

BEGINNINGS

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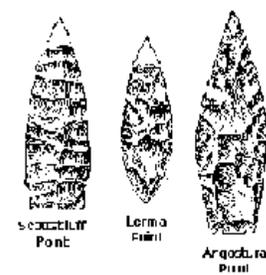
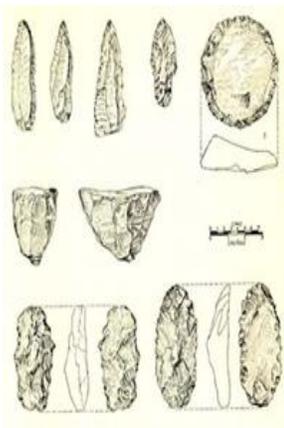
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Chapter One

The Bering Strait Crossing, Paleo-Indian Period in the Americas

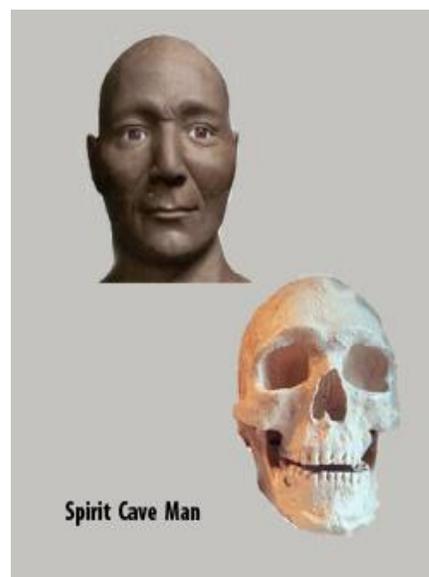
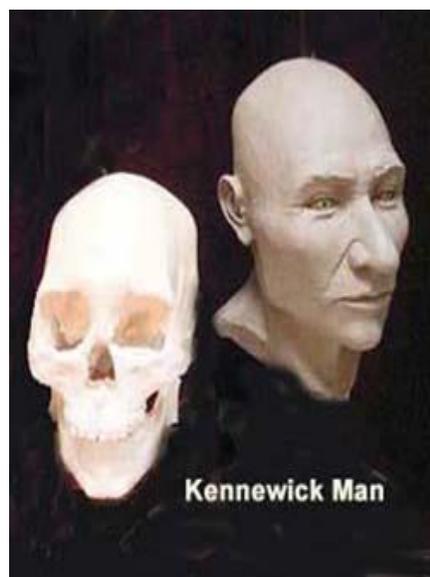
Bering Strait Land Mass began to emerge some 36,000-40,000 years ago in the beginning of the last ice age. At that time glaciers began to absorb increasing amounts of ocean water, causing global sea levels to fall by as much as 400 feet (120 meters). Forming a connection between Asia and North America. This existed from about 28,000 to 10,000 B.C.E. at its maximum extent may have spanned some 1,000 miles (1,600 km) from north to south. The people who moved into 'The Land Mass' from Asia relied on hunting and gathering for subsistence and traveled in mobile, kin-based groups who lived and foraged together. Three factors suggested the people inhabited 'The Land Mass' for some time before they moved into North America itself; the long period during which the land route existed; the generally slow advance of hunter-gatherers into new territory; and the presence of unsurpassable glaciers at the eastern extreme until perhaps 13,000 B.C.E. When calculated from the point where sea levels began to expose the land route, it may have been inhabited for as long as 20,000 years. As the eastern glaciers began to recede, some of the inhabitants followed the coast south, perhaps combining walking with boat travel. People had used boats to settle Australia as early as 50,000–60,000 B.C.E., which suggests such technology was by this time well-known. Others traveled via ice-free routes through the interior of North America. Geological studies indicate such passages existed in the Mackenzie Basin and along the Yukon, Liard, and Peace River systems. However, recent evidence has revealed the ice-free routes were not viable until 12,500 B.C.E., 14,500 years before the present. Yet numerous sites, including: Gault (Texas), Paisley Caves (Oregon), Meadowcroft Rockshelter (Pennsylvania), Cactus Hill (Virginia), Miles Point (Maryland), and Monte Verde, Chile, have established people were in the Americas 5,000–8,000 years before the ice-free routes were available, establishing initial migration had to have been along one or both coasts.

The traditional theory of the migration to the Americas is the Paleo-Indian people crossed the land bridge from Siberia to Alaska around 12,500 B.C.E. roughly 14,500 years ago and followed an "ice-free corridor" between two large Canadian ice sheets (the Laurentide and Cordilleran) to reach un-glaciated lands to the south. These first inhabitants, whose archaeological sites are scattered across North and South America, were called the Clovis people. Named after the town in New Mexico where their fluted spear points used for hunting mammoth were found, in 1932. The Clovis people were nomadic hunters, fisherman and gathers.



Clovis points are found in many sites in North and Central America with a significant early cluster in the western and eastern United States. Points similar to Clovis but without fluting and dating more than 12,000 years ago have been found in stratified archaeological sites. So far scientists have found no technological affinities to relate Clovis to the Asian Paleolithic. However, Europe may have possible lithic predecessors to Clovis. The Solutrean culture of Western Europe, dating between 24,000 and 16,500 years ago, shows a similar lithic technology to what was used to produce Clovis tools. The two cultures also share bone-shaping techniques, pebble-decorating artistry, the unusual tradition of burying stone tools in caches filled with red ocher, and other traits. I will address the Solutrean Theory later in this writing.

In addition to archaeological research on ancient human sites, ancient skeletal remains show a range of physical attributes suggesting separate migrations of different populations of modern humans (*Homo Sapiens*) from Asia. The handful of human skeletons radiocarbon dated over 8,000 years ago show some regional variation, but as a group their skulls differ noticeably from the broad faces, prominent cheekbones, and round cranial vaults which characterize modern-day American Indians. These ancient specimens have long and narrow cranial vaults with short and quite gracile faces. Several examples are: the 9,400-year-old Spirit Cave Man from Nevada, the Wizards Beach Man found in 1978 at Wizards Beach on Pyramid Lake, about 100 miles (160km) to the northeast from Spirit Cave Man, and the most recently discovered 8,900-year-old Kennewick Man found in Washington State in 1996.



All fall within the range of variability of contemporary American Indians, an exception which requires further scientific validation. Crania with American Indian morphology appears by at least 7,000 years ago. The similarity of the ancient crania to Polynesians suggests that one early source of migrants to the Americas was Asian cecum-pacific populations. These populations were succeeded in Asia by the recent expansion of modern Mongoloids (i.e., Koreans, Japanese, Chinese, etc.), and in America by the ancestors of recent Native Americans. Whether individual skeletons or specific early groups were directly related to later peoples is unknown. Early migrants may have been replaced through competition or changed through gene flow by later arrivals. At this time, scientists are not ruling out the possibility of a migration from Europe. Evidence for diverse migrations into the New World also comes

from Mitochondrial DNA (mtDNA) research on living American Indian populations. These studies have consistently shown similarities between American Indians and recent populations in Asia and Siberia, but also unique American characteristics, which the very early crania have also shown. Evidence for only four mtDNA lineages, characterizing over 95 percent of all modern American Indian populations, may suggest a limited number of founding groups migrating from Asia into the New World. Recently, however, a fifth mtDNA lineage named "X" has turned up in living American Indians and in prehistoric remains for which there does not appear to be an Asian origin. The first variant of X was found in Europeans and may have originated in Eurasia. Naturally, generations of conflict, intermarriage, disease, and famine would influence the genetic makeup of modern Native Americans. Further work with mtDNA, nuclear DNA (which is more representative of the entire genome), and Y-chromosome data, the male-transmitted complement of mtDNA, will permit better estimates of the genetic similarities between Old and New World groups and help to determine when they would have shared a common ancestor.

Scientists are examining archaeological, biological, and linguistic evidence to determine who the first Americans were, when they arrived in the New World, and what happened subsequently. New discoveries in one field of study can cause reinterpretations of evidence not only from the same field but also from other fields. There is no doubt that future discoveries and analyses, unbound from the Clovis limit, will shed more light on a changing picture of New World prehistory.

If the Clovis people were not here first, then who were? Let's explore the other cultures.

Monte Verde

There is now, convincing archaeological evidence of a human inhabitation site that dates earlier than the Clovis culture and the Bering Strait Crossing. In southern Chile, Monte Verde near Puerto Montt, Chile, which had been dated to around 14,800 B.C.E., 16,800 years ago. This would mean that the people who crossed the land bridge proceeded to Monte Verde some 8,000 miles away. They made it there and established a community in minus 2000 years. I could never understand how they did this. Even though many coastal areas were un-glaciated at this time, providing opportunities for landfall along the way. Several early sites along the coast of Canada, California, Peru, Ecuador, and Chile date between 11,000 and 16,000 years ago. That is still too late to have taken the coastal route. Recently the carbene dating of the buried remnants of dwellings, stone tools, large bifacial projectile points, and preserved medical and edible plants of Monte Verde has been changed to 16,500 B.C.E. roughly 18,500 years ago. Now the site predates the land bridge crossing by 4,000 years. How did people manage to settle this far south at such an early date? An additional migration route had to have been made.

Nenana Valley is an archaeological site in the Yukon-Koyukuk Census Area of Alaska. The site was first occupied around eleven thousand years ago, circa 9,000 B.C.E., and likely represents one of the earliest sites in North America. The location of artifacts in the stratigraphic layers suggests originally, the site was not occupied year-round, during the last glacial period people would have been travelling back and forth between North America and Russia, using this site as an outpost. Zoo-archaeological evidence, such as mammoth and sheep bones, suggest people were following these paths seasonally for hunting. As the ice age ended, the site would have become a more permanent residence. Points found here suggest the culture is ancestral to the one who created the Clovis points, of which variations can be found across the United States.

Triquet Island an ancient village believed to be one of the oldest human settlements ever found in North America has been discovered during an excavation on a remote island in British Columbia. The village, which is estimated to be 14,000 years old, has been found on a rocky spit on Triquet Island, about 500 kilometres northwest of Victoria, Canada. It is located south of Hunter and Campbell Islands facing the open Queen Charlotte Sound to the west. The island is administered as part of the Central Coast Regional District. The climate of the area is temperate. Average annual temperature is approximately 6.9 °C (44.4 °F). A village discovered in 2017 on Triquet Island by an archaeological team from the University of Victoria appears to verify local First Nation oral history humans took refuge on Pacific Coast islands during the ice age. A hearth excavated at the site was determined by radiocarbon dating to be between 13,613 and 14,086 years old, making it one of the oldest settlements in North America

The **Meadowcroft Rockshelter** is a natural formation beneath an overhanging cliff of Morgantown-Connellsville sandstone, which is a thick Pennsylvanian-age sandstone, brown in color. Meadowcroft is in the Allegheny Plateau, northwest of the Appalachian Basin. The site was listed on the National Register of Historic Places in 1978. In 1999, the Pennsylvania Historical and Museum Commission installed a historical marker noting the historic importance of the site. It was designated a National Historic Landmark in 2005. It is designated as a historic public landmark by the Washington County History & Landmarks Foundation. Radiocarbon dating of the site indicated occupancy beginning 16,000 years ago and possibly as early as 19,000 years ago. The dates are still controversial. A recent survey carried out by the Society for American Archaeology reported support from 38% of archaeologists, with 20% rejecting the early dates. Criticism of these early radiocarbon dates has focused on the potential for contamination by ancient carbon from coal-bearing strata in the watershed. The samples, tested by an independent third party geo-morphologist, concluded that the samples showed no evidence of groundwater activity. Tests performed via accelerator mass spectrometry also support the earlier dates. If authentic, these dates would indicate that Meadowcroft was used in the pre-Clovis era and, as such, provides evidence for very early human habitation of the Americas. Meadowcroft Rockshelter may be the oldest known site of human habitation in North America, providing a unique glimpse into the lives of prehistoric hunters and gatherers. Paleo-Indian, Archaic, and Woodland remains have all been found at the site. Meadowcroft Rockshelter has yielded the largest collection of flora and fauna materials ever recovered from a location in eastern North America. The arid environment provided the necessary and rare conditions that permitted excellent botanical preservation. In total, animal remains representing 149 species were excavated. Evidence shows that people gathered smaller game animals as well as plants, such as corn, squash, fruits, nuts and seeds. Additionally, the site has produced Pre-Clovis remains, found as deep as 11.5 feet underground. The site also has yielded many tools, including pottery, bifaces, bifacial fragments, lamellar blades, a lanceolate projectile point, and chipping debris. Recoveries of note also include fluted points, which are a marker of the Paleo-Indian period. Remains of flint from Ohio, jasper from eastern Pennsylvania and marine shells from the Atlantic coast suggest the people inhabiting the area were mobile and involved in long-distance trade. At least one basin-shaped hearth was reused over time.

Cactus Hill is an archaeological site in southeastern Virginia, United States, located on sand dunes above the Nottoway River about 45 miles south of Richmond. The site receives its name from the prickly pear cacti can be found growing abundantly on-site in the sandy soil. Cactus Hill is one of the oldest archaeological sites in the Americas. If proved, it was inhabited 18,000 to 20,000 years ago, it provides evidence supporting the Solutrean hypothesis. The site has yielded multiple levels of prehistoric inhabitation with two discrete levels of early Paleo-Indian activity, but this evidence has not been accepted by mainstream archeologists.

The **Paisley Caves** complex is a system of four caves in an arid, desolate region of south-central Oregon, United States, north of the present-day city of Paisley, Oregon. The caves are located in the Summer Lake basin at (4,520 feet 1,378 meters) elevation and face to the west in a ridge of Miocene and Pliocene era basalts mixed with soft volcanic tuffs and breccia, from which the caves were carved by Pleistocene-era waves from Summer Lake. One of the caves may contain archaeological evidence of the oldest definitively-dated human presence in North America. The site was first studied by Luther Cressman in the 1930's. Scientific excavations and analysis since 2002 have uncovered substantial new discoveries. These include materials with the oldest DNA evidence of human habitation in North America. The DNA, radiocarbon dated to 14,300 years ago, was found in sub-fossil human fossil excrement uncovered in the Paisley Five Mile Point Caves in south-central Oregon. The caves were added to the National Register of Historic Places in 2014.

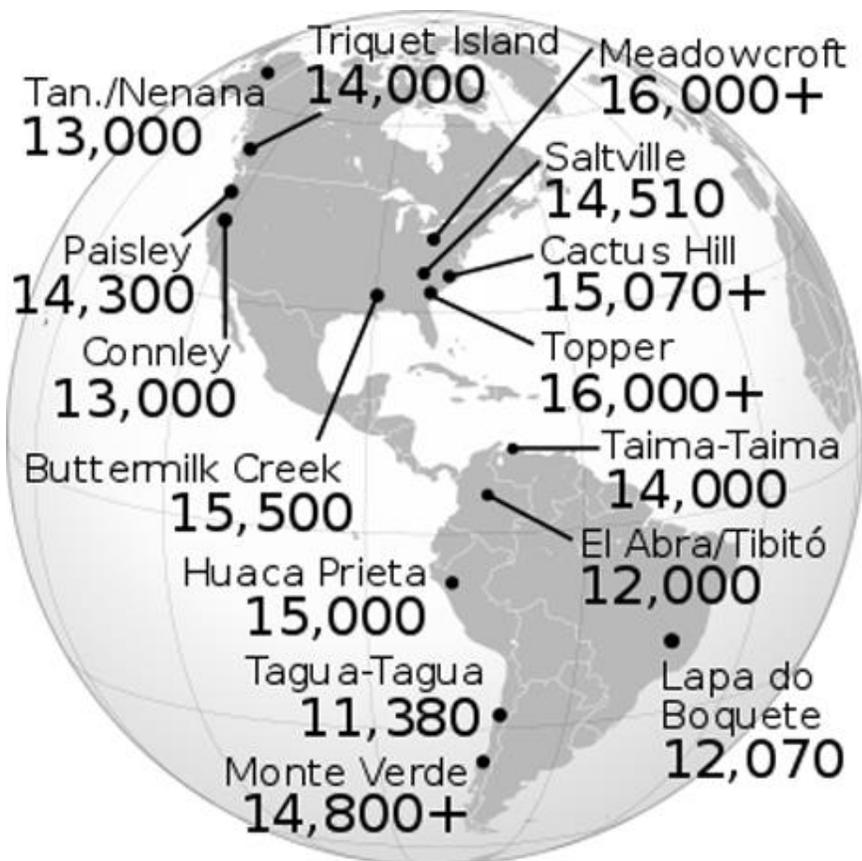
Note: The Pleistocene is the geological epoch which lasted from about 2,588,000 to 11,700 years ago, spanning the world's recent period of repeated glaciations.

Topper is an archaeological site located along the Savannah River in Allendale County, South Carolina, United States. It is a location of artifacts which some archaeologists believe to indicate human habitation of the New World earlier than the Clovis culture. The Clovis were previously believed to be the first people in North America. Artifacts at this site may predate Clovis by 3,000 years, but these conclusions are disputed. The primary excavation has gone down to a level date to at least 50,000 B.C.E., searching for evidence of cultural artifacts. Until increasing challenges in the first decade of the 21st century, the Clovis theory was based on this site and others. It was unusual for archaeologists to dig deeper than the layer of the Clovis culture. As they believed no human artifacts would be found older than Clovis. Among the objects from the "pre-Clovis" stratum, dated to 16,000-20,000 years ago, is a large piece nicknamed the "Topper Chopper." This apparent tool offers some of the most compelling evidence for human society, including bifacial flaking of the edge.

The Buttermilk Creek Complex found at the Debra L. Friedkin Paleo-Indian archaeological site in Bell County, Texas has provided archaeological evidence of a human presence in the Americas that pre-dates the Clovis peoples, who until recently were thought to be the first humans to colonize the New World. The site's pre-Clovis occupation is supported by numerous lines of evidence including optically stimulated luminescence (OSL) dates ranging from 13,200-15,500 before present, undisturbed stratigraphy, and an extensive stone tool assemblage. OSL is a technique to analyze light energy trapped in sediment particles identifying the last time the soil was exposed to sunlight.

Taima-taima, a mastodon kill/butchering site, became one of the most significant finds of the mid twentieth century. It yielded archaeological evidence of humans in northern South America during the terminal Pleistocene—early Holocene periods (14,000-10,000 years ago). Located near the coast of western Venezuela, the site of Taima–taima gained notoriety in the debates among scholars regarding the antiquity and character of the human remains in South America among New World archaeologists. It was and remains one of the sites with clear archaeological association between human made stone artefacts and the remains of butchered bones from extinct megafauna.

El Abra is the name given to an extensive archeological site, located in the valley of the same name. El Abra is situated in the east of the municipality Zipaquirá extending to the westernmost part of Tocancipá in the department of Cundinamarca, Colombia. The several hundred meters long series of rock shelters is in the north of the Bogotá savanna on the Altiplano Cundiboyacense, Eastern Ranges of the Colombian Andes at an altitude of 8,430 feet 2,570 meters. The rock shelter and cave system is one of the first evidences of human settlement in the Americas, dated at 12,400 ± 160 years ago. The site was used by the hunter-gatherers of the Late Pleistocene epoch.



Folsom Culture

In 1908 George McJunkin, ranch foreman and former slave, reported the bones of an extinct form of giant bison were eroding out of a wash near Folsom, New Mexico, United States. An ancient spear point was later found embedded in the animal's skeleton. In 1929 teenager Ridgley Whiteman found a similar site near Clovis, New Mexico, United States, with mammoth rather than bison remains. The Folsom and Clovis sites yielded the first indisputable evidence ancient Americans had co-existed with and hunted the mega-fauna, a possibility most scholars had previously met with skepticism.



Uni-face blade and three end scrapers

The Clovis culture proved to be the earlier of the two. Clovis projectile points are thin, leaf-shaped, and made of stone; one or more longitudinal flakes, or flutes, were removed from the base of each of the point's two flat faces. Clovis points were affixed to spear handles and are often found on mammoth kill sites, usually accompanied by side scrapers (used to cleanse the hide) and other artifacts used to process meat. Clovis culture was long believed to have existed from approximately 9500 to 9000 B.C.E., although early 21st-century analyses suggest it may have been from approximately 9050 to 8800 B.C.E. Folsom culture seems to have developed from Clovis culture. Folsom points were more carefully manufactured and include much larger flutes than those made by the Clovis people. The Lindenmeier site, a Folsom campsite in northeastern Colorado, United States, has yielded a wide variety of end and side scrapers, graters (used to engrave bone or wood), and bone artifacts. The Folsom culture is thought to have lasted from approximately 9000 to 8000 B.C.E. Related Paleo-Indian groups, such as the Plano culture, persisted until sometime between 6000 and 4000 B.C.E.

The Gault site

Midway between Georgetown and Ft. Hood in central Texas, United States, has a long history of archeological investigation as well as uncontrolled artifact digging. Located in a small wooded valley with a spring-fed creek and an unlimited supply of excellent flint, the site was occupied during all major periods of the prehistoric era. James E. Pearce, the first professional archeologist in Texas, learned of the Gault Farm site and excavated there in 1929-1930. Over the next 60 years, artifact collectors churned up the upper deposits over almost the entire site, but stopped digging when the dark rich soil played out. In 1990, an artifact collector dug deeper and found Clovis artifacts along with several unusual chiseled stones, something never before found with Clovis materials. Learning of the find, Drs. Thomas R. Hester and Michael B. Collins of the Texas Archeological Research Laboratory carried out testing at Gault in 1991, just enough to confirm the collector's story. But the property owner at the time continued to let pay-to-dig artifact collectors destroy the site. Fortunately for archeology, the property changed hands and the new owners recognized the scientific importance of the site. Since 1998 a major excavation project has been underway at Gault, led by Collins. The work has been carried out by a cast of hundreds of individuals representing dozens of organizations. A relatively small core of professional staff works with university field schools from Texas A&M, UT Austin, and Brigham Young University as well as volunteers from near and far including many members of the Texas Archeological Society. The Gault site is attracting national and international attention because of the wealth of new information on Clovis culture that is emerging from right in the heart of Texas. In *Clovis Reconsidered* you will learn about the unfolding interpretations of what Clovis life was like 13,000 years ago at the Gault site and how these ideas are helping to mold a dramatically new view of the inhabiting of the Americas.

Old Cordilleran culture

Ancient North American culture of the Pacific Northwest appeared about 9,000 or 10,000 BCE and endured until about 5,500 B.C.E. in some areas. This culture relied on hunting, fishing, and gathering. Willow-leaf-shaped, bi-pointed projectile points are characteristic of their artifacts. The Old Cordilleran Culture, also known as the **Cascade phase**, is an ancient culture of Native Americans. The Cascade phase may be even older, depending on when human beings first arrived in America. They originated in Alaska, and migrated to occupy a wide area as far as Idaho and the plateaus of California, but they are generally not considered to be a maritime society. However, their spear points, or points resembling theirs, have been found as far south as Mexico and South America. The culture possibly spoke a Macro-Penutian language (a hypothetical macro-family which may include Penutian, Uto-Aztecan, and some other language families). This culture also created the oldest attested examples of art in the Pacific Northwest.

North Atlantic Ice-Edge Corridor Hypothesis (Solutrean Theory)

According to the Solutrean hypothesis, people of the Solutrean culture, based in current day France, Spain, and Portugal, from 21,000 to 16,500 years ago, migrated to North America by boat along the pack ice of the North Atlantic Ocean. The hypothesis is based on similarities between European Solutrean and Clovis technologies. Supporters of the Solutrean hypothesis refer to recent archaeological finds such as those at Cactus Hill in Virginia, Meadowcroft Rockshelter in Pennsylvania, and Miles Point in Maryland

as evidence of a transitional phase between Solutrean technology and Clovis technology. This idea has its roots in the 19th-century when archaeologist C.C. Abbott suggested the Americas had been colonized by Paleolithic Europeans. The model proposes early inhabitants may have made the crossing in small boats, using skills similar to those of the modern Inuit people. Removing their boats from the water at night, and camping it on ice floes till morning. Collecting fresh water from melting icebergs or the first-frozen parts of sea ice. Hunting seals and fish for food; and using seal blubber as heating fuel. Among other evidence, they cite the discovery in the Solutrean toolkit of bone needles used for sewing waterproof clothing from animal hides similar to those still in use among modern Inuit. The theory was dismissed due to early radiocarbon dating. Revived in the 1970s, the theory has received some support in the 2010s, notably by Dennis Stanford of the Smithsonian Institution and Bruce Bradley of the University of Exeter. However, according to Meltzler (2009), "Few if any archaeologists or, for that matter, geneticists, linguists, or physical anthropologists take seriously the idea of a Solutrean colonization of America. There is no evidence for any Solutrean seafaring, far less for any technology that could take humans across the Atlantic in an ice age." Recent genetic evidence supports the idea of Asian, not European, origins for the inhabiting of the Americas.

ChapterTwo

Archaic Cultures

The duration of the Archaic Period varied considerably in Northern America. In some areas it began as long ago as 8000 B.C.E., in others as recently as 4000 B.C.E. In this time period the wild squash seeds found at archaeological sites slowly increased in size, a sign of emerging domestication. Similar changes are apparent by 5000 B.C.E. in the seeds of wild sunflowers and certain “weedy” plants (defined as those that prefer disturbed soils and bear plentiful seeds) such as sumpweed and lamb’s-quarters. Northern Americans domesticated several kinds of flora, including a variety of squash unrelated to those of Mesoamerica or South America, sunflowers, and goosefoot (c. 2500-3000 B.C.E.). Many prehistoric Native American peoples eventually adopted some degree of agriculture; they are said to have transitioned from the Archaic to subsequent culture periods when evidence indicates they began to rely fundamentally upon domesticated foods and in most cases to make pottery. Archaeologists typically place the end of the North American Archaic at or near 1,000 B.C.E., although there is substantial regional variation from this date. For instance, the Plains Archaic continued until approximately the beginning of the Common Era, and other groups maintained an essentially archaic lifestyle well into the 19th century, particularly in the diverse microenvironments of the Pacific Coast, the arid Great Basin, and the cold boreal forests, tundra, and coasts of Alaska and Canada.

Pacific Coast Archaic cultures

Archaic peoples living along the Pacific Coast and in neighboring inland areas found a number of innovative uses for the rich microenvironments of that region. Groups living in arid inland locales made rough flint tools, grinding stones, and, eventually, arrowheads and subsisted upon plant seeds and small game. Where there was more precipitation, the food supply included elk, deer, acorns, fish, and birds. People on the coast itself depended upon the sea for their food supply, some subsisting mainly on shellfish, some on sea mammals, others on fish, and still others on a mixture of all three. In contrast to the larger projectile points found elsewhere in North America, many Pacific Coast Archaic groups preferred to use tools made of abnormally small blades; sometimes these were set into handles to make knives composed of a series of small individually set teeth rather than a long, continuous cutting edge. However, in the Northwest Coast culture area, the people of the Old Cordilleran culture (sometimes called the Paleo Plateau or Northwest Riverine culture; (c. 9,000–5,000 B.C.E.) preferred lanceolate points, long blades, and roughly finished choppers. During the postglacial warming period that culminated between 3,000 and 2,000 B.C.E., the inhabitants of the drier areas without permanent streams took on many of the traits of the Desert Archaic cultures (*see below*), while others turned increasingly toward river and marsh resources. In the 1st millennium B.C.E. a distinctive tool making tradition focusing on ground slate, appeared in the Fraser River area. Marpole people shared a basic resemblance to historic Northwest Coast groups in terms of their maritime emphasis, woodworking, large houses, and substantial villages.

Desert Archaic cultures

Ancient peoples in the present-day Plateau and Great Basin areas created distinctive cultural adaptations to the dry, relatively destitute environments of these regions. The Cochise or Desert Archaic culture began by about 7,000 B.C.E. and persisted until the beginning of the Common Era. Desert Archaic people lived in small nomadic bands and followed a seasonal round. They ate a wide variety of animal and plant foods and developed techniques for small-seed harvesting and processing; an essential component of the Desert Archaic tool kit was the milling stone, used to grind wild seeds into meal or flour. These groups are known for having lived in caves and rock shelters; they also made twined basketry, nets, mats, cordage, fur cloaks, sandals, wooden clubs, digging sticks, spear-throwers, and dart shafts tipped with pointed hardwood, flint, or obsidian. Their chopping and scraping tools often have a rough, relatively naïve appearance, but their projectile points show excellent craftsmanship.

Plains Archaic cultures

The Plains Archaic began by about 6,000 B.C.E. and continued until the beginning of the Common Era. It is marked by a shift from just a few kinds of fluted Paleo-Indian points to numerous styles, including stemmed and side-notched points. The primary game animal of the Plains Archaic peoples was the bison, as knowledgeable foragers they also exploited a variety of other game and many wild plant foods. As the climate became warmer, some groups followed grazing herds north into present-day Saskatchewan and Alberta; by 3,000 B.C.E. these people had reached the Arctic tundra zone in the Northwest Territories and shifted their attention from bison to the local caribou. Other groups moved east to the Mississippi valley and western Great Lakes area.

Eastern Archaic cultures

The Eastern Archaic (c. 8,000–1,500 B.C.E.) included much of the Eastern Sub-arctic, the Northeast, and the Southeast culture areas. This very large dispersal of Eastern Archaic cultures show more diversity over time and space than archaic cultures elsewhere in North America. These cultures are characterized by a number of material similarities. The typical house was a small circular structure framed with wood. Ancient correlations suggest that the covering was probably bark. Cooking was achieved by placing hot rocks into wood, bark, or hide containers of food, which caused the contents to warm, boil, baking or roasting was done in pits. Lists of mammal, fish, and bird remains from Eastern Archaic sites read like a catalog of the region's fauna at about the time of European contact. Game-gathering devices such as nets, traps, and pitfalls were used, as were spears, darts, and dart or spear throwers. Fishhooks, gorges, and net sinkers were also essential, and in some areas fish weirs, underwater pens or corrals, were built. River, lake, and ocean mollusks were eaten, and a great many roots, berries, fruits, and tubers were part of the diet. Eastern Archaic material culture reveals growing technological and economic refinement. A large variety of chipped-flint projectiles, knives, scrapers, perforators, drills, and adzes appear (a cutting tool with an arched thin blade set at right angle to the handle). The era is also marked by the gradual development of ground and polished tools such as grooved stone axes, pestles, gouges, adzes, plummet stones ground into a teardrop shape, and bird stones and other weights that attached to spear throwers. Eastern Archaic people in what are now the states of Michigan and Wisconsin began to

work copper, which can be found in large lumps there. Using cold-hammer techniques, they created a variety of distinctive tools and art forms. They are aptly named Old Copper culture, appeared about 3,000 B.C.E. and lasted approximately 2,000 years. Its tools and weapons, particularly its adzes, gouges, and axes, clearly indicate an adaptation to the forest environment. In the area south of James Bay to the upper St. Lawrence River about 4,000 B.C.E., there was a regional variant called the Laurentian Boreal Archaic and, in the extreme east, the Maritime Boreal Archaic (c. 3,000 B.C.E.). In this eastern area, slate was shaped into points and knives similar to those of the copper implements to the west. Trade between the eastern and western areas has been recognized; in addition, copper implements have been found as far south as Louisiana and Florida and southeastern marine shells have been found in the upper Mississippi–Great Lakes area. This suggests that transportation by canoe was known to Eastern Archaic people. Along the southern border of the central and eastern boreal forest zone between 1,500 and 500 B.C.E. there developed a distinctive burial complex, reflecting an increased attention to mortuary ceremonies. These burials, many including cremations, were often accompanied by red ochre, caches of triangular stone blanks (from which stone tools could be made), fire-making kits of iron pyrites and flint strikers, copper needles and awls, and polished stone forms. The triangular points of this complex may have represented the introduction of the bow and arrow from the prehistoric Arctic peoples east of Hudson Bay.

Chapter Three

Moving From B.C.E. to C.E.

Southwestern cultures: the Ancestral Pueblo, Mogollon, and

Hohokam The first centuries of the Common Era saw the development of three major farming complexes in the Southwest, all of which relied on irrigation. The Ancestral Pueblo people c. 100–1600 C.E. known as the Anasazi, used low walls to slow and divert the flow of water from seasonal streams to cultivated fields. The Mogollon (c. 200–1450 C.E.) built their societies in the mountains of southwestern New Mexico and southeastern Arizona they depended upon rainfall and stream diversion to water their crops. The Hohokam (c. 200–1400 C.E.) lived in the desert area of the Gila basin of southern Arizona and built irrigation canals to water their fields. These three cultures are known for their geographic expansion, population growth, and pueblo architecture, all of which reached their greatest levels of complexity between approximately 700 and 1300 C.E. This period coincided with an unusually favorable distribution of rainfall over the entire Southwest. Similar climatic conditions in North America supported cultural flourishing, in the Eastern Woodlands (c. 700–1200 C.E.) and on the Plains (c. 1000–1250 C.E.). During this period the population and cultures of central and western Mexico expanded to the northwest. Trade and cultural encouragements were moving from Mesoamerica into the Southwest culture. Materials entering the Southwest from Mexico included cast copper bells, parrots, shell trumpets, and pottery. Between 750 and 1150 C.E. the Ancestral Pueblo expanded into; the Virgin River valley of southeastern Nevada, north as far as the Great Salt Lake and northwestern Colorado, east into southeastern Colorado and to the Pecos and upper Canadian River valleys of New Mexico. Ancestral Pueblo achievements during 1150–1300 C.E., a period known as Pueblo III, included the construction of large cliff dwellings, such as those found at Mesa Verde National Park, and the apartment-like “great houses” of Chaco Canyon. Shaped and aligned stones were used in many localities to bear the weight of these massive structures, which had from one to four stories and as many as 1,000 rooms. The larger constructions were in effect a village. Windows and doors were quite small, and usually no openings were made in the lowest rooms, which were entered by ladder through the roof. Each level or floor was set back from the one below it giving buildings a stepped appearance, the resulting terraces were used as outdoor living space. Roofs were constructed to carry great weights by using heavy beams, covering them with coat of adobe six to eight inches thick. A number of new subterranean ceremonial structures (kivas) were built during this period, with some as large as 80 feet (25 meters) in diameter. Innovations in pottery included the use of three or more colors, and the techniques used by different communities, Chaco canyon, Mesa Verde, Kayenta, became so distinct that the pottery from each settlement can be recognized easily. Cotton cloth, blankets, and bags were woven. Feather-cloth robes were worn in cold weather. Yucca fiber was used in several articles of clothing and objects such as mats.



Ruins of a kiva at Aztec Ruins National Monument, N.M.

Increasing arrival of hostile outsiders accelerated the pace of change between about 1300 and 1600 C.E. Armed conflict and drought redirected Ancestral Pueblo efforts from artistic development to survival. Rituals designed to ensure rain increased in prominence and embellishment and are portrayed in wall paintings and pottery. This period was also characterized by a general movement southward and eastward, new villages were built on the Little Colorado, Puerco, Verde, San Francisco, Rio Grande, Pecos, upper Gila, and Salt Rivers. In their early phases, from about 200 to 650 C.E., Mogollon settlements consisted of small villages of pit houses grouped near a large ceremonial structure. Villages of this period were laid out rather haphazardly, and trash disposal was unplanned. Houses became more substantial and innovations in pottery design occurred between 650 and 850 C.E. From 850 to 1000 C.E., Mogollon villages exhibit Ancestral Pueblo influence in construction techniques shifting from pit houses to pueblos. The Mogollon reached their artistic pinnacle during the Classic Period of the [Mimbres](#) people's (c. 1000–1150 C.E.). During the climatic deterioration after 1200 C.E., the Mogollon abandoned their territory in southwestern New Mexico.

Mimbres bowl with black-on-white horned toad design; in the Museum of New Mexico, Santa Fe. (c. 1050–1150 C.E.)



The Hohokam people of central and southern Arizona built their settlements in major river valleys. Lived in villages of pit houses that were arranged along streams and canals. Agriculture was expanded through the use of extensive irrigation canals, built by cooperating villages. Between 775 and 1150 C.E., the Hohokam built their largest settlements and experienced a period of cultural innovation. Following this period, and until 1350 and 1450 C.E., Hohokam culture exhibits Ancestral Pueblo and Mexican influences. People built more compact settlements, often with a few massive multi-room and two-story buildings that were surrounded by compound walls.

The Ancestral Pueblo were the ancestors of contemporary Pueblo Indians such as the Hopi, Zuni, Acoma, and others. The Hohokam are the ancestors of the Pima and Tohono O'odham. After abandoning their villages, the Mogollon dispersed, probably joining other groups.

Eastern Woodland cultures



Great Serpent Mound, near Peebles, Ohio. © Praveen Indramohan/Dreamstime.com

The introduction of corn in the East (c. 100 BCE) did not cause immediate changes in local cultures. Eastern Archaic groups had been growing locally domesticated vegetation for some centuries, and maize was a minor addition to the agricultural inventory. One of the most remarkable Eastern Woodland cultures preceding the introduction of maize was the Adena culture (c. 500 BCE–100 C.E., which occupied the middle Ohio River valley. Adena people were hunters, gatherers, and farmers who buried their dead in large earthen mounds, some of which are hundreds of feet long. They also built effigy mounds, elaborate earthen structures in the shape of animals. This tradition of reshaping the landscape was continued by the Hopewell culture (c. 200 B.C.E.–500 C.E.) of the Illinois and Ohio River valleys. Hopewell society was hierarchical and village-based. Surplus food was controlled by elites who used

their wealth to support highly skilled artisans and the construction of elaborate earthworks. An outstanding feature of Hopewell culture was a tradition of placing elaborate burial goods in the tombs of individuals or groups. The burial process involved the construction of a large box-like log tomb. Placement of the body or bodies and grave offerings inside, the immolation (custom of sprinkling with sacrificial meal) of the tomb and its contents, and the construction of an earthen mound over the burned materials. Artifacts found within these burial mounds indicate that the Hopewell obtained large quantities of goods including; obsidian and grizzly bear teeth from as far away as the Rocky Mountains, copper from the northern Great Lakes, and conch shells and other materials from the southeast, along the coast of the Gulf of Mexico.



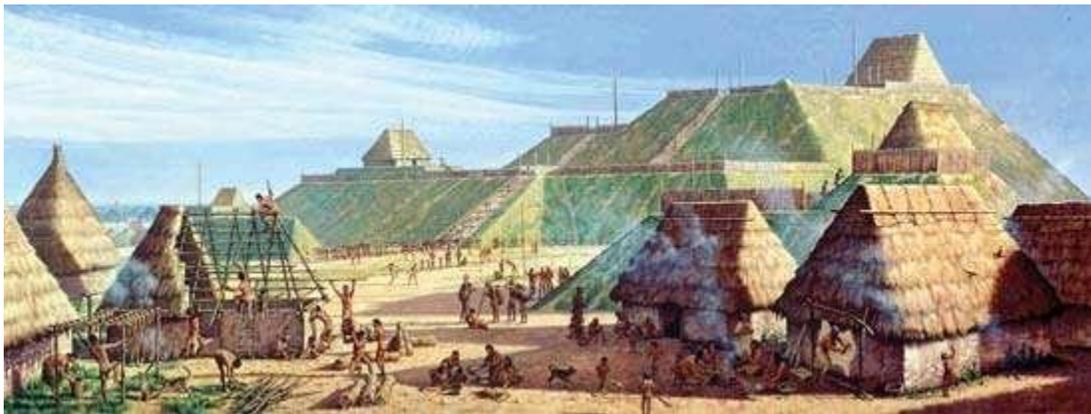
Conical burial mound built by the Adena culture c. 50 B.C.E., in the Grave Creek Mound Archaeology Complex, Moundsville, W.Va. *Michael Keller/WV Division of Culture and History.*

Sites in Ohio were particularly important distribution centers, controlling ceremonial goods and special products over a wide area. Evidence for this so-called Hopewell Interaction Sphere rapidly faded after about 400 C.E., Hopewell traditions continued for another century and Eastern Woodland cultures as a whole persisted for another 300 years.

Mississippian cultures

A new culture arose in the Mississippi valley between the present-day cities of St. Louis and Vicksburg. Known as the Mississippian culture c 700 C.E., it spread rapidly throughout the Southeast culture area and into some parts of the Northeast. Its initial growth took place during the same period (700–1200

C.E.) as the cultural pinnacle of the Southwest farmers. Certain scholars believe that Mississippian culture was stimulated by new concepts, religious practices, and improved agricultural techniques from northern Mexico, while others believe it developed in place as a result of climactic change and internal improvements. Many small Eastern Woodland villages grew into large towns with secondary villages and farming groups nearby. Locally delineated styles of pottery, projectile points, house types, and other practical products reflected various ethnic characteristics. Mississippian peoples were also united by two factors that overlapped traditions. A common economy that emphasized corn production and a common religion focusing on the reverence of the sun and a variety of ancestral figures. The most outstanding features of Mississippian culture was the earthen temple mound. These mounds frequently rose to a height of several stories and were topped by a flat area, on which were placed the most important public buildings. Platform mounds were arranged around a large plaza which served as the society's ceremonial and social center. These plazas were quite large, ranging from 10 to 100 acres. The most striking display of mounds occurred at the Mississippian capital city, Cahokia, located near present-day St. Louis. Monk's Mound, the largest platform mound at Cahokia, rises to approximately 100 feet above the surrounding plain and covers some 14 acres, 120 mounds were built during the city's occupation.



Cahokia as it may have appeared c. 1150 C.E.; painting by Michael Hampshire. *Courtesy of Cahokia Mounds State Historic Site*

Circular charnel houses received the remains of the dead, but burial was normally made in large cemeteries or in the floors of their homes. Household industries included; the production of mats, baskets, clothing, and a variety of vessels, creation of symbols of office, ornaments, and surplus food for use in religious ceremonies. Particular communities seem to have specialized in a certain kind of craft activity, specific kind of pottery or grave offering. Ritual and religious events were conducted by an organized priesthood controlled the distribution of surplus food. Core religious symbols such as the weeping eye, feathered serpent, owl, and spider were found throughout the Mississippian world. Villages fortified and surrounded their settlements with timber stakes. This was a response to increasing intergroup aggression, the motivation included control of land, labor, food, and status goods. The Mississippian peoples had come to dominate the Southeast culture area by 1200 C.E., and were the principal groups who met and were described by Spanish and French explorers in that region. Some Mississippian groups, most notably the Natchez, survived colonization and maintained their ethnic identities into the early 21st century.



Reconstruction of a Natchez house (foreground) and granary, at the Grand Village of the Natchez National Historic Landmark in Natchez, Miss. *Stephen Saks Photography/Alamy*

Plains Woodland and Plains Village cultures

Archaic peoples dominated the Plains until about the beginning of the Common Era, when ideas and perhaps people from the Eastern Woodland cultures reached the region; some Plains Woodland sites, particularly in eastern Kansas, were clearly part of the Hopewell Interaction Sphere. Beginning between 1 and 250 C.E. and persisting until 1000 C.E., Plains Woodland peoples settled in hamlets along rivers and streams, built wattle-and-daub structures. Wattle and daub is a composite building material used for making walls, in which a woven lattice of wooden strips called *wattle* is *daubed* with a sticky material usually made of some combination of wet soil, clay, sand, animal dung and straw. Wattle and daub has been used for at least 6,000 years and is still an important construction material in many parts of the world. The Plains woodland culture made pottery, and raised corn, beans, and eventually sunflowers, gourds, squash, and tobacco.

On the Plains agricultural conditions varied regionally, favorable conditions supported the most elaborate forms of culture, also fostered a marked increase in settlement size and population density. During this period (c. 1000–1250 C.E.) the hospitable areas along most major streams became heavily occupied. These village-dwelling groups are known as Plains Village cultures. These cultures were characterized by the building of substantial lodges, the combination of hamlets into concentrated villages, and the development of elaborate rituals and religious practices. Having expanded their populations and territories when conditions were favorable, a period of increasing aridity which began in 1275 C.E. caused hardship and in some cases armed conflict among these peoples. In the early 14th-

century at the Crow Creek site in South Dakota, nearly 500 people were killed violently and buried in a mass grave. Some village-dwelling peoples sustained their communities through this difficult period. Others retreated eastward and returned when the climate had improved. The descendants of the early Plains Village cultures, such as the Arikara, Mandan, Hidatsa, Crow, Wichita, Pawnee, and Ponca, greeted European explorers from the 16th century onward and continued to live on the Plains in the early 21st century.

Between 1500 and 1700 C.E., the farming peoples of the western and southern Plains, such as the Apache and Comanche, took up a predominantly nomadic, equestrian way of life. Most continued to engage in some agriculture, but they did not rely on crops to the same extent as settled village groups. From the early 18th century onward, a number of agricultural groups from the Northeast culture area left their forest homes for the Plains and completely substituted equestrian nomadism for agriculture; perhaps the best known of these were the Sioux and Cheyenne, whose traditional territory had been in present-day Minnesota.

Chapter Four

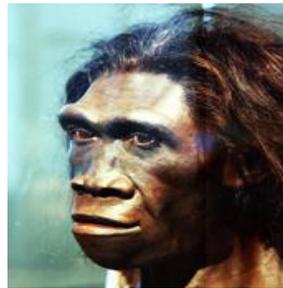
The South Pacific Crossing to Monte Verde, Chile

Archaeological evidence in Australia, Melanesia, and Japan indicate boats and rafts were in use as far back as 25,000 to 40,000 years ago. Sea routes would have provided abundant food resources and easier and faster movement than land routes. The possibility of sea voyages from Africa, China, or Japan could have crossed the southern Pacific to South America seem credible.

The oldest discovered boat in the world is the 3 meter long Pesse constructed 8000 B.C.E.; but more elaborate craft existed even earlier. A rock carved in Azerbaijan shows reed boats manned by 20 paddlers.



Azerbaijan Rock



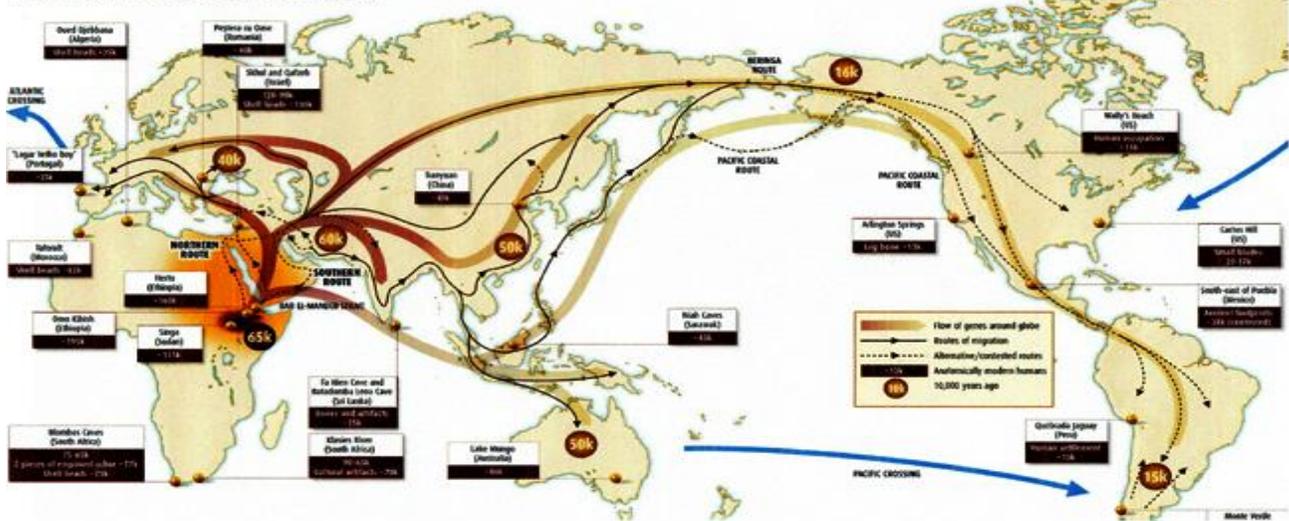
Homo Erectus

However the very first sea-worthy boat was built long before that, about 800,000 years ago, not by Man but by his predecessor Homo Erectus, a smart naked ape. Homo Erectus originated 1.8 million years ago in Africa. The species survived for over 1.5 million years before being supplanted by Neanderthals and our own Homo Sapiens. Erectus had learned how to put a cutting edge on stones and how to control fire; but he lacked the gene for speech and language. Erectus lived through the ice age(s), a period of repeated glaciations, each lasting about 200,000 years, separated by warm spells. At extreme, glaciers covered 30% of the world's land mass and tied up huge volumes of water, resulting in the sea level dropping 100 meters or more. This created temporary land passage between islands and continents. At some point, England was connected to Europe, Siberia to Alaska and parts of Indonesia linked to mainland Asia. In time Homo Erectus spread out of Africa into Asia, but he did not wear clothes, he stayed close to the equator. Erectus reached the Indonesian archipelago as early as 800,000 years ago. We know this because stone tools dated to that period and typical of Erectus have been found on the Island of Flores – between Bali and Timor. Although Erectus could have reached Bali by trekking over land bridges; migration beyond Bali to Flores required a minimum of 10 important sea crossings of up to 62 miles (100 km) and could not have occurred by accident. The conclusion is that Homo Erectus built a seaworthy craft 600,000 years before the first Homo Sapiens appeared on earth. Homo Erectus disappeared from fossil records around 200,000 years ago to be replaced by Neanderthals and then Homo Sapiens.

These new species have the capacity for language and abstract thought, which in turn allows collaboration and accumulation of knowledge. Drawings, figurines and sophisticated tools that are found with their remains are proof of this evolution.

THE MIGRATION OF ANATOMICALLY MODERN HUMANS

Evidence from fossils, ancient artifacts and genetic analysis combine to tell a compelling story



The last migration out of Africa was by Homo Sapiens. It is thought to have occurred 65,000 years ago, reaching the Middle East 60,000 years ago; Indonesia and Australia 50,000 years ago; China and Europe 40,000 years ago; and the Americas 16,000 years ago. There are several contested routes both by land and by ocean. What I do not comprehend is how we can have evidence of man crossing the Bering Strait Land Bridge 14.5 thousand years ago and evidence of man in Monte Verde, Chili 16,500 B.C.E., about 18.5 years ago. The Bering Straits Land Bridge is 8,000 miles away from Monte Verde. There had to be an ocean crossing to South America Therefore we need some kind of boat and a viable route.

Prehistoric Rafts; anything that floats can be lashed together to make a raft and serve as a boat. Only primitive cutting tools are required. Bamboo, wood logs and reeds have all been used as raw materials, tied together with vines or palm fibers. Early rafts served as fishing platforms, allowed transportation across bodies of water and even formed floating islands for villages. Raft propulsion is achieved by pushing with poles, pulling with ropes or paddling. When floating down rivers the current does all the work. Later sails were added to reduce effort going down wind; but rafts have no keel or shape to keep them moving in a straight line, so steering is always difficult. Nothing remains of these early boats, which have long since rotted away; but, knowing what plants and tools were available at the time, anthropologist can guess at the kinds of watercraft they used. The current theory is that bamboo rafts were used. Watercrafts still in use today in remote areas provide examples of what early boats must have looked like. Recently this hypothesis was tasted by building rafts, using stone-age techniques and replicating critical crossings.

In 1947, a Norwegian expedition sailed 4300 miles across the Pacific on a Balsa log raft built with primitive materials and techniques showing that ancient craft were capable of long distance ocean crossings. The Norwegian ethnographer, Thor Heyerdahl, started a trend by sailing the "Kon-Tiki", a balsa-log raft, from Peru, South America to Tuamotu Islands in the South Pacific. The expedition was

designed to demonstrate that ancient peoples could have made long sea voyages, creating contacts between separate cultures. Since that time, many other expeditions have attempted ocean crossings using primitive techniques. Established theory holds that Polynesia was colonized via Asia some 5,500 years ago. Based on similarities between statues on Easter Island and others in Bolivia, Heyerdahl believed



1947 "KonTiki"

there had been contact from South America. To support that claim, he sailed from Peru with five other adventurers on a raft built in native style from balsa wood, bamboo and hemp. After 101 days and 4300 nautical miles on open sea they arrived in the Tuamotus Archipelago. Which are a French Polynesian chain of almost 80 islands and atolls. Stretching from northwest to southeast over an area of the southern Pacific roughly the size of Western Europe; with a land area of 850 square kilometers (328 square miles).

Homo Sapiens undoubtedly improved upon the crude rafts of Homo Erectus. I consider boats which existed before metal tools were developed and cities arose. More specifically, before wood planks allowed the construction of large ships for war and commerce around 3,000 B.C.E. Evidence of these early boats comes from unearthen remains, petro-glyphs and other drawings, starting before 10,000 B.C.E. To this we can add boats that are in use today but could have been constructed with stone-age tools.

Reed Boats; are made by assembling bundles of reeds) or other thin branches), into pointy kayak like shapes. They were used in areas where wood was scarce, like Egypt and Iraq, before efficient wood working tools were developed. As mentioned before, petro-glyphs from the Mesolithic Period (Azerbaijan, 12,000 – 7,000 BC.E.); show large reed boats manned by 20 paddlers, and the remains of a 7,000 year old boat were found in Kuwait. Nowadays, the most primitive examples are the one-man

boats made from banana stalks used on Lake Baringo, in west central Kenya. The most complex are found on Lake Titicaca on the border of Peru and Bolivia. Here large boats made up of millions of Totora reeds can support as many as 60 people. Reed boats are still used in Peru and Ethiopia. The “ABORA III” is a prehistoric style vessel intended to sail across the North Atlantic from New York, U.S.A. to Ponte Vedra, Spain. Built entirely from reeds and rope, the hull was constructed by the Aymara Indians on the shores of Lake Titicaca, Bolivia. The German biologist leading the expedition, Dominique Goerlitz, argues that traces of cocaine and nicotine were found in the stomach of the ancient Egyptian pharaoh Ramses II. Being native only to the Americas proves Egypt must have traveled to the Americas. He says he is hoping to overturn the current thinking that states the prevailing winds of the Atlantic would have allowed ancient mariners to sail west to the Americas, but would have prevented them from returning home.

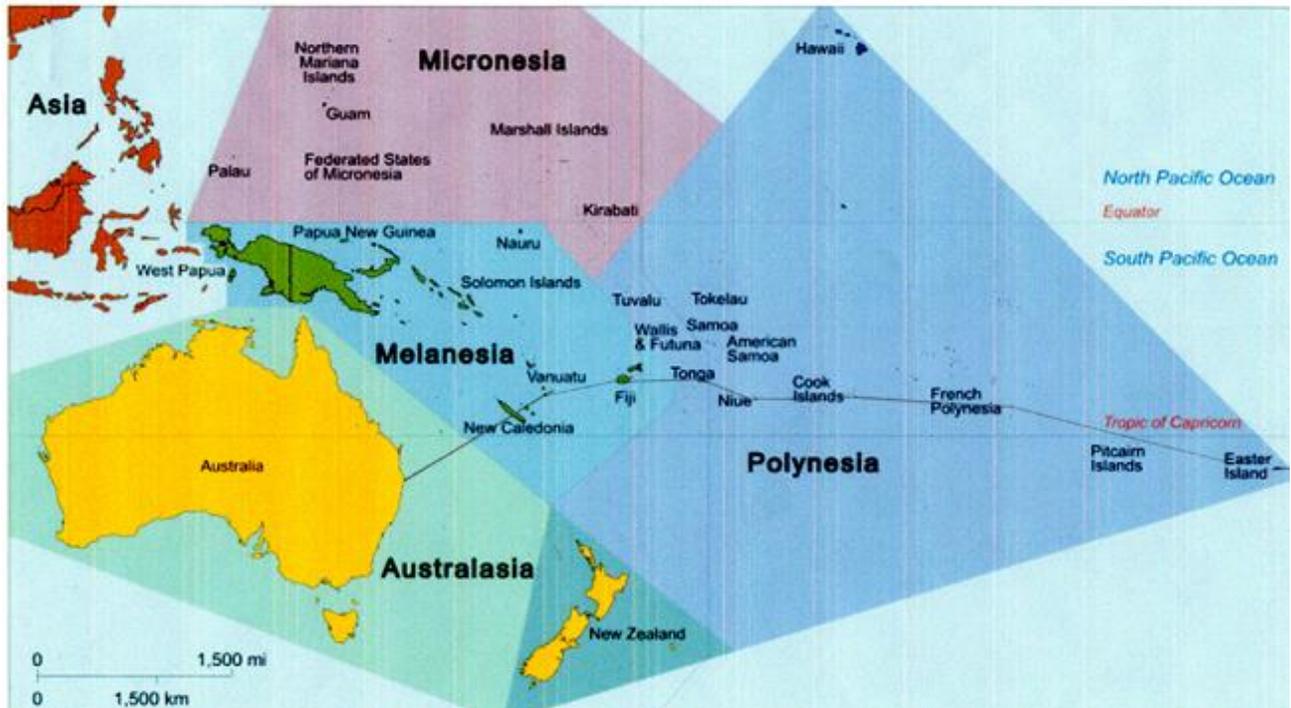


ABORA III Sea trials on the Hudson River

The 12 meter ABORA III was made of 17 tons of reed; two cabins, one mast and two rudders were part of the boats equipment. 14 five meters long leeboards were intended to prevent drift in the water and to ensure better navigation. After a heavy storm and three broken leeboards, the reed boat had to be repaired at sea. In another three day storm, the stern of the boat was seriously damaged. Resulting from that, the expedition was cancelled for safety reasons. Finally the 11 crew members abandoned the ABORA III after 56 days.

Our proposed imaginary journey east will start in Australia, because we already know Homo Sapiens had reached there 50,000 years ago. Our goal is to reach South America by 16,500 B.C.E. Assuming all the islands are uninhabited at this time, we would only use our stops for rest, repairs, possible edible vegetation and extra water. Our food will primarily come from the sea, our water from the rain. Our navigation is almost a straight line east with visual modifications for islands, mostly we will follow the rising sun. Our first stop will be from Australia to New Caledonia – to the Loyalty Islands – to the Vanuatu Islands – to fuji Island – to Tonga Island – to Niue Island – to the Society Islands - to the

Tuamotu Islands – to the Gambier Islands – to Rapa Nui Island – to San Felix and San Ambrosia – then on to Chile.



New Caledonia

In the history of New Caledonia, the diverse group of people who settled over the Melanesian archipelagos is known as the Lapita. They arrived in the archipelago now known as New Caledonia and the Loyalty Islands around 1500 B.C.E. The Lapita culture or tradition was a prehistoric Pacific Ocean people from c. 1600 B.C.E. to c. 500 B.C.E. Archaeologists believe that the Lapita are ancestors of historic cultures in Polynesia, Micronesia, and some coastal areas of Melanesia. The characteristics of the Lapita culture was the extension of human settlements to previously uninhabited Pacific Islands scattered over a large area. They spoke the Austronesian Languages. They made distinctive geometric-stamped pottery, and used and spread the distribution of obsidian. The Lapita were experts in seamanship and navigation, reaching out and finding islands separated from each other by hundreds of miles of empty ocean. Their descendants, the Polynesians, would populate islands from Hawaii to Easter Island, possibly reaching South American continent. As the imaginary predecessors of the Lapita, we keep moving east towards our goal of reaching South America.

The Loyalty Islands

The Loyalty Islands are an archipelago in the Pacific. They are part of the French territory of New Caledonia, 750 miles from Australia. The Loyalty Island Province is one of the three provinces of New Caledonia, whose mainland is 100 km (62mi) away. The archipelago now consist of six islands; Lifou

Island, Mare Island, Tiga Island, Ouvea Island, Mouli Island and Faiava Island, as well as several smaller uninhabited islands and inlets.

Vanuatu

Vanuatu officially the Republic of Vanuatu, the archipelago which is of volcanic origin, is 1,750 km (1,090 mi) east of northern Australia, 500 km (340 mi) northeast of New Caledonia, east of New Guinea, southeast of the Solomon Islands, and west of Fiji. In the history of Vanuatu, the commonly held theory of Vanuatu's prehistory from archaeological evidence supports people speaking Austronesian language (Indonesian and Malaysian origin), first came to the islands some 4,000 years ago. Pottery fragments of the Lapita have been found dating back to 1,300 B.C.E. What little is known of the pre-European contact history of Vanuatu has been gleaned from oral histories and legends of Vanuatu.

Fiji

Officially the Republic of Fiji is an island country in Melanesia. Its closest neighbors are Vanuatu to the west and Tonga to the east. Fiji is an archipelago of more than 330 islands, of which 110 are currently (2018 C.E.) permanently inhabited, and more than 500 islets, amounting to a total land area of about 18,300 sq. km (7,100 sq. mi). The majority of Fiji's islands were formed through volcanic activity starting around 150 million years ago. Today, some geothermal activity still occurs on the islands of Vanua and Taveuni. Fiji has been inhabited since the second millennium B.C.E. It was first settled by Austronesians and later by Melanesians, with some Polynesian influences. We will continue to island hop through these 330 islands stopping when needed, remaining on our journey east.

Tonga

Officially the Kingdom of Tonga, is a Polynesian sovereign state and archipelago comprising 169 islands of which 36 are currently (2018 C.E.) inhabited. The total surface area is about 750 sq. km (290 sq. mi) scattered over 700,000 sq. km (270,000 sq. mi) of the southern Pacific Ocean. It has a population of 103,000 people of whom 70% reside on the main island of Tongatapu. Tonga stretches across approximately 800 km (500 mi) in a north-south line it is surrounded by Fiji to the north-west, Niue to the east, and Vanuatu to the west. An Austronesian speaking group linked to the archaeological construct known as the Lapita reached and inhabited Tonga around 1,600 B.C.E., based on Lapita ceramic ware. Scholars have debated the exact date of the initial settlement of Tonga. It seems the Lapita are following us about 15,000 years later.

Niue

Niue is an island country in the South Pacific some 2,400 km (1,500 mi) northwest of New Zealand, and east of Tonga, south of Samoa and west of Cook Island. Its land area is 260 sq. km (100 sq. mi) and now its population, predominantly Polynesian, is currently around 1,190. They commonly refer to the island as "The Rock", a reference to the traditional name "Rock of Polynesia". Niue was settled by Polynesians from Samoa around 900 C.E. Further settlers arrived from Tonga in the 16th century.

The Cook Islands

The Cook Islands is comprised of 15 islands whose total land area is 240 sq. km (92.7 sq. mi). The Cook Islands were first settled in the sixth century by Polynesian people who migrated west from Tahiti, an

island 1,154 km (717 mi) to the northeast. In Cook Island's Maori pre-history, Chieftains from present day French Polynesia and their tribes, along with navigators, took their ships in search of unknown or newly found lands. First arriving in the southern island group of Cook Islands 800 C.E., or earlier. Many other tribal migrations from French Polynesia, notably Tahiti would continue for centuries forming a unique Maori society. Similarly, the northern islands were also settled from the east, with some of the northern islands possibly having had later interaction with Western Polynesia.

Society Islands

Society Islands the first Tahitians arrived from Southeast Asia in 200 B.C.E., after a long migration from Southeast Asia or Indonesia via the Fijian, Samoan and Tongan Archipelagos. This hypothesis of emigration from Southeast Asia is supported by a number of linguistic, biological and archaeological proofs. For example, the languages of Fiji and Polynesia all belong to the same great family of the Austronesian Languages. This emigration across several hundred kilometers of ocean was made possible by using outrigger canoes that were twenty to thirty meters long and could transport families as well as domestic animals. In 2010 an expedition on a simple outrigger canoe with a sail retraced the route back from Tahiti to Asia.

Tahiti

Tahiti is the largest island in the Windward Island group of French Polynesia. This overseas collectivity of French Republic is sometimes referred to as overseas country. The island is located in the archipelago of the Society Islands in the central Southern Pacific Ocean, and is divided into two parts. The bigger northwestern part, Tahiti Nui, and the smaller southeastern part, Tahiti Iti. The Island was formed from volcanic activity and is high and mountainous with surrounding coral reefs. The population is currently (2018 C.E.) 183,645 inhabitants, making it the most populated inland of French Polynesia and accounting for 68.5% of French Polynesia total population.

French Polynesia

French Polynesia is composed of 118 geographically dispersed islands and atolls stretching over an expanse of more than 2,000 sq. km (1,200 sq. mi) in the South Pacific Ocean. Its total land area is 4,167 sq. km (1,609 sq. mi). French Polynesia is divided into five groups of islands; The Society Islands archipelago composed of the Windward Islands and the Leeward Islands, the Tuamotu Archipelago, the Gambier Islands, the Marquesas Islands, and the Austral Islands. Among its 118 islands and atolls, 67 are currently (2018 C.E.) inhabited. Tahiti is the seat of the capitol of the collectivity, Pape'ete. French Polynesia as we know it today was one of the last places on Earth to be settled by humans. Scientist believe the Great Polynesian Migration happened around 1,500 B.C.E. as the Austronesian people went on a journey using celestial navigation to find the islands in the South Pacific. The first islands to be settled were the Marquesas Islands in about 200 B.C.E. The Polynesians later ventured southwest and discovered the Society Islands around 300 C.E.

The Gambier Islands

The Gambier Islands or Mangareve Islands small 30 sq. km (12 sq. mi) group of islands, remnants of a volcanic crater along with islets on the surrounding fringing reef, in French Polynesia, located southeast terminus of the Tuamotu archipelago. They are generally considered a separate island group from

Tuamotu archipelago, both because their culture and language (Mangarevan) are much more closely related to those of the Marquesas Islands, and because while the Tuamotus comprises several chains of coral atolls, the Gambiers are of volcanic origin with central high islands. Because of their proximity, the Ateon Group, and the nearby atolls of Maria East, Morane, Marutea South and Temore, all permanently uninhabited, are sometimes included among the Gambiers. Gambier Islands, nearly 1,600 km (1,000 mi) east-southeast of Tahiti. The Islands are just north of the Tropic of Capricorn. The principal inhabited group of the Gambiers comprises the volcanic islets of Mangareva, Taravai, Akamaru, and Aukena. Mangareve, which is 8 km (5 mi) long and encircled by a barrier reef, rises to approximately 440 meters (1,444 ft.) in the peaks of Duff and Mokoto.

Easter Island

Easter Island, Rapa Nui (Isla de Pascua in Spanish) is a Chilean island in the southeastern Pacific, at the southeastern most point of the Polynesian Triangle. Easter Island is famous for its 887 monumental statues, called Moai, created by the early Rapa Nui people. Easter Island is considered part of Insular Chili. Polynesian people most likely settled on Easter Island sometime between 700 and 1,200 C.E., and created a thriving and industrious culture as evidenced by the island's numerous stone Moai and other artifacts. However, human activity, the introduction of the Polynesian rat and over population led to gradual deforestation and extinction of natural resources which severely weakened the Rapa Nui civilization. By the time European arrival in 1722, the island's population had dropped to 2,000 to 3,000 people from an estimated high of approximately 12,000 just a century earlier. European diseases and Peruvian slave raiding in the 1860s further reduced the Rapa Nui population to a low of 111 inhabitants in 1877. Easter Island is one of the most remote inhabited islands in the world.

The Insular Chili consist of:

The Juan Fernandez Islands, composed of Robinson Crusoe, Alejandro Selkirk and Santa Clara Islands, located 670 Kilometers (420 mi) west of Valparaiso, Chili.

The Desventuradas Islands, composed of San Ambrosio and San Felix Islands, located more than 800 kilometers (500 mi) west of continental Chili, opposite the Atacama Region.

Easter Island (Rapa Nui), with an area of 163.6 sq. km (63.2 sq. mi), the main island of the Sporadic Islands. Located 3,600 kilometers (2,000 mi) west of Caldera, Chili.

Salas y Gomez Islands, located 3,220 kilometers (2,000mi) west of Chanaral, Chili, and 415 kilometers (258 mi.) northeast of Easter Island.

We have now traveled approximately 5,000 NMi. (nautical miles) island hopping all the way, and we have 2,000 NMi. left to Chili. Now we have the longest part of our Journey. We will not hit land until the Desventuradas Islands of San Ambrosio and San Felix. They are 500 NMi. away from the Atacama Region of mainland Chili. We are left with approximately 1,500 to 1,700 NMi. of open ocean before the Desventuradas. This is a difficult but not an impossible journey. When we reach Chili we can head south to Monte Verde, stopping along the coast of chili for provisions. I am guessing the whole trip, from Australia to Chile, will be a journey of six months to a year depending how leisurely we travel.

In 1973 a group of men sailed across the Pacific Ocean on rafts, the 15,000 km. (9,300 mi.) journey from South America to Australia it was the longest journey of its kind ever recorded. They wanted to prove

that ancient civilizations could have traveled between the continents. The 12 crew members built three rafts in Ecuador where the voyage began. They used balsa wood for the bases and bamboo for the cabins. The three raft journey took them six months and ended at the small town of Ballina in New South Wales. They used buckets to catch rain water for drinking and fished for food.

Paleo-ecological evidence of the coastal landscape's ability to sustain human life further supports a "Coastal migration" model. However, as of 2009 no archaeological evidence has been found of pre-Clovis humans using a coastal migration route in North America.

In South America many early archaeological sites have been discovered along the coast. In Peru, Quebrada Tacahuay and Quebrada Jaguay have been studied by archaeologists. Further south, there are also ring sites, and the Quebrada Los Burros. These mostly date to the late Pleistocene and early Holocene eras (ca. 11,000 to 9,000 B.C.E.). Inland in Chile, there are also the sites of Achas and Las Conchas. Quebrada Jaguay is the northern most of these sites, and also the oldest, dated to 11,000 B.C.E. Quebrada Tacahuay, further south, is somewhat younger. Some scholars argue that the Chinchorro Culture developed from these early settlements, although the details are still being investigated. The site of Achas is where the earliest Chinchorro mummy (the Archa man) has been found.

The Chinchorro Culture of South America was a pre-ceramic culture that lasted from 9,000 to 3,500 years ago (7,000 to 1,500 B.C.E.). The people forming the Chinchorro culture were sedentary fishermen inhabiting the Pacific coastal region of current northern Chile and southern Peru. Presence of fresh water in an arid region on the coast facilitated human settlement in this area. The Chinchorro culture were famous for their detailed mummification and funerary practices. The area of the Chinchorro culture started to receive influences from the Andean Plateau around 4,000 years ago, which led to the adaption of agriculture. Much later, it came under the influence of the Tiwanaku Empire.

Chapter Five

The Andean Civilization and Mayan Civilization

The central section of the Andes Mountains in South American and the land to the north in Central America known as Mesoamerica forms the cradle of the New World civilization. The Cultural Evolution which took place there spanned thousands of years and ended with the development of two great empires the Inca and the Aztec.

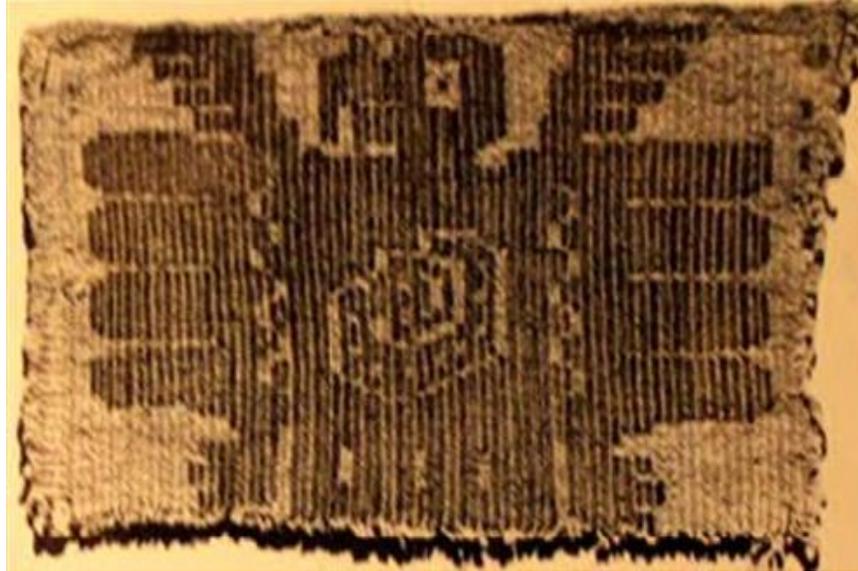
Andean classification of the interval between the Early Ceramic Period and the Spanish Conquest has been divided into three Horizons and two Intermediate Periods: the first refers to moments of political and cultural unification; the second to the division and regionalism.

Based on the paleontological and archaeological data, the first inhabitants of the Andean mountains moved down through the Isthmus of Panama and Columbia, through the barren mountains, west to the coast. These nomads hunted large animals such as mastodon until they became extinct around 10,000 B.C.E., then they hunted deer and the ancestors of llama and alpaca. They also foraged for tubers, fruit and wild plants and caught mollusks in the rivers and fish in the sea.

Andean Pre-ceramic Period 4000-1800 B.C.E.

Similar to Mayan Archaic Period 7000-2000 B.C.E.

During this long period, the nomadic groups of hunters and gatherers of the Andes began a primitive form of plant domestication and animal breeding accompanied by a social lifestyle. The first traces of agriculture date from the pre-ceramic period (4000 B.C.E. – 1800 B.C.E.) in the Sierra, and later in the coastal region for the Andean. The staple crops were Zeamais, gourds, cucumber, melon, beans, avocado, peanuts, chili peppers, tomatoes, and potato. Around 2500 B.C.E., the Andean began to cultivate cotton, which became their material for weaving. Weaving was the most important means of artistic expression and iconic story telling. They had no written language at this time, and pottery is used to date archeological time periods.



Huaca Prieta weaving

The switch from foraging to agriculture caused an increase in population and the first ceremonial and public buildings begin to appear between 2700 and 2000 B.C.E. The architectural structures were very simple in design at first, made of stone and adobe. The most ancient collective burial sites and first ceremonial centers belong to this period and are evidence of an organized society. Sites of the coast include Huaca Prieta and Aspero. Sites in the highlands were Kotosh and Galgada. The sites are characterized by terraced buildings which were probably used as temples. There is no evidence of pottery but there were other means of artistic expression such as weaving which left fragments of vegetable fibers and cotton.

Andean Early Ceramic Period 1800-900 B.C.E.

Similar to Mayan Early Pre-classic Period 2000-1000 B.C.E.

The Early Ceramic Period represents an important period of transition; during which art, building techniques and other aspects of society which had appeared in the Pre-ceramic Period were developed. The adoption of pottery making, in its fundamental stage. The earliest shapes were jars, bowls and bottles. Archaeological research has shown that pottery appeared in Peru around 1800 B.C.E. The close vicinity of Peru to Ecuador, which had already begun pottery, may be the reason for the beginning of pottery making. The ceremonial centers of the coast and highlands became more complex. Temples were built in a U shape. The site of Garagay was built on the coast and has one of the first examples of multi-colored wall paintings. Cerro Sechin, in the Casma valley, is one of the largest and most famous sites of this period; it was founded in the 2nd millennium B.C.E.



Image from Garagay

Andean Early Horizon 900-200 B.C.E.

Similar to Mayan Middle Pre-Classic 1000-400 B.C.E. and Late Pre-Classic 400 B.C.E.-150 C.E. The Chavín culture's archaeological Early Horizon, itself, has three ceramic stages. They were originally identified through stratified ceramics and encompass three stages of development for the Chavín culture. *Urabarriu*, the first stage, extends from 900 to 500 B.C.E. During this time at Chavín de Huantar, two small residential areas, not located directly surrounding the ceremonial center, housed a few hundred people in total. This phase showed the greatest animal diversity. The people hunted mainly deer and began to hunt and use camelids. They ate clams and shellfish from the Pacific Ocean, as well as guinea pigs and birds. Chavín people grew some maize and potatoes during this phase. The ceramics in the Urabarriu stage are highly influenced by other cultures. The archeological evidence suggests dispersed centers of production for ceramics, probably in response to a low demand from the dispersed population. *Chakinani*, 500 to 400 B.C.E., is a short time of transition in Chavín culture. During this time the residents migrated to surround the ceremonial center. The Chavín began to domesticate the llama and reduced deer hunting. Evidence of increased exchange with outside civilizations is also seen at this time. *Jarabarriu*, the final stage of the Chavín Horizon, lasted from about 400 to 250 B.C.E. Chavín culture had a dramatic increase in population. The settlement pattern changed to a proto-urban pattern, consisting of a center of lowland valley peoples and smaller satellite communities in the surrounding higher altitude areas. The culture showed specialization and social differentiation. The people who lived in the east at Chavín de Huantar are thought to have had lower prestige than the communities around the ceremonial center. A diverse and intense production of ceramics is suggested during the Jarabarriu phase, when the valley was heavily populated and the ceramic style more defined. Satellite communities also developed centers of production during this phase. The history of the Andean culture is still difficult to clearly understand because no forms of writing have been identified for the period before the Inca. Scholars rely on the archaeological and iconographic information as a basis of

the finds so far. The earliest examples of pottery were found around 1500 B.C.E. Two different styles were identified: Ofendas, monochrome vessels in black or grey with engraved zoomorphic patterns including the image of a feline god (jaguar god); second, Cupisnique, curious shapes of globular bottles and pots. Scholars have proposed a complex but attractive theory: that the cult of the jaguar god might be the consequence of contact with the Mesoamerican world, in particular the Olmec civilization which was a contemporary of the Chavin civilization. After the downfall of the religious and political unity imposed by the Chavin, regional cultures began to emerge around 200 B.C.E. These small kingdoms were linked by trade and sharing the culture of the Chavin, lasted until 700 C.E., throughout the Early Intermediate Period.



Cupisnique Pottery

Andean Early Intermediate Period 200 B.C.E.-700 C.E.

Similar to the Mayan Late Pre-Classic 400 B.C.E.–150 C.E. and Early Classic 150-600 C.E.

The Early Horizon was succeeded by what has been termed the Early Intermediate Period. The onset of the Early Intermediate marked the decline of Chavín's cultural influence and the attainment of artistic and technological peaks in a number of centers, both on the coast and in the highlands.

The southern coast

The beginning of the period is best determined by the evolution of the Paracas pottery style into that of the Nazca area on the southern coast; this is traditionally estimated to have occurred about 200 B.C.E., but John Rowe's date of 400 B.C.E. is probably more reliable, since this is the area where his detailed archaeological sequence for most of the Peruvian highlands and coast. Nazca ware is marked by the introduction of slip painting applied before firing, which took the place of the resin painting applied afterward; but the style evolved continuously, and the polychrome tradition continued. The most common forms were bowls and beakers, all with rounded bases, but double-spout or head-and-spout jars were also characteristic. In contrast to the Moche area on the northern coast, figure modeling played a very minor role. Designs were painted in up to eight colors and fell into two main groups: one characterized by stylized but recognizable life forms, such as birds, fish, or fruits, with some humans; the other depicting mythical subjects such as complex demons. Between approximately middle and late

Nazca, mythical figures became increasingly angular and elongated and developed a tangled mass of appendages. Trophy-head representations, which were modeled as complete vessels, as well as painted in profile on simple vessels, increased greatly at the same time. Because Nazca art was less realistic than that of Moche, little can be learned of the appearance and life of the people. In the time of the Nazca style, what has been described as a small city was located in each of the south-coast valleys of Pisco, Ica, Nazca, and Acarí. At Cahuachi, in Nazca, this included a ceremonial center consisting of six pyramids, which were terraced and adobe-faced, natural hills associated with courts. Tambo Viejo in Acarí was fortified, which supports inferences drawn with some difficulty from late Nazca art that a concern with warfare developed at that time.



Paracas Pottery

The northern coast

In the beginning of the first century C.E., a civilization began to flourish, which was to be named the Mocha. Archaeologist named them after the valley which was their home. Mocha's numerous monumental archaeological remains and vast diffusion of its pottery style confirms they reigned along the northern coast. The pyramidal buildings of the Mocha are comparable to the Mesoamerican structures, and functioned not only as temples but also as burial place of members of the reigning elite. A cultural peak was reached in the valleys of Pacasmayo, Chicama, and Moche on the northern Peruvian coast. A large proportion of this area has been grouped by archaeologists into a Moche culture, although some of the territory encompassed by these valleys was not part of the polity called Moche. The Moche culture is distinguished by a ceremonial pottery style commonly covered with a white or red-and-white slip, which may have had decoration painted on it, chiefly in red on the white parts. Some pots are molded in forms that include figures, animals, plants, and weapons; and some have molded designs in low relief. Molding and painting both convey highly realistic impressions of the people, things, and scenes they represent and are a vivid source of information about the life and activities of the people, though some important aspects, such as agricultural processes, are not represented. Moche pottery has been divided into five phases that were originally defined mainly by differences in the stirrup-spouted jars, but this has been extended to other forms, for example, bell-shaped bowls, double vessels, and jars

with collars. The prevalence of stirrup spouts and the quality of the modeling connect Moche much more closely with Chavín–Cupisnique than with the intermediate styles, in which features such as the spout-and-bridge vessels suggest intrusive influences from the south. Among Moche buildings are adobe pyramids, like the enormous Huaca Del Sol in the Moche Valley, palaces with large rooms on terraces in the case of the Huaca de la Luna near the Huaca de Sol, and fortified structures perched on the sides of valleys. These structures reinforce the evidence, provided by warriors and enthroned dignitaries depicted on pots, for the existence of an aggressive hierarchical state, and it may be inferred that this grew up as the result of dependence on highly developed irrigation systems in the restricted areas available in the valleys. There were no towns in the northern valleys. Dispersed communities, built in places where they would not use the valuable irrigated agricultural lands, seem to have been situated in ways suggesting dependence on one of the ceremonial centers. Archaeological evidence for the Mocha culture shows it to have been a complex society whose economy was based on agriculture, fishing and numerous crafts. The cultural and political decline of the Mocha seems to have occurred around 600 C.E., and is believed to be the result of El Niño events and drought.



Moche Pottery

The north highlands

In the north highlands, the remarkable pottery style of Recuay has been found in the Callejón de Huaylas region. This pottery is related to the negative-painted representative of Gallinazo in the Santa Valley and is painted with black negative designs over white and red, one of the most characteristic being a feline in profile with a comb on the head. There is a good deal of lively modeling, but it is much less naturalistic than that of Moche. A typical feature is a broad, nearly horizontal flange surrounding the mouth of a jar, and many jars also have a horizontal spout below the flange. Most of this pottery has come from stone-lined graves, and some stone buildings of two or three stories may have belonged to the people who made it. The Cajamarca Basin is the site of a pottery style (called cursive) that was entirely independent of known outside influences and that spanned at least the Early Intermediate Period and the Middle Horizon. It has lightly painted running-scroll designs, which vaguely recall writing (hence the name cursive), as well as small animals and faces, in brownish black or red on a cream background, mostly on open bowls with ring bases. It was traded widely in the north, and south as far as Huari, during the Middle Horizon.

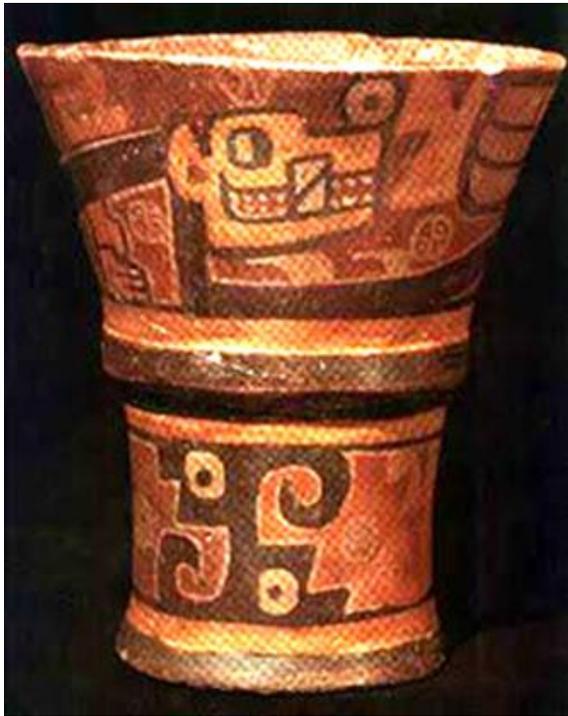


Recuary Pottery

The south highlands

Large urban and ceremonial centers emerged at this time near the shores of Lake Titicaca. One site, Pucará, includes a well-built, horseshoe-shaped sanctuary of concentric walls of red sandstone enclosing a slightly sunken terrace lined with white-sandstone slabs. Within the terrace is a sunken court some 50 feet square and seven feet below the surface, also lined with white sandstone and reached by a stairway. This court contains two stone-lined grave chambers, and the outer horseshoe wall has small chambers, each containing one or two altar like slabs in its thickness. There are also squat stone statues of men carrying trophy heads and stelae (upright sculptured slabs of stone) bearing recessed geometrical carvings and snakes. The pottery includes a reddish-buff ware painted in red, black, and yellow; cats, human or bird heads, and geometrical figures are all outlined by incision. The faces have the eyes divided vertically, one half of each eye black, and the other half the natural color of the ware. Pucará occurred early in the period, before the main development of Tiahuanaco, and it may have taken shape about 400 BCE. It appears to have controlled an area between the site and Lake Titicaca or farther. Tiahuanaco is a well-known ceremonial center whose stone remains is now a tourist attraction in the Andes second in popularity only to the ruins of Machu Picchu. The occupation of the ceremonial center is believed to have begun very early in the period, since some of the earliest pottery shows similarity to that found at Pucará. The ceremonial buildings, whose exact age is uncertain, include a large stepped pyramid or platform called Acapana, with foundations of buildings on the top; a semi-subterranean temple with stone heads tenoned into the walls; and a low rectangular platform called Calasasaya, enclosed by a retaining wall of upright stones alternating with smaller rectangular blocks. In one corner of the platform stands a great monolithic doorway, not in its original position, cut from a large block of lava. At the top of the doorway is carved a central low-relief figure attended by three rows of smaller winged figures that appear to run inward toward him. The central figure, carrying staves that may represent a spear thrower and darts, has been likened to the Chavín Staff God and for convenience may be called the Doorway, or Gateway, God. Versions of the Doorway God and his attendants are found almost everywhere within the range of Tiahuanaco influence in the subsequent Middle Horizon. Another feature of the site is a number of large and finely finished stone blocks with niches, doorways, and recessed geometric decorations. Tiahuanaco masonry is sometimes held together by accurately cut notches, sometimes by copper clamps set in either straight or T-shaped grooves. Several massive

monolithic statues have been found in and around Tiahuanaco, the largest being 24 feet high. They resemble pillars bearing relief designs, and some carry beakers. Decorated Tiahuanaco pottery is a finely polished polychrome, which commonly has a red slip with designs painted in various colors. Felines and hawks in profile, with eyes divided vertically into black and white halves, are common designs, as are geometric figures such as triangles and steps. Like all Tiahuanaco art, the designs are stiff and formal. The shapes include a tall, graceful, hollow-sided beaker and various types of bottles and hollow-sided bowls with flat bases, including a form bearing a jaguar head and tail on the rim.



Tiahuanaco Pottery

Andean Middle Horizon 700-1000 CE.

Similar to the Mayan Late Classic 600-900 A.D.

During the Middle Horizon the Andean civilization experience a phase of political and cultural reversal. The small regional kingdoms that flourished in the previous period were forced to succumb to two unifying forces, defined by some scholars as empires. The ceremonial center of Tiahuanaco was transformed around 700 C.E., into the main seat of a hegemonic state which imposed religious and cultural influence on smaller centers in distant regions. The second seat was established at Huari, 435 miles away from Tiahuanaco. The most outstanding innovation from this period was the rise of settlements on a grid layout which replaced the older designs based on ceremonial centers. The large defensive walls that surrounded the Huari cities are evidence of a strong militarization of the new society and empire. By 1000 C.E., almost all of the Huari cities were abandoned. A crisis undermined the empire which brought about a political collapse. The ideology and the material culture were absorbed by the culture that followed during the Late Intermediate Period. Many small kingdoms sprang up, each

with its own culture, particularly along the coast. The oldest of these cultures is called Sican. Oral history, handed down over centuries tells how the Sican arrived from the sea guided by their god Nylamp. Archaeology has provided support to this oral tradition in the form of pottery and metal artifacts. The peak of the Sican began around 900 C.E. This was a period of monumental architecture was erected and large chamber tombs were dug. The Sican culture disappeared after a prolonged drought and its survivors were assimilated into the kingdom of Chimu about 1375 C.E. The writings of the Colonial era tell of three other kingdoms along the coast, all of which were subjected by the Incas in 1450. The Inca Empire derived several of the characteristics from the imprint left by the Tiahuanaco and Huari empires.

Both Huari and Tiahuanaco were early forms of what became known as the Middle Horizon, an expansion of multiple-valley political rule which had two centers. This development is usually dated about 700 C.E. Some Tiahuanaco effigy vessels have been discovered at Huari, but otherwise they seem to have been independent entities. Subsequent research has located parallel occupations near each other in the vicinity of the modern city of Moquegua. The American archaeologist William H. Isbell has argued that Huari was a true state which displayed archaeological manifestations of administrative recording, had storage facilities on a scale suggesting major revenues, contained status tombs and palaces, and had other symbols and ornaments of a ruling class. Huari colonies and control also have been detected in the evidence. Attempts to explain what Huari and Tiahuanaco were doing outside the areas of their immediate control have pointed toward religious conversion. It has also been suggested that, although these polities employed an extensive form of control, they did not attempt to rule all of the intervening territories. After a period of consolidation, the expansion was intensified, eventually reaching Cajamarca and the Chicama Valley in the north and the Ocoña Valley on the far southern coast, by about 800 C.E. The growth of the empire and its nature is shown by a number of features. One was the spread of Huari pottery styles and local copies of them, some bearing the Doorway God and other religious figures but many with neutral or secular motifs such as bands of chevrons. These generally were polychrome wares, and figures appearing on them—mythological, human, or animal—may have the eyes divided vertically into black and white halves, as at Tiahuanaco. A result of the increasing dominance of Huari styles was the obliteration of the old pottery styles over the whole coast from Nazca to Moche. The southern burial custom of huddled, cloth-wrapped mummies spread northward along the coast, displacing the older fashion of extended burial. The presence of large groups of storage buildings at Piquillacta in the Cuzco Valley and at Viracochapampa, near Huamachuco far to the north, suggests military activity like that of the later Incas. On the coast, some great cities in the north of which Chan Chan, near modern Trujillo, is the best-known, originated at this time, apparently under southern influence, and the rectangular Great Enclosure Compounds in the Virú Valley may be an expression of the same phenomenon. These changes taken together, point strongly to military conquest. Tiahuanaco designs, derived through Huari, are seen on coastal textiles as well as on pottery, and they are found particularly on tapestry. Besides recognizable figures like the Doorway God and his attendants, there are many examples, perhaps somewhat later in date, on which only the divided eyes, in black and white or other combinations of colors can be inferred to belong to human or animal figures. Pachacamac, on the central coast, which survived until Inca times as a great temple and oracle, was established as a ceremonial center by the beginning of the Middle Horizon. At that time it also became a considerable town, with a degree of independence in the Huari empire, as is demonstrated by the presence of its own

local variety of coastal Huari pottery—distinguished by the frequent depiction of a creature, sometimes called a griffin, with a winged feline body, human hands, and an eagle head, or sometimes the head alone, from Pachacamac north to Chicama, south to Nazca, and inland to Huancayo. Its influence may have been more religious than political, as in Inca times. The Moche pottery style disappeared from the Chicama and neighboring valleys under Huari pressure, but it is unlikely to have become entirely extinct because many features of it reappeared later on Chimú pottery. It probably survived, along with a remnant of the Moche state, in some valleys farther north but the succession there has not been sufficiently worked out to demonstrate this. When the Huari Empire reached its maximum extent, about 800 C.E., it collapsed as the center. Huari was abandoned, as it appears was Cajamarquilla, a large urban center near Lima. Also at this time, it appears that construction peaked at Tiahuanaco—which is estimated to have had 5,000 to 10,000 inhabitants, although the city’s influence on the region continued. Thereafter, few signs of urban life occur in the south, except at Pachacamac, until Inca times. Curiously, the decline of the cities in the south appears to have coincided with the beginnings of urban settlement on the northern coast at Chan Chan, Pacatnamú, and other places. After Huari fell, signs of new influences from there disappeared in the provinces, but various changes evolved in local pottery styles. Among these was the development of a new style on the north-central coast. One of the most distinctive products of this style was a face-collar jar, in many cases oval, decorated in pressed relief with cats and other Huari-derived designs and painted in washy black, white, and orange on a buff ground.



Huari Pottery

Andean Late Intermediate 1000-1450 C.E. and Late Horizon 1450-1533 C.E.

Similar to the Mayan Terminal Classic 900-1200 CE. and Post Classic 1200-1550 CE.

Late Intermediate- After the large-scale societies in the Middle Horizon, the Andes will return to a scenario of regional, independent, and, in most cases, small-scale polities. These polities will often war against each other, mostly in the highland areas. The stone and fortified architecture in the Central Highlands are a witness of these unstable times. This pattern of small-scale societies will also occur on the coast, except for one society that control several valleys. The Chimú kingdom will control all the North Coast from Tumbes to Paramonga, while the Chancay, in the Central Coast, and the Chincha in the South Coast will be limited to one or two valleys. The coastal societies will be the most representative societies of the period, and will last as independent entities until they are conquered by the Incas. The most important society of the period is the Chimú, a kingdom that built the largest mud-brick city at Chan Chan (over 10 sq. km), created a complex system of administration in every valley under their control, with standard architectural patterns (not unlike the Huari society 300 years before in many areas of the North Coast). The craftsmen of the Chimú were outstanding in the metalworking of silver and gilded copper, and, with craftsmen of the Chancay society, achieved high standards in textile weaving.

Late Horizon- This is the time when the Inca society becomes an empire that spans from southern Colombia to middle Chile, dominating about 5000 kilometers in the Andean range. It is the last period of the native Andean historical sequence, and it will be the shortest one lasting for about 60 to 70 years. The Inca society will create a complex administrative system to manage the extensive lands and diverse peoples under its power. They will use administrative devices such as quipus (knotted strings), administrative sites, storage centers, a complex network of roads, and massive population movements. Some of these devices may have been used earlier in the societies of the Middle Horizon, but the evidence is unclear. In the artistic realm they will prefer an iconography that is dominated by geometric patterns, and will not use any previous Andean icons, be it the feline or the staffed god. It is the prehistoric period for which most oral and written information exists, as many of the Spanish priests and soldiers that arrived with Francisco Pizarro wrote several chronicles on the organization of the empire, its lore, its kings, and its religion. The last leader of the Inca, Atahualpa was captured and his men slaughtered. Atahualpa was later beheaded under the pretext of refusing to honor the Cross and bible.

The Mesoamerican Civilization

The Maya are a cornerstone of civilization in the new world of Mesoamerica.

The history of Maya civilization is divided into three principal periods: the Pre-classic, Classic, and Post-Classic periods. These were preceded by the Archaic Period, during which the first settled villages and early developments in agriculture emerged. Modern scholars regard these periods as arbitrary divisions of Maya chronology, rather than indicative of cultural evolution or decline. Definitions of the start and end dates of period spans can vary by as much as a century, depending on the author.

In the Archaic Period; as the climate became hotter the grasslands became fewer, nomadic people needed to travel greater distances for gathering and hunting. The game influenced by the fewer types of

grassland and over hunting became fewer in numbers. Archaic Period sites such as hunting stations, overnight camp sites and fishing spots which were scattered across the landscape began to disappear. Technological innovations such as grinding stones and large food storage pits are indicative of longer term occupation in resource rich locations. These early settlements were villages which grew during the period, prompting plant domestication and animal breeding. The first traces of agriculture for the Maya date from the middle archaic period. Investigations at Lake Puerto Arturo, located in the Mirador Basin in northern Petén region, indicate pollen records show a decreasing forest from 4000-2000 BCE. Without evidence of agriculture, it has been difficult to isolate a cause for the decrease. Maize pollen at 2500 B.C.E. in the Puerto Arturo core, suggest the forest clearance was done by early agriculturalist. Some of the earliest sites in Mesoamerica were: Cuello (in Belize); Loltun Caves in the Yucatan; Altamira in Guatemala; Santa Luisa in Veracruz; and Iztapan in the now state of Mexico.

Image of Santa Luisa



The Maya cities developed in the Early Pre-classic period 2000 B.C.E.–1000 B.C.E. the first as early as 2400 B.C.E. in Belize (Cuello). The Early Pre-classic settlements were little more than three to twenty families positioned just above the banks of the estuaries and lagoons. These locations gave them an abundance of mangrove oysters, marsh clams, crabs, turtles, and iguana which were caught for their eggs. The lagoons were fished for their gar, snook, porgy and catfish. In the higher tropical forest the Maya cleared land for the planting of corn, beans, squash, chili's, also prestige crops such as cotton, cacao and vanilla. The preparation of these fields were accomplished by the slash and burn method. This

period also gave way to pottery of the same two basic shapes that were made earlier in stone. The globular neck less jar and the flat dish, with, out-slanting sides, which is contributed to the Ocos people. The first Mesoamerican potters may have picked up the necessary skills from South American incomers, for the people of Ecuador and Columbia were making ceramic pieces about 1000 years earlier than their counterparts in Mexico, Guatemala and Peru.

For the Maya the middle pre-classic era ran from 1000 B.C.E. to 400 B.C.E., settlements of the Highlands and Lowlands were more heavily populated and the stick huts covered in mud on slight platforms remained the primary structures. There was something different happening in the coastal plains of Veracruz, the birth of the Olmec Civilization. They built clay pyramid temples and carved large stone heads, made elaborate tombs with figurine offerings, first traces of art, invented writing, and developed the long count calendar. Truly a Mesoamerican 'mother culture' whose ideas spread throughout the Mayan world. During this time, the Maya expanded in territory and population. Their society gained complexity both socially and politically. Trade increased with the Olmec, who influenced early Maya culture. The earliest political unit was a chiefdom. Early Maya chiefs based their power on kinship, social status and control of the economy. Chiefs claimed to be descent from the gods. Trade among the Mayan centers and the Olmec included luxury goods such as jade items and obsidian mirrors. Agriculture advanced with irrigation and canals. Villages began to include public works such as earth mounds and central plazas. Stone Stelae appeared, with images of rulers carved on them, although no writing on them yet. Santa Rita, Cahal Pech, Lamanai and Cuello were important middle pre-classic sites in Belize. In the Petén region of Guatemala, Uaxactum, Tikal and Nakbe were developing centers of Maya civilization. Later sites around 900 B.C.E. include La Blanca and Chalchuapa. An important site was Kaminaljuyu, located where Guatemala City is today on Lake Miraflores. Kaminaljuyu dominated the trade in obsidian, a sharp volcanic rock that edged the tools and weapons of the Maya.

Olmec Stone Head



The Maya Late Pre-Classic Period gave rise to the state. The simple farmland or tribal mentality, Gave way to an elite class of bureaucratic administration with public works projects, a standing army and of course a police department. This was the beginning of the great architectural achievements of the Maya. Large new cities arose characterized by great stone temples, pyramids and markets. The Late Pre-classic saw the rise of two powerful states that rival later Classic Mayan city-states for scale and monumental architecture, Kaminaljuyu in the highlands and El Mirador in the lowlands. The late pre-classic stretched from 400 B.C.E. to 250 C.E. The important sites from this time period include Kaminaljuyu, El Mirador and San Bartolo. While previously scholars assumed that Maya civilization didn't manifest until the Classic period, now they know that all of the achievements of the Maya formed in the late pre-classic. The Maya were practicing writing, mathematics and calendric. Mayan art of the era include stone carvings and painted murals as well as fine ceramics and jewelry. Trade, agriculture, population and territories all expanded. At times chiefdoms warred with chiefdoms. Monumental public works in the major late pre-classic cities included pyramids, ball courts and stone causeways or roads. Kaminaljuyu and El Mirador were both cities with large populations. While smaller, San Bartolo contains painted murals that greatly expanded our knowledge of the Maya.



Image of Kaminaljuyu

The Early Classic 250-600 C.E. is often referred to as the intellectual and artistic highpoint of the Mayan lowlands. Beside further population increase there was a proliferation of new sites in every sub-region of the Mayan area. There is apparent evidence of a clustering of the populace around the larger cities, representing a change from a previously rural to a predominantly urban style of living. With the increase of new communities came even more specialized functions in the arts, public works, administrative duties and commerce. The expansion of trade networks and increased contact with other communities led to greater cultural similarities, particularly in the styles of architecture, implements, and pottery as well as parallels in hieroglyphic inscriptions, plus cosmological and religious concepts. Nearly all the carved stelae in Belize and the Mayan area date to the Classic period. These monuments predominantly contain historical data. They record the birth, marriage, accession, death and exploits of deified rulers. Following their death, these rulers were generally laid to rest in large corbelled vaulted tombs that were constructed within the most important shrines or temples of the city centers. Along with the elite remains were placed much of their earthly treasures and at times their attendants were sacrificed to accompany them into the afterworld. Studies of ancient settlement patterns demonstrate that the populations of Classic period centers were far greater than previously thought. Belize alone contains more prehistoric mounds than modern houses and conservative estimates suggest that the country probably supported close to a million inhabitants by 600 C.E. This information has subsequently led to the negation of an earlier hypothesis which argued that the ancient

Maya were predominantly milpa farmers. The milpa system, also known as swidden or slash and burn agriculture, is an extensive system of land use that requires land that has been farmed to remain fallow for several years after it has been used and thus cannot, on its own, support large or dense populations. New research, however, has actually recorded evidence of a variety of intensive agricultural systems that were utilized by the Maya during the Classic period. In the Vaca Plateau, for example, archaeologists have mapped thousands of stone-walled terraces (some more than 6 feet high and 100 yards long) around every major site (like Caracol) in the region. In the Belize Valley, near Duck Run, other archaeologists have noted that the Maya excavated a series of ditches to control water levels during the rainy season. Further to the north, particularly near Pulltrouser Swamp, San Antonio, and along the New River and Rio Hondo, ancient Maya inhabitants created an expansive system of raised fields. The latter type of agriculture is a very intensive system capable of producing far more food than either milpa or terrace agriculture. Further increases in population during the Classic period led to greater competition for limited resources. This in turn may have strained relations between centers and resulted with widespread conflict and warfare. Evidence for the latter was recorded on mural scenes painted on the walls of palaces at sites such as Bonampak and on many of the carved monuments that were erected at other site centers. Many stelae and lintels in the Maya lowlands, for instance, portray scenes of warfare and the capture of prisoners. Captive warriors were forced to work as slaves for the construction of buildings and other public works, and often were sacrificed in rituals to the gods or those commemorating important religious events. Excellent evidence for increasing conflicts and competition are provided by the inscriptions found on monuments at Caracol, Tikal and Naranjo. Altar 21 (the ball court marker) at Caracol records the defeat and death of Tikal's Double Bird by Caracol's Lord Water, on May 1, 562 C.E. At Tikal this event coincides with the defacement of several stelae and monuments (Stela 31 was wrenched from its original location and dumped in the plaza). Thereafter no monuments were commemorated at Tikal for nearly 150 years. Lord Kan II who later succeeded Lord Water as ruler of Caracol continued the earlier aggression against other Petén sites. Several years after the fall of Tikal, Naranjo was subjugated 626-642 C.E. Shortly thereafter Naranjo was probably forced to dedicate a hieroglyphic stairway to Caracol. Like at Tikal, no new monuments were inscribed at Naranjo for 40 years following their defeat. Most sites found in the Maya area contain evidence for Classic period occupation and activity. Sites in Belize with substantial information for developments at this time include Altun Ha, Caracol, La Milpa, Lubaantun, Nimli Punit, Pacbitun and Buena Vista. The same age sites in Guatemala and Mexico include Kaminaljuyu, Tikal, Yaxha, Uaxactun, Calakmul, Kohunlich, Becan, Palenque, Bonampak, Yaxchilan, Piedras Negras, and Dzibanche.



Image of Tikal

The Late Classic Era 600-900 C.E. was dominated by numerous independent city-states in the Maya region and also featured the beginnings of political unity in central Mexico and the Yucatán. Regional differences between cultures grew more manifest. The city-state of Teotihuacan dominated the Valley of Mexico until the early 8th century, but we know little of the political structure of the region because the Teotihuacanos left no written records. The city-state of Monte Albán dominated the Valley of Oaxaca until the late Classic, leaving limited records in their mostly un-deciphered script. Highly sophisticated arts such as stuccowork, architecture, sculptural reliefs, mural painting, pottery, and lapidary developed and spread during the Classic era. During this period the Maya experimented with many designs. Some of the most common paintings found on Mayan pottery include Mayan gods, kings, animals and other similar anthropomorphic creatures. These art crafts were used for important rituals like funeral ceremonies, especially after the death of Maya in a higher social class. The pottery used by middle class houses was less elaborate in nature, and the lower class families owned pottery decorated with a single color. In the Maya region, numerous city states such as Tikal, Calakmul, Copán, Palenque, Uxmal, Cobá, and Caracol reached their zeniths. Each of these polities was generally independent, although they often formed alliances and sometimes became vassal states of each other. The main conflict during this period was between Tikal and Calakmul, who fought a series of wars over the course of more than half a millennium. Each of these states declined during the Terminal Classic and eventually abandoned.



Image of Teotihuacan

The Terminal Classic period is characterized by dramatic changes in the Maya lowlands. Few cities contain evidence for the construction of large civic architecture, there is little or no evidence for the commemoration of new monuments, and there is a rapid decline in population followed by the subsequent abandonment of most large centers. Throughout the study of Maya prehistory, these events have traditionally been associated with the collapse of Maya civilization. Over the last 50 years many theories have been proposed for the decline of the Maya. These can be divided into two categories: theories emphasizing external factors and those emphasizing internal factors.

Theories that emphasize external factors include: 1) foreign invasion from the west and 2), changes in exchange (trade) patterns. Proponents of the foreign invasion hypothesis argue that Mexican-related cultures, the Putin Maya from Tabasco, invaded from the west and disrupted Maya society to such a degree that it eventually led to their demise. While evidence does exist that some sites along the Usumacinta River like Seibal and Altar de Sacrificios may have been taken over by other groups, this evidence is lacking at nearly all other sites in the lowlands. Proponents of the trade hypothesis suggest that at the start of the Terminal Classic period there was a major change in trade networks. Whereas earlier trade routes predominantly used an overland system, the Terminal Classic merchants primarily relied on maritime trade routes. As a result of these changes many of the large, landlocked, cities such as Tikal, Caracol, and Calakmul were bypassed. Isolated from the rest of the Maya area, sites in the interior thus began to decrease in importance; their economy began to falter and was eventually abandoned for other cities in the network. Internal factors include natural catastrophes, social upheaval, warfare, and ecological failure. Those who propose natural catastrophes as the primary cause for the collapse argue that earthquakes, volcanic eruptions, hurricanes, or epidemics (yellow fever) could have

greatly disrupted Maya life and forced people to leave the area. Although interesting, there is little or poor geological evidence to support widespread catastrophic disaster during this time. Rarely do people completely evacuate an area following short-lived catastrophes.

The second hypothesis, social upheaval was proposed by British archaeologist Sir Eric Thompson, more than 50 years ago. Thompson argued that following centuries of oppression the lower classes of Maya society may have revolted against the elite rulers. Following their upheaval commoners refused to continue supporting the elite with tribute and discontinued to maintain the large cities. This type of revolution would have disrupted socio-political control and eventually led to anarchy and the decline of Maya social order. Accepted as a plausible explanation for many years, today there are few archaeologists who continue to support this idea.

Other archaeologists have argued that increased warfare could have been the most important cause and effect of the collapse. They propose that Mayan warfare may have changed substantially during the Terminal Classic period. Unlike the preceding periods, they suggest that Terminal Classic armies may have purposely destroyed conquered cities and enslaved or sacrificed their population. This would have eventually disrupted the economic system to the point where life was no longer sustainable in the region. As noted above, there is considerable evidence that conflicts between Mayan cities were more widespread toward the Late Classic period. Monuments at many sites both record and vividly display the militaristic pursuits of their leaders. Despite this evidence, however, there is limited data that suggest Maya armies wantonly sacked the cities of defeated adversaries. Furthermore, this hypothesis does not adequately explain why the first sites to be abandoned are predominantly the larger, more populated and presumably the most powerful centers, Caracol, Tikal, and Calakmul. In fact, many sites, particularly those along major rivers, continued to thrive into the Post-classic period for example, Baking Pot, Lamanai, and Santa Rita, in Belize. Perhaps the most credible, recent, explanation for the collapse has to do with ecological failure. We know that by 800 C.E. most of the Maya area was occupied. Belize alone could have had nearly one million inhabitants. To feed all these people most of the available land would have had to be cleared and used for food production. Besides food, however, ancient Maya people would have also needed a considerable supply of hardwoods. Wood would have been necessary for cooking and for construction for producing white lime. The white lime, or Cal, was used in great quantities for processing corn before grinding and for plastering the floors and walls of the large temples, palaces and monumental architecture. In conjunction with extensive land clearing for agriculture, the high demand for hardwoods would have led to widespread deforestation. Under this condition there is no doubt that heavy rainfall would rapidly lead to soil erosion. Conversely, if the region experienced a long period of drought, which are exacerbated by deforestation, most crops would have undoubtedly failed. What if these conditions persisted for any length of time? Farmers would have likely depleted their seed corn and would have been unable to produce enough food to meet the demands of a large population. A decrease in diet would lead to poor nutrition that would in turn increase the occurrence of debilitating diseases. In an effort to acquire the necessary resources to sustain their people, cities may have gone to war with each other, but instead of achieving solutions, this type of conflict would simply add to the existing problems. If these conditions persisted for a couple years, people would eventually make the only choice left to them, abandon their communities and move elsewhere.



Image of the Pyramid at Chichen Itza

Recent scientific investigations suggest that this may have indeed occurred. Studies of lake sediments in the southern Yucatan, Belize, and the Petén, suggest that the area suffered long periods of very dry weather in the ninth century CE. This drought, however, did not affect all the Mayan area; it was particularly intense in the most populated central lowlands. In effect, ecological degradation was regional and particularly devastating in the most populated region of the Mayan lowlands. This phenomenon is supported by archaeological data which notes that as cities such as Tikal and Caracol were abandoned, sites in the less affected north, like Uxmal, Kabah, Sayil, Labna, and Chichen Itza increased in size and population. It was after the fall of the large central lowland cities, in fact, that northern centers rose to prominence and truly began to flourish. In the Yucatan, Chichen Itza became the dominant center again during the Early Post-classic. Maya traditions and civilization did not, therefore, collapse or disappear. Its cultural heartland simply changed from the central lowlands to the northern lowlands. It is here in the north that Maya civilization continued to thrive well into the Post-classic historic period. Despite these changes, however, one should not assume that every single site in the central region was abandoned between 800 and 900 C.E. In truth, several communities continued to prosper. Baking Pot in the Cayo District was occupied until at least the start of the Late Post-classic 1200 C.E. Tipu, Lamanai and Santa Rita remained important centers that maintained contact with the cities in the north. Later, they would also play pivotal roles in Maya – Spanish relations.

The Post-classic is often viewed as a period of cultural decline. However, it was a time of technological advancement in architecture, engineering, and weaponry. Metallurgy (introduced c. 800 C.E.) came into use for jewelry and some tools, with new alloys and techniques being developed in a few centuries. The Post-classic was a period of rapid movement and population growth, especially in Central Mexico post-

1200 C.E., and of experimentation in governance. For instance, in Yucatán, 'dual ruler ship' apparently replaced the more theocratic governments of Classic times, even as oligarchic councils (government controlled by a small group of people) operated in much of Central Mexico. Likewise, it appears that the wealthy *pochteca* (merchant class) and military orders became more powerful than was apparently the case in Classic times. This afforded some Mesoamericans a degree of social mobility.

The Toltec for a time dominated central Mexico in the 11th–13th century, then collapsed. The northern Maya were for a time united under Mayapan, and Oaxaca was briefly united by Mixtec rulers in the 11th–12th centuries.



Image of Mayapan

The Aztec Empire arose in the early 15th century and appeared to be on a path to asserting dominance over the Valley of Mexico region not seen since Teotihuacan. The Mayan 'revival' in Yucatán and southern Guatemala and the flourishing of Aztec imperialism evidently enabled a renaissance of fine arts and science. Examples include the 'Pueblan-Mexica' style in pottery, codex illumination, and gold work, the flourishing of Nahuatl poetry, and the botanical institutes established by the Aztec elite. In 1502 Montezuma II became the last independent ruler of the Aztec Empire. He fought wars against Tlaxcala and Huexotzingo without success but with the unfortunate effect of generating a profound hatred toward the Aztec in those cities. When Hernan Cortes arrived in 1519 he found willing allies for war against Tenochtitlan. At the time the Aztec Empire was 77,000 sq. miles and still growing. Spain was the first European power to contact Mesoamerica; its conquistadores and a large number of native allies conquered the Aztecs. Arguably, the Post-Classic continued until the conquest of the last independent native state of Mesoamerica, Tayasal, in 1697. Tayasal is located in the southern Mayan lowlands on a small island in Lake Petén Itzá, now part of the Department of Petén in northern Guatemala.

Note: a) For more information about the Maya Civilization go to my Mesoamerican internet site. www.freedom8.net

b) Spelling; Maya refers to the culture, Mayan refers to the possessions of the Maya.

Chapter Six

The African Crossing Which Would Change The World

At the end of the last ice age approximately fifteen thousand years ago the hunters and gathers known as the Natufian discovered what is referred to as the “ The Fertile Crescent .“ The fertile crescent is approximately a semicircle, with the open side toward the south, having the west end at the southeast corner of the Mediterranean, the center directly north of Arabia, and the east end at the north end of the Persian Gulf. The modern-day countries with significant territory within the Fertile Crescent are Iraq, Syria, Lebanon, Cyprus, Jordan, Israel, Palestine, and Egypt as well as the southern fringe of Turkey and the western fringe of Iran. In a section of now northern Jordan the Natufian came across a large field of grasses, home to the eight Neolithic founder crops important in early agriculture. These grasses consisted of the wild progenitors to emmer wheat, einkorn, barley, flax, chick pea, pea, lentil, and bitter vetch. The Epi-Paleolithic **Natufian culture** existed from around 12,500 to 9,500 BCE in the Levant, a region in the Eastern Mediterranean, more closely, the Fertile Crescent.



Fossil of Natufian



The Fertile Crescent

The culture was unusual in that it supported a sedentary or semi-sedentary population even before the introduction of agriculture. The Natufian communities may be the ancestors of the builders of the first Neolithic settlements of the region, which may have been the earliest in the world. Natufians founded Jericho which could be the oldest city in the world. Some evidence suggests deliberate cultivation of cereals, specifically rye, by the Natufian culture, at **Tell Abu Hureyra**, the site of earliest evidence of agriculture in the world. Generally, though, Natufian manipulated wild cereals. It was not long before the Natufian found that one person could harvest in three weeks enough grain to feed a family of four for a year. These grains did not decay and could self-pollinate and cross-pollinate. They could not carry enough to continue their nomadic life style, they needed a place to store them, so they build shelters and remained there in communities of 25 to 50 people, small groups with no privacy.

Nearby there was water, fish, gazelles, goats, wolves, tortious, and hare. They hunted using sling shots and bolas, and carried their own tool kits which contained knives, axes, spear points, a sickle, tools for carving, and smooth stones for throwing. They knew how to tan leather. They made mortars and pestles that were finely made almost too artistic standards. They crushed the grains to make biscuits and pancakes. They still foraged for berries and nuts. Their diet was extremely well balanced. There were other small communities which were part of the group who crossed the Middle Eastern land-bridge, with them. They would come together as part of a larger culture, to trade tools, crops, ideas, and decorations (small carvings and things they wore as jewelry).

Due to a climate change caused by the debated "Younger Dryas", (an atmospheric comet explosion which occurred around 12,000 B.C.E.) there is ample evidence that a mega fauna extinctions occurred causing arid temperatures in the Fertile Crescent. A great famine spread over the land, the people were force make a change because of depletion of resources. They were forced to abandon their settlement and split into small groups heading away from their homes. Pleistocene hunter and gatherers, lithic semi-sedentary hunter-gatherers the Natufian, and the Fertile Crescent is most famous for its sites related to the origins of agriculture. The western zone around the Jordan and upper Euphrates rivers gave rise to the first known Neolithic farming settlements (referred to as Pre-Pottery Neolithic A (PPNA)). The Natufian came across a depleted lake bed where they found the fertile soil to plant, dug the ground, and they took their food stores and planted them, thereby becoming the world's first farmers. This was most likely **Tell Abu Hureyra**. The area was arid and game was scares so they invented the bow and arrow.

They treated their new huts as homes, storing items which were dear to them, and every year they burned the roofs to get rid of bugs. They buried their dead in a hole under the hearth in their home, the dead are all less than 50 years old, but after a while they would dig them up and remove their heads which they would cover with clay to made a resemblance of the person and bring them back into the world. The biggest change for the farmers was more children to help with the work. As hunters and gathers they had to carry the children so they had less. Farming became, as on a treadmill, and there was no turning back. Now they had more people of multi generations, they needed leaders. You now had the beginnings of a social structure. The leaders and their families were given food and supported by the people. The leaders were to organize the communities. This social birth would spread across most of the continent over the next thousands of years.

Meanwhile Early Europeans lived a hard life, in nomadic bands sheltered in their caves, they painted the herds they hunted for thousands of years on the walls. Now they are about face a new challenge, they are about to encounter a new people from a new continent. It will change them and all humans forever.

The journey started from the Fertile Crescent in the Middle East. Here the hunters and gathers lived very well and learned to hunt with dogs. It is not certain if humans tamed the dogs or dogs tamed humans. Dogs were a part of life and death. This relationship with dogs started the hunters and gathers thinking. Why not tame other animals which would supply them with meat and cut down on the time for hunting. But this took a push, the Middle East was hit with a thousand year drought, caused by the "Younger Dryas". In order to save themselves they took possession of the pray, goats were the first. These first herders provided food and protection. Together with goats then came sheep and pigs. Cows became

early beast of burden. For the herders it was a brilliant idea, by keeping the animals alive and breeding them it guaranteed a supply of meat. Now something distinct happened the hunters and gathers and the farmers came together. They each had half of the mystery. The herdsmen had the animals and the farmers had the grain. Now the farming way of life was complete. By comparing the sites where this happened to the sites where they stayed separate archeologist could see the difference animals made to human life. The mixture made for a more prosperous life, people came together in large communities. Extended families could now work together, they were more stable and could now plan for the future. But there was a down side, people and animals were now crammed together. It created a sanitization problem and spread new diseases. The pressure was on to organize. To do that, they needed new towns, organized in a new way. They began to spread down the valley of Jordan as the population increased. The new town were made with straight walls because they were stronger then the round huts they had made in the past. Archeologist have found the first complex where homes were laid in a systemized structure they were currently using. A small plaza was built with a staircase which lead to corridors leading to one and two floor houses with doorways and windows. These new villages bustled with life. The people developed their talents into area of job expertise. Knife carvers collected special rose colored flint for their finest blades. The first potters made containers from clay which was dried in the sun. Archeologist have found the remains of baskets intended for trade and household use, some were sealed with a lining of clay. The same skills were used to develop woven fabrics, to do this they created the earliest piece of technology by inventing the first looms. They developed a soft cloth made of flax and made linen. Households expanded to take in extended families, kitchens were separated from bedrooms, as the need for privacy was born. Architecture was taking on an importance of environment, and they paid attention to the beauty of domestic objects. For the first time we see people that think like us, they are turning their environment into their homes. Nine thousand years ago they invented the first artificial building material, plaster. Every house had to have a plaster floor. Plaster was expensive because it was a manufactured product. The turning of limestone into lime requires a very high temperature, sustained for a long period of time, which requires a lot of fuel. Every time you made a floor of fifty square feet in a house you had to burn six trees. Plaster also began to be used in the age old tradition of bringing the skill of the dead back into the world. Plaster would be applied to the skull to make a resemblance of the dead person instead of clay. When the different generations were represented it proved their connection to the land and their heritage in the community.

Now it was time to move on and make new agricultural colonies. Between eight thousand and seven thousand years ago colonizing farmers spread throughout the Middle East through Turkey and into southern Europe. Their journeys were pioneered by traders who made journeys in small boats. Now the farmer and his wife set out with seeds and a few animals, with the idea of spreading farming and herding to new continents, this would be repeated as time passed. The farmers faced the challenge of new landscapes and new climates. The forest was impenetrable so they moved up the rivers. The hunters and gathers who lived there never found grain or the rite animals to domesticate the shift to farming just hadn't been possible.

One of the traps we should not fall into is to think the people of those times were dumber than we are. As far as we know they had brains exactly like ours, and if they survived in their conditions, they were

probably a lot smarter on their feet than most of us today. Clan by clan across southern Europe the hunters and gatherers were confronted by change. By seven thousand years ago the travelers were in contact with the people of Slovakia. Here the archeologist can see how the hunters and gatherers confronted the challenges. They would meet together to trade the hunters and gatherers would offer horn and furs, the farmers brought the necessary animals and seeds for the Europeans to develop they carried the idea of farming. Two ways of life were coming together, transferring knowledge and forming a bond. The farmers pressed on to find new farming land nearby, the families became neighbors. The hunters and gatherers would soon become farmers. Now the farmers did something that would change the face of Europe forever. They systematically clear the forest, they needed to let in the sun. Techniques varied with the type of forest, some could be brought down with fire. Older heavier forest needed stone axes.

As these farmers developed their lives in Europe they lost touch with the Middle East. Behind them in the Fertile Crescent the old ways of life were in crisis. After two thousand years villages had slowly changed the land. The impact of the village began to impact the environment. All the available wood grown on the nearby hills began to become depleted and the wood became harder and harder to reach. Eventually the supply could not keep up, the wood that would have been renewable became victim to the problem of the goats eating all the saplings. For the first time human communities were destroyed by a problem which they had caused. Towns finally disappeared and the remaining people became nomadic herdsmen, ranging across the exposed highlands. It would take a thousand years before farmers could survive in this landscape again.

In Europe the advancing farmers were still trying to use methods from the Middle East, but this world was very different. The seasons were much more extreme for one thousand years they had no answer to winter. Finally they succeeded with a complete rethinking of their farming methods. They realized that timing was critical, and when to plant, and how to harvest before the winter. They invented a plow. With a plow they could cultivate much large areas of land. It was a new and unique European lifestyle, and spread with amazing speed. In only three hundred years farmers had spread east to Russia and west to northern France. As the farmers moved north they found a new group of hunters and gatherers but the farmer struggled with teaching these people. These northern people had studied their world for five thousand years and left little behind but their graves.

Four thousand years ago the hunters and gatherers will disappear from the human journey, warriors are taking possession of the land. The strangers make a sacrifice to the ocean, the arrow was tipped with bronze, but the most powerful weapon is an idea. They have a chief and they will do what they are told to do. Now they come to Europe with a new society it will create our world with all its glory and horror. The end of the hunters and gatherers started three thousand years earlier far away in the Middle East. The Jordan valley is one of the driest places on earth. This one area was the birthplace of key ideas which will eventually take civilization beyond the Stone Age. What makes the way of life in this area so special, and why is it so creative. The Natufian had placed themselves directly on a major trade route. It leads to two great emerging powers the Sumerians on the Euphrates and the Egyptians on the Nile.

Teleilat el Ghassul is the site of several small hillocks containing the remains of a number of Neolithic (c. 10,200 B.C.E.) and Chalcolithic villages. It is a "type-site", (a site that is considered the model of a particular archaeological culture) of the Ghassulian culture, which flourished in the Southern Levant during the Middle and Late Chalcolithic period (c. 4400 -3500 B.C.E.). It is located in the lower eastern Jordan Valley, opposite and a little to the south of Jericho and 5-6 kilometers northeast of the Dead Sea. This world is a lifelong passion of archaeologist Stephen J Bourke. He has been digging in the Jordan valley for over twenty years. He is looking for evidence of something very unusual, a complex Stone Age economy. Speaking of Ghassul Bourke said; *"What we have here seems to be an olive plantation. The excavations show us the remains of a house, storerooms, grinding stones an endless amount of material 90% or more are crushed olive pits and pieces of olives. It appears to be clearly an old world olive oil processing station. We are probably looking at once was an olive grove all the way up to the top of this hill."* Bourke believes the cultivation of olives was the crucial spark for growth of Ghassul. Once a network of olives and fields for crops, spread out many kilometers from Ghassul across the hills and into the valley. We could say that these people were the first horticulturist. Not only are they developing olives but also dates and figs, these are the first tree farmers in history. The pioneering of horticulture will keep this town going for 1500 years of cultivation and trade. They left a lot of rubbish, it's all Bourke needs to reconstruct their way of life. At its peak Ghassul was home to thousands of people. This was a large town for its time. Visitors must have thought this was the height of sophistication. Its crowded streets bustled with light and colors. Imports came from as far away as Yemen and Afghanistan, with luxuries like perfume and lapis. Here you could show people your wealth. This was a place where you could get ahead and become a person of means. The goods leaving Ghassul were created in mass supplies commodities like olives, salt and lentils. Olive oil was squeezed for all it was worth, used for cooking, and to lighting of the lamps at night. It was the "**Liquid Gold**" of the Middle East. We are talking hundreds of liters of oil, industrial vats of oil. All this locally produced oil and grain somehow had to be packaged. It was the Ghassulian that came up with the answer. It was brilliant and everyone would adapt it throughout the world. They created the mass produced clay pot, dried in a fire, from beautifully decorated home ware to crudely made storage jars. Some of these jars were one and a half meters tall. The artifacts are typical of the Ghassulian culture. This range of artifacts encapsulates the key points of this new culture, and the new way of acting economically. Trade was at the center of this new way of life. They grew to sell, they used sheep for meat and milk, and they learned to process the profitable wool. One of the accidental bonuses of changing from linen to wools is that wool holds dye. For the first time you have a society that so clearly sees product differences. Of course the more elaborate the dies the more costly. If you are rich, in a society which is pre-literate, the best way to differentiate yourself is through the clothes you wear. This is a competitive society, fashionable and status conscious, people were calling attention to themselves as individuals. Ghassul survived on trading food but this trade depended on some form of preservation, the answer was rare and valuable. Salt is a commodity that is very costly, it's the "**White Gold**" of pre-history. In Ghassul you have the highest deposit in the entire Levant right on its doorstep. The wasteland ran down to the waters of the Dead Sea. The beaches were already an ancient salt mine. Salt make the preserving of foods like olives and fish possible. Now they could be trading to new markets hundreds of kilometers away. With donkeys they could send large heavy loads to their partners as far away as Egypt and Mesopotamia. Once you produce industrial quantities you have to keep track of it, for the first time people are not dealing with small amounts of

materials that they are producing within their households for use by their household and their villagers. They are producing large numbers of goods. Amazingly they ran their whole economy with no money and no numbers. When you are trying to work out how these commodities are to be moved around and who is going to get them, the beginning of record keeping without money and numbers is emblematic. For a measure of grain you develop a small symbol, for a measure of sheep you develop a symbol, you develop a symbol for each commodity. These tokens are small clay counters, and earliest records, record from what we can tell are records of tokens kept together in balls of clay and sealed with a stamp seal of one of the representative authorities. When the goods have been delivered, the contractors checked by cracking open the clay balls. This is the precursor to the bureaucratic system of later ages. The invention of these tokens laid the very first foundation for written language. Perhaps the most remarkable thing about this way of life was the location. How did they survive in the middle of the desert? Everything in the Middle East is about water. All the agriculture exist only because the requirements of water. Key issues in the south Jordan valley where Teleilat el Ghassul is located there is very little rainfall. To live, flourish and develop, the major obstacle in this part of the world, you had to add water. The only way you could add water was through irrigation. The Ghassulian were extraordinary pioneers. Faced with a hostile environment they did not surrender, instead they changed it. They built a whole network of irrigation channels were crafted to follow the slope of the hills. It was an enormous imaginative achievement. These canals are many kilometers long. This is not something that ten men could do, this is something that hundreds if not thousands of people had to do. For the first time ever the Ghassulians brought everyone together on a single large project. It is commonly thought that the pyramids were the first great evidence of complex society, but at Ghassul two thousand years before the pyramids we have clear evidence of organized society in Egypt. The system must have been controlled by the local leaders, an elite of families, enriched by trade. Thousands of workers had to be organized in a peaceful society. There is no evidence of armies or scores of slaves. So how did the leaders inspire the ordinary people to follow their plain? The answer is painted on a wall. This fresco is now called the star of Ghassul.

The Star of Ghassul

Plan of Domestic Quarters by Andrea Polcaro



It was found on a wall of a family shrine, this motif appears nowhere else. A central star glowing with color groups of masked figures with imaginary heads. It is a Stone Age dream. Using the Ghassulian art, Stephen Bourke forms a picture of the town's social order. It was held together by religion and this religion had a social purpose. The priest began to set themselves off as something special, something elite. These people tell you what the gods want done, and of course if they are in the service of a great priestly family, a great agricultural family, these are the people that allow society to run, in a way that the powerful families dictate. What we are seeing here is the transition from personal gods to state gods. From the god of your home, to the god of you clan, to the god of your Seek. In a nutshell what we think goes on, is that people are able to be mobilized by their leaders, because they believe that god sanctioned it. That god has willed it, indeed the god demanded it. Water is the center of their lives and their faith. It helps the stars envision order, they worship order and came together as a society, that we are united in faith.

Far away in Europe the Stone Age farmers were now a part of the landscape. Here on the Atlantic fringe the vast natural world was full of mystery. People's religion reached out to the elements, the sun, the moon, the stars that shone on the life giving earth and water. They were awed by life and death, and the change in seasons. They lived together in small communities. There believes sprang from the incoming families of new, farmers and hunter and gathers. These people built a grand project. Over the next two thousand years they erected massive standing stones in clearings across Europe, some monuments took generations to construct. Later another wave of incoming farmers brought in different believes. They smashed the great stones down, turning them into underground burial chambers.



Here each person was laid to rest with the bones of their ancestors; they were part of the whole, united in death. It's the creation of another world inside a little hill, it's where you bury your ancestors and your ancestors are in a different world, you approach them through a passage, this is why these tombs are often referred to as passage tombs. The passages are aligned with the rising sun at particular time of year, mainly at the winter or summer solstices, when streams of sunlight fill the passage. These are where rituals take place. The separate chamber, where the bones were kept, is approached by another long chamber. People go in to commune with their ancestors. You must not think of these places as a repository of bones, but as an active house of worship. The participants of the rituals are communicating with their ancestors. They were using little brassieres for burning something you inhaled, and it wasn't

something for a nice smell it was something inhaled as a mind altering substance. These are very powerful circumstances, you are in total darkness at the end of a tunnel, surrounded by their bones and this must have been an emotionally powerful experience. To these people individuality in death didn't matter. It all came to an end and there are no surviving members of this tradition. People just don't do it anymore, it was a magnificent experiment and it blew over.

Back in the Middle East, a revolution was starting which would end this vision of community forever. Human identity would never be the same again. In Ghassul in southern Jordan green malachite ore was exposed by flash flooding in a riverbed. Green malachite is one of the sources of copper. The thing that is fairly clear about malachite ore is there is a lot of it around in Ghassul. It is one of the prominent rocks, anyone who had a fire pit made with a green rock in it is going to realize that this stuff melted at a pretty low temperature. It would not take very long to fashion this melted stone into a verity of forms, and better still you could do it over and over again. The miners were inspired by the green color, they ground it into beads for jewelry without smelting it. But they had customers from the other side of the Dead Sea, who wanted huge quantities. The Ghassulians had a monopoly, the people living in the Beer Shiva valley, about 150 Km. away would send their miners and their traders over to Ghassul to procure ore. They would mine the ore, put it on donkeys and bring it across the desert to the Beer Shiva valley. These tribes had a secret. They knew the exact way of heating it and creating something fabulous. By super heating the ore with blow pipes they created the first smelted metal.



Copper was used to make everything from ornaments to daggers, not only that it could be endlessly recast to other shapes. We are finding copper, crucibles and the nozzles of bellows abandoned everywhere. Which shows they are making copper objects on site where they live a long way from any green malachite. It is over in Ghassul Jordan, the other side of the Dead Sea quite a long way away, several days walk. There we have people who are mining and smelting copper and there is hardly anybody living there to use this stuff. Again we have a network, living in the southern Israel, who have to get the materials from the people in southern Jordan. Smelting copper was the first metal and very exotic, it was a prime trade item and the prime traders were the Ghassulians. Occasionally people hid away the kind of shapes they were making not the axe and chisel and the mundane thing, but things that were special things. There is a couple of sites where we have the most astonishing hoards of extraordinary objects. It is impossible to make out what these thing were used for, they seem to be

emblems and symbolic things based on top of staffs, and we have simply because someone wrapped them up in a reed mat and hid them away and never came back to collect them. There is something desperate about this hoard, it was dumped in a cave so deep it would be hidden for six thousand years. Ghassul was in trouble. The powerful neighbors Egypt and Mesopotamia put together massive irrigation schemes of their own. Now they had their own olives and salt, suddenly they stopped trade with Ghassul and this wonderfully complex culture disappeared within one hundred years. Most of the Ghassulian culture died with it, the wall paintings and more elaborate organizational features. What seemed to survive was the more specialized productive agricultural economy, speculation has had it, what we see is the elderly wedded to the land and old religious values seemed not to survive. The new belief wedded to agricultural surpluses and has been speculated as the economy comes into stress as environment collectors those people that cleaved to the ideas that god could be made to provide a decent landscape must have suffered when that landscape didn't respond to the repeated offerings.

Ghassul was one of the first great trade societies, to survive took their skills outwards showing how to live trade, rather than farming. It was a dazzling idea which propelled the Middle East towards Europe.

At that time Europeans were still living a very simply. They farmed together and grew only what they needed. Individual achievement was not part of their culture when they died they joined their ancestors in a communal burial chamber. But then a new mysterious culture appeared across Europe with a very different kind of grave. Two or three hundred years ago when archeologist first began to excavate some of the round burial mounds that are to be found in England, or Scotland, or Scandinavia they discovered very characteristics, booths individually, unlike the collective megalithic stones tombs that had proceeded them. These burials had all the bones articulated in place and they were buried with their own personal equipment, a drinking cup, and their fighting equipment.

The **Bell-Beaker culture** sometimes shortened to **Beaker culture**, (c. 2900–1800 B.C.E.) is the term for a widely scattered archaeological culture of prehistoric western and Central Europe, starting in the late Neolithic or Chalcolithic and running into the early Bronze Age. The Beaker people were the traders in Europe. Using pack horses they brought a new set of ideas and precious objects and turned the place upside down. They were able and trade and organize supplies in small quantities. The Bell Beaker culture is known for not only a particular pottery type, but also a complete and complex culture involving metalwork in copper and gold, archery, specific types of ornamentation and shared ideological, cultural and religious ideas. It can be seen initially as the western equivalent of the contemporary Corded Ware culture, The Bell Beaker expanded eastwards over parts of Central and Eastern Europe where Corded Ware previously thrived. In parts of Central and Eastern Europe, as Far East as Poland, there is a progression from Corded Ware to Bell Beaker. It has been suggested that the beakers were designed for the consumption of alcohol, and that the introduction of the substance to Europe may have fuelled the beakers' spread. Beer and mead content have been identified from certain examples.



A tall drinking cup held in two hands and passed around between the participants of the drinking circle. However, not all Beakers were drinking cups. Some were used as reduction pots to smelt copper ores, others have some organic residues associated with food, and still others were employed as funerary urns. They were used as status display amongst divergent elites. The Beaker people brought the spirit of change that shocked the state owned Stone Age line. They believed much more in the value of individual. They came as traders and staid to farm, building their own characteristic villages. What's more they brought the art of smelting to the north. They added a vital secret from the Middle East trading route. Mix some tin into copper and you get bronze. This process was so important the smiths had the richest graves.

The Bronze Age consist of weapons that you couldn't make effectively in stone, daggers would increasingly become longer and longer and would become swords. **Bronze Age swords** appeared from around the 17th century BC, in the Black Sea region and the Aegean, as a further development of the dagger. They were replaced by iron swords during the early part of the 1st millennium BCE.



From an early time the swords reached lengths in excess of 100 cm. The technology to produce blades of such lengths appears to have been developed in the Aegean, using alloys of copper and tin or arsenic, around 1700 B.C.E. Bronze Age swords were typically not longer than 80 cm; weapons significantly shorter than 60 cm are variously categorized as "short swords" or daggers. Before 1400 B.C.E. swords

remained mostly limited to the Aegean and southeastern Europe, but they became more widespread in the final centuries of the 2nd millennium B.C.E., to Central Europe and Britain, to the Near East, Central Asia, Northern India and to China. Spear heads that could be effectively fixed on the ends of poles. So the whole nature of armament was transformed by the introduction of a really effective metal. These weapons exude power they are rare and dangerous. We are seeing the birth of military elite with the power to get exactly what they want. Yet the weapons rarely show signs of use. Perhaps they were purely decorative jewelry again as a symbol of wealth. And they had another power symbol the mounted horse. The pack animal was now being ridden. The owners towered over everybody and could move fast and cover huge distances. Horses were expensive to keep. A single horse eats more than a family, only the elite could afford to keep. This accumulation of symbols suggest the people were preoccupied with power. They were developing a new kind of society with leaders and followers. The leaders dominated community life. Most farmers who produced life's basic necessities were the followers. This new social dynamic created its own momentum for change. Within wealth the elite families could support specialized crafts. The used materials like wood in a more complex ways. And they learned how to use the most imaginative invention of all; the wheel. Like bronze this invention came from the Middle East. In a muddy landscape without roads it transformed the movement of large loads. Trade was beginning to move from Europe back to the Middle East. It started from sea weed on the edge of the Baltic Sea. It contained the one thing that came from nowhere else, and would go as far as Egypt. In the Bronze Age you have the first example of a material that that traveled from one sea to another. It must have been precious, it must have been light weight, it must have precious in relation to its weight, indeed it was, that substance is amber. Passed down tales tell us a river of tears flowed at the beginning of times into the sea turning to amber. The clear tears of the innocent and the dark red tinted by the evil and corrupt. It's the sap of a fossilized pine tree forest, they grew when the sea was dry land and glaciers filled the valley. Supplies of copper and tin moved northward and southward to balance that trade, first of all came amber, then all the other forest products. The daily farmer's life of the community was bound by a network of sharing an obligation, milk, grain, and labor went back and forth. In a give and take the elites offered social organization and protection. Both safety and danger came from the armed worrier chief. Communities expanded their farmlands and knowledge under the faint shadow of violence. These farmers were now able to grow and breed the sheep which now offered a touch of luxury. The fleece was different, the open straight fibers of the earlier sheep were now curly and dense. It is the wool we know today to use it they developed the gentle craft of spinning. Clothing would now be much warmer for this northern climate. Customers wanted status so spinners turned to the expert color dyers. They extracted their dyes from the plants in the forest. These people were healers whose knowledge of remedies was the beginning of medicine. The new soft wools were spun into luxury clothes beyond the family they could only be afforded by the wealthy. The clothes were so loved people wore them into the next world. They were buried as individuals and took with them the symbols of their identity. Their cloths and ornaments. In these magnificent burials discovered in Demark the dead were placed in oak coffin hacked from a single tree trunk. Some of the spectacular individual burials come from the Bronze Age Europe five thousand years ago and we see people buried in woolen clothing it's very simple in many ways it's rustic but the height of sophistication, probably only as the leaders could be dressed entirely in wool clothes. And you see for the first time in a way that we could only imagine what they looked like and how they might have acted and we see some specific human

motivations. The coffin was placed on stones above the ground these funerals of the powerful were elaborate ceremonies. Later a great mound of earth would be built as a tomb. It was there in memory of a person whose name was expected to live on. Right across from northern Europe archeologists have discovered ceremonial pools many are guarded by mother goddess figures important to the first farmers. From the beginning of human habitation people have made offerings. Now the worriers add thousands of new objects. Some of them show us that they were seeing their spirit world in a new way, nature too was an expression of power. The sun god rose each day drawn proudly across the sky by the horse. Across the Middle East the chariots of the Hittites and the Egyptians brought warriors and kings. The story of the first farmers ends with the armies and the rise of the first cities. And in Europe we see the first recorded images of violence. The farmers were running out of available land. There is evidence of boundary fences. Stockade villages were beginning to appear. The last hunters and gathers collided with the worriers. The hunters and gathers way of life disappeared forever.

In **the Iron Age** there was a dramatic increase in the appearance of metals. The smiths discovered iron which swept Europe. Characterized by an elaboration of designs in weapons, implements, and utensils. It revolutionized farming with cheap effective tools and gave rise to the great **Iron Age** civilizations. It thrust the sword and the solder on the world. All of this was made possible by the first farmers. They found the fertile landscape and learned to build communities when the climate collapsed they survived and invented farming. They built thriving towns and developed the art of trade their story to Europe and transformed the northern world. They invented weapons and leaders and paid the price. They made humanity into what we are today.

The Iron Age is the final epoch of the three-age system, preceded by the Stone Age and the Bronze Age. It is an archaeological era in the prehistory and proto-history of Europe and the Ancient Near East, and also to other parts of the Old World. In the Ancient Near East, this transition takes place in the wake of the so-called Bronze Age. The technology soon spreads throughout the Mediterranean region and to South Asia. It further spread to Central Asia, Eastern and Central Europe is somewhat delayed, and Northern Europe is reached still later, by about 500 B.C.E.

Note: All archeological dates in history are ambiguous at best, in my opinion. There are too many factors to date a period or specific time for anything that is not documented in that period of time. They should only be used as a guide to what may have come first. As current sciences progress we are learning dates of the past in prehistory are older than we thought, in most cases.

