drawn from the ruling families.

**Aztec Gods and Religion**

The blood-thirsty Aztec gods—chief among them Huitzilopochtli— were believed to require regular sacrifice in order to be appeased. The Aztecs also worshiped Quetzalcóatl, the feathered serpent god of the arts and self-sacrifice, and Tlaloc, the god of rain, among many others. Each day of the year, each place, each activity in the daily lives of the people, was believed to be controlled by a particular god.

More than any other Mesoamerican culture, the Aztec practiced human sacrifice, usually by cutting out the hearts of living victims. Aztec warriors considered it an honor to be chosen as a sacrifice to the gods. In one year alone, more than twenty thousand people were sacrificed to Huitzilopochtli. Sacrificial victims usually came from captives taken in war. The Aztecs would often eat the human flesh of the sacrificed victim and priests would flay them and dance in their skins. The skull racks at Tenochtitlán were filled with the heads of sacrificed humans. Every fifty-two years, when the two cycles of the Mesoamerican calendar used by the Olmec and the Maya, as well as the Aztec, coincided, a New Fire Ceremony would be held. After the ritual removal of the victim's heart, a fire would be kindled in the open chest cavity. The ritual was supposed to ensure the continuance of life for the people while ending the life of the victim.

**Arrival of the Spaniards**

In 1507, after the celebration of the Aztecs' last New Fire Ceremony, omens began to menace the life of the Aztec emperor Moctezuma II. In 1519 he learned it was the predicted time of Quetzalcóatl's return. Shortly after, the leader began hearing rumors of a white, bearded man with deadly weapons riding on the back of a four-legged monster (the horse, an animal the Aztecs had never seen). Moctezuma II pondered the omens and wondered whether this was his expected god. He sent emissaries to give gold and other treasure to the stranger, but these gifts only made the Spanish conquistador Hernán Cortés hungry to claim the Aztec wealth for Spain. When the Aztec could not defeat these "gods" with magic, they did battle, but the Spanish weapons were far more sophisticated and the Aztecs were quickly defeated. In 1521 Cortés gained control of Tenochtitlán and claimed Mexico for the Spanish Crown.

**The Incas**

The term *Inca,* meaning "king" or "prince," refers to a line of thirteen Quechuan-speaking Native American rulers who successively established the largest native empire of the Americas. Each individual ruler was called the Inca, and, in time, all of the peoples who fell under their rule were referred to as the Incas.

The Incas originated in the southern highlands of the Cordillera Central in Peru, probably one of the tribes ruled by the powerful Huari civilization, who were influenced by the Chavín culture. Around 1100 A.D. the Incas moved into the valley of Cuzco and established a capital there by the same name, which means "navel of the world." Cuzco, rebuilt by the Incas beginning in the 1400s, is the oldest continually inhabited city in the Americas.

The Incas raided surrounding villages and demanded tribute for the next three hundred years, but did not attempt imperialistic expansion until the reign of the eighth ruler, Viracocha Inca, who enlarged the Inca territory to about twenty-five miles around Cuzco by the middle of the fifteenth century. Viracocha's son, Pachacuti Inca Yupanqui, and Pachacuti's son, Topa Inca Yupanqui, built a great empire that reached its height during the reign of Topa's son Huayna Capac. At this peak, around 1493-1525, the empire of the Incas spanned two-thirds of western coastal South America, reaching more than twenty-five hundred miles, and including parts of Colombia, Ecuador, Peru, Bolivia, Chile, and Argentina. The Inca empire was approximately equal in size to the modern-day Atlantic Coast states of the United States, and an estimated 3.5-16 million people from numerous tribes and languages came under the control of the Incas, who named their empire *Tahuantinsuyu*, Quechuan for "Land of the Four Quarters."

The emperor Pachacuti ("he who transforms the earth") has been called by some historians one of the greatest conquerors and rulers of all time. Inca scholar Loren McIntyre called him "possibly the most remarkable genius the American Indian race has ever produced." The twelve thousand miles of stone roads built under his rule by the Incas to connect all parts of their empire have been ranked among the most useful and marvelous works of man. These roads somewhat resembled the interstate highways of today, with way stations located at the end of each day's travel, so the traveler could rest and obtain supplies. Incan stone walls and buildings, erected with a minimum of engineering equipment, have withstood the siege of conquerors and the rumble of earthquakes for centuries, while Spanish structures built atop them have crumbled. The stones were cut to fit together so precisely that mortar was not needed. Incan cities were built on a plan of broad avenues intersected by smaller streets, all converging on a central open square.

One of the world's great mysteries is that of the Inca city of Machu Picchu, built high in the Peruvian Andes. It was never discovered by the Spanish, and its ruins were not found by the white man until a Peruvian Indian guide led explorer Hiram Bingham there in 1911. Accessible only by a dangerous climb up a 2,000-foot precipice, the mountain citadel is surrounded on three sides by the Urubamba River gorge. Its purpose to the Incas is unknown. Some say it may have been the birthplace of the Inca empire; others that it was a military outpost or refuge for priestesses of the sun god. Today, the magic of the timeless ruins holds thousand of visitors a year spellbound.

Although the Inca rulers conquered using military force, they controlled their subjects using methods that improved their living conditions in the long run. Local rulers were allowed to remain in office as long as they did not rebel, paid their taxes, and kept supplies on hand. Inca nobles were not allowed to take advantage of the conquered peoples.

Trained runners traveling over the Incan road system kept the emperor in touch with developments throughout the empire. When villages were conquered, an imperial "accountant" took stock of everything in the town, including the population, food stores, supplies, and other information. These accountants used the abacus for counting and the *quipu*—knotted strings of various lengths and colors used for recording numerical information—to keep track of the many inventories. The Inca demanded a tribute of grain from each village, a portion of which was stored in case of famine, when it could be distributed among the hungry. The rulers also taxed the women for a certain amount of woven cloth and the men of their empire for a certain number of hours of labor within a set period of time. These man hours enabled the leaders to build the great roads and other structures that improved the people's lives. To make for better farming, the Inca terraced hillsides so that more crops could be cultivated on less land. Their remarkable engineering feats—vast temples, fortresses, huge stone buildings, palaces, and public works—were accomplished in some of the most difficult land to traverse, without horses or mules, wheeled vehicles, or a system of writing.

One of the most notable accomplishments of the Inca was construction of the Temple of the Sun at Cuzco, with its high, curved protective wall. Other remarkable feats were the building of rope suspension bridges up to 328 feet long that spanned cliffs high above turbulent rivers (some are still reworked each year and are still used), and the construction of aqueducts and irrigation canals.

**Incan Agriculture**

The Incan emperors closely supervised farmers, teaching them the techniques of proper drainage, fertilizing, irrigation, and stone terracing, as well as how to choose and plant crops. Potatoes and maize were the chief crops, as they are today, and farmers also raised cotton, an edible root called oca, and a grain called quinoa. Corn was used to make a beer called *chicha*, still made today. The Incas used an effective device called a foot plow to cultivate their fields.

The Incas raised llamas to carry burdens, although the animals could not support the weight of men and women, who also walked and carried their share of the loads. Alpacas were raised for their wool, and dogs, guinea pigs, and ducks were domesticated.

**Religion**

The most important god of the Incas was Viracocha, the creator and ruler of all living things. The Inca also worshiped gods of the sun, stars, moon, weather, earth, and sea. Religion played a big part in their everyday lives, and few decisions were made without attempting to learn the will of the gods through divination. Many things and places were regarded as sacred (*huaca*), among them mummies of the dead, temples and historical places, springs, certain stones, and mountain peaks. Each household contained small statues regarded as *huaca*. Each day in the city of Cuzco began with prayers, and ceremonies with dancing, feasts, games, and parades marked important calendar events.

Inca gods sometimes demanded animal and occasionally human sacrifice, although the method of tearing out a living heart was later abandoned by the Inca. Most people considered it an honor to be chosen as a sacrifice. One method of sacrifice has been discovered by archaeologists at some of the highest elevations on earth. A boy of eight or nine was found frozen at 17,712 feet on El Plomo peak in Chile, probably sacrificed to the sun god. Trappings of sacrifice and death surrounded his body. At least five other such finds have been made in the high Andes—one at 20,664 feet. Mountain climbers in present times, thinking they were the first to make the ascent, have stumbled upon the world's highest archaeological sites. Inca shrines containing offerings of gold, silver, and pottery have been found, along with llama droppings and firewood. Stone walls and a leveled courtyard were discovered at 22,000 and 20,700 feet respectively.

Inca priests were also in charge of medicine, and treated the sick through curing ceremonies using herbal remedies. Skull evidence shows surgeons practiced trepanning, the cutting away of part of the skull to relieve pressure on the brain after an injury or to release evil spirits that caused headaches. According to archaeological finds, Inca "dentists" replaced broken or decayed teeth with metal crowns much like the ones modern dentists use.

The Inca believed that people resided in either heaven or hell after death, and funerals were considered sacred. Important persons were buried in stone chambers above the ground; others were buried in caves, pits, and similar graves.

**Family Life**

The Inca lived in extended families, and a man's rank was determined by his family's status unless he performed an outstanding deed for the emperor. The common people were grouped into units called *ayllus*, based on kinship and land ownership. Each family produced its own food. Inca children helped their mothers and fathers in the fields and with all the work of maintaining a household. Commoners' houses were made of adobe or stones, with thatched roofs.

Nobles could have more than one wife, and certain beautiful and intelligent women were taken to Cuzco and trained as "chosen women," to be Virgins of the Sun or concubines for the noblemen. The Inca ruler married his own sister and chose a successor from among his sons by his sister-wife.

The Incas wore special bowl-shaped hats that identified them as part of the Incan empire. The different peoples dressed according to the areas and climates in which they lived, and they made their own clothing from wool or cotton.

The Incas had no system of money and often used cloth, crafts, or foods as a medium for trade. The government controlled trade in precious metals and stones and other hard-to-obtain items.

**Art and Crafts**

The Incas primarily made ceramic pottery, wove textiles, and made metal ornaments, tools, and weapons. Their craftwork is beautiful and often practical as well. The "chosen women" of Cuzco were noted for their fine cloth woven with elaborate designs. Inca pottery was finely made and painted with multiple colors. The Incas worked gold into numerous objects and figurines, much of which was melted down by the Spaniards after the emperor Atahuallpa amassed a roomful to ransom himself from their capture. Gold is considered the Inca's undoing, since the greedy Spaniards conquered their lands hoping to obtain great riches. Inca musical instruments included pan pipes, flutes, shell and ceramic trumpets, and drums.

**Fall of the Incas**

Like the Aztec ruler Moctezuma II, the thirteenth and last Inca emperor, Atahuallpa, believed the bearded white Spaniards, with their horses and cannons, to be godlike and welcomed them with gifts and an offer to talk. Once invited into the city of Cajamarca to parley with Atahuallpa, the Spanish conquistador Francisco Pizarro and his cavalrymen attacked, killing more than six thousand Incas and capturing their leader. Atahuallpa was allowed to rule his empire from prison for eight months. Hoping to gain his release he ordered gold objects brought from all over the empire to fill a 17-by-22-foot room as high as he could reach. The treasures were amassed by July 1533, and the ransom has been estimated to have been worth at least $25 million in today's money. The Spaniards melted these precious art objects down into ingots and gave each horseman and footsoldier a share. Some of the finest objects were sent to Spain as a tribute to the king, who immediately melted them down and made gold coins. Instead of freeing Atahuallpa, Pizarro had him garroted for treason against the Spanish invaders of his own empire, then marched on Cuzco, toppling the great Inca empire.

Although the Spanish attempted to destroy Inca customs among the people of the Andes, many have survived to this day, and the political and social innovations of the emperor Pachacuti still influence the lives of modern-day Andean peoples in Peru, Bolivia, and Ecuador. Modern roads have been built alongside the great Inca roads in many areas, and Peruvian schoolchildren are still taught to recite the names of the thirteen emperors in the Inca dynasty and study the history of the Incas. In this way it appears the great Incas will live forever.