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Ancient Civilizations of North America

Course Guidebook

Professor Edwin Barnhart
Maya Exploration Center



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Edwin Barnhart, PhD
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Edwin Barnhart is the Director of the Maya Exploration Center. He received his PhD in Anthropology with a focus on Archaeology from The University of Texas at Austin in 2001; his dissertation was entitled *The Palenque Mapping Project: Settlement Patterns and Urbanism in an Ancient Maya City*. Dr. Barnhart has more than 25 years of experience as an archaeologist, explorer, and instructor in North, Central, and South America and has published more than a dozen papers and given presentations at eight international conferences.

Dr. Barnhart's involvement in Maya studies began in 1990 as an archaeological intern in the ruins of Copan, Honduras. In January of 1996, he was invited to return to Copan and help a team from the University of Pennsylvania excavate the early acropolis and the tomb of the city's lineage founder. From 1992 to 1995, Dr. Barnhart studied New World art, iconography, and epigraphy (hieroglyphic translation) under the late Dr. Linda Schele at The University of Texas at Austin. During that time, he intensively studied the Andean culture, writing a number of papers about Moche shamanism as seen through art and iconography.

In 1994, Dr. Barnhart began working as a surveyor and University of Texas field school instructor in the jungles of northwestern Belize. After finding numerous small villages, he discovered the ancient city of Maax Na (“Spider-Monkey House”), a major center of the Classic Maya period. Dr. Barnhart mapped more than 600 structures at Maax Na between 1995 and 1997 before moving his research focus to Chiapas, Mexico. He received his master’s degree in Latin American Studies in May of 1996 and began teaching anthropology classes at what is now Texas State University the following September. He taught archaeology and anthropology classes there until 1998, when he was invited by the Mexican government to direct the Palenque Mapping Project, a three-year effort to survey and map the unknown sections of Palenque’s ruins. More than 1,100 new structures were documented, bringing the site total to almost 1,500. The resultant map has been celebrated as one of the most detailed and accurate ever made of a Maya ruin.

In 2003, Dr. Barnhart became the Director of the Maya Exploration Center, an institution dedicated to the study of ancient Maya civilization. He has led dozens of student groups on journeys through Mexico, Guatemala, Peru, and Bolivia.

Dr. Barnhart has appeared multiple times on the History Channel, the Discovery Channel, and NHK (a Japanese public television network). In addition, he is a fellow of the Explorers Club and teaches University of Texas travel courses for college professors on ancient Andean and Mesoamerican astronomy, mathematics, and culture.

Dr. Barnhart’s other Great Courses are *Lost Worlds of South America* and *Maya to Aztec: Ancient Mesoamerica Revealed*. ■

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ANCIENT CIVILIZATIONS OF NORTH AMERICA

Centuries before European contact, large parts of North America had cities of thousands of people living in finely built houses, palaces, temples, and wide public plazas. There were road systems connecting cities across hundreds of miles. There were kings and councils, architects and astronomers, great artists and musicians—virtually every yardstick the Western world uses to define civilization.

Unfortunately, much of that history has been difficult to trace. A lack of written evidence is one problem for studying some areas, as are the damaging impacts of the Europeans' arrival on the continent. However, all is not lost, as is shown by this course's content. It draws on available written accounts, evidence such as DNA studies, and work from archaeologists and other scholars.

This course will start by looking at human migration into North America. Next, the course moves toward Paleo-Indian times and how cultures called Clovis and Folsom roamed early North America in search of megafauna—that is, mammoths, mastodon, and giant bison.

When all the megafauna died off, North America's population entered the Archaic period, another area of focus for this course. Some cultures were still living the Archaic lifestyle at European contact.

The lion's share of this course will be about the Mississippians and American Southwest peoples. Then, the course wraps up with a discussion of the complex hunter-gatherers of the Pacific Coast, the bison hunters of the Great Plains, and the peoples of northeast North America, where the famous meeting between the pilgrims and Native Americans took place. ■

LECTURE 1

THE UNKNOWN STORY OF ANCIENT NORTH AMERICA



This lecture serves as an introduction to terminology and approaches that will appear in the rest of the course. It starts with an overview of ancient cultures and then moves on to discuss dating techniques scholars use to study them.

ANCIENT CULTURES

- ◆ The Mississippians left impressive evidence. They built massive mounds, sometimes the size of mountains. Today they are ruins, but in their heydays, they were all covered with hard-packed plaster surfaces and painted. In essence, they were once pyramids.
- ◆ The Mississippians also built hundreds of acres of public plazas, sport courts, and massive fortified walls. In their time, communities of thousands of people were living in and around them. Millions of Mississippian people were farming, creating amazing art, and devotedly practicing a shared religion.
- ◆ In the American Southwest, completely independent of the Mississippians and their ancestors, another civilization grew and thrived. It's more accurate to say five separate but related civilizations were thriving out there, but only the Ancestral Pueblo endured past European contact.
- ◆ The Ancestral Pueblo were master architects, engineers, and masons. By their height in 990–1150, they were building multi-story houses and adobe apartment complexes capable of housing hundreds or thousands of people.
- ◆ Their neighbors—the Hohokam in the deserts of Arizona—put their brilliant minds to the task of designing a massive irrigation system that turned hundreds of thousands of acres of their arid landscape green with fields of corn and cotton. When they faded away in the late 1300s, the Hohokam left behind hundreds of miles of irrigation canals.
- ◆ Aside from those two big groups, another area of focus for this course will be complex hunter-gatherer societies. They had political and social systems were every bit as nuanced as anything in medieval Europe.



Copan Mayan ruins in Honduras

DATING

- ◆ In terms of archaeology, a growing number of scholars in the field have opted to go with BP, meaning “before present,” as a way to discuss historical and prehistorical dates. It’s tied closely to the invention of carbon-14 dating. The present in this sense means January 1, 1950. Willard Libby, the inventor of carbon-14 dating, developed his technique in the years around 1950, and that’s in large part why scientists agreed upon that year.
- ◆ Though this course’s professor’s career has been primarily focused on the archaeology of civilizations, some of this course goes back way beyond that time. For that reason, the course will set an arbitrary line at 5,000 years ago. If the course is discussing something older, it will use BP. If it’s younger, the course will generally stick with calendric dating.
- ◆ The primary method that archaeologists rely on is carbon-14. It’s a method of dating dead organic material. Organic life on Earth absorbs carbon from the atmosphere. Ninety-nine percent of it is carbon-12, and a trace amount is a radioactive isotope called carbon-14. From the moment organic matter dies, carbon-14 starts to decay at a measurable rate. That’s how researchers date roughly how long ago it died.
- ◆ There are frustrating problems with the carbon-14 method. It has a wide margin of error, samples are easily contaminated, its rate of decay is not constant, and there’s an age limitation for samples. Carbon-14 has a margin of error that depends on the age and material of the sample used. At best, it’s plus or minus 50 years, and in some cases, it’s more like plus or minus 200 years. The upper limit of carbon-14 dates researchers can detect is about 50,000 years ago.
- ◆ There are a host of other dating methods available, but they have their own limitations, such as whether the datable material is present at the site or the range of dates the method can detect. Tree-ring dating, called dendrochronology, can produce a date down to the year, but only in places where researchers can develop the sequence.

- ◆ One method that provides hope is optically stimulated luminescence, or OSL for short. It's a method of dating sediments and soils. They, too, hold radioactive isotopes that decay over time. OSL isn't subject to the same kind of contamination that carbon-14 is. Its date range is much better: up to 350,000 years ago.
- ◆ Its margin of error is 5 to 10 percent of the sample's age, which makes it more inaccurate the farther back it goes. However, that comes out to plus or minus 50 years every 1,000 years, which is no worse than carbon-14 for dating ancient North America's range.
- ◆ This course presents hundreds of dates. Viewers, listeners, and readers should take them all with a grain of salt, owing to the aforementioned dating challenges. Learners should also try to focus less on a strict chronology of events in history and more on its general trends. Archaeologists can get very caught up in dates, but their primary goal is to understand human lifeways, not to create timelines.

QUESTIONS TO CONSIDER

- 1 Do the terms we use matter? Why or why not?
- 2 Given the carbon-14 dating problems outlined in this lecture, do you think we should be skeptical of published chronologies?

THE FIRST HUMAN MIGRATIONS TO THE AMERICAS

LECTURE 2



The facts about human migration into the Americas has been debated for over a century, but DNA studies have recently revolutionized the field. This lecture talks about the who, when, where, how, and why of North America's first human populations.

WHO ARRIVED?

- ◆ Today's DNA studies are very confident in saying Asia was the origin of Native American populations. They arrived as fully developed *Homo sapiens sapiens*. DNA studies are also very confident that there was only one entry point into the Americas: through the Bering Strait.
- ◆ A haplogroup is a genetic population group determined by a common ancestor on the patriline or the matriline. Each group is assigned a letter, and refinements are noted with additional number and letter combinations. Certain haplogroups, or groups of people that share a common ancestor, are unique to ancient North America.
- ◆ Two kinds of DNA are studied for ancestry markers: Y-chromosome DNA for male-line ancestry and mitochondrial DNA for female-line ancestry. Each has a great ability to detect Native American ancestry. It's still an evolving science, however, and new discoveries sometimes make the picture less clear.
- ◆ Haplogroup Q is a predominate form in Native Americans. Haplogroups A, B, C, D, and X are all found predominately in the Americas and Siberia. Haplogroup D is especially important, as it has been determined to be the original population group who crossed Beringia, the land bridge in the Bering Strait. Haplogroup D1 has been tracked to a mutation that happened in Beringia just as humans first crossed. American haplogroups A, B, C, and X evolved later.

TIMING

- ◆ In 2007, the remains of a 12,000–13,000-year-old teenage girl were found in an underwater cave in Yucatán, Mexico. Named Naia, her DNA was studied in 2014, revealing that she belonged to haplogroup D. Her ancestry was Asian, from Beringia.

- ◆ In 1968, a nearly 13,000-year-old boy skeleton was found in Montana at the Anzick site. A 2014 study found that his haplogroup was a subset of D1, which is commonly found in South America. This points to an important link between North and South American ancestry and Beringia.
- ◆ These haplogroup D1 findings led to a reanalysis of the famous Kennewick Man, whose 9,000-year-old remains were found in 1996 by the Columbia River in Washington. Native American groups blocked the study of Kennewick Man for years, but his unresolved ancestry led US courts to allow it.
- ◆ In 2015, the journal *Nature* published that his Y DNA is Haplogroup Q-M3, and his mitochondrial DNA Haplogroup is X2a. Both are exclusive to Native American populations. That solidly identified him as Native American, descended from Asian populations. In 2016, a mandate cleared the way for his return to the Native Americans of Washington State.



Kennewick Man

MIGRATIONS

- ◆ The first populations of the Americas came from Asia and then evolved into distinctly Native American haplogroups. The earliest of those haplotypes was D1, and it made it all the way down into South America. Only modern humans, *Homo sapiens sapiens*, have been found in the Americas. No Neanderthal or *Homo erectus* skeletons have even been found in the Americas.

- ◆ National Geographic geogographic studies conclude that *Homo sapiens* left Africa roughly 60,000 BP. They competed with Neanderthals in Europe and Asia, and made it to Siberia roughly 40,000 BP. DNA studies from Texas A&M University suggest multiple migrations.



Neanderthal DNA extraction

- ◆ The first wave entered Beringia 30,000 BP, staying and mutating into unique haplogroups. A second wave entered 16,500 BP; they mixed with the local population and quickly migrated south, all the way to South America. A third wave possibly entered Beringia 15,000 BP.
- ◆ These DNA studies are very exciting, but it's a young and still-developing field. Thousands of subgroups of haplogroups are being found, which complicates the picture of ancient migrations. While most researchers believe strongly in the Beringia crossing theory, it remains a theory.

WHERE DID THEY GO?

- ◆ Tracking movement of ancient peoples across North America is difficult. Very old sites exist all over the Americas, with no clear epicenter. There is no direct geographic line to follow from youngest to oldest. In fact, the oldest widely accepted site is still Monte Verde in South America. Monte Verde dates to 14,800 BP, with deeper contested layers going back to perhaps 18,500 or even 33,000 BP. The problem is the lack of human remains to test.
- ◆ Strangely, many of the oldest, best sites are on the East Coast of the United States. This is far from both Beringia and South America. Though the current DNA studies are against it, the quantity of East Coast sites keep the theory of a migration from Europe known as the Solutrean hypothesis alive.
- ◆ Important sites exist in other parts of the United States. Paisley Caves in Oregon, known since 1938, is one example. Human hearths and extinct animal bones have been found inside the caves, but the most important evidence is fossilized excrement, known as coprolites. The dates from this site came back as 14,300 BP. University of Copenhagen DNA studies say the humans were of Siberian ancestry, but this is contested: A 2013 study asserts that it's not human.

- ◆ Texas is also a great place for paleoarchaeology. The Central Texas Hill Country has many natural springs, making it an ideal living place for both animals and early man. Currently, the oldest site in Texas is Buttermilk Creek. Keep in mind that North America is a huge place, and researchers have searched a fraction of a percent of it for evidence of its first inhabitants. New discoveries will be ongoing.



Natural spring in the Texas Hill Country

HOW AND WHY?

- ◆ This lecture concludes with a discussion of perhaps the hardest questions: How and why did humans migrate to North America? In 1959, two leg bones were found on the Channel Islands of the west coast near Santa Barbara, California. The individual was named Arlington Springs Man, and he was later dated to 13,000 BP.
- ◆ The most important aspect of Arlington Springs Man is fact that this individual lived some 26 miles off the mainland, so had to know how to use a boat. Arlington Springs Man is an important piece of supporting evidence for the coastal migration theory. The idea is that humans used boats to skirt the Pacific Rim.
- ◆ As for why people went on the move, most theories of migration have to do with negative circumstances: climate change, environmental stress, safety fears, or fleeing from hostile groups.
- ◆ Regarding Africa and the world's first human migrations, some suggest that drought may have forced population splits and migrations. Others say new tool technologies may have given them the ability to migrate, and they took advantage of it. Yet others say it was a quest for new food sources as population numbers increased.
- ◆ For the spread into Siberia and then across the Bering Strait, the majority of the field continues to favor the theory that early Americans followed the megafauna across Beringia into the New World. This is a very function-based argument, but it remains the most logical from a survival perspective.

QUESTIONS TO CONSIDER

- 1 Do you have faith in the validity of ancient DNA studies? Why or why not?
- 2 If you were to hunt for North America's earliest human skeletal remains, where would you look?

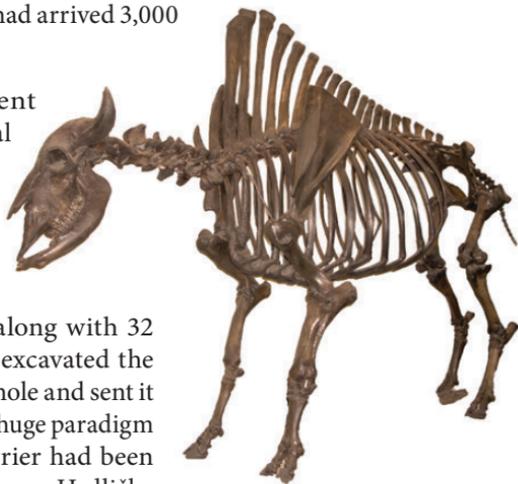
CLOVIS MAN: AMERICA'S FIRST CULTURE



In 1908, a horrible flood hit Folsom, New Mexico, killing at least 15 people. George McJunkin, a black former slave turned cowboy, was surveying the damage to his ranch when he came upon a giant skeleton in a washed-out gully. McJunkin was a self-taught historian and geologist, and he saw a stone projectile in the skeleton's ribs, meaning the creature had been killed by a human. That was the first proof of truly ancient Americas.

THE SKELETON

- ◆ The skeleton was that of a *Bison antiquus*, which went extinct about 10,000 years ago. It was eight feet tall, 3,500 pounds, and 25 percent larger than modern bison. McJunkin knew what it was, but no one believed him. Two prominent archaeologists—William Henry Holmes and Aleš Hrdlička—denied his claims. The prevailing thought was that humans had arrived 3,000 years earlier.
- ◆ In 1918, McJunkin sent samples to Denver's natural history museum. Later, in 1926, Jesse Figgins excavated the gully site, finding tools and Folsom points—which were projectile points—along with 32 butchered bison. Figgins excavated the bone-and-point section whole and sent it to the museum. This was a huge paradigm shift: The 3,000-year barrier had been shattered by at least 7,000 years. Hrdlička had to yield.
- ◆ Many archaeologists confirm the Folsom find. The event inspired the hunt for more ancient sites, as archaeologists competed against each other for the next big discovery.



THE CLOVIS FIND

- ◆ In 1929, amateur archaeologist James Ridgley Whiteman made the next big discovery. He found the Clovis site near Blackwater Draw in New Mexico. Archaeologist Edgar Howard raced to the site, beating his colleagues to the rights to excavate.
- ◆ The site was a large campsite with multiple episodes of occupation and mammoth bones. There was also evidence of other extinct animals, like dire wolves and sabre-toothed cats. Many Clovis points—another type of projectile point—were found at the site, and they became the model for identifying similar sites. They were named for the nearby town of Clovis.
- ◆ All in all, humans' appearance in the Americas had been pushed back 10,000 years. Clovis points were the oldest known types, followed by Folsom points. The Clovis point was made for the specific purpose of hunting megafauna, mostly mammoths and mastodons, during a period known as the Paleo-Indian times. That period came to an end at the same time the megafauna disappear through extinction.



Clovis points from the Rummells-Maske Site

DISTRIBUTION OF CLOVIS CULTURE

- ◆ Tracking the origin of Clovis culture is difficult. They definitely did not come from Siberia. Pre-Clovis evidence in North America goes back way before the first Clovis point, and there is no evidence of Clovis points in Asia. Clovis culture is an American original.
- ◆ At present, researchers have only three actual human remains from Clovis times: coprolites from Paisley Cave in Oregon, the remains of an Anzick child from Montana, and Arlington Springs Man from the Channel Islands in California. All three have solid DNA evidence saying their haplotypes were from America rather than Siberia or Europe.
- ◆ Clovis technology, being the diagnostic point, is very widespread. It reaches coast to coast and from Alaska to South America. This denotes an amazing level of communication, travel, and trade. Over 10,000 Clovis points have been found in over 1,500 separate locations throughout North America.
- ◆ Research is now saying that the Clovis evidence all comes from a very narrow window of time: 13,300 to 12,700 BP, or just 600 years. The epicenter of Clovis sites is in the eastern and central United States, but the oldest sites are in Texas and northern Mexico. El Fin del Mundo in Sonora, Mexico, found in 2007, dates to 13,390 BP. The Aubrey site, near Denton, Texas, has similar dates.
- ◆ The concentration in the eastern United States encourages the archaeologists who believe the Solutrean hypothesis, which suggests a culture thriving in Europe until 17,000 BP crossed the Atlantic to populate North America. Solutrean tools are similar to Clovis tools, but they have no flutes and two pointy edges; these were knives, not projectile points. Researcher Dennis Stanford cites the similarity as proof of the Solutrean hypothesis, but most disagree.

THE CLOVIS LIFESTYLE

- ◆ Clovis ways of life were complex and differed from place to place. The traditional view of Clovis culture is a life dedicated to the pursuit of megafauna. However, researchers like David Meltzer point out that only 14 of the hundreds of known Clovis sites have mammoth bones. In fact, the most common animal bones found at Clovis sites are turtle bones.
- ◆ The few larger Clovis campsites researchers have to study suggest that they were not just hunting megafauna, but all sorts of animals. They were also gathering and using a wide variety of plants. In addition to Clovis points, there are scrapers, choppers, axes, knives, shaft straighteners, and needles for sewing animal hides at larger Clovis sites.

GAULT

- ◆ The largest known Clovis site is the Gault site in Texas. Michael Collins started a major project at the site in 1998, which found a multigenerational Clovis campsite. It was the size of six football fields.
- ◆ Gault has diverse evidence of Clovis life. There are thousands of artifacts, including axes, scrapers for hides, carving tools, and plant-processing tools. The most intriguing artifacts at Gault are the incised stones, which are hand-sized stones with lines carved on their surfaces. These may have been North America's first art form.
- ◆ The Gault site has helped expand researchers' understanding of Clovis culture. They were travelers and hunters, but also capable of sedentary life. They adapted to their environment and stayed for generations, meaning the Clovis culture made America's first communities.

END OF THE CLOVIS

- ◆ The Gault site proves the Clovis people were more than just hunters, but they were still very tied to mammoths. The Clovis Point was made to hunt them. When they went extinct, Clovis culture went with them. That raises the question: What happened?

- ◆ There are basically two schools of thought. One is that when mammoths and mastodons went extinct through environmental causes, Clovis culture was collateral damage. The other is that the Clovis people overhunted the megafauna and killed them off, ending their own way of life along the way.
- ◆ Both theories have some compelling evidence. Climate change makes sense supporting data. Today, humans live in the Holocene epoch, a warming period within a larger glacial period. It began about 11,700 years ago.
- ◆ Before the Holocene, there was the Pleistocene epoch, which was an ice age that went from 2.6 million years ago to about 12,000 years ago. The Clovis people and mammoths ended in the transition.
- ◆ During the transition, three interstadial periods called Dryas wreaked havoc on the world's plants and animals. Between 15,000 and 11,700 years ago, global temperatures moved between warming and cooling.
- ◆ The world began warming and then snapped back to a cold spell known as the Oldest Dryas around 15,000 years ago. Then, it warmed again until the Older Dryas at 14,000 years ago. One more cycle of warming occurred after that until the Youngest Dryas occurred from 12,900 to 11,700 years ago. That's when the mammoths and Clovis people died off, and it's a good bet that they were related.
- ◆ This raises the question: Why, after millions of years of existence, did mammoths finally die off then? Clearly, they had survived many other warming periods in the distant past.
- ◆ That's where the second school of thought—the idea that the Clovis people hunted them into extinction—comes into play. The idea is that humans tracked mammoths north as mammoths' grasslands shrank, then hunted them into extinction. Archaeology does track Clovis people following mammoths north at the end.
- ◆ A complicating factor is that the start of the Holocene saw mass extinctions. North American camels, tiny horses, giant ground sloths and armadillos, and sabre-tooth cats all died off. It's unlikely the Clovis people killed them all, but the debate continues.

FOLSOM PEOPLE

- ◆ Before they died out, the Clovis people populated North America with many humans. At least some of those people evolved into the Folsom culture. The name comes from the first excavations near Folsom, New Mexico. They were a bison-hunting culture that survived just slightly longer than the Clovis, making it to 11,000 to 10,000 years ago.



Fieldwork in Folsom, New Mexico

- ◆ They weren't all over like the Clovis, but rather restricted to bison territory. That territory was in and around the Great Plains, stretching from Canada to Texas, and bracketed by the western mountain ranges and the Mississippi River. The grasslands there were the food source of *Bison antiquus*, which in turn was the food source of the Folsom people.
- ◆ Folsom points were similar to Clovis points, but shorter and thinner. They also had fluting, but their flutes went all the way up their lengths. Over 2,000 have been discovered so far. There are other variations of fluted points outside of Folsom territory east of the Mississippi, but none found in California.
- ◆ The Folsom people developed a new hunting technique known as bison jumps. This involved running herds off of cliffs into canyons. This was wasteful but effective, sometimes killing hundreds of bison at once. The practice continued for thousands of years, even after modern bison evolved.

FOLSOM SITES

- ◆ Some jump sites have modern bison on top and Folsom-aged evidence below. That's the case at the Bonfire Shelter site in Pecos, Texas. This is the southernmost and oldest Folsom jump site. It dates to 11,700 years ago but is covered by a bison jump from 800 BCE.
- ◆ Bonfire Shelter is also important because it's both a kill site and a living site. Most known Folsom sites are kill sites, but a few sites, such as Lindenmeier in Colorado, give researchers insight into camps of the Folsom people. Lindenmeier was a residential Folsom camp dating to 12,300 BP. It was a multigenerational living place.
- ◆ When further warming took the *Bison antiquus* out of the Great Plains, Folsom culture went with it. Like the Clovis before them, dependence on the megafauna appears to have been both their success and their downfall.



Bison bones and the Folsom point

- ♦ By 10,000 years ago, Folsom culture ceased to exist. However, life continued. Plant gathering intensified with climate change, smaller game was hunted, and a new way of life emerged in North America. This is known as the Archaic period and is the subject of the next lecture.

QUESTIONS TO CONSIDER

- 1 Why do you think Clovis point technology spread so widely and quickly?
- 2 Did Clovis man kill off the mammoths, or was it solely an environmental extinction?

THE ARCHAIC PERIOD: DIVERSITY BEGINS



The Archaic is North America's longest archaeological time period, in some regions spanning almost 10,000 years. In fact, some regions were still in the Archaic when Europeans first arrived. It was a very successful way of life, and perhaps that's why it continued for so long.

LIFE CHANGES

- ◆ By 10,000 BP, all mammoths, mastodons and *Bison antiquus* were gone. Paleo-Indians had to change. They evolved into the people of the Archaic period. They were still hunters, but now had different, smaller prey, like deer, rabbits, turkeys, geese, and fish. In some places, they hunted elk and bison.
- ◆ To supplement smaller game, gathering increased. They ate more seeds, nuts, fruits, and fibrous plants. New kinds of tools were developed, including grinding stones and mortar and pestle sets. For weapons, they used atlatls and sometimes spears.
- ◆ The people moved around by season to exploit different resources. During berry and nut seasons, they gathered in some areas, and in winter they hunted and fished in others. They traveled in small bands of 20–30 people. This new living pattern created local identities, which turned into diversity from region to region—the origins of the many different cultures of North America.



IDEAS CHANGE

- ◆ Until the 1930s, archaeologists believed humans arrived in North America about 3,000 years ago. Now, they see 3,000 years ago as the end of the Archaic period.
- ◆ In the 1920s, archaeologist William Ritchie was excavating an old site at Lamoka Lake, New York. He knew it was old, like the findings in New Mexico, but different. He used the term Archaic, which was originally used to talk about early Greek culture of the 7th and 6th centuries BCE. The Archaic period eventually came to mean the period between 10,000 and 3000 BP.
- ◆ Eventually, North American archaeologists divided the Archaic into three phases: the Early, Middle, and Late Archaic. The exact dates vary a bit from region to region, but the period ranges are fairly uniform across North America.
- ◆ The Early Archaic stretched from 10,000–8000 BP. Climate change saw people adapt to a changing world with new food-procurement strategies. After that, the climate stabilized, bringing about the Middle Archaic from 8000–5000 BP. Then, people perfected living in their individual regions.
- ◆ Finally, the Late Archaic from 5000–3000 BP brought a technology-driven revolution that inspired people to live in larger groups and start sedentary villages. The next lecture focuses on the Late Archaic, so this one will be dedicated to the Early and Middle Archaic.

REGIONAL DIVERSITY

- ◆ Despite commonalities among Archaic people, the period also saw the emergence of regional diversity. Global warming melted the ice caps and created more water everywhere. Coastal regions were especially affected, but everywhere received bigger rivers and new lakes. Grasslands and open forests converted to dense forests of new tree types.

- ◆ One example of water's effects comes from the area from the Mississippi River to the Atlantic coast. In Florida, the interior filled up with large lakes in the Early Archaic. By the Middle Archaic, ocean levels stabilized. People expanded to the coasts of Florida to exploit marine resources such as shellfish, evidence for which is provided by middens (heaps) of their shells.
- ◆ In Virginia, sea level rise created the Chesapeake Bay. Early Archaic sites on the coast are full of fish hooks and net weights, which shows a heavy reliance on fishing. Notched points for hunting have been found at an Early Archaic campsite. Forests of pine, oak, and hickory created a food boon: Hickory nuts, acorns, fruits, and berries became prominent.
- ◆ By the Middle Archaic, people used stone axes to cut down trees for temporary shelters and firewood. Cleared land promoted berry bushes, and those bushes attracted animals to hunt. The people brought the resources to them, and by doing so narrowed their territory. This forged local identity.
- ◆ Early Archaic life in the interior eastern states was much the same. They hunted and gathered in small bands, using tight seasonal territories. They clustered in river basin areas to exploit fishing resources, living in small temporary camps or sometimes in caves.



SHELL MIDDENS

- ◆ In the Middle Archaic, a change happened, evidenced by the quantity of shell middens along the rivers. This is especially evident in Ohio and Tennessee, but also in Mississippi, Alabama, and north into Wisconsin and Michigan. Thousands of shell middens piled up over generations, pointing toward semi-permanent camps.
- ◆ Inside those shell mounds were many burials. Over the wide range of river valleys, there were tens of thousands of burials. These happened in layers, indicating generations of people. This is the possible origin of mound-building cultures in the same region.

PECOS

- ◆ Archaeology has a perennial, acknowledged problem: the lack of perishable material culture. Most evidence comes in the form of nonperishable materials, like bone or stone. Rarely, archaeologists do find perishable materials, as they did in the Lower Pecos in Texas.
- ◆ Lower Pecos shelters have perishable items preserved. Evidence includes sandals, fishing nets, snares, and basketry. The living spaces were covered with grass matting.
- ◆ A number of Lower Pecos sites date back into the Early Archaic. For example, Baker Cave has a 9000-BP hearth. Lower Pecos sites also show very early art, such as painted pebbles in many caves, along with rare clay figurines.

THE AMERICAN SOUTHWEST

- ◆ Just to the west of the Pecos region lies the American Southwest. Archaic developments there are important because some of North America's most advanced civilizations would eventually arise in the area. They were the ancestors of the Pueblo culture. Before they became Pueblo, but after the Archaic people, they became the Basketmaker culture.



Wide shot of excavations at Cherokee Sewer Site

- ◆ Where possible, they lived in rock shelters. In areas where that wasn't possible, they built simple houses out of shallow pits covered with wooden log frames, domes, or tents. These were temporary, but were a clear precursor to the pit houses that would later cover the area.
- ◆ Early Archaic populations lived in the southern portion of the American Southwest, including the Pecos culture and the Cochise tradition. Populations moved north as the Archaic continued. The movement pattern suggests that the region's people all came from the south when climate change turned northern Mexico into an uninhabitable desert.

THE GREAT PLAINS

- ◆ Just north of Texas and the American Southwest are the Great Plains. This is a huge area reaching up into Canada in between the Rocky Mountains and the Mississippi River Basin. Bison still roamed much of it, allowing for a unique form of Archaic life.
- ◆ There was a separation of the Great Plains into regions, with the west being much less populated than the east. All shared the loss of megafauna and shift to stemmed, side-notched points, but all continued to hunt bison.
- ◆ The western Great Plains clear out for thousands of years. The grasses disappeared, leaving bison nothing to eat. Bison migrated to the east and north, and humans followed them out. Very few Archaic sites have emerged from times before 5000 BP, when the climate changed again.
- ◆ One notable western exception was Mummy Cave in northwest Wyoming. There, the lowest layers document the transition from the fluted points of Paleo times to Archaic stemmed and side-notched points.

CHANGES CONTINUE

- ◆ Around 5000 BP, the climate changed to warmer. This was the end of the Altithermal period, which neatly spans what archaeologists refer to as the Middle Archaic. Bison and humans reinhabited the western Great Plains. Archaic populations increased in Canada and the north.



Mummy Cave

- ◆ Bison hunting intensified in the Middle Archaic, featuring more bison jump sites and a new technology called bison corrals. A bison corral was a method of creating corrals at the bottom of natural gullies to trap them without immediately killing them, as was the case with bison jumps. This was perhaps an effective way for people to capture and take the bison they wanted, releasing the rest.

THE PACIFIC COAST

- ◆ The Pacific coast featured many resources for Archaic-period people. It saw the same loss of megafauna as everywhere else in North America, but their remaining resource base was better than most other areas. Up and down the coast, from north to south, they were able to exploit a wide variety of plants and animals.
- ◆ For many parts of the Pacific coast, the Archaic lifestyle began 10,000 years ago and was still going on at European contact. There was no reason to change.

- ◆ Early Archaic evidence from southern California is sparse. It's possible sites did exist, but they are now miles offshore. There is more evidence toward Arizona, featuring the Lake Mohave culture. These early people moved around lakes in small bands of 10–20.
- ◆ Like their neighbors in the American Southwest, they hunted small game and made baskets to collect and process seeds and fibrous plants. Closer to the coast, the San Dieguito tradition hunted in the mountains, gathered in coastal valleys, and did some fishing.
- ◆ In this region, the Middle Archaic ranged from 8000–6000 BP. Note that the Middle Archaic period changed from place to place, and the Pacific was a bit different than the east. The Encinitas tradition featured larger bands, more oriented to the coast. They hunted sea mammals and had much more fish in their diet, suggesting that they must have had boats.
- ◆ Some northern valleys had such abundance in such tight areas that sedentary life began earlier than in other parts of North America. For example, Surprise Valley featured large pit houses occupied year-round from as early as 6000 BP.
- ◆ By about 5500 BP, archaeologists see evidences of houses and small villages. One early example comes from the Fraser River in British Columbia, where people trapped salmon. In associated cemeteries, 21 percent of the bodies show wounds caused by violence, possibly indicating warfare.

QUESTIONS TO CONSIDER

- 1 Do formal burials imply religion? Why or why not?
- 2 If you were living an Archaic lifestyle, would you rather live on the coast or in an inland river valley?
- 3 Why are there Archaic-period stemmed and side notched points from coast to coast in North America? Does it represent a trade and communication we can't detect?

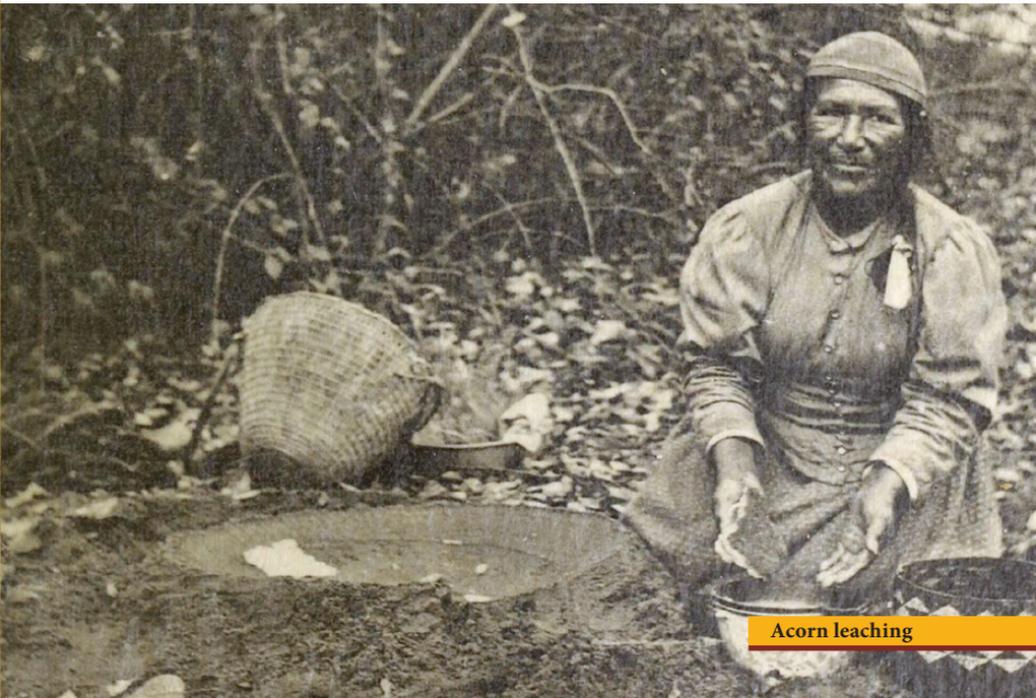
LATE ARCHAIC INNOVATIONS



The Late Archaic period was a time of big changes in human life in North America. Earlier changes in North American human life largely came from pressures such as climate change and the extinction of megafauna. Though pressures remained, changes in the Late Archaic largely came from inspiration, and specifically through invention.

THE PACIFIC COAST

- ◆ Compared to other parts of North America, not as much changed along the Pacific coast. Game, fishing, and plant foods were still plentiful. Even with population increases, the resource base wasn't strained.
- ◆ One small innovation was acorn leaching. This was a way to extract the bitter and indigestible tannins and eat them by pounding them to powder and cooking them in big pits with water and clay. An increase in cemeteries is another subtle change in the Late Archaic west. Men and women were buried with gender-specific items—women with grinders, men with projectile points—pointing to labor divisions.



Acorn leaching

- ◆ Inland cemeteries sometimes had marine shell jewelry, indicating trade with coastal groups. Overall, though, there were no big changes to life. Seasonal rounds continued, with people moving from the uplands in the winter to the lowlands in the summer.
- ◆ Note that the Pacific Northwest did see a Late Archaic shift to permanent villages. Their cemeteries contained a high percentage of bodies with signs of violent deaths. This means people may have begun clustering together in villages for protection from human enemies.
- ◆ There is much archaeologists still don't know about the Late Archaic period of the Pacific coast. It's an ethical question. The people of the Pacific coast are still there, and they actively protect their lands and the objects pertaining to their cultural history. They often deny archaeologists the right to excavate their ancestral lands, limiting evidence. This course's view is that archaeologists should respect their rights to decide how the material culture of their ancestors is treated.

CORN

- ◆ In the American Southwest, Late Archaic people started to live in permanent houses and villages. An important factor was corn agriculture, which first appeared in the American Southwest. This was adaptation learned from people much further to the south: the early cultures of Mesoamerica, who domesticated the world's first corn.
- ◆ There is solid evidence for when corn agriculture reached the American Southwest in the form of five different sites dating to 2100 BCE. They are all in western New Mexico and eastern Arizona, and they feature rock shelters and open areas with cooking pits.



- ◆ By 3000 BCE, the climate changes of the Middle Archaic had stabilized, leaving the northern desert of Mexico completely dry. Early theories said desert people migrated north and settled, bringing corn with them. However, modern DNA studies say the Archaic people of the American Southwest were from the north, not the south.
- ◆ As populations increased, the people gathered in larger communities. They built houses and dug storage pits to store corn throughout the year. The Pecos culture to the south and the Oshara tradition to the north both planted corn, but they still hunted and gathered during certain parts of the year.
- ◆ At 750 BCE, communities of pit houses at the bases of cliffs started featuring hundreds of people. These were the first people of the Basketmaker culture.

ART

- ◆ One other Late Archaic development for the American Southwest came in the form of petroglyphs. These are works of art carved or painted onto rocks. They're mostly animals and geometric shapes. To the east, in the Pecos region, the rock art is much more elaborate and readable.
- ◆ Starting in the Late Archaic, the walls of thousands of Pecos rock shelters were filled with multicolored art panels steeped in religious imagery, including depictions of shamans. The theory that shamans are depicted came originally from Solveig Turpin, a woman who has dedicated her life to the documentation and study of Pecos-style rock art.
- ◆ Her work focuses on one of the most elaborate of the Pecos-style rock art panels, which is located at White Shaman Cave. She believes she can tie it to the living Huichol people in Mexico, their creation story, and a traditional pilgrimage.



Anasazi Ridge Petroglyphs

EAST OF THE MISSISSIPPI RIVER

- ◆ The lecture now turns to the other side of North America to discuss the Late Archaic period east of the Mississippi River. A patchwork of cultures existed from Canada to Florida, each doing slightly different things. They rarely stepped out of their own regions.
- ◆ One such region stretched from northern Florida into Georgia. There, the Late Archaic started around 3000 BCE. Sea levels had settled at about 85 feet higher than Paleo times. More rainfall also produced uninhabitable swampland. Late Archaic people in Florida clustered on high banks about rivers and along the coastlines.
- ◆ Big shell mounds (or middens) were still a feature. However, by about 3000 BCE, shell mounds weren't just piles of refuse. They were shaped into rings and linear ridges, and had burials inside.
- ◆ The shell middens indicated a fondness for oysters. By about 2500 BCE, the oyster-loving people of the Florida coast joined their neighbors in Georgia by creating something very important: ceramics. Soon, every shell-mound community had bowls and plates. This is referred to as the Orange period, which stretched from 2000–1000 BCE. Pottery was a life-changing development, as it allowed for the creation of new cooking wares.
- ◆ At the same time pottery appeared, settling into permanent villages increased. Pit houses and wattle-and-daub house villages filled Georgia and Florida. Shell mounds became village features, many holding burials of ancestors connected to the spot. As the Late Archaic ended, a few places began making mounds of earth instead of shells.

TO THE NORTHEAST

- ◆ This lecture concludes with a look at the northeastern part of North America. Archaeologists divide it into five wide culture regions for the Late Archaic. The whole region became Woodlands culture a bit later.

- ◆ The five Late Archaic regions of the east are as follows.
 1. The Shield Archaic, which is in Canada, above and around the Great Lakes.
 2. The Maritime Archaic, which runs along Canada's eastern coastline.
 3. The Lake Forest Archaic, which covers inland Canada off the eastern coastline.
 4. The Mast Forest Archaic, which covers New Jersey to Illinois.
 5. The Central Riverine Archaic, which runs along the Ohio and Mississippi Rivers and their tributaries.
- ◆ Each of these regions developed new technologies, made with local materials for local needs. They all had in common an increase in cemetery sites and formalized treatment of bodies in burials. Cemeteries indicate a growing connection to their own lands and a veneration of ancestors. Burials also possibly denote a concept of an afterlife, and therefore religion.
- ◆ In the Maritime Archaic region, people hunted sea mammals and swordfish from canoes with harpoons in summer, hunted caribou in the winter, and fished salmon in the spring. Villages began to emerge with round pit houses. An important site from this area is located at Port au Choix in Newfoundland. There, a cemetery was found with 99 burials of all ages and sexes, along with burial goods painted with red ochre.



- ◆ Around the Great Lakes, some very important inventions appeared in the Late Archaic: metallurgy and the bow and arrow. Copper deposits all around the Great Lakes came into use around 4000 BCE. Thousands of artifacts have been found, including jewelry, spearheads, axes, and fishhooks.
- ◆ The Shield Archaic, in Canada just above the Great Lakes, is where North America's first bow and arrow emerged around 2500 BCE. It was used to hunt a variety of game, from moose to muskrats. Scholars tend to think the bow and arrow was adopted from the Old World rather than invented in North America.
- ◆ The world's first bow and arrow came from South Africa 71,000 years ago. Europe had it by 9,000 years ago. Siberia had it by 5,000 years ago, pointing to an apparent time and spatial line drawn to North America through Beringia. Wherever it came from, it took another 3,000 years to make it from Canada into the central United States due to the isolation of people.
- ◆ The Mast Forest Archaic region during 2700–1200 BCE featured a low population. Their trash middens show more acorns and nuts, and less game, than other areas. The Central Riverine Archaic region was the most populated area, with many sites. By 3900 BCE, villages emerged with many houses, and by 2800 BCE, villages of 100–150 people were common.

QUESTIONS TO CONSIDER

- 1 What makes a human group decide to settle in one place permanently? Is it solely about food sources, or are other factors at play?
- 2 What makes some cultures fight each other and others live in seeming harmony? Are resources and land the only factors, or could other things compel violence?

POVERTY POINT: NORTH AMERICA'S FIRST CITY



This lecture is dedicated to one of North America's most amazing and underappreciated ancient sites: Poverty Point. Just 15 miles east of the Mississippi River in northeastern Louisiana, a Late Archaic people built what most archaeologists consider the continent's first city. At 1500 BCE, while everywhere else in North America had villages of at most 100 people, Poverty Point had about 4,000–5,000 residents.

OVERVIEW OF THE POINT

- ◆ At its height, Poverty Point was a planned community covering 910 acres. This would have been impossible to build without a large, organized communal labor force. It had a wide central plaza with earthen pyramids and six semicircular, concentric platform mounds, which held hundreds of houses.



- ◆ Carbon-14 dates from under the plaza come out to around 1800 BCE. Hundreds of acres were leveled at once. The site's mounds and living spaces were put in shortly after, improved over time, and were occupied until around 700 BCE. That means Poverty Point was a living city for over 1,000 years.
- ◆ A structure known as Mound A was by far the largest structure at the site, centrally located directly behind the concentric housing platforms. A pyramid, Mound A is 72 feet tall, 710 feet long, and 660 feet wide. That makes it the second largest pyramid in terms of volume built in ancient North America, north of Mesoamerica. Only Monk's Mound, which was built at Cahokia about 2,500 years later, is bigger.
- ◆ The size, scale, and organization of Poverty Point were unseen before in North America. Viewed from above, the city would have resembled an amphitheater. The semicircular embankments radiated from a 37-acre central plaza, which today holds the Poverty Point visitor center. The main population of Poverty Point lived on top of the embankments in a very organized and densely clustered way.
- ◆ In the rest of North America, most people were still nomadic hunters and gatherers. Those that did live in villages built randomly arranged houses; their villages held no more than 100 people. Yet in Poverty Point, thousands of people were living in orderly rows of houses.
- ◆ The tops of Poverty Point's curved earthworks, where the houses once stood, were unfortunately all plowed over when the land was made into a plantation in the 19th century. Parts of the earthworks are barely visible today. That plantation is where the site gets its name.

THE POPULATION

- ◆ Scholars may never know why so many people lived at Poverty Point, but one way to investigate that question is by looking at the public spaces such as the plaza, the mounds, and other large features of the site.

- ◆ There are five mounds in the site's center, and two more at a distance north and south of the center. Three of the central mounds are on the back of the curving earthworks, and two are in the plaza. The two in the plaza—Mounds C and D—are both just three to six feet tall with a footprint the size of a modern midsize home.
- ◆ Mound C, also called the Dunbar Mound, stands on the bayou edge of the plaza near its centerline. A wagon road once rode right over it, making a big depression in the middle. Despite that damage, excavations revealed it was rebuilt at least 16 times and that it had some kind of wooden structure on top.
- ◆ Stone chips all over the surfaces indicate that jewelry was repeatedly made on Mound C. Between that luxury activity, the high number of times Mound C was rebuilt, and its central location, it was definitely a focus of public activity.
- ◆ Mound D is also called Sarah's Mound. Sarah Guier, the wife of the plantation owner, was buried there in the 19th century. Excavations have determined that Mound D wasn't from Poverty Point's time; it was built by the Caddo people thousands of years later.

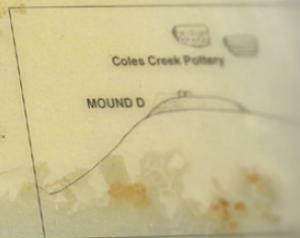
MOUND D (SARAH'S MOUNT)

Mound D is thought to be a mound that was built by a later group of people from the Coles Creek period (A.D. 700 to A.D. 1100). Excavations in and around this mound have yielded pottery shards that date to this period.

The shape of Mound D is typical of the Coles Creek and later Mississippian mounds. The mound is rectangular, measuring 62½ feet wide and 99 feet long, at the base and stands 3½ feet in height with a flat top. These flat-topped mounds were usually used as foundations for temples or houses for important individuals.

Historic graves that date to the early plantation era are located on top of this mound. One of the stones is for Sarah Guier, wife of Phillip Guier, one of the owners of the Poverty Point plantation. The stone is broken but the verse would have read:

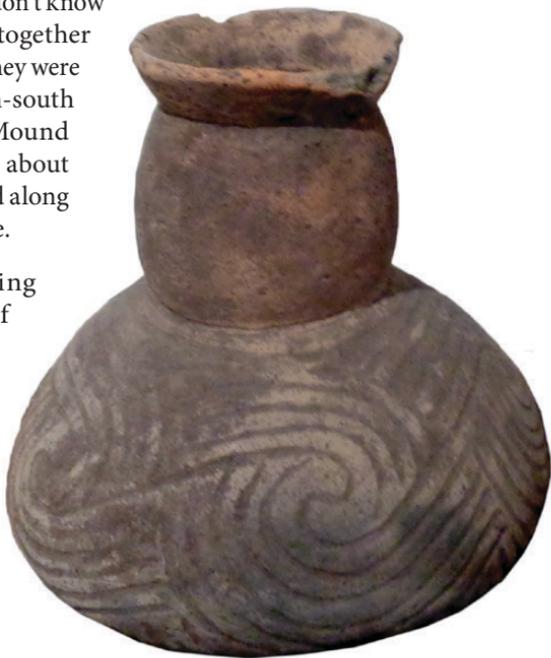
*Lo, where this silent marble weeps
A friend, a wife, a mother sleeps
A heart within whose sacred cell*



Mound D site sign, Poverty Point

MOUNDS B, E, AND A

- ◆ Mounds B, E, and A are much bigger. Excavations have detected they were made with baskets of dirt carried by large crews of people. Mound B even had some of the carrying baskets buried inside, broken and thrown in as trash.
- ◆ Of the three, Mound B is the northernmost and the oldest. Its first phase occurred in about 1700 BCE, apparently before the housing platforms. It is 21 feet tall and 180 feet in diameter. Its function is unclear.
- ◆ Mound E, the southernmost of the three, was built about the same time as Mound B, but with a very different shape. It is rectangular, stretching 360 by 300 feet, and stands 13 feet tall. Like Mound B, researchers don't know its function, but the two together reveal an interesting fact: They were built along a perfect north-south line. When the massive Mound A was built between them about 400 years later, it was placed along that same north-south line.
- ◆ That reveals two exciting facts about the people of Poverty Point: First, they were surveyors who preplanned where the buildings should go. Second, they were astronomers. Lacking a compass, it's impossible to make a north-south line without observing the movements of the heavens.



Basket from Mound B

OTHER MOUNDS

- ◆ There are two more large mounds of note at Poverty Point, each about 1.5 miles out from the city center. The Motley Mound is north. At 51 feet tall, it's the second largest structure at the site. Like Mound A, it has a platform section pointing toward the plaza, south in its case. That's a clue that it was built after the housing and the plaza itself.
- ◆ The other outer mound is the Lower Jackson Mound, 1.5 miles to the south. It was built at least 1,000 years earlier, meaning it was possibly the inspiration for Poverty Point. It's on the same north-south line as Mounds A, B, and E.
- ◆ That proves that the people of Poverty Point were aware of the Lower Jackson Mound, and that they used it as their initial survey point to extend a perfectly north straight line for 1.5 miles. Their surveying tools were probably simple sticks and strings.

WOODHENGES

- ◆ In 2009, a test program was conducted in the central plaza. It found wide postholes, each hole deep and big enough to hold thick tree trunks. The postholes were arranged in wide circles.
- ◆ They are called woodhenges, and they are not alone in North America. There is also a large woodhenge at the Mississippian capital of Cahokia. However, that city was not to be built for another 2,500 years.
- ◆ The woodhenge at Cahokia is known to have solar and lunar alignments. Researchers aren't as sure about the ones found at Poverty Point, but they sure do seem connected in form, which might imply a shared function. Two have been found so far.

LIFE AT POVERTY POINT

- ◆ The lecture now turns to look at how Poverty Point's people made it work and how they managed to live there in such great numbers. Evidence is fragmentary, but researchers do know the people weren't agriculturalists. They were hunter-gatherers like the rest of ancient North America at the time.
- ◆ The artifact record—millions of objects from Poverty Point—shows that the people were eating mostly freshwater fish and reptiles. Artifacts called plummets, made mostly from nonlocal trade materials like hematite and magnetite, have been identified as weights for fishing nets.
- ◆ Plants were no doubt a large part of their diet too, though little evidence has survived to prove it. Charred nutshells did survive, so researchers know they were eating lots of pecans, acorns, and walnuts.
- ◆ Technologies that no doubt helped their food production were the earth oven and an associated artifact type known as cooking balls. The curved earthworks where the houses stood are full of these earth ovens. In essence, they were just simple pits dug in the ground. Raw food would be placed in the pit, covered with silty clay balls that had been heated in a fire, and then buried with a top layer of dirt. This was a type of slow-roasting technique.

TRADE

- ◆ Poverty Point's size and complexity point toward a vast trade network. The city sits at the confluence of six major waterways, but is far enough away from the Mississippi River itself to avoid flooding.
- ◆ Amazingly, many of the stone artifacts at the site were not of local stone types. They were from very far away. River transport may have been how they were imported.

- ◆ Soapstone used for bowls came from Alabama and Georgia. Harder stone types like quartzite, granite, and hematite were coming from the Ozarks, the upper Mississippi River, and even as far as the Great Lakes. Copper from the Great Lakes—over 1,000 miles away—was also arriving there, though in lower quantities.

OTHER SITES

- ◆ Poverty Point was neither alone nor the oldest mound site known in the lower Mississippi River valley. Along the lower Mississippi and its tributaries was a wider area of culture called Poverty Point culture. There are discrete pockets of population density there.
- ◆ They have earthen mounds. Some have definable plazas, and all have Poverty Point objects, including items such as cooking balls, stone charms, and pottery. The Claiborne and Cedarland sites along the Gulf Coast also have curved earthworks similar to those at Poverty Point, though their food base logically relied more on marine sources like clams and oysters.



- ◆ West of Poverty Point was a cluster of people living in Mississippi's Yazoo Basin, which had an overall population even larger than that of the city and its immediate periphery. Despite that larger population, Poverty Point was the epicenter of the wider culture. Researchers can see that through the distribution of Poverty Point objects. They're most abundant in a 25-mile radius around the city.
- ◆ A growing number of mound sites predate Poverty Point by 1,000 to even 2,000 years. One such site is actually on the Louisiana State University campus in Baton Rouge. Two mounds, both about 20 feet tall, were luckily untouched when the campus was established in the 1920s. In 1982, they were excavated, and their dates came back estimated at somewhere between 4000 and 2000 BCE.
- ◆ The most exciting site to date is Watson Brake, located not far from Poverty Point itself. The site's 11 mounds range from 3 to 25 feet tall, and they're arranged in an oval pattern. Similar to Poverty Point, ridges connect the mounds. Carbon-14 dates of Watson Brake say that it started as early as 4000 BCE, but that it was abandoned by 2800 BCE.

QUESTIONS TO CONSIDER

- 1 Why do you think America's first major city developed in the bayous of Louisiana?
- 2 What does the fact that Poverty Point was such an importer, but not much of an exporter, say about its character?

MEDICINE WHEELS OF THE GREAT PLAINS

LECTURE 7



In the northern Great Plains, mostly in Canada, there are dozens of circular stone features called medicine wheels. Researchers aren't sure how old they are or what they were used for, but most scholars agree that they represent an ancient religious tradition that lasted for perhaps thousands of years. They are the subject of this lecture.

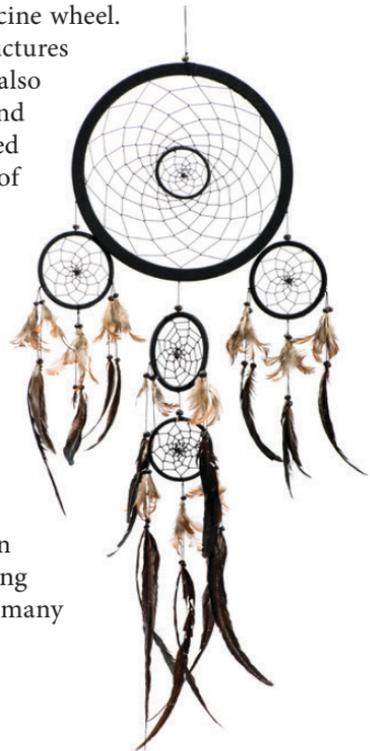
MEDICINE WHEELS

- ◆ A medicine wheel is a circular arrangement of stones on the ground. It looks somewhat like a wagon wheel in shape, with a center, spokes, and an outer ring. Their construction dates are too few and debated, but range anywhere from 60 years ago to 4500 BCE. Archaeology can't assign them to a single timeframe.
- ◆ No two medicine wheels are the same. Their core characteristics are simply a central cairn of piled-up stones with spokes leading out in a radial pattern. Some also have an outer rim. Some have cairns at the ends of certain spokes. The number of spokes also varies widely.
- ◆ Just how many medicine wheels there are is a complicated question; it depends on how broadly one defines them. Some scholars say there are only about 70, while others count over 170. They are only found in and around the Great Plains. Many are found in Canada, mostly Saskatchewan and Alberta. A few are also in British Columbia and Manitoba. In the US, they cluster in the Dakotas, Montana, and Wyoming. Most of the medicine wheels are located on mountains or plateaus with a view of the land around them.
- ◆ Dating medicine wheels is difficult for a few reasons. They weren't habitation sites, so there's little trash or living evidence to date with carbon-14. Many are still sacred sites for living First Nations people, so researchers have no permission to excavate them. Most have not been excavated, giving an incomplete picture.

- ◆ At contact with the people of the Plains, many wheels were still remembered and used in ceremonies. Some were actively in use less than 60 years ago. The Majorville medicine wheel in Alberta has surface evidence of modern usage, but carbon-14 dates from within its huge central cairn come back at 3200 BCE. That's a date range of 5,000 years in a single wheel.
- ◆ The modern term “medicine wheel” refers not to just the sites, but to indigenous philosophy and cosmology. It's a concept used by many First Nations people in Canada, not just the people of the Great Plains.

ORIGINS

- ◆ Despite their wide modern popularity as indigenous symbols, the origin of medicine wheels clearly lies with the Plains people. The Canadian Ojibwa, called Chippewa on the US side of the border, are strongly connected to the medicine wheel. The modern Ojibwa use circular and oval structures called medicine lodges for ceremonies. They also use dream catchers, and both the lodges and the dream catchers are symbolically connected to medicine wheels. All of them are part of a modern indigenous concept explained as the hoop of life.
- ◆ The term “medicine wheel” was first applied to the Bighorn medicine wheel atop Medicine Mountain in Wyoming. Bighorn is the largest and most complex medicine wheel known in the United States. It is 88 feet in diameter, featuring 28 spokes.
- ◆ Crow and Arapaho people have used it as the destination point of vision quests in modern times. Vision quests involve fasting, walking for days, and then praying at the wheel for many nights in a row.



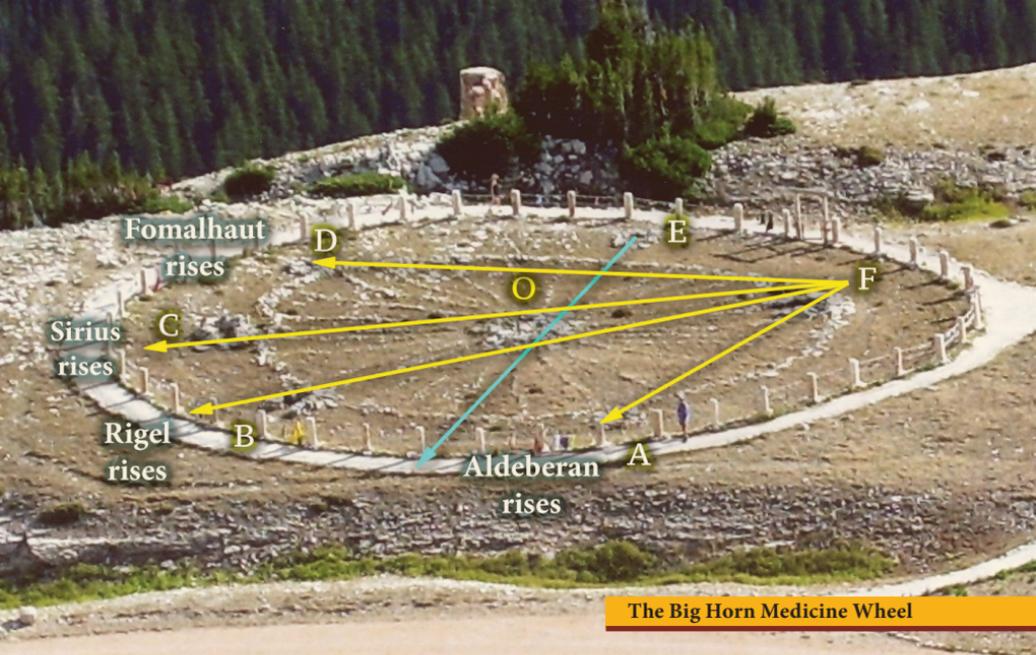


The Big Horn Medicine Wheel

- ◆ There are other wheels quite similar to Bighorn. One such is the Majorville medicine wheel in Alberta, Canada. Like Bighorn, it has 28 spokes radiating out from a central cairn to an outer rim. The Moose Mountain medicine wheel in Saskatchewan is another impressive example. It had five spokes with a 30-foot-diameter rim. In 1895, its central cairn stood 14 feet tall, but looting destroyed it, and it was less than two feet tall by 1920.

ASTRONOMY

- ◆ In the 1960s, a new field of study was born: archaeoastronomy. Inspired by Gerald Hawkins's study of Stonehenge, ancient structures around the world were seen in a new light. John Eddy was the first to apply archaeoastronomy to medicine wheels. Bighorn was the subject of his first studies in the 1970s.
- ◆ He found multiple astronomical alignments along the spokes of the Bighorn wheel and immediately sparked wide public excitement: Ancient North Americans were astronomers. At first, his Bighorn theories were not well received by astronomers or archaeologists, but controversy is often a sign a researcher is on to something.
- ◆ At Bighorn, Eddy looked at alignments along the spokes and in between the cairns. The site's six outer cairns are named A–F and the central Cairn is O. Eddy found that the spoke from Cairn E to Cairn O pointed to the summer solstice sunrise. The spoke from Cairn O to Cairn C pointed to the summer solstice sunset.
- ◆ If the summer solstice sunrise and sunset are indicated on spokes, the two winter solstice points are indicated as well. They are opposite angles. If drawn onto the wheel, it would look like a big X pointing to all four horizon points.
- ◆ Many other wheels studied by Eddy also had summer solstice aligned spokes. The Majorville wheel, with 28 spokes like Bighorn, shared its solstice alignments. The Moose Mountain, Fort Smith, Two Feathers, Roy Rivers, and Minton Turtle wheels all had summer solstice alignments, too.



- ◆ Eddy went beyond solar alignments into star alignments, which is where he drew most of his criticism. At Bighorn, Eddy theorized alignments between cairns marking the stars Sirius, Aldebaran, Rigel, and Fomalhaut.
- ◆ The problem is that the stars, unlike the Sun, move over time in a process known as the precession of the equinoxes. This comes from the slow wobble of the Earth on its axis. The result is that the stars shift 1 degree every 72 years.
- ◆ To make his theory work, Eddy had to qualify just exactly when the star alignments worked. He picked 1600–1800 AD, using the Cairn F wood dated to 1760 AD as support. Then, he chose his dates for star risings in increments of 28 days off of the summer solstice.
- ◆ Eddy also argued that other wheels had alignments to the same four stars at Majorville and Moose Mountain. However, he had to change the dates at each to make his theory work. Many are skeptical of his star alignment ideas, but his solar ideas have support.

OTHER THEORIES

- ◆ While astronomy is the most popular, there are other theories about the meaning and function of medicine wheels. Some scholars have looked to the practices of modern Plains people. The archaeologists Alice and Tom Kehoe have proposed that medicine wheels may be monuments to past chiefs; some may even be burials. A tradition of the Blackfeet seems to be connected: They once erected big cairns as monuments to chiefs and create rock-lined paths leading to them.
- ◆ Matthew Liebmann and earlier ethnographers have proposed that wheels are the final destinations for vision quests. Crow people say that little people living in caves next to Bighorn come out to give questers visions. Old photos show small shelters over the outer cairns, explained as built by people awaiting visions.
- ◆ One of the strongest connections to medicine wheels are the medicine lodges of the Plains people, which are also called sun lodges. They're not permanent structures, but rather rebuilt annually for Sun Dance ceremonies. As early as 1922, George Grinnell theorized a connection between Cheyenne lodges and medicine wheels.
- ◆ There are a number of traits that sun lodges hold in common. They all have a circular layout with a central post and radial roof beams to an outer wall. They're never on village land, but instead on a neutral place so that multiple villages can attend. They also have 28 poles, just like the Bighorn and Majorville wheels.
- ◆ Black Elk, a Lakota Sioux medicine man famous for the book *Black Elk Speaks*, mentioned the symbolism of the number 28. He explained 28 as seven multiplied by four. Seven and four are two sacred numbers, and 28 is also the number of days in the Moon's cycle.
- ◆ The connection between sun lodges and medicine wheels is clearly strong, but it's not mutually exclusive of the other theories. Wheels with rims and 28 spokes strongly resemble sun lodges, but only a few of the many wheels have 28 spokes. The point is that medicine wheels might have had more than one purpose or function.

SYMBOLISM

- ◆ If they're as old as they seem, the function and meaning of medicine wheels almost certainly changed over time, right along with the human populations who built them. Today, the symbol of the medicine wheel has spread far beyond the hilltops of the Great Plains.
- ◆ Indigenous people across North America—and to their frustration certain non-native, new age groups—have adopted wheels as a symbol of the cyclical nature of life. To modern Native Americans, the symbol of the medicine wheel holds a number of meanings.
- ◆ They symbolize the four directions. Each has their own color, usually white, black, yellow, and red. The center of the wheel symbolizes the people and the directions symbolize their journey through life.
- ◆ The wheel can also represent the cyclical nature of life. The Western world sees time as a line, but Native Americans see it as a cycle, visualized as a circle. The medicine wheel can symbolize how to keep one's cycle of life in balance.
- ◆ Note that circles of stones are part of archaic life in many places of the world. Examples include Stonehenge in England and the circular temple complex of Chankillo in Peru. Each functions, at minimum, as a solar observatory.
- ◆ Almost all of them were built at moments when people were moving from a nomadic way of life to a sedentary one. The concept of belonging to a location was taking hold.

QUESTIONS TO CONSIDER

- 1 Why is the circle such a powerful cosmological symbol?
- 2 Is it logical to assume that medicine wheels had more than one purpose? Why or why not?
- 3 Why were medicine wheels always up in high places?

ADENA CULTURE AND THE EARLY WOODLANDS PERIOD



This lecture marks the course turning to North America's first coherent civilizations: the Eastern Woodlands cultures. This lecture focuses specifically on the Adena culture. Starting at about 1000 BCE, there was a wide-reaching set of culture practices and traditions, starting with what has been termed Adena culture. East of the Mississippi, the Archaic period turned into the Woodlands period.

OVERVIEW

- ◆ The epicenter for the first big changes was in modern-day Ohio, especially in the southern Ohio River Valley. The Woodlands period went on for about 2,000 years and is broken up into three subperiods.
- ◆ The Early Woodlands stretched from 1000–200 BCE and is typified by the Adena culture. The Middle Woodlands lasted from 200 BCE–500 CE and is typified by the Hopewell culture. The Late Woodlands stretched from 500–1000 CE; its predominant feature is a hiatus—a disruption in life when people stopped building mounds.
- ◆ That hiatus of the Late Woodlands was followed by a massive comeback of huge cities that archaeology calls the Mississippian culture or Mississippian period. That lasted from about 800 CE through European contact.
- ◆ All of those cultures, from the Woodlands into Mississippian, are also generally called mound builders. That term began in a negative way, a part of a myth from the turn of the 20th century. According to the myth, an ancient race of non-Indian people once inhabited North America; then, an Indian horde supposedly overran and replaced them.
- ◆ Archaeologist Cyrus Thomas studied over 2,000 mound sites in the 1890s, working to combat that myth. Ultimately, he proved that native peoples built the mounds.



Cyrus Thomas - During 1870 Hayden survey

THE CHANGES OF THE WOODLANDS PERIOD

- ◆ The Archaic transition into the Woodlands period is somewhat difficult to define. However, archaeologists have noticed some key components. More villages emerged, pointing to a sedentary life with year-round occupation sites and larger populations. Pottery use and agriculture became more prominent. Earthen mound building replaced shell midden mounds.
- ◆ The trouble is that virtually all of these elements can be found in evidence from the Archaic, albeit spread out and in lower quantities. When all the elements came together, the Woodlands cultures emerged.
- ◆ The Woodlands period began in a transition zone between two of the Archaic traditions of northeast North America: the Mast Forest and Central Riverine areas. Mast Forest Archaic people spread from New Jersey to Illinois along the bottom of the Great Lakes; it was the least populated and least sophisticated part of the wider area. The southern part of the Central Riverine—Tennessee, Kentucky, and Alabama—was the most populated and most sedentary. Damage on burial bodies indicates both areas were violent.

- ◆ The cultures met in the middle, around the Ohio River Valley, to create a new way of life and a new era of regional coexistence. That marked the emergence of the Adena culture, the heartland of an evolving Early Woodlands tradition.

ADENA CULTURE

- ◆ Adena culture is known for the conical burial mounds they created; the shape is unique. Most Adena mound sites are around the Ohio River Valley in Ohio, West Virginia, and Kentucky. Adena wasn't their self-given name; researchers do not know what they called themselves.
- ◆ Adena is a name given from the type-site excavated near Chillicothe, Ohio, on the Adena estate of Governor Thomas Worthington in 1901. Many burials with jewelry and art were found there. Hunger for native art quickly inspired many more excavations in the Ohio River Valley.



Adena Mound, Chillicothe, Ohio

- ◆ The Adena mound was the first mound linked to Adena people, but not the largest. The Grave Creek mound, in Moundsville, West Virginia, stood 69 feet high; unfortunately, looting damaged it. In Ohio, the Miamisburg mound reached 65 feet in height.
- ◆ Each Adena mound site was different. There was no set formation or size. They grew over time, driven by repeated burial episodes. Many were destroyed before the invention of carbon-14 dating. There are still hundreds of mounds, but there used to be thousands, which makes chronology difficult.

BURIALS

- ◆ Adena mounds grew in layers over time. They were located away from settlements. Their conical shape serves as a clue to archaeologists that they were used in burials. Burial mounds indicate that people had become connected to places and perhaps that certain places had become sacred.
- ◆ While there is great variation, the standard conical shape of the Adena mounds and their layers of burials indicate a shared mortuary tradition and infer a shared concept of the afterlife.
- ◆ A good example of a burial mound is the Robbins mound in Kentucky. A crew carefully excavated it from 1939 to 1941. It began with a circular wooden enclosure filled with cremated bodies. It was then buried and built up with successive layers of log tombs containing multiple extended burials, *extended* here meaning “laid out flat.”

THE ADENA PEOPLE

- ◆ Archaeology says that the Adena people lived in small villages. Adena villages were separate from the burial mound sites. They were small clusters of circular structures, with roughly 10 to 30 per village. Some villages were surrounded by ring ditches. The houses themselves were built of wood poles. A center post held up a conical roof covered in tree bark. Their outer walls leaned outward, which is a diagnostic Adena trait.

- ◆ Adena house size varied in size from just 15 feet in diameter up to about 60 feet. Roof support poles typically surrounded a central hearth. The small ones couldn't hold more than an extended family, but the biggest ones could have housed up to 50 people.
- ◆ There's no evidence of rich houses of elite leaders; wealth distribution seems very uniform. In other words, Adena life was egalitarian. Adena people had utilitarian pottery and no fancy decorations.
- ◆ In many ways, the Adena were still hunter-gatherers. They collected nuts and hunted game with atlatls. Some archaeologists even believe that Adena villages were still only seasonally occupied. However, farming points against that belief.

AGRICULTURE AND PIPES

- ◆ The Adena were the originators of something called the eastern agricultural complex. Sunflowers, pumpkins, and squash were all planted near villages. Other plants unfamiliar to modern Americans were also planted: goosefoot, maygrass, and pigweed.
- ◆ There was no corn. Corn was all over Mesoamerica and into the American Southwest by Adena times, but nowhere in the Ohio River Valley. Corn wouldn't arrive in the area until the Mississippian period more than 1,000 years later. This means that the Adena form of agriculture was their own idea.
- ◆ Another important plant that the Adena people were using, and perhaps growing, was tobacco. The Adena were perhaps North America's first habitual smokers. Hundreds of pipes have been recovered from Adena graves, and nicotine residues prove tobacco was being smoked in those pipes.



- ◆ Most Adena pipes were made of Ohio pipestone. The earliest pipes were tubular and straight, with a wide opening on one end and a small opening on the other. Modern ethnography suggests that they were for ritual use, as in shamans smoking to reach an altered state of consciousness.
- ◆ As Adena culture progressed, pipe forms became more elaborate. Elbow pipes became more common. One of the famous pieces of Adena evidence is called simply the Adena Pipe. It's a human-efigy pipe. The figure has earplugs, jewelry, and feathered loincloth.
- ◆ Adena pipes were traded widely outside of the Ohio River Valley. The unique Ohio pipestone makes them easy to identify, and their wide distribution proves that the Adena had connections to the outside world. Adena pipes are found from Canada to the Gulf Coast.
- ◆ The reverse—that Adena people were importing trade items from afar—is also easy to see. Adena graves are full of exotic materials: copper from north of the Great Lakes, shell from the Gulf of Mexico, and sheets of mica from the mountains of North Carolina.



PERSPECTIVE

- ◆ Besides the still-evolving story of Poverty Point culture, Adena culture represents North America's first wide-reaching civilization. Hundreds, perhaps thousands of communities shared a cultural identity through religious beliefs and everyday lifestyle.

- ◆ Adena culture was a success. It persisted for about 1,000 years. However, it was a discrete region around the Ohio River Valley. Much of the rest of North America was still living a largely Archaic life.
- ◆ There were the exceptions, though. Poverty Point had created North America's first city and the American Southwest had begun to farm corn. Further south, the Olmecs had just begun building their own cities and producing multiton stone monuments.
- ◆ The Olmec City of La Venta built its first pyramid about 500 BCE, but most of Mesoamerica was still small villages. Yet further south, Peru's Chavín culture built their pilgrimage capital, and pyramids were being built along the coast. The first signs of organized religion appeared in art.
- ◆ Elsewhere in the world, Europe had entered the Iron Age but was still largely primitive. The world's two largest religions—Islam and Christianity—didn't exist yet. Most of the modern world's major cities didn't exist yet, either. All in all, most of the world was not that different from the Late Archaic period in North America.

QUESTIONS TO CONSIDER

- 1 Why do you think the Adena never buried their dead with pottery?
- 2 If you found a burial mound on a property you just purchased, what would you do?

THE HOPEWELL AND THEIR MASSIVE EARTHWORKS

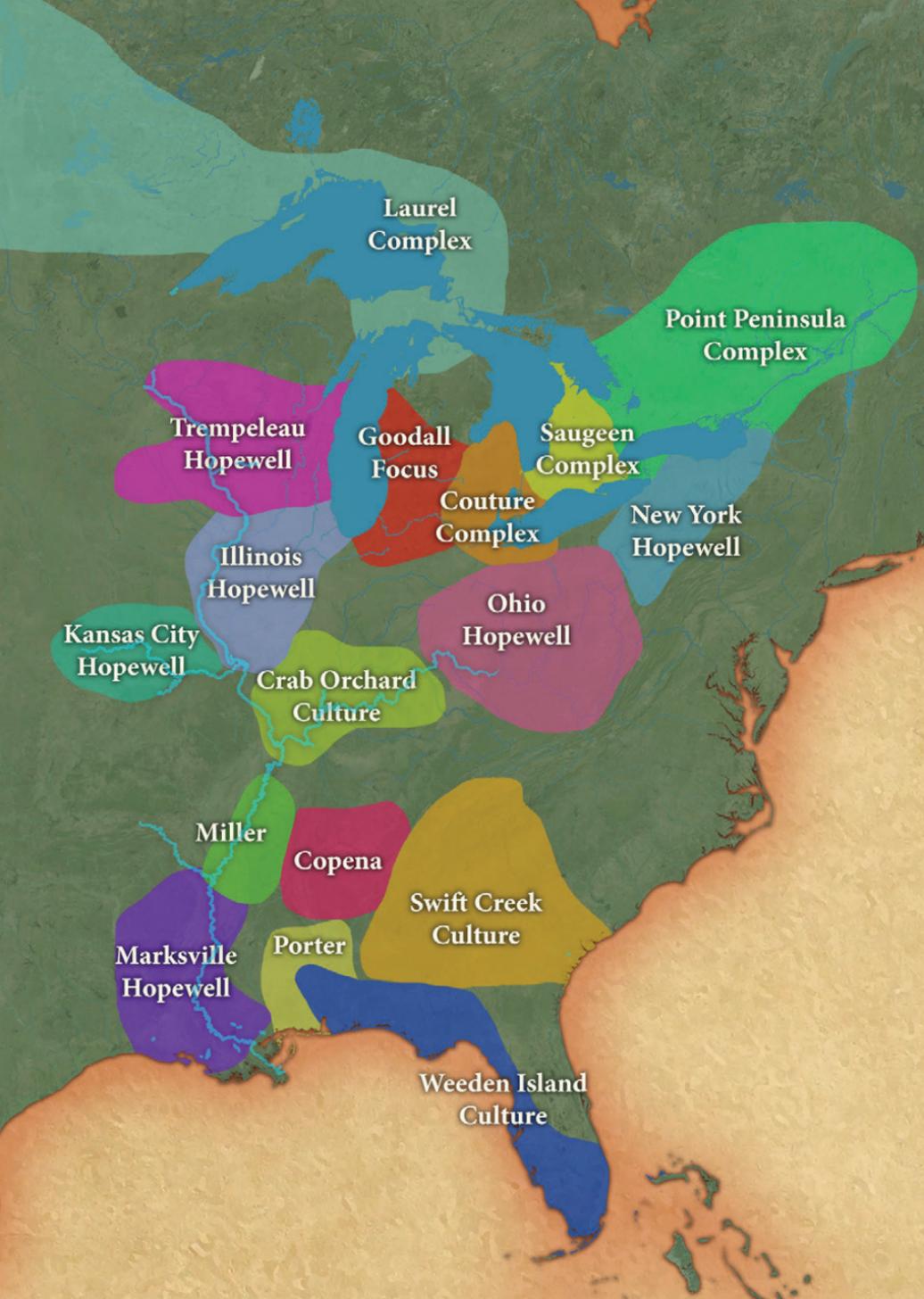
LECTURE 9



The Hopewell culture, in many ways, was like an evolved version of Adena culture. They were still mound builders, still artists, and still traders—but they did all of that on a bigger and better scale. Aside from that, the Hopewell clearly had interests in astronomy and mathematics. They are the subject of this lecture.

THE HOPEWELL

- ◆ The name Hopewell comes from the type site along Paint Creek in Ross County, Ohio. The Hopewell site has over 30 mounds surrounded by a huge, roughly rectangular enclosure. It is 2,800 by 1,800 feet, with walls 6 feet in height. Another 16-acre square enclosure is connected to its east side.
- ◆ Mound 25 is a large burial mound in the center. It's actually three huge mounds connected together. It's been known since the 1800s, but Warren Moorehead was the first person to excavate it in 1891. Thousands of high-quality artifacts were found with the burials; most of them are now in Chicago's Field Museum.
- ◆ Like the Adena, the heartland of Hopewell Culture was Ohio, especially the Scioto River valley. Two major differences include the size and complexity of the earthworks and the spread of the Hopewell tradition. Virtually the entire eastern half of North America felt their influence.
- ◆ Called the Hopewell interaction sphere, most of the east was interconnected by a trade network, an art tradition, and the practice of burying their most important dead in earthen mounds. The Hopewell time frame is conservatively 100 BCE to 400 CE, just inside of what's generally referred to as the Middle Woodlands period. Each area had a local expression of the wider mound-builder tradition, marked by creating high-quality jewelry and religious objects of art.
- ◆ The core was the Ohio Hopewell. To the south were the Marksville Hopewell in Louisiana. Around Georgia was the Swift Creek culture. There were also the Illinois Hopewell, the New York Hopewell, and the Laurel complex in Canada.



LIFESTYLE

- ◆ Like the Adena, the Hopewell lived separately from their burial complexes in small, simple villages. Their houses were usually rectangular with daub walls and thatch roofs. Domestic pottery types have been found in Hopewell houses. Different, thinner, and more refined pottery has been found in graves.
- ◆ The Hopewell did significantly more farming than the Adena. The river valleys were choice locations for their crops, but there was still no corn. Villages moved often and were rarely multi-generational. That was probably because of a need to find new, fertile land once crop productivity declined.
- ◆ Evidence for violence among the Hopewell is sparse. Unlike the Archaic graves, Hopewell skeletons show little damage in life. There is one debated element: the presence of skulls in certain graves. These could be trophy heads, which would indicate warfare, but they might also be skulls of ancestors used as spiritual points of contact. The evidence is unclear.



HOPEWELL ART

- ◆ Ceramic and stone figurines provide wonderful insight into what these people may have looked like. Regarding hairstyles, the figurines indicate a female preference for buns on the top and sides of their heads. As for clothing, the figurines show topless women wearing knee-length skirts and men in briefs wearing leather moccasins.

- ◆ The Wray Figurine is one of the most celebrated pieces of Hopewell art. Found in Newark in 1881, it's a figurine of a shaman in a bearskin robe and a bear-headed hood. He holds a skull in his hands and is considered an important depiction of Hopewell shamanic traditions.
- ◆ Perhaps the most signature pieces of Hopewell art are their platform pipes. They were hollow, flat-topped tubes with very naturalistic animals carved on top. They were carved in a way that the animal is looking at the smoker, connecting with them in a fashion. Both the animal forms and the connection to tobacco strongly suggest that Hopewell platform pipes were part of ceremonial life and shamanism.

HOPEWELL SITES

- ◆ Hopewell sites were more complex than those of their Adena ancestors. There were larger clusters of burial mounds and massive earthwork enclosures, the latter often built in intriguing geometric patterns. The Hopewell complexes were always built in river valleys, oftentimes near important mineral resources like flint, pipestone, and salt outcrops.
- ◆ The Scioto River valley around Chillicothe was seemingly the most densely populated. There were once hundreds of Hopewell earthwork sites, but most were unfortunately destroyed by development, many by the early 1800s.
- ◆ Two men, Edwin Davis and Ephraim Squier, worked for years in the 1840s to document Hopewell sites through surveying their river valleys and making accurate maps. Supported by the newly formed Smithsonian, the two men mapped hundreds of mound sites. Many ancient North American sites would be lost to history without their efforts.
- ◆ Hopewell sites vary greatly, as do their elements. Most have conical burial mounds, like their Adena ancestors. Many have geometrical earthworks that surround enclosed compounds. Some are on hilltops above rivers instead of the more common placement in valleys. Along with the eponymous Hopewell site, other major sites include the Seip Mound, which is south of Chillicothe, and the Marietta Earthworks, which is covered by the modern city of Marietta, Ohio.

- ◆ The largest Hopewell hilltop earthwork is called Fort Ancient, which is located on a plateau above the Little Miami River. It features three miles of enclosure walls and over 60 gateways. Fort Ancient lived past Hopewell times. A new culture evolved there as the Mississippian period started to the west.

SERPENT MOUND

- ◆ Perhaps the most famous of all Ohio earthworks is called the Serpent Mound. It's unique among Woodlands-period earthworks in that it's an effigy. It depicts the body of a slithering snake with a curled tail, and is nearly 1,350 feet in length.
- ◆ Excavations have revealed conflicting evidence on when it was built, with the top dating it to 1120 CE and deeper excavations dating it to 300 BCE. The later date would be Fort Ancient culture, and the earlier one would be Adena. Regardless, no Hopewell artifacts have been found at the site.



Serpent Mound

NEWARK EARTHWORKS

- ◆ Located along a river in central Ohio, the Newark Earthworks are a good example of the massive geometric shapes constructed by the Hopewell people. Once covering four square miles, the site had two gigantic circles, an even bigger ellipse, two large squares, and an octagon.
- ◆ Wall-lined roads connect all of those shapes. It's an interconnected complex of ceremonial spaces. Squier and Davis mapped the whole area, but most of it has been destroyed by development.
- ◆ The scale of the complex was impressive; for example, the octagon was 50 acres inside with wall segments 550 feet in length. The huge size of the Newark enclosures points to an organized labor force, which must have come from different communities, as well as careful preplanning.
- ◆ They aren't just random shapes. For example, the site's Great Circle and Great Square are nearly perfect. The square's perimeter is the same as the circle's circumference, and both have the same area at 20 acres. This practice is known as squaring the circle, and it appears in other traditions around the world.
- ◆ The people of ancient India did the same thing and described it in ancient texts. Stonehenge and the pyramids at Giza also feature the practice. The Hopewell featured the circle-square combination at many sites, along with other geometry principles. It's fair to call them mathematicians.

ASTRONOMY

- ◆ The Hopewell earthworks often point to either the Moon or the Sun; at some sites, they point to both. For the Sun, the earthworks point to the solstices rising or setting along the horizon. This is called horizon-based astronomy, and it's what almost every ancient culture of the Americas practiced. At Ohio Hopewell latitude, the solstices rise and set 30 degrees off the east-west line.

- ◆ Though solstices were a focus, sites tracked them in different ways. The Dunlap Square and Hopeton Squares, both along the Scioto River, use their diagonals to mark the solstices. Dunlap points to the summer solstice sunrise, while Hopeton points to the summer solstice sunset.
- ◆ The Newark site focuses on the Moon. Its Observation Circle is so named because the passage that leads from it into the site's octagon is perfectly along a line to see the Moon's maximum northern lunar standstill. That only happens every 18.6 years, pointing to a high level of dedication among Hopewell astronomers.
- ◆ Moreover, the recent work of Ray Hively and Robert Horn has demonstrated that virtually every straight-line wall of Newark's octagon aligns with one of the lunar standstill points. Newark's Great Circle and the Eagle Mound at its center point to the Moon too. Its only exit leads out to point to a lunar minimum standstill.



CONCLUSION

- ◆ Over a period of 500 years (conservatively), the Hopewell people worked together to construct hundreds of earthwork complexes, many on a massive scale. Those complexes reveal a knowledge and investigation of astronomy and mathematics, especially geometry. While the geometric earthworks do not necessarily indicate the use of numbers and units, the geometric principles they display are indeed math.
- ◆ Given the scale of Hopewell earthworks in the Ohio area and the small size of Hopewell residential communities, researchers are compelled to conclude that multiple small communities came peaceably together to build the ceremonial complexes. Among other applications, the complexes were used to ritually bury their dead.
- ◆ As noted by the artifacts found in graves, the Hopewell had a distinct style, including jewelry, traditional dress, and hairstyles. However, something eventually happened. Between 400–500 CE, they stopped building mounds and their trade network collapsed.
- ◆ At that same time, two big developments came in: corn and the bow and arrow. Perhaps their trade network reached so far into the unknown that it came back with life-altering ideas. Whatever the case may be, it resulted in hundreds of years without mounds during the Late Woodlands period.

QUESTIONS TO CONSIDER

- 1 Do you think the Hopewell had to have a unit of measure to create their earthworks?
- 2 Why did a people capable of building such massive compounds choose to live in such small villages?

THE ORIGINS OF MISSISSIPPIAN CULTURE



Sometime between 400–500 CE, the Hopewell culture ended. No more massive geometric earthworks were built. Their vast trade network ground to a halt. Populations in eastern North America continued to increase, but spread into previously uninhabited areas. This time is called the Late Woodlands period, and it saw the beginnings of the Mississippian culture.

CHANGES

- ◆ Researchers don't know what happened to the Hopewell. All that is apparent is that they stopped building their ritual centers. However, it is clear that two important developments emerged: corn and the bow and arrow. Evidence for their timing is problematic.
- ◆ The Late Woodlands Period started in 500 CE or 400 CE, and lasted until 1000 CE. The bow and arrow arrived from Canada no earlier than 500 CE. Corn came from the southwest, but didn't become common until 700 or 800 CE. If those dates are right, then neither development was the original catalyst for the end of Hopewell lifeways.
- ◆ Note that the absence of evidence is not the evidence of absence. It makes sense that those new technologies changed the Hopewell world. For now, archaeology only says that the timing is off.

THE LATE WOODLANDS PERIOD

- ◆ Whatever happened, the Late Woodlands Period began. The eastern United States is a vast area, but generally speaking, population increased, settlements spread out to new areas, trade decreased, and art and jewelry production all but ceased.
- ◆ Small farmsteads sprang up around small tributaries, which is proof of the increased reliance on farming. In some places, villages increased in size, with dozens of homes in rows or around central plazas. Burial mounds were built, but they were smaller. Evidence of violent deaths increased in the Late Woodlands period. Like Archaic times, people were fighting again.

- ◆ Hopewell and Adena earthworks were centered around the Ohio River valley, and then disappeared. Then, just as the Late Woodlands period was ending, organized culture reemerged and shifted over to the Mississippi River basin. That would become the Mississippian culture, but not right away.

NORTHERN DEVELOPMENTS

- ◆ Two things started happening at opposite ends of the Mississippi River basin area. Along the Upper Mississippi, a tradition of effigy mounds began to thrive. To the south, a new form of mound-centered town took hold in Louisiana and Arkansas.
- ◆ The effigy mound builders were centered in Wisconsin, with a few sites extending into the surrounding states. They featured mostly animal shapes, including birds, bears, panthers, lizards, and turtles. Other shapes were geometric or unintelligible forms. They were three to five feet in height. About 4,000 effigy mounds are known today, but some researchers say there were once almost 20,000. Most have burials inside.
- ◆ The first villages associated with the mounds were small. By 900, those villages were commonly using the bow and arrow and growing corn. Violence increased, as evidenced by burials with arrows in them and palisades around villages. By 1000, the Mississippian ways of life took hold and the effigy mound tradition ended.

SOUTHERN DEVELOPMENTS

- ◆ Following the Mississippi River down south into Arkansas and Louisiana, the first Mississippian-type towns emerged around 800. A new pattern of mound-centered towns surrounded by defensive barriers became the norm. Mounds used to be built outside of the communities, but now they were the focus.
- ◆ There were many blossoming new towns, but two early ones in particular were similar: Holly Bluff in Mississippi and Toltec in Arkansas. Timewise, they were both still in the Late Woodlands period, but they were among the first towns to live like Mississippians.

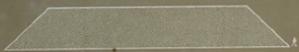


- ◆ Holly Bluff, also called the Lake George site, is located on the shore of Lake George. It's not very far from Poverty Point, Louisiana's first city from 1500 BCE. An early iteration of Holly Bluff was abandoned and then reoccupied later.
- ◆ Twenty-five mounds are known at Holly Bluff. Most of them are very small, but Mound A at the center of the town's plaza was 55 feet tall. Holly Bluff backed up to Lake George. It was surrounded on its other three sides by a defensive feature: a six-foot-tall embankment and an interior moat.
- ◆ The other aforementioned site, Toltec, is like Holly Bluff in a couple of ways. It's a cluster of 18 mounds, most small and a few very large. Toltec's two largest mounds are impressive, at 38 and 49 feet tall. There are 16 other mounds in the 100-acre plaza, and only a few have been excavated.

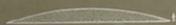
Mound Shapes & Sizes



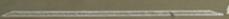
Md.A conical 15 m(49.5 ft.)height/100m(330 ft.)base



Md.B platform 12.5m(41ft.)height/80m(264ft.)base



Md.C conical 4.2m(13.4ft.)height/45m(148.5ft.)base



Md.D platform 1m(3.3ft.)height/ 60x30m(190x100ft.)base



Toltec Mound guide sign

- ◆ Two in particular, Mounds S and D, were excavated and yielded some interesting clues. Excavations found large deposits of whitetail deer bones buried in repeated episodes around and inside both. They didn't contain human burials. It would appear as if they were the locations of regular feasts involving deer meat.
- ◆ The implication is that Toltec elites were hosting parties. Guests were invited inside the city walls to enjoy a feast on high-value meat. It was people with wealth sharing with others, probably to ingratiate them. This is the kind of event Mississippian chiefdoms held all the way until European contact.

THE MISSISSIPPIAN PERIOD

- ◆ Large, defensive communities like Toltec and Holly Bluff were the culmination of the social changes at end of the Late Woodlands period. They heralded the beginning of the Mississippian way of life.
- ◆ The Mississippian era is broken up into three phases. The Early Mississippian period took place from 1000–1200 CE; it was centered mostly along the Mississippi River, with the city of Cahokia as the epicenter. The Middle Mississippian stretched from 1200–1400; it saw the way of life spread, and a unified religion reached its peak existence. The Late Mississippian, from 1400–1540, saw a possibly climate-related decline. It continued until the Spanish conquistador De Soto arrived and disrupted everything.
- ◆ There were different regions of influence at the Mississippian peak, each filled with minor towns and a few major centers. At the Mississippian world’s heart was a region called the Middle Mississippian region, and Cahokia was its primary city.
- ◆ To the southwest was the Caddoan region, with Spiro in Oklahoma as its main city. The Caddo Nation still exists today. South, on the east side of the Mississippi River, stands Emerald Mound, which was a major center of the Plaquemine region. Toward the east was the South Appalachian region, with Etowah in Georgia and Moundville in Alabama as its major capitals.
- ◆ North was the Oneota region around the Great Lakes and into Canada. That culture area is referred to as Fort Ancient culture. The prominent city of Aztalan was in Wisconsin.
- ◆ There was local individuality in each of the major centers, but they also held some things in common. Those traits include huge, flat-topped mounds in open central plazas; discrete clusters of housing; large cornfields to feed the population; elites in limited classes, with most of the population being commoners; and trade networks.

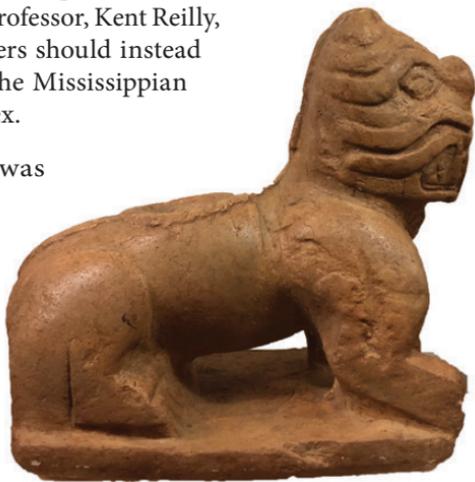
- ◆ The flat-topped mounds had different uses. Some were homes for the chiefs, others were council meetinghouses, and still others were charnel houses holding the remains of deceased chiefs. Other mounds held mass graves.

ART

- ◆ One of the most wonderful things about Mississippian culture is the large corpus of art they produced. Collectively, archaeologists call it the Southeastern Ceremonial Complex, or the SECC.

A colleague of this course's professor, Kent Reilly, has suggested that researchers should instead call it the MACC instead: the Mississippian Art and Ceremonial Complex.

- ◆ In the 1940s, the SECC was a set of common symbols and art styles possibly connected to modern Muskogean mythology. It included things like crossed circles, eye-in-hand symbols, birds of prey, and horned serpents. War and violence were also ubiquitous.



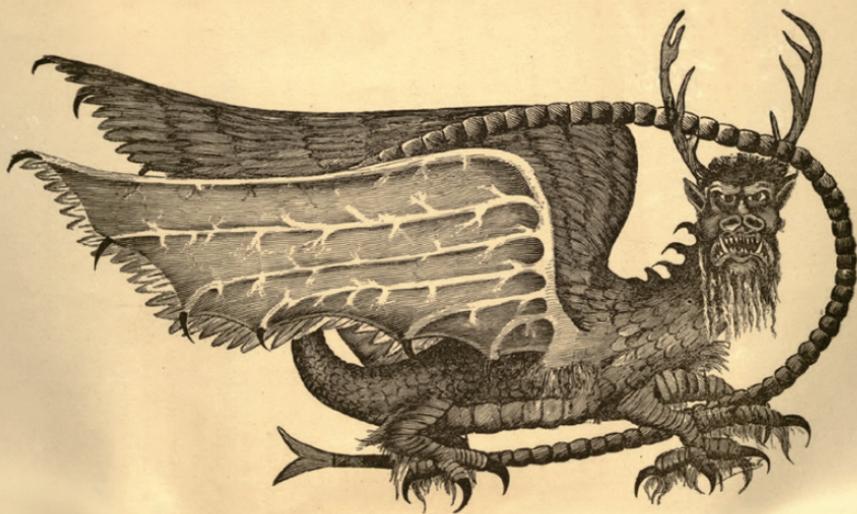
- ◆ Thanks in part to Reilly's meetings with scholars and Native American people, researchers now see the SECC as connected to native religion across eastern North America from Florida to Canada. It includes people to the south, such as the Muskogee and Caddo; people in the plains, like the Crow and Pawnee; and people in the north, including the Ho-Chunk of Wisconsin.



- ◆ The art of the Mississippians, found almost exclusively in burials or burial mound caches, comes in many different forms and materials types. Like the Hopewell centuries earlier, they preferred to use exotic materials imported from faraway places. Materials included copper, conch shells, pipestone, mica, wood, and stone. They used these materials to make jewelry, pipes, disks of stone and shell, and pottery. They also made realistic statues of humans.

THEMES IN ART

- ◆ Some of the subjects and themes of Mississippian art are easily understood, like warfare. For example, bird warriors are common, as are effigies of maces and arrowhead caches. Palisades, sacrifices, and ethnography all corroborate the art: Violence was a way of life.
- ◆ Other aspects aren't so clear, but modern indigenous thought can help scholars understand them. For example, take the concept of the three-tiered cosmos. In this concept, there is an upper world, a middle world, and an underworld.



Piasa, or devil bird

- ◆ The upper world is the home of thunderers, which are supernatural birds of prey. They aid humans on Earth, which is the middle world. The underworld is inhabited by panthers and flying snakes, often depicted with wings and horns.
- ◆ There's an ancient mural of an underworld creature on a cliff wall near Alton, Illinois, along the Mississippi River. It was first recorded by French explorers in the 1600s and then by many others after, each time in a worse condition. Today, there's a copy based on old drawings, but a few hundred yards downriver.
- ◆ It's called the Piasa. Some call it a dragon or a bird. Its main body is a large cat, with red wings, deer horns, and a human-like face. It has a long tail wrapping under its body with a fishtail end.
- ◆ The SECC holds many connections to mythic stories, and the Mississippians had mythological creation stories. Almost all indigenous societies across eastern North America retain the concept of the three-tiered universe. For a full description of some of these stories, refer to the audio or video lecture.

QUESTIONS TO CONSIDER

- 1 Why did the people of eastern North America go from living apart from their burial mounds to living next to them?
- 2 The introduction of corn is said by many to be proof of Mesoamerican influence. Do you believe Mississippian cities are a product of that influence?

THE MISSISSIPPIAN CITY OF CAHOKIA

LECTURE 11



Cahokia, located along the Mississippi River on the east side of modern-day St. Louis, was the largest city ever built in Ancient North America (north of Mexico). At its height around 1100 CE, it transcended simple, kin-based leadership by creating an almost state-level society. This lecture focuses on that city.

OVERVIEW

- ◆ Cahokia began as a large Woodlands-period village around 700 CE, just as the Hopewell culture had faded away. It grew steadily over hundreds of years, but around 1050, it was razed to the ground and replaced with a bigger, better, and clearly master-planned city.
- ◆ That city thrived for another 100 years, but then began to decline in 1150. By 1200, it was significantly depopulated. Scholars still aren't sure why, but warfare and/or rebellion were almost certainly contributing factors. The huge palisade surrounding the city center was rebuilt three times during its last 50 years.
- ◆ In its 11th-century heyday, Cahokia had a population of 10,000 to 15,000 people, with another 20,000 to 30,000 living in satellite communities. Development in and around St. Louis since the 1800s has destroyed much of the ancient city, but it is estimated to have covered over 3,000 acres.
- ◆ Its central precinct, called the Grand Plaza, covered 50 acres. At the heart of the Grand Plaza stood a gigantic earthen pyramid, now called Monks Mound. It was around 100 feet tall and covered nearly 15 acres. Its final phase had four terraces and big structures on top. Excavations revealed at least 10 previous phases; it was constantly under construction and expansion.
- ◆ The Grand Plaza also contained many other buildings, including council houses, charnel houses, and elite homes. All of these stood atop lower flat-topped mounds. At almost dead center of the plaza was a rectangular court with a tall wooden pole; this was a chunky court.



An Aerial View of Monks Mound

- ◆ Interspersed between those more public buildings were hundreds of single-family homes, each built almost identical to the next. A large circular arrangement of thick wooden poles, or woodhenge, stood just to the west of Monks Mound. In total, there were over 200 mounds at Cahokia, but many have been destroyed.

LIFE IN CAHOKIA

- ◆ The preponderance of identical, single-family homes denotes a lack of social stratification. Cahokia had a tiny elite class backed by a largely egalitarian population. The houses all had sapling walls covered in mud daub, golden thatch roofs, and central hearths. They were arranged in orderly clusters with the look of a modern subdivision.
- ◆ Most people were involved in farming, tending the massive communal cornfields surrounding the city. Those same people also subsisted through fishing, hunting, and plant gathering. Corn was now the major crop, but the other Woodland crops were still there, such as sunflowers and pigweed. Many people were also involved in craft production such as pottery, textiles, and stone tools.
- ◆ The area around the site's Mound 34 revealed evidence of a dedicated copper workshop at Cahokia. Imported copper was being fashioned into tools, weapons, and jewelry in quantity. Based on the evidence found in burials, most of those copper objects went to the city's elite class. Ritual feasting like that found at Toltec also existed. Mound 51 in the Grand Plaza had tons of buried trash from multiple public feasts.
- ◆ Cahokia was more than just a large, well-organized community; it was an attractive ideology being transmitted far and wide. Their way of life became a trade item in and of itself.

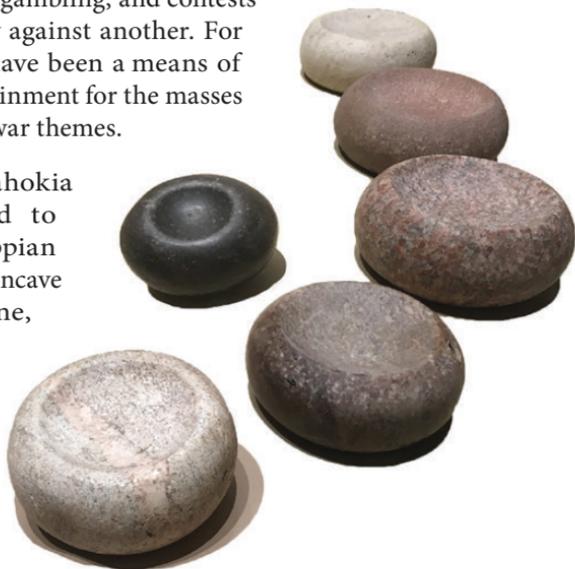
CHUNKEY

- ◆ Chunkey was a ritualized sport that symbolized many different aspects of Mississippian life, especially warfare and their creation story. All evidence points to its invention at, or very near, early Cahokia.
- ◆ The earliest chunkey disks—stone disks rolled during the game—date to about 600. Cahokia first popularized it, and it continued to be played in varying forms right up until European contact. All chunkey players were men. To play the game, a man rolled a disk across a packed-earth court while two or more other men threw other spears at it. The goal was to land one's spear closest to where it would stop rolling.

- ◆ Contact-period accounts of such sporting events report many spectators, gambling, and contests pitting one community against another. For Cahokia, it may well have been a means of political control: entertainment for the masses with mythological and war themes.

- ◆ Chunkey began in Cahokia but was transmitted to all the other Mississippian settlements. Cahokia's concave style of chunkey stone, made of local Cahokia stone, is found in many other major Mississippian sites.

- ◆ While the spears and the players' garb symbolized warfare, chunkey's primary symbolism was likely the cultural hero Red Horn's chunkey game against giants. In that way, it was a recreation of creation stories through ritual performance.



Cahokia museum - Chunkey disks

POPULATION SURGE

- ◆ Traits like chunkey games, ritual events, food assurance, and safety were all part of Cahokia's strategy for attracting people to their society. They were so successful that the city's population surged from 1,000 to 15,000 very quickly.
- ◆ That surge was due to migration. The decline of the Toltec society and the migration of its people may have started it and acted as a catalyst for Cahokia's transformation. Toltec ceramic types continuing at Cahokia after the Toltec site's abandonment supports the idea that they migrated to Cahokia.

- ◆ Shortly after the city's population expansion, the establishment of satellite communities began. Their inhabitants were also migrants, again indicated by foreign ceramic types and tools. Up and down the Mississippi River basin for 20 miles in each direction, satellite communities were trading with and participating in Cahokia's kingdom. Collectively, they were a society of about 50,000 people.

VIOLENCE

- ◆ There was a darker side of Cahokia's world—one full of violent displays of power and ritual sacrifice. The neighborhoods had conical burial mounds, which held clan burial groups. Another kind of ridgetop burial mound unique to Cahokia held combinations of honored dead and hundreds of clearly sacrificed people. Early French settlers called these mounds "earthen barns" because of their shape.
- ◆ The nature of the ridgetop mounds was identified as early as the 1920s in Warren Moorehead's excavations. He discovered that the now-destroyed Rattlesnake Mound and Junkyard Mound were full of bodies, but did not focus on how the people died.
- ◆ Preston Holder dug the Junkyard Mound again in the 1950s. He dug quickly, sometimes at night, to get it done before a highway project demolished it. He concluded that it was in an almost constant state of remodel and attention. New burials were added on a regular basis.
- ◆ At least 9 and possibly up to 16 of these special burial mounds were built at Cahokia. Mound 72 is the best analyzed and understood. It had over 260 burials inside. Most of the bodies were interred without goods, and many were clearly sacrificed.
- ◆ Two people lay at its core, very possibly the original elites honored by the entire mound. One was a man, and one was a woman. They lay atop 20,000 shell beads, which excavators said were arranged in the form of a large bird. A few other burials in the mound were respectfully laid to rest near the central pair, and those too have now been found to be male-female pairs.

- ◆ After the initial mound with the beaded burial, another small mound was built right next to it. Inside were placed 24 women, apparently strangled. Then, four young men with arms interlocked were carefully laid in, but they were missing their heads and hands. Next to the men, in another pit, were 53 women arranged in neat rows. They were also strangled.
- ◆ Fifty-two of the women were 15 to 25 years old, and just one was in her late 30s; perhaps she was a matron. Analysis of their bones and teeth revealed that they were not originally from Cahokia, and that they were malnourished and probably poor.
- ◆ Archaeologist Timothy Pauketat has a compelling theory about the sacrifices laid out in his book *Cahokia: Ancient America's Great City along the Mississippi*. He thinks they come from the outer villages as tribute.
- ◆ Pauketat notes a satellite village about 10 miles southeast of Cahokia known as the Halliday site. Its people were immigrants, and they weren't eating well. The site provides evidence of poor, foreign women. Pauketat thinks these are the same kind of women that were sacrificed at Mound 72 and that it was a religious tribute system demanded by the rulers of Cahokia.

TRANSFORMATION AND DECLINE

- ◆ The last big sacrifice at Mound 72 dates to 1030, just before the city's big transformation. If the transformation of Cahokia around 1050 was explosive, its decline was equally implausible. About 1150, things started going wrong, and by 1200, the city was significantly depopulated.
- ◆ In 1135, they built the city's first palisade. It must have been a reaction to some kind of stress because it divided neighborhoods into those behind the wall and those not. The palisade enclosed all 50 acres of the Grand Plaza.

- ◆ After 1150, the satellite villages started clearing out; people were migrating away. At the same time, mostly after 1200, the other known Mississippian centers all increased in population. Most were trading with Cahokia right up until its fall.
- ◆ By 1250, Cahokia had decreased in population to under 5,000 people for the whole region. By 1300, it was entirely abandoned. The reasons for its demise are unknown, but some theories lean toward environmental factors. Either they stripped the land of its resources, or perhaps flooding destroyed their infrastructure.
- ◆ Besides the significant event of building a palisade, there's not much evidence of attack or rebellion. However, the kind of institutionalized violence demonstrated in Mound 72 makes aggression another likely factor.

QUESTIONS TO CONSIDER

- 1 Which culture tradition had more influence on Cahokia: the Hopewell or the post-Poverty Point cultures to the south?
- 2 Do you think Cahokia reached a state-level society, or was it just a really big chiefdom, still ruled by clan relationships?

THE WIDER MISSISSIPPIAN WORLD

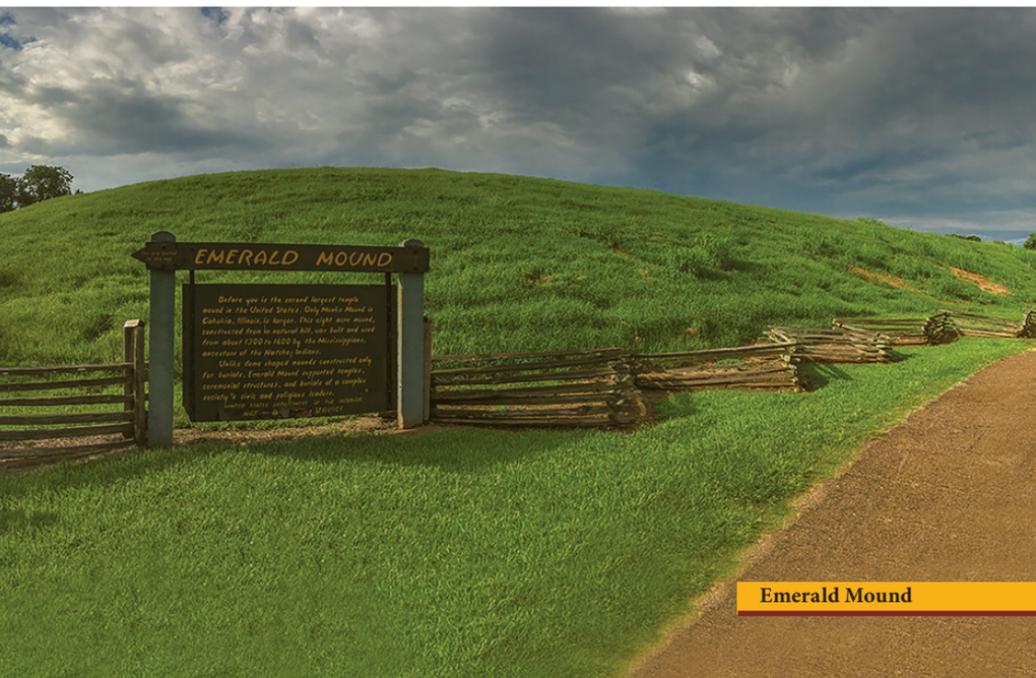
LECTURE 12



Cahokia was the grand Mississippian city, and it became a model for the entire region. Especially after its fall, Mississippian kingdoms sprouted up across eastern North America from Canada to Florida, with tens of thousands of known mound communities. Collectively, they represented a civilization of millions of people.

MAJOR HUBS

- ◆ A safe assumption is that Cahokia's culture would spread fastest and most consistently by river, especially the Mississippi. To the north and south, that's what scholars have found. For example, the Mississippi River valley to the south of Cahokia is densely lined with the remnants of Mississippian civilization. Today, those remnants usually appear in the form of odd mounds standing in the middle of small town parks, sometimes with a historical marker posted in front.
- ◆ The largest mound south of Cahokia is Emerald Mound in the state of Mississippi. It covers eight acres and has 35-foot-tall platform mound with two more large mounds on top. It's part of the Plaquemine culture area and stands today not far from the Natchez Trace Parkway.



Emerald Mound

- ◆ Artifacts from private collections and small sites show a strong Mississippian presence starting as early as the 900s. However, many of the sites in Louisiana and Mississippi were severely damaged in the early days of European colonization.
- ◆ Some of Cahokia's most important trade relationships were to the north. Some of the earliest Mississippian sites were up there. For example, the culture area called Oneota was part of Cahokia's early network.

WISCONSIN AND ONTARIO

- ◆ Early researchers thought the epicenter of Mississippian life was the southeast, hence the SECC art area. More recent studies are finding stronger religious foundations in the indigenous creation stories and archaeology of Wisconsin. One such site is Aztalan, in southern Wisconsin. It's now a 172-acre park along the Crawfish River.
- ◆ The site is important because its mounds and palisades follow Cahokia's form closely, and its dates are almost identical. Aztalan appears to have lived and died as Cahokia's contemporary. It was abandoned around 1250–1300, but its origins date to about 900, over 100 years before Cahokia's transformation.
- ◆ Its homes are a combination of rectangular houses like Cahokia and circular ones that are more like those built in Hopewell times in southern Wisconsin. Aztalan had three big mounds in the center, arranged in a plaza surrounded by a sizable palisade of standard Mississippian construction.
- ◆ Like Cahokia, Aztalan had many objects in its burials. Also like Cahokia, it did not have any local sources of copper. The copper came from further north, around Lake Superior.
- ◆ In that area, along the border between the United States and Canada, is one major mound site from the Mississippian period that stands out from the rest: Manitou Mounds in southwest Ontario. Today, it's a protected park managed by the Ojibwa Nation. They call it Kay-Nah-Chi-Wah-Nung, meaning "Place of the Long Rapids." Fast rapids there stop the river from ever freezing and allow year-round fishing.

- ◆ Kay-Nah-Chi-Wah-Nung is actually a network of villages spanning almost two miles along the Rainy River. There are 15 burial mounds within the villages. Fishing was abundant, and south-facing hills made farming possible. It had a resource base sufficient for many people to live there. There are many other mound sites in Canada, especially around the Great Lakes.

ETOWAH

- ◆ The southeast portion of the United States has the most densely clustered area of Mississippian sites. The Mississippian way of life there continued for hundreds of years, right up until European contact. There are major mound sites from the Mississippi River to the southern tip of Florida. Two major examples are Etowah in Georgia and Moundville in Alabama.
- ◆ Etowah is in modern western Georgia, part of the Southern Appalachian Mississippian culture. At least for a time, it was a major regional capital. Today, the Muskogee people claim ancestry from the people of Etowah. Archaeology reveals signs of occupation from 1000 to 1550.
- ◆ Its tallest mound, originally called Hightower and now called Mound C, stood 63 feet tall. It was excavated in 1925 and turned out to be a burial mound full of SECC-style artifacts. The artifacts are similar to Cahokia's but are called Hightower style. There was lots of copper, shell, mica, ceramics, and stone sculptures. The objects at Etowah had abundant SECC motifs like the birdman, the hand-in-eye symbol, and the solar cross.

MOUNDVILLE

- ◆ The other major Mississippian center in the southeast in the post-Cahokia world was Moundville, near Carthage, Alabama. Moundville is one of the most impressive archaeological sites in the United States, second in size only to Cahokia itself.
- ◆ In 1866, Carthage sheriff Hezekiah Powell first drew public attention to the site by claiming that he had found a nine-foot-tall skeleton there, possibly sparking the giant myth craze that was once prevalent.

- ◆ A few years after the sheriff's charade, a farmer found in his field what's now an iconic piece of Mississippian art: the Rattlesnake Disk. It's a carved stone disc with two entwined rattlesnakes wrapped in a circle around the hand-in-eye symbol.



- ◆ The Rattlesnake Disk and the sheer size of the Moundville ruins—29 mounds across 320 acres of central plaza—attracted America's most industrious amateur archaeologist: Clarence B. Moore. He was a wealthy man with a passion for Native American art, and he owned a riverboat that he filled with equipment and a large excavation crew.
- ◆ Moore spent 35 days at Moundville in 1905, digging only burial mounds. He found thousands of artifacts: jewelry made of pearl, copper, and shell as well as hundreds of intact ceramics. To his credit, he made the site's first reasonable map, published his findings, and gave most of the objects to museums.
- ◆ Unfortunately, his work attracted looters. Before the Alabama Museum of Natural History bought the site in 1933, a lot of damage was done. The next year, Moundville's fortunes improved with the arrival of the Civilian Conservation Corps—a public-work relief program that was part of the New Deal.
- ◆ A crew of 200 men worked for four years under the direction of Walter Jones. They dug 75 houses and 2050 burials, and recovered thousands of artifacts. Jones also hired an electrical engineer named David DeJarnette and sent him to the University of Chicago to receive the latest archaeological training. Thanks to DeJarnette's training, good techniques were employed, including careful note taking, proper artifact cataloging, and even the use of screens.

EVOLUTION AND DECLINE

- ◆ The excavations provide a clear picture of Moundville's evolution. It began in the Late Woodlands period and remained a Woodlands culture site until 1100. The first signs of change to a Mississippian way of life came in the kinds of houses they built, shifting from impermanent structures to buildings that stayed put from generation to generation.
- ◆ Pottery styles changed to Mississippian types, and trade goods from the Cahokia area increased. Corn production also increased, which was a shift away from traditional Woodland crops. Perhaps most tellingly, evidence of warfare and violence in burials increased.
- ◆ Around 1200, Moundville got a sudden and complete overhaul, not unlike the master plan that had been enacted at Cahokia a century earlier. The population surged, and a new central plaza with many more houses was built. A mile-long palisade was constructed, with posts planted seven feet deep.
- ◆ Perhaps 1,000 people lived inside the wall, but farmsteads and single-mound villages in the region made Moundville a capital for tens of thousands of people. That peak lasted for about 100 years. By 1300, the population began to decline, and by the late 1300s, the city was all but abandoned. Moundville was converted into a regional cemetery. The outer villages of the area lived on, but by European contact, Moundville had been gone for almost two centuries.
- ◆ In the 1960s, an archaeologist named Christopher Peebles used the meticulous notes and vast artifact collections of the Civilian Conservation Corps to conduct an important new study. Peebles found evidence of a three-tiered social structure, including a large lower class, an elite class, and a chief class.
- ◆ Further, he saw a pattern of mound pairs around the periphery of the plaza: one big and one small. The big flat-topped mounds were elite residences, and the smaller ones were full of burials. He concluded that these were ranked kin groups. The residential mounds were the homes of clan leaders and the burial mounds were for their kin. Together, the clan groups created the city's council of leaders.

SPIRO MOUNDS

- ◆ The final part of this lecture turns to the most important Mississippian site west of the Mississippi River: the Spiro Mounds of central Oklahoma. The sheer quantity of foreign materials found at Spiro indicate that it was an unparalleled trade center, surpassing even Cahokia itself. Materials from California, Mexico, and Virginia prove that its trade network stretched from coast to coast.
- ◆ It was a community long before the Mississippian culture revolution. Archaeology marks 850 to 1450 as its full lifespan. Spiro turned Mississippian in the 900s like Cahokia, and it also experienced the same population decline at 1250. Its site layout is classic Mississippian: 12 mounds and many houses in a central plaza.
- ◆ The site's second largest mound is named Craig Mound. It's the site of both amazing discoveries and tragic, disrespectful looting. Craig Mound stood for centuries virtually unknown until the railroad came through in 1899.
- ◆ Over the next few decades, casual looting at Craig Mound produced impressive art pieces. Some of the best were 30 copper axes with wooden handles carved to look like birds. In 1913, historian Joseph Thoburn recorded some of the things looted from the mound, including 200 carved marine shell objects and over 1,200 pounds of shell beads.



Spiro mound artifacts

- ◆ In 1933, George Evans bought the land. For just \$100, he gave a mining company the right to excavate the mound. It was the worst, most extensive looting in North American history. The mining company sold what they found.
- ◆ Miners tunneled to the center. There, they found a massive chamber containing the bodies of the honored dead, animal pelts, baskets, textiles, wooden objects, and feathers. This unique find was completely destroyed by the looters. An amazing wooden mask with deer antlers is one of the few objects that survived.
- ◆ Authorities briefly stopped the looting in 1935, but it resumed the moment they left. They returned to find the cedar poles, textiles, broken pottery, and shells scattered about in the weeds. To add insult to injury, the miners dynamited their tunnel closed when they left.
- ◆ The University of Oklahoma took over excavations in 1936 and cleaned things up with the help of a Civilian Conservation Corps crew, but the United States's entrance into World War II in 1941 halted their work. Today, the site is under the protection of the Oklahoma Historical Society.

QUESTIONS TO CONSIDER

- 1 Do you think we should spend public funds and resources to preserve Mississippian sites?
- 2 What kinds of factors could have caused the repeated abandonments of these major Mississippian capital cities?

DE SOTO VERSUS THE MISSISSIPPIANS

LECTURE 13



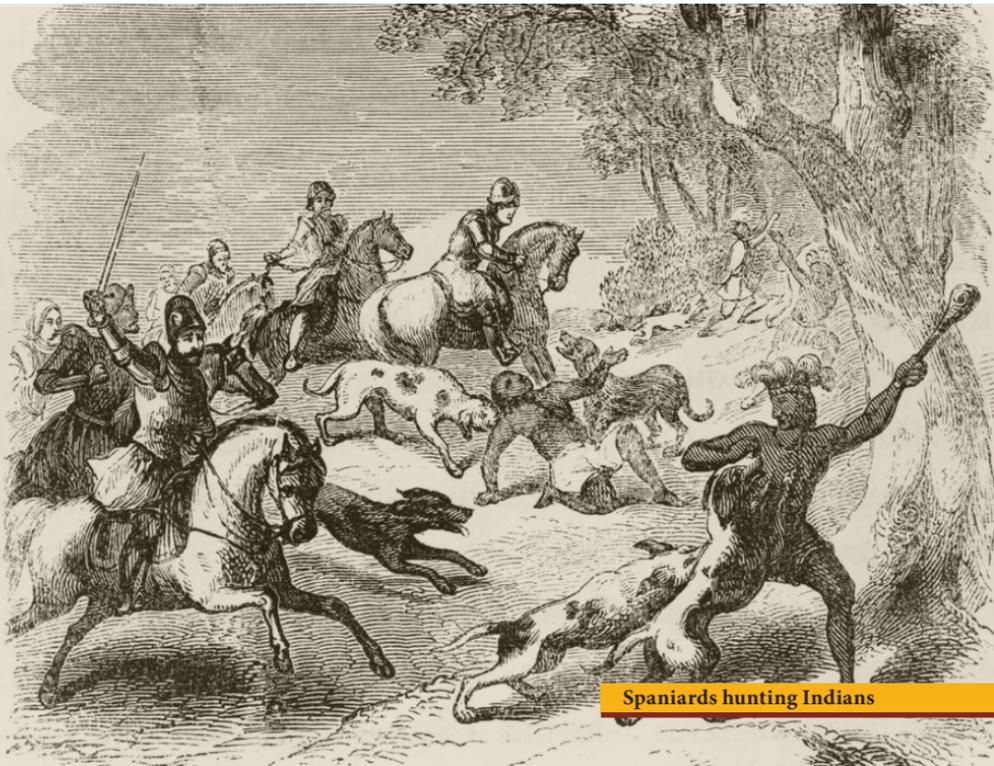
In 1539 near Tampa Bay in Florida, the Spanish explorer Hernando de Soto landed seven ships. He had hundreds of men, 237 horses, 200 pigs, and a three-year permit from the Spanish crown to colonize. From 1539 to 1542, de Soto and his army made a wide arc through Florida, Georgia, the Carolinas, Tennessee, Alabama, Arkansas, and down into Mississippi. They were searching for another empire like those of the Inca or Aztec. De Soto never found one, but he did find hundreds of cities with palisades, stately palaces, and astonishingly large populations. His expedition was a three-year reign of terror on the people of North America.

THE START OF THE STORY

- ◆ Scholars know about de Soto's story from the chronicles of people on his expedition; he did not live to tell his own tale. Garcilaso de la Vega's account was the most detailed and dramatic. He created it through interviews and reading other's accounts.
- ◆ On June 2, 1539, de Soto's army landed at Ucita, a town near Tampa Bay. The natives fled in fear. De Soto made Ucita his first base of operations, staying for six weeks as his soldiers scouted and hunted for slaves to carry all their equipment.
- ◆ To their amazement, they found a fellow Spaniard. While capturing farmers as slaves, one suddenly spoke to them in Spanish, begging for his life. This man was Juan Ortiz, who had been marooned seven years earlier while searching for the lost Narváez party (a previous Spanish expedition). He had learned Tamucan, the local language, and lived among the people of a nearby town.
- ◆ De Soto took Ortiz on as translator and had Ortiz take him to the chief of his community. The chief told de Soto of the rich and powerful Apalachee kingdom to the north. He gave de Soto food and slaves, and wished him good luck on his journey north.

NORTHWARD

- ◆ De Soto found multiple pyramid towns on his track north, but all were abandoned. Emissaries of local lords instead met him on the road, providing food, furs, and slaves for his continued movement north. This was clearly to save their towns, a common strategy used by natives against the Spanish.
- ◆ In August, de Soto found a kingdom around the Suwannee River and captured their leader. He learned that all of the towns in the kingdom were ruled by a single family of related lords, with one of them, Uzachile, as leader of their capital city.
- ◆ That paramount chief sent an elite with many gifts to negotiate his relative's release. He also invited de Soto to the capital. A surprise attack of thousands of warriors waited in an outer village, but de Soto learned of it and slaughtered them all. He then punished the capital by taking their homes, food, and the chief's pyramid-top palace as his own.



Spaniards hunting Indians

ALAPACHEE

- ◆ De Soto's army stayed for a month, eating all the corn and enslaving over 100 citizens as porters or concubines, and then finally marched north toward Apalachee. From the moment de Soto's forces entered Apalachee territory, they were attacked. Expert longbow wielders hit them with deadly accurate arrows again and again. De Soto killed all that he could catch, but they kept coming.
- ◆ This was the first truly Mississippian kingdom he encountered. It was a kingdom of roughly 100,000 citizens living in many towns. They were highly organized by central rulers from the Apalachee capital city of Anhaica, which was on the site of what is now downtown Tallahassee.
- ◆ During his winter encampment, de Soto sent scouts and messengers out. The scouts found a new port for his ships: Mobile Bay. He sent a mission back to Ucita with orders for the fleet to return to Cuba for more supplies and to meet in Mobile Bay next fall.
- ◆ De Soto's forces scoured the Apalachee territories for gold, but found none. They did find constant sniper attacks. De Soto also found a slave boy named Perico from a rich kingdom far to the north called Cofitachequi, which was ruled by a queen. Perico said it was full of gold and silver, that he was born there, and that he could lead de Soto to it. De Soto moved out in April of 1540 in search of it.

COFITACHEQUI

- ◆ Tracking north into Georgia, de Soto's forces at first found even larger, finely built pyramid cities. Their leaders greeted de Soto warmly, giving him cities as lodging and 800 slaves to carry their supplies north. (Most of his Uzachile slaves had died from mistreatment during winter.)
- ◆ However, Cofitachequi was much farther north than Perico said. A large wilderness buffer contained no cities to pillage for food, and the Spanish were terrible at hunting local game. Starving, the army limped on. Just as they were about to expire, the queen of Cofitachequi herself showed up.



Indian princess presenting a necklace of pearls to de Soto

- ◆ She gave the Spanish gifts and led them to her capital, a city named Talimeco. Located about 20 miles west of modern Columbia, South Carolina, it was a huge city with over 500 finely built houses. The queen's palace was on a high mound and covered with elaborately weaved mats.
- ◆ De Soto explained that he wanted yellow and white metals. The queen sent for gifts, and in three days, her subjects returned with what turned out to be copper and mica. De Soto and his men were disappointed but missed an important point: The materials were from very far away, signaling a vast, efficient trade network.

- ◆ A plague had been devastating the kingdom. De Soto's men found piles of bodies stacked up in temples of the area. People were overwhelmed by the quantity of dead. The queen explained that many farmers had also died and that their food was in short supply. She begged de Soto to leave some from her struggling people.
- ◆ Temple warrior statues were guarding coffin boxes full of furs, pearls, and other burial goods. There were also many bison skins and horns. De Soto, of course, sacked those graves and took all the pearls they contained. He told his disillusioned men that they were worth their weight in gold.
- ◆ European axes, glass beads, and rosaries were also present in the graves. When he asked about these objects, de Soto was told of a group of Spaniards who had died on the coast about 10 years before. This was probably the failed colony of Lucas Vázquez de Ayllón in 1526. That would also explain where the plague came from.



Spaniards robbing an Indian temple

MORE SEARCHING

- ◆ De Soto's men were upset that a year had passed and they still had no gold. Many wanted to colonize in the bountiful land of Cofitachequi. De Soto had no interest in that. After hearing of mountains to the west, he decreed they would march there in search of mines.
- ◆ He placed the queen under arrest and forced her to accompany him west toward Tennessee. He took Talimeco's corn stores and ordered the queen to tell every town along their route to surrender all of their corn as well. Since many of his slaves had died in the wilderness, he took many of the queen's people as his new slaves.
- ◆ About two weeks into the march, the queen's now-enslaved subjects pulled off a daring escape to save their queen. They slipped out of de Soto's grasp.

THE COOSA KINGDOM AND ALABAMA

- ◆ After not finding any gold in Tennessee either, de Soto descended on the Coosa kingdom of northeastern Alabama. He took their young chief hostage. His men helped themselves to food, slaves, and women throughout the summer. One of the many towns they sacked called Itiba may well have been Etowah, by then just a lesser town of the Coosa kingdom.
- ◆ By September, de Soto decided to move the army south toward his rendezvous point in Mobile Bay and into the territories of the Coosa's enemies, the Atahachi kingdom. Their leader was Tascalusa, whose son invited de Soto to the capital, also called Atahachi.
- ◆ De Soto's army was led on wide, well-maintained roads through town after town of good size. Dressed in furs and a feather headdress, Tascalusa received de Soto while seated on a balcony built off his pyramid palace. De Soto made his demands, to which Tascalusa replied that only he made demands in his kingdom.

- ◆ De Soto waited for his moment and captured the chief. In retrospect, that seemed to be part of Tascalusa's plan all along. He promised beautiful women, gold, and other riches in a town to the south called Mabila.
- ◆ Mabila, where the name Mobile comes from, was a mid-sized town of about 80 houses. Secretly, these houses were full of armed warriors. Its palisade had also been extra fortified as part of Tascalusa's plan.

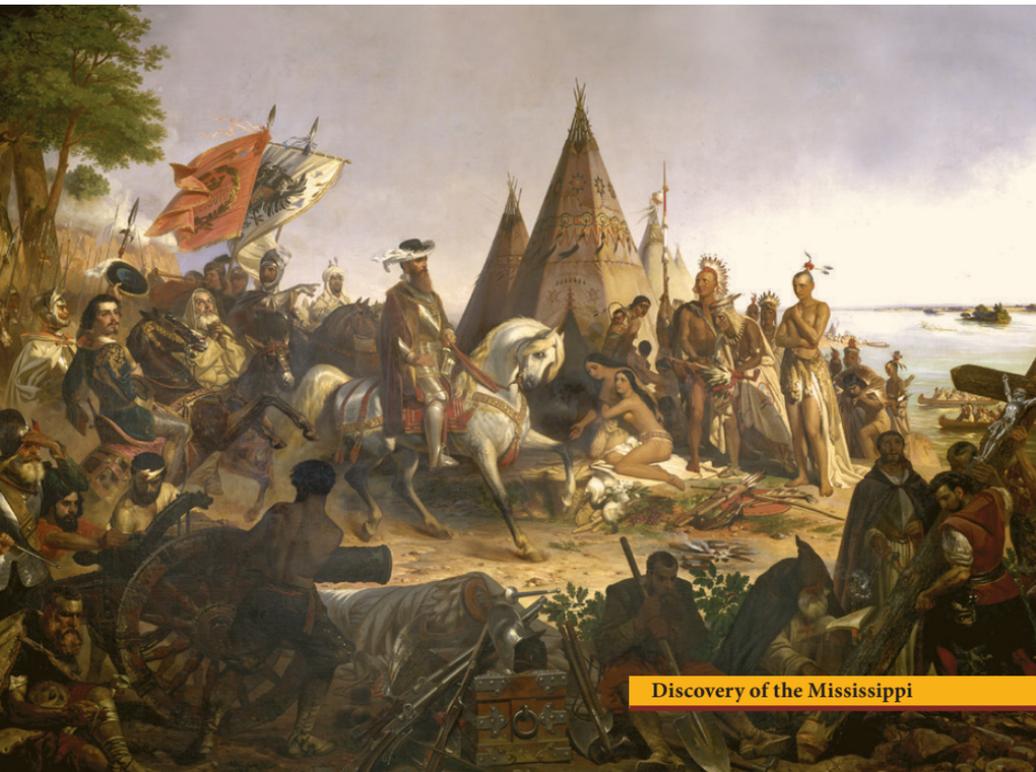
AMBUSH

- ◆ Tascalusa knew that De Soto always first entered towns with a small contingent, leaving his main army a distance behind. Mabila's chief greeted them with dancers and music, leading them to a big communal house. Inside, beautiful women danced while Tascalusa slipped away to start his ambush.
- ◆ The Spaniards figured it out and raised the alarm just before the warriors emerged from the houses. Most of the Spanish got on their horses and escaped. The slave porters rushed inside the gates with all the army's equipment and belongings, and slammed the doors shut, meaning de Soto had to lay siege from the outside.
- ◆ They fought all day, hammering at the wall with arrows raining down. Finally, they broke the gate enough to run in and burn the houses. Thousands of warriors burned to death, and those who tried to escape were hacked down.
- ◆ The Spanish won, but at great cost. Tascalusa probably burned, but so did all their things: tools, treasures, tents, and even their clothes. It was a huge military blunder. Tascalusa had played de Soto, and de Soto's men knew it.

ANOTHER BLUNDER

- ◆ By then, it was October, meaning it was time to meet the fleet in Mobile Bay. However, de Soto knew that the men would abandon his army if he went there, so he didn't. Instead of going for resupply, he decided to march the army to the northwest looking for a place to make his second winter camp.

- ◆ Wounded and without possessions, de Soto's army rested at Mabila for about three weeks before moving on. They wandered west into Mississippi, marauding through towns until they chose the town of Chicasa as their winter camp.
- ◆ They stayed for four months. De Soto took the palace for himself and his men huddled in native houses. The displaced Chicasa chief sent them furs, meat, and blankets all winter. However, these were the Chickasaw people who still survive in Mississippi today, and they were no peaceful victims. Just as de Soto was preparing to leave, they attacked in the middle of the night and burned the houses the Spanish slept in and their stables.
- ◆ De Soto lost 57 horses, 400 of 500 pigs, 11 soldiers, and all the things they'd salvaged from the Mabila fire. Fearing further attack while they were weak, they moved west looking for the Mississippi River. Following Indian roads, they found the Mississippi River in another kingdom called Quizquiz.



Discovery of the Mississippi

- ◆ Quizquiz was a peaceful kingdom growing corn in the fertile river valley. De Soto took over a riverside town and ate their food. However, he soon encountered his first Mississippian navy, made up of 200 warships coming from the opposite bank.
- ◆ They tried to attack the Spanish, but de Soto's crossbowmen prevented them from landing. The native navy attacked every day for a month as de Soto had his men building large rafts. Then, under cover of night on June 7, 1541, they floated the entire army across the Mississippi while the navy slept.

MORE ATTACKS

- ◆ On the west side, de Soto's forces found yet more towns and pillaged them. The towns of this region were not a unified kingdom and were easily played against one another. De Soto sent scouts out to decide which way to go.
- ◆ They found swamps to the south, bison to the west and more copper to the north—but still no gold. His men were sick of it, but de Soto would not quit. He decided to go west and try to pass through bison country to the Pacific.
- ◆ Next, they found the kingdom of Tula. It was scrubby land, and the people were aggressive hunters. They surprised the Spanish with long pikes they used to hunt bison, which worked on de Soto's horses. At the urging of his men, de Soto finally agreed to turn around and make another winter camp near the Mississippi.
- ◆ Moving again in April of 1542, they took over Guachoya, a pyramid town near where the Arkansas River meets the Mississippi River. De Soto thought he was close to the gulf, but his scouts said no.
- ◆ Another kingdom called the Quigualtam showed up with more warships and demanded that de Soto leave. De Soto destroyed an innocent town of 1,000 people to scare them, which didn't work. Then, de Soto suddenly fell ill with a fever. He died on May 21, 1542.

AFTER DE SOTO

- ◆ De Soto's death put the army in a bad position because de Soto had told the natives he was a god. They hid the body and then sunk it in the river at night. The remaining army tried to make it to Mexico through Texas, but it was too hard in the summer heat.
- ◆ They returned to Guachoya and spent another winter building boats. Finally, they sailed down the Mississippi as they were fiercely attacked by the Quigualtam armada and then further downriver by the Natchez people. They arrived to Mexico on September 10, 1543, with only 311 of the 620 who landed in Florida four years earlier.
- ◆ De Soto's army had seen hundreds of proud cities within a patchwork of Mississippian kingdoms. Collectively, they represented a civilization of millions of people, but they would never be the same. De Soto's path of destruction had a huge impact. When Spaniards returned to all the places de Soto had been just decades later, they were decimated.
- ◆ Kingdoms like Cofitachequi and Atahachi were gone, replaced with people with no central leadership, struggling to farm around overgrown ruins of palaces. Some kingdoms survived longer than others. The Apalachee persisted for another 150 years until English colonists wiped them out, but all kingdoms were affected. To a degree, one of the reasons researchers have trouble connecting modern tribes to their ancestors is because de Soto wiped them out.

QUESTIONS TO CONSIDER

- 1 Do you think the Mississippian way of life would have survived without de Soto, or was their destruction inevitable?
- 2 Do you think we can use the chronicles as information with which to interpret places like Cahokia, or is the 300-year time gap too great?

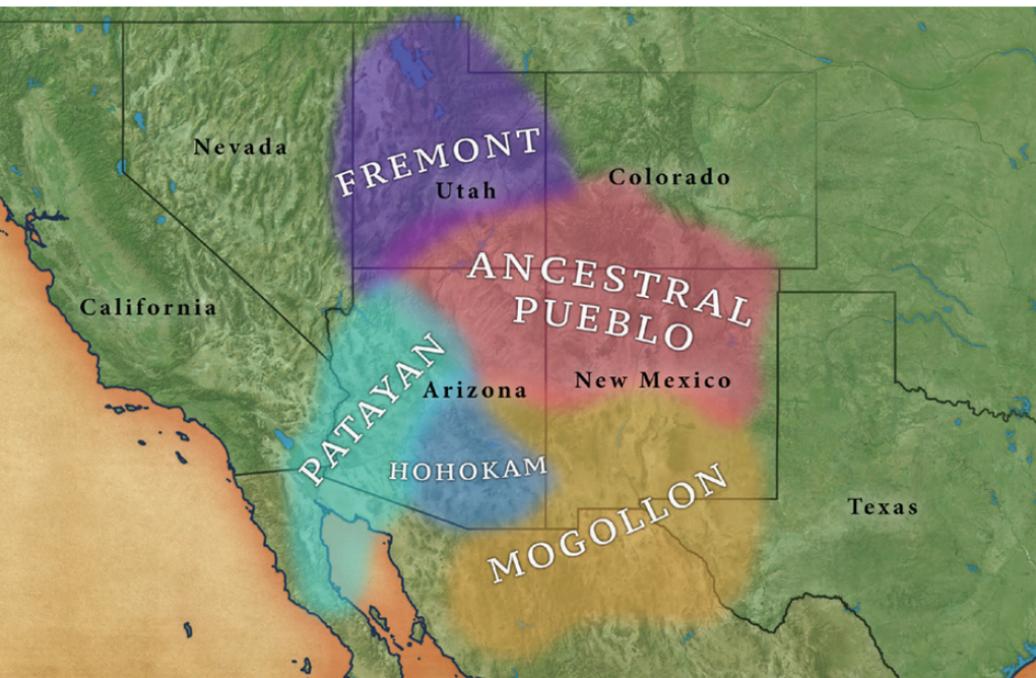
THE ANCIENT SOUTHWEST: DISCOVERING DIVERSITY



One of the most wonderful and advanced areas of ancient civilization in North America evolved in the modern-day American Southwest. They were a desert-adapted people, and unlike the mound builders to their east, they developed into a patchwork of similar but distinct cultures. Their achievements and diversity are the subject of this lecture.

DEFINING THE SOUTHWEST

- ◆ The area defined as the American Southwest is vast. It covers all of New Mexico and Arizona as its core, but also incorporates parts of Colorado, Utah, Texas, Nevada and southern California. It also reaches far into the Chihuahuan Desert of northern Mexico.
- ◆ The entire region is very dry because of limited rainfall. Much of it is desert, but there are also mountains, canyons and rivers in some areas. There are majestic mountains, rocky canyons like the famous Chaco Canyon, and colorful flat-topped buttes. Big rivers near certain areas allowed for big populations, from the distant past to the present day.



- ◆ Very large, densely clustered populations learned how to live there, but the problem they all shared was access to water. Different strategies were employed in different regions. Some collected rainwater, others farmed in flood plains, and yet others built elaborate irrigation canals. At times, years of droughts made every strategy futile, and entire populations were forced to move.

EARLY CURIOSITY

- ◆ Explorers passed through the American Southwest as early as the 1500s, but it wasn't until after the Treaty of Guadalupe Hidalgo in 1848 and the acquisition of the area by the United States that documentation of the ruins began. In 1849, US Army topographer James Simpson reported ruins in Chaco Canyon. He gave it its name. News of ancient stone structures in the American Southwest attracted East Coast scientific institutions, freelance explorers, and looters.
- ◆ Adolph Bandelier was among the first to arrive. He spent the decade of the 1880s making maps and excavating. During his travels, he developed a genuine affection for the modern Pueblo people. In 1879, John Wesley Powell formed the Bureau of American Ethnology and sent scholars who studied Pueblo history through the eyes of their descendants.
- ◆ Frank Cushing lived among the Zuni, recording their traditions and linking them to the ancestral ways. Jesse Fewkes did the same among the Hopi people. These scholars, while not perfect, were at least respectful. Unfortunately, many others who arrived as looters and treasure hunters weren't: Many Ancestral Pueblo sites were robbed in the 1890s.
- ◆ Finally, Teddy Roosevelt signed the Antiquities Act in 1906, outlawing unauthorized digging on some lands. The mound sites in the east were not protected, but in the southwest, local authorities worked quickly to establish federal lands around the ruins and protect the modern Pueblos.



Chaco Canyon structures

ADVANCEMENTS

- ◆ The year 1914 saw a major advance in archaeology. Nels Nelson developed stratigraphic excavation technique standards for use in his New Mexico digs. It was the simple but profound idea that things buried deeper are older.
- ◆ At roughly the same time, anthropologist A. L. Kroeber was studying modern Pueblo ceramics. He created a type collection and arranged it chronologically in order to define changes in style over time.
- ◆ Those two techniques combined to give archaeology the technique of ceramic seriation. It's based on the idea that ceramics could be put in a sequence of change over time by finding different types in either higher or lower stratigraphic layers.



Alfred Vincent Kidder

- ◆ Alfred Kidder called the first Pecos Conference in 1927. During that meeting, researchers agreed on a regional construct and terminology. It was called the Pecos Classification, and researchers use a version of it today. It called the earliest times Basketmaker and the later times Pueblo. Each of those two major markers were subdivided further into phases based on technology changes like pottery and housing types.
- ◆ It worked, though it was still a relative dating technique; they still couldn't tie it to hard dates. Then, the Folsom and Clovis discoveries happened. By 1929, they were widely accepted. Humans were connected to extinct species. That meant that even the Pueblo ruins could be very, very old.
- ◆ However, no hard dating techniques had been developed yet. Luckily for the American Southwest, astronomer A. E. Douglass came along. He studied the tree rings in preserved house beams in Pueblo ruins. The dry desert climate was perfect for such studies. Today, researchers have an unbroken sequence of tree-ring patterns for the American Southwest going back to 322 BCE.
- ◆ With stratigraphic technique, ceramic seriation, tree-ring dating, and the Basketmaker-to-Pueblo framework, archaeologists set to the task defining the culture history of the American Southwest. However, it didn't work. The techniques worked well enough, but Kidder's framework didn't fit everywhere.
- ◆ Some regions had very different houses and ceramics. The tree data came back with different dates, too. That's when researchers figured out that multiple cultures, not just Pueblo people, had coexisted in the ancient southwest.
- ◆ By the time the Spanish arrived, it was just Pueblo and Navajo people, with the Navajo being recent migrants into the area from the north. Finding earlier cultures was a surprise.

DIFFERENT CULTURES

- ◆ Researchers in central Arizona found a unique cultural pattern. In the 1930s, they gave it its own name: Hohokam. It was a word in the local Pima language meaning “those who have gone” or perhaps “all used up.”
- ◆ Also in the 1930s, archaeologists began exploring the Mogollon Mountains on the southern border of New Mexico and Arizona. There they found yet another culture, one living in pit houses, hunting as much as farming, and making an exceptional form of painted pottery bowls. This culture group was called Mogollon after the nearby mountain range.
- ◆ As work progressed, two other, kind of fringe cultures were defined: the Patayan and the Fremont. The Patayan area is west of Hohokam and south of the Grand Canyon. Date is sparse, but they are distinguished by living in earth lodges, lots of hunting, and rock-pile trail markers.
- ◆ The Fremont lived north of the Pueblo region, up into Colorado, Utah, and Nevada. They shared some traits with the Pueblos, but others with the bison hunters of the plains.

CLASSIFICATION

- ◆ In Kidder’s original Pecos Classification from the 1920s, everyone was part of Basketmaker culture and then evolved into Pueblo. Today, researchers put his Basketmaker I period, which is pre-corn, into the Late Archaic period.
- ◆ The Basketmaker II period in Kidder’s chronology still works, but now it’s only applied to the early phases of Ancestral Pueblo culture, not the whole southwest. Around 200 CE, the Mogollon and Hohokam truly began diverging from a shared Late Archaic past.
- ◆ Kidder and his colleagues at the first Pecos Conference weren’t entirely wrong. Pueblo culture was indeed the largest single group in the southwest and the longest lasting.

DIFFERENT PERIODS

- ◆ There are three Basketmaker periods and five Pueblo periods in the current Pecos Classification, beginning with the introduction of corn to the southwest and leading up until today.
- ◆ The Basketmaker periods start way back at 1500 BCE, when they were still living in open camps or caves and hunting/gathering in seasonal rounds. Corn had entered the region, and some people were planting it.
- ◆ By 300 BCE, many people were planting corn. By 500 CE, they entered the final Basketmaker phase, in which they slowly favored pottery over baskets. Ceramic cooking pots allowed them to add beans (which need to be soaked) to their farming.
- ◆ The bow and arrow was also introduced, changing the way they hunted. Being able to shoot smaller things, like birds, more accurately actually helped them stay put in one place.
- ◆ By 750 CE, they became more similar to the Pueblo culture. They started living in aboveground adobe or stone-built homes with flat roofs that caught water for storage. The kiva becomes common in villages. A kiva was a circular subterranean chamber where religious ceremonies take place.
- ◆ Agriculture became more complex. Reservoirs and small canals were built to give more people access to precious water. Both of those two important infrastructure items let villages grow larger and larger. Houses were built right up against each other like apartment buildings.



- ◆ Ancestral Pueblo culture reached its height in the Pueblo II period from 900–1150 CE. They constructed huge, planned towns that could hold thousands of people. Famous places like Chaco Canyon, Mesa Verde, and many other settlements flourished then.

FURTHER DEVELOPMENTS

- ◆ A series of droughts descended on the southwest. First, Chaco Canyon suffered 50 years of drought from 1130 to 1180. More droughts came in the 1200s, forcing the migration of entire populations. After 1350, the Pueblo people got their footing again and settled in large pueblos centered around plazas.



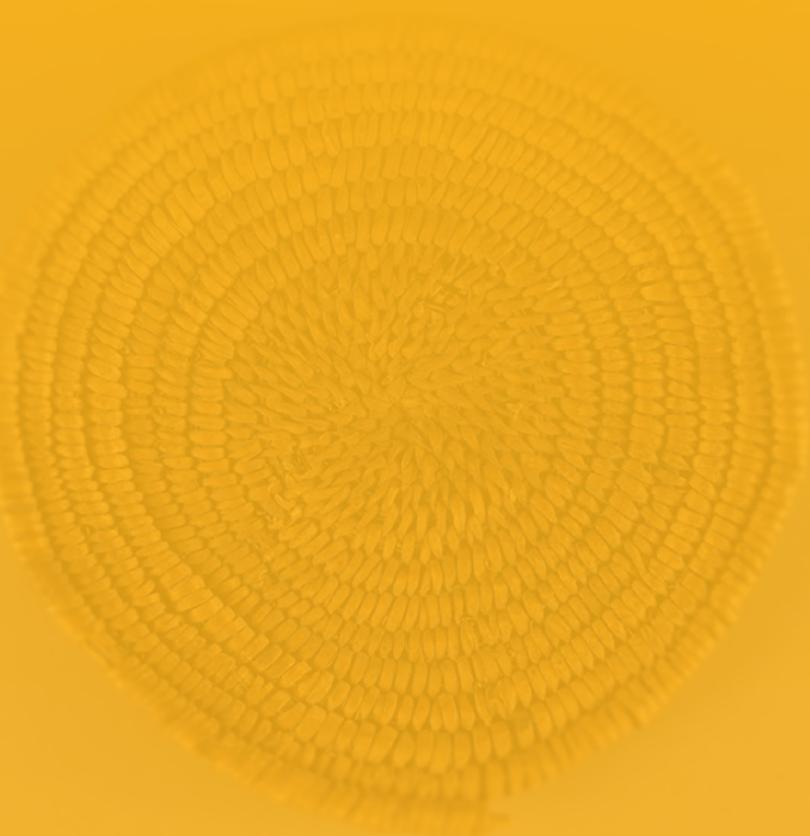
Mogollon pithouse

- ◆ If there was ever a unified Pueblo culture, that idea was abandoned in favor of individual pueblo survival. By the time the Spanish arrived, the Pueblo towns were all autonomous populations, just as they remain in modern times across New Mexico and Arizona.
- ◆ While the Ancestral Pueblo region was busy still emerging from their Basketmaker roots, the Mogollon and the Hohokam were developing their own unique ways of adapting to their environment. Each thrived for over 1,000 years but were ultimately absorbed into the Pueblo before European contact.
- ◆ Even at 400 CE, when everyone was still living in pit houses, the Mogollon houses were deeper and circular with one flat side. Slowly, the Mogollon changed from pit houses to aboveground structures by about 900 CE.
- ◆ For their part, the Hohokam settled near major rivers and started extending irrigation canals off their banks. They received only about two weeks of hard rain a year, and when they did, the rivers overflowed their banks. The canals they built took advantage of that surge, driving water to places far into the dry desert.
- ◆ As for trade, the Hohokam had a much wider network than their neighbors. They received an abundance of shells from the Gulf of California and copper, turquoise, and obsidian coming from western Mexico.
- ◆ When their Pueblo neighbors built their largest towns between 900–1150, so did the Hohokam. However, the droughts came for everyone, and by the 1300s, the Hohokam cities were abandoned. Pueblo people reinhabited the area.

QUESTIONS TO CONSIDER

- 1 How is it that the first corn agriculture in the present-day United States occurred in one of its most arid places?
- 2 Why was the pit house so popular in the ancient southwest?

THE BASKETMAKER CULTURE



In order to understand the evolution of the American Southwest's major ancient culture, the Ancestral Pueblo, it's important to understand their earliest manifestation: the Basketmaker culture. That's the goal of this lecture.

BACKGROUND

- ◆ Human existence in North America began with Paleo-Indian hunters, and then environmental changes triggered the Archaic period. That Archaic way of life persisted virtually unchanged for thousands of years. It focused on nomadic hunting and gathering.
- ◆ Around 5000 BP, give or take 1,000 years, the climate began to change again. That change affected the plants and animals living in niches across North America. For example, on the Colorado Plateau, two-thirds of animals over 100 pounds were gone by 8000 BP.
- ◆ By 5000 BP, the last of the Holocene glacial runoff depleted the plateau of soil. Fewer animals and plants meant less livable land and fewer people. By about 2500 BCE, the gradual warming made the whole region more arid. Soils replenished on the Colorado Plateau, and new varieties of plants emerged. Some were edible, drawing both animals and humans back in.
- ◆ At the same time, northern Mexico's Sonoran Desert became dry and unlivable. That pushed populations north and into the southwest. Those people who migrated into the southwest settled into pockets of cultures. Collectively, scholars call them the Picoso culture, a term coined by the archaeologist Cynthia Irwin-Williams.
- ◆ The term Picoso is a combination of three contiguous culture regions: The Pinto Basin in southern California, the Cochise area in southern Arizona, and the San Pedro area along the Arizona/New Mexico border. Irwin-Williams noted that despite those three cultures' use of different types of projectile points, they were all living essentially the same hunter-gatherer lifestyle.

- ◆ She also coined the term Oshara tradition for those same kinds of hunter-gatherers living on the Colorado Plateau. Today, most archaeologists follow the Pecos Classification and call the same time period on the Colorado Plateau the Archaic Basketmaker period. Still, they agree with Irwin-Williams's original assessment that they were the predecessors of Ancestral Pueblo.

CORN

- ◆ Whatever scholars call them—Picoso, Oshara, or Archaic Basketmakers—things changed for the early southwestern people because of the introduction of corn. Almost every chronology chart for the southwest draws a line at 1500 BCE, defined by the appearance of corn in the archaeological record.
- ◆ That time marker should probably be 2100 BCE to represent the most current oldest evidence of corn in the southwest, but the chronology charts haven't caught up yet. Even if it's a bit off, the 1500 BCE line starts the Early Basketmaker II period on the Colorado Plateau.
- ◆ Corn was not domesticated in the southwest. That happened thousands of years earlier in Mexico. The earliest date for domesticated corn in Mexico is about 9000 BP. Multiple sites in and around the Colorado Plateau show an early form of corn dating to about 2100 BCE.
- ◆ In 2015, a DNA study revealed some information about corn's route into the southwest. It came in two waves: once through the mountains in 2100 BCE, and again 2,000 years later following the Gulf of California coastline. For the first 1,000 years of its presence in the southwest, people barely used it.
- ◆ Farming was difficult in the arid southwest. At first, the still-Archaic people of the southwest used corn as just one minor part of their seasonal-round strategy of survival. They planted it in a location and then moved along in their migratory pattern.

- ◆ Archaeologists theorize that the shift to year-round farming started by groups leaving just a few people behind to guard the crops from animals, birds, and bugs. Corn itself helped out, too. For centuries, the strongest of the stalks would survive the arid conditions and lack of full-time tending.
- ◆ Natural selection gave rise to a new strain of drought-resistant corn, and its seeds were the ones that survived to be replanted. A gradual shift in the perceived value of corn triggered the development of the culture scholars call Basketmaker.
- ◆ The growing dependence on corn transformed life in the southwest. (About 1,000 years later, squash arriving from Mexico played a role, too.) The pursuit of growing it inspired inventions that changed the way people lived.



THE EARLY BASKETMAKER II PERIOD

- ◆ Scholars call the first period after thousands of years of Archaic life Early Basketmaker II, and they define its time as between 1500 BCE and 50 CE. Note: That timeline is fraying at both ends thanks to progress in archaeology. Corn's first known use in the southwest is currently 2100 BCE, and the earliest known pit house dates to about 400 BCE in the Ute Mountains of southwest Colorado.
- ◆ The Basketmaker II period started with people growing corn and living in the same place for longer and longer periods of time. At first, they still lived in dry cave shelters and shallow proto-pit houses. As the use of corn increased on the Colorado Plateau, so did the production of baskets for carrying and storing it. Baskets weren't new to the southwest, but they did gain a new purpose and value.
- ◆ There were essentially three basket-making techniques all across North America, and all three were in place from an early date. The earliest was twining, which is a warp-and-weft weaving technique. Plaiting is another, which involves a checker pattern of two strips woven over and under each other at right angles.
- ◆ The Early Basketmaker people preferred the third technique: coiling, specifically a style referred to as two rods and a bundle. These baskets are made with flexible twigs and yucca fibers. The two rods are twigs and the bundle is yucca fibers. The three are put beside each other in long strands and then coiled. Then, the coils are sewn together with more yucca fibers.

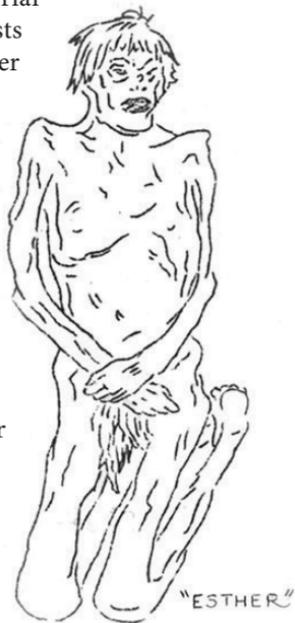


THE LATE BASKETMAKER II PERIOD

- ◆ In 1500 BCE, there wasn't much farming, but by 500 there was much more. Soon, the first true pit houses were built. However, full adoption of farming wouldn't happen until the beginning of the Late Basketmaker II period. Pit houses increased in complexity and number, signaling the people getting on board with corn, squash, and beans (a new domesticate).
- ◆ By 200 CE, the people were making crude pottery for cooking and storage. An increase in the consumption of beans also occurred at this time. Beans were around earlier, but apparently only processed by grinding them in metates. Soaking them before cooking improved their digestibility and nutrition, which was possible once the Basketmaker people had pottery.

MUMMIES

- ◆ The Late Basketmaker II people no longer lived in dry caves, but they did continue to use them as burial sites in some areas. Unfortunately, archaeologists disturbed a number of burial sites, but a number of mummies were found and investigated in the first half of the 20th century. From central Arizona to near Durango, Colorado, various Basketmaker mummy sites were found.
- ◆ Instead of the kind of preparation done in places like ancient Egypt and Peru, the southwest mummies are simply desiccated bodies, organs and all. Some caves had just 1 or 2 individuals, while others had more than 20.
- ◆ Perhaps the most famous Basketmaker mummy is a 20-year-old woman found in a cave near Durango, in Falls Creek Canyon. She was one of 21 interments there, but her placement in the far back of the cave allowed for better preservation than the rest.

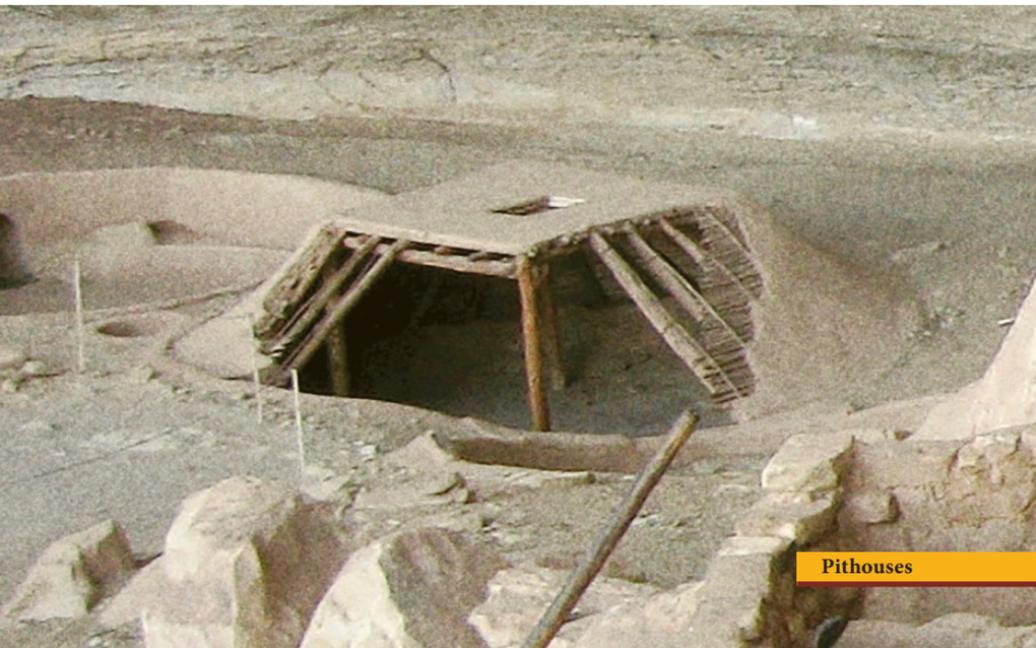


Her hair, skin, and even eyeballs preserved almost perfectly. Dubbed Esther by archaeologist Earl Morris, who found her in the 1930s, she wore nothing but a yucca fiber apron to her grave.

- ◆ Esther is one of dozens of mummies found in the southwest. Taken as a group, they give an idea of what Basketmaker people looked like. Judging from the sample group, women were around five feet tall, and men were three or four inches taller. They were dark-skinned, with coarse black hair. Men wore their hair long, while women often wore it short. Both sexes wore necklaces. They also wore woven yucca sandals, and rabbit or deerskin hides for warmth.

THE BASKETMAKER III PERIOD

- ◆ The next and final phase of the Basketmakers was the Basketmaker III period. In this short period, from 500–750 CE, the Basketmakers evolved into what scholars now call the Ancestral Pueblo people.
- ◆ At the start of the Basketmaker III period, most people were in isolated pit houses. By the end, they were living in villages of multiple pit houses and even some aboveground structures. Pit houses became deeper, larger, and subdivided into interior rooms with a central hearth.



Pithouses

The walls and roof frames became heavy logs covered with woven mats, grass, and mud for weatherproofing. Their entrances were commonly a square hole in the top with a ladder leading down.

- ◆ Those larger, more permanent kinds of pit houses started being built in definable clusters on mesa tops above canyons. Between the houses were crops of corn, squash, and beans, along with other edible or utilitarian plants.
- ◆ These communities clustered right where the major centers of the Ancestral Pueblo would later be, especially Mesa Verde and Chaco Canyon. More than 200 Basketmaker III villages have been found in Chaco Canyon. They averaged 20 pit houses per community.
- ◆ The Chaco Canyon site of Shabik'eschee is a good example. It had 18 pit houses, 50 storage pits, and a central pit house that was far larger than the rest. That larger central pit house did not have the typical evidence of a home. Archaeologists instead hypothesize that it was a place for rituals and public gathering. If that's correct, then it was probably an early kiva.
- ◆ Kivas were, and still are today, subterranean circular spaces where Pueblo people gather. Shabik'eschee was not alone in this settlement pattern. Most of the other villages had pit houses, farmland, and a central kiva. This provides a solid ancestral link between Basketmakers and their Pueblo descendants.

QUESTIONS TO CONSIDER

- 1 What could have inspired the Basketmakers to give up centuries of pit house living for aboveground structures?
- 2 Do you think that the form of the early pit house and the later kiva are related?

LECTURE 16

THE MOGOLLON CULTURE



The Mogollon are the southernmost group of the big three cultures of the American Southwest. Their culture history lasted over 1,000 years. In the times after 900 CE, a group of Mogollon people in the Mimbres Valley created an evocative kind of pottery that captures the imagination of all who see it. This lecture takes a look at that pottery and other aspects of the Mogollon culture.

OVERVIEW

- ♦ The Mogollon region is vast, but the majority of the excavations, and hence what researchers know, comes from the central regions around the Mogollon Mountains and adjacent areas. At first, archaeologists paid little attention to the Mogollon area. It looked like poorly constructed Pueblo communities back then.



- ◆ It was the pottery that started turning up in the Mimbres Valley that turned heads. The pottery featured beautiful black-on-white bowls painted with images of humans and animals. The first archaeologist to visit was Jesse Fewkes, who had been studying the nearby Hopi people.
- ◆ Invited in 1914 by rancher E. D. Osborn to the area's Old Town ruins, he confirmed the importance of Mimbres pottery and published a volume on it in 1923. A few years earlier, Burt and Hattie Cosgrove moved to the Mimbres Valley and took an interest in the pottery.
- ◆ Digging around, they learned it was coming from burials. There was a bowl on top of the head of almost every Mogollon body they found. They were amateurs, but their meticulous excavation earned them a recommendation to Harvard's Peabody Museum. The Peabody hired them to excavate Swarts Ranch, where they dug from 1924 to 1927.



Person buried with a Mimbres bowl on his head

- ◆ They excavated more than 1,000 burials at that site alone. A collection of more than 10,000 artifacts went to Harvard. They also published a volume of drawings of more than 700 Mimbres bowls.
- ◆ The activity and buzz about Mimbres pottery attracted Emil Haury, who excavated the Harris site and Mogollon Village in 1931–1934. He presented his results at the 1936 Pecos Conference and argued that they were distinct from Pueblo or Hohokam, and he coined the name Mogollon. Haury’s revelation triggered more archaeology and eventually a chronology.

CHRONOLOGY

- ◆ Mogollon chronology is somewhat hard to define because of the wide area it covers. Some chronologies focus on ceramic changes, others on settlement patterns.
- ◆ There are two main chronologies in the literature. The most common has five periods named Mogollon I–V, with Mogollon V marking the 1000 CE transition to aboveground masonry architecture and Mimbres pottery.
- ◆ The other focuses on house type changes and only has three periods: the Early Pit House period from 200–550 CE, the Later Pit House period from 550–1000 CE, and the Mogollon Pueblo period from 1000–1450 CE.

THE MOGOLLON LIFESTYLE

- ◆ The earliest Mogollon people were living quite like their Basketmaker neighbors to the north. They built pit houses and experimented with corn for increased food security. However, the Mogollon people continued to live in pit houses hundreds of years after Pueblos had started building aboveground architecture.
- ◆ From about 200 CE until a final change in 1000 CE, Mogollon people built gradually bigger and better pit houses. The houses were a sure sign that corn was influencing them to lead a sedentary life.

- ◆ The Mogollon culture had pottery from the 200 CE beginnings. They had it before the Basketmakers of the Colorado Plateau or the Hohokam. Stylistic similarities make it clear that the Basketmakers learned it from the Mogollon.
- ◆ Between 200 and 550 CE, researchers see a slow progression toward more pit houses and pottery types in each village. Larger and larger groups were depending on corn farming. However, they were still hunting and gathering.
- ◆ Some important changes came around 550. This was a near match to when Basketmaker III started on the Colorado Plateau, suggesting shared circumstances. One clear change was the widespread adoption of the bow and arrow.
- ◆ The Mogollon started hunting more deer. Their pit houses changed from round or D-shaped to rectangular forms. Also like their Basketmaker III neighbors, the Mogollon started building kivas, which were communal, ceremonial structures in the middle of their villages.
- ◆ Mogollon kivas were subterranean like Basketmaker versions, but they were rectangular, just like their new pit houses. Village density and size increased. The largest villages had over 100 pit houses arranged around multiple kivas.
- ◆ Around 750, when the Basketmakers turned into Ancestral Pueblo people and started living in aboveground pueblo blocks of adjoining rooms, the Mogollon kept living in pit houses. By 900, they started making their signature Mimbres black-and-white pottery.



Black on white Mimbres Bowls

A BIG CHANGE

- ◆ In the early 900s, a number of Mogollon kivas in the Mimbres area were burned. At first, archaeologists thought it was a sign of attack, but later reexamination of the evidence determined it was done on purpose by the Mogollon themselves.
- ◆ At Old Town, Harris, Galaz, and many other sites in the Mimbres area, an immediate rebuilding occurred, this time with aboveground pueblo blocks of clustered rooms. The move was almost certainly an influence from the Ancestral Pueblo. The timing of 1000 CE is right when Chaco Canyon was in full swing and building their largest cities.
- ◆ These new Mogollon towns thrived from 1000 to 1130 CE, a time called the Mimbres Classic period. The rooms all adjoined each other, and in larger towns, there were kivas incorporated into the room blocks. The room clusters indicate a significant shift in from separate, independent pit-house families to large, extended families living and working together.

POTTERY

- ◆ At the Mattocks site, archaeologist Harry Shafer found 180 rooms in eight discrete room blocks. Many rooms could only be accessed through exterior rooms, which was further evidence of communal living.
- ◆ Classic Mimbres people across the region buried their dead inside the floors of the rooms, often in what were once storage pits. At Mattocks, Shafer found that burials were in the inner rooms, but not the newest, exterior rooms.
- ◆ Most of those floor-pit burials were seated in a flexed, upright position with an upturned bowl on their head. Sometimes other bowls were at their feet. Those bowls were the famous Mimbres pottery.



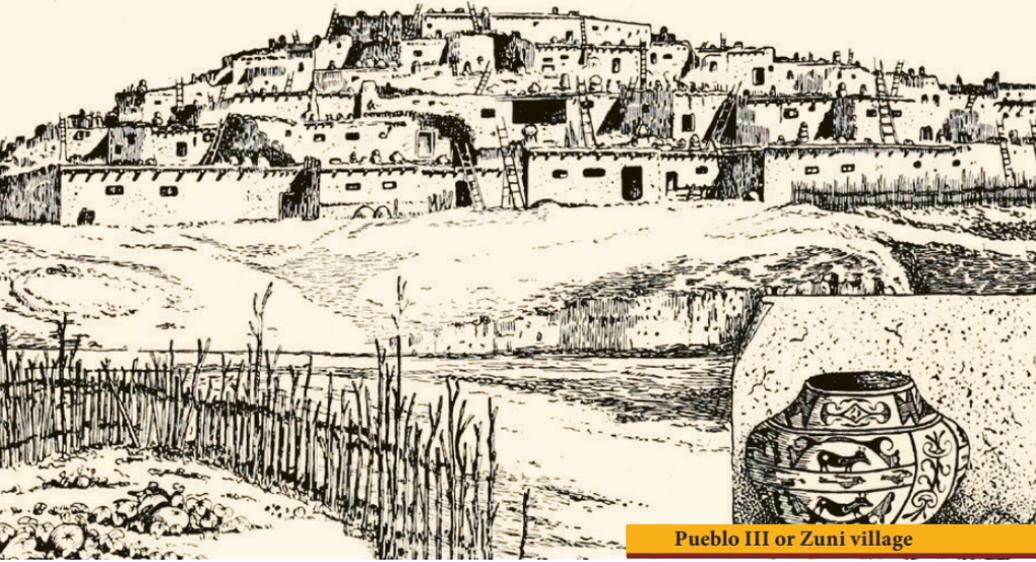
- ◆ Mimbres pottery is arguably the finest pottery ever created in Ancient North America. The images painted upon it make the pottery exceptional. The Mogollon people painted evocative scenes of animals, humans, and supernatural creatures.
- ◆ Today, an estimated 10,000 Mimbres pots are known, mostly in private collections. They were produced for about 300 years and by a relatively small population: The peak population in the Mimbres Valley was about 6,000 people. Mimbres pottery is also very limited in form. Samples are all bowls about 5 inches deep and 5 to 15 inches in diameter.

DROUGHT

- ◆ Life everywhere in the southwest was eventually impacted by a prolonged drought. There were repeated drought episodes in the 12th century, but by 1150 CE, it had become so bad that entire populations abandoned their homes and towns. The Mimbres Valley was no exception.
- ◆ Rather abruptly at 1130 CE, the Mimbres towns all burned their kivas and left. For a long time, archaeologists couldn't find where they went, calling the period from 1130 to 1250 a Mogollon hiatus. However, archaeologists recently figured out that some of them went to the east into the valleys around the Rio Grande. The lands there were easier to farm than the upland sites of the Mimbres Valley.

REVIVAL

- ◆ By the mid-1200s, Mogollon communities reemerged in the river valleys of central Arizona and the Colorado Plateau. The terrible droughts had ended, and a new generation of Mogollon built large towns like Kinishba and Point of Pines—both pueblo clusters with hundreds of rooms.
- ◆ The ceramics and architecture showed that they were now mixing with Ancestral Pueblo people who had moved south from the Kayenta region. A special kind of ceramics called Salado polychrome once again depicted animals and humans in ritual contexts.



Pueblo III or Zuni village

- ◆ Around 1300, a number of those new towns burned and buried their rectangular kivas, replacing them with open central plazas. The site of Grasshopper is a good example of the success of this new hybrid Mogollon–Ancestral Pueblo way of life. It grew to over 500 rooms and was occupied until about 1450. Around that same time, some Mogollon decided to move back to the Mimbres area.

QUESTIONS TO CONSIDER

- 1 Why do you think Mogollon people repeatedly burned their own kivas?
- 2 Do you think Mimbres pottery is religious in nature, or just art for art's sake?

THE HOHOKAM: MASTERS OF THE DESERT



While the Ancestral Pueblo adapted to the Colorado Plateau and the Mogollon to the southern mountain valleys, the Hohokam became the masters of central Arizona's desert. They made beautiful, unique art, but their real claim to fame was the more than 700 miles of sophisticated irrigation canals they built. This lecture takes a look at their accomplishments.

OVERVIEW

- ◆ The Hohokam were in a position to build irrigation canals because of where they chose to settle: the Gila River and Salt River basins. Today, that same area is where Phoenix and Tucson, Arizona, are located. Mid-19th-century settlers in Phoenix actually repaired some of the Hohokam canals to establish the first modern farms.



Hohokam canal

- ◆ The Hohokam didn't start out as irrigation farmers, but they picked it up quickly. Their history is broken up into four basic phases: the Pioneer, Colonial, Sedentary, and Classic periods.

THE PIONEER AND COLONIAL PERIODS

- ◆ The name of the Pioneer period (300–750 CE) is a holdover from early archaeologists who theorized that the Hohokam were actually Mexican immigrants who brought corn farming with them. Most scholars today agree that the Hohokam evolved out of the Cochise cultures that had been there since the Archaic period.
- ◆ Whoever they were, they started by part-time farming the flood plains of the Salt River and Gila River. Seasonal flooding kept wiping out their crops, but they eventually discovered that irrigation canals could move waters to farther and higher places, safe from the flooding.
- ◆ That's what brought on the Colonial period (750–1150 CE). That period name makes some sense in the regard that the invention of irrigation canals spread. People living off the main rivers also began irrigation farming. Desert Hohokam used rain catchments and wells to get most of their water, and a period of greater rainfall let them do that for a time.
- ◆ Desert Hohokam in the north had the added benefit of the ash from the eruption of Sunset Crater Volcano, just north of Flagstaff, Arizona. It started erupting in the mid-1000s, sending a thin layer of ash south. That improved soil water retention and thus farming.

THE SEDENTARY AND CLASSIC PERIODS

- ◆ The Sedentary period (1150–1300 CE) saw the drought that hit everyone in the southwest force a Hohokam regional reorganization. Many places, especially desert Hohokam communities, had to be abandoned because farming became untenable.
- ◆ The Hohokam were contracting, reorganizing, and aggregating into larger communities. In fact, the name Sedentary period implies they stayed still, but the opposite happened.

- ◆ During the Classic period (1300–1450 CE), the Hohokam got back on their feet and built the largest, most extensive canal systems of their long history. This period also came with Ancestral Pueblo immigrants. Salado Polychrome pottery, room-block architecture, and new burial styles are the markers of that cultural intrusion.



- ◆ Despite the Classic period's big walled communities and the vast expansion of the canal systems, heavier rains peaking around 1375 eventually destroyed the canals. That rendered hundreds of miles of irrigation infrastructure worthless.
- ◆ By the arrival of the Spanish in the 1500s, the Pima people, now called the O'odham, were living in the Salt River and Gila River basins. They were still using irrigation canals, but the Hohokam culture was gone.



Salado Polychrome pottery

SETTLEMENT TECHNIQUES

- ◆ The core unit of settlement is the house. For the Hohokam, that was a house built in a pit. Hohokam houses were usually square with rounded corners. Inside, four large corner posts holding up a flat roof were planted into a shallowly dug floor. Sometime they were rectangular, with a few more posts to support the roof. The flat roofs were a catchment for the little rain that fell in their dry environment.
- ◆ Some Hohokam homes were small, with only enough space for one family. Others were many meters across, enough for extended families to occupy. They were simply built and frequently rebuilt, but always in the same place.
- ◆ Most Hohokam houses were arranged in villages, but with little cohesive order. Even clustered house groups didn't share the same orientation or even spacing between them. Nevertheless, those same villages shared large communal ovens, so they had separate dwellings but aspects of communal living.
- ◆ In between Hohokam villages were rural residents known as rancherias. Those were houses-in-pit clusters like those within the villages, but the people lived independently out in the countryside.
- ◆ Despite the seeming independence exhibited by the housing settlement pattern, the canal systems told a story of intensive collaboration. As the canal systems reached farther and farther out off the main rivers, outer villages and riverside villages had to work together to maintain them. Archaeologists have identified at least 17 of these irrigation communities working together.
- ◆ They had to work together not just to build and maintain them, but also on how to fairly share them. That necessitated a strong, centralized leadership, which is indicated by the substantial public architecture of the Hohokam. They built platform mounds, ball courts, and kivas as their public architecture. Some researchers believe the so-called ball courts were actually public dance or performance spaces.



Hohokam houses

- ◆ Another form of public architecture came late, in the form of great houses. These were multistory buildings of stone and adobe. Many were built, but the best surviving example is Casa Grande, just southeast of Phoenix. Built on a hill with a commanding view, it had four stories and 11 rooms.

IRRIGATION

- ◆ Of all the achievements of the Hohokam, none were more impressive than their vast irrigation canal systems. At their peak, there were over 700 miles of canals supporting a population of perhaps 80,000 people.
- ◆ Emil Haury's excavations of the Snaketown site in the 1960s proved how vast and complex the Hohokam systems really were. They were an unparalleled feat of ancient engineering. The system was more extensive and longer than anything in Mesoamerica or even that the Inca built.

- ◆ The first major canals were built in the Pioneer period. By the Sedentary period, they were everywhere. By the Classic period, they were all amplified to their greatest extents. Many were 8 to 12 miles long. They narrowed as they went out, but at river connections, they were commonly 50 feet wide and 12 feet deep.
- ◆ At the river connections, they started with long weirs to divert water into their mouths. A weir is like a dam wall that doesn't reach all the way across the river. They had to be durable to prevent destruction during annual flood episodes.
- ◆ Narrowing as they went was a way to keep the flow rate constant. Estimates say they flowed at 1.5 to 3 feet per second. Constant flow rates were essential to prevent erosion and silting. To achieve that, they had to account for elevation changes with depth and curves. Modern engineers use complex math and survey equipment to figure that out. Researchers are still not totally sure how the Hohokam did it so well.
- ◆ The major canals fed into distribution canals that brought the water into fields. Water-control gates could be added or removed, watering one area or closing it off to send more water down canal. The gates also helped control flow, which was essential in high-rain episodes.
- ◆ A big Hohokam challenge was the fact that they had about two weeks of very hard rain, and then almost none for the rest of the year. The canals helped them capture all of it when the rains came and conserve when they didn't.

HOHOKAM ART

- ◆ Hohokam artwork is unique and beautiful. By quantity, the major Hohokam crafts were made of local materials: clay, stone, and the cotton they grew in their fields.



- ◆ Even with those local materials, they were producing notably different things than their neighbors. For example, their pottery was different. While Pueblo and Mogollon potters used the coil-and-scrape technique to build pots, the Hohokam made their vessels using the paddle-and-anvil technique.
- ◆ On a very generalized level and based on local clay types, the Mogollon made brown wares, the Pueblo made gray wares, and the Hohokam made buff wares. Buff is a light, brownish yellow.

- ◆ Stone was the other clearly local medium used. Hohokam stone bowls were typically small, handheld objects of sandstone. A few were made of other materials like quartzite or basalt. Some bowls were simple, but many were artfully carved with snakes, birds, sheep, and even human forms.



- ◆ Stone palettes are another example of intriguing Hohokam artifacts. They were flat, handheld, rectangular plates with a slight indentation to hold paint or other materials. No other southwestern culture made them. The closest other place similar palettes exist is western Mexico, along the coast among the Teochitlan people.
- ◆ That can't be brushed off as a sign of casual contact. That's because of the quantity of other materials found in Hohokam sites from the same western Mexico location. Turquoise and obsidian, often inlaid in Hohokam jewelry, has been tested and proved to be from western Mexico. Copper bells found at many Hohokam sites also come from west Mexico. Together, these all make a case for steady contact.

CHANGES

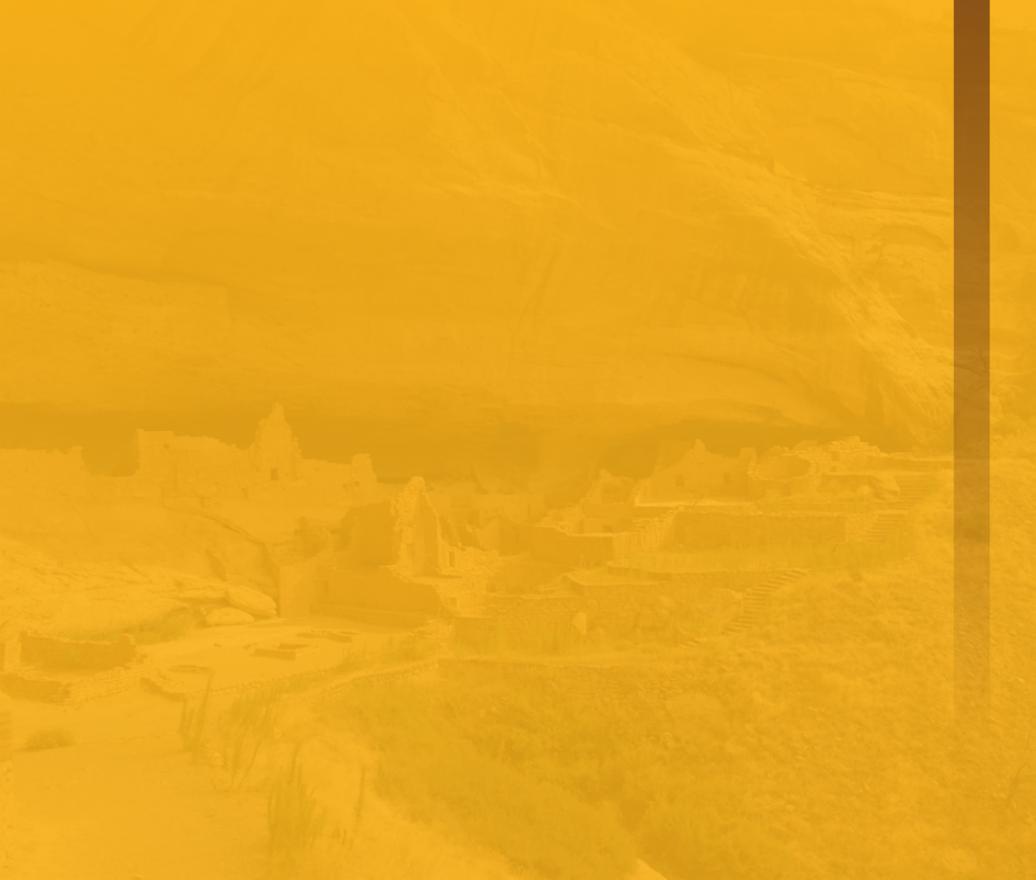
- ◆ By the mid-1100s, the Hohokam connection to Mexico weakened. Instead, they turned to their Pueblo neighbors for trade connections. The communities of coastal western Mexico were abandoned at about that same time, and their people moved inland to the mountains of Michoacán.
- ◆ In the Hohokam area, especially the northern parts toward Flagstaff, mixing began with the Ancestral Pueblo people. Pueblo-style room block structures were added to Hohokam sites, and Salado polychromes point to a religious shift. Even a few kivas showed up.
- ◆ The Hohokam heartland remained purely Hohokam. Around 1300, their irrigation canal systems amplified to their greatest extents. Social stratification was marked by notably larger elite housing compounds and a disparity in the quality and quantity of burial goods.
- ◆ By 1375, things start falling apart. The mixed Hohokam/Pueblo sites were abandoned, and the population across the region decreased. Most tellingly, the canal systems fell into disrepair, which was perhaps linked to a loss of centralized leadership.
- ◆ By 1450, there were no Hohokam communities left. A unique and highly sophisticated culture that survived for over 1,000 years had faded away. By the time the Spanish arrived, only small bands of their O'odham descendants remained.

QUESTIONS TO CONSIDER

- 1 Do you think the Hohokam were Mexican immigrants, or simply influenced by cultures to the south?
- 2 Almost none of the Hohokam irrigation canal system exists today. Do you think we should make more of an effort to preserve what's left?

THE ANCESTRAL PUEBLO

LECTURE 18



Though the American Southwest was indeed a tapestry of different cultures, there was a dominant one: the Ancestral Pueblo. From the 700s CE on, there were tens of thousands of Pueblo settlements, ranging from small farmsteads to full-blown cities. The Ancestral Pueblo sites are the most extensively studied in all of North America, and their culture is the subject of this lecture. Note that the Pueblo people still exist, spread out over 19 modern areas. Not surprisingly, they're tireless champions of their ancestral heritage.

OVERVIEW

- ◆ Ancestral Pueblo civilization spread out across the Colorado Plateau and specifically the San Juan Basin. Until the 1300s, when major populations moved east and south, there were three major Ancestral Pueblo regions: the Mesa Verde region in the northern San Juan Basin, the Kayenta region on its western edge, and the Chaco region in the center. This lecture will cover some of the larger non-Chaco sites, though virtually no late Pueblo site is without Chaco influence.
- ◆ Ancestral Pueblo culture evolved out of Basketmaker culture. The transition point occurred around 750. There are five Pueblo periods of history, called simply Pueblo I through V. For all practical purposes, the dividing lines between the periods are about settlement patterns.
- ◆ Pueblo I is 750–900 CE, marked by the transition from living in pit houses to the preference of living in aboveground houses and the expanded use of pottery. Pueblo II is 900–1150, which was essentially the golden age of Chaco Canyon. A centralized leadership emanated from Chaco Canyon, orchestrating massive building projects and a highly integrated trade network.
- ◆ In Pueblo III, roughly 1150–1300, the Ancestral Pueblo world was upended. Chaco Canyon was abandoned. Many other sites followed its lead, but at the same time, new sites sprang up. Big populations dispersed and smaller ones aggregated. Climate and repeated droughts contributed, but archaeologists agree that couldn't have been the only reason.



- ◆ Pueblo IV covers 1350–1600. During this period, the Pueblo people gave up on the San Juan Basin almost entirely. Some moved south, where the Hohokam and Mogollon were experiencing their own struggles. Most communities moved east, into the Rio Grande Valley area between modern Santa Fe and Albuquerque.
- ◆ Pueblo V is 1600 until the present. The switch is really about the arrival of the Spanish, which actually occurred closer to 1550. When the Spanish arrived, they found the Pueblo people mostly in their eastern cities, with large plazas surrounded by room blocks and kivas. New European property-ownership rules essentially locked them in place ever since.

SETTLEMENT PATTERN

- ◆ Their unique settlement pattern typifies Ancestral Pueblo culture. Whether it was a tiny farmstead or a massive town, they lived in apartment-like room blocks. The very name Pueblo means “village” in Spanish.

- ◆ The periods called Pueblo I–V start with the rise of the Pueblo-style room-block as the common form of housing. The material they were built of varied. At first they were made of jacal, a form of wattle and daub. Then they shifted to a more sophisticated masonry architecture.
- ◆ The adobe brick architecture that the southwest is so known for today actually didn't start until the Spanish introduced it in the 1500s. Those material changes never altered the basic form: square and rectangular rooms built one against the next in blocks. They have flat roofs, right-angle corners, and ladders reaching to the upper stories.
- ◆ Especially after 1200, big towns added wide-open plazas and towers. Larger structures called great houses were built of finely fitted stones that were plastered and painted in bright colors.
- ◆ However, Pueblo communities were commonly short-lived. Very few survived more than two generations. Most lasted 50 years at most before being abandoned. Frequent movement was the norm among the Ancestral Pueblo. Even the great houses in Chaco Canyon weren't occupied more than a century.
- ◆ Both that short-lived village pattern and the room-block form of architecture are linked by a single reality: It was hard to survive with the scarce resource base of the Colorado Plateau. Sharing resources helped, but picking up and moving became a cultural tradition born of environmental adaptation.

KIVAS

- ◆ Kivas were undoubtedly central to Ancestral Pueblo social and ceremonial life. Kivas existed all the way back into Basketmaker days, and many modern Pueblo areas still have kivas today.
- ◆ Modern kivas are subterranean chambers strongly connected to the Kachinas—the tradition of costumed dancers that represent the spirits who protect the Pueblo people and the fertility of crops. The Kachina equipment is kept in the kivas, and only men meet in it to plan the dances and discuss community issues. Women are only allowed to enter to serve food.

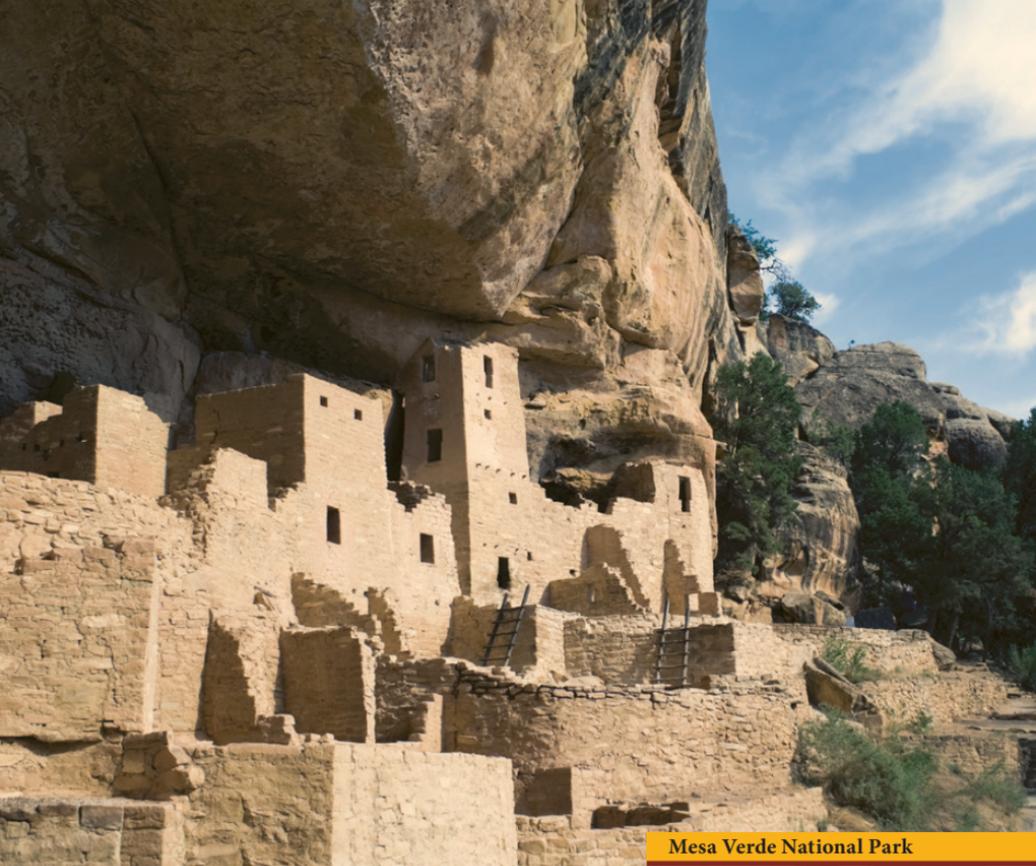


Kivas framed by the landscape, Chaco Canyon

- ◆ Kachina-related kiva use goes back to colonial times, but archaeologists can only detect the Kachina tradition back to 1250 AD. It's possible earlier kivas had both ceremonial uses and domestic uses, like communal storage or space for sleeping quarters.
- ◆ Great kivas are a particular type of kiva, and the argument for their ceremonial nature is strong. They're larger and located in open plazas. Most have multiple entrances and are only partially underground. Some are absolutely huge, capable of holding their entire communities at once.
- ◆ The site of Aztec in northern New Mexico is a good example. It has dozens of residential kivas and two great kivas. Archaeologist Earl Morris reconstructed Aztec's western Great Kiva in the 1930s. Its diameter was 48 feet, and its central room was surrounded by 15 more rooms. This was clearly a huge communal structure. The site's second great kiva remains unexcavated, but it is even larger.

PARTICULAR SITES

- ◆ The best-known site in the Mesa Verde area is the fabulous Cliff Palace in Mesa Verde National Park. The region had been inhabited since before Basketmaker times and slowly built up in population until the Pueblo 2 period, when a population explosion occurred. In that period alone, the Pueblo area as a whole gained over 10,000 new settlements.
- ◆ The largest of the Pueblo II communities in the Mesa Verde region was Yellow Jacket, just north of modern Cortez, Colorado. The site spanned over 100 acres. It has 1,200 rooms and over 200 kivas. The community was involved in trading.
- ◆ Another good regional example is Hovenweep, west of Mesa Verde. Hovenweep is actually a cluster of six villages from the Pueblo III period. It included architectural features not found at Yellow Jacket, such as towers and the tall great house called Hovenweep Castle. Its location at a canyon head was likely an adaptation to less rainfall.



Mesa Verde National Park

- ◆ The Mesa Verde site spanned both the Pueblo II and III periods, making it an interesting study in adaptations. Mesa Verde itself wasn't one village, but a wide range of dwellings, some in the rock shelters and others on the mesa top. Today, they are all part of Mesa Verde National Park.
- ◆ In Pueblo II times, there were only mid-sized room-block villages up on the mesa tops. Around 1150, they began building room blocks in the rock shelters of the canyon. Across the entire canyon area, there are nearly 600 cliff dwellings tucked into ledges and wide caves. The cliff villages were very defensible, but there's little evidence of violent deaths or destruction.

CHANGES

- ◆ For a long period of time, the people employed dry farming the mesa top, with no change in location or technology. However, by 1275 they were vacating, and by 1300 they were gone, never to return. Droughts hit the Colorado Plateau again in the late 1200s. Tree-ring evidence indicates that it was the worst yet.
- ◆ Ancestral Pueblo communities in the San Juan Basin moved out for good. From the Kayenta region of northern Arizona, the Pueblo people moved south. They integrated into the Hohokam and Mogollon regions, and changed those communities. The people of the San Juan Basin moved east into the sparsely populated areas of the Rio Grande Valley.
- ◆ Recent paleo-climate studies show that rainfall had actually picked up there after 1300, making eastern New Mexico over to the Great Plains more arable than it had been in the past. The site of Bandelier was one of the first established in the east. Its pottery is almost indistinguishable from the vessels that were formerly used at Mesa Verde.



Bandelier bowl

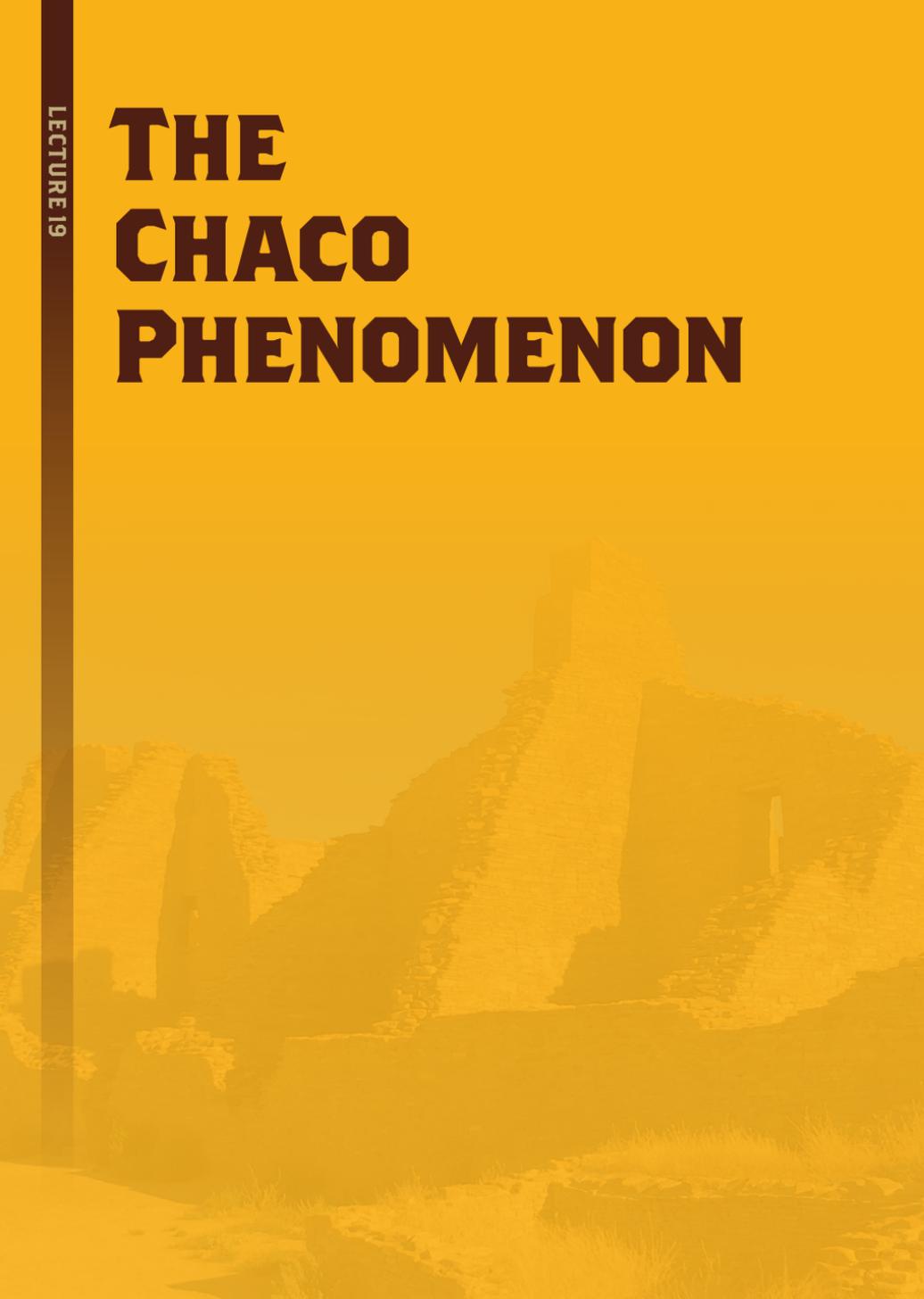
- ◆ Communities in the east aggregated like never before, using gravity-fed irrigation systems and river valleys to produce crops on a new and improved scale. By the 1400s, there were multiple huge Pueblo cities. Many had over 1,000 rooms each.
- ◆ In the Galisteo Basin, Pueblo Blanco grew to 1,500 rooms, and Pueblo San Marcos had 2,500. Just outside of Albuquerque, the Ancestral Pueblo site of Kuaua had 1,700 rooms. The pattern in Arizona was much the same: The site of Homol’ovi had 1,200 rooms. Homol’ovi’s rise matches up nicely with the time when the Hohokam abandoned their canal system for good.
- ◆ These very large communities—supported for the first time by gravity-fed irrigation ditch systems—became the norm and broke the pattern of Pueblo habitual relocation. These were the Pueblo communities that the first Spanish explorers met. The Spanish introduced livestock and property rights, both of which made the Pueblo villages even more permanent. Many live today in the exact place that their ancestors did 500 years ago.

QUESTIONS TO CONSIDER

- 1 Why do you think the Pueblo way of life outlived that of the Hohokam and the Mogollon?
- 2 What was it about the Pueblo that kept the incidence of warfare so apparently low?

LECTURE 19

THE CHACO PHENOMENON



Chaco Canyon, in the northwest corner of New Mexico, is full of the most sophisticated architecture ever built in ancient North America. The first Ancestral Pueblo great houses in Chaco were built in the mid-800s CE along with dozens of smaller sites in and around the 10-mile stretch of canyon. Construction reached a fever pitch by 1100. Fourteen great houses, four separate great kivas, and hundreds of smaller settlements covered the canyon.

A vast network of settlements with clear Chaco connections spread over a 25,000-square-mile area. Then, it all stopped with a sudden and complete abandonment in 1150, likely because of a harsh drought. The times before the abandonment have been termed the Chaco phenomenon by archaeologist Cynthia Irwin-Williams, and they are the subject of this lecture.

OVERVIEW

- ◆ In terms of the architecture, there's space for tens of thousands of people to live in Chaco Canyon, but the archaeological evidence says that very few people actually lived there. The agricultural capacity of Chaco Canyon was, and still is, low. The Chaco Wash running through the canyon is dry most of the year.
- ◆ The rooms in the great houses were large and nice, but they were all that way. At least within the complexes, social hierarchy is virtually undetectable. There's also evidence of a massive trade network flowing both in and out of Chaco Canyon. Multiple workshops have been found, processing materials like obsidian and turquoise, both of which had to be imported from long distances. The extent of Chaco's network went all the way down into southern Mesoamerica.
- ◆ If there's anything that truly symbolizes the achievements of Chaco Canyon, it's the 14 great houses. They are walled compounds with hundreds of rooms surrounding a central plaza. Kivas are interspersed within the room blocks, and nine of the great houses have great kivas in their plazas. Pueblo Bonito, with at least 650 rooms, is the largest.



Great house at Chaco Canyon

- ◆ The Chaco great houses were all part of a single community. They were neighborhoods of a sort. Materials for them and other buildings in the area included wood and stone. They also featured plastered exteriors.
- ◆ Though some were expanded in multiple building phases, all the great houses were constructed in preplanned, all-inclusive projects. Locations were predetermined and levelled. Then, materials were collected and stacked up before construction began. Tree rings show they were built very quickly, within a year or two from the start of construction.
- ◆ Most great houses were built along the canyon's north wall, facing south for the most sunlight during winter months. A few were built above, on the canyon rim. Those, like Pueblo Alto and Tsin Kletzin, seemed to act as entry points into the canyon proper.
- ◆ There were also so-called Chaco outliers, which were locations with Chacoan great houses well outside the canyon. There are about 150 known Chaco outliers spreading out in every direction from the canyon, though the greatest concentration is north.

PUEBLO BONITO

- ◆ The biggest and most extensively excavated Great House is Pueblo Bonito. It was one of the first three great houses constructed in Chaco in the 800s. The other two were Una Vida in the east side and Peñasco Blanco in the west. All three of those early great houses had a D-shape, with their room blocks curving in to give every room a view into the enclosed plaza.
- ◆ Unlike the other two, Pueblo Bonito was rebuilt and expanded four times, reaching its greatest size in the 1100s just before the drought. Based purely on the number of rooms, early estimates suggested that thousands of people lived in Pueblo Bonito. However, excavations found such a lack of trash middens, hearths, and burials that now many scholars think less than 800 people lived there full-time.



Great house at Chaco Canyon

- ◆ Most of the rooms are deep inside. They are small and dark, making them unlivable. In its almost 300-year history, fewer than 60 burials went into its floors. If it was a full-time living city, that number should have been in the thousands. Fourteen of those burials were found in a single room.
- ◆ A 40-year-old man buried underneath the floor is the oldest burial at the site. Carbon-14 dating of the bones says he was from the mid-800s, or the very beginning of Pueblo Bonito. The burial was uncommonly rich. It contained many marine shells, including a beautiful conch shell trumpet. Clearly, the man was important—perhaps a founder of Chaco Canyon. The other 13 burials in the room are clearly associated, but their interments were later, spanning the whole history of the canyon.

- ◆ In a very important DNA study in 2017, 9 of the 13 others were found to be in the same female bloodline. They were related, and the room appears to be a matrilineal, multigenerational crypt.
- ◆ Another important element of Pueblo Bonito is the great kiva. There's wide agreement that it was a ritual meeting place, capable of holding hundreds of people at once. Nine of the Chaco great houses have them, and there are four more standalone great kivas on the valley floor.
- ◆ Pueblo Bonito presents strong evidence of trade with Mesoamerica. For example, three different rooms contained scarlet macaw bones. Southern Mexico is the farthest north that they naturally breed. The presence of chocolate also is an indicator of trade with southern Mexico.

ROADS

- ◆ The people of Chaco built many roads. There are at least eight major roads leading out of Chaco Canyon in all directions. Those major roads cover over 180 miles, and they're usually 30 feet wide.
- ◆ The biggest, longest road is the Great North Road. It starts from Pueblo Bonito and Chetro Ketl in the canyon and goes up to Pueblo Alto. From Pueblo Alto it tracks straight north for 30 miles. It eventually stops at Kutz Canyon.
- ◆ There is some debate over what the roads were used for. Many scholars have concluded that the Chaco roads were pilgrimage routes. In modern times, development threatens to destroy them.

CONCLUSION

- ◆ Archaeology is quite confident that the Ancestral Pueblo built Chaco Canyon, but even that is contested by the Navajo people who say it was their ancestors. Whoever built it, evidence of leadership and motivations are unclear.

- ◆ The question remains: What controlled, managed, and motivated the Chaco phenomenon? The current conclusion, or perhaps the best guess, is religion. Most scholars agree that Chaco Canyon was a destination for annual pilgrimages.
- ◆ The people who built it lived outside of it in the more than 10,000 Ancestral Pueblo settlements across the Colorado Plateau. Perhaps scholars can't find Chaco's leaders because they lived in those outer communities, not the canyon.
- ◆ As the ideology created in the canyon grew, it spread, and the great houses called Chaco outliers became secondary points of pilgrimage. Modern Pueblo people also have pilgrimages and important religious festival days. Much of what they do focuses on honoring their ancestors, the Kachinas, and the cycles of the Sun and the Moon.

QUESTIONS TO CONSIDER

- 1 What made Chaco Canyon better than anywhere else to build the great houses?
- 2 What do you think the roads were built for?

ARCHAEO- ASTRONOMY IN THE ANCIENT SOUTHWEST

LECTURE 20



The people of the ancient southwest were skilled astronomers. They demonstrated their skills by incorporating astronomical alignments in their architecture and carefully designed displays of light and shadow. This lecture takes a look at such achievements.

A DISCOVERY

- ◆ Scholars had no idea that the ancient people of the southwest were astronomers until a lucky discovery in 1977. At the eastern end of Chaco Canyon stands Fajada Butte, a natural tower rising 400 feet from the canyon floor.



Fajada Butte in Chaco Culture National Historical Park, New Mexico

- ◆ In June of 1977, artist Anna Sofaer and her partner Jay Crotty were on top, recording petroglyphs. Hidden behind three big sandstone slabs, they found a pair of spirals pecked into the cliff wall. The sun was low and the light was bad for photos, so they decided to return the next day.
- ◆ They climbed to the top again around noon on June 28. Looking at the spiral, they saw a thin knife of light right down its middle, beaming in from between the slabs. In their notes, they called it a sun dagger. That name stuck, and the discovery that day started a Chaco paradigm shift.
- ◆ Sofaer had been studying a brand-new field of research: archaeoastronomy. She returned to the top of Fajada Butte many more times in 1977, including the fall equinox and winter solstice. She found equally exact sun dagger markers for those days as well.

THE SOLSTICE PROJECT

- ◆ In 1978, Sofaer created the Solstice Project, a nonprofit organization dedicated to the study of the sun dagger. She recruited architects, photographers, astronomers, and geologists to her team. Together, they made very exact surveys and studies of the site.
- ◆ At the site, each of three solar station markers recorded the following:
 - On the summer solstice, a dagger of light through the center of a spiral.
 - On the equinox, a light dagger in the center of a smaller spiral at the upper left.
 - On the winter solstice, two light daggers bracketing the larger spiral.
- ◆ The 9.5 turns of the spiral had hinted at the Moon, and by 1982, they had figured out that it was also capable of marking the 18.6-year lunar cycle. However, in 1989, on a return visit, they discovered the slabs had moved. The center slab was pivoted by just centimeters, but it was enough to alter the effect.

- ◆ Studies concluded that it was the result of ground compaction from frequent visitation. It wasn't vandals or purposeful, but it happened. Fajada Butte was closed to the public, and the Solstice Project went into high gear on their digital recordation project. After over a decade of data collection, testing, and technology advances, they created a perfect model of the slabs and spirals.
- ◆ In 2006, they gifted their model and an interactive exhibit of Fajada Butte's sun dagger to the New Mexico Museum of Natural History and Science. Users can change the time and date with knobs and watch the sunlight hit the spiral. They can also change their perspective, as if they are walking around it in real time.
- ◆ Starting in the 1980s, the Solstice Project expanded their astronomical studies to the great houses of the Chaco Canyon and beyond. They, and eventually many other scholars, opened eyes to the pervasive nature of Ancestral Pueblo astronomy.

THE GREAT HOUSES

- ◆ Careful surveys of 14 of great house complexes, both in Chaco Canyon and outliers, found 12 of them had astronomical alignments. Cardinal direction orientations were perhaps the most straightforward. Pueblo Bonito's north-south dividing wall and east-west front wall had been known for a long time. The east-west line marks the equinox rise and set points on the horizon.
- ◆ Cardinal directions were also long known within the great kiva called Casa Rinconada. Its four massive pillars mark the cardinal directions, and its two doorways face north and south. Two other east-west-aligned great houses were built on the canyon rims above Pueblo Bonito: Pueblo Alto to the north and Tsin Kletzin to the south. Those two houses are on a perfect north-south line, even though they are more than two miles apart.
- ◆ The Solstice Project was also on the hunt for the solstice and lunar alignments found on Fajada Butte. Aside from the sun dagger, and perhaps a spot called Piedra del Sol, Casa Rinconada is the only canyon structure with a possible summer solstice alignment.



Casa Rinconada, Chaco Canyon, New Mexico

- ◆ Chacoan winter solstice alignments were more common. There are probably more, but four are Wijiji, Kin Kletso, Pueblo Bonito, and the outlier Aztec West. Each had its own unique way of interacting with the winter solstice.
- ◆ Aztec West's great house's back wall is aligned to the winter solstice sunrise, which is also the summer solstice sunset. Pueblo Bonito has multiple, oddly placed corner windows which let winter solstice sunrise light in and create squares of light in their opposite corners. Wijiji and Kin Kletso both have corners that provide view spots for observing the winter solstice sunrise in far-off niches in the south canyon wall.

LUNAR ALIGNMENTS

- ◆ The Solstice Project also found maximum and minimum lunar standstill points. These are the farthest points of lunar rising and setting over an 18.6-year cycle. The Sun at Chaco Canyon's latitude can rise and set a maximum of 30 degrees off the east-west line. Those two extremes are the solstices. The Moon can travel approximately 6 degrees farther out from the solstice maximum, but fully does so only every 18.6 years.



Una Vida great house, Chaco Canyon, New Mexico

- ◆ Over the entire cycle, the Moon moves through the more stable solstice points, reaching a minimum standstill point of 6 degrees less than solstice at 9.3 years, or half the full cycle. Scholars call an orientation of 24 degrees the lunar minimum and 36 degrees the lunar maximum.
- ◆ The Solstice Project found five of the Chaco great houses had lunar minimum orientations: Chetro Ketl, Kin Kletso, Pueblo del Arroyo, and two outliers, Pueblo Pintado and the Salmon Ruins. Two other great houses had primary axes along the lunar maximum standstill: Peñasco Blanco and Una Vida.
- ◆ Some of the cardinal-direction-oriented complexes also have lunar orientations encoded in their diagonals. Pueblo Alto and Tsin Kletzin, the pair of canyon-rim great houses aligned on a north-south line, have lunar minimum orientations from corner to corner of their rectangular room blocks. The same goes for Hungo Pavi.
- ◆ The Solstice Project also found some amazing inter-site alignments. Pueblo Alto is cardinal-direction oriented and its diagonals are the lunar minimum. Its lunar minimum lines extended outward would hit Kin Bineola—11 miles to the southwest—and Pueblo Pintado—16 miles to the southeast.

CONCLUSION

- ◆ Despite all of these observations, questions remain: What was Chaco Canyon and its greater sphere of influence? Astronomy is clearly part of its identity, but how?
- ◆ On the practical side, agriculture and the need to track the seasons seems like an obvious theory. However, agriculture in the southwest started centuries earlier. So far, evidence of astronomy in the southwest says the practice started no earlier than 800–900 CE. Moreover, while solar observations are connected to farming, the 18.6-year lunar cycle isn't. Agriculture may be part of the explanation, but it's not the sole reason.

- ◆ Perhaps religion is a factor. Modern Pueblo people have creation stories that speak of the Sun and the Moon. Pueblo people told Anna Sofaer early on that if a building or feature honors the Sun, it probably honors the Moon too.
- ◆ One item links the various theories: calendar timing. There's a practical business side of gathering for rituals, especially when it's a gathering from a wide region. Equinoxes, solstices, and full Moons help coordinate everyone: They all see the same sky. Solar and lunar calendars would help pilgrims meet in certain places at certain times. That could help explain how huge numbers of people could meet without central authority.

QUESTIONS TO CONSIDER

- 1 Do you believe that all the recorded alignments in Chaco Canyon were intentional? Why or why not?
- 2 Do you think that Chaco Canyon had a residential central leadership that archaeology has just yet to detect?

THE PERIPHERY OF THE ANCIENT SOUTHWEST

LECTURE 21



The past few lectures have discussed the ancient southwest, an area of civilizations that shared a number of lifeways. However, the people in surrounding areas were different. Features like basket and pottery types, pit houses, and corn farming extended outside the southwest, but they faded into other ways of life as distance grew. This lecture's subject is the buffer zone of periphery cultures outside the southwest.

OVERVIEW

- ◆ To recap, the Ancestral Pueblo were primarily on the Colorado Plateau. The Hohokam were in the desert river valleys of central Arizona. The Mogollon were in the mountains of southwestern New Mexico. Then, in the centuries just before Spanish first contact, the Pueblo people clustered around the Rio Grande river valley, in between modern Albuquerque and Santa Fe, New Mexico.
- ◆ The Hohokam and Mogollon turned into Salado cultures, with a healthy Pueblo influence. They stayed in the desert river valleys in between Phoenix and Tucson. Into today, those are the areas of the southwest that have major cities and populations. People cluster around the resources of water and arable land.

TO THE SOUTH

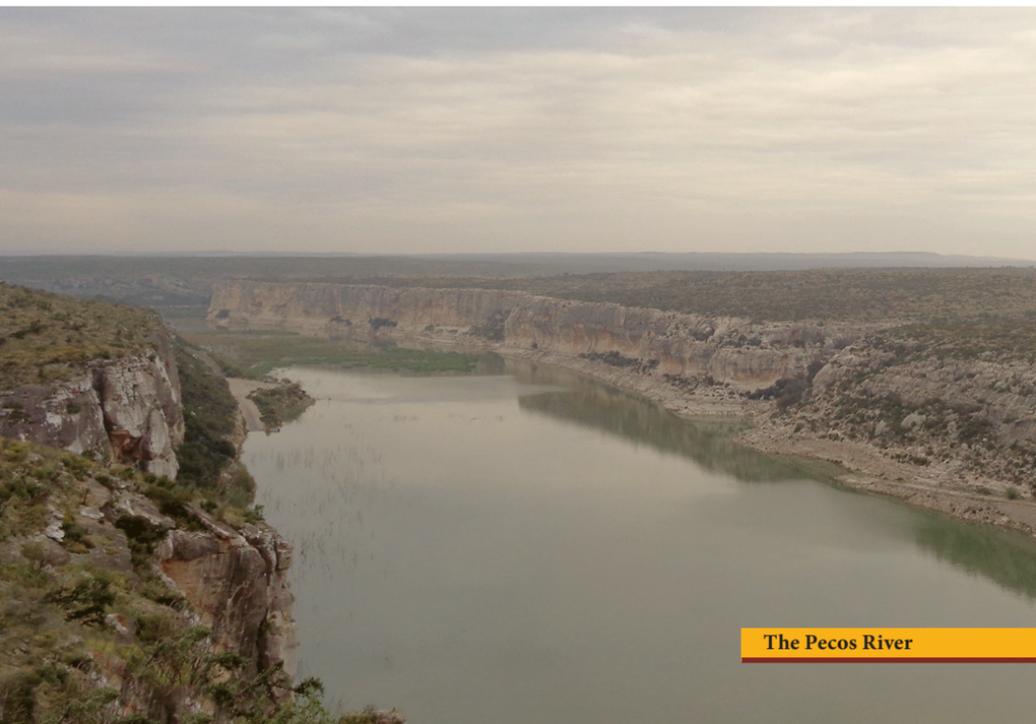
- ◆ In the south, toward the deserts of northern Mexico, the Mogollon area stretched down. It featured pit houses and part-time farming. The massive site of Paquimé, which was part southwestern culture and part Mesoamerican, was within that buffer zone and flourished in the 1300s.
- ◆ Further south the desert became more extreme, and there was little water and no good farming land. The people who lived there were nomads, living in small mobile groups and subsisting by hunting and gathering.
- ◆ The civilizations of Mesoamerica called that northern desert the Chichimeca. Trade routes crossed it, but neither the Mesoamerican nor the southwest civilizations extended into it. There were simply not enough resources there for large populations.



Paquimé

THE PECOS AREA

- ◆ In the southwest, culture centers stayed farther west until after 1300, when the Pueblo populations shifted east to the Rio Grande Valley. They were also between the Rio Grande and the Pecos River in New Mexico, which were good farming areas. East of the upper Pecos River began the lower ends of the Great Plains. That area was great for nomadic bison hunting, but not right for permanent Pueblo towns.
- ◆ The Pecos and Rio Grande Rivers almost meet at Santa Fe, New Mexico, but then they separate as they track south. They come back together hundreds of miles later along the Texas/Mexico border in an area of rocky, arid canyon lands. There were cultures at that intersection.
- ◆ The Lower Pecos area is the site of incredible rock shelter paintings like White Shaman Cave. The Archaic people there lived in caves, produced grass-woven objects, and lived by hunting and gathering. However, the land was no good for farming. When corn came to the southwest and people started living in farm villages, that was impractical in the Lower Pecos.



- ◆ Some things in the Lower Pecos area did eventually change, though. Around 1000 CE, when the cultures of the southwest were peaking, the Pecos people adopted the bow and arrow. By about the 1500s, pottery emerged in the area, though only simple-use wares.

JORNADA MOGOLLON

- ◆ In a gap between the Pecos River and the Rio Grande was another pocket of culture around modern-day El Paso. The people there are known as the Jornada Mogollon. Most of the area is very harsh, but two regions are more livable: the Tularosa Basin and the Hueco Bolson area.
- ◆ As early as 400 CE there were sporadic pit houses in the area and isolated attempts at farming, but they were all essentially hunter-gatherers until about 1100. At that time, small Pueblo-style room blocks started. A local brown ware pottery also started around that time.
- ◆ The Hueco Bolson area was the center, with communities like Firecracker Pueblo. For about 200 years, it farmed and traded into the southwest, but by the late 1400s it was abandoned.
- ◆ Another nearby community was Hueco Tanks. They left hundreds of paintings on a boulder field.

TO THE NORTH

- ◆ To the north were the Rocky Mountains, bracketed on either side by the Great Plains and the Great Basin. Both of those areas were occupied by nomadic bison hunters. In the middle was what scholars call the Fremont culture.
- ◆ Some scholars would prefer to start the term Fremont at 600–700 CE, seeing the early times as equivalent to the Basketmaker period before Ancestral Pueblo. However, when the Ancestral Pueblo moved into aboveground room blocks, the Fremont stayed in pit houses and smaller villages.

- ◆ The Fremont also didn't embrace farming like the Ancestral Pueblo did. They farmed river bottoms—the flat areas along rivers that flood when the water rises—but they still relied heavily on hunting for food. Deer and bighorn sheep were abundant.
- ◆ The Fremont culture produced a form of unfired figurine that was found in many Fremont gravesites. The figurines were very elaborate, with tiny jewelry, clothing, hair, and headdresses. The art form they are best known for is the large quantity of petroglyphs and cave paintings they left behind. Many state and national parks in Utah are full of Fremont petroglyphs.
- ◆ Ultimately, the Fremont succumbed to the forces that the Pueblos of the northern San Juan Basin did: the intense drought of the late 1200s. Farming, even in the river bottoms, became untenable, and the Fremont moved out by 1300.
- ◆ It's likely that populations moved either to join the Great Basin hunters or the south to blend in with the Ancestral Pueblo people. About 100 years later, the rains had long returned, and another people moved into the formerly Fremont lands. They were the Numic-speaking people who still live there today: the Utes and Paiutes.



TO THE WEST

- ◆ Arizona's western border—from the Grand Canyon and down into the Gulf of California—is created by the mighty Colorado River. All around it, researchers have found an ancient culture called the Patayan. They were in a buffer zone between the southwest and the cultures on the southern coast of California.

- ◆ The Patayan lived along the Colorado River and in the uplands around it. Near the river they were doing some farming, but in the uplands they were living almost entirely by hunting and gathering.
- ◆ In terms of chronology, scholars define the Patayan period as 700 to 1550 CE. There were people there earlier, but 700 CE marks the time they started building houses and farming. Before that, everyone in that area was still an Archaic-style hunter-gatherer.
- ◆ Like the other fringes of the southwest, the new Patayan settlements had a mix of cultural traits. For example, their pottery was made with paddle-and-anvil techniques, pointing to Hohokam influence.



The Colorado River, Arizona USA

CONTAINED INFLUENCE

- ◆ The southwest had a buffer zone all around it, but their cultural influence never expanded. There are several reasons for that. For example, to the south and east, in Mexico and Texas, the land gradually turned into extremely arid deserts. Farming couldn't work there. And without farming, the southwestern way of life doesn't make sense.
- ◆ To the north there was the Great Basin and the Great Plains, divided by the Rocky Mountains. The Fremont lived in those mountains, and again, farming didn't work well there. There were also more herd animals to hunt in Fremont territory.
- ◆ Finally, to the west were the Patayan, a people who shared the Fremont's circumstances in some ways. They might have had more in the way of arable farmland, but they also had better hunting. The also had a counterinfluence from the people of the southern California coast.
- ◆ Pressure might have led the buffer zones to adopt other lifestyles, but that didn't happen either. The cultures of the southwest were not very warlike, mercantile, or expansionist. They didn't need the resources of their neighbors and didn't have much interest in trading with them.

QUESTIONS TO CONSIDER

- 1 Do you think that the southwest buffer-zone cultures were part of the reason that the Pueblo people never made contact with their Mississippian contemporaries?
- 2 What do you think the purpose of the Intaglios was?

LATE PERIOD CULTURES OF THE PACIFIC COAST

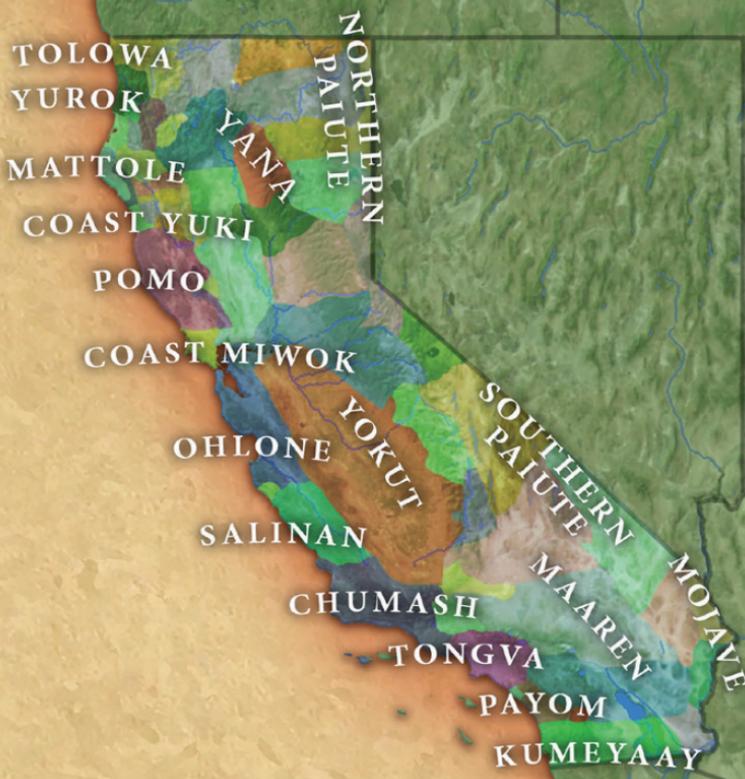
LECTURE 22



From southern California to Alaska, a vast array of cultures thrived along the Pacific Coast for centuries before European contact. They never adopted farming. For that reason, among others, scholars call them collectively complex hunter-gatherers. They are the subject of this lecture.

BACKGROUND

- ◆ After millennia of Archaic periods, the peoples of the Pacific Coast evolved into what was basically a much more complex version of the same lifestyle. Due in large part to the abundance of natural resources, the Pacific Coast was the most densely populated part of North America. Estimates say that over one-fifth of the continent's population lived along that coast at European contact.
- ◆ It was also the most culturally and linguistically diverse. In California alone, scholars estimate over 500 culturally distinct tribes existed at contact, some as small as 100 people total. They spoke over 100 different languages and hundreds more dialects within them.
- ◆ The people of the area never adopted farming because they didn't need to. The area was incredibly rich in things to eat and use for everyday needs. That's not to say life there was easy. Life was very complex, hence the term complex hunter-gatherers. They went from being hunter-gatherers to complex hunter-gatherers—which was largely a shift to sedentary living—thanks to technological advances and elaborated social interactions.
- ◆ There are big differences between farming versus surviving off natural resources. For example, farms are created and recreated every season, but natural resources can be depleted and destroyed if not properly managed and conserved.
- ◆ Another difference is scale: Farms can be made larger and larger to support a growing population (at least to a point). Natural resources can't easily be increased by human intervention, but they can easily be decreased by overuse.



- ◆ A third major difference is mobility: If pressures make one place difficult to farm, people can pick another. Natural resources are in fixed locations; for example, certain bays have shellfish, certain valleys have acorns, and certain rivers have salmon. That creates very defined areas of property ownership and competition as populations increase.

INTERACTION AND TECHNOLOGY

- ◆ The people of the Pacific Coast handled their complex lifestyle by creating systems of social interaction involving trade, cooperation, and sometimes war. Each group needed enough territory to do their seasonal rounds, or else they needed to trade with neighboring groups to have enough food to make it through the year.
- ◆ Even within groups, they needed systems of sharing and resource distribution. That created social hierarchies within the groups. The situation also inspired new technologies. Everywhere that population increased, advanced methods of food storage became a necessity. Advanced methods of procurement were also part of the success of coastal peoples. They achieved those advances, which allowed sedentary living.

NICHES

- ◆ Pacific Coast cultures settled into specific environmental niches. Hundreds of them stretched up and down the coast and inland to the mountains. In mid- and northern California, the niches were very small. Some groups just consisted of a few hundred people speaking their own language.
- ◆ There were two major areas of population and culturally similar ways along the coast: southern California and the Pacific Northwest. In between were smaller culture regions with a spectrum of traits; they featured blends of northern and southern ways of life.
- ◆ In southern California, there were a number of different culture groups, trading with each other between the coast and the inland regions. Archaeologists have concluded that life in southern California at European contact was very much the same as it had been since at least 500 CE.

- ◆ Contact along the Pacific Coast occurred a little later than in most of North America. In southern California, it first happened in 1542. The Spanish captain Juan Rodriguez Cabrillo sailed up the coast and met the Chumash people, but died on the mission.
- ◆ The Spanish didn't return with permanent colonies until 1769, when they built the first mission and a military post in San Diego. From San Diego, the Spanish moved north into the territory of the Chumash—one of the more populous and advanced groups in the area.

THE CHUMASH

- ◆ The Chumash were one of the largest culture groups in southern California. The Yokut people just inland and north controlled more territory, but the Chumash were both more populous and controlled more productive lands. The Gabrielino just to the south of the Chumash were trade partners.



- ◆ Modern-day Santa Barbara was the center of Chumash territory, but it extended south past Los Angeles and north to San Luis Obispo. Along that coastline, especially around Santa Barbara, a number of Chumash villages had populations of over 1,000 people.
- ◆ The Chumash spread themselves out over three environmental zones: the coast, the inland mountain foothills, and the Channel Islands. Inland Chumash hunted deer and smaller game, providing meat and skins. They also gathered edible plants.
- ◆ Island Chumash hunted larger deep-water fish like tuna and sea mammals. They produced a kind of carved shell that eventually became a region-wide form of currency. Coastal Chumash fished along the shore and collected from vast shellfish estuaries, harvesting clams, oysters, and mollusks. Together, the groups traded back and forth to create food security.
- ◆ Acorns were a major resource in summer and fall. In the winter, shellfish along the coast were a major food source. Archaeology proves that trading was the norm before European contact. For instance, shells and acorns are found everywhere. Sea mammal bones are found in Chumash mountain villages, and deer bones are found out on the Channel Islands.

CHUMASH INVENTIONS

- ◆ Key to the Chumash way of life were new inventions. One such invention was the leaching of acorns—a boiling and drying process that allowed for preservation. Storage also advanced: Each Chumash village had large pits dedicated to communal storage, and each house had their own storage systems. Another of the big advances was the bow and arrow. Inland hunting transformed, as did border security.
- ◆ The invention the Chumash are best known for was a seagoing canoe known as a *tomol*. A tomol was typically 30 feet long, with a single split-log base and plank walls. The pieces were glued together with tar-like asphalt and then stitched together for more strength. They were used by crews of three to four men to go deep-sea fishing with harpoons. They could also hunt sea lions, swordfish, and even whales.



Chumash Tomol

- ◆ The tomol made the Chumash masters of the sea and gave them control of very important trade resources: the larger deep-water fish and mammals. It also allowed them to inhabit and own the Channel Islands. Ownership of the Channel Islands eventually led to their control of a very important trade item: carved Olivella shells.
- ◆ Those shells became a kind of currency on the mainland but were only found on the outer islands. The Chumash managed to create and control a mint of sorts. They protected it with their tomol technology.

CHUMASH SOCIETY

- ◆ Just how long ago the Chumash culture emerged is a point of debate. By at least 700 CE, diagnostic Chumash sites existed. Some scholars would push that date back to 500 CE; others would go back into the Archaic.



Chumash families

- ◆ Chumash villages could be very large: Some had hundreds of homes. They were all dome-shaped, but elites and chiefs lived in larger ones. The homes were made of willow-branch frames, covered with layered grass. They had a hole on top to vent smoke. A typical house was 12 to 20 feet in diameter and housed three to five families.
- ◆ Chumash villages also had large open spaces for markets and public ceremonies. Ethnographies reveal two major festivals. One was during the fall to honor the plants and animals, and to ritually fill the communal food storage areas for the winter. Another occurred at winter solstice to honor the Sun as their primary deity.
- ◆ Chumash society was stratified and ranked. Most people were commoners. Then, there was a middle class of elites. Finally, there were the chiefs and their families as the top of the hierarchy. Those positions were hereditary, unattainable for commoners.
- ◆ Commoners were hunters, fisherman, gatherers, and craftsmen for basic needs. Special occupations were roles like shamans and master craftsmen. Astronomer priests were another important position in Chumash society. Each village had a small police force, people of special authority to keep the peace and ensure fair trade.

- ◆ A notable position of honor among the Chumash was a male homosexual transvestite class. Homosexuality was known and honored in many Native American societies. Today, it's referred to as two-winds. The Spanish documented it among the Chumash in the 1700s and noted its place of respect.
- ◆ Chumash culture was not a unified nation. Each village had its own chief, and regional chiefs interacted in a complex network of alliances and competitors. Relationships were maintained by invitations to feasts and lavish gifts. Sharing, feasting, and gift giving were forms of region-wide reciprocity. Sometimes it didn't work, or a chief was offended, and negotiations would break down.
- ◆ The Chumash did have occasional wars, and weapons have been found archaeologically. In 1824, there was a Chumash revolt against the Spanish. Generally, though, the Chumash at contact were regarded as a peace-loving, gentle folk. That was a big difference between them and their more bellicose neighbors in the Pacific Northwest.

THE PACIFIC NORTHWEST

- ◆ The people of the Pacific Northwest cultures span from the panhandle of Southeast Alaska through coastal Canada and down into southern Oregon. Many of the groups still exist today, and they represent Canada's largest populations of First Nations people, both now and in the past.
- ◆ Like the coastal people to the south, they never farmed and had little use for pottery. Their subsistence centered around two abundant resources: the ocean and the salmon in the rivers. They emerged out of the Archaic period as complex hunter-gatherers.
- ◆ Archaeology divides their development into Early, Middle, and Late Pacific periods before European contact in the late 1700s. This lecture focuses on the Late Pacific period, defined as 500–1775 CE. Note that archaeological evidence shows that virtually all the traits seen at European contact started much earlier. The year 1775 is the approximate date of the Pacific Northwest coast's first major smallpox epidemic.

NORTH AND SOUTH

- ◆ By the Late Pacific period, and perhaps before, the Pacific Northwest had divided into two major areas: north and south. Though they shared many overarching culture traits, each area and tribe within it retained an intense sense of individual identity.
- ◆ To the north, the major groups were the Tlingit and the Haida. To the south, there were the Salish, Kwakiutl, Chinook, and Tillamook peoples. Note that many other smaller groups were present.
- ◆ Typical villages had large plank houses that held entire clans. A village would consist of multiple clans. A larger group would have many villages, each with their own clan houses. Each house had its own chief, and each village had its own highest-ranking chief from one of their houses.
- ◆ Society was both ranked and stratified, from chiefs on top to slaves on the bottom. Slaves were either captured in war or born into slavery. It was a position that was escaped only by ransom or death. Most people were commoners. They were free, but still participated in daily labor tasks.
- ◆ Led by the chiefs and priests, entire villages followed seasonal rounds. For much of the year, ocean fishing and sea mammals hunted with harpoons provided food. During salmon season, entire coastal villages would pick up and move upriver to summer camps.

PACIFIC NORTHWEST CULTURE

- ◆ In terms of society, the people of the Pacific Northwest were a complex combination of human qualities. They were artistic, spiritual, and tied to the land. They were also prideful and prone to warfare, and they had a penchant for slavery.
- ◆ Physically, they expressed their status and ethnic identity through the use of labrets and cranial deformation. Labrets are facial jewelry inserted through holes in their lips or cheeks. In the southern villages of the same time, cranial deformation marked people as elite.

- ◆ Pacific Northwest art is renowned for its beautiful and unique style. They painted and carved animals and geometric forms on houses, boxes, canoes, and tools.
- ◆ The Pacific Northwest totem pole is so well known around the world that it has erroneously come to symbolize all of Native America; they were only made in the Pacific Northwest. They were made of large cedar trees, carved up the pole in stacks of images. Animals and people conveyed stories from myths and clan identities.



POTLATCHES AND WAR

- ◆ The erection of a new totem pole could occur in conjunction with one of the most important Pacific Northwest practices: the potlatch. In a potlatch, a chief would invite other villages to participate in huge feasts. The guests were presented with gifts that showed the chief's wealth and generosity. By accepting the gifts, the guests agreed that he was respectable.
- ◆ The chief might also throw valuable objects into the ocean, proving he had wealth to waste. Potlatches were all about pride and respect. Competitions were an important aspect of them. Special, secretly practiced songs and dances were shown off at potlatches, and judges would decide which performers were the best.

- ◆ A Russian account from the 1800s illustrates that point. In 1860 at Sitka in Alaska, a Russian naval officer was looking out over a Tlingit village. All of a sudden, there was a huge noise, and the plank walls of a house burst out. Men ran from the house into others and reemerged with armor and weapons.
- ◆ A big battle began. The Russians shot their cannons over the village to break it up. The next day, they asked why it happened. The answer was that the Sitka village had out-sung their Yakutat guests, and the fight was about humiliation. The Sitka had out-sung the Yakutat at their own potlatch the year before, and twice in a row was too much to bear.
- ◆ That's a good example of how easily war could break out. That was common at contact, and the quantity of weapons and armor found archaeologically indicate that it had been that way for centuries.
- ◆ From about 500 CE, settlements moved to defensible hilltops and palisades. It's possible that the introduction of the bow and arrow intensified war around that time. Warfare erupted often between groups over issues like access to desirable territories, trade routes, slaving raids, wife swaps, or perceived offenses.

QUESTIONS TO CONSIDER

- 1 Why do you think that the Pacific coast was so much more culturally diverse than other parts of North America?
- 2 Had European society never arrived, do you think the coastal people would have ever abandoned complex hunting and gathering in favor of sedentary farming?

LATE PERIOD CULTURES OF THE GREAT PLAINS

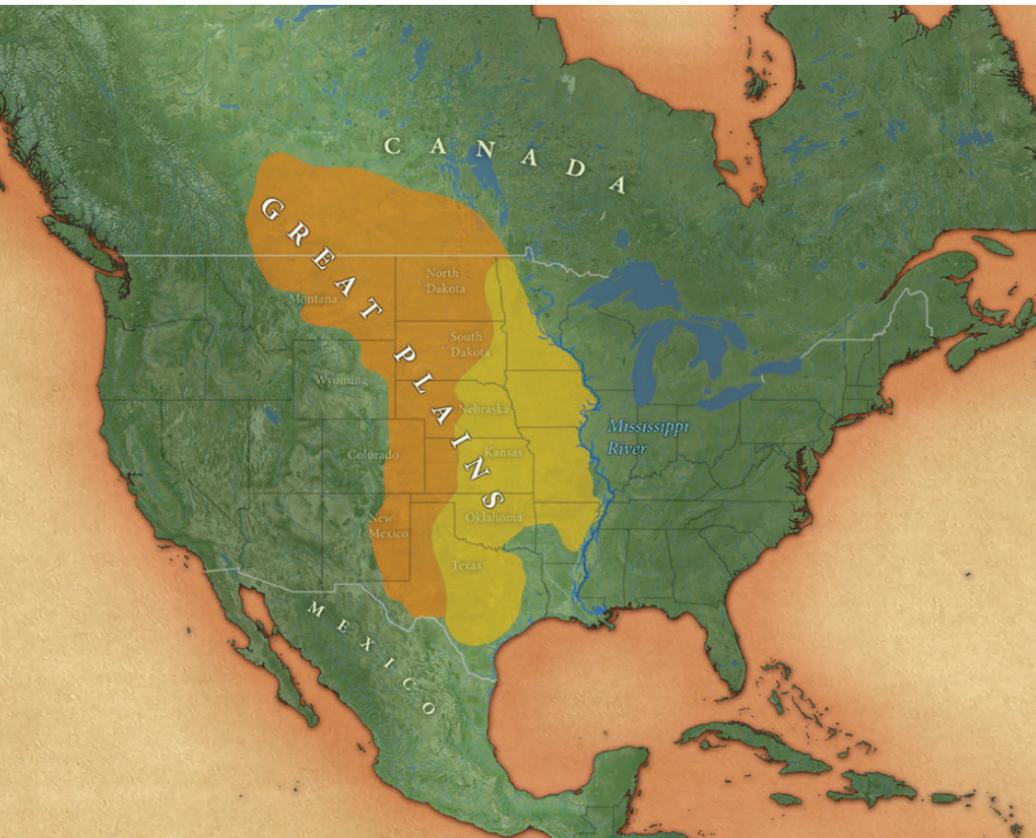
LECTURE 23



The people of the Great Plains were the world's stereotypical picture of Native Americans: horseback warriors conducting spectacular raids on European settlers. Some of that did happen, but life in the Great Plains was much more complex. This lecture's goal is to discuss life in the Great Plains before European contact, the introduction of the horse, and other factors that radically changed life there.

PRE-CONTACT CULTURE ZONES

- ♦ The Great Plains forms a huge area. From Canada to Texas and from the Rockies to the edge of the Mississippi River Valley, it covers 1.1 million square miles. In terms of archaeology—looking at the times after the mid-500s introduction of the bow and arrow but before European Contact—the Great Plains can be roughly split down the middle.



- ◆ The western half was dry, unsuitable for farming but covered in grass that bison loved to eat. The bison thrived there, and so did the nomadic people who hunted them. The eastern half had major rivers, forests, and fertile valleys where farming was possible and semi-permanent villages developed.
- ◆ Another way of looking at the Ancient Great Plains is breaking it up into five broad areas:
 1. The Northwestern Plains, from western Canada down along the eastern Rockies, was nomadic bison-hunter country.
 2. The Middle Missouri Valley was an 800-mile-long river valley trench through North and South Dakota full of mid-sized farming villages.
 3. The Northeastern Periphery was made up of lakes and woodlands into central Canada, where the Sioux lived before late migrations.
 4. The Central Plains were a strip across the middle from Eastern Colorado to Kansas and Nebraska, full of village of people who spoke Caddoan languages.
 5. The Southern Plains fell on western Oklahoma and Texas; it contained mostly bison hunters with influences from the Pueblo cultures of southwest.
- ◆ Each of those areas was a distinct culture zone, though the people interacted, traded, and occasionally cross-migrated between them. This lecture will discuss them as two broad categories: nomads and villagers.

HUNTING

- ◆ Bison hunting along the eastern side of the Rocky Mountains was the way of life for thousands of years. It went on so long that it spanned bison evolution, from the giant *Bison antiquus* to their modern form.

- ◆ Two sites at the extreme north and south ends make that point: Head-Smashed-In up in Canada and Bonfire Shelter down on the Texas-Mexico border. The former is a bison jump site that was used for 5,500 years, featuring 12 meters of bones in some places. The latter features great time depth: an 11,7000-year-old *Bison antiquus* kill and then another jump episode at 800 BCE.



Bonfire shelter

- ◆ As time went on, certain technologies refined and improved hunting methods. Bison jumps—driving herds off cliffs—were effective and the most ancient method, but starting in the Middle Archaic period, certain groups were building corrals to trap herds and kill them with atlatl spears. Ruby Site and Muddy Creek in Wyoming both had corrals built in the centuries around the BCE/CE divide.
- ◆ The next major change in bison hunting occurred at about 550 CE, when the bow and arrow arrived and was adapted very quickly. Arrows had several advantages over atlatl spears, including increased range and carrying capacity for hunters.

THE HORSE AND VIOLENCE

- ◆ The Spanish explorer Coronado was the first European to see the Great Plains bison hunters. In 1541, he led a small army of Spanish conquistadors from Santa Fe across Texas and Oklahoma. They marched for 48 days through mostly desert, finally arriving at a village called Quivira near Great Bend, Kansas.
- ◆ Along their way to Quivira, Coronado's expedition found lots of bison herds and a huge pile of bison bones in the middle of the desert. Occasionally, they ran into nomadic hunter camps. They were described as living in bison-skin tents and travelling with large packs of domesticated dogs.
- ◆ Coronado, like all early Spanish explorers, was looking for gold. Finding none, he returned to the southwest. Before he did, he left a life-changing gift in Quivira: a few horses. Another explorer, de Soto, was rampaging across America from the east in 1541, probably losing a few horses along the way as well.
- ◆ The people of the Great Plains, especially the hunters, took to the horse very quickly. By 1650, the Apache were the first to master horseback riding, and they turned it into a form of mounted warfare used against their neighbors. The Comanche, Ute, and Caddo responded quickly, becoming equally deadly horse warriors by the 1700s.

- ◆ Horses let them track bison for hundreds of miles, and they also allowed both summer and winter hunts. All of a sudden, nomads could hunt bison or raid farming villages at will. It depleted the herds, and hunting grounds became battlegrounds.
- ◆ Then, the French and the British fur traders entered the picture in the 1700s. They introduced guns, and their strategy of pitting tribes against one another made things even worse.

VILLAGERS

- ◆ The same contact-period factors—and the horse most of all—also affected the village dwellers of the eastern Great Plains. However, because they were fundamentally different from the hunters, their changes were also different. The eastern Great Plains eventually became farmland because it had major rivers, namely the Missouri River, Platte River, Loup River, Republican River, Arkansas River, and Red River.
- ◆ They all flowed into the mighty Mississippi, and the Woodlands cultures that lived out there might have been the inspiration for farming. In fact, the earliest farming villages of the eastern Great Plains are sometimes referred to as the Plains Woodlands culture.
- ◆ This eastern, farming part of the Great Plains was roughly divided into two culture regions: north and south. At contact, the northern people spoke Siouan languages and the southern people spoke Caddoan languages.
- ◆ The people lived in semi-sedentary villages, abandoned every summer for bison hunts. They also spent winters away from their main villages, camping up in the mountains where small game and fire wood was more abundant.
- ◆ Major changes took place in the eastern Great Plains around 900 CE, but the timing varied from place to place. Some areas, especially the Missouri River area, show changes as early as the 700s; many more places were changing by the 900s. Some late bloomers didn't change until the 1100s.

- ◆ The change was expressed as the expansion of village life, and that was inspired by the spread of corn farming. That, in turn, was probably an influence from the rise of Mississippian civilization.
- ◆ There was also an increase in culture differences from north to south. For example, corn was easier to grow in the south. As a result, the people of the north were more dependent on bison hunting than their southern neighbors, though both regions remained only semi-sedentary.
- ◆ Perhaps because of crop failure fears or other defense motivations, the Siouan people of the north built palisades around their villages. The Caddoan people to the south didn't build palisades, though the reasons for their absence are not understood.

LATER CHANGES

- ◆ Around when Cahokia largely collapsed around 1250 CE, the house form in the south changed from rectangular to circular, eventually becoming the form known as the earth lodge. Cahokia's collapse caused Mississippian sites in the east to develop in new ways. The eastern Great Plains people also grew apart, and their housing form switch was a big sign of that.
- ◆ There are no similar examples of the circular earth lodges east of the Mississippi. One theory is that it was a lean toward their western nomadic neighbors and their tipi-style tents with circular bases.
- ◆ A Caddo site in east Texas, the Oak Hill Village, provides a great example of that transition to circular houses. It was a Caddo village of about 42 circular houses arranged around a central plaza. Excavations found rectangular houses under the circular ones. The rectangular ones were built around 1150 (at Cahokia's height), and the circular ones were built at 1250 (at Cahokia's end).
- ◆ That pattern of switching from rectangular to circular found its strongest expression in Kansas and Nebraska. Eventually, even the houses behind palisades in the north went circular, but not until about 1500.



West Oak Forest Earth lodge Site

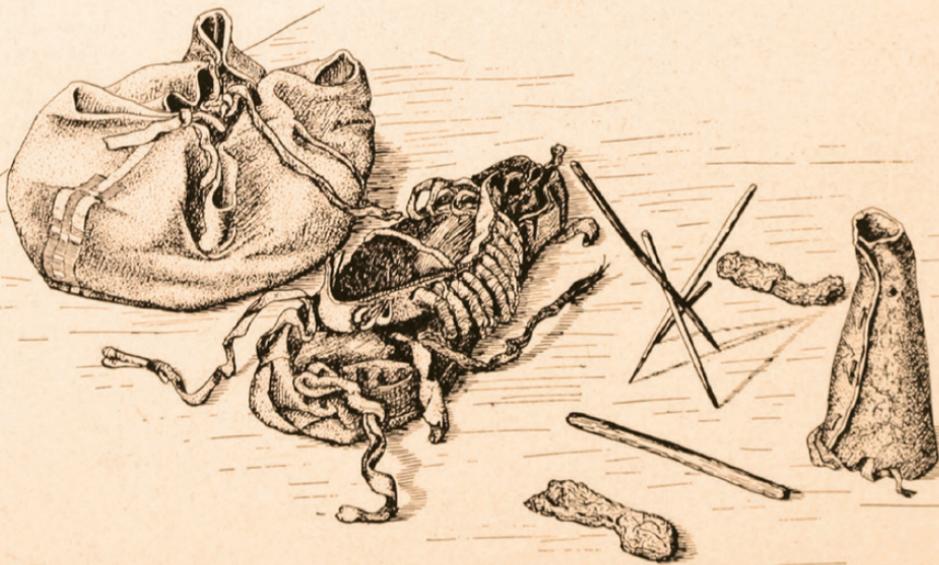
MOVEMENT AND SETTLEMENT

- ◆ By the 1400s, the people of the Great Plains settled into essentially the same places they were at contact. Fourteenth-century migrations had started to blur the Siouan/Caddoan language and culture line in modern Nebraska.
- ◆ To the south of that blurred line, the Caddoan speakers were the Pawnee and the Wichita. The furthest south were the Caddo in Oklahoma and Texas. They lived in relative harmony with one another.
- ◆ To the north were the Siouan speakers, originally the Hidatsa and Mandan in North Dakota. The Arikara also lived in the north, but they were Caddoan speakers who probably migrated there in the 14th century. They were also probably the ones who introduced the circular earth lodge tradition.
- ◆ Shortly after contact, all three of those cultures were pushed west by the encroaching Lakota, who were also Siouan speakers. They pushed from the Great Lakes area. A final group called the Kiowa lived along the western edge of the eastern Great Plains, spanning both north and south. They spoke a language of Pueblo origin. Based loosely on their linguistic boundaries, these semi-sedentary cultures fought with each other.
- ◆ Many of those tribes kept, and still preserve, what were called winter counts. They were histories of famous leaders, important events, and village foundings. Winter counts, along with archaeology and contact chronicles, provide important insights into life before contact. For instance, men did the hunting, women did the farming, and the fighting between language groups had a long precontact history.

THE PAWNEE

- ◆ There were many more culture groups, but to delve deeper into life before and at contact, the lecture will focus on one more: the Pawnee. In particular, the lecture will close with the special case of James Murie. He was a Pawnee descendant born in 1862 to a Pawnee mother and an American soldier father.

- ◆ Murie was taken from the tribe as a boy and educated in an American school, but returned to the tribe later in life and wrote an ethnography of his people. The Pawnee had by then been moved from Nebraska to Oklahoma, but his interviews with elders created a detailed picture of Pawnee life in their Nebraska villages.
- ◆ His people lived along the Loup River and Platte River—farming, hunting bison, and bitterly fighting with the Sioux people to the north. They organized themselves in confederations of villages, each led by hereditary chiefs and priests.
- ◆ The authority of village chiefs resided in sacred bundles that they personally owned and cared for. Each village had its own sacred bundle, which symbolized the identity and life force of the village. To destroy it was to spiritually destroy the village, and it imbued its owner with magical powers.



Pawnee sacred bundle

- ◆ All Caddoan-speaking villages had such wraps. They were usually animal-skin wraps and sometimes baskets, but they always full of a collection of sacred objects: costumes, ritual artifacts, and other items related to tribal ancestors. Chiefs owned the bundles, but priests knew their secrets and how to use their powers. The bundles would travel to other villages for important ceremonies, bonding the confederacy.
- ◆ Astronomy was an important part of the timing of ceremonies. One bundle was called the morning star bundle; it related to Mars as the morning star. That differs from the modern convention of Venus as the morning star, but that's how it is in their story.
- ◆ Pawnee priests carefully watched the cycles of both Mars and Venus as they traveled through the backdrop of the stars. Their movements and conjunctions were related to a Pawnee creation story in which morning star—a male warrior—pursued and captured the evening star—a young girl. The associated ceremony involved the capture and sacrifice of a young girl from an enemy tribe.
- ◆ A male warrior would have a vision, and the priests would give him a special costume from within the Morning Star Bundle. He would then capture a girl. She was tied naked to a scaffold. As Mars rose as the morning star, first the warrior and then the entire village would shoot her with arrows.



- ◆ The last known morning star ceremony was in 1838, when a 15-year-old Oglala Sioux girl was sacrificed. American settlers were appalled and shut it down. They then restricted the Pawnee to a small Nebraska reservation in 1857.
- ◆ In 1873, the Pawnee suffered a terrible attack from over 1,000 Sioux warriors, wiping out over 100 innocent men, women, and children. Fearing for their lives, they agreed to be relocated to Oklahoma and abandon their ancestral lands in 1875.
- ◆ The next year was when the famous Sioux chief Sitting Bull teamed up with the Cheyenne to wipe out General Custer's troops in the Battle of Little Bighorn. History tends to forget why that battle happened: Custer was there to forcibly remove the Sioux to a reservation.
- ◆ History also tends to forget where and when Sitting Bull was killed. He died in 1890 in the Standing Rock reservation. He was shot for resisting police in the same place that was recently the center of modern Native American resistance to an oil pipeline crossing their ancestral homelands.

QUESTIONS TO CONSIDER

- 1 Do you think things in the eastern Great Plains would have gone differently if they all spoke the same language?
- 2 Do you think we should consider the dog ancient North America's best of burden?

THE IROQUOIS AND ALGONQUIANS BEFORE CONTACT



Northeast North America before the 16th century had two main language groups: Algonquian and Iroquoian. Archaeology can prove that both of those groups were there by at least 1300 and probably much earlier. This lecture provides a quick recap of how matters evolved in the area, and then moves on to look at the Algonquian and Iroquoian groups.

BACKGROUND

- ◆ The area this lecture covers is the eastern Great Lakes to the Atlantic Coast and southern Canada down into Pennsylvania. In the area, places like Meadowcroft Rockshelter are among the oldest human sites in all of North America. In the Archaic period, there were large populations of hunter-gatherers creating shell middens and domesticating dogs quite early.
- ◆ The people of the Late Archaic differed only by their adaption to their individual environments. For the northeast regions, it was broken up into the regions discussed in Lecture 5: the Mast Forest, Lake Forest, and Maritime regions.



- ◆ About 800 BCE, just to the southwest, the Adena culture started building large conical burial mounds, but that tradition didn't take hold in the northeast. The subsequent Hopewell culture had more influence, especially in terms of trade. There were Hopewell-style burial mounds for important leaders and a limited amount of Hopewell artifact types like stone pipes.
- ◆ Still, the northeast cultures remained primarily hunter-gatherer and semi-nomadic people following seasonal rounds of campsite occupation. It was maize agriculture, finally adopted around 1000 CE, that changed the social dynamics of the northeast.

LAYOUT OF THE PEOPLE

- ◆ The Algonquian speakers covered significantly more territory than the Iroquois. They were on the Atlantic coast from North Carolina up into Canada. They also covered a wide swath across the middle of Canada above the Great Lakes, almost all the way to the Rocky Mountains.
- ◆ The Iroquois had a limited area mostly in central New York, Pennsylvania, and parts of southern Ontario. The Iroquois controlled none of the coastal lands, but they did have the fertile valleys just south of Lake Erie and Lake Ontario. Some Iroquoian groups also lived north of those two lakes and along the St. Lawrence River as it exited Lake Ontario.
- ◆ The St. Lawrence River was an ancient highway and a vital link between the Atlantic, the interior, and the Great Lakes. The Iroquois and Algonquians often fought over control of that river. The arrival of the Europeans in large boats only made that waterway more hotly contested.
- ◆ Archaeologists are fairly unified in the opinion that the Algonquians had been there for thousands of years, but the origin of the Iroquois is another story. That the Iroquois were migrants into the northeast is generally agreed, but when they arrived is not. Some believe it was late, maybe as late as 1300.

THE OWASCO CULTURE

- ◆ Others believe that the Iroquis evolved from cultures who had migrated into the northeast much earlier—in the Early Woodlands period or even the Late Archaic. The Owasco culture is key to that latter theory.
- ◆ About 1,000 years ago, agriculture made its way out of the Mississippian civilization and into northeastern North America—but only in the areas that would become Iroquois. The Algonquians never adopted farming because the ones living above the Great Lakes in Canada didn't have suitable conditions, and the ones living along the Atlantic coast had abundant maritime resources.
- ◆ Early archaeologists theorized that the agriculture came in with a migration of Mississippian people, but now most believe it was adopted by a culture that was already there: the Owasco culture.



Wigwam Village

- ◆ In the Owasco period—from 1000 to 1300—they mostly started as hunter-gatherers like their Algonquian neighbors. By the end, they were living in longhouses, barricading their villages, and relying heavily on corn farming. Before agriculture, everyone in Owasco society was living in small, temporary villages of wigwam houses.
- ◆ A wigwam is a dome-shaped single-family home, made expediently of thin pole frames and bark exterior walls. They were easily made and easily abandoned. Once agriculture took hold, people started building longhouses. These were long and rectangular, with multiple hearths and space for many families to live inside.

THE IROQUOIS

- ◆ By 1300, longhouse villages were the standard, and the shift to Iroquois culture was complete. That change to longhouses was definitely linked to the adoption of agriculture. Usually, agriculture is a positive development, bringing peace and prosperity. However, for the Iroquois, it seems to have caused more troubles than it solved.
- ◆ On the one hand, it provided a whole new source of food security. For reasons still not completely understood, it also caused competition, conflict, and even warfare between separate groups of Iroquois. Fighting wasn't absent before, but it definitely got worse.
- ◆ Changing gender roles appear to have played a major part. Before agriculture, men did the hunting and women did the gathering. When agriculture was added to the workload, the women became the farmers, and that unbalanced things.
- ◆ Farming increased sedentary village life. That increased the use of ceramic pottery. Women also took on the new job of making the pottery. Between farming and pottery, women were suddenly much more important. They began to dominate society in some ways.
- ◆ Contact-period accounts confirm that the Iroquois were matrilineal, meaning husbands moved in with their wives' families. Algonquians were patrilineal. In a way, Iroquois men became commodities traded between female bloodline clans.



Iroquois longhouse

- ◆ Men were still important as hunters and longhouse builders, but their status as the main providers and leaders was undermined by agriculture. Some scholars suggest the increase of warfare was about men seeking new ways of gaining prestige.

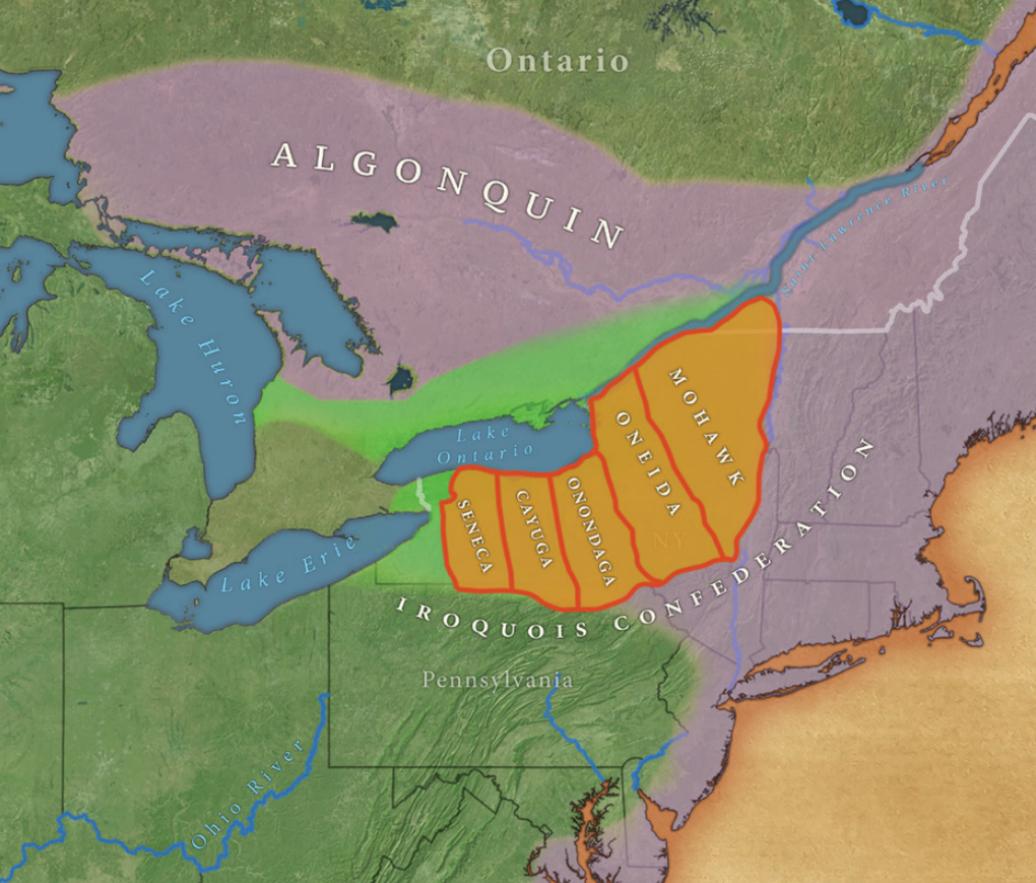
HOSTILITIES

- ◆ Regardless of why, social interactions between Iroquois villages became more hostile. The very nature of ancient Iroquois villages proves that. Iroquois villages after 1300 were all surrounded by tall, strong palisades. Longhouses were also defensive; they had no windows and only two small doors. Clusters of longhouses behind palisades created yet more protection.
- ◆ All of these settlement clues reveal that early Iroquois villages were worried about attack, and Iroquois oral tradition says the same thing. The Iroquois say that before their confederacy, Iroquois tribes fought bitterly against one another, sacrificing captives and even practicing the ritualized cannibalization of prisoners.

- ◆ Part of the problem may have come down to resources and territory. Iroquois longhouse villages used a lot of resources. They cleared wide areas of forest around the villages for farming, building materials, and firewood. As land around a village was depleted, they had to go further and further outside their palisades, exposing themselves to attack.
- ◆ By the 1400s, a village of 2,000 people was not uncommon. The bigger the village, the faster they depleted the local resources. However, the Iroquois solved their problem by creating North America's first democracy.

THE FIVE NATIONS

- ◆ Sometime before European contact, the Iroquois formed a confederation of five groups, often called the Five Nations. The five groups were the Seneca, the Cayuga, the Onondaga, the Oneida, and the Mohawk. Each nation lived in its own separate territory within the modern state of New York.
- ◆ They were in a contiguous territory, which they spoke of as one huge longhouse—a single clan in a pact of nonviolence against one another. Each nation had clusters of villages within their own territories and wide areas of empty forest between them.
- ◆ The Mohawk guarded the east, the Seneca guarded the west, and in the center, the Onondaga were the “keepers of the central fire.” This was the place where the Great Council met. The Great Council was made up of 50 chiefs, who were elected representatives of their clans. The matriarchy of each matrilineal longhouse voted them in, and they could also vote them out.
- ◆ The 50 chiefs of the Great Council settled all disputes and conflicts through dialog, debate, and group consensus. The Great Council also made decisions regarding war against outside groups like the Algonquians or the Huron.
- ◆ The council's decisions were guided by 117 articles of confederation—a set of guiding principles they called the Great Law of Peace. Those laws were recorded and are retained to this day.



ACTIVITIES OF THE FIVE NATIONS

- ◆ Its formation date is unclear, but the Five Nations were strong, long lasting, and not always all that peaceful. They expanded their territories into Ohio and Virginia through conquest, and fought as a unified force against the Huron and Algonquians to the north.
- ◆ When the Europeans arrived, their league continued to hold strong, protecting them against domination all the way until the end of American Revolutionary War in the 1780s. And even when the Americans had subdued them—some of the Iroquois fought for the English crown—the Iroquois Confederacy became a model for the United States that they formed.

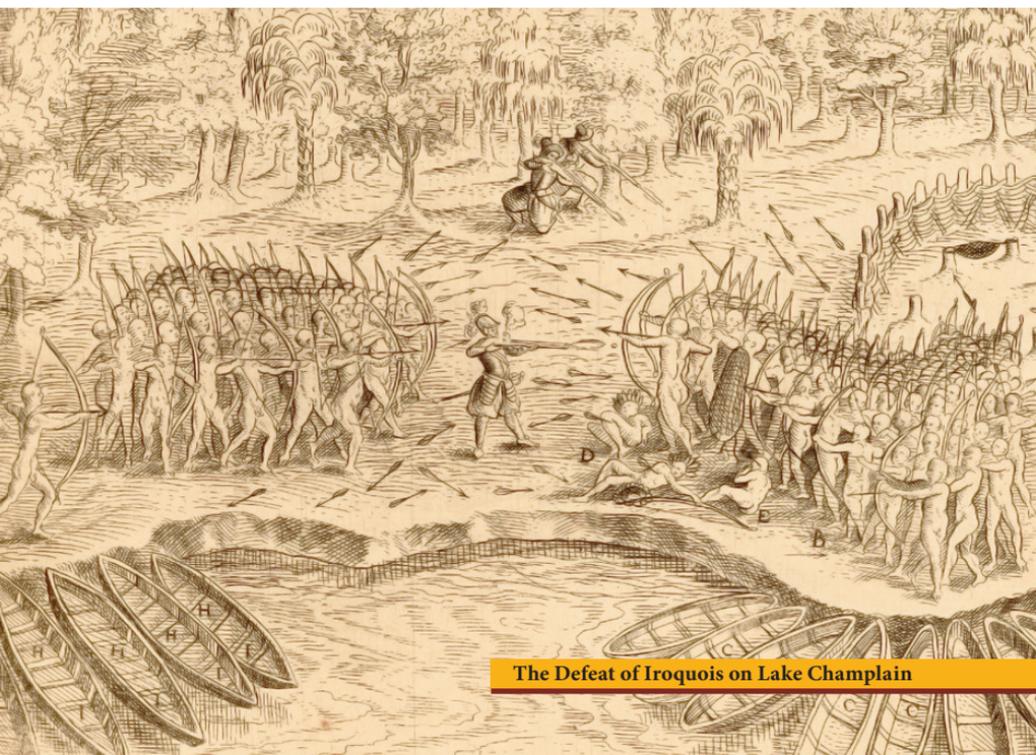
FIRST CONTACT

- ◆ The Iroquois did an admirable job of resisting European domination, but their neighbors did not fare as well. Disease was probably the major factor, but social disruption and slavery were also major factors. For the sake of understanding, it's helpful to back up to look at negative contact effects at the actual first known incident of contact, which involved the Vikings.
- ◆ Archaeology has confirmed that the Vikings made landfall in a place they called Vinland just before 1000 CE. Erik the Red, after being exiled from Norway and then Iceland for repeatedly killing people, founded a Viking colony in Greenland in 985. It was his son, Leif Eriksson, who explored further on and established a camp at Vinland.
- ◆ Starting at about 1000 CE, Leif and a small crew made multiple journeys to Canada, choosing Vinland on the north end of Newfoundland as a good place to set up camp. Both he and his brother Thorvald spent multiple winters and springs there, trading and sometimes fighting with local inhabitants. Thorvald was killed there by a native arrow.
- ◆ Their Vinland camp was found and dated by 1961, confirming what Norse documents had long said. Norse documents also tell us that the Vikings made repeated visits to Vinland and other parts of Canada until about 1300. The effects of those visits are still largely unknown, but they couldn't have been good for the locals

OTHER CONTACT EPISODES

- ◆ At the same time of early Spanish entries into Florida, there were repeated episodes of contact in the northeast Atlantic coast region. While Columbus was searching for a way to China in the Caribbean, John Cabot was doing the same in the north Atlantic.
- ◆ In 1497, he sailed to the same area that the Norse had written about. He found great fishing waters and evidence of local habitation, but he didn't meet anyone. Then, between 1500 and 1502, the Corte-Real brothers explored Newfoundland and Labrador, claiming the lands there for the Portuguese.

- ◆ By 1506, King Manuel of Portugal created a tax on the cod fisheries of Newfoundland. If there was enough to tax, there was probably a large deal of contact going on. Around that time, Portugal decided to abandon the north in favor of exploring South America, but the French quickly filled the gap.
- ◆ The French sent Giovanni da Verrazzano in 1524, who had formal meetings with Algonquian chiefs at Narragansett Bay. Further north in Maine, he encountered less friendly natives. Then, in 1535–1536, Jacques Cartier mapped the St. Lawrence River and met the Iroquois.
- ◆ Even before Cartier, the northeast was full of French fur traders. Those traders made alliances with mostly Algonquian tribes who had great beaver-hunting skills. Samuel de Champlain arrived in 1603 and in 1609 allied with those same Algonquians against the Iroquois Federation in a long series of wars called the Beaver Wars. There were heavy losses on both sides, but the Iroquois won. Despite that loss, Champlain established Quebec as the capital of New France in 1608.



The Defeat of Iroquois on Lake Champlain

SQUANTO AND CONCLUSION

- ◆ All of the above contact happened before the pilgrims even conceived of their voyage to the New World. Soon after they arrived in 1621, they met Squanto, the mythologized friendly Native American from the American story of the first Thanksgiving.
- ◆ To their surprise, Squanto spoke English. Squanto had been captured by Thomas Hunt in 1614 and brought to Spain to be sold as a slave. He made his way to England, learned English as a servant, and negotiated his return to New England in 1619. He found his village wiped out and was living there alone when the pilgrims showed up.
- ◆ The name he gave them was Tisquantum, not Squanto, and that meant roughly “wrath of the gods.” Squanto wasn’t a happy-go-lucky friend; he was a man who had suffered kidnapping, slavery, and the loss of his community. Squanto is the epitome of how and why the history of ancient North American civilization was lost. Most of the people who knew it died. Those that survived contact were utterly changed by it.

QUESTIONS TO CONSIDER

- 1 Do you think that wampum was on its way to becoming a form of written language?
- 2 Could an increase in public awareness lead to better preservation of ancient North American archaeological sites?

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Murie, James R. *Ceremonies of the Pawnee*. University of Nebraska Press, 1989. Originally published by the Smithsonian Institution in 1981. Edited by Douglas R. Parks. A unique ethnographic study conducted by a Pawnee man who interviewed elders in the community who had been moved to Oklahoma from their Nebraska homelands in the late 1800s. Lecture 23.

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Pauketat, Timothy. *Cahokia: Ancient America's Great City on the Mississippi*. Penguin Group, 2009. An insightful interpretation of Cahokia with theories explaining its population surge and the importance of women in Mississippian civilization. Lectures 10–12.

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Seeman, Mark. “Hopewell Art in Hopewell Places” in *Hero, Hawk, and Open Hand*. Yale University Press, 2004. A study of Hopewell art forms, especially stone sculpture and pipes. Lecture 9.

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