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COVER: Cenote de Dzitnup in the Yucatán Peninsula, Mexico. Caves and cenotes had special meaning to the Maya.
Credit: Bruce T. Martin
A Legendary Preservationist

No one has had a greater impact on the preservation of our archaeological heritage in the West than Edgar Lee Hewett, the subject of our Legends of Archaeology feature in this issue of American Archaeology (see “Breaking The Rules,” page 40). Beginning in the last decade of the 19th century, Hewett became increasingly alarmed at the destruction, largely caused by looters, of the Southwest’s archaeological legacy.

In the spring of 1903, he invited Congressman John Fletcher Lacey (R-Iowa), the powerful chairman of the House Committee on Public Lands, to join him on a tour of Southwestern archaeological sites. Hewett and Lacey spent some two weeks together touring the rich archaeology of the Pajarito Plateau west of Santa Fe. The result of this trip was a determination to protect the archaeological sites on public lands through new legislation, and Hewett helped draft what became the Antiquities Act of 1906, one of the nation’s most effective preservation laws.

Antiquities on public lands were declared part of the national patrimony for the first time and protected by law. The president was given the authority to proclaim national monuments, and Hewett lobbied for and got new national monuments and parks at Chaco Canyon, Mesa Verde, the Pajarito Plateau, and elsewhere. But his forceful campaign for preservation and for new national parks earned him the enmity of Western farmers and ranchers and consequently he lost his job as a college president.

The Antiquities Act has been used by most every president to protect our cultural and natural heritage. Always controversial, Hewett was a person who got things done. His legacy is a system of parks and monuments that protect and interpret our past. There can be no better.
Letters

The Relevance Of Rock Art
Thank you for Linda Marsa’s article on rock art (“Revealing The Role Of Rock Art,” Spring 2011). Marsa’s piece is not only entertaining, it is important, because it points out the relationship between the rock art and the everyday, ancient Native Americans. The article challenges the idea that rock writings were restricted to shamans and mystics, had religious purpose only, or that research was somehow voodoo science.

It is nice to see modern researchers getting some positive attention regarding rock art. Congratulations to Marsa and a heartfelt thanks to you for advancing the research of rock writings one step closer to the truth.

Sam Hunter, Yermo, California

A Love Affair With The Southwest
The wonderful photos in your “The Best of the Southwest” article (Spring 2011) looked fondly familiar, as we have similar images in our photo album from a previous Conservancy tour. We are grateful to the Conservancy for enhancing our love affair with the Southwest.

We would be remiss, however, if we did not point out that the battle of Picacho Pass (located halfway between Phoenix and Tucson, Arizona) in April of 1862 actually marked the westernmost front of the Civil War. Your article stated that distinction belonged to Glorieta Pass near Santa Fe, New Mexico.

Despite this forgivable error, American Archaeology and the Conservancy rate A-plus with us.

Rob and Nancy Phipps, Sutton, Massachusetts

Editor’s Corner

Who were the first people to settle the New World? That is one of American archaeology’s great questions. And that question begs another: how did they arrive?

For some time many first American scholars thought the Clovis First model offered a plausible answer. The Clovis people, some 13,000 years ago, migrated from what is now Siberia across the Bering land bridge into Alaska and then, via an ice-free corridor, into Canada. From there they spread out across the Americas.

Over the last several decades, archaeologists have discovered numerous sites that they say are older, in some cases much older, than the Clovis period. These sites, which are found from Alaska to the southern tip of Chile, were occupied by a pre-Clovis people, and archaeologists surmise they may have traveled by sea as well as land.

So scientists searching for answers to these questions took note when a team of archaeologists working on the Channel Islands off the coast of Southern California recently discovered numerous 12,000-year-old artifacts of a type not previously seen. (See “First American Seafarers?,” page 26.) These artifacts, which consist of numerous barbed points and crescents, appear to have been designed for coastal living.

Though these artifacts are too young to directly address the Clovis-pre-Clovis debate, their technological sophistication is such that it could have been many years in the making. So many years, that some archaeologists wonder if this discovery suggests the possibility of older seafarers, perhaps of Clovis or even pre-Clovis age, making their way down the Pacific coast.

The Channel Islands find doesn’t answer the great questions, but perhaps it offers clues.

Michael Bowman
How to Say Hello:

make learning about ancient America informative way, we hope we can and activities in an enjoyable and
By sharing new discoveries, research, the destruction of our cultural heritage.
them, and to raise their awareness of archaeological wonders available to
archaeology in the Americas. The
only popular magazine devoted
American Archaeology

The Role of the Magazine:

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.

How to Say Hello: By mail:
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www.americanarchaeology.org

The Archaeological Conservancy is the only national nonprofit organization that identifies, acquires, and preserves the most significant archaeological sites in the United States. Since its beginning in 1980, the Conservancy has preserved more than 410 sites across the nation, ranging in age from the earliest habitation sites in North America to a 19th-century frontier army post. We are building a national system of archaeological preserves to ensure the survival of our irreplaceable cultural heritage.

Why Save Archaeological Sites?
The ancient people of North America left virtually no written records of their cultures. Clues that might someday solve the mysteries of prehistoric America are still missing, and when a ruin is destroyed by looters, or leveled for a shopping center, precious information is lost. By permanently preserving endangered ruins, we make sure they will be here for future generations to study and enjoy.

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Funds for the Conservancy come from membership dues, individual contributions, corporations, and foundations. Gifts and bequests of money, land, and securities are fully tax deductible under section 501(c)(3) of the Internal Revenue Code. Planned giving provides donors with substantial tax deductions and a variety of beneficiary possibilities. For more information, call Mark Michel at (505) 266-1540.

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Smithsonian's National Museum of the American Indian
George Gustav Heye Center, New York, N.Y.—The spectacular new exhibition "Infinity of Nations: Art and History in the Collections of the National Museum of the American Indian" includes some 700 stunning works of native art from throughout North, Central, and South America, demonstrating the breadth of the museum's renowned collection and highlighting the historic importance of many of these iconic objects. Organized by geographical region, objects include an Apsáalooke (Crow) robe illustrated with warriors' exploits, a detailed Mayan limestone bas relief depicting a ball player, a carved and painted chief's headdress, a Chumash basket decorated with a Spanish-coin motif, and an ancient mortar from Pueblo Bonito in Chaco Canyon. (212) 514-3700, www.americanindian.si.edu (New long-term exhibit)

Maxwell Museum of Anthropology
University of New Mexico, Albuquerque, N.M.—The new photography exhibition "Chaco Uncovered: The Field Schools 1929 to Present" showcases the archaeological expeditions that uncovered Chaco Culture National historical Park. The first University of New Mexico field school embarked on an archaeological project at Chaco in 1929 and the excavation project continues today with a long collaboration between archaeologists, students, and the National Park Service. The exhibit is a visual history of the park, including pictures from the 1930s and 1940s that provide a rare glimpse into the world of early field schools by documenting the excavations as well as other aspects of daily life. (505) 277-4405, www.unm.edu/~maxwell (Through February 2012)

Anchorage Museum
Anchorage, Ak.—In the 1990s, several baskets were discovered near Sitka that scientists carbon dated to nearly 5,000 years ago. The spruce and hemlock baskets were prepared and woven using many of the same techniques still practiced today. These baskets are powerful reminders of how long this skill has been passed down in Alaska from mother to daughter, elder to apprentice. "Unraveling the History of Basketry" showcases about 80 of the approximately 1,000 baskets in the Anchorage Museum's collection dating from the 1880s to the 2000s, highlighting the beauty and practicality of the objects, but also the patience, skill and creativity of the women who made them. (907) 929-1200, www.anchorageguseum.org (Through December 31)

Dallas Museum of Art
Dallas, Tex.—The museum's first Native American exhibition in nearly 20 years, "Art of the American Indians: The Thaw Collection" will showcase 111 works of art from the renowned Eugene and Clare Thaw Collection of American Indian Art at the Fenimore Art Museum. The exhibit explores the extraordinarily diverse forms of visual expression in Native North America. The works of art date from well before first European contact to the present, and celebrate the continuing vitality of American Indian art (214) 922-1200, www.dallasmuseumofart.org (Through September 4)
Fernbank Museum of Natural History
Atlanta, Ga.—The exhibit "Conveyed in Clay: Stories from St. Catherines Island" explores 5,000 years of human history through pottery. The items range from the oldest pots discovered in North America to the introduction of majolica during the Spanish era. Featuring a selection of objects from the museum's collection, this exhibit examines how Native Americans adapted to changes in natural and cultural conditions through the evolution of their pottery. From the invention of simple pinch pots to the evolution of more advanced coil pots, visitors will also see how the interaction of different cultures resulted in innovative designs and decorative embellishments. (404) 929-6300, www.fernbankmuseum.org (New permanent exhibit)

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Fort Lewis College
Center of Southwest Studies, Durango, Colo.—"Treasures Unveiled: An Exhibit of Extraordinary Items from the Vault of the Center of Southwest Studies" is a unique exhibit of rarely seen items that were selected to celebrate the center's 10th anniversary. Items include more than 10,000 prehistoric and historic artifacts, including 2,000 ceramic vessels dating from a.d. 600 to 800. The exhibit also features 450 handwoven blankets, rugs, and other textiles of Hispanic and Native American origins, including a white cotton manta that has been carbon dated to a.d. 1250, as well as historic photographs and thousands of maps that date back to 1560. (970) 247-7456, http://swcenter.fortlewis.edu (Through July 2011)

Mid-South Archaeological Conference
June 25, University of Tennessee, Memphis. The annual conference highlights current archaeological research and projects in the Mid-South and Lower Mississippi River Valley. This year’s theme, art and iconography, will be explored through poster and paper presentations. www.msac.weaverassociateslsc.com, midsoutharchaeology@gmail.com

HopI Festival of Arts and Culture
July 2-3, Museum of Northern Arizona, Flagstaff, Ariz. Award-winning artists from the 12 Hopi villages will display their work in Flagstaff. The festival will include cultural presentations, storytelling, music, traditional dances, and the unique work of carvers, painters, jewelers, potters, quilters, and basket textile weavers. 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

The People are Dancing Again: The Siletz Tribe of Western Oregon

Native American Festival and Basketmaker’s Market
July 9, College of the Atlantic, Bar Harbor, Maine. This nationally renowned festival, sponsored by the Maine Indian Basket Makers Alliance and the Abbe Museum, offers visitors the rare opportunity to buy exquisite handcrafted Wabanaki ash and sweet grass baskets, wood and stone carvings, jewelry, beadwork, dolls, and other stunning items directly from the artists. It also presents the opportunity to meet Maliseet, Micmac, Passamaquoddy, and Penobscot people of Maine and learn about the region’s contemporary native arts and cultures. (207) 288-3519, www.abbeuseum.org

Pecos Conference
August 11-14, Mile-and-a-Half Lake Large Group campsite, Kaibab National Forest on the Arizona Strip near Jacob Lake, Ariz. This year’s conference will feature special sessions on the archaeology and history of the Arizona Strip, southwestern Utah, and southern Nevada, including a hands-on workshop on Arizona Strip ceramic traditions. A reception will be held Thursday evening, hosted by the Kaibab Vermilion Cliffs Heritage Alliance. On Friday night a “star party” will take advantage of one of North America’s darkest night skies, Saturday night’s Bigfoot BBQ features live music by the Burnett Family Bluegrass Band, and Sunday offers tours to local sites. www.swanet.org/2011_pecos_conference or contact program chair David Purcell at davidepurcell@gmail.com
Evidence of volcanic ash that fertilized Maya fields was recently discovered in sediment samples from ancient reservoirs in Tikal, Guatemala. The discovery could solve the mystery of how the Maya's infertile soil produced crops sufficient to feed large populations for hundreds of years.

Microscopic grains of smectite, a beige clay derived from volcanic ash, were found throughout sediment layers in 75 core samples taken from six reservoirs at Tikal, a major center with a population of some 60,000 in the Maya lowlands that existed from about 700 B.C. to A.D. 900.

According to Kenneth Tankersley, an archaeologist at the University of Cincinnati, there is evidence that Tikal was affected by regular eruptions from volcanoes in the region. “Different layers match different volcanoes,” he said. “The Caribbean is a big ring of fire. If you lived in Tikal, there would have been a time when it would have rained ash.” Volcanic ash decomposed and fertilized the fields, and in its raw form it also would have provided temper for Maya potters.

Payson Sheets, a University of Colorado archaeologist and expert on Maya volcanoes, said the discovery could explain how the Maya sustained themselves for centuries. “There was periodic and frequent deposition of volcanic ash on soils. It had to improve crop productivity and soil fertility. So much for the old idea about infertile tropical soils on limestone.”

It had been generally assumed that since Tikal is 100 miles away from the nearest volcano, ash from an eruption would probably not have reached it. That assumption was disproven in 1982, when El Chichon Volcano erupted in Mexico and showered ash over Tikal.

Some of the ash from El Chichon disappeared within about a week. This surprised researchers, who didn’t realize how fast it gets enveloped in damp, tropical soils. They assumed that volcanic ash, which is largely glass, was inert and would remain in the sediment, Tankersley said. Instead, unbeknownst to the researchers, it quickly decomposes into smectite, “Ken is right on the cutting edge of detecting smectite,” Sheets said. “People haven’t known about it or had the instruments and technology to detect it.”

University of Cincinnati archaeologist Vern Scarborough, who is one of the principal investigators in a research project studying the evolution of Tikal through water systems and land use, asked Tankersley to analyze the sediment cores to help identify the shape of the reservoirs. The discovery of volcanic ash was unexpected.

Using X-ray fluorescence and other technologies, Tankersley is planning to analyze the smectite in the Tikal deposits in order to trace it to source volcanoes. He’s also developing a geochronology that will aid in the dating of ceramics.

—Paula Neely
Researchers excavating the Debra L. Friedkin site along a creek bed in central Texas have uncovered thousands of artifacts that date to 15,500 years ago, pre-dating the Clovis culture by some 2,500 years. Led by Michael Waters of Texas A&M University’s Center for the Study of the First Americans, and Steve Forman of the University of Illinois at Chicago, the multidisciplinary research team recently published the findings of their investigation in the journal *Science*, in which they claimed that the pre-Clovis artifact assemblage, known as the Buttermilk Creek Complex, “confirms the emerging view that people occupied the Americas before Clovis and provides a large artifact assemblage to explore Clovis origins.”

Sediments found in a single stratigraphic layer surrounding the artifacts and located below younger, previously dated Clovis period artifacts, were dated with a technique known as optically stimulated luminescence (OSL), which measures light energy trapped in minerals such as quartz and feldspar. The OSL “clock” is reset to zero by the exposure of mineral grains in the sediment to sunlight. A time-dependant OSL signal accumulates after the mineral grain is shielded from further light exposure by burial under more sediment. A lack of sufficient organic matter in the sediment surrounding the artifacts precluded the use of radiocarbon dating at the Friedkin site.

“This technique [OSL] was developed in the past 20 years and directly measures the time since emplacement of the sediments that surround the artifacts,” said Forman. The dating was performed at the Luminescence Dating Research Laboratory in the University of Illinois Department of Earth and Environmental Sciences. The accuracy of the technique has been repeatedly demonstrated over the past 10 years and is routinely used to date events in geological settings.

More than 15,000 lithic artifacts were identified within the Buttermilk Creek Complex, including 56 stone tools and thousands of stone flakes from tool-making. The tools, many made from locally-available Edwards chert, include 23 flake tools, 14 bladelets, 12 bifaces, five blade fragments, one core, and a piece of polished hematite. Wear on some of the blades suggests that they were used to cut and scrape hard materials such as wood, antler, or bone, possibly for animal butchering or wood-working. “The Buttermilk Creek assemblage, characterized by bifaces, blades, bladelets, and other tools, is the type of assemblage from which Clovis could have emerged,” said Waters.

“This site adds to the small but growing inventory of credible pre-Clovis sites in the Americas and provides important new information that will help us develop a better understanding of the earliest inhabitants of the New World,” Waters said. The researchers are continuing excavations at the site and will continue to test the age model as new areas of the site are exposed. —Tamara Stewart
Hawaiian Petroglyphs Recorded In Utah Desert

Rock art shows Pacific Islanders maintained their culture.

While investigating a site in the Utah desert, archaeologists from the State University of New York at Potsdam recently recorded petroglyphs that appear to have been carved by native Hawaiians.

The archaeologists documented 26 petroglyphs representing figures such as palm trees, sea turtles, canoes, and jellyfish. “It was obvious at first glance that these carvings were very different from surrounding Native American rock art,” said Jonathan Reeves, a member of the team.

The petroglyphs are located approximately 60 miles southwest of Salt Lake City, on a limestone boulder overlooking Iosepa, a ranching and farming settlement founded in the 1880s by Mormon converts from Hawaii. The Pacific Islander population in Iosepa (Hawaiian for Joseph) grew to nearly 230 before Mormon elders ordered the villagers to return to Hawaii in 1917 to construct a Mormon temple. Nothing remains of Iosepa today but a cemetery and a few house foundations.

It’s not surprising that the settlers created rock art that related to their Hawaiian culture and traditions, Reeves said. “You have all these Pacific Islanders that are being converted to a specific sect of Christianity who are being relocated to a dry, barren region that is completely foreign to them.”

Many of the Iosepa motifs are marine-themed, in spite of the fact that Iosepa is in the middle of the Utah desert, said Benjamin Pykles, who directed the investigation of the site. He added that they bear no resemblance to local Native American rock art.

There are also images that include depictions of dogs and lizards. Although both creatures are found in the Utah desert, Reeves said that dogs are also the most frequently represented animals in Hawaiian Islands rock art. Though the lizard is rarely depicted in Hawaii, according to ethnohistorical accounts, it is representative of aumakua, which are ancestors deified as animal spirits who protect and guide their descendants.

One of the more intriguing petroglyphs is a sphere, seeming to represent the earth, with two palm trees extending from its perimeter. Inside the circle there appears to be a crude map depicting the Hawaiian Islands in relation to the west coast of the United States.

“These petroglyphs are significant to this site because they show that there wasn’t a wholesale replacement of values,” Reeves said. “Although these settlers were placed in a completely foreign environment both geographically and ecologically, they were still drawing on Hawaiian culture and traditions to make the foreign environment seem more familiar.”

“I know of no other example of Hawaiian rock art in the continental United States,” Pykles said. The petroglyphs at Iosepa are “a little known chapter in the history of the American West.” —Dean Blaine
Archaeologists recently announced the underwater discovery of six 17th-century cannons that were used on pirate ships commanded by Captain Henry Morgan, an infamous English privateer. The ships wrecked near the coast of Panama in 1671.

Frederick Hanselmann, an archaeologist at Texas State University, said the iron guns are the first tangible evidence of Morgan’s controversial attack on Panama City, a rich trade port near the Chagres River, a water highway used by the Spanish to transport gold, silver, and other precious items across the isthmus between the Atlantic and Pacific oceans.

On the way to sacking Panama City, Morgan’s flagship, the Satisfaction, and several other ships in his fleet, crashed into the Lajas Reef at the mouth of the Chagres. Morgan, who was unaware that Spain and England had signed a peace treaty, continued to lead the devastating raid by land.

The shattered ships were abandoned, and the cannons remained buried in the shallow water around the reef. They were recovered by a team led by Hanselmann, James Delgado of the National Oceanic and Atmospheric Administration, and Dominique Rissolo of the Waitt Institute.

Hanselmann is confident that the cannons were on Morgan’s ships. According to historical documents, Morgan’s are the only known ships that ran aground on that reef.

The cannons, which are all of different lengths, range in size from two to six feet. “Privateers were privately funded so they grabbed whatever they could,” he said, adding that a Navy ship would have carried more standardized forms of weaponry.

Researchers discovered the cannons during a dive survey in 2008. Hanselmann said the reef had been damaged by extensive digging and use of explosives by treasure hunters, so they recovered the guns to protect them from possible damage. The find was announced earlier this year. The guns will be conserved during the next few years and eventually displayed in a Panama museum.

According to Hanselmann, the discovery of the cannons is also significant because it calls attention to the loosening of Spain’s stranglehold on the Americas in the 17th century. “The Spanish empire was crumbling when Morgan was active. Although his exploits were not completely sanctioned by England, they shed light on how fragile the Spanish empire was, and his raids led to the opening of trade between Spanish colonies, England, and other European countries.”

Morgan was a private citizen authorized by England to protect the British colony of Jamaica through any means necessary. He plundered Spanish colonies from Mexico to Venezuela and, according to one historical document, at the time of the attack on Panama City he commanded the largest pirate fleet in the history of the Caribbean with 36 ships, 1,900 men, and 300 cannons. “One man’s privateer is another man’s pirate,” he said. “To the Spanish he was a murderous criminal.” —Paula Neely
Looters Plead Guilty

Three men and one woman admit ARPA violations.

Daniel Amick, an archaeology professor at Loyola University in Chicago, pleaded guilty to taking 17 ancient artifacts from New Mexico federal lands in June 2007 without an archaeological permit. The artifacts included Paleo-Indian projectile points and represent some of the earliest evidence of human occupation in the New World. Amick is chairman of the university’s archaeology department.

According to the U.S. Attorney’s office in Albuquerque, this past February Amick pleaded guilty to one misdemeanor count of violating the Archaeological Resources Protection Act (ARPA) and was sentenced to one year of conditional, unsupervised probation. During the plea agreement, Amick admitted that he and two other men made a 2007 field trip to public lands in New Mexico during which they removed about 12 archeological artifacts, then returned and removed five more.

In another looting case, Durango, Colorado, couple Carl “Vern” Crites and Marie Virginia Crites entered guilty pleas this past March to theft of artifacts from federal lands, trafficking in stolen artifacts, and depredation of government property. The Crites were charged in the massive Four Corners looting sting of 2009. In January, 2010, authorities seized five truckloads of artifacts from the Crites’ home, a collection they described as “astonishing.” Sentencing is scheduled to take place August 11 of this year. Vern faces up to 10 years in federal prison for theft of government property, up to 10 years for depredation of government property, and up to two years for trafficking in stolen artifacts. Marie also faces up to two years for trafficking in stolen artifacts. So far five federal convictions in the Four Corners looting case have resulted in probation and restrictions on use of public lands for the accused. Some of these convictions involved multiple defendants. A sixth conviction resulted in time served.

In Nevada, Michael Cook, a volunteer archaeological site monitor for the U.S. Forest Service, was charged with taking a 300-pound rock with petroglyphs from the Spring Mountains National Recreation Area in 2008 and moving it to his front yard in Pahrump. Cook pleaded guilty on March 30 and was sentenced to six months in federal prison followed by one year of supervised release.

Two members of the Southern Paiute tribe testified at sentencing that the site from which the petroglyph was removed is a sacred worship site and the removal of the rock containing the petroglyph amounted to desecration of the site. A U.S. Forest Service archeologist testified that because of the damage to the original boulder, as well as the ruggedness of the site itself, the petroglyph cannot be restored to its original condition. The government, in consultation with the Southern Paiutes, came up with a compromise that will attempt to restore the site to respect the cultural significance of the petroglyph and the spiritual uses of the site.

— Tamara Stewart
The Maya’s Sacred Caves
At the heart of ancient Maya religion and cosmology is the belief in a sacred, living Earth that is the paramount power in the universe. Not surprisingly, features of the landscape were treated with great reverence because they were part of the sacred Earth. Caves and mountains continue to be the two most important landscape features among contemporary Maya, and when united they are considered to be especially powerful. Ancient Maya architecture was also modeled on them. We know from hieroglyphs that pyramids were referred to as *witz*, a Mayan word meaning mountains, and the interiors of the temples at the top represented caves. A Q’eqchi’ Maya ritual specialist expressed this beautifully to one of my students in saying, "For us, this cave is sacred, and although other people say that church is a sacred place, I know that this cave is important because this is the first temple of the world (el primer templo del mundo). My father and grandfather taught me this and all the elders and ancient ones have also learned it.

Caves played an important role in Maya spiritual practices.

Photos by Bruce T. Martin
Text by James Brady

Aktun Xpukil Cave, Yucatán Peninsula, Mexico
Aktun Xpukil, which is now better known as Calcehtok, was excavated by Henry Mercer in 1895. He found 46 vessels below dripping water in one area of the cave. Some of them had been all but filled by stalactites.
Archaeologists have been investigating this cave since the 1890s. Loltun contains a variety of rock art, including a low relief carving with an inscription dating to the Preclassic Period.
Actun Loch Tunich Cave, west-central Belize

A cloud of mist rises near an opening. The combination of earth and water signified abundance to the ancient Maya.
Archaeologist Gregory Mason visited Rio Frio in 1928 and recovered pottery and jade. The artifacts are in the National Museum of the American Indian in New York.
Xtacumbilxunaan Cave, Yucatán Peninsula, Mexico

The cave is well known in archaeology because of 19th-century Maya explorers John Lloyd Stephens and Frederick Catherwood’s description of the descent into the cave and the lithograph of the scene. The Maya name means hidden lady or hidden maiden and probably refers to the Moon Goddess.

taught us this. They say, and I know it, that many things began here... Even the sun and the moon have come out of caves.”

When Earth is combined with another sacred element, water, it symbolizes an ideal landscape bursting with fertility, abundance, and promise. The relation between Earth and water is an intimate one because in Maya thought rain, clouds, and lightning are all formed within the earth before rising into the sky to fall back again. Nowhere is the relationship closer than in caves, most of which were formed by water. The humidity in some Maya caves is so high that a thin, white, cloud-like mist will form in the entrance and water dripping from formations will imitate rain. Caves often hold pools of water or have streams running from their entrances. For these reasons, people across the Maya area still go to caves to pray for rain on the Day of the Cross (May 3rd) near the end of the dry season.

The Maya, like other people in Mesoamerica and the American Southwest, believed that their first ancestors emerged out of the Earth through caves. Around the world such places are always memorialized and celebrated. It appears that a cave, whether natural or man-made, was a necessary element in the founding of a new community. Angel García-Zambrano, a historian at the Autonomous University of Zacatecas in Mexico, notes that “These cavities, when ritually dedicated to the divinities, became the pulsating heart of the new town, providing the cosmogonic referents that legitimized the settlers’ rights for occupying that space and for the ruler’s authority over that site.” The belief is important even today because it implies that the community occupied that spot since the beginning of time, and therefore its people are the rightful owners of the land.

Over the last two decades, archaeologists have found abundant evidence of the importance of caves. Temple pyramids, palaces, and shrines have been built on top of them. A number of man-made caves that have now been documented. Finally, caves are increasingly being recognized for hosting some of the richest archaeology in the Maya lowlands. It is not unusual for investigations to recover tens of thousands of ceramic sherds and a varied array of artifacts.

Bruce T. Martin is a Boston-based photographer who specializes in architecture, archaeology, and fine art. His book, Look Close See Far, is based on a 20-year project photographing the Maya.

James Brady, an archaeologist at California State University, Los Angeles, is generally credited with having founded the sub-field of Maya cave archaeology and has more than 100 publications on the subject.
Soon, the rising waters of Lake Nighthorse will swallow Sacred Ridge. The desert knoll will be hidden beneath the new reservoir, which will fill the rugged Ridges Basin in southwestern Colorado with as much as 160 feet of water. But Sacred Ridge won’t be forgotten. Years from now, archaeologists will still be poring over the mountain of data collected at one of the region’s earliest villages, trying to understand how it formed some 1,300 years ago, what enabled it to flourish for a half-century, and why it came to such an abrupt and bloody end.

“Ridges Basin has given us a pretty unprecedented look at people moving into a new landscape and organizing themselves into an early village,” says Jim Potter of SWCA Environmental Consultants in Broomfield, Colorado, who led a four-year project that investigated 74 sites in and around Ridges. “It also raises some interesting questions about why they left and never came back.”

In particular, the massive project—which included analyzing more than 15,000 human bone fragments—has provided unusual insight into the early Pueblo I period in the northern Southwest, which lasted from about A.D. 750 to 825. That’s when once scattered families began to join forces and build more densely populated communities anchored by identifiable villages, setting the stage for the growth of even bigger settlements.

The evidence uncovered in Ridges Basin shows that creating more complex communities was far from a smooth process. Although researchers estimate that just a few hundred people shared the 2.5-mile-long valley during its heyday, they appear to have been divided among at least three culturally distinct groups that coexisted uneasily. There is ample evidence of violence, and the tensions ultimately climaxed in a gruesome massacre of at least 33 men, women, and children at a village that overlooked the valley from atop Sacred Ridge. “It was an extraordinarily violent event that is not typical of anything else we’ve seen in the prehistoric record in the Southwest,” says Ann Stodder, a bioarchaeologist at the Field Museum in Chicago, Illinois, who analyzed the remains found
in a mass grave. Indeed, the find has raised the provocative
question of how, exactly, to explain the horror at Sacred Ridge:
Was it war, witchcraft, cannibalism—or even genocide?
The fact that archaeologists are now even discussing
that question is something of a miracle, given the history of
the Ridges Basin study. The story begins nearly 50 years ago,
when government planners first envisioned the Animas-La
Plata Project (ALP), a series of massive reservoirs along the
Animas and La Plata rivers. Congress approved the ALP in
1968, but it stalled for decades amidst battles over finances,
environmental impacts, and tribal water rights. In 2000,
Congress scaled back the ALP to just a single reservoir in
Ridges Basin, which sits on Basin Creek, a tributary of the
Animas just south of Durango, Colorado. Soon after, the Ute
Mountain Ute Tribe, which administers the ALP, hired SWCA
to undertake the required cultural and archaeological stud-
ies. In the summer of 2002—34 years after the ALP was
approved—archaeologists began the first of four intensive
field seasons.

“THE LONG DELAY DID HAVE SOME BENEFITS,” Potter
notes in a 2010 report that synthesizes the 16 thick volumes
of data collected by the project. Researchers had access to
to better computerized mapping systems, for instance. More
importantly, they’d had “time to digest the results” of a similar
reservoir-related project along the nearby Dolores River in
Colorado. It had uncovered more than 50 mid-to-late Pueblo
I sites—including two major villages—and had provided
extensive insight into the period’s architecture, tool-making
techniques, food habits, and burial practices. As a result, the
researchers “were better equipped to ask more sophisticated
questions” about the social and environmental factors that
contributed to Pueblo I settlement creation and abandon-
ment, Potter writes.
The project covered two areas—the basin itself and a
small portion of Blue Mesa, a mile or so downstream—that
earlier studies had suggested were relatively densely occu-
pied during the early Pueblo I period. “It’s rare to have such
a large project, with a lot of sites, that allows you to compare

By David Malakoff
what’s happening in several communities at the same time,” says Richard Wilshusen, who worked on the Dolores project and is now the State Archaeologist of Colorado. “So this was an unusually rich opportunity to study early village formation.”

It didn’t take the research team long to realize just how rich. Field surveys and reviews of past studies suggested that the basin held at least 111 early Pueblo I structures, along with a number of older Archaic and Basketmaker-period sites. Between 2002 and 2005, the researchers excavated about two-thirds of the Pueblo I sites, recovering a staggering quantity of material. Among the finds are more than 100 burials containing the remains of at least 279 people; nearly 18,000 animal bones from 64 species; the remains of more than 70 kinds of plants; and piles of clay pots, sherds, and stone tools. There were also soil samples showing that a large marsh once covered a central part of the now dusty basin. One of the biggest surprises, however, came late in the fieldwork, with the discovery of the mass grave holding 14,882 chopped-up and burned fragments of human bone, most of which was piled into a single structure on Sacred Ridge. “We got much, much more than we ever expected,” Potter says.

THE STORY THAT EMERGES FROM THE FINDS is of a community that gradually flickered to life around A.D. 700, burned brightly from roughly 750 to 800, and then was extinguished in less than a decade. Several types of data, including radiocarbon dating and tree-ring analysis of wood associated with structures, suggest that there was no significant human settlement in Ridges Basin for some 200 years before the early Puebloans arrived, or for 500 years after they left. “The Pueblo I occupation is a bit like a time capsule,” says Stodder.

Sitting at the western, upstream end of Basin Creek, Sacred Ridge has a commanding view of the triangular-shaped bottom lands spreading east to the Animas River Valley. The evidence uncovered by Potter’s teams shows that, in the late 600s or early 700s, immigrants began constructing pithouses at the top of the ridge. Although it is not clear where these settlers came from, they were the vanguard of a wave of immigrants who began to move north into the Durango region. They could have been searching for wetter areas during the periodic droughts that struck the region in the 700s. “In general, the Durango area was wetter than surrounding areas due to its higher elevation,” Potter notes in his report, so it “would have been a relatively good place to live, with abundant rainfall and marsh resources.”

By A.D. 750, “pit structure sites dotted the landscape,” he says, as the basin experienced a mini-building boom, probably due to both the growth of the resident population and the arrival of immigrants. Around 780, there was another construction boom; on Sacred Ridge, for instance,
there’s evidence that several structures were massively remodeled. Although the researchers identified more than 100 Pueblo I structures, they estimate that just 25 to 34 of them were occupied between 760 and 810. Using assumptions about prehistoric household sizes, they also estimate that 150 to 272 people lived in the basin during that 50-year stretch.

The new community farmed maize, gathered wild plants, and occasionally dined on rabbits, fish, birds, deer, and elk. A few residents may have raised domesticated turkeys. Analyses of chemical isotopes in ceramics also show they traded widely. Many common gray- and white-ware pots recovered by the archaeologists were made of clay that matches deposits in the nearby Durango area, while the rarer redware appears to have come from about 100 miles away in modern-day Utah. They also found shells—often associated with burials—that came from the distant Pacific Ocean.

The SWCA researchers identified four settlement “clusters” within the basin, generally aligned along an arc on its northern edge, where the climate was friendlier. Sacred Ridge dominated the western end of the arc, and was the basin’s largest settlement. With perhaps 50 to 75 people living in structures spread over 12 acres, Sacred Ridge can arguably be called a “village,” Potter says. It sat just downstream from the Western Cluster, while the Eastern Cluster sat at the opposite end of valley. The North-Central Cluster was located roughly in between. Despite occupying close quarters, these clusters were not all the same: researchers documented some noticeable differences, ranging from how the residents designed their homes to how they buried their dead.

There were clear contrasts, for example, between Sacred Ridge and the Eastern Cluster, which sat on a slope near the former marsh. The researchers documented more than 20 pithouses at Sacred Ridge, including many of the basin’s largest structures. These “oversized” pithouses, which typically had oval or “D” shapes, were up to 25 feet across. They seem to have been designed to host communal rituals, with large rooms that had conical pits in the floor. An unusually high frequency of large ceramic bowls and narrow-necked jars for liquids were also associated with the oversized structures, suggesting that feasting took place there.

Sacred Ridge also boasted a compact wood and adobe tower, built around 780. It was at least 12 feet high, researchers estimate, and sat prominently on the ridge top next to a large circular palisade and domed structure. The tower “had no obvious habitation or storage function,” Potter writes. Instead, it was probably used for rituals, possibly involving smoke signals associated with important ceremonies. “The tower itself was visible throughout Ridges Basin,” he notes, “yet the rituals conducted within the complex and in the tower were hidden from view, and access to them would have been highly restricted, as evidenced by the palisade enclosing the area.” Those granted access “would have been powerful individuals within the community,” he adds.

Another sign of the ridge-dwellers’ high status, the study suggests, was the presence of prized redware and the bones and feathers of birds-of-prey, which may have been used in ceremonies. The evidence also suggests that Sacred Ridge residents ate well. The large domed structure may have stored harvested maize and seed, and an abundance of grinding stones found near it suggests that Sacred Ridge “may have served as a central milling location,” Potter writes. “This also suggests an inordinate amount of centralized control over food surpluses within the community.” The site also had easy access to some of the basin’s best farming soils and hunting grounds, and stone artifacts and food remains show residents used more hunting-related projectiles, and ate more big game, than their neighbors. Together, the showy architecture and abundant wealth suggests that “important
families occupied these houses and were in control of communal rituals,” Potter concludes. “If there was an organizational hierarchy among the settlement clusters, Sacred Ridge would have been at the apex.”

IN CONTRAST, THE EASTERN CLUSTER’S PIT STRUCTURES tended to be more rectangular than those at Sacred Ridge, with no towers or obvious ceremonial centers. Redware was scarce, and what little of it there was appears to have come from a different place than the pots found on the ridge. Researchers did find several kilns and polishing stones, however, suggesting pottery production was an eastern specialty. Eastern Cluster residents ate waterfowl, fish, and frogs from the nearby marsh. But they lived on especially poor agricultural soils, and the area was also prone to flooding. Residents appear to have built small deflection walls to keep out runoff, but water-borne sediments on the floors of more than a dozen pithouses suggests that a flood ultimately forced them to abandon many homes and rebuild.

The Eastern Cluster also featured burials quite different from those found at Sacred Ridge. In one abandoned structure, for instance, the researchers found two dogs that had been cut in half and laid on stone slabs, perhaps as part of a sacrificial closing ritual. They also found seven human burials with unusually large amounts of grave goods such as ornate pots, bird effigies, shells, and animal bones. Strikingly, many of the graves that contained goods in the Eastern Cluster held females; in Sacred Ridge these graves tended to hold males, who were buried with turquoise tiles and quartz crystals, rather than shells and bones.

Such differences suggest “the ritual dominance of Sacred Ridge in the community was not total,” Potter writes. Residents of the Eastern Cluster, and to some extent, other clusters, appear to have “gone to considerable lengths to maintain distinct social identities.” Morphological traits discerned in teeth and skulls indicate the various clusters were occupied by different extended family groups.

Those cultural and ethnic differences might have contributed to the “endemic” violence that researchers discovered. They discerned a high rate of blunt-force trauma...
injuries on skulls, for example, including fractures “suggesting assault.” In several structures, they also found the remains of people who may have been killed in their homes. In one burned Eastern Cluster pithouse, for instance, the remains of a man lay on a feather blanket with two stone points. The researchers speculate the man was murdered and then his home set on fire.

Even that dramatic scene, however, could not prepare the researchers for what they found in Feature 104 at the base of Sacred Ridge. There, in the late A.D. 700s or early 800s, someone or some group started to fill an oval pithouse with thousands of fractured and burned human remains. At some point, they removed the roof, and piled even more remains on top. Evidence such as telltale signatures of human blood on stone tools and ceramics suggest two nearby structures had been used to systematically process the bodies. The massacre “represents one of the most brutal and large-scale events in the history of the Southwest” prior to the Spanish Conquest, Potter writes.

Forensic analyses conducted by Stodder and others shows there were at least 33 victims consisting of men, women, and children. Massive traumatic injuries are ubiquitous, including execution by a blow to the back of the head while kneeling. Exactly who the victims were and where they lived is a mystery. An analysis of chemical isotopes in their dental enamel suggests that, like almost all the other individuals tested, the victims grew up in, or near, the basin, and probably were related to each other. But the genetic traits support the interpretation that the massacre victims were one of several distinct lineages in the basin, and they differed from the people buried in graves at Sacred Ridge. One possible scenario is that they didn’t live at Sacred Ridge, but were invited there and then killed, Potter says. Another is that they had somehow risen to power on the ridge, and then an uprising occurred.

Exactly what to call the process that led to the massacre also isn’t clear. The assemblage of human remains “is unique in many ways and does not fit the expectations of warfare, social intimidation, starvation, cannibalism, funerary rites, and witchcraft,” Potter notes. Witchcraft executions, for instance, typically involve far fewer victims. And although cannibalism can’t be ruled out, hunger doesn’t appear to be the main motivation for the killing. Instead, the processing—which included scalping and breaking toe bones—suggests “it was the destruction of these people’s identities that was the primary goal,” Potter says. That makes it, according to Stodder, uncomfortably similar to modern ethnic “genocide,” an interpretation that Potter disagrees with.

Whatever the motivation, other evidence suggests that changing environmental conditions—and nearly a century of intensive farming, hunting, and logging—were adding to community stress. An analysis of wood fragments, for instance, indicates that by the time of the massacre, basin residents had logged out the nearby juniper trees, and were shifting to other species. The climate was also growing colder and dryer, making farming more difficult. The shifts may have contributed to an “increase in social conflict to the point of a large massacre,” Potter writes, and “conjured a perfect storm of factors that convinced families—indeed, every family—to leave” Sacred Ridge and nearby areas in the early A.D. 800s.

The dramatic evidence of that historic exodus will disappear when Sacred Ridge’s once powerful perch is drowned sometime in the next year. But archaeologists, says Stodder, are likely to be “thinking about this site for a long time.”
Some archaeologists hypothesize that, contrary to the Clovis First model, the earliest Americans entered the New World by sea. The recent discovery of distinctive and sophisticated 12,000-year-old maritime artifacts on the Channel Islands in southern California could support the coastal migration theory.

By Julian Smith
In May 2008, Jon Erlandson of the University of Oregon and Torben Rick from the Smithsonian Institution were taking a break from survey work on Santa Rosa island off the southern California coast. On a beach on the northern side of the island, now part of Channel Islands National Park, Erlandson looked up at a freshly eroded sea cliff and noticed something poking out of a dark band of soil.

A quick investigation turned up bird bones and stone tools. A more thorough examination revealed a prehistoric site that, along with two more found earlier on nearby San Miguel island, could bring archaeologists closer to answering two of the major lingering questions in American archaeology: when did humans first arrive in the Americas, and how did they get here?

At one time, most researchers agreed that Paleo-Indians first migrated on foot across the Bering Land Bridge from Asia about 13,000 years ago, at the end of the most recent Ice Age. As they spread across North America, they often left behind distinctive bifaced fluted stone projectile points and other artifacts attributed to the Clovis culture, named after the city in New Mexico where they were first found. For decades, the Clovis were considered the first people to inhabit the New World.

But archaeologists have since found a number of sites that are said to predate the Clovis. Some of them, such as Monte Verde in southern Chile, which dates to approximately 14,000 years ago, are on the coast. And evidence is emerging of a diversified sea-based economy on the west coast of North America as much as 12,200 years ago. Consequently, some scientists think a distinct coastal migration could have occurred around the Pacific Rim, and it’s possible that it preceded the Clovis’ overland passage.

It could have been easier to travel by water, the thinking goes, especially when glaciers still loomed inland. Early settlers could have followed the shoreline all the way from East Asia to South America, drawing on the resources of both land and sea along the way. Erlandson and his colleagues, many of whom have worked on the Channel Islands for decades, recently proposed the “kelp highway” hypothesis, which holds that people migrated around the Pacific Rim by boat, following the rich kelp forest ecosystems that thrived from Japan to California, and in many places still do. The similarity of these coastal environments would have made the journey less demanding than inland routes that presented wildly different terrains and climates. They could have used rich rivers and...
But even if a coastal migration did happen, when and how it did is still unclear. Large gaps in time and space between coastal sites leave open the possibility that they were inhabited by inland people who eventually made their way to the ocean and adapted their tools and habits to a marine environment. The rising sea levels that resulted from melting glaciers covered many of the shoreline sites where people would have settled. Erosion has destroyed coastal sites over time, and now global climate change may be exacerbating the problem.

**IN THE LATE** Pleistocene sea levels were about 250 feet lower and the Northern Channel Islands were then a single island known as Santarosae. The rising ocean eventually covered two-thirds of it, leaving four separate islands that today are mostly administered by Channel Islands National Park. The U.S. Navy controls San Nicolas and San Clemente to the south, and approximately 3,700 people live on Santa Catalina, about 20 miles from the beaches of Los Angeles.

The Island Chumash tribe occupied the northern islands until the early 19th century, when they were removed by the Spanish. A century of intensive ranching followed that denuded the islands of much of their vegetation and led to the erosion that exposed stone artifacts on the surface.

When they found the Santa Rosa site, Erlandson and Rick were directing a team from the University of Oregon, the Smithsonian Institution, Southern Methodist University, and other institutions with grants from the National Science Foundation. Archaeologists have long known people were on the Channel Islands in prehistoric times. The Arlington Man skeleton, for example, was found on Santa Rosa in 1959 and radiocarbon dated to roughly 13,000 years ago in 1999, making it one of the oldest sets of remains found in North America.

The dark band of soil in the cliff on Santa Rosa, about 65

![A composite view of a chipped stone crescent from San Miguel Island. The crescent could have been used to hunt birds.](image)
feet above sea level, was the edge of a 12- to 16-inch thick layer of ancient soil known as paleosol. The archaeologists dug five test pits in the paleosol that yielded four stone crescents and 14 small barbed points, and the slope below the cliff yielded 52 similar points and 15 more crescents. All had been worked on both sides, and most were made from local island cherts.

The point style, called Channel Island Barbed (CIB), included a stem at the base that attached to a shaft. Some are serrated and so thin and delicate they only would have been effective on fish or other small marine prey. “Our best guess is that they were probably dart points for hunting smaller sea mammals, maybe otters, or near-shore fishing,” says Todd Braje of Humboldt State University, a member of the team. The workmanship is astonishing, he says, and completely different in style from the larger fluted points of the Clovis and Folsom peoples inland.

The archaeologists think the crescents were likely used to hunt birds. Mounted on a shaft, they could have been thrown into a flock to wing or wound—“a stone age shotgun-approach to hunting birds in flight,” Erlandson says. Hundreds of crescents have been found on the Channel Islands before, but they weren’t in such a clearly stratified context. Similar crescents have also been found together with stemmed points at inland sites in the Western U.S.

The team also excavated over 5,000 bone fragments from the five test units. Most were waterfowl, including Canada geese, and seabirds such as cormorants and albatrosses. The remains also consisted of marine mammals such as seals as well as fish. A single piece of obsidian tool-making debris was found in situ, and geochemical analysis indicates it came from an inland volcanic flow about 300 miles to the northeast, suggesting an extensive trade network.

The site’s relatively small size and the number and variety of bones and artifacts imply it was a hunting camp occupied seasonally by hunter-gatherers who, Erlandson thinks, probably lived elsewhere on the island throughout the year. When it was occupied, it was probably 250 feet above sea level and three to four miles from the coast, which may explain why no marine shells were found, even though they were plentiful at the two sites on San Miguel. Located near the largest drainage on the island, it may have bordered wetlands perfect for hunting waterfowl.

In contrast to the deeply buried Santa Rosa site, the two sites on San Miguel, known as the Cardwell Bluffs sites, are on the surface of a large, heavily eroded terrace. These sites cover 37 acres at the eastern tip of the island, and were about 400 feet above sea level in the late Pleistocene. Twelve test pits yielded over 400 whole or broken stone artifacts made from the chert cobbles. Two styles of stemmed points were discovered: 32 CIB points of different sizes and shapes.
and 23 Amol points, a previously unknown type without barbs that may have been reworked from broken CIB points. Some of the 31 crescents the archaeologists found had deep notches chipped along one edge.

Many of the artifacts turned up around the edges of five distinct shell middens. These domestic waste dumps produced thousands of well-preserved marine shells including mussels, crabs, red abalone, turban snails, and giant chitons, all species from kelp forests and rocky intertidal zones. Radiocarbon dates from the shells ranged from 12,100 to 11,400 years ago, implying to Erlandson that different groups passed through over the centuries.

**EVEN THOUGH ERLANDSON** once supported the single-migration view, he says the evidence that the Channel Islanders were distinct from the Clovis culture, and possibly part of an earlier coastal migration, is getting harder to ignore. “I look at the published post-Clovis sites,” he says, “as part of a complex of early island sites that include Arlington Springs, which has been dated to Clovis times, and are related to Western Stemmed Point sites such as Paisley Caves, dated to pre-Clovis times.” The island artifacts show a technology that is unquestionably different from Clovis. Similar stemmed points have been found in the Great Basin, Columbia Plateau, Kamchatka, and Japan, and stemmed points with pre-Clovis dates were recently unearthed at Paisley Caves in south-central Oregon. “If there were people moving down the coast, they should have left a record that looks a lot like this,” he says.

He admits it can be easy to question links between artifacts separated by thousands of miles and years. And the date gap is still an issue. “It’s possible the Clovis people could have morphed into these maritime foragers in a thousand years,” he says. But no one has ever found a fluted Clovis point on the islands, he adds, and “at this point I’m starting to think we never will find one.”

The goose bones at the Santa Rosa site indicate people were there in the winter, since that’s when migrating geese would have been passing through. This suggests people were living on Santarosae year-round since winter, with its bad weather and heavy surf, would have been the least likely time for mainlanders to come out by boat. And the abundance of artifacts and sites—even with most of the ancient coast and lowlands underwater, the team has found about 50 Late Pleistocene and Early Holocene sites—suggest many people were spending lots of time on the island.

These weren’t landlubbers venturing out to sea for the first time, according to Rick. The islands have been separated from the mainland by five or more miles of water for many millennia, meaning it would have taken a significant boat trip to get there. The diversity of food species at the sites shows the people who consumed them were familiar with the coastal environment. “They didn’t just stumble out from the interior,” he says, “they had been on the coast for a while and knew how to make a living.”

“It blew us away that we’d get this technology,” Braje says. Until a few years ago, the dominant theory held that early islanders lived mostly by gathering shellfish. But the profusion of delicate CIB points calls that into question. “They certainly weren’t hunting shellfish with these things.”

Instead, the prehistoric seafarers may have landed on the islands to find an environment teeming with fish, marine birds and mammals, and with virgin kelp forests and intertidal zones waiting to be harvested. The islands might have been even more inviting than the mainland, with its carnivorous predators like wolves, bears, and saber-tooth tigers.

“People almost certainly arrived by both coastal and interior routes,” says Tom Jones of Hamilton College, who studies Great Basin sites. “I think the earliest came along the coast,” he says, explaining that the archaeological record indicates “very early coastal settlement” at a time when the inland routes were probably covered with ice. He agrees that the CIB and Clovis points are different enough to be from separate cultures. Instead of being the root of all native cultures in the Americas, then, Clovis would have been just one branch. “This means we’re still looking for what might have been the original” culture, he says, which could require finding older coastal sites. “There still is lots of coastline to explore.”

The idea of two migrations, either simultaneous or at separate times, is “certainly possible,” says Ted Goebel of the Center for the Study of the First Americans. The dating gap between the Channel Islands and Clovis artifacts is still a problem, though. (The team did find one charred twig at Cardwell Bluffs that was dated to about 13,000 years ago,
which would overlap with Clovis, but Erlandson thinks it could have come from a wildfire, not a hearth.)

“What Jon has found is exciting—the technology is radi-
cally different from what most of us would have anticipated,” Goebel says. “But it still doesn’t prove the coastal migration theory.” Whoever these people were, they could just as likely be descendents of inland groups. “It’s not the site I’m going to hang my hat on.”

We don’t yet know exactly when the interior route was open, he adds. While some researchers have argued that glacial recessions along the interior route occurred too late for the first Americans to have come via land, a new examination of wind-blown sand dunes in central Alberta, Canada, suggests an ice-free landscape 2,000 years before the Clovis period. Goebel believes that geological studies such as this, combined with other data, will eventually reveal when humans could have traversed the corridor.

David Yesner of the University of Alaska Anchorage thinks it’s more likely that the Channel Islands sites were seasonal settlements left by mobile hunter-gatherers from the mainland. “The dates are simply too young to be linked to an initial continental colonization by sea,” he says. A fully adapted coastal culture would have hunted large marine mammals and caught fish in the open ocean, yet the Channel Islands sites have yielded only near-shore fish species and relatively few sea mammal bones.

Like Goebel, Yesner is concerned that no archaeological sites earlier than 11,000 years ago have been found along the Pacific coast of Alaska and British Columbia, a large sec-
tion of the coastal route. “This may mean that although the resources were there, people weren’t.” While there may be a connection between the East Asian and Channel Island points, the technological link is still tenuous at best. At the moment, the Channel Island artifacts are most reminiscent of one from early sites in the California interior, he says, which implies they were brought out to the coast instead of down along it.

The archaeologists will continue excavating the Santa Rosa site and to look for new sites as well. “There’s a certain sense of urgency to get back,” Erlandson says, since the same coastal erosion that exposed the site now threatens to wash it away. Representatives of the Chumash Indian tribe have worked with the team from the outset and will continue to monitor and participate in the excavations.

Underwater archaeology on drowned coastal sites could help establish when the early Channel Islands were occupied. Preliminary sea bottom mapping, sonar work, and diving have already identified chert outcrops on the sea floor, one of which might have been quarried by people. But after tens of thousands of years underwater, these sites could be covered with sand or churned by the heavy coastal waves, Erlandson says. “It’s likely most underwater sites are in pretty bad shape, if they can even be identified.”

Rick for one, isn’t ruling anything out. “There’s one thing I’ve learned when you’re talking about the peopling of the Americas: expect the unexpected.”

A Virginia driving tour offers insights into the people and places that shaped the early history of the United States.

By Paula Neely

An aerial view of Monticello, Thomas Jefferson’s beautiful estate.
From the arrival of the English at Jamestown to the American Revolution to the Civil War and the end of slavery, Virginia’s rich array of archaeological and historical sites provides an intimate picture of how the American dream began four centuries ago. Follow this 400-mile driving tour from the Potomac River to the foothills of the Appalachian Mountains and you’ll become better acquainted with the likes of Pocahontas, John Smith, George Washington, Thomas Jefferson, James Madison, Robert E. Lee, Civil War soldiers, African slaves, and colonial families. You’ll also learn the importance of archaeology in revealing details about the people and events that played a pivotal role in the history of the United States.

Begin your tour at Mount Vernon, George and Martha Washington’s plantation overlooking the Potomac River—a major water highway during colonial times—south of Alexandria. Tour the mansion, restored to its late-1700s glory when the Washingtons lived here. Sit on the porch and enjoy the stunning river view. Then walk through a dozen outbuildings, the greenhouse, a slave quarters exhibit, and the newly reconstructed pleasure garden, the interpretations of which are informed by archaeological excavations.

Visit a reproduction of a 16-sided treading barn, designed by George to improve the efficiency of threshing hay, and a brick-bottomed stercorary, where horse manure was made into fertilizer. The remnants of both buildings were discovered by archaeologists and they provide new insights into George’s keen interest in agricultural science. Although he is often called the father of our country, he considered himself a farmer first and foremost. In the educational centers, interactive exhibits and films use the latest technology and special effects, including a snowstorm, to immerse visitors in the story of the Revolutionary War and details about George Washington’s life.

Head south on I-95 toward Fredericksburg to the next destination, Ferry Farm. This is the modest plantation where George Washington lived from ages six to 22 before he moved to Mt. Vernon. It is also where he confessed to chopping down a cherry tree, overcame adversities, and learned to be a surveyor to help support his family. Use self-guided tour maps to explore the archaeological remains of the house and outbuildings, as well as structures from the Civil War era. Many slaves walked across Ferry Farm to reach freedom in the North. At the visitor center, an exhibit of artifacts reflects the Washington family’s lower gentry status and the material culture of their slaves. You can also watch through a windowed exhibit area as the staff processes artifacts.

Continue on Rte. 3 East to George Washington Birthplace National Monument at Popes Creek. Here archaeologists have discovered what is believed to be the site of the humble one-and-a-half-story house where George was born on February 22, 1732. After the house burned, the family moved to Ferry Farm. Artifacts are displayed in the visitor center.

Turn left on Rte. 3 and go a few miles to Stratford Hall, home of “Light Horse Harry” Lee, a Lieutenant Colonel in
the Continental Army during the Revolutionary War. It’s also the birthplace of his son, General Robert E. Lee. Tour the grounds and great house, furnished as it would have been from 1738–1808. Don’t miss the magnificent view of the Potomac from the great hall. During June you can interact with students participating in field school excavations of outbuilding sites in front of the mansion. Artifacts in the visitor center offer evidence of how the Lee family and their servants lived.

Next, make your way via Rte. 17 to Rosewell Ruins on the York River in Gloucester. Built in 1725 by the Page family, Rosewell was considered one of the grandest mansions in Virginia. It was gutted by a fire in 1916, but four chimneys, three-story brick walls, and a wine cellar have survived. The ruins provide a unique view of the artistry and craftsmanship of 18th-century brickwork. In the visitor center, you’ll see artifacts recovered from the site, and you can tour the lab when volunteers are processing artifacts.

It was said that the Pages could see Yorktown, the site of the last battle of the Revolutionary War and the next destination, from the roof of Rosewell. Return to Rte. 17, cross the York River and turn right immediately, then follow signs to the Yorktown Battlefield. In October, 1781, American troops, led by George Washington, and their French allies surrounded the British army at Yorktown, led by General Lord Cornwallis. Meanwhile French ships barricaded the entrance to the Chesapeake Bay, blocking British supply ships and preventing Cornwallis and his troops from escaping by sea. After a siege of 19 days, the British surrendered.

At the visitor center, you can see the site of the last battle and view the actual tents used by General Washington. Drive, walk, jog, or ride a bike along 15 miles of roads that weave through 5,000 acres of battlefields lined with earthworks and cannons. Some of the earthworks are original, and others were reproduced based on archaeological and documentary evidence. Surrender Field is one of the highlights. Audio and ranger-led tours are available.

In town, you’ll see the sculpted figure of “Liberty” atop the Yorktown Victory Monument, the first public monument authorized by the U.S. Congress. You can also visit historical houses that speak to Yorktown’s history as a thriving port city. At the Poor Potter’s site, discover the remains of a black market pottery factory from the 1720s, when it was illegal for colonists to sell pottery.

Next, make your way to Colonial Williamsburg, the “Revolutionary City,” via the Colonial Parkway, a 23-mile tour.
scenic road with expansive views of the James and York rivers that links Yorktown, Colonial Williamsburg, and Jamestown, three of the most pivotal sites in American history. Williamsburg served as the colonial capital of Virginia from 1699 to 1780, leading up to, and during, the Revolutionary War. Thanks to generous funding from John D. Rockefeller, the Governor’s Palace and hundreds of buildings have been reconstructed or restored to their mid-to late-18th century appearance. Today, Colonial Williamsburg includes 88 original and 450 reconstructed buildings.

As you walk around, you’ll encounter costumed interpreters on foot and on horseback, who entertain visitors and demonstrate period trades, crafts, and weaponry. They’ll also engage you in a discussion about the politics and events that inspired the revolution. You might even find yourself taking part in a passionate interactive performance about the revolution led by professional actors and designed to make you think about your role as a citizen.

You can observe excavations at the armory, which was destroyed by the British in 1781. Archaeologists are trying to identify where various activities such as tin making, gun repairs, and blacksmithing took place. Be sure to tour the Charlton Coffeehouse and see the exhibit in the DeWitt Wallace Decorative Arts Museum about how archaeology informed the reconstruction of the coffeehouse. If you reserve in advance, you can go on the very popular archaeology lab tour and learn how thousands of bones uncovered in trash pits in Williamsburg and other colonial sites have revealed what the colonists and their slaves ate.

To find out how the English established a foothold in North America, turn back the clock to 1607 and take the Colonial Parkway to Historic Jamestowne, where the National Park Service and Preservation Virginia, a nonprofit organization, manage the remains of James Fort and the town site at Jamestown, the first permanent English settlement in America. Jamestown is also the site of the first representative assembly and the earliest documented arrival of African slaves in 1619.

Since Jamestown archaeologists discovered the long lost remains of James Fort 15 years ago, evidence of buildings, pits, and wells, along with burials and hundreds of thousands of artifacts have shed new light on how the early settlers lived and died, as well as their relationships with the
Indians. Exhibits in the Archaearium show how the archaeological evidence coupled with historical accounts led to the discovery of the fort. You’ll see displays of arms and armor, medical instruments, personal objects, musical instruments, amusements, and food remains. Secrets of the dead are also revealed through exhibits about the forensic research on the remains believed to be those of Capt. Bartholomew Gosnold, a founding father of Jamestown, and over 70 other burials.

At the fort site, you can observe archaeologists as they continue to excavate the foundation of the church, where Pocahontas married John Rolfe, the English gentleman who was the first to cultivate and successfully market Virginia tobacco. Archaeologists will also excavate the remains of a powder magazine from the Civil War that was part of the Confederate fort built over the remains of the English fort.

You can take a walking tour of the fort, which is considered to be one of the most significant archaeological sites in the nation. You can also tour the laboratory and vault to see how artifacts are processed from the field to the museum. Advance reservations are recommended.

The visitor center features films and exhibits of artifacts excavated throughout the town site that speak to the Native American and African presence at Jamestown, how the town developed as a port and the first capital of Virginia, and how Jamestown declined when the capital moved to Williamsburg in 1699. Take a walking tour with a ranger along the streets of the town and learn what it was like to live here.

About a mile away from Historic Jamestowne is Jamestown Settlement, a state-operated living-history museum. Here you can climb aboard recreations of the ships that brought the first colonists to Jamestown and discover what it would have been like to cross the ocean in the early 1600s. There’s also a recreation of a Virginia Indian village and a colonial fort where costumed interpreters demonstrate
The Petersburg National Battlefield commemorates the nine-and-one-half month siege of Petersburg that led to the end of the Civil War. The Eastern Front driving tour has examples of Union and Confederate fortifications such as this one.

weapons, cooking, farming, blacksmithing, and other skills. Indoor gallery exhibits tell a global story about Jamestown’s establishment and the mingling and clashing of European, Native American, and African peoples.

Soon after the founding of Jamestown, the English began establishing plantations farther inland along the James River and throughout the Chesapeake Bay area. Travel west on Rte. 5 to visit one of them, Shirley Plantation, on the banks of the James. Founded in 1613 by Sir Thomas West, then colonial governor of Virginia, Shirley is the oldest family-owned business in North America. Direct descendents of the original owners still live here today. Tour the mansion and outbuildings and see a new exhibit about slave life, based on recent archaeology at the plantation’s slave dwellings. There are several other plantations along Rte. 5 that are also worth visiting, including Berkeley, the site of the First Thanksgiving held in 1619, and Westover, which is known for its magnificent gardens.

Then cross the Benjamin Harrison Bridge and fast forward about 250 years to America’s Civil War and the next destination, Petersburg National Battlefield. Start your visit at the Eastern Front Visitors Center for an overview of the battles at Petersburg, where the nine-and-a-half-month siege led to the end of the war. Lee’s army was forced to evacuate Petersburg and Richmond, and Lee surrendered at Appomattox Court House.

The most notable site is the Crater, where Pennsylvania troops dug a shaft under Confederate lines and blew up a fortification. Union forces, including brigades of the United States Colored Troops, then assaulted the breached line but were defeated by Confederate counter-attacks. Other units of the park include City Point, where General Grant had his headquarters, Five Forks, and Poplar Grove National Cemetery.

To better understand the reasons why soldiers fought for the North or the South and how they lived during the war, head south on I-85 to Pamplin Historical Park and the National Museum of the Civil War Soldier. Touted as one of the most innovative and engaging Civil War sites in the country, it employs multi-media technology to interpret the lives of Union and Confederate soldiers. In the park, costumed interpreters offer a weapons-firing demonstration at a recreated campsite. You can also tour an antebellum home, a slave life exhibit, and a preserved battlefield.
Then head north on I-95 to Richmond, the capital of the Confederacy. Stop at The American Civil War Center at Historic Tredegar, housed inside the remains of the Confederate gun foundry and ironworks. Exhibits and films explain the causes and consequences of the war from the Union, Confederate, and African-American perspectives.

Found in another building at Tredegar, the Richmond National Battlefield Park Visitor Center provides orientation exhibits, maps, and directions to area battlefields and other Civil War-related sites such as the Chimborazo Medical Museum and Malvern Hill. There’s also the White House and Museum of the Confederacy, the Virginia State Capitol, designed by Thomas Jefferson; and numerous battlefields surrounding the city, including Cold Harbor, where one of the bloodiest engagements of the war took place.

Then take 6th Street to St. John’s Church, where the revolutionary patriot Patrick Henry delivered his famous “Give Me Liberty or Give Me Death” speech. Tours are offered daily, and reenactments are performed every Sunday afternoon between Memorial Day and Labor Day.

For the last leg of the trip, head toward Charlottesville on I-64 West and visit the estates of Thomas Jefferson, author of the Declaration of Independence, and James Madison, author of the U.S. Constitution. A tour of Jefferson’s Monticello, which he designed and built on top of a mountain, provides an intimate glimpse of the third president’s daily life as well as his interests in government, exploration, education, agriculture, architecture, style, and gadgets. The tour also features awe-inspiring views in every direction.

Walk along Mulberry Row and discover what archaeologists have learned about the dwellings and belongings of domestic slaves, including Sally Hemings, a slave with whom Jefferson may have fathered children. Sign up for an archaeology workshop and visit current excavations that are yielding new information.

The visitor center offers exhibits of artifacts from slave quarters. Dozens of touch screen monitors and interactive exhibits provide information about Jefferson and the formation of America’s democratic government.

The last stop on the trip is James Madison’s Montpelier, the fourth president’s life-long home in Montpelier Station, near the town of Orange. Tour the mansion and grounds and discover how Madison and his wife, Dolley, who inspired the term “First Lady,” lived. See where Madison played chess with Thomas Jefferson and sit in the office where he helped to fashion the Constitution.

You can observe archaeologists excavating an outbuilding, explore the archaeology lab, and ask the staff questions. There’s also the opportunity to participate in a one-week excavation with about a dozen other archaeology enthusiasts in August and September. You’ll help dig, process, and identify artifacts and experience behind-the-scenes tours while staying in a house on the property. What better way to end your tour of Virginia?
Few figures have evoked such strong feelings as the controversial Edgar Lee Hewett, who played a pivotal role in the early 20th-century development of Southwestern archaeology and antiquities preservation. “There were no neutrals about Hewett,” says Don Fowler, professor emeritus at the University of Nevada, Reno, and a historian of Southwest archaeology. “People either liked him a lot or disliked him a lot. Adversaries and colleagues alike called him ‘El Toro’ (The Bull) behind his back, both for his physical strength and his perceived modus operandi.”

When the Wetherill brothers discovered the cliff dwellings of Mesa Verde in southwestern Colorado in 1888, the public’s interest in Southwest archaeology increased. It was during this time that Edgar Lee Hewett, born in Warren County, Illinois, 23 years earlier, was developing his own interest in the ancient ruins of the Southwest, prompting him to spend summers touring sites from Yellowstone to Chihuahua, Mexico, in a horse-drawn wagon with his new wife, Cora Whitford, who was diagnosed with tuberculosis and prescribed a warm, arid climate. Following in the footsteps of Swiss explorer and anthropologist Adolph Bandelier, Hewett became enamored of the Pajarito Plateau in north-central New Mexico.

Hewett had attended college in Missouri and settled in Florence, Colorado, where he eventually became superintendent of the Florence schools. In 1894, he joined the faculty at the Colorado State Normal School in Greeley (today the University of Northern Colorado), where he received his master’s degree in pedagogy. By this time Hewett, who had read Bandelier’s scientific papers, was himself conducting fieldwork on Pajarito Plateau. A centuries-old volcanic eruption covered the area with a gray, friable tuff on which ancestral Puebloan inhabitants built the multistoried dwellings of Puye, Otowi, Tsirege, and Yapashi, as well as the cave dwellings of the Rito de los Frijoles.

Frank Springer, a prominent lawyer and amateur paleontologist from Las Vegas, New Mexico, heard of Hewett’s work, and when Springer’s community became interested in the area’s ancient past, he invited Hewett to give a series of lectures on the topic. This was the beginning of a lifelong friendship between the two men. When the governor named Springer to the board of regents for New Mexico Normal School (now New Mexico Highlands University) in Las Vegas, he persuaded the board to hire Hewett as the school’s president in 1898.

Hewett’s unconventional ideas about education and his fascination with Southwest archaeology led him to focus on “expeditionary” coursework, which at that time, when students were trained exclusively in the classroom, was highly unusual. His students spent weekends and summers in the field conducting archaeological surveys on the Pajarito Plateau.
Plateau and took trips to Pecos Pueblo and Chaco Canyon. “With me, learning meant exploration—adventuring into the unknown; teaching, a matter of scouting—taking young people along if they cared to go and didn’t mind the hard road,” Hewett later wrote. The school was one of the first colleges in the United States to teach anthropology, and it also welcomed women, both as students and professors, a practice that was then unheard of.

Hewett also held the atypical view that archaeological sites were cultural and educational assets, not resources to be mined for museum collections. Aware of the power of networking and the importance of public support, he cofounded the Archaeological Society of New Mexico in 1898, building it into an organization that promoted the study of local archaeology and attracted funding. Hewett also used the society to advocate for federal protection of antiquities.

He petitioned the federal government to investigate the activities of the Hyde Expedition that, under the aegis of the American Museum of Natural History in New York, excavated at Chaco Canyon. He alleged that one of the expedition’s leaders, Richard Wetherill, and others were engaged in the “spoliation and destruction” of sites and were selling artifacts taken from them. This led to an investigation by the General Land Office in 1901 that, while not finding evidence to support Hewett’s claims, did find improprieties in a homestead claim Wetherill made at Chaco. In the end, the Hyde Expedition, which was taking the materials they recovered back East, was subsequently forbidden to excavate there. “In the petition, Hewett and his allies fired the first shot in a campaign he directed over the next three decades to gain regional or state control of the antiquities on Western public lands,” writes Fowler.

Congressman John Fletcher Lacey, chairman of the House Committee on Public Lands, accepted Hewett’s invitation to see the area’s cultural resources, and the two spent a couple of weeks in 1903 touring sites on horseback. Lacey later said he became interested in getting an antiquities bill passed because of his trip with Hewett, which led to a lasting friendship and so impressed Lacey that he requested Hewett prepare a report for Congress on the region’s archaeological resources.

Meanwhile, Hewett’s unconventional teaching practices and support of archaeological preservation were criticized by some powerful figures. Throughout his career, he and his supporters frequently clashed with prominent Eastern anthropologists such as Clark Wissler, the curator of anthropology at the American Museum of Natural History, and Franz Boas, of Columbia University, over policies, professional...
standards, and archaeological sites. An educator by training, Hewett was self-taught in archaeology and anthropology, and his critics considered him a “rogue” whose education was inferior and research substandard.

In 1917, Wissler proclaimed a “new archaeology,” incorporating recently developed techniques like stratigraphy, seriation, and typology, that sought to answer chronological questions in Southwestern prehistory. Hewett’s detractors criticized his resistance to chronology, considering him old-fashioned and “romantic” for his reliance on the ethnographic record to interpret sites. Hewett’s model for archaeology was also very different from the model adopted by Wissler and Boas and the institutions they worked for, which emphasized formal training.

Hewett wanted thousands of acres of public lands on Pajarito Plateau to be set aside for the creation of a national park, and this alienated ranchers and farmers who used those lands. As a result, he was forced to resign from the New Mexico Normal School in 1903, which led to the entire faculty resigning in protest. Hewett then decided to give up university administration and pursue a career in archaeology, so in 1904 he moved to Europe to earn his doctorate at the University of Geneva in Switzerland, an institution his detractors dismissed as a diploma mill. “The call of the spade became too imperative to resist,” he wrote later.

Upon returning to the United States, Hewett went to Washington and joined the lobbying campaign for antiquities legislation. Many of his relationships with key national figures such as Alice Cunningham Fletcher, one of the country’s leading anthropologists, and noted scientists William Henry Holmes and Frederic W. Putnam, date from this period. Cora, who became increasingly frail during their stay in Europe, died in Washington in 1905. Hewett filled the void with long hours of work. That year he was appointed a delegate for the Colorado Society of the Boston-based Archaeological Institute of America (AIA); and in 1906 he was chosen by the AIA for a fellowship in American archaeology. The fellowship’s responsibilities included doing research in the Southwest and Mexico and investigating the possibility of establishing a School of American Archaeology in Mexico.

Through his lobbying of Congress, public lectures, and his many travels conducting surveys for the government, Hewett served as the spokesman for Western archaeological societies. He also published his “Memorandum Concerning the Historic and Prehistoric Ruins of Arizona, New Mexico, Colorado and Utah and their Preservation,” which described the state of the Southwest’s antiquities and the threat of vandalism. He wrote that “it will be a lasting reproach upon our Government if it does not use its power to restrain” the destruction of sites. Nonetheless, despite rampant looting, Congress remained unenthusiastic about the idea of protecting archaeological sites by withdrawing vast amounts of federal land from public use.

Sensing a new approach was needed, Hewett, working with others, drafted a Congressional bill titled “An Act for the Preservation of American Antiquities.” Hewett skillfully implied the government’s responsibility by making it illegal for anyone to damage ruins on federal land without ever
mentioning land withdrawal for creating national parks, a red flag to many Western Congressmen. He submitted his draft to Congressman Lacey, who introduced it into the House on January 9, 1906.

While Hewett was in the field in Mexico, his bill passed both houses of Congress and was signed by President Roosevelt on June 8. Lacey and Holmes relayed the good news to Hewett, who wrote from his camp at the headwaters of the Yaqui River in eastern Sonora, “estoy muy contento.” The bill, which became the cornerstone of all federal historic preservation legislation, protected archaeological sites on federal lands and gave the president authority to establish national monuments at sites of scientific or cultural importance.

One of Hewett’s first tasks with the AIA was to oversee a survey of the Mesa Verde region in anticipation of its becoming a national park, so with the help of Frederick Putnam, three young volunteers were rounded up for the expedition: Sylvanus Morley, Alfred Vincent Kidder, and John Fletcher. After a few hours touring the area on horseback, Hewett, in his characteristic sink or swim fashion, is said to have stood with the novices on a mesa top overlooking a vast area of the Southwest where, according to Kidder, Hewett “waved an arm, taking in, it seemed, about half the world: ‘I want you boys to make an archaeological survey of this country. I’ll be back in three weeks.’” Then, offering no advice or further training, Hewett rode off. Despite the challenge, they managed to stay afloat. Mesa Verde became a national park shortly thereafter and Morley and Kidder eventually became well known archaeologists.

After settling in Santa Fe at the end of 1906, Hewett founded the School of American Archaeology (now the School For Advanced Research) and served as its first director. A few months later, the Museum of New Mexico, which was to be administered by the school, was established by the State Legislature with Hewett named as the founding director. Under his guidance the museum acquired several major sites.

After marrying Donizetta Wood in 1911, Hewett oversaw the construction of the Museum of Fine Arts in Santa Fe, which was completed in 1917. Eleven years later he became head of the new Department of Archaeology at the University of New Mexico and he also founded the University of New Mexico Press. In the mean time he became director of the San Diego Museum of Man in California, taught anthropology at San Diego State Teachers College from 1915 to 1928, and helped found the anthropology department at the University of Southern California in 1934. During the late
1930s and ‘40s, Hewett produced a series of books on Southwest archaeology as well.

Hewett bridged the self-taught explorer/antiquarians of the late 19th century and the scientific archaeologists of the 20th century. His field studies incorporated archaeology, ethnology, geography, botany, and linguistics, an integrative approach that anticipated the multidisciplinary archaeological strategies of later generations. He welcomed students and the public to his digs, and once the excavation concluded he restored the sites. "Many well known archaeologists such as Sylvanus Morley, Kenneth Chapman, and A. V. Kidder owe their early field training to Hewett, who directed the Museum of New Mexico for more than 40 years," says Fowler.

Hewett was ahead of his time in several ways, but a product of it in others. He continued to work on the Pajarito Plateau, excavating Puye and nearby Tyuonyi largely with workers from nearby San Ildefonso Pueblo. He dismissed their concerns about disturbing burials at Puye, arguing that there was no connection between the ancient inhabitants of the plateau and the modern people that lived nearby. His attitude was typical for this period, and it also allowed for the unfettered pursuit of his archaeological interests as well as creating the perception that the Southwest’s cultural resources were the vestiges of a vanished race.

Following his death in 1946, Hewett’s ashes were interred in a niche in the courtyard wall of the Museum of Fine Arts in Santa Fe next to those of his longtime friend and supporter Alice Cunningham Fletcher. "Hewett was an amazing achiever," Fowler says. "In my view, he succeeded because he was a master coalition builder who courted and worked with and through powerful and faithful allies. His victories were not always easily won, but he won more rounds than he lost."

Tamara Stewart is the assistant editor of American Archaeology and the Conservancy’s Southwest region projects coordinator.
Preserving A Noted Paleo-Indian Site

The Thunderbird site has yielded important information about early Americans.

The Thunderbird site, located along the Shenandoah River near Front Royal in northwestern Virginia, was discovered in the late 1960s by members of the Archaeological Society of Virginia. It became one of the best-known Paleo-Indian sites in North America due to the pioneering work of the late William Gardner, an archaeologist at the Catholic University of America, who excavated the site from 1970 through 1986.

Gardner’s research revealed that Thunderbird was part of what he referred to as the Flint Run Paleoindian Complex, a series of related Paleo-Indian and Early Archaic quarry, processing, and occupation sites, including the Flint Run jasper quarry, that are located on the South Fork of the Shenandoah River. Gardner’s work at Thunderbird led to the understanding that quarry-associated base camps are a major characteristic of Paleo-Indian sites in Eastern North America, and descriptions of the Flint Run Complex are found in every major textbook on North American archaeology.

While working at Thunderbird, Gardner also uncovered the only known stratified sequence of Paleo-Indian and Early Archaic projectile points in Eastern North America at that time, as well as identifying a postmold pattern of a Paleo-Indian structure that is the oldest in Virginia and one of the oldest in North America.

His methodology was pioneering for its time. He developed an interdisciplinary research team that employed geomorphology, pedology, and palynology to reconstruct ancient landscapes and environmental resources. His interpretation of stone tool manufacturing areas was informed by experimental flintknapping, in which the patterns of stone flakes found in the archeological record were replicated by modern flintknappers.

The Thunderbird Research Corporation (TRC), a nonprofit organization, was established in 1973 to raise money for research and preservation of the site. In 1974, TRC opened the Thunderbird Museum and Archeological Park as an educational learning center for the general public. Headed by Gardner and Joan Walker, TRC established the Flint Run Paleoindian Archeological District, which was added to the Virginia Landmarks Register in 1975, to the National Register of Historic Places in 1976, and then declared a National Historic Landmark the following year.

In the late 1980s, TRC, with help from the Archaeological Society of Virginia, purchased four lots containing 23 acres of the site from the landowners. Some 25 years later, Walker oversaw the transfer of the Thunderbird artifact collection to the Smithsonian Institution, where it’s curated to federal standards and is available to scholars for research.

TRC recently donated the property to the Conservancy so that the site could be permanently preserved and managed while still being made available for research. Though Gardner worked there for many years, Thunderbird still has significant research potential. —Andy Stout

A researcher cleans a feature during excavations in 1972.

A Legacy Of Maine’s Ancient Past

The Conservancy partners with several parties to acquire the Dresden Falls Archaic site.

THE DRESDEN FALLS Archaic site (8000–3000 B.C.) is the largest and most intensively occupied Early-to-Middle Archaic site in Maine, and it has yielded more stone artifacts from this period than any other site in the state. The site was discovered about 20 years ago by artifact collectors who reported finding stone tools in a plowed field.

In 2008, Maine Historic Preservation Commission archaeologist Arthur Spiess received permission from the landowners to conduct the first professional excavations at the site. In addition to recovering Middle Archaic projectile points and slate knife fragments, he found intact hearths and garbage pits buried a foot beneath the surface. Charcoal from one pit was radiocarbon dated to 7,000 years ago. “At over 15 acres in size, this is one of the largest Early and Middle Archaic sites in northern New England,” said Spiess.
Conservancy
Plan of Action
SITE: Dresden Falls
CULTURE AND TIME PERIOD: Early to Middle Archaic (8000 to 3000 b.c.)
STATUS: The site was threatened by development.
ACQUISITION: The Conservancy needs to raise $75,000.
HOW YOU CAN HELP: Please send contributions to The Archaeological Conservancy, Attn: Dresden Falls, 5301 Central Ave. NE, Suite 902, Albuquerque, NM 87108-1530.

These are some of the knife and spear points that were found on the surface by artifact hunters. They're approximately 5,000 years old.

“The cultural material is closely related to southern Maine and southern New England at the time.”

Merrymeeting Bay is now part of the Kennebec River estuary. The coast of Maine has been sinking since the end of the Ice Age, and consequently coastal sites have been flooded and destroyed, but the Dresden Falls Archaic site is high enough above the river that it’s not threatened by erosion. At the time it was occupied, the site was located next to a major waterfall. Spiess recovered numerous fish bones, indicating that these falls were an excellent place to catch migrating fish, including striped bass, sturgeon, and salmon. Since about 3000 B.C., the waterfall has been covered by the rising sea and the best fishing locations moved upstream.

Situated on a beautiful sloping expanse along the bank of the Kennebec River in the town of Dresden, the site is adjacent to the Swan Island Wildlife Management Area, and within the Merrymeeting Bay and Lower Kennebec River Estuary. In addition to protecting the site’s cultural resources, this acquisition also preserves 560 feet of river frontage and nearly 27 acres of wildlife habitat.

Thanks to the efforts of a coalition that included the Conservancy, the local land trust Friends of Merrymeeting Bay, the state’s Land for Maine’s Future program, and Spiess, this important site will be permanently protected. This is an example of the important role partnerships can play in saving America’s distant past. —Andy Stout

These are some of the knife and spear points that were found on the surface by artifact hunters. They’re approximately 5,000 years old.
The Mysteries Of Sims’ Place

The Conservancy acquires a Louisiana mound site that could answer questions about the area’s prehistory.

Covering an area of approximately 32 acres in St. Charles Parish in southern Louisiana, the Sims’ Place site is one of the largest prehistoric mound site in the Louisiana Delta, a coastal wetland area built up by soil deposited by the Mississippi River as it enters the Gulf of Mexico. Named for the family that owned the site for many years, Sims’ Place originally contained five mounds. Two were destroyed by the construction of a road and a railroad track, and most of a third was leveled while building a house. The other two, Mounds A and B, remain. Mound B, which is approximately seven feet tall, stands in a pasture. Mound A is in a cemetery and several historic graves rest on top of it. The Conservancy recently acquired 60 percent ownership in Mound B and the surrounding four acres.

Sims’ Place is six miles from the Mississippi River. The mounds are on top of, and surrounded by, a rich midden that extends some 3,000 yards along a bayou. The midden was tested in 1978-80, and archaeologists uncovered large amounts of broken pottery, freshwater mussel shells, and a variety of fish, animal, and plant remains. The excavations also revealed that the site was occupied during the Coles Creek
The Protect Our Irreplaceable National Treasures (POINT) program was designed to save significant sites that are in immediate danger of destruction.

Beneath the surface is a large midden that is parallel to the bayou.

(ca. A.D. 700–1200), Mississippian (ca. A.D. 800–1500), and the subsequent Protohistoric periods. The majority of the artifacts dated to the early 800s during the Coles Creek period. Portions of the midden contained human burials, so these areas were not excavated.

The archaeologists also did test excavations of the edge of Mound B, and they uncovered the remains of a hearth at its base. The hearth was radiocarbon dated to approximately A.D. 1460, suggesting that construction of at least one of the mounds began during the Mississippian period. However, because the Coles Creek people were responsible for a large number of Louisiana’s mounds, it’s possible they built some of Sims’ Place’s mounds.

Some of the ceramics, coupled with a radiocarbon date of approximately 1570 from a maize sample, indicate that the last occupation was during the Protohistoric Period. Exactly how, or if, any of these cultures interacted with each other, or if there was a long period when Sims’ Place was unoccupied, isn’t clear.

Sims’ Place is one of the few sites in this area where there is evidence of the Mississippians. The site could reveal more about this particular variant of the Mississippian culture and its influence, or lack thereof, on surrounding sites. The Conservancy hopes to acquire more of Sims’ Place so that there will be ample opportunity for researchers to shed light on a poorly understood area of Louisiana’s prehistory.

—Jessica Crawford

The Protect Our Irreplaceable National Treasures (POINT) program was designed to save significant sites that are in immediate danger of destruction.
SOUTHEAST—The Conservancy recently celebrated the completion of an interpretation project at its Ingomar Mound site in northeast Mississippi. The 60-acre site features a 30-foot-high Woodland Period (ca. A.D. 300) platform mound. Thanks to a partnership with the Union County Historical Society and Heritage Museum, the Union County Board of Supervisors, and other organizations, Ingomar now boasts a paved parking area, several interpretive kiosks and signage, a walking trail, and an “outdoor classroom” where local school children will learn about the human history of the site as well as the ecological history of the area.

Last April, a ceremony was held at the site to celebrate the project’s completion. Several local and state officials were in attendance, including the director of the Mississippi Department of Archives and History, who thanked the Conservancy for its preservation work in the state. Prior to their removal, Ingomar was the homeland of the Chickasaw Tribe, and in honor of the occasion, members of the Chickasaw Nation’s dance troupe traveled from Oklahoma to perform traditional dances at the site.

The work at Ingomar was accomplished largely due to the efforts of Jill Newell Smith, the director of the Union County Heritage Museum, who worked tirelessly on grant applications as well as building local support for the Conservancy and the project. As a result, the Conservancy’s Southeast Regional Director, Jessica Crawford, presented Smith with the Golden Trowel Award at the ceremony.

The Golden Trowel is given to individuals who do an outstanding amount of volunteer work for the Conservancy. “Jill’s efforts to help the Conservancy preserve and interpret
Ingomar certainly deserve special recognition,” said Crawford. “It’s always extremely important that we have the support and help of local individuals like Jill.”

Fort Salem
Preserve Expanded

MIDWEST—The Conservancy recently acquired an additional 3.5 acres of the Fort Salem site, a Hopewell Culture earthwork. The addition includes the northernmost portion of the earthwork’s wall and ditch. The Conservancy obtained this parcel from Bill Bear, who had purchased it shortly after becoming a site steward at Fort Salem. Bear also installed a gravel parking lot north of the earthwork for visitors. Wanting the entire earthwork to be protected, Bear sold his portion to the Conservancy at cost.

Fort Salem is located about 30 miles east of Cincinnati, Ohio. The earthwork includes an earthen wall about two-feet high with an exterior ditch about two-feet deep. They enclose conjoined conical mounds, the larger of which is about six-feet high and the smaller about four feet. Recent geophysical surveying has identified soil anomalies that suggest occupational activities within the earthwork. The exact nature of the subsurface features awaits future research.

A Survey At Borax Lake

WEST—A survey of the Conservancy’s Borax Lake site in northern California was conducted by a team of researchers led by Evan Elliott, a graduate student at Sonoma State University. Borax Lake is a multi-component site that dates to the Clovis period. It was first excavated in the 1940s and was designated a National Historic Landmark in 2006. The site contains a very large lithic concentration, a historic era orchard, and two artificial ponds.

The researchers found several hundred obsidian flakes as well as approximately 10 flake tools, two early-stage preform bifaces, and a small number of potential cores. A fragment of an Excel-sior lanceolate projectile point was also found. The survey also identified areas with artifact clusters.

Borax Lake had been mapped by earlier researchers, and though the ground is now covered by thick grass, vetch, and occasional thistles, Elliott and his team were able to confirm the site’s boundaries.

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Reviews

Faking Ancient Mesoamerica
By Nancy L. Kelker and Karen O. Bruhns
(Left Coast Press, 2010; 256 pgs., $30 paper, $89 cloth; www.lcoastpress.com)

"To a museum professional 'fake' is the ultimate F-word," and more than 40 percent of pre-Colombian pieces from Mesoamerica in museums and private collections are fakes, according to the authors of this informative and fast moving detective study. Systematically they describe various categories of forgery from bark-paper codices to crystal skulls to stone sculptures.

Forgery style is a fascinating part of this study. Simple copying is the most common type of forgery and the easiest to detect. The work of the original artist-forgers is the most difficult to identify. A master can manipulate style and technique to create original interpretations of ancient art. If the artist uses ancient materials, his works are virtually impossible to detect.

While the techniques and the mediums vary, they all have some things in common. All fakes lack provenance, consequently antiquities dealers often resort to fanciful stories and half-truths to create legitimacy. There are biographies of several of the forgers, who describe their craft and how they fool connoisseurs and specialists. Many forgers take great pride in their work, and vanity is sometimes the cause of their downfall.

Authors Nancy L. Kelker, a pre-Colombian art historian, and Karen Bruhns, a Mesoamerican archaeologist, have produced a scholarly, yet entertaining study of one of antiquarianism’s seamiest sides. It’s a must read for museum professionals, collectors, and art historians.

The River and the Railroad: An Archaeological History of Reno
By Mary Ringhoff and Edward J. Stoner
(University of Nevada Press, 2011; 189 pgs., illus. $35 cloth; www.unpress.nevada.edu)

Reno, Nevada began in 1868 as a railroad town between the Truckee River and the transcontinental railroad. The expanding main line of the old Central Pacific has bisected the city ever since, posing more and more problems for traffic, public safety, and aesthetics in the growing city. After years of public debate, Reno decided to relocate the tracks into a large, partially covered 54-foot-wide, 30-foot-deep trench for two miles through the center of town. As a publicly funded project, archaeological investigations were required as the trench was dug, a project that lasted from 2001 to 2005. This is the story of that massive dig, carried out by the contract firm of Western Cultural Resources Management, Inc. It was perhaps the largest archaeological excavation project ever undertaken in a Western city.

The archaeologists found 5,000 years of continuous habitation in 83 sites. Early pre-historic sites tell of the people who subsisted here. When the railroad came, so, too, came the town of Reno; the excavations document the growth of the city and the development of its infrastructure and its residents, including the Chinese who built the railroad, African-Americans, and Europeans of many nationalities.

Big contract digs produce big, tedious reports. In this case two of the investigators, Mary Ringhoff and Edward Stoner, have also produced an energetic, informative story of the excavations and their findings. The River and the Railroad is a fascinating case study of an important episode in American history.
Pueblo Peoples on the Pajarito Plateau
By David E. Stuart

(University of New Mexico Press, 2011; 160 pgs., illus., $20 paper; www.unmpress.com)

The Pajarito Plateau of northern New Mexico is home to Bandelier National Monument and its ancient cliff dwellings as well as Los Alamos National Laboratory, the birthplace of the atom bomb. Located on the slopes of a huge dormant volcano, the plateau is known for its cool, forested highlands and its steep, well-watered canyons. One hundred miles to the west in a harsh, dry, treeless basin is Chaco Canyon, the Puebloan people’s greatest cultural center.

In this lively overview, University of New Mexico archaeologist David Stuart argues that as the Chacoan culture was collapsing at the beginning of the a.d. 1100s, many of its people, family by family, immigrated to the thinly populated Pajarito Plateau, driven by drought and social strife. As the collapse worsened, more and more people came to the highlands in search of water and security, and this migration continued through the collapse of the Mesa Verde culture in the last decades of the 1200s.

The immigrant farmers had to adapt to the cooler nights and shorter growing seasons of the mountains, where growing corn posed new challenges. They abandoned the great pueblos of Chaco for more traditional small settlements. Santa Fe Black-on-white pottery replaced the Chacoan varieties. Stuart traces the adaptations of the immigrants to the new environment—“diversification of their food economy, and highly mixed farming techniques adapted to a wide variety of existing soil, temperature, and elevational microniches.” Small-scale innovations like irrigation ditches and rock-mulch garden beds improved efficiency. Practicality and sustainability replaced the grandeur and stratification of Chaco culture.

From 1300 to 1550, this new upland culture flourished on the Pajarito Plateau, building the pueblos and cliff dwellings most Bandelier visitors cherish. The people gradually moved to the well-watered environment of the Rio Grande Valley, forming many of the pueblos that we know today. Mesa top fields were abandoned for the more reliable riverine environment.

Stuart concludes that the innovations of the Pajarito Plateau produced the densest populations of any Southwestern district in prehistoric times. It was the crucible for recasting Puebloan society into a model of long-term sustainability, as Chacoan complexity was transformed into the practical, egalitarian societies of the modern Rio Grande pueblos. —Mark Michel

The Eastern Archaic, Historicized
By Kenneth E. Sassaman

(AltaMira Press, 2010; 296 pages, illus., $70 cloth/ebook; www.altamirapress.com)

Kenneth Sassaman of the University of Florida has produced a much needed synthesis and reevaluation of the Archaic Period east of the Mississippi River. As Sassaman points out, the Archaic Period (ca. 8000–1000 a.c.) is chronologically the longest period, but it is the least researched and written about. Most research of the Archaic has focused on individual areas. This, along with the belief that climate change was one of the main causes of culture change, seems to suggest that Archaic cultures developed in local environmental vacuums. However, Sassaman points out that when climate or environmental conditions became difficult for people in one area, those conditions often improved for another population elsewhere. Sassaman focuses on “the ongoing process of making culture through social interactions” between people from different and distant regions.

Sassaman suggests the Eastern Archaic was defined by a continuing process of human interactions and cultural change. This view, along with recent research in the Eastern Archaic, has undermined the idea of “primitive hunter-gatherers” who merely react to their changing climates and environments.

Based on his own research in Georgia, South Carolina’s Middle Savannah River Valley, the St. John’s River Valley in northeast Florida, and new data from Archaic mound sites in Louisiana, such as Poverty Point and Watson Brake, Sassaman notes that artifacts often ended up far from their original site of manufacture. These objects were intended to “link people to faraway places and distant times” and they transcended the boundaries of environment and language.

In The Eastern Archaic, Historicized, Sassaman reminds us that Archaic peoples had many histories and experiences from which they drew, and the diversity of Archaic cultures was a result of interactions with other people. Environment can play a role, but it is people who influence and change each other. —Jessica Crawford
Ohio Mound Builders

**WHEN:** September 14–18, 2011
**WHERE:** Ohio
**HOW MUCH:** $1,095 ($215 single supplement)

Massive mounds and earthworks, some nearly 70-feet tall and others covering hundreds of acres, are the legacy of the Hopewell and Adena cultures that dominated the Eastern United States from 800 B.C. to A.D. 400. Archaeologists have found exotic mica objects, copper ornaments, burials, and the remains of wooden structures at many of the mound sites. The significance of the mounds, which often were built in animal and geometric forms, is still a subject of great study.

Our tour begins in Columbus, with a visit to the Newark Earthworks, a magnificent Hopewell Mound complex that once covered more than seven miles. Then we’ll tour the Hopewell collections at the Ohio Historical Center. From there it’s on to Chillicothe and the Hopewell Culture National Historic Park, now a center of Hopewell research. We’ll also visit Serpent Mound, a massive effigy mound that stretches more than 1,400 feet. Throughout the tour, expert archaeologists give their insights into the world of mound builders.

Chaco Canyon in Depth

**WHEN:** September 17–25, 2011
**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.

This tour offers the 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 1140.

To complete the experience, we’ll spend two memorable nights camping in Chaco Canyon, and we’ll also tour the modern day Pueblo of Acoma. Some of the leading Chaco experts will join us.
Cliff Palace is one of Mesa Verde National Park’s most spectacular attractions.

Cliff Dwellers

WHEN: September 26–October 6, 2011
WHERE: Arizona, Colorado
HOW MUCH: $2,495 ($480 single supplement)

These dwellings, with their walls, windows, towers, and kivas tucked neatly into sandstone cliffs, rank among the most amazing archaeological sites anywhere. More than 700 years ago, the Anasazi and Sinagua cultures of the Four Corners region called these cliff dwellings home. Warm and dry during the winter, the secluded pueblos may also have protected villagers from attacking enemies.

Departing 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 the 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 Yellow Jacket Pueblo and Atkeson Pueblo at Oak Creek.
The Archaeological Conservancy would like to thank the following individuals, foundations, and corporations for their generous support during the period of February through April 2011. Their generosity, along with the generosity of the Conservancy’s other members, makes our work possible.

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Benefits of Anasazi Circle membership include discounts on tours, recognition in American Archaeology, an award-winning magazine, and an invitation to an exclusive seminar weekend. This year’s Anasazi Circle Weekend offers an opportunity to discover more about the Iroquois by visiting some of the most significant sites in the western New York region. By sending in your donation of $2,000 or more today, you can ensure your invitation to the Conservancy’s 2011 Anasazi Circle.
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