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COVER: Mission San José and its attached convento were completed in the mid-1780s. It’s one of the four missions at San Antonio Missions National Historical Park.

CREDIT: NPS
An Amazing Mound Discovery

Archaeology is all about discovery. The discovery of ancient artifacts. The discovery of past cultures. The discovery of fascinating new information about people long gone. In this issue of American Archaeology we report on the discovery of dramatic new information about Poverty Point, a National Historic Landmark in northeastern Louisiana. (See “New Thinking About Poverty Point,” page 25.) Poverty Point has long been an enigma to students of past cultures. It dates to the late Archaic period, some 3,500 years ago, and contains one of the largest earthen mounds as well as a series of six concentric ridges that may have been the base for habitation structures.

Since these ancient Americans had no draft animals or even wheelbarrows, we naturally assume that the massive Mound A was built over decades, even centuries. Making assumptions, even educated ones, is a dangerous business, and now researchers T.R. Kidder and Anthony Ortmann have discovered that Mound A was constructed in as little as 30 days. Baskets of earth were carried to the site and carefully deposited to build the great mound—enough soil to fill 31,217 modern dump trucks. This would have taken some 1,019 full-time workers.

In the Archaic period, people lived a semi-nomadic lifestyle, perhaps residing in well-scattered villages of extended families. What brought so many people together in one place to construct this massive mound? One answer leads to many new questions, and that’s why we all love archaeology. That’s why the Conservancy is working hard to preserve the remaining mounds of the South that are rapidly being destroyed by development and modern agriculture. We now have some that predate Poverty Point by 2,000 years, and who knows what we will find next.
A Different Viewpoint

While Professor Charlie Beeker should be congratulated for his innovative and sustainable projects to preserve historic shipwrecks, (See “Museum Under the Sea,” Spring 2013) the view from the shore must be quite different.

Imagine yourself a citizen of one of the poorest countries on earth, living day to day, and in comes this arrogant foreigner, barking orders from his comfortable chair, smoking cigars that cost more than a day’s wages, if you can find work, that is. Such normal activities as fishing and finding objects on the beach are suddenly proscribed. Not a pretty sight.

Perhaps Professor Beeker could use some of his grant money to employ local citizens instead of pushing them further into poverty. A five- or 10-year horizon for prosperity is not of much use when the issue is how to eat tomorrow.

Jonathan Sales
Chicago, Illinois

Shaker Design

It would be hard to overstate the design talents of the Shakers. (See “Striving For Perfection,” Fall 2012) If memory serves, one of the buildings at Pleasant Hill has a pair of three-story spiral staircases that stand separately; they rise elegantly with opposing spirals upwards to considerable height. Floating at a height above them is a transverse barrel vault with windows at either end, bathing the entire assemblage in a soft, indirect light. Marvelous.

Don Carmichael
Deer Isle, Maine

Editor’s Corner

Then as now, many immigrants have come to America in search of a better life. Over the years the pages of this magazine have been filled with stories of foreigners—the British, Spanish, and French in particular—who braved great challenges to start a new life in this New World.

The tales of these peoples, many of which are well recorded in history and supplemented by archaeological investigations, are well known. But in this issue we bring you a story that’s gone largely unnoticed by history and archaeology alike. (See “A History Inscribed On Trees,” page 19.)

It’s the story of the Basque, who left their home in the western Pyrenees Mountains that span the French-Spanish border, and came to the Western U.S. in the 19th and 20th centuries. Some of them were drawn to California by the 1848 gold rush, and they set to work in the mines. But according to historian Joxie Mallea-Olaetxe, many of them fared better dealing with livestock, and sheepherders happened to be in demand through much of the West at that time.

The Basque sheepherders spent much of their time in isolated mountain meadows where their animals grazed. That was perfect for the hundreds of sheep, but tedious and lonely for the humans. Many of them whiled away the hours making carvings in the smooth bark of an aspen. The carvings, known as dendroglyphs, run the gamut from the shepherd’s name to political and financial observations to expressions of joy and sorrow, hope and failure. Many of them are images, some of which were skillfully carved.

Dendroglyphs served as the “sheepherders’ media,” Mallea-Olaetxe wrote. They also serve as a glimpse of another immigrant story.

Michael Branch
How to Say Hello:

as exciting as it is essential.

the destruction of our cultural heritage.

them, and to raise their awareness of

archaeological wonders available to

readers appreciate and understand the

purpose of the magazine is to help

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Regional Offices and Directors

Jim Walker, Vice President, Southwestern Region (505) 266-1540

5301 Central Avenue NE, #902 • Albuquerque, New Mexico 87108

Tamar Stewart, Projects Coordinator • Chaz Evans, Field Representative

Paul Gardner, Vice President, Midwestern Region (612) 267-1100

3620 N. High St. #307 • Columbus, Ohio 43214

Josh McConaughy, Field Representative

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Deanna Commons, Field Representative

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American Archaeology is the only popular magazine devoted to presenting the rich diversity of archaeology in the Americas. The purpose of the magazine is to help readers appreciate and understand the archaeological wonders available to them, and to raise their awareness of the destruction of our cultural heritage. By sharing new discoveries, research, and activities in an enjoyable and informative way, we hope we can make learning about ancient America as exciting as it is essential.

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You can also follow us on Facebook.
New Mexico Farm & Ranch Heritage Museum
Los Cruces, N.M.—The new exhibition "The Cañada Alamosa Project: 4,000 Years of Agricultural History" encourages visitors to explore artifacts, photography, oral history, and interpretation of life and survival in the Cañada Alamosa, a beautiful, isolated New Mexico canyon with pithouse and Pueblo ruins, Apache camps, and Euro-American homesteads. (575) 522-4100, www.nmfarmandranchmuseum.org (Through March 16, 2014)

Smithsonian’s National Museum of the American Indian
Washington, D.C.—The new exhibit "Cerámica de los Ancestros: Central America’s Past Revealed" examines ceramic treasures from the museum’s collection to shed new light on the exchange of dynamic ideas about art, culture, politics, and technology within the region’s largely unknown civilizations. Including more than 160 objects spanning the period from 1000 B.C. to the present, the ceramics featured are augmented with significant examples of work in gold, jade, shell, and stone. Combined with recent archaeological discoveries, these objects help tell the stories of these dynamic cultures and their achievements. (202) 633-1000, http://americanindian.si.edu (Through February 1, 2015)

Ohio Historical Society
Columbus, Ohio—Explore more than 15,000 years of Ohio’s ancient Native American heritage through the exhibit "Following in Ancient Footsteps," which features some of the society’s most significant artifacts, such as the Adena Pipe, the mica hand, and the Wray figurine, as well as many animal effigy pipes from Tempre Mound. Fiber optic lighting enhances the nearly 360- degree view of these, and other, unique and beautiful artifacts. Visitors can see what the ancient people used for special purposes as well as everyday activities. (614) 297-2300, www.ohiohistory.org/exhibits (Long-term exhibit)

San Diego Museum of Man
San Diego, Calif.—More than a thousand years ago, the ancient Maya left behind evidence of a sophisticated and complex culture. Using cycles of the moon, sun, and planets, they were able to develop accurate calendar systems and used unique hieroglyphic writing to carve important dates, names of their rulers, and ceremonial events on stone monuments. The new exhibit "Maya: Heart of Sky, Heart of Earth" includes archaeological discoveries that highlight the creativity and beliefs of the ancient Maya. The huge Maya monuments, or stelae, on display are casts of the original monuments in Quirigua, a site in Guatemala. Today these casts, which are in better condition than the original monuments, are studied by researchers tracing the history of the Maya through their hieroglyphic writing. (619) 239-2001, www.museumofman.org/exhibits (New long-term exhibit)

Edge of the Cedars State Park Museum
North Blanding, Utah—The new photography exhibit "Upper Sand Island Rock Art: A Human Continuum" uses photographs of a rock art site on the San Juan River in Utah to render scale drawings of the images. The presentation shows the steps involved in that documentation process and the final results, after much editing. The Upper Sand Island site has ancient images of animals, anthropomorphs, and geometric and abstract figures extending for several hundred yards along the vertical sandstone cliffs. Given the difficult access, the site was not scientifically investigated until recently. (435) 678-2238, http://stateparks.utah.gov/node/3091 (Through December 31, 2013)
CONFERENCES, LECTURES & FESTIVALS

Fort Ancient Celebration: A Gathering of Four Directions
June 8-9, Fort Ancient, Oregonia, Ohio.
Experience one of the premier Native American-themed educational events in the region. Enjoy native music and view up to 100 dancers in full regalia. View demonstrations by traditional silversmiths and flints knappers, join prehistoric garden tours, participate in dream catcher workshops, walk through an 18th-century camp, hear expert storytellers, or sit in on presentations by herb and native heritage experts. (800) 283-8904, www.fortancient.org

Miami Valley Council for Native Americans Keeping the Tradition Pow Wow
June 22-23, SunWatch Indian Village/Archaeological Park, Dayton, Ohio. For American Indians, Pow Wow is a special time to reflect upon a rich heritage. The event features both men’s and women’s dances, including the men’s grass dance and the women’s shawl and jingle dance, performed wearing full regalia. In addition, traditional American Indian arts, crafts, and food will be available. (937) 268-8199, www.sunwatch.org

Eiteljorg Museum’s Indian Market and Festival
June 22-23, Eiteljorg Museum of American Indians & Western Art, Indianapolis, Ind.
One of the Midwest’s largest Indian markets, this annual market and festival features performances by some of today’s premiere native storytellers, dancers, and singers. Nearly 140 native artists from across the country will have their unique works available for sale. Enjoy native foods and family fun. For more information, call (317) 636-9378, www.eiteljorg.org

Native American Festival & Basketmakers Market
July 6, College of the Atlantic Campus, Bar Harbor, Maine. Sponsored by the Maine Indian Basket Makers Alliance and the Abbe Museum, this popular festival offers visitors, collectors, and gallery owners the rare opportunity to buy exquisite handcrafted Wabanaki ash and sweet grass baskets, wood and stone carvings, jewelry, beadwork, dolls, and other handmade items directly from artists of the Maliseet, Micmac, Passamaquoddy, and Penobscot groups of Maine and the Maritimes. The event also features native singing, dancing, storytelling, demonstrations, and food. (207) 288-3519, www.abbemuseum.org

Hopi Festival of Arts and Culture
July 6-7, Museum of Northern Arizona, Flagstaff, Ariz. A tradition since the 1930s, award-winning Hopi artists from the 12 Hopi villages bring the mesas to Flagstaff with their unique carvings, paintings, jewelry, pottery, and textiles filling the more than 65 artists’ booths. Enjoy cultural presentations, storytelling, music, and dances. Taste Hopi bread and piki baked outside in ovens. Watch Hopi pottery being shaped, painted, and traditionally fired. Walk the Museum’s Rio de Flag Nature Trail with a Hopi medicine woman. Learn about Hopi clans and clan migration, and how the tribe is working to preserve language and agricultural traditions. (928) 774-5213, www.musnaz.org

Pecos Conference
August 8-11, Coconino National Forest near Flagstaff, Ariz. Professional and avocational archaeologists, students, historians, and Native Americans report on research from all over the greater Southwest. The paper and poster presentations are made in large tents. There are also discussions about the problems and challenges archaeologists face, as well as social events and field trips to local sites. www.swanet.org/2013_pecos_conference

Schingoethe Center for Native American Culture
Aurora University, Aurora, Ill.—The museum’s Nizhoni Southwest Gallery showcases the Schingoethe’s extensive collection of materials from the Southwest culture area. The gallery’s current award-winning exhibit is “The World of the Kachina,” which features a large selection of kachina dolls, both contemporary and historic. The exhibit features displays that tell the history of kachina dolls and explain the Hopi ceremonial cycle. (630) 844-7843, www.aurora.edu/museum (Long-term exhibit)
New Theory of Maya Origins

Researchers suggest broad cultural shift occurred around 1000 B.C. leading to the development of the Maya civilization.

Seven years of excavation and investigation at the lowland Maya center of Ceibal in Guatemala are culminating in a new theory regarding the origins of Maya civilization. The two prevailing theories hold that the Maya either arose independently in what is now Guatemala, Belize, southern Mexico, and western Honduras; or that it developed as a result of the influence of the older Olmec culture, based in the southern portion of Mexico’s Gulf Coast region, and its center La Venta, which had plazas and pyramids of the sort commonly found at Maya sites.

However, research at Ceibal, the earliest known Maya ceremonial complex, has led archaeologists Takeshi Inomata and Daniela Triadan of the University of Arizona and their colleagues to conclude the origination of Maya civilization was more complex than either of those theories. They believe it resulted around 1000 B.C., a time of rapid social change and technological advances, from the interactions of many groups and their differing beliefs, traditions, and practices. Their study was recently published in the journal Science.

Numerous radiocarbon dates obtained from Ceibal indicate the construction of a formal ceremonial complex with a plaza began around 1000 B.C., while reanalyzed radiocarbon dates from the Olmec capital of La Venta suggest it became a major center after 800 B.C. Therefore the archaeologists conclude that La Venta would not have influenced the development of Ceibal.

This evidence doesn’t prove that the Maya developed independently, nor does it prove their civilization is older than that of the Olmec. The Olmec center at San Lorenzo predates Ceibal, but it lacks the pyramids that La Venta, Ceibal, and many other Mesoamerican cities possessed. What it suggests to the archaeologists is that the Maya developed earlier than previously thought, and that Ceibal and La Venta, which have similar architecture as well as evidence of similar ritual activities, were involved in a broad cultural shift that occurred between roughly 1150 and 800 B.C.

“We think that the origins of Maya civilization can be explained neither in terms of direct influence from Olmec civilization nor of independent, local development,” Inomata said. “Interactions with various groups were still important, but their patterns were more complex than previously thought.”

He and his colleagues also believe that the cultural shift manifested at Ceibal and La Venta affected the development of other Mesoamerican cultures. “The emergence of a new form of society—with new architecture, with new rituals,” Inomata said, “became really the important basis for all later Mesoamerican civilizations.”

—Tamara Stewart
The discovery of the butchered skull and shinbone of a 14-year-old girl in a 400-year-old trash pit confirms for the first time documentary evidence that starving colonists in Jamestown, Virginia, resorted to cannibalism in order to survive during the winter of 1609-1610, which is known as the “Starving Time.” Under siege by the Powhatan Indians, the colonists were trapped inside their fort with insufficient supplies, and most of them died from starvation or disease.

The findings answer a longstanding question among historians about the occurrence of cannibalism. “It’s a very rare find,” according to James Horn, vice president of research for the Colonial Williamsburg Foundation. The remains of the girl, named Jane by researchers, are the only artifactual evidence of cannibalism by Europeans at any European colony from about 1500 to 1800.

According to William Kelso, director of archaeology at Historic Jamestown, there are five historical accounts about cannibalism written by or about Jamestown colonists. Several accounts refer to a man who killed his pregnant wife and chopped her into pieces, which he then salted and ate for food. He was executed for murder.

The bones were discovered in trash deposited in the cellar of a building inside James Fort. They were mixed in with butchered dog and horse bones, beads, weaponry, and ceramics that date to 1609-1610. Doug Owsley, head of physical anthropology at the Smithsonian, examined the remains. He described multiple chop and cut marks on the girl’s skull and jaw that were made by one or more assailants after she died. “They were clearly interested in cheek meat, muscles of the face, tongue, throat, and brain,” he said.

Researchers don’t know who Jane was or how she died—only 10 percent of her skeleton has been found—but they think she could have been associated with a high status family. Most of the females at Jamestown in the early years were wives or daughters of English gentlemen or their maidservants.

Archaeologists think she arrived at Jamestown, the first permanent English settlement in the New World, in 1609 with about 300 new colonists who had survived a hurricane during their voyage from England. They had limited supplies since their supply ship, the Sea Venture had shipwrecked in Bermuda and they joined about 100 colonists who were already starving.

After they depleted their supplies, they ate rats, snakes, horses, dogs, and even leather. Only about 60 people were alive by spring. They were saved by the arrival of the survivors of the Sea Venture, who had built new ships.

—Paula Neely
A Third Miami Circle Discovered

The circles offer evidence of a Tequesta settlement.

Archaeologists recently discovered a third circle in Miami that provides further evidence of a prehistoric Tequesta Indian settlement as old as 700 B.C., according to Robert Carr, executive director of the Archaeological and Historical Conservancy.

About 38 feet in diameter, the partially excavated circle is one of three circular limestone features with numerous postholes cut into the bedrock that have been discovered at the mouth of the Miami River. The circle was unearthed this winter at the last vacant lot in downtown Miami on Third Avenue, where the Royal Palm Hotel once stood. The site is being excavated to clear the way for new development.

Located on the north shore, the third circle is about 1,000 feet across the river from the internationally famous Miami Circle. Discovered by Carr in 1998, the Miami Circle is 38 feet in diameter and dates to A.D. 200-400. A five-foot band of postholes define the circle’s circumference.

In 2005, Carr discovered a second circle, dubbed the Royal Palm Circle, at the Third Avenue site. Located about 250 yards from the recently discovered circle, it is about 36 feet in diameter and dates to A.D. 600-700. Two concentric bands of holes cut into the bedrock mark its outer edge. According to Carr, the mysterious feature was probably the footprint of a two-walled wood and thatch structure.

Between the second and third circles and along the shoreline, archaeologists have discovered artifacts such as axes made from the lips of conch shells in a midden filled with the remains of sea turtles, fish, shells, and charred seeds. Carr said this evidence speaks of the Tequesta’s daily lives. The Miami Circle, on the other hand, was an elite structure that was possibly used for religious purposes. It contained exotic artifacts that reflected trade throughout eastern North America.

Archaeologists have also discovered evidence of the original shoreline of the Miami River about 10 to 15 feet away from the second and third circles. It appears that the Tequesta built a flourishing village with complex architecture right on the banks of the river. “They could pull their canoes right up to their dwellings within a few feet of the shoreline. It was their version of paradise,” he said.

Excavations at an adjacent site on Third Avenue in 2005 have also revealed the largest Tequesta cemetery ever discovered with hundreds of burials. The remains were analyzed and then reinterred. The Tequesta were hunter-gatherers whose culture extended from Boca Raton to Key West, Florida. They were one of the first Native American groups encountered by Spanish explorer Juan Ponce de Leon in 1513. —Paula Neely
Archaeologists believe they have discovered Carr’s Fort, the site of an important Revolutionary War battle on the Georgia frontier. “The discovery is significant because it helps to tell the story of the American Revolution in the South which is so poorly told—it’s so overshadowed by the Civil War,” said Daniel Elliott, president of LAMAR Institute, a nonprofit archaeology organization.

The fort was built around the home of Robert Carr, a cattleman who was the captain of about 100 militiamen. Located midway between Athens and Augusta, the fort was one of about 35 small outposts designed to protect settlers along the Georgia frontier from attacks by the British and Native Americans.

About 80 Loyalists—colonists who were faithful to England—seized the fort on February 10, 1779, presumably on a day when Carr and his men were away. Almost immediately, the militiamen attacked and eventually regained control of the fort. Elliott said the brief but violent shootout helped stymie efforts by the British to recruit colonists from the area to join the British Army.

“The search for Carr’s Fort was like looking for a needle in a haystack, only harder,” Elliott said. “None of the historical documents had good location information and there wasn’t a map.” Land records and tidbits of information written by soldiers helped narrow the search to about a dozen target areas.

In January and February of this year, a team of researchers led by Elliott combed about four square miles of wooded property with metal detectors looking for evidence of the fort. They pinpointed the site when they discovered two clusters of about a dozen fired musket balls some 75 yards apart. Elliott noted that only four other musket balls have been found anywhere else in the search area. The team also discovered musket parts, buttons, horseshoes, door hinges, and wagon parts at the site.

Based on the location of nails and other 18th-century artifacts, Elliott identified the site of a large building about 70 yards in diameter inside the fort and a smaller building about 40 yards in diameter outside the fort. The evidence matches accounts of the battle, which say that the militiamen shot down into the fort from a building outside of it.

The archaeologists will return to the site to search for evidence of the fort’s walls with ground-penetrating radar. Elliott thinks he knows where to find at least one of the walls.

—Paula Neely

An archaeologist analyzes a musket ball recovered from the site. The ball has a flattened surface that could have resulted from striking the fort’s wooden walls.
Recent analysis of artifacts from over 700 prehistoric sites in the Southwest has revealed dramatic changes in the social networks of Southwestern communities between AD 1200 and 1450, during a time of long-distance migration and aggregation of people into large villages. Barbara Mills, director of the University of Arizona’s School of Anthropology, Jeffrey Clark and Matt Peeples of Archaeology Southwest, and colleagues published the results of their Southwest Social Networks Project (SWSN) in the *Proceedings of the National Academy of Sciences*.

“One of the most significant results is in being able to see which settlements were more connected to other settlements, and when,” said Mills. “We were able to identify dense clusters of ties that formed and then dissolved in the northern Southwest prior to AD 1300 and the subsequent formation of new networks in the southern Southwest.”

The researchers compiled information on more than 4.3 million ceramic sherds and over 4,800 obsidian artifacts from sites in what are now Arizona and western New Mexico, and they applied the results to an existing database of archaeological sites developed by scholars from Archaeology Southwest, the Museum of Northern Arizona, and Western Mapping Company to reconstruct trends in population growth and decline through time by examining site location, size, and occupation span. They then combined social network analysis, an analytic technique usually used in sociology that focuses on connections between individuals or groups, to reconstruct social network dynamics over the 250-year time period.

“Although there have been applications to archaeological material before, social network analysis is still a relatively new approach and it has never been applied to a database of this scope and size,” said Clark. “We were able to partition our database into 50-year intervals, with each interval providing a ‘network snapshot’ that could be compared with snapshots of other intervals.”

By documenting similarities in the ceramic types and obsidian sources present in sites across the study area, they were able to reconstruct likely networks of interaction. The analyses indicate that a large social network grew in the southern Southwest during this period, and then collapsed, while networks in the northern Southwest became more fragmented, but ultimately persisted longer.

Another major finding is that long-distance connections appear to have been maintained between groups as far apart as 150 miles. “We tested the relationship between spatial and social distance and found that there were certain periods of time when longer distance connections were more common,” Mills said. —Tamara Stewart
Archaeologist John Speth and his colleagues are questioning long-held assumptions about these ancient people.

By Jennifer Pinkowski

Contrary to the notion that Paleo-Indians subsisted primarily on big game, John Speth and some other archaeologists posit that these ancient people focused on hunting small animals and gathering seeds, nuts, roots, and fruit, as shown here. These archaeologists believe that the Paleo-Indians hunted big game, but it was more for socio-political purposes than subsistence.
A DIFFERENT VIEW OF PALEO-INDIANS
W e all know what North American Paleo-Indian life looked like during the last Ice Age. Between roughly 13,000 and 10,000 years ago, Paleo-Indians were “small bands of intrepid hunters traveling over immense expanses of tundra, forest, and plains in pursuit of (mostly) big game,” as University of Michigan archaeologist John Speth described it.

Virtually every aspect of their lives was dictated by the hunt. Highly mobile, they tracked mammoth and bison, the staples of their diet. Small groups routinely traveled vast distances to obtain the high-quality chert that was essential to fashioning exquisite stone points that could fell Ice Age beasts.

But what if much of what we thought is, well, questionable? That’s what Speth and four U of M graduate students argued in a paper published by the journal *Quaternary International*. By combing through a large number of ethnographic studies of hunter-gatherers, they compared Early Paleo-Indian data to relevant information on hunting, mobility, and weaponry documented ethnohistorically and ethnographically.

What they found was the ethnohistorical and ethnographic accounts of hunter-gatherer life don’t support long-standing assumptions about Paleo-Indians. Coupled with gaps and ambiguities in the archaeological record, this is good reason, they argue, to re-examine these assumptions and consider plausible alternatives.

Rather than big-game specialists whose entire lives revolved around the hunt, Paleo-Indians were more likely dietary generalists who took full advantage of a range of plants, seeds, nuts, and small game in their environment. They were highly mobile, but their actual foraging range can’t reliably be tied into where they found exotic flints, as has long been assumed. It’s possible that a handful of people—probably men—ventured far and wide to acquire these flints, but they could have also obtained them by trade with other people.

So why hunt big game? Speth proposed that big game hunting could have been less about food and more about the social and political affairs of men. He knows these ideas are speculative; his paper is littered with caveats acknowledging as much. “I’ll be totally honest with you,” he said via Skype from Jerusalem. “Many of my ideas are more than three standard deviations from the mean.”

“He’s saying what a number of us hardcore Paleo-Indian archaeologists have been saying for a couple of decades,” said Texas State University’s Michael Collins, who since the 1990s has been excavating the Gault site in central Texas, which has yielded Clovis and pre-Clovis artifacts. “It’s not entirely new, but it’s a very thoroughly presented point of view.”

They’re less convincing to archaeologists like Todd Surovell, interim director of the University of Wyoming’s George C. Frison Institute, named after the prominent archaeologist known for his study of big-game hunting. Archaeologists generally agree that Paleo-Indians ate more than big game, exploiting a range of animals in the landscape. The debate lies in whether they focused on big game, and whether that focus determined other behavior. “There are good reasons why you would preferentially target big game—both political and economic,” said Surovell. “Essentially, there’s a strong empirical basis that’s evolved from 80 years of archaeological fieldwork.”

Speth began looking into Paleo-Indian big-game hunting at the request of Iain Davidson, an archaeologist at Australia’s University of New England, who asked him to give a presentation during a 2009 conference on the early colonization of Australia and the Americas at Harvard, where Davidson was then a visiting professor. At the time Speth was writing a book on the evolution of big-game hunting called *The Paleoanthropology and Archaeology of Big-Game Hunting: Protein, Fat, or Politics?* Interested in hunter-gatherer nutritional strategies since the 1960s, he has spent most of his career at late prehistoric sites near Roswell, New Mexico, including the 15th-century Garnsey bison kill site, and has moonlighted at the Neanderthal site Kebara Cave in Israel since 1985.

He and the graduate students delved into the ethnographic literature and the Paleo-Indian archaeological record. In less than a year they put together their results in the *Quaternary International* paper “Early Paleo-Indian Big-Game Hunting in North America: Provisioning or Politics?” Just as in his book, the answer is politics. The primary goals of big-game hunting, they argued, were actually social and political. Food was secondary.

The idea that Paleo-Indians mostly ate big game has been accepted by many archaeologists for decades, and not without reason. For example, in 2003 Surovell and Nicole Waguespeck, also of the University of Wyoming, looked at 14 mammoth and mastodon kill sites from a 1,000-year period across North America. While there’s evidence in Africa of humans harvesting meat from elephants as far back as 1.8-million years ago, “the density of mammoth and mastodon kills in (the Clovis period) is greater than any other place through all time and space,” Surovell said. “Relatively speaking, we can say that Clovis people were doing it more than anyone else.”

The two also analyzed faunal remains from 19 other Clovis sites in 2003 and found a predominance of big game.

Though big-game hunting was undoubtedly a part of the Paleo-Indian diet, faunal discoveries in the past decade or so at other Paleo-Indian sites, such as Gault, suggest a broader diet. The remains of a range of smaller animals—rabbits, turtles, squirrels, foxes, frogs, and a variety of birds—have been found alongside mammoth and bison bones at many sites. Many of the remains were exposed to heat, as were rocks that cracked from exposure to fire, suggesting these small bones were cooked or otherwise processed, presumably for food. On the other hand, many mammoth and bison remains show little evidence of processing.

If big game was in fact their primary food source, the hunters must have been adept at killing the large, dangerous animals. It couldn’t have been that, as archaeologist Richard MacNeish put it back in 1964, “the hunter killed one elephant and spent the rest of his life talking about it?” But Speth’s examination of the ethnographic record of
Researchers work at the Gault site in Texas. Most of the tools uncovered at Gault were made from local materials, which questions the assumption that Paleo-Indians ranged far and wide to obtain exotic materials from which to make their tools.
20th-century Africa among hunter-gatherers, including the San of the Kalahari Desert in Botswana and Namibia, and the Hadza in Tanzania, makes him think MacNeish could have been more or less right.

The African hunter-gatherers invested a lot of time tracking animals large and small, both before and after inflicting non-lethal wounds, and their success rate greatly varied. Speth cited two studies from the 1960s in which anthropologists documented the hunting activities of a San group known as the Ju/'hoansi over several months. In one, the hunters successfully killed animals 23 percent of the time. In the other, they made a kill about half the time. Their success rate with hoofed big game was even lower. Given this evidence, Speth surmised that the Paleo-Indians were eating more than “filets of mammoth and bison.”

Another core assumption is that the Paleo-Indians’ foraging and flint-sourcing covered the same vast expanse. “The territory sizes that the Paleo-Indian specialists talk about are really dubious,” Speth said. “They’re gigantic. They’re bigger than anything recorded ethnographically.” Collins observed that many scholars “have lamented the fact that we didn’t have a good ethnographic analogy for specialized game hunting over wide geographic areas, and everybody just said, ‘That’s a shortcoming in the ethnographic data.’”

But what if the absence of evidence is actually evidence of absence? That is, what if the flint and foraging ranges don’t match? The vast majority of the tools uncovered at Gault, for instance, were made from local materials.

Some experts think Paleo-Indians didn’t range over huge areas. They were “clearly mobile people, but I think they’re moving across fairly local landscapes that they knew very well,” said Doug Bamforth, an archaeologist at the University of Colorado. He mentioned the Allen site, a Paleo-Indian camp in southwestern Nebraska whose collection he has studied extensively, as an example. Almost every artifact was made from local raw materials with the exception of a handful of projectile points made from stone found as far away as the Texas panhandle.

David Anderson, an archaeologist at the University of Tennessee, Knoxville, also suggested their mobility was limited to “fairly small areas” that could have stretched for as far as roughly 200 miles. He first proposed this back in 1990 based on an analysis of dozens of excavated sites and several thousand fluted points throughout the East. “Paleo-Indian peoples were not as highly mobile as most authorities would have it, but instead early on settled into resource-rich staging areas,” he said, “where people stayed or settled for longer periods of time, and likely formed the core of permanent occupations.” He also thinks that their foraging and flint-sourcing areas “could very well have been” different.

Speth also looked at the idea that whole forager bands, which probably consisted of about 25 to 50 people, traveled to acquire exotic stone for projectile points. “This is something that came from Lewis Binford in 1979. It was a great idea, but it’s become gospel,” he said. An alternate explanation is that a smaller group journeyed to obtain the stone. The ethnographic literature is replete with examples of both individuals and small groups traveling vast distances to gather raw materials imbued with symbolic power, including obsidian, mica, copper, silver, and quartz crystals. Some Australian Aborigine tribes send small bands of men hundreds of miles to bring red ochre, which is highly charged with symbolic value, back to the group. On average, each person carried 70 pounds of red ochre.

American Paleo-Indians could have done the same. One of the reasons archaeologists have concluded the entire forager group traveled great distances for high-quality stone is that points and other tools fashioned from such exotic material often form a majority of the artifact assemblage at Paleo-Indian sites. But, according to Speth, if archaeologists measured these artifacts by weight rather than quantity, their conclusions might change. He cited several examples of archaeologists who have weighed exotic materials from both campsites and kill sites. In each case, the total weight is quite light—as little as two lbs. at sites in Wyoming, and as much as 65 lbs. at the Fisher encampment in southern Ontario. In most cases it adds up to somewhere between 10 to 50 lbs., Speth said. “That entire assemblage could’ve been one trip by one individual.”

“When you look at what’s in these things, you could carry them in a backpack, and you wouldn’t even know they’re there,” Bamforth said. “Twenty to 30 projectile points would be pretty close to weightless.” So given their lightness and the case with which they could have been transported, Speth theorized they could also have been acquired by trade, a practice well documented by the ethnographic record.
Bamforth concurred, noting that the Texas stone used to make the Allen site’s projectile points could have been obtained by trade or by a small group that travelled there.

Finally, did Paleo-Indians need projectile points of high-quality chert to bring down big game? Speth offered multiple lines of evidence suggesting they didn’t. If indeed mammoth, bison, and other megafauna routinely served as dinner, these exceptionally crafted points were unlikely tools for the routine task of putting meat on the table. In addition to the time and effort dedicated to getting the chert, its fragility resulted in the points frequently breaking during manufacturing—and the finished points, remarkable as they were, lacked durability.

Speth also noted that the Aborigines could have killed off the megafauna in Australia with wooden spears and fire. Crow Indians, Papua New Guinean and Bushman hunters in the recent past used bows and arrows without stone tips. A 2009 global survey by Waguespack of 59 subsistence hunter groups found that nearly 65 percent used wooden-tipped projectiles in addition to ones armed with stone or metal.

After the Clovis period in North America, most projectile points were still made from exotic, high-quality flints, while other tools were made from various types of mostly local stone, Bamforth observed. This suggests to him, and to Speth, that the projectile points served some ceremonial purpose. “It makes sense to think of it in terms of status and ritual,” said Bamforth.

“I personally think making the fluted points is one of the things that bound people together over large distances,” Anderson said. “These objects are as much about the process of making identity as they are functional objects for killing animals.”

There is abundant evidence of symbolic thinking among hunter-gatherers in the ethnographic record. For Paleo-Indians, the special treatment of projectile points—exotic sources, skilled crafting, caching—indicate they could have been invested with a symbolic power. Of course, determining an object’s symbolic importance can be incredibly difficult, if not impossible, especially for Paleo-Indian archaeologists working mostly with stones and bones. Moreover, even ordinary objects can be infused with extraordinary power at certain times. How might an archaeologist interpret a communion wafer without knowing it represents the body of Christ?

University of Wyoming archaeologist Bob Kelly, however, thinks otherwise. Stone points are so common around the world there must be some functional reason for them, he said. “Stone and wood, bone, and antler points can penetrate as deeply, but stone keeps cutting the animal; without them, bow hunters tell me, wounds would clot, the bleeding stops and, while the animal will probably die, it stops leaving a trail,” he said. Kelly acknowledged that “stone points break easily, but in doing so they finish the job.

“Whether the stone raw materials were gathered for symbolic reasons is, for me, unknowable,” he added. “It’s the sort of explanation I would fall back on if I had exhausted all other interpretations I could think of.”

For Speth, the ultimate question is, why did Paleo-Indians hunt big game? He found the answer in a 2011 global survey of 32 modern-day hunter-gatherer groups that showed that only about seven percent of the adults are related by blood. It was generally thought that these groups were primarily bound by blood, when in fact it’s more often marriage that binds them.
Furthermore, behavioral ecologists are finding evidence that after a successful hunt, most of the meat is shared with unrelated males and their families. “Now, this is still very controversial,” he said. “There is evidence both ways. But there’s a growing amount of evidence that it’s not family provisioning, but sharing among unrelated males, and that the meat is a public good that helps to establish and maintain cooperation between unrelated males, and provides a glue that holds these bands together.”

Speth surmised that big-game hunting could have provided a similar purpose for the Paleo-Indians. The hunt was about more than sustenance: the killing of the beast, which could have been accomplished with exquisite chert projectile points to heighten the ritualistic effect, was first and foremost about bonding. Meat, he believes, provided the “political and social glue.”

According to Speth, archaeological studies of hunter-gatherers generally have a bias toward utilitarian or economic explanations. “Studies tend to focus on adaptation, efficiency return rates, and so forth,” he said. As the British prehistoric archaeologist Richard Bradley put it in 1984, “in the literature as a whole, successful farmers have social relations with one another, while hunter-gatherers have ecological relations with hazelnuts.”

Speth acknowledged that it’s a leap to draw conclusions about Paleo-Indians in Ice Age North America from hunter-gatherers in 20th century Africa. Kelly agreed, emphasizing the uniqueness of the Clovis experience. “Clovis foragers lived in an environment with no known parallel, and they were probably the first people in numbers to inhabit an otherwise empty world,” he said. “This was a unique historical event. Now, they may very well have been just like other foragers, but if one’s environment exerts any kind of influence, then I think it’s logical to assume that they may also have been quite different from all ethnographically known foragers.”

Anderson said the continuing excavation of Clovis and pre-Clovis sites, as well as the discovery of more such sites, are crucial to a better understanding of Paleo-Indian life. “It is a challenging field when you can have such differing opinions about the same evidence, but that’s what makes it fun,” he said. “But that also makes it incumbent upon us to go out and collect and think about the kinds of information we need to evaluate these models and hypotheses we’re putting forth. It’s pretty clear we don’t have enough excavated sites, or we would have answers to these questions.”

Better questions are key too—ones that challenge other key assumptions, Speth said. “If you’re only asking one question you’re only going to find one answer. If you start to question the assumptions and say, ‘hey, wait a minute, there are alternatives,’ then you need to find a way to discriminate between them.”

JENNIFER PINKOWSKI is a science journalist based in New York City.
ON THE EDGE OF A REMOTE ALPINE MEADOW high in California’s Sierra Nevada mountains, letters carved into the snow-white bark of an aspen tree offer an unexpected greeting: “KAIXO.” Those who understand Euskara, the language of the Basque people of Europe, know the word means “hello.” It's not the only such message: On tens of thousands of trees across the American West, Basque men who came to the United States to work as sheepherders in the 19th and 20th centuries carved messages, pictures, and even poetry into tree bark, creating a living record of their presence.
But only in the last few decades have archaeologists, historians, and others begun to piece together the story of how these carvings—called dendroglyphs or arboglyphs by researchers, and treeffiti by others—came to be, and the insights they offer. “We’ve tended to dismiss tree carvings as graffiti, but they are actually valuable records created by everyday people that can help us understand the past,” said archaeologist Kristina Crawford of North State Resources, an environmental consulting firm in Chico, California. “They are this amazing, giant database of primary historical documents.”

People all over the world have marked, inscribed, and intentionally scarred trees for thousands of years. And systematically analyzing such arboreal artifacts can provide important information about social and religious customs, political and economic arrangements, and even foraging and nutritional patterns. The age-old practice of modifying trees also reminds us that “people are a part of nature rather than apart from it,” Swedish forest scientist Rikard Andersson wrote in a 2005 doctoral dissertation.

In the United States, researchers have used the Basque dendroglyphs to track the movements of specific people over decades and even across thousands of miles of mountainous terrain, and to explore immigration patterns, economic shifts, and cultural transformations. Others have utilized the carvings to assess how millions of sheep may have once helped reshape forest and grassland ecosystems.

“It turns out trees can be very important artifacts,” said historian John Bieter, co-director of the Center for Basque Studies at Boise State University in Idaho. “These are carvings by people who mostly didn’t keep a journal or a diary, and certainly didn’t have a blog. But they did have the trees, all around them… and it turns out those trees can, in a way, talk.”

For more than a century, the existence of the Basque dendroglyphs was no secret to anyone who worked, hiked, fished, or hunted in the high country of 11 Western states. In some aspen groves hundreds of trees sported inscriptions in Euskara, Spanish, French, and English, drawings of everything from animals to homes and cars, and often bluntly sexual depictions of men and women. Some carried dates suggesting that they’d been carved as early as the late 1800s. But few scholars showed any interest in systematically studying the carvings, retired historian Joxe Mallea-Olaetxe recounted in his 2000 book, Speaking Through The Aspens: Basque Tree Carvings in California and Nevada.

That changed in the late 1980s, when Mallea-Olaetxe — who was born and raised in Spain’s Basque Country before coming to the United States—became interested in studying carvings on Peavine Mountain near Reno, Nevada. “A number of archaeologists and forest managers expressed interest in the research,” he wrote in Speaking Through The Aspens. “Others were skeptical.” By 1989, however, Mallea-Olaetxe had his first grant, launching a decades-long effort during which he’s documented some 25,000 carvings, and helped
inspire others to record thousands more. The efforts by Mallea-Olaetxe, now in his 70s, “represent a turning point in arborglyph studies,” historian Chris Worrell of Cleveland, Ohio, concluded in a 2009 article in *Forest History Today*. “He helped legitimize the study of tree carvings.”

Mallea-Olaetxe’s prodigious research—which included extensive interviews in Basque-American communities and arduous expeditions into remote groves once used by Basque shepherds—also helped highlight the remarkable story of the thousands of Basque immigrants who began trickling into California in the late 1840s, drawn by the dream of striking it rich in the gold rush that began in 1848. Most came from the Basque Country, an area roughly the size of New Hampshire that straddles the Pyrenees Mountains in Spain and France.

For centuries, the Basque Country had been a land of emigrants, with Basque soldiers, sailors, and workers boldly spreading across the globe in search of opportunity. (See “Uncovering Basques in Canada,” *American Archaeology*, Summer 2007.) At first, many of the Basque immigrants who came to California worked in the mines. Soon, however, they were helping raise the livestock used to feed the miners. “Most Basques were more comfortable with sheep and cows than with a pick and pan, and… they soon began to excel in the sheep industry,” wrote Mallea-Olaetxe. Eventually, Basques became the go-to shepherds throughout the West, taking advantage of a sheepherding boom that peaked in the 1910s and ‘20s, but then declined through the rest of the 20th century. (By the 1970s, Basques were being replaced by Peruvian and Mexican herdsmen.)

It was lonely, tedious work. In the summers, the shepherds would take their flocks—typically a thousand animals or more—up into moist, secluded mountain meadows to graze. The sheep generally fed during the cool mornings and evenings, and slept during the day, leaving the shepherds with long hours of idle time. They often occupied themselves by settling into a shady grove of aspens and carving the smooth, inviting bark with a knife or a nail. Interestingly, Basque herdsmen didn’t bring the carving habit with them from the old country—they developed it in their new home. And “most herdsmen soon learned that the best arborglyphs are produced with a single thin incision,” Mallea-Olaetxe wrote. Over time, the tree bandages the wound with a dark scar, creating a high-contrast image that, if executed properly, remains legible for decades.

Roughly 90 percent of the carvings Mallea-Olaetxe
recorded consist of the shepherds’ name, and perhaps a date or hometown. Despite their simplicity, they serve as a tool for researchers to track specific herders through space and time. On Peavine Mountain, for instance, Mallea-Olaetxe documented carvings created by “G. Paul” over a span of more than 40 years, from 1901 to 1942. Other researchers have used such carvings to track how some herders moved from one forest to another during their careers.

The simple “I was here” messages also capture subtle cultural changes experienced by Basque immigrants, said Bieter, who has recorded more than 1,000 dendroglyphs in Idaho over the past decade or so. In glyphs created by a herder named Jose M. throughout the 1930s and 1940s, for example, “you see him returning to the same camp year after year, but he begins to ‘Americanize’—Jose becomes Joe, for instance,” he said. “So you are actually seeing the immigration process, how identity shifts.”

Beyond name and date, the topics of the carvings—typically in Spanish or French—range from comments on the weather or politics to philosophical musings on life, love, and loneliness. There are also brash insults to other herders and grandiose boasts of sexual prowess. Some messages are hidden on obscured trunks and seem intended only to please their creator. Others are clearly placed on prominent “billboard” trees in order to be seen by passersby. “Arboglyphs were the shepherders’ media, their radio and television, long before these were even invented,” noted Mallea-Olaetxe. One California herder warned: “Sheepherder, keep alert, bears in the area.” “This is a bad sierra, no water, no grass,” another declared.

Sometimes there were complaints: “It would be better if the sheep bosses paid once a week.” A dendroglyph by a herder named J.Z., dated to 1915 and written in verse stated, “Before I used to chase girls / Now I chase sheep / I am always dreaming.” But others were encouraging. “Cheer up boys, don’t be discouraged,” urged an inscription along one particularly rugged climb up to a grazing meadow. “It is nice in the shade,” another carving stated.

But a message in Nevada’s Ruby Mountains struck a more somber tone: “I am sadder than a pine forest at dusk.” “Nobody told us that life was so tough here,” began a missive from another herder, echoing the sentiments of many Basques who came to America, often with little knowledge of sheepherding, and found less than they’d hoped for. “I wanted to turn around and go back home.”

The inscriptions on the middle of these three glyph-bearing aspens are deteriorating due to the tree’s age.
A few reflected on their finances. “I have been in America many years but I am still poor,” a herder named Bernardo Tocoua disclosed. “Advice to whoever reads this,” wrote another. “There is no more pitiful life in this world. It is the plain truth.” “Sheepherder, it is best that you shoot yourself in the head,” was the jarring advice offered by a shepherd from Peru.

In many cases, the documentation has come just in the nick of time, as older trees succumb to age, fire, and disease. Most of the Basque carvings were made on aspen trees, which typically live less than a century. Tens of thousands of dendroglyphs have already rotted away or been turned to ash by forest fires. “We’ve probably lost more than now remain,” said historian John Bieter, “but we still have a chance to document so many more.”

To help standardize such efforts, Crawford has been working with a colleague on publishing a paper on dendroglyph recording techniques, including the best ways to photograph and draw the markings. “Sometimes, your eye and hand can see more than the camera,” she said, “that’s why it is important to draw them.” Such tips could come in handy as archaeologists and historians work to document the last of the Basque dendroglyphs in aspen groves around the West. Most are on land owned by the federal government, and a number of national forests have sponsored volunteer projects over the past decade to help document the carvings. But the trees are being hit hard by climate and environmental shifts, and foresters fear many groves may soon disappear. That would be a sad end for iconic trees that, as Joxe Mallea-Olaetxe wrote, “helped rescue” many Basque herd- ers “from historical oblivion by preserving their names, their whereabouts and the duration of their careers.”

—David Malakoff

Archaeologist Kristina Crawford doesn’t focus exclusively on Basque carvings on aspens. “I try to record dendroglyphs I find on all of the trees,” Crawford said, including marks made by timber workers, hikers, and anglers on species such as pine and cottonwood. And she’s not alone: Throughout the United States “glyphers” have undertaken projects to record dendroglyphs on various types of trees.

Kristina Crawford’s drawing (right) of this 1931 Basque dendroglyph clarifies some of its details, such as the date it was carved.

RECORDING ALL DENDROGlyphS

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A more common and more upbeat Basque message was “Viva ni.” (Hurray for me!) “Hurray for my wife and my girlfriend,” crowed another, which was signed by a shepherd who likely never expected his indiscretion to be recorded years later. Some messages invited replies that occurred over weeks, months, or years. “Women and wine both are good,” stated one herder, to which another, on the other side of the same tree, countered, “Yes, but they are hard on your pocket.” Bieter has found a tree in Idaho where the conversation went vertical. “The glyphs stretch up the trunk 30, 40 feet, one on top of the other,” he said. “We nicknamed them the
totem pole arborglyphs. It’s like: ‘I can meet you and beat you. ’ We’re still not sure exactly how they got up there. ”

Other herders preferred to express themselves in pictures. There are easily recognizable objects, such as cars, airplanes, and cozy homes with smoke spiraling out of a chimney. There are flickering stars, crescent moons, and geometric shapes. Flags show up on occasion, sometimes as part of political pleas for Basque autonomy.

Animals and fanciful half-human, half-beast chimeras, and even goblin-like figures holding pitchforks also appear. Some herders liked to carve portraits of themselves with a hat and pipe, or holding hands with a wife or girlfriend. They also fashioned women in fancy dresses and heels.

Then there are the nudes—lots of nudes in some groves, ranging from a few inches to eight feet tall. Some are crudely drawn, others masterfully. Many drawings wouldn’t be out of place in an art gallery—an especially impressive result, given the conditions the shepherds were working under. “Tree carving is a relatively quick ‘first try’ art,” Mallea-Olaetxe wrote. “It is a little like life itself; you cannot erase a carving and you cannot do it over; any more than you can live twice.”

A few artists stand out. Both Mallea-Olaetxe and Kristina Crawford said they are awed by the work of D. Borel, a herder who started working in California around 1916. The quality of his female nudes make it “almost certain that Borel was educated or had studied drawing and art,” Mallea-Olaetxe wrote. “They are just beautiful,” added Crawford. “You see one and you just stop and admire it.”

But are such carvings art? It’s a question that Bieter, for one, said isn’t that important to him. What matters, he said, “is that there’s a creative intent in many of the carvings: They’re saying: ‘I was here, I’m alive, I matter, I can make a mark.’ It is a validation of who they are. Other people can debate if its art.”

**ARCHAEOLOGISTS ARE FINDING CREATIVE WAYS** to mine the data produced by tree carvings. Crawford, for instance, published a 2012 paper in the journal *California Archaeology* that used names and dates taken from dendroglyphs to show how particular Basque regions consistently fed immigrants to certain parts of the United States—a pairing phenomenon known as “chain migration.” Many Basque shepherds don’t show up in traditional census counts, scholars note, so dendroglyphs can be the only way to study historic settlement and labor patterns.

In Crawford’s case, she was able to identify 188 names of herdsmen from trees at 141 California sites, and then match 69 of the surnames back to particular Basque regions in Spain and France. Then, she compared those names to World War I draft records in California, which listed the draftee’s birthplace. By sifting both sets of records, Crawford found that Basque herdsmen in western Nevada and northeastern California tended to originate from Spain’s Navarra province and nearby France. (In contrast, other studies have found that Idaho’s Basques tended to come from Spain’s Vizcaya province). It’s an example of how “dendroglyphs allow you to find and trace people in ways that might not seem obvious,” she said.

The chain migration research comes in the wake of another study Crawford undertook in 2005, using dendroglyph data to estimate historic sheep numbers on the Tahoe National Forest in California. The carvings revealed the areas where dozens of herdsmen took their flocks in the years between 1894 and 1951, enabling Crawford to make some preliminary estimates of how many sheep used certain grazing allotments. These estimates “can help gauge historic land use and ecological impacts,” she said, such as identifying areas that could have been overgrazed. They also help chart the rise and fall of the sheep industry. Overall, said Crawford, “the goal is to get a better sense of who was doing what, and where.”

It is perhaps fitting that, along with “hello,” “good-bye” is a message that Basque herdsmen commonly carved into their trees. Some were heading back to Europe. Others were just delighted to leave the isolation of the high country, such as the herder who carved “Good-bye mountains, hurrah, let us party.” Another farewell, however, captured something more bittersweet: “Good-by my love, good-by forever.”

DAVID MALAKOFF is a staff writer for the journal Science. His article “Digging Up George Washington” appeared in the Spring 2013 issue of American Archaeology.
The prehistoric earthworks at Poverty Point, built some 3,500 years ago on the edge of the Mississippi floodplain in northeastern Louisiana, include six concentric ridges and five mounds. The largest of these mounds, Mound A, stands 72-feet high and has a base almost the size of 10 football fields, making it the second-largest mound in North America.

Considering that the people who built Poverty Point didn’t have organized agriculture, domesticated draft animals, or the wheel, it’s easy to assume mounds the size of modern buildings took decades, if not centuries, to build. That was the general theory among archaeologists, at least, until T.R. Kidder of Washington University and Anthony Ortmann of Murray State University began excavating in 2001.

Their results, published in *Geoarchaeology*, suggest that, in fact, Mound A rose from nothing in a matter of months. Without a single wheelbarrow, the people of Poverty Point may have moved enough soil to fill 31,217 modern dump trucks in as little as one month. The findings are making researchers re-think not only how many of the mounds across the Southeastern United States were built, but also what the hunter-gatherer societies that built them were really capable of.
Native Americans started building monumental earthworks in eastern North America at least 5,700 years ago. Thousands of mounds are still scattered across the Mississippi River basin today. The largest, Monks Mound at Cahokia, in Illinois, is 100-feet high and has a base area roughly the same as the Great Pyramid at Giza in Egypt.

The Poverty Point culture emerged in the lower Mississippi River Valley around 1600 B.C. during the late Archaic period. Although their origins are still a mystery, they occupied the Poverty Point site almost immediately after they emerged, and over the next 500-600 years spread throughout the lower Mississippi Valley from the Gulf of Mexico to what is now Tennessee, a region of roughly 700 square miles. Archaeologists have identified over 100 sites that were occupied by the Poverty Point culture, but the Poverty Point site, which was named after a nearby plantation, is one of only a handful that have evidence of mound building. Most of the earthworks in the center of the site were built between 1400-1200 B.C.

Six concentric ridges face east toward the bayou, divided by corridors and aisles like seats at a theater. Each ridge is about three-feet high, two feet lower than archaeologists think they were originally. Two mounds stand inside the ridges on the edge of the bayou, and three more are outside, lined up north to south, with Mound A in the middle. Two older mounds mark the edges of the settlement to the far north and south.

In its time, Poverty Point was the largest earthworks in North America. Mound A covers about 538,000 square feet, with a 30-foot-high platform on its east side that gives it a roughly triangular shape. Building all the mounds and ridges required moving about 27 million cubic feet of earth, so it’s understandable Poverty Point is a Louisiana State Historic Site and under consideration for World Heritage status. (The Archaeological Conservancy owns the Lower Jackson Mound, which is two miles south of Poverty Point and was once thought to be part of the site. But recent research has shown that the Lower Jackson Mound predates the Poverty Point site.)

The artifacts that have been found at the site raise almost as many questions about its inhabitants as they answer. “At Poverty Point, we see quantities of non-local goods that are truly staggering,” said Kidder. The inhabitants clearly traded with people far away: projectiles, cutting tools, drills, and cooking vessels were made on site from raw materials imported from the Ozarks, the Appalachian Mountains, and as far away as the upper Great Lakes.

Some of the most common items are small balls, or other shapes, made of fired clay. They are thought to have been used in cooking: heated in a fire, they could be used to boil water or heat food in cooking pits or earth ovens. The site has also yielded incredible amounts of lithic materials, which is all the more surprising since most of it came from far away. Over 70 metric tons of stone from outside the site was incorporated into the ridges, and a single cache held the fragments of 200-300 soapstone vessels. The closest source for chert is over 30 miles away, but more than half the chert at the site came from over 300 miles away, and some from twice that distance.

The size of the mounds and number of artifacts, plus other signs of sedentary residence like hearths and middens, suggest that many people lived here at certain times. But archaeologists have wondered how the culture was structured. Pre-agricultural hunter-gatherer societies have traditionally been assumed to live in egalitarian groups numbering in the dozens, limited by the resources available in their immediate environment.

In this scenario, large structures like mounds would likely accumulate very slowly, according to no fixed plan. For example, Mound A was generally estimated to have taken decades, if not centuries, to build, although this was based more on guesswork than solid evidence: it had only been excavated twice before, and neither effort was published. In contrast, a more complex society with a distinct leader class would be able to undertake monumental engineering projects more efficiently.

Archaeologists haven’t found any evidence of social hierarchy at Poverty Point in terms of different kinds of buildings, burials, or distribution of raw materials. Still, researchers have debated what sort of place it was for decades. Was it a large, permanent settlement with a structured social system, capable of planning and building huge structures relatively fast in highly organized events? Or did people only gather here in large numbers for occasional trade fairs and ceremonies, building the earthworks up a little more each time, almost organically?
In 2001, Kidder and Ortmann began excavating Mound A in the hope that figuring out how it was built—the techniques, materials, amount of time, etc.—would yield insights about their social organization. Over four field seasons through 2006, they extracted 89 two-inch soil cores on the summit platform, the mound’s lower slopes, and the places where the main cone, platform, and ramp met. (In some spots the cultural deposits were so dense they couldn’t break through to sterile soils.)

They also excavated a 10-foot-wide by 33-foot-deep profile into the south side of the platform, and collected 19 soil samples for micromorphology analysis. To find out when construction started, they took four samples from the base of the mound for radiocarbon dating.

Their findings suggest Mound A was built in a carefully planned way—and in a very short timeframe. Sometime after 1261 B.C., late in the site’s occupation, the builders cleared a low-lying swamp or marsh and covered the dark soil with a layer of fine, light-colored silt. They built the steep-sided, conical part of the mound on top of that, followed by the 33-foot high platform to the east. The shallow ramp joining the platform with the cone came last.

Most of the effort was probably done using a kind of bucket-brigade system, where soil was carried in baskets or other containers. Everything but the light silt base layer was made from a mix of heavier sediments of different colors from various places along Macon Ridge.

Even as they were excavating the platform, Ortmann said, he and Kidder noticed something strange. “Standing there looking at this massive thing towering over us, we could tell there were no significant breaks in the construction sequence, no natural or culturally formed horizons in the fill.” Neither the cone nor the platform showed any signs of soil disturbance from erosion or human activity during construction. Microscopic analysis showed the boundaries between the cone, platform, and ramp were sharp, with no mixing of sediments and no roots, insect burrows, or evidence of worms disturbing the layers.

Even more surprising, there was no evidence that any rain fell on the mound while it was being built. This part of Louisiana gets an average of 4.5 inches of rain per month, and the silt used to build Mound A virtually melts when it gets wet. “If you put down a pile of dirt today, in three
months grass would grow on it, insects burrow into it, rain would fall on it, and all of that would leave traces," Kidder said. "Even when covered with tarps, our back-dirt piles would erode when it rained." Yet evidence of physical soil weathering only turned up in one place: where the ramp met the platform.

There is no record of an extended drought at the time, and even a dry year would have had some rain; in 120 years of local climate records, there have only been two recorded months with no precipitation at all. The probability of going more than three months without rain is essentially zero, Kidder said, and if the builders had covered the mound with cane mats or wood while it was being built, they would have left some trace.

Other smaller mounds at Poverty Point were clearly built in stages, with pauses in between. But Kidder and Ortmann’s results suggested that Mound A was built so quickly that it was never rained on during construction—almost certainly no more than 90 days, and possibly as few as 30.

"It was a shock to us," Kidder said. "We realize it’s an exceptional claim. We thought it was going to be faster than people had conjectured, but I certainly had no conception it would be that quick." They rechecked their data many times and were confident of its accuracy, he said, but it still took them about five years to get up the courage to make their case in public.

"People were surprised," said Joe Saunders of the University of Louisiana-Monroe. "At first just about everybody said, ‘This is just impossible.’ But the more they examined the evidence, he said, the more solid it seemed.

Vin Steponaitis of the University of North Carolina said he was leaning in the direction of the slow-construction hypothesis before Kidder and Ortmann’s work. Now, he said, "the question is as settled as it’s going to be in my lifetime. They did as good a job as could be done. If I were writing a textbook now, I would certainly be writing TR’s findings into it."

But Steponaitis added, "There’s always a little bit of room for doubt when you’re dealing with cores. Sometimes it’s very hard to identify mound surfaces in cores—sometimes the surfaces are very subtle." Saunders, too, wondered if some signs were dismissed more quickly than they should have been, including possible buried horizons. "But overall, it’s a great piece of work," he said. "It’s making us rethink what the heck we’ve been thinking" for half a century. "Right or wrong, they’re shaking up Southeastern archaeology."

No purely hunter-gatherer society ever built something as large, and as fast, as Mound A, Kidder said, and the effort would have taken a huge amount of labor. He and Ortmann calculated how many people could have been involved, using standard estimates of how much soil an average person could have moved in a day. By the most conservative measures, it would have taken 1,019 workers to finish...
Mound A in 90 days. It would have taken as many as 3,000 workers to do it in one 30-day building blitz.

Assuming each worker brought an average of two family members, the Poverty Point community may have held up to 9,000 people for at least a short time, which would have been one of the largest gatherings of people on the continent to date. That’s far greater than any known hunter-gatherer population—in fact, it’s more people than were estimated to have lived in the entire Poverty Point cultural region, meaning workers would have had to come in from outside communities.

Raw materials were definitely imported from far away, said Kidder, but oddly, it seems to have been a one-way flow. Before Poverty Point, Native Americans were trading with each other across Eastern North America. “But when Poverty Point comes about, this kind of trade ceases,” Kidder said. “It becomes a kind of vacuum, sucking all that stuff in. Nothing we can trace seems to go out—there’s no distinctive cultural style being exported.”

This could mark a general shift from trading networks to trading centers, especially considering the Poverty Point culture arose after an unexplained thousand-year gap in the archaeological record when no mounds were built. It could also give a clue to the site’s purpose. Mound A doesn’t seem to fit any of the usual platform mound functions: there is no evidence of buildings on its surface and no signs of occupation. The site shows no indications of permanent settlement. Why would so many people gather temporarily to do so much carefully guided work without a clear practical purpose? To Kidder, one explanation makes the most sense: Poverty Point was a ritual religious center and pilgrimage destination.

“I’m pretty convinced the big mound is the prehistoric equivalent of a cathedral,” he said. “Other explanations don’t seem to work.” The mound could physically represent the native creation story. Each part could correspond to a step in the triumph of creation over chaos, said Kidder, or the emergence of life from the underworld: clearing the dark, wet swamp, covering it with a layer of lighter soil, then raising the mound itself—made from orange and yellow soils—toward the sky.

Whatever its purpose, the people who built it didn’t last long. Mound A was the last major construction at Poverty Point. Kidder and Ortmann estimate it was both built and used over a period of 107 years at most, and more likely closer to 40. The site appears to have been abandoned soon after 1200 B.C., although the exact dates are unclear.

There must have been leaders who, at least on a temporary basis, brought the people together and directed their efforts. “They were probably ephemeral positions,” said Ortmann, “not any sort of institutionalized office of leadership.”

The research has implications for other mounds as well. Kidder worked with Tim Schilling of the National Park Service at Monk’s Mound, which most scholars believe took decades or centuries to build. Schilling’s analysis of radiocarbon dates, however, strongly suggest the biggest mound on the continent was built in less than 20 years, and possibly in less than four.

Kidder and Sarah Sherwood of Sewanee: The University of the South, co-authored a paper in the Journal of Anthropological Archaeology titled “The DaVincis of Dirt” that argued mound building is much more than just moving earth, and that the mounds themselves were more than just pedestals for buildings or activities. In that sense, Mound A’s significance may lie more in its creation than its final form.

Archaeologists need to consider earthworks from a new perspective, Sherwood said. “The mound and its construction is the artifact.” From there, “we can learn a lot about how people were organized, the breadth of their knowledge of the landscape, and their sense of how earthen material could or should be used, far more than from the potsherds they contain in their fill.”

Poverty Point reached a level of complexity well beyond many later pre-contact peoples, Kidder said. “Our data suggest our historical interpretations need to be rethought, especially the common idea that one must have agriculture to be socially, politically, or economically complex. Too often, I think, we have this notion that Native Americans were incapable of anything other than living lives that were nasty, brutish and short. That is clearly not true. These people achieved a remarkable level of sophistication. It’s amazing what people can get done when they want.”

The ARCHAEOLOGY of CARLSBAD CAVERNS

By Tamara Stewart
THE HIKE UP TO THE ENTRANCE of Slaughter Canyon Cave was steep and rocky, and we struggled to keep up with our guides. The desert heat was a stark contrast to the dark, cool cave entrance we approached high on the west wall of Slaughter Canyon. Once through the locked gate, the guides’ high-powered headlamps lit the way down into the pitch black, undeveloped cave. We kept to a narrow path designated by orange flagging tape to avoid brushing against the formations and disturbing the cave’s fragile environment. Although wet in recent years, these days the cave is dry, making our trek through the dimly-lit chambers much easier.

Situated in the Guadalupe Mountains of southeastern New Mexico, the limestone topography of Carlsbad Caverns National Park has resulted in the formation of numerous caves—there are 118 known caves in the park. The largest, Carlsbad Cavern, contains a natural limestone chamber (the Big Room) that is the third biggest in North America and the seventh in the world. Formed in a Permian-period limestone reef, the cavern is the summer home to more than a quarter million Mexican free-tailed bats and a colony of migratory cave swallows. Carlsbad Caverns was proclaimed a national monument in 1923, a national park in 1930, and in recognition of its world-class cave system, a World Heritage Site in 1995.

Better known for its amazing cave formations, Carlsbad Caverns National Park also boasts remarkable cultural resources dating back thousands of years.
While caves, bats, stalactites, and stalagmites are generally what come to mind when one thinks of the park, David Kayser, the museum curator and lead cultural resource management specialist, noted that the park has a variety of archaeological sites ranging from ancient pictographs to massive burned rock ring middens to extensive historic guano (bat dung) mining operations. Only 4,000 acres of the 46,000-acre park has been surveyed, revealing 290 archaeological sites, most of which were recorded during the 1950s and ’60s. Recent research in the park, as well as inventories and reconnaissance surveys prompted by fires and proposed development, have led to important discoveries. In mid-April—too early to experience the mass ascension of bats that occurs every dusk between May and October, but early enough to beat the Chihuahuan Desert heat—I got to see some of these amazing sites.

Climbing a knotted rope, we pulled ourselves up and over a large formation that happened to be a huge mound of guano. Then we sat quietly in the inky darkness with all the headlamps turned off. Just beyond the cave’s twilight zone and into its dark zone, where sunlight never penetrates, we stopped where survey tape on the wall denoted an area of vague discoloration and dark wavy markings that are ancient pictographs. These drawings are the park’s only known dark zone cave rock art. Most rock art in the U.S. is found in shallow rock shelters or on surface rocks rather than in the dark zones of caves.

Rock art researchers Michael and Barbara Bilbo...
examined the ancient pictographs in 1990 while surveying rock art sites in the Guadalupe Mountains. In addition to two known pictographs tucked into an alcove above a now-dry basin, they identified 42 previously unknown abstract motifs in the Guadalupe Mountains Hunter-Gatherer style. The yellow, brown, black, and red pictographs include wavy and zigzag lines, diamond netting, bird tracks, hand prints, and other abstract images. The Bilbos found that some of the earlier yellow motifs had been enhanced by dark charcoal outlining, an apparent attempt in the 1900s to highlight the faded pictographs.

Explorers in the 1950s discovered a prehistoric hearth, ceramics, and ancient flowstone-covered projectile points, including an Archaic dart, near the pictographs. The 1990 survey also found fragments of possible cane torches deeper in the cave. Our short tour went no deeper than the pictographs, where we stood in hushed awe at the ancient symbols drawn thousands of years ago, deep in the dark cave above what was once a pool of water.

Many rock art sites in the Guadalupe Mountains are found near springs or bedrock pools that are historically known to hold water for many months out of the year. "The general occurrence of rock art sites in proximity to water sources hints that rock art may have been associated with water or food resources," the Bilbos wrote in their analysis of the pictographs. Rock art specialist Polly Schaafsma pointed out that abstract Archaic rock art may be related to vision-quest activities or may symbolize cosmological concepts, and settings such as the dark zone of Slaughter Canyon Cave would be appropriate for these types of activities and images.

EIGHT YEARS AGO IN ANOTHER REMOTE area of the park, cave specialists Stan Allison of Carlsbad Caverns and Aaron Stockton of the Bureau of Land Management were surveying the Guadalupe Mountains in search of new caves, karst features, and archaeological sites in the park’s backcountry, when they made a fantastic discovery.

"On this particular trip in 2005, Aaron checked out an obscure and small entrance to a shelter and commented on a neat gastropod fossil that he observed," recalled Allison. "I came over to look at the fossil and noticed the amazing red cervid pictograph which drew us into the shelter. We immediately noticed the cervid butchering scene to the left of the central cervid pictograph, and the hunting scene with the intricate details to the right. While we didn’t realize the full significance of the site at that time, we both knew that we had found something very special. Neither of us had observed any hunting or butchering scenes in Guadalupe..."
Mountain pictographs and these seemed outstanding in their detail and artistic skill."

The tiny, finely-executed figures depicted at what has become known as Hunter’s Shelter appear similar to Late Archaic rock art known as the Red Linear style of the lower Pecos River region of Texas, about 250 miles southeast of Carlsbad Caverns. The Red Linear style is characterized by tiny stick figures, usually less than four-inches tall, engaged in activities that often involve animals and weapons. Striking similarities between these rock art styles has led researchers Robert Mark and Evelyn Billo, who recently completed a photo-documentation of Hunter’s Shelter, to conclude that the Pecos River was likely a prehistoric corridor for the movement of people and ideas between the Guadalupe Mountains and the Lower Pecos Region.

Another well-preserved rock art shelter recently discovered in the nearby Lincoln National Forest has similar hunting and butchering scenes that illustrate the use of nets and rabbit sticks of the sort that have been recovered from adjacent areas. These items date to the late Archaic (roughly 1500 B.C. to A.D. 200) and the details of their use have become clearer since the discovery of these pictographs.

Painted Grotto, in the heart of the Guadalupe Mountains, is a well-known rock art shelter discovered in the early 1900s and now part of the park. The shelter, considered something of an enigma by researchers, contains what appear to be Apache pictographs superimposed on older, Archaic-style motifs. The older pictographs consist of red geometric forms that include parallel zigzag and wavy lines, paired horizontal or vertical lines, and circles. The Apache style is much more elaborate in technique and variety of forms, with its red, orange, yellow, and white rows of triangles, dots, straight and angular lines, concentric circles, and human, plant, and animal images.

This younger style appears similar to pictographs in other areas, including along the lower Pecos River. These once-vivid images are fading, and chunks of shelter wall continue to spall off, a process exacerbated by the wild, Barbary sheep that live in the park and rub against the walls as they shelter under the overhang. Following petition by Native American groups, in 1997 Painted Grotto and another rock art site, both of which are considered highly significant to the 14 tribes traditionally associated with lands within the park, were closed to the public.

WINDING THROUGH THE PARK’S BACKCOUNTRY, we saw large, donut-shaped rock piles known as ring middens dotting the parched landscape where an amazing variety of succulents still manage to thrive. Made up of small to medium-sized rocks and often 25-to-30-feet wide and up to five-feet tall, the ring middens are earth ovens that are especially visible since last year’s fire burned off much of the brush. ‘Usually there are several clustered together,’ said Sam Denman, the park’s museum and archaeological technician.

Native peoples placed plants such as agave and sotol bulbs on top of fire pits, and then covered them with wet grass, dirt, and rocks, letting them roast for three or four days,
at which point they could be eaten. “They roasted the agave to make it edible, turning it from hard to soft, sticky, and tasty,” Denman explained. “Then they could eat it or make it into dried cakes and store it for future use.” To get the cooked plants, they removed the rocks, which they left in circular piles around the fire pits, creating the ubiquitous ring middens seen throughout the park. “The rock piles were often re-used, resulting in huge middens over time,” he said. The middens are frequently located near springs or other water sources.

Radiocarbon samples and associated artifacts such as ceramics and projectile points indicate the middens were used first by Archaic hunters and gatherers, and then by other groups, including an eastern extension of the Jornada branch of Mogollon peoples between A.D. 750 and 1450. The most recent middens are attributed to the Mescalero Apache, named for their use of mescal—a type of agave plant and a staple of their diet. Prior to being placed on a reservation, the Mescalero Apache Tribe lived in the Guadalupe Mountains. In the 1800s, Spanish, and later Mexican and American, soldiers mounted extermination campaigns against the Apache. Some evidence of 1860s skirmishes has been found in canyons within and close to the park.

“An exciting recent discovery was the identification of wickiup rock ovals at several sites, illustrating continued Apache use of the park,” said Kayser. Wickiups are traditional domed Apache dwellings made of branches and covered with plant material or animal hides. Apache tribal members continue traditional use of lands within the Guadalupe Mountains, such as the harvesting and roasting of mescal as an important part of their coming-of-age rite for girls.

NORTHWEST OF THE MAIN CAVERN, Denman led us to the 40-acre Lowe Ranch site in the bottom of Walnut Canyon, one of the park’s most significant archaeological sites. Nestled among low limestone hills, the site contains two Paleo-Indian campsites, an extensive complex of ring middens, hearths, and artifact scatters, as well as the 1892 Lowe Ranch homestead. Simply constructed lambing pens of limestone slabs are concentrated in one area away from the stone foundations of a barn, spring house, and the remains of a ranch house.

“During the homestead era, ranchers folded their newborn lambs into these small structures to protect them from four-legged and flying predators and from the heat,” Denman explained, pointing to the surprisingly small limestone structures. Descendants of the Lowe family, Euro-American pioneers of southeastern New Mexico, still live in the Carlsbad
area. “That’s an area where we could see more research in the park, the history of European homesteading and ranching,” he said as we watched a herd of deer run upslope, startled from their resting place in the shade of a rockshelter.

South of the park in a separate unit known as the Rattlesnake Springs Historic District, a landscaped oasis formed by a cluster of natural springs and tall cottonwood trees holds the remains of the 1880s’ homestead of one William Henry Harrison. Fed by the Black River, the springs still flow into a crystal blue pool, irrigating surrounding farmland. The irrigation system is the oldest continuously operating system in southeast New Mexico.

AS DARKNESS FELL ON THE DESOLATE HILLS above the main cavern, I imagined what it was like in 1901, when Jim White was out riding at dusk and saw a black stream of what looked like smoke from a volcano. Getting closer, he saw thousands of bats emerging from a hole in the ground. White spent the next 20 years exploring the caves and working to interest the public in them.

Soil depletion was rampant as cultivation increased in the Eastern U.S., and guano was found to be a highly effective fertilizer. (It had in fact been used as such by the Moche and Inca peoples since ancient times.) In 1903, Carlsbad resident Abijah Long filed a claim on a portion of Carlsbad Cavern and began developing the site for guano mining, starting with the Old Guano Road that still runs through the park. Long’s workers excavated a vertical shaft next to the natural cavern entrance, where they built a headframe that allowed the guano to be hauled up in buckets via a pulley system. Until the 1930s, this was the primary way that tourists and park employees entered the cavern.

The Ogle Cave Guano Mine, a similar operation in Slaughter Canyon, began with a 60-acre claim filed by John Ogle in 1913 and continued until 1938. Guano miners suffered terrible respiratory and gastrointestinal problems from breathing the ammonia-laden bat dung, which often led to nosebleeds and, in some cases, temporary blindness. Carlsbad Cavern’s mining operations peaked in 1928 at an estimated 40 tons of guano per day. Citrus orchards in California were the top consumers of the dung. Though guano mining was never very profitable, it continued through the 1950s. Well preserved historic artifacts and features such as a partially completed mine tunnel and machinery found in a cave complex are vestiges of these operations.

Recent updates to the Carlsbad Caverns and Rattlesnake Springs National Register of Historic Places nomination forms have provided more detailed information about the park’s historic era, and inventories of archaeology in the park are revealing more than 12,000 years of human use and occupation, about which current researchers have only begun to scratch the surface. “The potential for further study in the park,” said Kayser, “is unlimited.”

TAMARA STEWART is the assistant editor of American Archaeology and the Conservancy’s Southwest region projects coordinator.
Visiting South Texas and the Hill Country

The area stretching from San Antonio, west past Del Rio and north into the rolling Texas Hill Country, has been inhabited for at least 12,000 years. It can be a harsh environment where rain is scarce and food difficult to find.

On a 700-mile loop through the region, one can marvel at some of North America’s oldest cave pictographs, explore historic presidios where the New World met—and often clashed with—the Old, view artistic renderings of the Old West and, yes, remember the Alamo.

Indeed, San Antonio, home of the Cradle of Texas Liberty, is a fine place to start your tour. The city of more than 2.2 million offers cosmopolitan pleasures such as fine dining, excellent hotels, and unique shopping along with

Mission San Juan Capistrano was relocated from East Texas to the San Antonio River in 1731. It continues to serve the people of San Antonio.
The Long Barracks at Fort McKavett State Historic Site were originally three barracks that were combined in the early 1870s to create the longest military barracks west of the Mississippi River during the 19th century.

small-town friendliness and a fierce pride in its history

To get your intellectual bearings, visit the Witte Museum, whose collections range from ancient Clovis points to the extravagant gowns worn by Queens and their Courts during Fiesta, the city’s annual 11-day celebration of parades, rodeos, music, food, and history.

Next, get your physical bearings by taking an elevator 750 feet up to the observation deck of the Tower of the Americas. An iconic remnant of the HemisFair ’68 World’s Fair, the tower also boasts the requisite revolving restaurant so you can dine while enjoying the passing scenery—the Hill Country to the north, coastal plains to the southeast, and the San Antonio River snaking its way through downtown below.

The city’s best-known historical site is, of course, the Alamo, which was established as Mission San Antonio de Valero by the Spanish in 1718 and was the site of the 1836 Battle of the Alamo. The shrine’s location in what is now downtown can be somewhat disorienting and cause of the oft-heard tourist complaint, “But it’s so small.” Indeed, what we call the Alamo today is, in fact, only the surviving chapel of a much larger mission complex. Even the iconic campanulate, or bell-shaped façade, was added years after the battle.

For a fuller view of life in a Spanish mission, visit four other outposts strung along the river to the south: Mission Concepción, Mission San José, Mission San Juan, and Mission Espada. These four missions constitute San Antonio Missions National Historical Park. Like the Alamo, they were all established by the Spanish crown to convert the indigenous peoples to Catholicism, establish Spanish roots in the area, and spur economic growth. Today, the buildings are still owned by the Archdiocese of San Antonio, which operates them as active parishes, including celebrating church services.

The nearby San Antonio River is the very reason the city
exists. But the Riverwalk area, the world-famous horseshoe bend lined with restaurants, shops, and clubs, has in recent years benefitted from a $358 million river improvement project that extends the developed portion of the waterway four miles to the north and nine miles to the south.

The northern waters are plied by natural-gas powered barges that at one point are raised and lowered by a Panama Canal-type lock. The southern stretch of the river, which is wider and wilder, has interpretive exhibits, hiking and biking trails, and a fishing pier.

Upon leaving the city, drive west on Highway 90 to Castroville, the Alsatian community founded in 1844 on the Medina River. While there, visit the Landmark Inn State Historic Site, which was built in 1849 and expanded several times. It has long been a favored stopping point along the Camino Real, the route between San Antonio and Mexico.

The site consists of an assemblage of historic buildings, such as a gristmill, detached kitchen, bathhouse, and the foundation of a cotton gin. The Landmark Inn still operates as a bed and breakfast and its eight rooms fill up fast, so make reservations at least a couple of months in advance.

Continue west on Highway 90 to Hondo, established in the 1880s as a Southern Pacific railroad town, and stop in at the Medina County Museum, located in a former railway depot. The museum houses 2,000 items, including a restored schoolhouse and a steam engine.

Further west on Highway 90 is Uvalde and the Grand Opera House, an impressive two-story structure that proudly dominates the small town’s main plaza. Built in 1891, it still hosts the occasional performance, making it the oldest working theater in the state. At this time, however, it’s not open to the public, although on Saturdays and with advance notice, opera house manager Olga Charles will give free tours. Call her at 830-278-4184 to make an appointment.

This anthropomorphic figure is found in Panther Cave in Seminole Canyon State Park & Historic Site.
1. Witte Museum
   3801 Broadway Street, San Antonio
   (210) 357-1900, www.wittemuseum.org/

2. The Alamo
   300 Alamo Plaza, San Antonio
   (210) 225-1391, www.thealamo.org

3. San Antonio Missions National Historical Park
   6701 San Jose Drive, San Antonio
   (210) 534-8833, www.nps.gov/saan/index.htm

4. Landmark Inn State Historic Site
   402 Florence Street, Castroville
   (830) 931-2133, www.visitlandmarkinn.com

5. Medina County Museum
   2202 18th Street, Hondo
   (830) 741-2105

6. Grand Opera House
   104 West North Street, Uvalde
   (830) 278-4184

7. Seminole Canyon State Park & Historic Site
   US Highway 90, Comstock
   (432) 292-4464, www.tpwd.state.tx.us/state-parks/seminole-canyon

8. Museum of Western Art
   1550 Bandera Highway, Kerrville
   (830) 896-2553, http://museumofwesternart.com/

9. Fort McKavett State Historic Site
   7066 FM 864 Road, Fort McKavett
   (325) 396-2358, www.visitfortmckavett.com

10. Presidio de San Saba
    One mile west of Menard on US 190
    (254) 644-4543 www.presidiodesansaba.com/

11. Fort Mason
    c/o Mason Chamber of Commerce
    108 Fort McKavitt Street, Mason
    (325) 347-5758, www.masonchamberofcommerce.org/attractions-rec/114-fort-mason

12. National Museum of the Pacific War
    340 East Main Street, Fredericksburg
    (830) 997-8600, www.pacificwarmuseum.org/

13. Pioneer Museum
    325 West Main Street, Fredericksburg
    (830) 990-8441, www.pioneermuseum.net/

14. Lyndon B. Johnson National Historical Park
    Johnson City
    (830) 644-2478, www.nps.gov/ljio

IF YOU GO: Many of these sites have seasonal or otherwise irregular hours. Call beforehand to confirm.
Don’t miss the theater’s very own wall of fame, which is located on the outside of the building. It features plaques honoring Uvalde-born and/or -raised celebrities such as Dana Andrews, Dale Evans, and Matthew McConaughey.

Continue further on Highway 90 where the land becomes dry and dusty. After passing through Del Rio, you’ll cross over the Amistad Reservoir, created in 1969. Note how, due to the ongoing drought, water levels have retreated dramatically, revealing a stark white ring of newly exposed shoreline that looks like a negative image of a bathtub ring.

Nine miles west of Comstock is Seminole Canyon State Park & Historic Site, home to Native American pictographs that have been dated to 4,200 years ago. Hiking the canyon floor is prohibited without a guide (there’s a Canyon Rim trail you can do on your own), so take the 90-minute Fate Bell Shelter tour offered Wednesday through Sunday at 10 a.m. and 3 p.m. and 10 a.m. only June through August, when temperatures soar.

The rugged hike to the canyon floor and then up to the shelter can be challenging. One man in our group turned back rather than attempt it. But the effort was worth it, and guide Jim Sievers was informative, pointing out the oft-faint images that he interpreted using information from ethnographic studies of a nearby tribe.

If you have the time and stamina, consider taking the all-day, seven-mile Presa Canyon tour. Sievers tempted us with promises of pictographs so vibrant they look like they were just painted last month. Another enticing option is the nighttime astronomy tour, during which a guide points out the stars, planets, and whole constellations that are clearly visible when viewed far from city lights. This tour is offered only sporadically, so call beforehand.

Leave the park and head back east on Highway 90 until...
you reach Bracketville. Take Highway 334 north, then turn left on 55 until you reach Camp Wood, the type of friendly Texas town where, as happened to us, you might come upon a barbecue fundraiser intended to help defray the medical bills of one local who donated a kidney to another. (Ask someone to tell you about the time famed aviator Charles Lindbergh got lost while flying to San Antonio and crash-landed his plane into the local hardware store.) There’s also some beautiful scenery in the nearby Nueces River Canyon. Enjoy some of the prettiest views the Hill Country has to offer as you head east on Ranch Road 337. Make a left on Ranch Road 187 until you reach Lost Maples State Natural Area, one of the last refuges of Uvalde bigtooth maples. Come November and the first cold front, the park bursts with reds, oranges, and yellows unseen in most of Texas (although New Englanders are likely to be unimpressed). At other times of year, the park’s green kingfisher and the golden-cheeked warblers attract birders. There’s also plenty of hiking and several remote campsites.

Then make a left on Ranch Road 187 and a right on Highway 39. This merges into Highway 27, which will take you to Kerrville and the Museum of Western Art. Originally opened in 1983 as the Cowboy Artists of America Museum, the museum’s affiliation with the Cowboy Artists of America ended about a decade ago over disagreement about displaying work by artists who are not members of the all-male organization. Afterward, both attendance and donations declined and the museum has had difficulties finding its way. While the artwork on display still includes plenty of cowboys, Indians, and other figures of the frontier, today landscapes and still lifes—some by female artists—have been added to the mix.

Drive west on I-10 to exit 442 and the remote Fort McKavett State Historic Site. Located on a limestone...
American archaeology

A self-guided walking tour at the Landmark Inn includes the historic water-powered gristmill, which features original workings and exhibits with historic photos.

Hillock overlooking the surrounding countryside, the fort was established in 1852 to protect settlers from Indian raids. It was eventually abandoned in 1883.

Fort McKavett is one of the best preserved posts of its kind, with 19 surviving historic structures including the original hospital building (now the visitors center, museum, gift shop, and administration offices), outhouses, a school house, officers quarters, barracks, and a bakery. Several structures, such as the quartermaster’s shops, are in ruins.

Head east toward Menard and stop at Presidio de San Saba, built by Spanish explorers as a timber fort in 1757 and later as a stone presidio in 1761. By 1768 it was abandoned in the face of withering Comanche and Wichita attacks.

Recent efforts to restore the presidio include the reconstruction of the full perimeter wall to about two feet in height. The main entrance and other portions of the fortification have also been reconstructed, and plans call for the building of a learning center nearby.

If he’s not busy, Jim Goodall, who, along with his wife Mary Ann, is the volunteer host and chief promoter of the project, will show you around. He’ll point out how the battlement in one corner of the fort is round while the one in the opposite corner is square. Why? No one knows. He’ll also point out where Jim Bowie carved his name into the stone near the entrance, spelling it “Bouic,” as the illiterate frontiersman often did.

And he’ll take you to the mouth of a tunnel built from the fort to the river so inhabitants could get water in the event of a siege. Goodall hopes to scan the area with ground-penetrating radar to learn if, as legend has it, the departing Spanish left a cannon in the now-collapsed tunnel.

After visiting the presidio, drive into downtown Menard and see “the Ditch,” a portion of the town’s early irrigation system—parts of which are more than 250 years old—that still operates today. You can take a self-guided “ditch walk” and see some of Menard’s attractions.

Take Highway 29 to Mason and the frontier outpost of Fort Mason, one of a line of early forts built north and west of San Antonio to protect settlers from Indian attacks. In operation only from 1851-69, the fort housed no fewer than 18 officers who later served as Civil War generals, including Albert Sidney Johnson, George H. Thomas, and Robert E. Lee. All that remains of the fort is a reproduction of the dogtrot building that served as the Officers’ Quarters. It sits on a bluff affording an excellent overlook of the surrounding countryside.

Follow Highway 87 east to Fredericksburg, which was originally settled by German immigrants. It’s now one of the prettiest small towns in America, its main street lined with quaint shops, German restaurants and biergartens, and a modern brewpub.

At the corner of Main and Washington streets is a building that resembles the prow of a ship, which was originally built as a hotel by the grandfather of the noted Fleet Admiral Chester W. Nimitz. This is the Admiral Nimitz Museum, the cornerstone of the National Museum of the Pacific War. The museum tells the story of Nimitz’s
military career, and of his family and Fredericksburg.

The George H.W. Bush Gallery, which is also part of the site, explores the Pacific theater of World War II, from the seeds of conflict between Japan and China through the attack on Pearl Harbor, the Bataan Death March, Midway and Okinawa, Hiroshima and Nagasaki, VJ Day, and the postwar repercussions. On the same grounds as the two museums are the Plaza of the Presidents, the Japanese Garden of Peace, and the Memorial Courtyard.

Perhaps the most moving exhibit is the reading by her granddaughter of a letter that Alleta Sullivan wrote to the Bureau of Naval Personnel in 1942 requesting information about her five sons, whom she hadn’t heard from in several months. Today we know that the Sullivan brothers, as they became known, were all killed in action when their Navy cruiser, the USS Juneau, was sunk during the Battle of Guadalcanal.

Less than a mile away on Main Street is the Pioneer Museum, a collection of buildings—homes, a one-room schoolhouse, a bathhouse, a barn, and others—dating from the 1840s to the 1920s that were either originally built on site or were brought there from elsewhere in Texas. The buildings show how early Texans lived. Several times each year re-enactors in period clothing play music, make rope, tell stories, and conduct military maneuvers.

Travel east on 290 to the Lyndon B. Johnson National Historical Park. Obtain a free driving permit and CD to take a guided tour of LBJ’s much-loved ranch, where he spent an estimated 25 percent of his time while president. On the tour you’ll drive past a reconstruction of Johnson’s birthplace, the one-room schoolhouse he attended as a child, and the Johnson family cemetery where he and his wife, Lady Bird, are buried.

Midway through the drive (you’ll know you’re there when you see a parked Lockheed JetStar VC-140 painted with the Presidential seal) you can park and take a ranger-guided tour of the Johnson’s home, known during his presidency as the Texas White House.

After leaving the park, stop in Johnson City and see the home where LBJ lived from age five into his early adulthood. Park rangers give free-guided tours of the modest house throughout the day. By the way, the town was named not for Lyndon Johnson, but for his uncle, James Polk Johnson, who founded it.

From Johnson City, head south on Highway 281 and, after a pleasant drive of just more than an hour, you’ll be back at your starting point of San Antonio, having completed this memorable trip.

RICHARD A. MARINI is a reporter and editor at the San Antonio Express-News. His article “Taking on a Texas-Sized Project” appeared in the Winter 2010-11 issue of American Archaeology.
The Conservancy Acquires an Important Woodland site

The Scotch Hall Preserve has a large concentration of artifacts.

Separated from the Atlantic Ocean by North Carolina’s Outer Banks, the Albemarle Sound is a large estuary at the confluence of a group of creeks and rivers, the largest of which are the Chowan and Roanoke. In addition to its scenic beauty, the abundant wildlife and natural resources of the sound have made it a great place to live for thousands of years.

The evidence of this is the Scotch Hall archaeological site, an intact Early-to-Middle Woodland settlement located along the edge of a bluff within the confines of the Scotch Hall Preserve, a 900-acre residential and golf community in Windsor, North Carolina.

Originally identified in 1977 by archaeologist Jack Wilson during a survey of sites along the Chowan River, the Scotch Hall site has sub-surface features and a large artifact assemblage. Later visits to the site by an archaeologist with the North Carolina Office of State Archaeology noted a concentration of large pottery sherds near the northwestern edge of the site.

However, it wasn’t until more than 30 years later that the site was revisited and tested by archaeologists from the cultural resource management firm Environmental Services, Inc. (ESI), and it was then determined to be eligible for the National Register of Historic Places. The ESI archaeologists also noted the concentration of artifacts in this previously documented area of the site that they identified as the “area of interest,” and which became the portion of the site donated to the Conservancy.

This carved bone tool was recovered during test excavations.

“I am so glad that the site will be preserved by the Conservancy,” said Terri Russ, a senior archaeologist and principal investigator with ESI. “I’ve worked on a lot of notable prehistoric sites; this one exhibits the greatest artifact density and preservation I’ve ever encountered.”

Russ and her crew recovered over 1,000 sherds from their limited testing of the site. In addition to the pottery, the artifact assemblage contained a significant amount of carved bone, antler, and soapstone tools, and food remains such as deer bones, oyster and turtle shells, and carbonized hickory nutshell fragments.

The Rial Corporation, which owns the Scotch Hall Preserve community, donated the site to the Conservancy. “At Rial Corporation, our code has always been to practice good stewardship of the land and its heritage,” said Dutch Remkes, general manager of Scotch Hall Preserve. “We are pleased to work with The Archaeological Conservancy in preserving this very important piece of North Carolina’s prehistory.”

The Conservancy will manage the site as an open space archaeological preserve; The Scotch Hall Preserve will be the Conservancy’s fifth site in North Carolina. —Andy Stout
The Conservancy has entered into an agreement to purchase Backusburg Mounds, one of the most intriguing sites in Western Kentucky. A complex of at least eight mounds situated on the bluff overlooking Clark’s River, Backusburg has been known to professional archaeologists since the 1920s. In their seminal 1932 work *Archaeological Survey of Kentucky*, William Funkhouser and William S. Webb described the mounds and a floodplain site below it as “probably the most important prehistoric sites in the [western Kentucky] region.”

In spite of Backusburg Mounds’ obvious significance, professional archaeologists have been able to work there for only a single day of mapping and surface collecting. That work, conducted in 1981 by Murray State University (MSU) archaeologist Kenneth Carstens and his students, established the spatial dimensions of the site and clarified its placement in the regional cultural history.

The site’s most substantial feature is a burial mound situated at its north end. It measures 150 feet by 75 feet at the base, and formerly was about 10 feet high, but it has been much reduced by looting and logging. At the southern end is another prominent mound about 60 feet in diameter and six feet high. Between these two mounds is an array of cultural features, including at least two more mounds about 25 feet in diameter and three feet tall, and four very low rectangular platform mounds that likely supported structures. Looters exposed human remains at one of the platforms, suggesting it may have supported a charnel house.

Analysis of the site’s artifacts indicates that it flourished during the Mississippian period, ca. A.D. 900-1400. However, some of the pottery recovered from a funerary area of the site may date to the preceding Late Woodland period, ca. A.D. 500-900. This could be a particularly significant find, as Late Woodland period mounds sites are unknown in western Kentucky, although they occur in the adjacent portions of Tennessee, Missouri, and Illinois. Hence future research at the Backusburg Mounds may illuminate a particularly enigmatic part of Kentucky’s prehistory, as well as furthering our understanding of the Mississippian period in western Kentucky. Because of its obvious potential for providing significant information about prehistory, the site was listed on the National Register of Historic Places in 1985.

Late in 2012, Sherry McKinney, the recently widowed owner of the site, contacted MSU to see what could be done to preserve it. Kit Wesler, director of the MSU Archaeological Laboratory, put the Conservancy in touch with her. Through a series of negotiations, an agreement was reached that will allow the Conservancy to purchase about 22 acres of her property, while allowing her to retain eight acres along with a house and outbuildings. The Conservancy will pay $85,000 for the property. To prevent further looting, we will fence the rambling property, which will require another $12,500.

—Paul Gardner
The Conservancy is pleased to announce POINT-5, the fifth phase of an emergency acquisition project intended to purchase significant sites in immediate danger of destruction. The POINT program (Protect Our Irreplaceable National Treasures) was first launched in 2000 with a $1 million dollar challenge grant that the Conservancy had to match dollar for dollar in order to receive the funds. Through the support of members, foundations, and corporations, the Conservancy was able to raise the matching funds. The overwhelming success of the program prompted four additional phases of the project. Inspired by the past success of POINT and driven by the impact of the emergency funds on our preservation efforts, Jay Last, the Conservancy’s co-founder and a board member, has pledged another $1 million challenge grant to launch the POINT-5 Program.

The cultural remains of America’s prehistoric and historic peoples are rapidly being destroyed. Suburban development, modern agricultural and industrial practices, and commercial looting all threaten not only the integrity, but also the very existence of this invaluable cultural heritage. Once an archaeological site has been disturbed, the context of the site can never be reconstructed and the information that the site contained is lost forever. When a significant archaeological site is destroyed, we lose valuable information about America’s past and a portion of our cultural heritage is erased forever.

The greatest obstacle in saving these sites is funding. Realizing this, Last made the challenge grant with the expectation of building on the success of past POINT programs. The $1 million dollar gift must be matched dollar for dollar by December 2014 through gifts from foundations, corporations, and members. The funds will be used to quickly acquire highly endangered archaeological sites around the nation—sites that are in imminent danger of being destroyed or sold, as well as those sites for which a cash offer is required in order to make the purchase.

The POINT-5 Program will focus primarily on sites in five geographic regions, as well as the sites of one national culture, the Paleo-Indians, who were the earliest inhabitants of the Americas. Although any endangered site of national significance will be eligible for protection under the program, regional preservation will focus on the following areas: Great Basin archaeology of the West and Southwest, historic sites of the Northeast, colonial forts in the Southeast, and Late Prehistoric cultures of the Upper Ohio Valley.

By taking a thematic approach, the Conservancy will ensure that significant endangered sites are preserved. To date, the Conservancy has protected 97 highly endangered sites across the nation through the POINT program. These sites would otherwise have become strip malls, housing developments, or victims of looting. A few examples of POINT acquisitions include Puzzle House, a major Mesa Verde site complex in Colorado; a large addition to Marksville, a mound-builder culture type-site in Louisiana; East Saint Louis Mounds in Illinois, a mound group located amongst abandoned buildings and lots overrun by weeds that the Conservancy is saving from urban decay. The POINT program makes cash immediately available to rescue sites that are imminently threatened. Quick cash can make a big difference in dealing with a landowner as the previous POINT projects have proved time after time. We look forward to the successful preservation of many more.
Obtaining an Iconic Pueblo

Groundbreaking research was conducted at Carter Ranch Pueblo.

Carter Ranch Pueblo is located east of Snowflake, Arizona, along the Hay Hollow Wash. It is related to both the Chaco and Mogollon cultures. The site was occupied between A.D. 1050 and 1250. These dates, which are based on 19 tree-ring samples and the analysis of ceramic styles, indicate that Carter Ranch had one of the longest spans of construction and occupation in the Mogollon region. The site also has the most complex structure of any of the excavated great kiva sites in the Mogollon region.

Carter Ranch consists of a large roomblock with approximately 39 rooms. Twenty-two of these rooms have been excavated, but the rest of the site is intact. The excavations revealed three kivas that were constructed in different styles. There is a circular great kiva with a ramped entrance on the southeast side, while an adjacent plaza contains a small D-shaped kiva and a rectangular kiva. The different styles reflect some architectural trends seen at other Pueblo sites in the Upper Little Colorado River that show characteristics of both Mogollon and Anasazi influence. This could indicate there was a connection between the two groups.

Research at Carter Ranch Pueblo in the early 1960s was conducted by Paul Martin, John Rinaldo, and William Longacre of the Field Museum of Natural History. Their pioneering research methods mark one of the first times that computers and a statistical comparison of artifacts were used for analyzing artifact concentrations, which was one of the most significant advances in the study of American archaeology. The objectives of research prior to the 1960s was to identify culture-histories of a given area and describe physical attributes of artifacts and features, but say nothing about the social structure of the inhabitants.

Using this new approach dubbed processual archaeology, Martin, Rinaldo, and Longacre believed that the social organization of Carter Ranch could be understood through the analysis of its artifacts.

Based on ceramic forms such as bowls, mugs, and design elements found on sherds in the floors of different roomblocks, Longacre argued that the concentration of distinct ceramic styles in certain areas or rooms at the site indicated those places were...
inhabited by the distinct clans that made them. He argued that each clan occupied certain rooms at the pueblo, pottery was made locally by the women, and the patterns for the ceramic styles were passed from mothers to daughters over time.

Several of Longacre’s conclusions about clan-based occupation and social organization of the site have subsequently been challenged. His skeptics noted that broken pots were not likely to have been discarded where they were made, so concentrations of particular vessel types and styles in certain roomblocks isn’t proof that certain clans resided there. Some pottery could have been imported to the pueblo, introducing a ceramic style that was not consistent with a local clan’s style. And painted designs could have been copied by other potters, rather than being passed exclusively from mothers to daughters.

Regardless of the challenges to the theories by Longacre, Martin, and Renaldo, the development of archaeology as a science was deeply influenced by this pioneering work. They argued that if archaeologists don’t attempt to say something about the social organization of prehistoric individuals, “digging will merely fill museum shelves… and we shall be little better than pot hunters.”

In 2009 Jeremie Stekli relocated to the Snowflake, Arizona area. While looking for property on which to build a house, Stekli’s realtor showed him the 40-acre parcel that contains Carter Ranch Pueblo. Stekli, who has long been interested in archaeology, immediately recognized the importance of the site, and bought the property to conserve it.

Last March he contacted the Conservancy about the property. After giving Conservancy members a tour of the site, Stekli graciously offered to sell the property to us at below market value, which will result in a significant tax break for him and an affordable preserve for us. This bargain-sale-to-charity technique is one of the many ways that the Conservancy works with owners to create permanent archeological preserves.

The Conservancy will develop a management plan for carter Ranch Pueblo, which is considered an ancestral home to the Hopi and Zuni.

—Chaz Evans
A Management Plan for Shavano

SOUTHWEST—The Conservancy recently completed the preliminary management plan for the 42-acre Shavano Valley Rock Art site located near Montrose, Colorado. The site is located on the valley floor west of Montrose, and is a central feature on the landscape that has been used by Native groups for over 2,000 years. John Horn of Alpine Archaeology wrote the nomination form that led to the site being placed in the National Register of Historic Places.

In January of 2013, the site was purchased by the Conservancy from the Montrose Community Foundation with matching funds from a Colorado Historic Fund Grant. The National Register boundaries of the site were expanded to include a portion of the mesa top above the petroglyph panels. This mesa-top contains numerous lithic scatters as well as evidence of prehistoric campsites.

The management plan meeting began with a tour of the Ute Indian Museum, which contains one of the most complete collections of Ute artifacts assembled anywhere. That was followed by a tour of the petroglyph site, which was led by the noted rock art specialist Carol Patterson. There we observed petroglyphs depicting atlatls, as well as imagery of the Bear Dance, a traditional ceremony that is still practiced by modern Ute each spring.

The Conservancy will work in close association with the Ute Indian Museum to develop a plan for controlled tours of the rock art. The museum will be renovated and expanded in the near future, and we hope to help create a display that will include imagery from the rock art site.

The upper portion of the site is being surveyed and will be fenced early this spring. A network of site stewards is being developed in conjunction with members of the Colorado Archaeological Society.
Fieldwork at Fairmont Butte

WEST—The Fairmont Butte site is situated in the Antelope Valley on the western fringe of the Mojave Desert. The Conservancy owns two parcels of land that are part of a large prehistoric village site complex that includes a midden, bedrock mortars, a pictograph, rock rings, a rhyolite quarry, as well as an historic tuff mill. It is thought that the butte area was occupied nearly 6,000 years ago.

For the past two seasons Darcy Wiewall, of Antelope Valley College, has brought her archaeology students to Fairmont Butte to do fieldwork. Last season, the class surveyed the entire area and began mapping the site, a project they completed this spring. The students have documented the numerous bedrock mortars that lay partially exposed in the stream bed, as well as several mano and metate fragments, two rhyolite biface fragments, and two rhyolite projectile point fragments.

In addition to their fieldwork, the students helped clean up the site in their spare time. Fairmont Butte has unfortunately become an undesignated shooting range, as evidenced by the numerous bullet casings and shotgun shells that litter the area. People have also been dropping off trash and unwanted household items, possibly for target practice.

New Philadelphia Preserve Part of Underground Railroad

MIDWEST—The Archaeological Conservancy’s New Philadelphia Town Site Archaeological Preserve in western Illinois has been accepted for inclusion in the National Park Service’s National Underground Railroad Network to Freedom (NTF). Established in 1998, the Network to Freedom is a national program that coordinates preservation and education efforts. It also recognizes local historical places, museums, and interpretive programs that have a documented and verifiable association with the Underground Railroad. The National Park Service determined that the New Philadelphia Town Site “makes a significant contribution to the understanding of the Underground Railroad in American History.”

Archaeologist Charlotte King, characterized New Philadelphia’s role in the Underground Railroad as follows:

Beginning with town founder Frank McWorter, New Philadelphia has a long association with the movement to end slavery. McWorter emancipated himself and 15 family members including young son Frank, who escaped slavery and found refuge in Canada. New Philadelphia and local descendants’ accounts affirm the area’s active participation in the Underground Railroad movement by concealing, harboring and, sometimes, accompanying fugitive African Americans to Canada.

Accounts of New Philadelphia’s involvement in the effort to abolish servitude will contribute to a more accurate history of the area’s endeavor to end enslavement. Inclusion in the Network to Freedom program will illustrate the significance of New Philadelphia and the area’s involvement in the freedom movement by integrating the community’s stories into the broader context of regional and national accounts. As a member of the NTF, New Philadelphia can add another voice to the dialogue between researchers and others interested in the development of organizations dedicated to preserving and researching other Underground Railroad sites.

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Mound Sites of the Ancient South: A Guide to the Mississippian Chiefdoms
By Eric E. Bowne
(University of Georgia Press, 2013; 272 pgs., illus., $30 paper, $30 ebook; www.ugapress.org)

The great prehistoric mounds of the American South remain today as impressive monuments of a complex culture that thrived between about A.D. 900 and 1600. While this Mississippian period was the most impressive and most complex, mound building in the south has its origins as early as 3500 B.C. A succession of mound-building cultures followed one after another, until the European invasion brought it all to a tragic end.

Archaeologist Eric Bowne of Arkansas Tech University has produced this wonderful guide to the Mississippian mound sites that will be of immeasurable assistance to lay people, archaeologists, and undergraduate classes. Bowne provides readers with a general introduction to the Mississippians, explaining their subsistence and settlement patterns, political and social organization, warfare, and belief systems. This is related to the sites that remain, most of which are accessible to the general public. Some 24 of the most important Mississippian sites and museums are explained in detail and many more are mentioned to fill in the many gaps that result from massive site destruction that has taken place in the past hundred years or so due to modern agriculture, looting, and urban development.

The featured centers include sites ranging from Aztalan in Wisconsin to Etowah in Georgia. Spiro in Oklahoma, Cahokia in Illinois, and Moundville in Alabama are also covered.

Lavishly illustrated with detailed drawings of structures and reconstructions of daily life as well as maps and almost 100 color photographs, this is both an excellent guide book and an outstanding introduction to the Mississippian culture. Everyone with an interest in the mound-builder sites of the American South will make good use of it to steer them through this fascinating part of America’s heritage.

Crafting History in the Northern Plains: A Political Economy of the Heart River Region 1400-1750
By Mark D. Mitchell
(University of Arizona Press, 2013; 288 pgs., illus., $60 cloth; www.uapress.arizona.edu)

Near the present day city of Bismarck, North Dakota, at the confluence of the Heart and Missouri rivers, was the homeland of the Mandan people. From about A.D. 1400 to 1750 they occupied six large villages along the rivers that consisted of substantial earthen lodges enclosed by a protective ditch. The Mandan, like their northern Plains relatives, developed an economy that combined bison hunting and maize agriculture, producing an era of prosperity. By about 1700, European traders had reached the Mandan villages and trade goods were abundant in the ruins of these villages. When Lewis and Clark arrived in 1804, the Mandan villages were abandoned, decimated by smallpox.

In this fascinating study, Mark Mitchell uses archaeology to reconstruct a history of the Mandans during the critical period before and after European contact. Combining archaeological data on pottery and stone-tool making with ethnographic and historical data, Mitchell seeks to bridge the gap between pre-history and history. In so doing, we get a clearer view of Mandan history as well as European colonization and its impact on native peoples.
Edited by Lisa C. Young and Sarah A. Herr  
(University of Arizona Press, 2012; 336 pgs., illus., $55 cloth; www.uapress.arizona.edu)

Native people of the American Southwest began a major transition in lifestyle around A.D. 200 when they began to develop agricultural communities and the more or less permanent residences that went along with that. These early communities consisted of substantial pithouses and related community structures, i.e. early kivas and communal work areas. Pithouse architecture had its origins some 2,000 years earlier, but in approximately A.D. 200 it evolved into permanent structures to house extended families. The standard design contains a semi-subterranean room or rooms with an aboveground roof structure that was very well suited to keep the residents warm in the winter and well protected from severe weather. For some 700 years, this was the preferred house type in the Southwest. Later the pithouse was replaced with the more familiar above-ground pueblo made of adobe or stone.

In this engaging study assembled and edited by archaeologists Lisa Young of the University of Michigan and Sarah Herr of Desert Archaeology, 24 prominent Southwestern scholars examine pithouse community development in the populous cultural areas of the region, including the northern San Juan Basin, the southern Colorado Plateau, Mimbres/southern Mogollon, and the Hohokam Basin. These major areas are compared to more sparsely populated areas like the northeast Hohokam peripheries, the Arizona Transition Zone, the Cibola region, southeastern New Mexico, and the northern Rio Grande.

As Southwestern people made the complex transition to a sedentary agricultural life style, all kinds of cultural and social changes occurred. People’s relationship with the landscape changed to reflect a new sense of space, community, and cultural identity.

This volume also contains an in depth study of regional economic change and community development as well as demographic shifts that all these fundamental changes brought about. This a time of great change in the Southwest, and Southwestern Pithouse Communities is a major contribution to the body of knowledge about this critical period.

—Mark Michel

Becoming White Clay: A History and Archaeology of Jicarilla Apache Enclavement  
By B. Sunday Eiselt  
(University of Utah Press, 2012; 308 pgs., illus., $45 cloth; www.uofupress.com)

For nearly 200 years the Jicarilla band of the Apache people thrived at the intersection of Pueblo Indian and Spanish colonial settlements in northern New Mexico. Part of the much larger nomadic Athabasca people, the Apaches and Navajos arrived in the Southwest around A.D. 1500, about the same time as the Spanish. They were then pushed from the Plains by other tribes and pulled into the Rio Grande Valley by contact with the Pueblo people and Spanish settlers. They thrived as traders among all these groups—Plains, Pueblos, Spanish, and mixed blood people of northern New Mexico.

Archaeologist Sunday Eiselt of Southern Methodist University begins this comprehensive study in prehistoric times and ends with the Jicarilla being forced onto a reservation in the 1880s, one of the last tribes in the United States to avoid the reservation system. She uses ample archaeological and ethnohistorical data to trace the modern development of the tribe and the evolution of institutions that insured its survival despite dramatic changes in lifestyle and homeland.
Cahokia was occupied by the Mississippians from approximately A.D. 700 to 1400. Thousands of people lived there.

Cahokia and the Middle Mississippian Culture

When: September 5 – 8, 2013
Where: Missouri and Illinois
How Much: $795 ($145 single supplement)

Join us on our exploration of the phenomenal earthworks of Cahokia and the central Mississippi and Illinois River Valleys. Inhabited around A.D. 700 to 1400, Cahokia was the premier Mississippian town and the center of the most sophisticated prehistoric Indian civilization north of Mexico. This ancient city, located across the Mississippi River from what is now St. Louis, covered nearly six square miles and was home to thousands of people. Monks Mound, the great platform mound in Cahokia’s central ceremonial area, is the largest prehistoric earthen construction in the New World.

In addition to Cahokia, we’ll visit Mastodon State Historic site, which has provided evidence of humans hunting Ice Age elephants, and Dickson Mounds, a Mississippian mound and village center that flourished 800 years ago and today boasts a state-of-the-art interactive museum. Midwest archaeological experts will join you on this fascinating trip.
Chaco Canyon in Depth

When: September 14 – 22, 2013
Where: New Mexico, Colorado
How Much: $2,095 ($230 single supplement)

Explore the vast cultural system of Chaco Canyon and the extensive network of outlying communities that developed in northwestern New Mexico and southwestern Colorado from A.D. 800 to 1140. We'll visit Pueblo Bonito and other spectacular great houses in Chaco Canyon as well as the great kiva at Casa Rinconada. We’ll hike to some of the most spectacular and remote sites in the canyon. We’ll also have the unique opportunity to visit many of the most important outlying communities that are integral parts of the entire Chacoan complex still being uncovered by researchers. Scholars are still struggling to understand how this vast system developed and operated, and why it suddenly collapsed around A.D. 1140.

To complete the experience, we’ll spend two memorable nights camping in Chaco Canyon and we’ll tour the modern day Pueblo of Acoma. Some of the leading Chaco experts will join us.

Cliff Dwellers

When: September 19 – 29, 2013
Where: Arizona, Colorado
How Much: $2,495 ($480 single supplement)

This fall the Conservancy brings back one of its most popular Southwestern tours: an exciting look at the region’s spectacular prehistoric cliff dwellings. Ancient Southwestern groups experimented with building their houses in cliff faces and rockshelters. These structures not only offered protection from the weather, but many of them also served as natural solar collectors during the winter.

From Phoenix you’ll travel north through the Verde Valley, Sedona, Oak Creek Canyon, and Flagstaff to Monument Valley and Mesa Verde. You’ll see the cliff dwellings of Montezuma Castle, Cliff Palace, and White House Ruin, just to name a few. The trip also includes a visit to Lorenzo Hubbell’s historic trading post, a stop at Second Mesa at Hopi, a jeep tour of Canyon de Chelly, and walking tours of some of the Conservancy’s most significant preserves, including Yellowjacket and Atkeson Pueblo at Oak Creek.
Patrons of Preservation

The Archaeological Conservancy would like to thank the following individuals, foundations, and corporations for their generous support during the period of February through April, 2013. Their generosity, along with the generosity of the Conservancy’s other members, makes our work possible.

Life Member Gifts of $1,000 or more
- Elizabeth W. Ayer, New Mexico
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- Carol M. Baker, Texas
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- Betty Perkins, New Mexico
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- Bert and Colleen Spencer, Texas
- Gordon and Judy Wilson, New Mexico

Foundation/Corporate Gifts
- The Ruth & Robert Satter Charitable Fund, Connecticut
- Sidney Stern Memorial Trust, California

Bequests
- Gerrianna Linton, Washington

Congress Passes Attractive Benefits for Donors to Charities

Congress has recently passed or renewed three tax provisions that may be of substantial benefit to those who want to make a charitable contribution to The Archaeological Conservancy:

**IRA Contributions**

Congress extended the Qualified Charitable Distribution (QCD) for tax year 2013. Most taxpayers age 70 ½ and older are required to take minimum withdrawals annually from their Individual Retirement Accounts (IRAs) and pay income taxes on that withdrawal. The QCD allows IRA owners to make donations up to $100,000 directly from their IRAs to charitable organizations such as the Conservancy without paying income taxes on that distribution. And the QCD can count against the required minimum distribution. Thus, a donor can, for example, donate $10,000 from his or her IRA to the Conservancy and not pay income tax, which may be as high as 36.5 percent. However, no charitable tax deduction is allowed. This provision most benefits taxpayers who do not itemize deductions.

**Qualified Conservation Contribution**

Tax legislation passed early this year renews generous tax deductions for individuals who permanently preserve scenic, environmentally sensitive, or historically important property through outright land donations called a qualified conservation contribution, a bargain sale to charity of land (the difference between appraised value and sale price), and conservation easements (legal preservation restrictions on the use of the land) donated to qualifying organizations such as the Conservancy and land trusts. Landowners of qualifying properties such as archaeological sites can deduct from income all or most of the appraised value of their donation, or the difference between the appraised value and sale proceeds for partial gifts to charity, or the difference between appraised values before and after the creation of a conservation easement. For 2013, Congress raised the maximum deduction for donating a conservation easement from 30 to 50 percent of the donor’s adjusted gross income, allowed 100 percent of adjusted gross income for qualifying farmers and ranchers, and increased the number of years over which the tax credit can be taken from 5 to 15.

**Membership**

For Conservancy members who itemize deductions on Schedule A, the entire $25 of membership may be tax deductible.

Please consult with your tax expert to see how you qualify for these tax benefits for 2013 or call Mark Michel at The Archaeological Conservancy for more information—505-266-1540.
You can now read complete back issues of *American Archaeology* on the Web. The available issues range from Spring 1997, *American Archaeology*’s debut issue, to Summer 2011. There will be a two-year lag between the most recent print and Web issues.

*American Archaeology* also has a subject index on the Web that is searchable by key word as well as a list of all the books that have been reviewed in the magazine.

www.americanarchaeology.org
Make your mark in time.
Some Conservancy members think the only way to help save archaeological sites is through membership dues. While dues are a constant lifeline, there are many ways you can support the Conservancy’s work, both today and well into the future. And by supporting the Conservancy, you not only safeguard our past for your children and grandchildren, you also may save some money.

Place stock in the Conservancy.
Evaluate your investments. Some members choose to make a difference by donating stock. Such gifts offer a charitable deduction for the full value instead of paying capital gains tax.

Give a charitable gift annuity.
Depending on your circumstances, you may be able to make a gift of cash and securities today that lets you receive extensive tax benefits as well as an income for as long as you live.

Leave a lasting legacy.
Many people consider protecting our cultural heritage by remembering the Conservancy in their will. While providing us with a dependable source of income, bequests may qualify you for an estate tax deduction.

Whatever kind of gift you give, you can be sure we’ll use it to preserve places like Parkin Archeological State Park and our other 450 sites across the United States.

Yes, I’m interested in making a planned-giving donation to The Archaeological Conservancy and saving money on my taxes. Please send more information on:

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The Archaeological Conservancy
Attn: Planned Giving
5301 Central Avenue NE
Suite 902
Albuquerque, NM 87108-1517
Or call: (505) 266-1540