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COVER: This tower is one of a number of structures that form Hovenweep Castle in Hovenweep National Monument. Photograph by David Grant Noble
Stopping the Looters

In June, federal agents of the Bureau of Land Management and the FBI arrested 25 people charged with looting ancient Southwestern ruins and trafficking in the stolen artifacts. (See “Authorities Charge 25 With Looting Artifacts,” p. 7.) It was the biggest such raid in the nation’s history and long overdue. For too many years federal law enforcement has turned a blind eye to the rape of the nation’s cultural heritage, taking action only when a lowly looter was caught in the act.

These arrests are different. The feds used an undercover agent who purchased 256 looted artifacts for $336,000 from the defendants. The bad guys added details of how they got their loot, and the whole enterprise was captured on tape. The evidence is so overwhelming that two defendants pled guilty to 10 felonies less than a month after the raids. That’s the only way to put a stop to rampant looting in the Southwest and throughout the country.

The feds need to continue to get serious about enforcing the nation’s antiquities laws by using tough tactics to break up the national and international rings of looters, dealers, and collectors that are destroying our national heritage. We should all thank the law enforcement people involved in this case and urge them to keep at it.

Mark Michel, President

MARK MICHEL
Mark Michel, President

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June 13–19
Scholars: Joe and Cindy Tanner

Hopi Silver Workshop with Michael Kabotie:
The Artist’s Journey
July 25–31
Scholar: Michael Kabotie

Zuni Communities Through Time:
The Archaeology and Culture of the Zuni People
August 8–14
Scholars: Dr. Andrew Duff, Dan Simplicio, and native artists and spokespersons

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Money Can Influence CRM

I was thrilled to read “Changing Times,” Mike’s Toner’s excellent article about cultural resource management (CRM), in the summer issue. However, I believe Toner missed a crucial detail about the role of big money in modern archaeological investigation: when archaeological work stands in the way of profit, money always wins.

As a result, some unscrupulous CRM firms are willing to let important archaeological sites be destroyed for the sake of a company’s bottom line. I saw this tragic tale play out many times in the field working in CRM in the Midwest. In one example, I was employed to double-check the work of a CRM firm hired to survey the site of a future regional airport in Arkansas. The CRM firm found “no significant sites” within a nearly 10-square mile survey area. Our research located six sites in one day in that same area, including prehistoric sites and even a still-standing 1800s homestead eligible for the National Register. In short, the first CRM firm clearly decided that money from their contract was more important than preserving our past.

Sadly, that's just one example of how big money leads to terrible consequences for archaeological conservation, a fact that exposes the weakness of CRM as a method of archaeological research. Granted, plenty of great science and discoveries come through well-done cultural resource management. Unfortunately, some CRM firms will always place profit over principle.

Jason B. Harmon
Lake Forest Park, Washington

When He’s Not Preoccupied

When he’s not preoccupied with his other job—which is running the University of Tennessee—archaeologist Jan Simek might be found exploring a cave. But unlike many other spelunkers, his primary interest is learning how ancient peoples used these caves hundreds and even thousands, of years ago. (See “Ancient Cavers,” p. 12.)

Toward that end, Simek founded the Cave Archaeology Research Team (CART) to examine the myriad caves along the western escarpment of the Cumberland Plateau, which extends for some 600 miles across Tennessee, Georgia, Alabama, and eastern Kentucky. There’s enough to do here that Simek could spend as much time below ground as above it. CART has explored more than 1,000 caves in Tennessee alone, and that’s just a fraction of his home state’s caves. Simek and his colleagues have documented 250 caves in the Cumberland Plateau that were used by prehistoric peoples. Archaeologists have found evidence that caves in this region were used as long as 6,000 years ago, but the primary usage occurred during the Mississippian period, from roughly a.d. 800 to 1600. Of those 250 caves with evidence of prehistoric occupation, nearly 70 contained works of art such as pictographs and mud glyphs. The Mississippian are renowned for their mounds, many of which have been well researched. Their caves have received far less attention. But based on his work, Simek hypothesizes that caves also served an important purpose in the Mississippian’s lives and cosmology, which consisted of the heavens, the earth, and the underworld.

Mette Engelstoft Djokovich
Orange, California
the survival of our irreplaceable archaeological preserves to ensure we are building a national system of a 19th-century frontier army post. We are developing a national system of habitation sites in North America to ranging in age from the earliest than 380 sites across the nation, www.americanarchaeology.org or visit our Web site: How to Say Hello: America as exciting as it is essential. we can make learning about ancient discoveries, research, and activities in an their awareness of the destruction of endangered ruins, we make sure they will be here for future generations to study and enjoy. How We Raise Funds: 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. 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: The Archaeological Conservancy, 5301 Central Avenue NE, Suite 902, Albuquerque, NM 87108-1517; by phone: (505) 266-1540; by e-mail: tacmag@nm.net; or visit our Web site: www.americanarchaeology.org
NEW EXHIBITS

Orlando Museum of Art
Orlando, Fla.—Featuring more than 180 works done prior to the arrival of Christopher Columbus and the Europeans during the late 15th and early 16th centuries, the exhibit “Aztec to Zapotec: Selections from the Ancient Americas Collections” gives a rare glimpse into the life and culture of numerous civilizations from the North, Central, and South American regions including the Aztec, Maya, Zapotec, Moche, Nasca, and Inca. Stunning ancient works of gold, silver, jade, ceramic, shell and wood date from 1400 B.C. to A.D. 1530 and include gold and silver royal vessels and jewelry of turquoise, mother-of-pearl, and shell. (407) 896-4231, www.omart.org (Through December 31)

New Mexico History Museum
Santa Fe, N.M.—New Mexico’s newest museum opened its doors this summer, offering numerous interactive, multimedia displays, hands-on exhibits, and vivid stories of New Mexicans. The museum, a 96,000-square-foot extension of the 400-year-old Palace of the Governors, the oldest continuously occupied government building in the U.S., is located on the historic Santa Fe Plaza. The museum focuses on six time periods key to the development of New Mexico and the American Southwest and explores how the West’s various cultures clashed and blended over 400 years of written history. (505) 476-5200, www.nmhistorymuseum.org (New museum)

Bell County Museum
Belton, Tex.—The new, permanent exhibit “The Gault Site: A Wealth of New Archaeological Information,” explores one of the nation’s oldest and most unusual archaeological sites. Located in Bell County, Texas, the Gault site dates from the Clovis period (ca. 13,300–12,900 years ago). Excavations have uncovered almost two million artifacts and provided a unique look at the lifestyles of some of the earliest Americans. The interactive exhibit, curated by principal investigator Michael Collins, includes large murals, discovery drawers, and the new film “The Gault Project: An Adventure in Time.” Collins recently donated the Gault site to The Archaeological Conservancy for permanent preservation. (254) 933-5243, www.bellcountymuseum.org (New permanent exhibit)

Fernbank Museum of Natural History
Atlanta, Ga.—The stunning traveling exhibit “Gold,” organized by the American Museum of Natural History, examines the science and cultural influence of the world’s most sought-after mineral. Over thousands of years, the pursuit of gold launched explorers, built empires, and inspired artists. Gold itself became a symbol of wealth, beauty, purity, spirituality, and the afterlife. Gold specimens and artifacts reveal its properties, origins, and role as a driver of human settlement and a symbol of status. (404) 929-6300, www.fernbankmuseum.org/exhibitions (Opens September 26)

Princeton University Art Museum
Princeton, N.J.—The new exhibit “Gifts from the Ancestors: Ancient Ivories of Bering Strait” brings together masterfully carved ivory objects by peoples from the coasts of Chukotka, Siberia, western Alaska, and the islands in between. Nearly 200 objects will be included from more than 20 institutions and private collections, including rare examples from recent Russian excavations at Ekven, Chukotka, exhibited for the first time in North America. Finely crafted hunting implements, tools, ornaments, and human and animal figures mark the extraordinary florescence in art and culture during the first millennium A.D. in this northern “crossroads of continents.” (609) 258-3788, http://artmuseum.princeton.edu (October 3–January 10, 2010)
“Beneath the City Different: The Archaeology of Santa Fe” Public Symposium

November 7, New Mexico History Museum, Santa Fe, N.M. Recent, major construction projects in downtown Santa Fe have uncovered evidence of the wide extent and complexity of pre-Columbian and early historic life in the city. The School for Advanced Research and the Friends of Archaeology (part of the Museum of New Mexico Foundation) will sponsor a series of talks on different periods of Santa Fe’s history given by seven archaeologists who have spent many years studying the city’s archaeology. (505) 954-7200, http://sarweb.org

CONFERENCES, LECTURES & FESTIVALS

16th Biennial Jornada Mogollon Conference
October 2–3, El Paso Museum of Archaeology, El Paso, Tex. The conference provides a forum for the presentation of recent archaeological research in the Jornada Mogollon culture region encompassing far western Texas, south-central New Mexico, and northern Chihuahua, Mexico. Contact Marilyn Guida at (915) 755-4332, GuidaMR@elpasotexas.gov, or www.elpasotexas.gov/arch_museum.

Moundville Native American Festival
October 7–10, The University of Alabama’s Moundville Archaeological Park, Moundville, Ala. One of Alabama’s top tourism events, the annual festival features Native American performing artists, craftspeople, and musicians. Described as the Big Apple of the 14th century and a National Historic Landmark, Moundville Archaeological Park contains 320 acres of more than 20 preserved Indian mounds, campgrounds, picnic areas, a boardwalk nature trail, a theater, a lodge, and a museum with some of the finest Mississippian-era artifacts ever found in North America. (205) 371-2234, http://moundville.ua.edu/programs.html or contact Claudia Cummings at ccummings@ua.edu

Utah Rock Art Research 29th Annual Symposium
October 9–12, Cedar City, Utah. The symposium features presentations on rock art research and preservation and field trips to local rock art sites. Contact Robert Reed at (801) 566-0741, bobbreedcl3@ hotmail.com, or www.utahrockart.org

67th Annual Plains Anthropological Conference
October 14–17, Embassy Suites, Norman, Okla. This year’s conference features the latest Plains research. A Thursday evening reception will be held at the Sam Noble Oklahoma Museum of Natural History, and a Friday evening banquet features speaker Harvey Pratt. Field trips to some of the most important Southern Plains Paleo-Indian sites will be offered. Contact Kent Buehler at (405) 325-7210, kbuehler@ou.edu, or go to www.ou.edu/cas/archsur/plainconf/index.htm

2009 Midwest Archaeological Conference
October 15–18, Sheraton Hotel, Iowa City, Iowa. This year’s conference includes paper presentations, sympo- sia, poster sessions, and archaeologi- cal site tours. There will also be an awards ceremony and banquet dinner. Contact John Doershuk at (319) 384-0751, johndoershuk@uiowa.edu or www.midwestarchaeology.org

66th Annual Meeting of the Southeastern Archaeological Conference
November 4–7, Renaissance Riverview Hotel, Mobile, Ala. Presenta- tions, poster sessions, and half-day symposia will be held on recent archaeological research in the area. Contact Philip Carr at (251) 460-690, pcarr.seac@gmail.com, or www.southeasternarchaeology.org

Peabody Museum of Archaeology and Ethnology

Harvard University, Cambridge, Mass.—The exhibit “Digging Veritas: The Archaeology and History of the Indian College and Student Life at Colonial Harvard” shows how today’s Harvard students make sense of archaeological finds and historic documents. Student archaeologists unearthed evidence of Colonial Harvard as a landscape shaped by social and religious tensions that affected everything from Native American and English settler relationships to the everyday routines of student life. This fall, Harvard student archaeologists will continue excavating Harvard Yard, searching for 17th-century structures and artifacts. (617) 496-1027, www.peabody.harvard.edu/exhibits (Through January, 2010)
Authorities Charge 25 With Looting Artifacts

In the nation’s largest crackdown on illegal artifact trafficking and archaeological site looting, 25 residents of southern Utah, Colorado, and New Mexico were charged with multiple counts of violating the Archaeological Resources Protection Act and the Native American Graves Protection and Repatriation Act as well as theft of government property, depredation of government property, and theft of Indian tribal property. Seventeen of those charged in the case were from Blanding, Utah, many of them prominent residents and repeat offenders. Two of the defendants committed suicide shortly after the arrests and two have already entered guilty pleas. The defendants could face prison terms on the most serious counts, including trafficking in illegally obtained property from tribal or federal lands.

U.S. Attorney for Utah Brett Tolman said that during the operation a former artifact dealer known as “the Source,” who had agreed to serve as an undercover informant for the FBI in 2006, bought and sold about 256 artifacts from the defendants, including sacred prayer sticks, baby blankets, sandals, ceramic bowls and jars, and other ancient burial objects with a value totaling nearly $336,000. The informant, who was critical to the success of the sting operation, has since been threatened with retaliation. Forty-four-year-old Charles Denton Armstrong of southern Utah was arrested in July and charged with threatening to beat the

Department of the Interior Assistant Secretary-Indian Affairs Larry Echo Hawk speaks during a press conference about the investigation. Left to right are Utah FBI Field Office Special Agent in Charge Timothy Fuhrman, U.S. Attorney in Utah Brett Tolman, Interior Secretary Ken Salazar, and Deputy Attorney General David W. Ogden.
informant, for which he could face up to 20 years in federal prison.

On June 10th, officers from the Bureau of Land Management, FBI, and U.S. Marshals, joined by local and state law enforcement, descended on the defendants’ homes and prepared to break down doors to carry out their search warrants. According to witnesses, the agents wore body armor, waved weapons, screamed instructions, and shackled the accused at the wrists, ankles, and waist. The accused ranged from convicted drug users to the county sheriff’s brother to some of the town’s most prominent citizens, including 60-year-old Blanding physician James Redd, his wife Jeanne, and 78-year-old Harold Lyman, grandson of the town’s founder and recently inducted into the Utah Tourism Hall of Fame.

The following day, Redd took his life. A week after the raids another defendant in the case, Steven Schrader of Santa Fe, New Mexico, shot himself behind an elementary school in DeKalb County, Illinois where he had gone to visit his ailing mother. Schrader, 56, faced two felonies for trafficking a pair of illegally-obtained ancient sandals and a basket, and was implicated in an “arrowhead hunt” in Disappointment Valley near Dove Creek, Colorado. Schrader, who was to appear in federal court in Salt Lake City the following day, was indicted along with Carl and Marie Crites of Durango, Colorado, both of whom had previously been charged with looting on public and tribal lands.

In New Mexico, investigators searched four Santa Fe homes in connection with the case, including that of art dealer Forrest Fenn. The undercover agent who previously visited Fenn’s home said he saw potentially illegal items, including eagle feathers and artifacts potentially obtained from federal lands. Conversations between Fenn and William Clinton “Billy” Schenck, a Santa Fe artist, photographer and collector, were monitored by federal agents via a transmitter worn by the informant. According to the affidavit, during a visit to Fenn’s house by Schenck and the informant, Fenn displayed prehistoric sandals and a basket, explaining that he scouted sites from the air, then on weekends would go out in a jeep to look for artifacts. According to the affidavit, Fenn took the informant into a vault containing what he described as cave material, including human hair and pieces of chain mail that Fenn said were found at the “Pecos church,” the Spanish colonial church within Pecos National Historical Park in New Mexico. Among the items seized from Fenn’s home were a buffalo skull, a feathered talisman, a basket, computers, and documents. As of press time, no charges had been filed against the Santa Fe dealers.

Many residents of the Blanding area, which is dense with archaeological sites and surface artifacts, grew up collecting artifacts as a hobby. Resident Earl Shumway, a convicted grave robber related to the three Shumways charged in the looting raid, was quoted as saying: “Around here, it’s not a crime, but a way of life.” Bureau of Indian Affairs archaeologist Garry Cantley says: “For many of them [looters] it’s a generational thing. They did it with their fathers and grandfathers, and they think it’s a God-given right.”

In 1996, the Redds were prosecuted for raiding a burial site on state land while “pot hunting” with their children in Cottonwood Wash near Bluff, Utah. In that case they settled a $250,000 lawsuit filed by the Utah School and Institutional Tribal Lands Administration for $10,000. Jeanne pled no contest to a reduced charge, and charges against James were eventually dropped.

Evidence seized from the Redds’ home during the June 10th raid has since led to the arrest of their daughter Jerica, 37, who pled guilty to three felonies for digging up ancient artifacts on the Navajo Reservation in 2008. Jeanne pled guilty to seven felony counts of artifact theft and trafficking, each of which carries potential fines of $250,000 and up to 10 years in prison. In exchange for the Redds’ guilty pleas, prosecutors agreed to seek “the lower end” of jail time, and the Redds agreed to give up all of their artifacts, which were boxed up and hauled away in two moving vans to the Bureau of Land Management offices in Salt Lake City. A federal judge will determine the sentences on September 16.

Numerous artifacts involved in the case were taken from Navajo lands. “This looting and pot hunting is disrespectful and completely racist,” said Navajo archaeologist Kerry Thompson.
of Northern Arizona University. Neomi Tsosie, another Navajo archaeologist, agreed: “For us, it’s not just stealing artifacts for a scientific purpose, but robbing our people of our heritage and doing it in a most disrespectful way possible... Just because they’ve been doing it for decades doesn’t necessarily make it right.”

But Blanding residents were outraged by the crackdown and tactics they described as heavy-handed, and Blanding Mayor Toni Turk said government time and money would be better spent dealing with drug trafficking and illegal aliens. San Juan County Commissioner Bruce Adams also criticized the federal government’s arrest of “regular neighbors” who were allegedly “roughed up” and verbally abused by agents with drawn weapons. These people would have surrendered peacefully,” he said. Critics of the raid prompted Utah’s U.S. Senators Orrin Hatch and Bob Bennett to question the government’s tactics as well, sending a letter to U.S. Attorney General Eric Holder alleging “extreme show of force” and requesting an investigation into the arrests and the way the operation was carried out.

Holder defended the arrests and the tactics used, saying that they appeared to conform to standard procedures and that federal agents can face danger even in non-violent cases. Timothy Fuhrman, the FBI’s top agent in Utah, said the simultaneous arrests were a complex operation aimed at ensuring no one was tipped off and no one tried to flee or destroy evidence, and that agents had to be prepared for any kind of response. Many of the defendants were repeat offenders, and most were known to own firearms. “This case involves significant collections of Indian artifacts taken from public and tribal lands by excavators, sellers, and collectors, including priceless artifacts sacred to Native Americans, not ‘trash and trinkets’ as some have suggested,” Tolman said in a statement.

Interior Secretary Ken Salazar also defended the investigation and raids, saying: “It pains me to think the ancestors of our first Americans, who have been buried in these public lands in some cases for more than 10,000 years, are having their graves destroyed and robbed in order to provide a trade with respect to the sale of these items. There is a priceless value to these items in terms of the legacy and the culture of Native Americans, but also the United States of America... The time for the United States government’s simply looking the other way and allowing this conduct to occur is over. This is a new chapter in terms of what we will do to protect these very important national assets and cultural resources that are priceless in nature.”

The Department of Justice is conducting a training initiative with the Interior Department for federal prosecutors and law enforcement personnel on looting, vandalism, and illegal trafficking of cultural heritage.

—Tamara Stewart

More than 250 artifacts, some of which were similar to these, were stolen. Their value is estimated at more than $330,000.
A team of experts has determined that a carving of a mammoth or mastodon on an Ice Age animal bone fragment is authentic, making it the oldest known art in the New World. The carved bone fragment, which is thought to have come from an extinct Ice Age animal such as a mammoth, mastodon, or giant sloth, is believed to be at least 13,000 years old.

James Kennedy, a fossil collector, found the 15 inch-long fragment just north of Vero Beach, Florida two years ago. Recently, as he was cleaning the bone, Kennedy noticed an engraving that appears to depict a mammoth or mastodon.

Barbara Purdy, professor emeritus of anthropology at the University of Florida, who led the team of experts, said the tests have shown it’s authentic. The team includes a vertebrate paleontologist, a forensic anthropologist, a material science engineer, a specialist in American Indian art, an archaeologist, and an appraiser.

Kevin Jones, chairman of material science and engineering at the University of Florida, and a member of the team, analyzed a sample of the bone and concluded its chemical elements indicated that it was of great antiquity. “Whatever has aged the outside has aged the inside [of the incision],” said Jones.

Another member of the team, Michael Warren, a forensic anthropologist and director of C.A. Pound Human Identification Laboratory, concluded the incision was as old as the bone after analyzing the weathering processes of both.

The site where the bone fragment was found had previously been excavated between 1913 and 1916, at which time human remains were found with those of extinct Ice Age animals, said Purdy. The bone is missing both ends, but it is undeniably from an extinct large animal. “The incising was done on ‘green bone’ (fresh bone), and before the animal was extinct, which happened at least 13,000 years ago,” Purdy said. She said that experts in Upper-Paleolithic art in Europe should take a look at the bone for further confirmation.

“If it turns out to be authentic, it would be the first depiction of an Ice Age animal on bone in North America,” said Mike Waters, director of the Center for the Study of the First Americans at Texas A&M University. He added that it was not only necessary to authenticate the specimen, but also to conduct further research at the site. The site is on private land, and the owner “doesn’t want his property to be swamped with five million people with shovels and whatnot,” Kennedy said.

Though he would like the Florida Museum of Natural History to acquire the bone, Kennedy refused an offer of $80,000 from a private foundation in Florida that wanted to buy the bone in order to donate it to the museum. He has contacted the auction houses Sotheby’s and Christie’s hoping to get more money for the item. —Iris Picat
Ceremonial Femurs

Southern Mexico excavation suggests Zapotecs prized ancestors’ thighbones.

Researchers work at the Mitla Fortress, where the remains of an adult male with a missing right femur were found.

Early carved tomb facades spurred the theory that the Zapotec rulers, contemporaries of the Maya and Aztecs, flaunted their ancestors’ femurs. The recent excavation of an adobe cist at the Mitla Fortress, in the Valley of Oaxaca in Southern Mexico, provides evidence for this practice, and suggests it may have extended beyond the ruling class.

Gary Feinman, curator of Mesoamerican anthropology and archaeology at the Field Museum in Chicago, found the remains of an adult male in an adobe cist beneath a house that his team excavated. The remains were intact except for a missing right femur. He hypothesizes that a family member took the femur, and this family was not part of the ruling class. “The people who lived in the house were in a central and favorable location,” yet “clearly the kind of house we excavated belonged to a commoner,” said Feinman.

He said the evidence, including jumbled adobe bricks that covered the cist, show that it had been opened and re-sealed, probably around A.D. 500 to 600, which was likely when the femur had been removed. “I think that the femur was taken by a descendant of the individual and carried by that descendant as a kind of symbol of legitimization,” said Feinman.

Feinman believes that the pre-Hispanic Zapotec rulers, and perhaps also the heads of extended families, carried femurs with them at certain times, perhaps during important rituals. There are carvings of Zapotec rulers clutching femurs at the Lambityeco site, which is also in the Valley of Oaxaca. An excavation of a Zapotec tomb at Lambityeco revealed that nine out of 12 femurs were missing from the remains. Feinman said the tombs often contained several people who were placed there at different times, and consequently the bones of the individuals who were interred first are often disturbed. He added that other tombs have been excavated, but no inventory of the bones were taken, making it hard to determine if any were missing bones.

The Mitla Fortress site is near the modern town of Mitla, which is known as the Place of the Dead, possibly because important Zapotecs in the Postclassic Period (A.D. 900-1500) were buried there, according to Feinman.

“This was the first year so there is still a lot of work to do to understand the history of the site as a whole. The picture is still very preliminary,” said Feinman. —Iris Picat
There are myriad caves in the southeastern United States’ Cumberland Plateau. Archaeologists are finding that some of these caves were used by the Mississippian and other peoples for centuries.

By Mike Toner
Although it lies only a few miles beyond the urban sprawl of Chattanooga, Tennessee, 60th Unnamed Cave is not an easy place to get to. For starters, a locked steel grate bars the only entrance—a manhole sized opening that drops straight down into the earth. From the surface, visitors must wedge their way down a shoulder-wide natural chimney, slither on their elbows through a muddy two-foot high crawlspace, and then slip-slide down a 45-degree slope into the dank, dark-zone domain of cave crickets, salamanders, and brown bats.

Once inside, however, the cramped entryway opens into a series of vaulted chambers and passageways that stretch for three miles beneath the Tennessee countryside. Judging from the dates, names, and racial epithets on the walls, people have been squeezing through the entrance to explore, party, and vandalize this cave for over a century. Within the last year, however, archaeologists discovered that people have been leaving their marks on these smooth limestone walls for a lot longer than that.

It is the antiquity of those marks—700-year old charcoal pictographs showing shaman figures, symbols of religious power—that brings Jan Simek, archaeologist and president of the University of Tennessee, and members of the university’s Cave Archaeology Research Team (CART) into this subterranean labyrinth on a rainy Easter weekend.

“Look at this one,” says Simek, after negotiating a jumble of slippery rock slabs that have fallen from the cave ceiling over the centuries. He casts the beam of his headlamp toward a spot on the wall just above eye level. “This sunburst with what looks like a cross or a bird in the middle is a classic Mississippian symbol. And over here on the left, the images are fainter, but you can still make out a face with two eyes and a bear paw, perhaps a hand print, all done in charcoal. From radiocarbon dates on charcoal we’ve found here, we know this cave was used around A.D. 1300. It’s just amazing that these images have lasted for so long.”

Alan Cressler, a veteran caver and long-time member of Simek’s research team, discovered the pictographs in 2008. “I had been in the cave a number of years ago, but didn’t notice anything but the graffiti,” he recalls.
“I wasn’t expecting to find anything, but then I noticed this circle with what looked like a cross in it. On closer inspection, it was a sun with a figure of a bird. That’s when I really got excited because I knew it was the real deal.”

The dates and the iconographic styling of the pictographs in 60th Unnamed Cave—named with a code Simek uses to conceal its real identity—place them squarely in the cultural pale of the Mississippian era, which occurred from A.D. 1000 to 1650.

A few decades ago, archaeologists could not have imagined such an association. Mississippian culture, which dominated much of the Midwest and Southeast between 800 and 1600, was known for flat-topped temple mounds, large towns, and agriculture—not for painted caves deep in the earth. Mississippian and earlier cultures were known to have used open air caves and rock shelters, but it wasn’t until the 1970s that archaeologists began to realize that dark-zone caves—those where no light from the outside ever penetrates—were an integral part of the region’s archaeological record, too.

Pioneering research begun by archaeologist Patty Jo Watson in the 1960s in Mammoth and Salts Cave in Kentucky provided unequivocal evidence that prehistoric people, lighting their way with slow-burning bundles of river cane, explored and mined some caves for thousands of years. They also buried their dead there. In several caves, these ancient cavers left charred torches, footwear, and stone tools miles from the nearest entrance. Charcoal stoke marks—the spots where they stubbed cane torches to make them burn brighter—reveal their underground travels.

They left other types of evidence as well. “The fecal remains we find in these caves provide excellent evidence for prehistoric diet,” says Watson. “We have some samples that are 5,000 years old. We get ribald remarks about it, but it’s wonderful stuff for research and there is a lot of it to study.” Among the remnants of what the ancient cavers ate are beetle wings, salamander and turkey bones, and fragments of sunflower, maygrass, sumpweed, and other seed-bearing plants.

Cave environments can make for remarkable preservation. Inside Jaguar Cave in north-central Tennessee, she and her colleagues found 274 well preserved footprints that had been left in soft mud more than 4,500 years ago. “There is no doubt these people had the technology to go where they wanted to underground, to stay as long as they wanted, and leave when they wanted,” Watson says.

Her early work clearly documented what she calls “pragmatic” uses of dark cave resources. No one, however, expected such caves to be decorated, so no one looked for pictographs. Watson, now professor emeritus at Washington University in St. Louis, acknowledges that she herself passed a panel of ancient pictographs in Mammoth Cave a number of times without paying attention to them. Thousands of other cave visitors did too.

Then, in 1980, two amateur cavers, undeterred by a tight crawlway and knee-deep water, entered a little-known cave in eastern Tennessee and were

A turtle effigy impressed into damp clay in Mud Glyph Cave in Tennessee. A small fragment of burned river cane extracted from the eye of the turtle was radiocarbon dated to A.D. 1260.
stunned to discover an extensive gallery of animal images, human figures, and geometric designs inscribed on the mud-coated walls. University of Tennessee archaeologist Charles Faulkner was skeptical when the cavers brought him pictures of their discovery, but his skepticism disappeared upon visiting the cave.

“At first I just wasn’t convinced that they were authentic,” Faulkner recalls. “But the complete absence of modern graffiti and the patina of the glyphs on the wall persuaded me that they were clearly of some age.” Dozens of radiocarbon dates of burned torch remains on the cave floor established that the mud glyphs were created around A.D. 1200.

Once archaeologists started scrutinizing the walls of this—now known as Mud Glyph Cave—and other caves, new discoveries followed. In 1995, Simek founded CART to systematically survey dark zone caves in Tennessee and adjoining states. So far, CART has documented 250 caves with “some evidence of prehistoric human use,” including nearly 70 that contain art. But Simek suspects that the team has barely scratched the surface of the underground archaeological record. “In the course of our survey we have visited just over 1,000 caves in Tennessee alone,” he says. But that number represents only a little over 10 percent of the 9,000 caves recorded by the Tennessee Cave Survey, an avocational group that seeks and documents caves in the state. He surmises that ancient peoples may have explored as many as 800 caves in Tennessee.

“You only see what you look for,” says George Crothers, director of the William S. Webb Museum of Anthropology at the University of Kentucky, who has recorded at least five decorated caves in Kentucky. “The more we look, the more of them we are finding.”

It’s not work for the faint hearted. “Caves are dark, close, often wet, and sometimes dangerous,” says Simek. “The greatest real danger is panic, but these are not the kinds of places that archaeologists are used to working in.” Sarah Blankenship, a member of the team who specializes in analysis of the pigments used in cave art, concurs. “We were heading in to one cave around dusk one evening to check the report of a burial,” she recalls. “In one passage, I noticed a lot of bat guano on the ground. Then I heard what sounded like a herd of elephants coming down the passage and suddenly there were bats flying everywhere, all headed out of the cave to feed.”

Most of the region’s cave art dates to the Mississippian period. (A cave near Knoxville contains much older images that date to around 4000 B.C.) Simek stoops to cast the light of his headlamp on a low-lying rock face deep in 60th Unnamed Cave. “This is clearly a pack of dogs, which are quite rare in prehistoric art. You can see their short, erect ears and long tails curving over the back of the animals,” he says. “And over here, around the corner on another face of the rock, is what they’re chasing—a very different kind of quadruped with a body and a long tail that does not resemble any living creature.”

For the most part, these images, according to Simek, “can be deconstructed into individual icons—pictures produced using one of three techniques: painting with mineral
Endangered Caves

Cave researchers are dismayed by the array of threats to the underground archaeological record. For example, looters discovered Picture Cave, with its exquisite charcoal pictographs that date to around A.D. 1025, before archaeologists did. “The images are spectacular, but by the time we learned of the cave’s existence, it had been repeatedly ransacked by looters and artifact hunters,” says archaeologist Carol Diaz-Granados, of Washington University. The cave, located in east central Missouri, is now protected.

Some caves are owned by federal or state governments and are protected by various preservation laws. But the great majority of caves are on private property and beyond the reach of preservation laws. Nonetheless, Jan Simek notes that all of the private owners that he’s dealt with appreciate the importance of the caves and do what they can to protect them. “We’ve built gates in some” to keep looters out, Simek says.

Ironically, the caves sometimes require protection from people with the best of intentions. In 2005, appalled by the accumulation of modern graffiti on 60th Unnamed Cave’s sculpted walls and the litter on its floors, local cavers approached the owner and offered to thoroughly clean the cave, restoring a more natural look to the labyrinth. With the landowner’s enthusiastic support, volunteers spent two weekends scrubbing more than 300 feet of cave passages with solvents and wire brushes, unaware that they were scouring away ancient as well as modern art. Simek is certain that some glyphs were completely obliterated. Others were partially destroyed. Thirty or so survived, despite the best efforts of the cave cleaners.

To avoid any future tragedies, he and Alan Cressler have embarked on an effort to alert cavers of the threat they can pose to the art. “The scientific and historical value of 60th Unnamed Cave has been greatly diminished by this unintended destruction,” he and Cressler wrote in NSS News, the magazine of the National Speleological Society. “Cave art is one of the significant prehistoric treasures of our continent, but because it is fragile, and often difficult to identify, we must take every precaution that it is not destroyed.” —Mike Toner

pigments, engraving them into limestone, or incising them into mud. But in some of the larger and richer art sites, we have long had the sense we were seeing art assemblages that were more than simple images scattered like graffiti through the dark recesses of these caves.”

Some caves reflect what he calls “compositional patterning on a cave-wide scale,” meaning the individual images, taken together, form a composition. In Devilstep Hollow Cave—called 11th Unnamed Cave until it was purchased by the state of Tennessee—the team has mapped 22 charcoal pictographs, engraved petroglyphs, and a small panel of mud glyphs “arrayed through the dark zone in a patterned fashion.” The images include an axe with a human face, a bird effigy with human arms, weeping eyes, and a topknot, and a six-foot long fish-like monster with a forked tail and long sharp teeth. “The imagery becomes ever stranger, perhaps even transcendental, the deeper you go into the cave,” Simek says.

The team was initially puzzled by the presence of renderings of several large disembodied heads, images that in other caves have been closely associated with human burials. The archaeologists found no burials in the cave, but they later discovered a 1905 newspaper article in which a local caver described shelves in the cave “covered with skeletons in vast proportions.” Despite the bizarre array of otherworldly images, however, the gallery is anchored at either end with realistically rendered woodpeckers. The crested bird, recognizable as either a pileated or ivory billed woodpecker, is a recurring motif on Mississippian shell gorgets and pottery throughout the Southeast.

A similar pattern appears in 18th Unnamed Cave in northern Alabama, which contains more than 122 petroglyphs that Simek describes as “some of the most detailed and finely executed images anywhere in the Southeast.” Mixed in with enigmatic circles, boxes, and chevrons, suns and stars, there are also a few dozen animals, a fish...
A modern caver negotiates canyon passages in lower levels of Mammoth Cave that were traversed by Early Woodland people 2,000 to 3,000 years ago.
turning into a turkey, a turkey with serpent-like characteristics, and more otherworldly beings. And yet the array begins and ends with images of ordinary turkeys.

Birds, in fact, are the most common animals depicted in the caves. Simek says birds represent the Mississippian ceremonial emphasis on “transformational” creatures, because they are at home in the air and on land. Turtles, who live in the water as well as on land, are also transformational. There are mythical animals too—snakes with legs and human figures with the wings and beaked noses—some of them reminiscent of the ritual Mississippian birdman icon. All of the images have religious connotations, and collectively they form compositions whose theme, Simek believes, is the passage to the underworld.

Though Watson and others have accumulated ample evidence that prehistoric people exploited the caves’ resources—mining chert for stone tools, minerals for medicinal and ceremonial purposes, and gypsum for coloring, while also using them as repositories for their dead—most of the painted caves show little evidence of such things. “Art caves appear to have been used primarily for ceremonial purposes, perhaps for complex ritual pilgrimages,” says Simek. Ceremonial use implies that the decorated cave walls are more than the idle scratching of prehistoric graffiti artists, and consequently Simek thinks these caves represent a valuable new resource for archaeology.

Many anthropologists believe that Mississippian culture, like most early populations, embraced the notion of a layered universe consisting of the world above, this world, and the world below, where humans went to be reborn. “Some argue that Mississippian religion was primarily concerned with the celestial realm, the cosmos, and the firmament,” says Simek. “But that view is based only on the analysis of iconography from exterior contexts and their elite burials. Our data indicate that their cosmological landscape was more complex and multidimensional. We think the underground world was an integral part of Mississippian ritual and ceremony. The caves represent a ceremonial regime that may be as complicated as those observed for above-ground Mississippian contexts.”

As the number of known cave sites grows, Simek believes he sees a pattern that reflects Mississippian culture as much as the great earthen mounds they built above ground. Nearly all of the art caves he has found—both the dark-zone caves as well as rock shelters—occur along the western escarpment of the Cumberland Plateau, the broad, densely forested highland that stretches across 600 miles of eastern Kentucky, Tennessee, Georgia, and Alabama. Because the plateau is dissected by numerous valleys and ravines, the mouths of the caves face in all directions. But Simek says virtually all of the known art caves have south-facing mouths. Most of the rockshelters are at higher elevations and their glyphs are painted with red pigments, usually a slurry of iron oxides and water. Nearly all of the dark cave entrances are some 400 feet lower than the rockshelters’ and the majority of their art is rendered in black pigment, made from a charcoal and water slurry.

“We’re still in the conjecture stage on this,” Simek says. “But there are caves all over the Cumberland Plateau, and these people were making choices about which ones they chose for their art. It was not a natural landscape to them. It was a religious one and they were imposing their cosmology on the landscape—open-air caves above, dark caves below. They used red, the color of life, to decorate the open caves, and black, the color of death, below.” He notes that most Native American belief systems include the heavens, the earth and the underworld. “To them,” he adds, “the Cumberland Plateau was itself a great mound—the universe expressed in three dimensions.”

MIKE TONER is a Pulitzer Prize-winning writer in Atlanta, Georgia. His article “Changing Times” appeared in the Summer 2009 issue of American Archaeology.
Embracing Archaeology

The Eastern Band of the Cherokee was once suspicious of archaeology. Now they’re using it to learn about their history.

By Andrea Cooper

Chief Michell Hicks and TRC Environmental Corporation’s field director Tasha Benyshek stand next to the remains of an early 18th-century Cherokee winter house.
Paul Webb arrives by truck with cardboard boxes full of treasures. We’re waiting in a park entrance across from the stunning new Cherokee school, built next to the site known as Ravensford, where one of North Carolina’s largest, most intensive archaeological projects took place. Webb, whose cheerful demeanor is as easy to spot as his shock of white hair, greets the 42-year-old Cherokee man with me, Russell Townsend, like an old friend.

I get a crash course on discoveries made at Ravensford—114 structures, thousands of features, maybe 500,000 artifacts—from Webb and Townsend before Webb reveals what’s in the first box. He lifts pieces of a large jar, circa A.D. 1450, found at Ravensford. Soot on the exterior and abrasion on the interior, possibly from stirring, suggests the jar was a cooking vessel.

Webb rests the vessel pieces on the flatbed and moves to the second box, which holds sections of a smaller pot with a design of intricate circles from about 1600. Next, he shows a sample of the brilliant beads brought by English settlers. In Cherokee lore, medicine people used beads as bargaining chips with the spirit world to produce good health or other benefits.

It’s hard to avoid thinking of the supernatural in this place. The median in the road separating us from the school is there because graves rest beneath it. “Here, hold this,” Webb says, interrupting my reverie and offering a fragment of another jar. I grip it harder than needed. “Do you ever stop worrying about breaking the artifacts?” I ask. Webb and Townsend consider each other, laugh, and give the same response. No. You never do.

The scene on this breezy day has a magical quality, and not just because Webb keeps pulling artifacts out of his boxes like bunnies from a top hat. It’s amazing the scene is happening at all, that Webb, a Caucasian archaeologist, and Townsend, one of a very few Cherokee-born archaeologists, have worked together to uncover the richness of Cherokee cultural heritage. In part because of legal changes, in part because of Townsend’s and the tribal council’s leadership, Cherokee archaeology has thrived in the last 10 years.

Not so long ago, the Cherokees didn’t want any more archaeologists in their midst. In 1990, archaeologist Brett Riggs paid what he thought was a courtesy visit to the Cherokee tribal council. A Ph.D. candidate, he expected to present his plan to research 19th-century Cherokee ethnohistory and archaeology to the council. The research would take place on traditional Cherokee lands that hadn’t been owned or controlled by the tribe since 1838, when the U.S. government removed the Cherokee in what’s become known as the Trail of Tears. Riggs felt a responsibility to let the tribe
know of the proposed work, answer their questions, and consider any advice they wished to offer. He thought the council members might simply thank him for his interest. He had no idea what he was in for.

“The council chairman arose, fixed me with a fierce gaze, then unleashed an articulate, scathing tirade on the endless stream of researchers who plundered the Cherokees for dissertation data, then gave nothing in return,” Riggs wrote about the session. “Particularly noxious were the archaeologists, who went about digging into the graves of Cherokee ancestors to plunder their last belongings as a final act of conquest. He concluded with a challenge for me to justify my proposed work and my profession.” Which Riggs did, politely.

But that attitude lingered, and some would say for good reason. Until very recently, the Eastern Band of Cherokee Indians felt “pretty much the same as most Indians concerning archaeology—that archaeology was a very intrusive science. It was a science of busybodies. It was not appreciated,” Townsend says. “A lot of Cherokees felt these research excursions into their history were being undertaken without their knowledge or approval, and they weren’t gaining any of the benefits.” University researchers would send teams to excavate Chattooga or other Cherokee towns, Townsend says, and take the data back to their institutions, not back to the Cherokees.

The Cherokees’ attitudes began to change in the 1990s. Their leaders came to see archaeology as a tool that could help them learn more about their history, and archaeologists as professionals who could provide something of value to the tribe. The Eastern Band hired Riggs as an archaeological consultant in 1993 to conduct a cultural resource survey on land that now holds a casino, and again in 1997 to survey property that included the sacred Kituwah Mound, which Cherokees consider their birthplace. Riggs and other archaeologists provided written reports and data for use in Cherokee museums and schools. “I think they proved archaeologists could be people of virtue and ethics, and they could have use in this kind of community,” Townsend says.

Meanwhile the National Historic Preservation Act of 1966 was amended to require tribal consultations for federal projects on current and former Indian lands. Federal and state government officials now have to consult with tribes regarding archaeological issues that affect them. The revised act provided “one of the first opportunities for archaeologists to sit at the table with members of Indian tribes (and talk) about how they wanted to see these projects executed,” Townsend says. Another factor was the opening of tribal historic preservation offices, including the Cherokee office in 2001. The tribe hired Riggs as its first deputy tribal preservation officer;
he directed a second round of testing and evaluation of the Kituwah town site, which covers almost 300 acres, before leaving to join the Research Laboratories of Archaeology at the University of North Carolina, Chapel Hill.

Today, Townsend is the tribal historic presentation officer. His area of responsibility includes not only Qualla Boundary in western North Carolina, where the Eastern Band largely lives, but also the portions of North Carolina, Alabama, Tennessee, South Carolina, Georgia, Kentucky, Virginia, and West Virginia where Cherokees lived historically.

The tribe is responsible for cultural resource surveys on the Qualla Boundary in advance of construction projects, and is also responsible for reviewing archaeological projects associated with federal undertakings in traditional aboriginal territory. In the last decade, the tribe has designed and overseen many projects, hiring firms such as TRC Environmental Corporation, where Webb is principal archaeologist, to conduct fieldwork and analysis. The Eastern Band maintains strong ties with the Cherokee Nation and the United Keetoowah Band of Cherokee Indians, both in Oklahoma, and Townsend shares information with them.

north of the town of Cherokee, along the Raven Fork of the Oconaluftee River, Ravensford feels far from the town’s casino and touristy shops, and close in spirit to the Oconaluftee Indian Village, a living history museum portraying Cherokee life in the 18th century. What is now North Carolina was the heartland of the Cherokee world in the 1700s, and the Ravensford excavation turned up evidence that the Cherokees, their ancestors, and possibly other groups have lived here as long ago as 8000 B.C.

Archaeological surveying and testing at Ravensford began in 2001, when the National Park Service owned the land. The tribe acquired it in 2003 with the intent of conducting large-scale excavations before beginning construction of the school. Major field work ran from 2004 to 2006, involving some 40 excavators, and continued with smaller crews until 2008.

The researchers unearthed house patterns, hearths and pits, and other artifacts. They also uncovered quartzite tools and tool making debris dating to roughly 1500 B.C., and pottery with several different stamped designs from Woodland settlements dating from about 1000 B.C. to A.D. 1000. “We found much more than we expected,” says TRC’s senior archaeologist Tasha Benyshek.

There were more than 15 Cherokee houses at Ravensford that dated from the early to mid 1400s. Three centuries later, the area was home to five small settlements. “We found very well-preserved house remnants, some that date to probably the early 1700s,” Webb says. “You can see very clearly in the ground you have the patterns from the posts and entryways that connected the buildings. You also have the burned remains of the buildings themselves preserved in the ground. You can see the central fire pit. It’s not glamorous in the sense of single artifacts that just blow your mind, but it’s phenomenally well-preserved information, some of the best-preserved examples that anybody’s ever found.”

Eighteenth-century Cherokees built pairs of houses together—a rectangular summer home and a round winter one insulated against the cold. The winter houses were built in basins and are now manifested as dark stains. Benyshek and her coworkers exposed hearths, postholes, a bottle gourd and other foodstuffs, stone tools, and pottery vessel fragments. One burned house contained a collapsed wall and roof timbers lying on top of the floor. “Eventually, we’ll
have a good idea of what was in the building when it burned, as well as what activities took place during the occupation,” Webb says.

The recovered artifacts included arrowheads, a stone pipe, and a chunkey stone, a piece used in a game played by the Cherokee. Players would roll the chunkey stone, then bet on who could throw a stick or spear closest to where the stone would stop. A round stone and ceramic pieces for another game were found as well, though it’s unclear how that game was played.

The researchers also encountered graves, which they left untouched. While the tribe is subject to federal preservation laws, such as the Native American Graves Protection and Repatriation Act, it has its own code regarding the treatment of burial and human remains. It’s important to the Cherokees that their ancestors’ graves stay undisturbed, out of respect and also for spiritual reasons. Having touched an artifact that might have come from a grave, Townsend plans to get a ritual cleansing later in the day.

Throughout the project, many Cherokee residents stopped by. Every teacher in the Cherokee school system visited the site, as well as elementary, middle, and high school students. All the visitors made it impossible to get mired down in the data of archaeology. “You’re reminded these are people you’re documenting,” Benyshek says. “Everything you’re trying to put together represents the people who live there.”

Townsend gives me a tour of the many sites where excavation has been completed and new construction is taking place: A day care center. A former motel. A private language-immersion school where Cherokee students will learn the Tsalagi language and written syllabary. But one place where new construction won’t occur is Kituwah Mound, where Cherokees believe their people began, where the Creator gave the first fire and the clan law to the tribe. A structure on the mound housed a sacred flame that Cherokees kept burning constantly.

Some modern-day Cherokees have been eager to find out if there was archaeological evidence of the fire, and to know what else was there. They had lost the mother town of Kituwah and the mound once already, prior to the Trail of Tears, when the state of North Carolina didn’t honor a federal government treaty and confiscated the reserve. The Cherokees didn’t own this 309-acre parcel again until 1996. It was so expensive to purchase, some argued for building a tourist attraction on part of the land to recoup the tribe’s expenditure. Others were aghast at that possibility.

To help settle the debate, the tribe hired Brett Riggs in 1997 to direct an archaeological survey of the site. His team dug some 1,700 small test holes, from 12 to 15 inches deep. Eighty-four percent of them revealed archaeological
materials, the oldest of which dated from the early Archaic period.

In 2000, a groundhog uncovered a skeleton on the Kituwah site; it was associated with a Pisgah village, roughly A.D. 1100–1200. This discovery prompted the question of how many more graves might there be. To answer that question, Riggs was hired to direct another study in 2001. He and his team employed a proton magnetometer that detects small changes, known as anomalies, in the Earth’s magnetic field created by disturbances. Archaeologists found many hearth sites, including one at the center of the mound. One photo, at once vague and distinct like a pregnancy ultrasound image, depicted concentric anomalies that, Riggs believes, marked the reconstructions of a townhouse. It was a structure used as a temple, council house, and civic center. The people rebuilt the townhouse as needed in the same spot through the years.

The townhouse anomalies resemble 16th-century townhouse patterns found during excavations of nearby Coweeta Creek Mound. At that site, “the ruins of these community buildings, stacked one atop another, grew over time as a mound, probably the same way in which the Kituwah Mound grew through several centuries of use,” Riggs wrote in a report to the Eastern Band. Plowing has reduced the height of Kituwah Mound and very likely destroyed the latest stages of the townhouse there, Riggs believes. All the evidence at Kituwah suggested a temple “destroyed at the midpoint in the use-life of the mound, probably in the 15th or 16th century.”

While conducting remote sensing on a section of the site away from the mound—a place thought to be a lightly inhabited—the team discovered about 15 graves. Tribal officials asked how many more graves might be hidden. Kituwah had been a town of 200 to 300 residents for many generations, and the people tended to be buried where they had lived. Based on that information, Riggs estimated that hundreds, perhaps even 1,000, graves could be there. Consequently, the tribe decided to keep the Kituwah property as is, using it strictly for farming, Cherokee heritage and cultural events, and religious observance.

Townsend is comfortable with the decision to preserve Kituwah as it has been for generations. “Archaeologists constantly leave data behind because we didn’t have the time, permission, or money” to obtain it, he says. At the same time, he and many other tribal members are unhappy about the possibility of leaving behind too much material or disturbing graves at a controversial project, a runway extension for a local airport. Government and state officials and tribal leaders have been at odds over how and how much to excavate. Airport officials have agreed to strip and map the entire area, which will reduce the chance of accidental disturbance of human remains during construction, says Townsend. Benyshek and her team, hired to do the field work there, have already found two palisaded villages from about A.D. 1100. The discovery is newsworthy because archaeologists hadn’t expected to find palisaded villages in western North Carolina at that time.

That airport debate demonstrates the changing nature of the relationship between the Cherokees and archaeologists, who are now often allies rather than adversaries. “It’s a matter of educating archaeologists that they have a bigger responsibility than just tearing up some ground,” says Eastern Band Chief Michell Hicks. “That’s not what it’s about. It’s about showing the lives of people over time and giving back to the people... Hopefully, (the information) gets carried on to future generations. I think that’s archaeologists’ responsibility.” Hicks hopes the tribe can build a restoration and research facility in the future where Cherokee students can learn about their archaeological history.

Archaeology has added to the Cherokees’ already strong bonds to each other and their land. The importance of community here can’t be underestimated. Russell Townsend is working on his Ph.D. in archaeology at the University of Tennessee and is passionate about his field. Yet at the end of my day in Cherokee, he revealed something I never expected. “I’d rather drive a garbage truck here,” he admitted, “than teach archaeology at a big, distant university like Princeton.”

ANDREA COOPER is an award-winning writer whose credits include Time, The New York Times, and NPR’s “All Things Considered.”
Researchers are taking different approaches to understanding the meaning of these monumental structures.

By Tamara Stewart

Hovenweep House is a D-shaped tower in Hovenweep National Monument in southwest Colorado. It had a number of rooms and could have served several purposes.
One of the most highly visible and enigmatic structures of the Anasazi of the Mesa Verde region remains the masonry tower. Built of hand-shaped stone and reaching heights of four stories, the monumental square, round, and D-shaped towers dot the high desert of southwest Colorado and southeast Utah. These phenomenal structures were built from the mid A.D. 1100s through the late 1200s, just before the Anasazi left the area in a massive migration to the south. Much speculation surrounds their origin and possible uses.

“I think the term ‘tower’ probably includes buildings that actually represent several different types of use,” says archaeologist Bill Lipe, professor emeritus at Washington State University. Many researchers consider the tower-building, and the exceptional craftsmanship that went into it, to represent the height of Anasazi architectural achievement.

The late 1000s saw the first freestanding towers, a common configuration consisting of a circular tower next to a kiva with an underground tunnel connecting the two. This pattern of linking towers with large, communal kivas suggests their possible use as ceremonial structures.

Towers became more common and more varied in form and location after 1225, with the highest density occurring within the canyons that now make up Hovenweep National Monument along the Utah-Colorado border. Here towers of various shapes are found on boulder tops, tucked under canyon rims, or standing on the canyon floors near natural springs. Most of these were built between 1230 and 1275, about the same time as the cliff dwellings up on Mesa Verde to the northeast.

There is strong evidence of escalating violence during the 13th century when tower-building increased, and given the structures’ massive walls, lack of ground-level entrances, and their frequent placement on canyon rims and boulder edges, many researchers have concluded that towers served as defensive structures. It’s also thought that they could have been used for line-of-sight signaling to convey messages about impending danger.

Yellow Jacket Pueblo, a preserve of The Archaeological Conservancy’s located east of Hovenweep in the Montezuma Valley, was the area’s largest settlement during the mid 13th century, with as many as 1,200 surface rooms and some 20 masonry towers ranging from 8 to 19 feet in diameter that were built within individual roomblocks. The U-shaped Great Tower Complex at Yellow Jacket has a tower at each of its four “corners” in what appear to have been defensive positions.

At Sand Canyon Pueblo, a late 13th-century settlement in southwest Colorado, multiple towers abut the exterior of the settlement’s two-and-a-half-foot thick stone perimeter wall. “This wall, probably the most extensive and formidable village enclosure constructed in the Mesa Verde region during the 13th century, protected the villagers against attack, as well as limiting and controlling access to the spring at the center of the village,” explains Kristin Kuckelman, senior research archaeologist at Crow Canyon Archaeological Center in Cortez, Colorado, which has conducted extensive excavations at the site. “From the towers, lookouts would have commanded a panoramic view of the surrounding landscape, enabling them to spot approaching enemies, sound an
Holly Tower sits on a boulder in the base of a canyon at Hovenweep. This multistory square tower was difficult to access, which could mean its purpose was ceremonial.
Square Tower is the largest of Hovenweep’s numerous towers. It was built on a boulder at the head of a canyon and has a kiva at its base.
alarm across the village, and assault attackers approaching them."

Despite the massive wall surrounding the settlement, around A.D. 1280 numerous residents of Sand Canyon and nearby Castle Rock pueblos were killed by violent attacks that ended with the settlements’ abandonment.

Indeed, the context in which tower-building arose was one of increasing upheaval, intermittent drought, major changes in settlement location and layout, escalation in regional conflict, and increased population. During the mid to late 12th century, most families in the Mesa Verde region lived in small, scattered farmsteads on fertile mesa tops. This pattern, which had persisted for centuries, quickly changed in the early 13th century. By 1260 most people had moved off the mesa tops and built large villages on canyon rims and cliff alcoves near natural springs and seeps, presumably to protect these valuable resources.

Unlike the 12th-century mesa-top sites, settlements of this period were frequently laid out in two parts divided by a drainage and often clustered around a natural spring. The residents also began building new types of structures such as central plaza areas, D-shaped buildings with multiple, concentric walls, and multi-storied towers. These towers were built of sandstone blocks that were frequently finished on one or more sides by pecking with a hammerstone, resulting in a dimpled appearance referred to as pecked-face McElmo-style masonry, after the McElmo drainage that runs through the area. This treatment appears to have been reserved for public buildings and exterior tower walls, interior kiva walls, and portions of the unusual D-shaped structures. The towers have few or no internal features.

Test excavations undertaken at eight Hovenweep towers between 1974 and 1976 indicated that several of the late 12th-century mesa-top towers were connected to adjacent kivas by underground tunnels. Those excavations also revealed that the later canyon-head towers were generally not connected to kivas, were better built, and appear to have served a variety of functions.

"In the mid-13th century, you have the proliferation of towers on canyon rims and on detached boulders below the canyon rims that don’t necessarily have a close association with kivas or rooms," says Lipe. "They may function at a community, rather than a household, level in terms of their social scale. Individual towers may have had multiple functions—i.e., surveillance, ritual, storage—and the late 13th-century public architecture kinds of towers may have functioned differently from the earlier ones that were associated with specific household complexes. In my opinion, excavations...
havent cracked the problem because there havent been that many excavation opportunities, and there typically arent floor features or many use-context artifacts that would help with interpretation of how the structures were used."

Every canyon-head tower that was investigated at Hovenweep yielded cultivated crop remains, indicating food may have been stored there, and some held evidence for food grinding and tool-making. Some towers were divided into rooms and had attached roomblocks, suggesting they were used at some point as dwellings or for domestic tasks.

A number of towers, such as the one at Hovenweep Castle, have small openings that admit shafts of sunlight during the solstices and equinoxes that could have been used as ancient calendars to indicate important dates for planting, harvesting, and ceremony. Solar alignments were found in three tower rooms at Hovenweep, including one attached to a kiva.

**Whereas previous explanations** of towers have focused on their functions, some researchers are now focusing on their possible meaning. "All architecture embodies social ideas about the world, but monumental or highly visible architecture is often intended to convey specific meanings," explains Ruth Van Dyke, an archaeologist at Binghamton University. "My students and I have been less interested in what towers were for, and more interested in what they may have meant to those who built, used, and viewed them."

Van Dyke sees the 13th century tower-building of the...
Mesa Verde region as a way for the people of this chaotic period to hearken back to the more stable, prosperous time of the 11th century, when Chaco Canyon in northwest New Mexico was the center of the Anasazi world. Chaco contains an incredible density of monumental architecture that includes great houses and tower kivas that likely represented key elements of Chacoan ideology and provided a sense of common purpose and identity for the people. Van Dyke sees some of the later tower builders of the Mesa Verde region as trying to invoke the memory of Chaco during a time of chaos and upheaval. “I suspect the towers were meant, at least in part, to reference the Chacoan past. My former student Tony King has suggested that towers symbolized access points between layered worlds,” says Van Dyke.

The close association between towers and kivas or springs may have been a way for ancient residents to link skyward-reaching towers with openings to the underworld. Springs are considered sacred locations by modern Pueblo peoples and, woven into their origin and migration stories, they are often equated with the source of all life. Van Dyke suggests that, as uncertainties intensified, the Mesa Verde Anasazi built towers to symbolically or literally establish a pathway out of the social and environmental turmoil into a higher realm, similar to modern Pueblo origin stories which feature emergence through a series of underworlds into the present world.

University of Colorado student Alison Bredthauer recently sampled 39 towers in southeast Utah as part of her Masters thesis, reaching a similar view of towers as an expression of social identity. “My research explores the ideological role of towers during the turbulent time period that characterized the decades before the ultimate depopulation of the region by a.d. 1300,” she says. “I argue that towers played a multi-functional role that expressed ideas of social relations and social identity as part of the social landscape of the period. The Pueblo III period in the Mesa Verde region was a time of intensive renegotiation of social relationships and social organization. The frequent occurrence of towers during this period at both specialized tower complexes and at habitation sites suggests they served an integrative role.”

A 23 year-long drought beginning in 1276, combined with warfare, overpopulation, limited resources, and changing sociopolitical circumstances, encouraged the Anasazi to leave Hovenweep and the entire Mesa Verde region by the end of the 13th century and migrate south, presumably joining the pueblos of the Rio Grande River Valley in New Mexico, and the Hopi in Arizona, where the phenomenal towers and D-shaped structures of the north were not replicated.

The remarkably well-preserved stone towers continue to dominate areas of the Mesa Verde region today, some surrounding still-flowing springs in silent, monumental testimony to a highly innovative people whose world was rich with symbolism.

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Archaeology is providing much of the information about St. Mary’s City, Maryland’s first capital.

By Paula Neely
During the English Reformation in the 16th century, the Catholic religion was prohibited. Some Jesuit priests, like John Ogilvie, were hanged, burned, or disemboweled. Catholics could be prosecuted for publicly practicing their religion in any English-speaking country or colony, except Maryland and its first capital of St. Mary’s City. Settled in 1634 by Leonard Calvert, St. Mary’s City was privately owned and ruled by the Calvert family based on a philosophy of religious tolerance.

Although Catholics were among the first 140 colonists who arrived on the ships the Ark and the Dove to seek religious freedom and their fortunes in land and tobacco, they were never in the majority. People of all faiths settled here, including Protestants and Quakers. Many came as indentured servants, whose passage was paid for by wealthy colonists who also offered food, clothing, and shelter in exchange for four or more years of labor. If they survived the rigors and diseases of the New World, at the end of their indentured period servants typically received the rights to 50 acres of land and supplies to start a farm.

The city prospered at times, but by the end of the 17th century it was abandoned. When archaeological research at St. Mary’s City began in the 1970s, after the state of Maryland acquired the town site, a reconstructed brick statehouse from 1934 was the only visible reminder of the capital. Archaeologists knew that the reconstruction was not built at the site of the original statehouse, which was discovered nearby. “Everything that’s known about the appearance of St. Mary’s City has been learned through archaeology. There

This modern drawing of St. Mary’s City, ca. 1685, is also based on archaeological evidence.

A 1657 portrait of Cecil Calvert, the second Lord Baltimore and founder of Maryland.
are no maps or drawings of the city,” said Henry Miller, director of research for Historic St. Mary’s City. “Most of the land records are gone because of fires, so where the city was and what it was like is a mystery that only archaeology can solve,” he said.

The archaeologists’ goal is to investigate the site to better understand the nature of life in early America. After 40 years of research initially directed by Garry Wheeler Stone, Miller’s predecessor, they’ve located key buildings, the town center, roads, and evidence of town planning. About a fifth of the 1,200 acre city has been surveyed, 300 sites have been identified and recorded, and millions of artifacts have been unearthed that provide clues about the colonists’ daily lives. They’ve also excavated about 60 unmarked burials—including the only 17th-century lead coffins in English North America—that have revealed insights about the colonists’ health, lifestyles, and burial practices.

Archaeological findings are also used to inform exhibits and interpret the town site, which is now a living history museum. The landscape is dotted with wooden building outlines, known as ghost frames, that mark the locations where 17th-century structures once stood and give a sense of the size of the original city. A few buildings, including the first Catholic chapel in English America, have been more fully reconstructed based on the archaeological evidence.

When Leonard Calvert arrived in Maryland, he purchased a village and land beside the St. Mary’s River from the Yaocomico Indians, who were under frequent attack by the Susquehannocks. “The Yaocomico basically sold the land to the English to create a buffer between themselves and the Susquehannocks,” said Silas Hurry, the project’s curator. The colonists moved into the Indian’s houses, and the Indians gave them their crop of corn and taught them how to raise and cook it.

Numerous Native American clay tobacco pipes incised with images of running deer have been unearthed in the town site and they were probably traded to the colonists in exchange for copper, beads, axes, knives, or cloth, according to Hurry. Because land was so plentiful, most of the settlers lived on farms or plantations outside the town where they could grow tobacco, which was used as legal tender instead of money through a complex system of promissory notes and credit.

As the population grew, the city developed as the seat of government. There were never more than about 200 people living in the city, but the population could swell to double that when the assembly and courts were in session, he explained.

Calvert’s house, built in the 1630s in the center of town, was the focus of this season’s field school. Not only is it the governor’s house, but it’s surrounded by Pope’s Fort, which was built during the English Civil War. “To my knowledge,
this is the only physical evidence of the English Civil War in America," Miller said. The house later served as an inn.

On a humid, overcast day this summer, archaeologist Timothy Riordan stood in the backyard of the house and pointed to the remains of a trench from the 1600s, now a dark curved soil stain that appears in several test pits and seems to form a circle. "Why did they dig a circle?" he asked. "In the 17th century there were very few functions that required a circular trench."

Learning more about the trench and its purpose is one of several research goals that Riordan and the nine-student field school pursued this season as they looked for evidence of outbuildings and fences to understand how the backyard was used. After pausing for a moment, Riordan answered his own question: "It could be a cockfighting pit," he said, noting that archaeologists believe the only other similar circular trench in Colonial America, discovered at Shield's Tavern in Williamsburg, Virginia, enclosed an arena where roosters fought.

Cockfighting was popular in England in the 1660s. About 30 pairs of roosters would fight to the death each day while spectators gambled on the outcome. Interest in the sport spread to America as new colonists arrived. The trench cuts through fence lines that date from 1650 to 1670, indicating it was dug sometime after 1670, about the time that cockfighting became popular in the colonies. Since the Calvert House was the town's largest and best inn, it makes sense that there might have been a cockfighting pit in the backyard, Riordan said. But further investigation is needed to confirm his interpretation.

The students also investigated the area around the north wall of Pope's Fort, the only wall that was not palisaded, to learn more about how it was designed and functioned. They found postholes, which may have been for a large defensive structure such as a raised platform, possibly a firing step overlooking a large field. From this vantage point, they could see attackers approaching from as far away as half a mile.

Archaeologists first discovered the fort in the 1980s when they investigated a septic tank on the site. "The fill around the tank was loaded with early artifacts including Indian pipes and sheepshead fish bones," Miller said. They also found a curved palisade line and moat. "We realized that we had found a fort that no one knew about," he said.

It's also the only site in Maryland where body armor has been found. Archaeologists discovered a piece of a tasset, which Hurry described as a "steel miniskirt" used to protect the upper legs and groin. They also unearthed cannon balls, cutlass hilts, gun parts, and other military objects.

The fort was built during the English Civil War, when people had to choose if they wanted to side with Parliament, which had a strong anti-Catholic segment, or King Charles I, who was Protestant, but tolerated Catholics. Calvert sided with the king. Until this time, colonists of all faiths had coexisted relatively peacefully at St. Mary's City. "The problem was that the colony's main trading partners were Parliamentarians," Riordan said.

In 1645, Captain Richard Ingle, a Protestant privateer, acting under the authority of the anti-Catholic Parliament, launched a sneak attack on the city with the support of Protestant leaders in the colony, such as Nathaniel Pope. Leonard Calvert managed to escape to Virginia, but Ingle captured two Jesuit priests and high-ranking colonial officials and took them back to England. "After that, there wasn't a significant Jesuit presence in Maryland again until 1660," according to Riordan.

Ingle left Nathaniel Pope in charge of the rebellion, and Pope built a fort around the Calvert House to defend against retaliatory attacks. During the next two years, known as "The Plundering Times," homes were raided and looted and many people left Maryland as a result.

In 1647, Leonard Calvert returned with soldiers from Virginia and recaptured the colony. He offered the Protestants peace without punishment and promised to end the plundering if they would accept his government. In 1657, Oliver Cromwell officially gave the colony back to the Calverts, and St. Mary's City, benefiting from a strong tobacco economy, flourished for the next 35 years.

Many of the residents led sophisticated lifestyles.
Miller said hundreds of elegant table glass fragments found throughout the town during this time indicate that, although the Maryland settlers lived on a new frontier, “they graced their homes with items of unusual delicacy and refinement.”

They also ate well. At the house site of John Lewger, the first secretary of the colony, food remains show how the colonists’ diet changed over time. At first, they relied heavily on wild meat, especially deer and fish, eventually depleting the
sheepshead, which is now rarely found in the Chesapeake, according to Miller. They also ate more beef than pork, which was surprising to historians who previously thought pigs were the colonists’ primary source of meat. Toward the end of the 17th century, colonists were almost completely reliant on meat from domesticated animals, he said. They also shifted from the European diet based on wheat and barley to a diet based primarily on maize.

**CLUES TO COLONIAL HEALTH**

Rare lead coffin burials, once used only for royalty, and unmarked graves excavated in and around the St. Mary’s City chapel site have revealed insights about the colonists’ age, health, lack of medical care, activities, and burial practices.

In the 1990s, the remains of a man, woman, and baby girl were discovered in lead coffins beneath the floor of the Jesuit chapel. A team of over 150 scientists was assembled to study them, including National Aeronautics and Space Administration experts who extracted a sample of antique air from the coffins in an attempt to determine what the atmosphere was like 300 years ago.

The baby was a real surprise, Miller said. She was about six months old and clearly from an affluent family because she was buried in a lead coffin, which was a status symbol. But despite her family’s wealth, she had rickets, caused by a deficiency of vitamin D. The ends of her ribs were flared out, and there were holes in her skull where calcium had been leached out for use somewhere else in her body. This probably was the result of swaddling and not exposing the child to sunlight, he said. She also had scurvy, anemia, and other problems.

The woman was about age 60. She had decayed teeth and her hair samples showed that she was ingesting large quantities of arsenic before her death. “One of the treatments for bad teeth was chewing on an amalgam of arsenic,” Riordan said. She also had a broken leg that had healed without being straightened and the bone had abscessed.

“It really is sobering to see that these individuals were so wealthy and yet they had such severe health issues,” Miller said.

Rosemary, a sweet smelling herb, was discovered in the woman’s coffin. It was probably put there as part of the burial ceremony, and illustrates the continuity of English rituals in colonial Maryland, according to Miller, who noted that the use of rosemary for ceremonies was popular. It may also have served to mask the smell of the corpse.

The man was also surprising. He was about 55 years old, and many of the bones in his skull and upper body had transformed into a white crystalline material. Scientists later surmised that they had crystallized from the use of embalming compounds. This would be the earliest known attempt at embalming in English America, according to Miller.

Pollen found on the coffins indicated the season of interment. Based on that, the age of the individuals at the time of death, and the high status associated with lead coffins and other clues, archaeologists believe these were the graves of Philip Calvert, Leonard’s brother and successor as governor of Maryland; his wife Ann Wolsey Calvert; and possibly a child by Philip’s second wife, Jane Sewell. According to Miller, the use of lead coffins and embalming shows the Calverts considered themselves the royalty of Maryland.

Riordan said there are only five lead coffins known from 17th century America, and they are all from St. Mary’s City. Two other lead coffins were discovered at Trinity Church near the site of the original brick statehouse and contain the remains of Governor Sir Lionel Copley and his wife.

Archaeologists also excavated 58 unmarked graves located within

Timothy Riordan (left) and archaeologist Ruth Mitchell
excavate a burial under the chapel.

10 feet of the outside wall of the Jesuit chapel to clear the site for construction. The burials studied span the six decades of St. Mary’s City and were interred before, during, and after the chapel was used. All of the remains are currently being studied at the Smithsonian Institution.

Based on initial study results, Riordan noted that bad teeth were common among these individuals, probably because they ate maize, which is high in sugar and causes tooth decay. Spinal compression indicates that they engaged in hard, physical labor.

He was surprised to learn how many elderly people were at St. Mary’s City compared to Jamestown and other settlements, where many colonists died young. About 25 percent of the St. Mary’s City burials were individuals age 45 to 70. Riordan said these include some indentured servants who came over in their teens and lived to 70. Other older people came over as part of extended families, according to records.

All of the deceased were shrouded or dressed in burial gowns, most were buried in coffins, and all were oriented east to west in the Christian tradition. —Paula Neely
In the 1980s, hoping to learn how the city was laid out during its golden years, Miller identified building sites, fences, and, with the help of aerial photos, major roads. “The streets show up in crop fields as a gray area. Maybe horse droppings created a more fertile area, we don’t know,” he said.

He realized that Calvert’s house was located in the center of town where the roads come together. A large clapboard building, it was purchased by the colony in 1661 and served as the first official state house. Then he discovered that the roads pointed to the city’s only brick buildings, which included the chapel, the statehouse, the prison, and a building that may have been the Jesuits’ school. Each one was 1,400 feet away from the center of the town. “If you connect the dots between the statehouse, prison, chapel, possible school and the town center, you create two perfectly symmetrical triangles, which defined the main streets of the city. And the angle between the statehouse, Calvert House area and the chapel is 140 degrees,” he said. This placement of the statehouse and chapel on opposite ends of the city may be showing us the colonists were attempting to shape the landscape to express ideas such as the separation of church and state, an idea first applied in Maryland.

“The city wasn’t the scattered little village that historians anticipated,” Miller said. In fact, St. Mary’s—not Annapolis, as people once thought—was the first city in America that utilized sophisticated Baroque urban planning, a European design method using geometry, symmetry, symbolism and perspective. “If it wasn’t for archaeology, we never would have known anything about this plan.”

During this time, one of the most significant buildings constructed in St. Mary’s City was the brick Jesuit chapel, built in the 1660s. “Nowhere else in the English colonies could this church have been built in the 17th century,” Miller said. “The fact that the church was built at all is a very important statement of the religious freedom that Maryland provided, and its destruction was due to the abandonment of religious freedom,” he said. Throughout St. Mary’s City, archaeologists have unearthed rare medallions of Catholic saints, fragments of Madonna statues, cherubs, rosaries, and crucifixes that speak to the presence of Catholics here.

By 1695, following a revolution, the Protestants were in control again and they moved the capital to Annapolis. In 1704, the governor of Maryland ordered the chapel door to be locked and never used again for worship. “St. Mary’s City’s Baroque plan never reached fruition because everybody moved away,” Miller said. In the 1720s, the Jesuits demolished the chapel and carted away 99 percent of the above ground remains. Nearly three centuries later, archaeologists discovered the chapel’s cross-shaped brick foundations in the field once owned by the Jesuits. Using archaeological evidence, architectural research, and 17th-century building techniques, they’ve nearly completed the reconstruction of the chapel.

As archaeologists identify, analyze, and reconstruct sites in the “Metropolis of Maryland,” the vanished capital city is once again taking shape on the landscape, and the story of the people who lived here continues to unfold. Only five percent of the site has been excavated, so many more secrets and insights about St. Mary’s City will undoubtedly be revealed by future generations seeking answers to new questions using techniques that have yet to be imagined.

Paula Neely’s work has appeared in National Geographic.com and DIG magazine. Her article “When the Russians Were Coming” appeared in the Summer 2009 issue of American Archaeology.
Collaborating with Cuba

American and Cuban researchers excavate El Chorro de Maíta.
The village of El Chorro de Maíta, on the northeast coast of Cuba, sits atop a prominent limestone ridge, roughly 600 feet above a broad coastal plain, with a distant view of a sparkling sea. It’s an alluring spot, as it likely was when it was first settled by the Arawak Indians, well before the first European sailors arrived at the island in late October 1492. With its fertile soils and seas rich with marine life, this region was home to numerous small Indian settlements, and El Chorro de Maíta was among the largest.

The historical record suggests that Christopher Columbus came ashore not far from here. In his journals, the explorer describes a delegation of his men visiting an interior island village, home to perhaps a thousand inhabitants, where they were received “with great solemnity.” This may well have been Chorro, as it’s commonly called today, but to date there’s no way of knowing for sure.

What we do know is that this period marked both a beginning and an end. The Spanish commenced their ambitious conquest and colonization of the New World, while the native peoples suffered a sad denouement, being overcome by smallpox and superior weaponry and condemned to slavery.

But how did this clash of cultures play out at Chorro? Who were these coastal Arawaks, and how did they organize themselves prior to Spanish contact? Father Bartoleme de las Casas, one of the more noted chroniclers of Indian life, famously wrote that there was no political structure above the level of the village. And if a more complex society did exist—as has been suspected but not proven—how quickly did their culture get destroyed or absorbed into the Spanish encomienda system? History has been written from the perspective of the conquerors, mostly from standard Spanish-language documents such as the reports of factotums back to the homeland. And historians have often extrapolated, believing, for instance, that the conquest of Cuba unfolded much as it did in neighboring Hispaniola, where the native Taino culture was decimated.

“All that has to be reviewed,” said University of Alabama archaeologist Jim Knight, who codirects joint Cuban-American excavations at Chorro. “The tendency has been to lump the native Cubans in with the Tainos.” The Chorro
excavations suggest that not only did the Cuban Indians have a more complex culture than previously thought, but when the Spanish arrived, the interaction between the two peoples was unlike that in Hispaniola and other Spanish colonies.

**Archaeological Work in Cuba** is not recommended for those who thrive on predictability. Even with plenty of advance planning and properly filed paperwork, permissions can be inexplicably scrubbed. “Right up until the day you set foot on the airplane, you never really know whether it’s going to happen,” Knight said. “The rug gets pulled out from under you for completely unknown reasons.” Archaeologists heading to Cuba should not only have a Plan B, he suggested, but also Plans C, D, and E.

Knight, who has spent much of the past three decades studying the rise and evolution of chiefdoms in the American Southeast, originally planned to work at the Loma del Convento site in south-central Cuba, where Bartolomé de Las Casas had been granted land (and later famously rejected it in protest over Spanish treatment of the Cuban Indians). Knight suspected that early chiefdoms and post-conquest cultural shifts in Cuba were markedly different than what he knew of the early American Southeast, and he wanted to know if the archaeological data would validate his assumptions.

But work at Loma del Convento fell victim to some inscrutable rug-yanking. So on to Plan B. With the approval of the National Geographic Society, which had committed funding for the Loma Del Convento dig, Knight diverted his attention to the Chorro site. Chorro made for a superb Plan B because work here addressed “an almost identical set of research priorities,” he said. “We apparently had a chiefdom-type society building up locally, and [researchers were] trying to figure out what happened after that.” He teamed up with a Cuban archaeologist, Roberto Valcárcel Rojas of the Departamento Centro-Oriental de Arqueología, who had been working on the site since 2003.

The Chorro site has been well known for decades—it attracted collectors as early as 1927, who came to purchase artifacts that had either been looted or unearthed during road construction. In 1941, archaeologist Irving Rouse wrote a detailed description of the area based on oral history. The site attracted considerably more attention in the late 1970s, when Cuban archaeologists began excavating it. During one of these digs, a cemetery containing the remains of some 95 Indians was uncovered, along with one skeleton believed to have been a European. This is the largest such Indian cemetery known in Cuba.

The Cuban government deemed this find important enough to construct a museum atop the exposed cemetery, preserving the remains in situ and displaying artifacts discovered during the excavation. In the early 1990s, an Indian village called Aldea Taina was built, based on the archaeological and historical records, as an educational tourist attraction across the road from the cemetery. The village has become a day-trip staple for foreign tourists at the nearby all-inclusive
beach resorts, who venture here to watch recreations of native dances and eat modern variations of native foods.

The discovery of the Chorro cemetery—the focus of much attention for the past three decades—suggested a large Indian community had been established along this ridge. But how large? That was one of the early questions that the researchers chose to address. During their first field season in 2007 the researchers dug a series of test units to determine the contours of the settlement. “Little was known about portions of the site other than the cemetery,” Knight said.

A modern town had grown up over the ancient village, one that had grown substantially since the 1940s, when the site was first tentatively mapped by Rouse.

Valcárcel had done much of the advance work, seeking permissions from local farmers and residents, who almost uniformly—if not enthusiastically—agreed to allow work on their property. (One fear among the residents was that another cemetery would be found and the land subsequently taken over for another museum.)

The site was believed to be about 100 by 200 yards, but the excavations revealed it was significantly larger. “Chorro de Maíta is by far the biggest and most complicated town in that area,” said Knight, who was surprised by “the sheer size of the place—it’s probably five times bigger than the next largest site.” That alone provided evidence that a more sophisticated chiefdom had been emerging on Cuba than had been thought. The archaeologists also excavated one farmer’s field, just north of the cemetery, uncovering a hearth thought to date to the first half of the 15th century, and nearly 600 Arawak potsherds.

Having excavating ceremonial areas the previous year, the researchers focused on domestic sites in 2008. “What we were trying to do is find evidence of residential deposits,” Knight said, which would provide evidence of their lifestyle. The artifacts they uncovered consisted primarily of potsherds and jewelry. “One thing that was striking to me was the amount of jewelry,” said Knight. “I’m used to working Mississippian sites in the Southeast, where items of personal adornment aren’t all that common. But they are in the Caribbean.” The archaeologists discovered small stone beads and engraved shell pendants throughout the site.

Another surprise of the 2008 dig was the discovery of a modified stingray spine that may have been an early attempt at crafting an arrowhead—something never before found on Cuba. “It could be a test of the use of the bow and arrow,” Valcárcel said, noting that the artifact’s significance was still under discussion.

Among other key finds were unfinished stone beads and an incomplete stone idol, suggesting that craft production took place at Chorro. “It’s uncommon to find things that were discarded halfway through finishing them,” said Brooke Persons, one of the American archaeologists. But when you
do, “you know they were made right there, and not someplace else. That’s interesting in terms of the way that this would play into chiefly politics. You would expect this in a center—a concentration not only of ceremonial artifacts, but also production. It’s preliminary evidence, but it’s a start.” These discoveries prompt other questions, such as whether these items were made of native or imported materials, whether other villages were involved in production, and was this largely concentrated at Chorro.

“What this boils down to is a lot of our expectations about the growth of social complexity turn out to be met here,” said Knight. “It’s beginning to look like there were regional political chiefdoms with capital towns in parts of Cuba at the time of Columbus.” So much for Las Casas’ oft-repeated contention about native political organization.

THE EXCAVATIONS ALSO YIELDED a large number and variety of late 15th- to mid 16th-century Spanish artifacts, including storage containers, cups, green and honey-colored lead-glazed earthenware, decorated and undecorated majolica, and even a tall, specialized cylindrical jar designed to hold medicine. The latter object is something rarely found at New World Spanish-contact sites.

The quantity and distribution of contact-era artifacts “suggests the Spanish were possibly living right on the site as opposed to some sort of exchange or trade going on,” Knight said. While colonizing the Americas, the Spanish instituted the encomienda system, which gave Spaniards the rights

Some of the faunal remains recovered from the site include land snails (first row), marine species such as turtles and crabs (second row), reef fish (third row), and shellfish (fifth and sixth rows), and terrestrial animals such as a large rodent known as hutia (fourth row).
to Indian labor for a portion of the year. In return, those Spaniards were supposed to see to their Indians' welfare and instruct them in the Christian faith. In practice, the system differed little from outright slavery and it was eventually outlawed. It did little good to have Indian laborers scattered all over, so the Spanish typically forced Indians to relocate to new villages established closer to economic resources like gold and silver mines.

But the preliminary analysis of the mix of Spanish and native artifacts at Chorro suggests that the Spanish may have insinuated themselves into the village rather than conquering it and relocating its people. And while those same artifacts indicate Chorro’s residents adopted Spanish material culture and economic systems, the traditional Indian political structure may have survived longer here than elsewhere. “If several Spaniards were actually moving to an Indian town and living there, without disrupting the native settlement pattern, well, that’s interesting,” said Knight. “I’m hopeful from that we can rewrite the initial couple of decades of what happened in Cuba.”

Analysis of the site excavations is complemented by the archival research being done by John Worth, an archaeologist at the University of West Florida. Worth has been poring over early handwritten documents in the Spanish archives, including inventories and reports composed in an obscure and arcane written version of Spanish. It’s slow going, but the hope is that his work, combined with evidence uncovered at the site, will yield valuable information.

Since the economic embargo put in place by the U.S. following the 1959 Cuban revolution, archaeologists from the two countries have rarely worked side by side. Older Cuban archaeologists had been primarily trained in Soviet academies, and the work they’ve done post 1959 was not well known outside the island. Nonetheless, Knight and his students never felt hostility from the Cubans. “When we go there we have full support of the community, which is not always something that you see” said Persons. “But it’s a very collaborative effort.”

No further U.S.-Cuban excavations are currently scheduled. Persons is headed back to Havana for additional research this year on her dissertation, which examines the evolution and growth of Cuban chiefdoms. Valcárcel hopes to clarify the chronology of the interaction between the Arawak and the Spanish, and to better understand everyday life at Chorro after the Spanish arrived. (Burials in the cemetery suggest the site was occupied through the end of the 16th century.)

Many questions about life pre- and post-contact remain, including the degree of complexity of the native chiefdoms and how they adapted to the Spanish. The work at Chorro is suggesting that the native culture could have survived longer than was previously thought and may have influenced, rather than simply been influenced by, the Spanish. “Where we’re, I think, going with all this,” said Knight, “is to acknowledge that the Cuban Indians had their own identity.”

WAYNE CURTIS is a freelance writer based in New Orleans. His article “The Documentation Dilemma” appeared in the spring 2008 issue of American Archaeology.
A Glimpse of California Prehistory

Lathrop is one of the few intact Central Valley mounds.

The Lathrop Mound, in central California’s San Joaquin Valley, was occupied during the late prehistoric period. The site consists of a mound of midden deposits, at the edge of a walnut orchard.

When the owners of a house, that was built on the mound in 1906 decided to dig a basement, they uncovered ancient remains. The site was recorded by archaeologist James Bennyhoff of the University of California, Berkeley in 1958. He noted the remains, but somehow failed to note the midden. In 1993, Eric Wohlgemuth, an archaeologist with Far Western Anthropological Research Group, Inc., mapped, surveyed, and re-recorded the site in advance of a proposed commercial and residential development covering some 6,000 acres.

Wohlgemuth found numerous objects, such as beads, stone tools, projectile points, bear claws, and clam disk beads. His data indicate that the Chulamni tribe of the Northern Valley Yokuts inhabited the vicinity in historic times, and may have occupied the site after A.D. 1500. Wohlgemuth also found the remains of two individuals that had been disturbed as a result of maintaining the grounds. The weathering of the bones indicated that the remains were ancient and Wohlgemuth, adhering to the preservation laws of the time, left them in place.

"The few intact Central Valley archaeological sites being investigated today are mostly buried, older deposits below the plow zone, so preserving the near-surface Late Period deposit (post—A.D. 1500) takes on even greater importance," he said.

The Conservancy is leasing the site for $100 a year for the next 100 years from the landowner, the Union Pacific Railroad. The lease will be renewed at the end of that period. The previous lessees, Anthony and Ida Quierolo, relinquished their lease early so that the Conservancy could take possession of the site.

Future excavations will help shed light on the length of the occupation, and the social and political systems of that time period. "After a century of farming, levee construction, and development, very few Central Valley archaeological sites are left, so it’s wonderful that The Archaeological Conservancy can preserve an important midden mound," said Wohlgemuth. "The artifacts and ecofacts preserved are significant to the scientific community in their vast potential to inform us about Native American use of the riverine and delta landscapes, and in reconstructing the pre-colonization landscape of this region." —Iris Picat
Preserving New Philadelphia

The Conservancy obtains a portion of the first town founded by a freed slave.

In 1836, New Philadelphia became the first town established by a free African American. It flourished until the new railroad bypassed it in 1869, at which point its population declined, and the town reverted to agricultural use over the following decades. (See “A New Life in New Philadelphia,” American Archaeology, Fall 2008.)

The Conservancy is partnering with the New Philadelphia Association (NPA), a local non-profit organization formed to protect the historical site. The Conservancy is purchasing about nine of the 42 acres.

The founder of New Philadelphia, Frank McWhorter, was an enslaved laborer who worked for a Scots-Irish plantation operator, George McWhorter, and he also took on paying jobs at neighboring farms. Frank bought his wife’s freedom in 1817, and his own two years later, for $800 each. He subsequently purchased the freedom of 14 more family members. He acquired a piece of land in Pike Country, in Western Illinois between the Mississippi and Illinois Rivers, next to a parcel where he lived. Frank divided the land, sold tracts, and registered the town as Philadelphia, later known as New Philadelphia.

New Philadelphia was strategically located to serve area farmers transporting agricultural products and other goods to the Mississippi and Illinois Rivers. With the planned construction of the railroad, land sales increased and the town developed. By 1865, the community grew to about 160 people in 29 households. It was also thought to be a stop on the Underground Railroad, the network of people who helped fugitive slaves escape to the north.

The Conservancy is purchasing what’s referred to as New Philadelphia’s downtown. “Archaeological research to date has revealed extensive remains of households and businesses concentrated in that north-central portion of the town site,” said Chris Fennell, an archaeologist from the University of Illinois who has investigated the site.

Archaeologists, historians, and descendants and local community members are especially interested in this town because of its multi-racial nature. “The town of New Philadelphia was an example of abolitionism at work, the sharing of a community by whites and blacks, both as neighbors and as members of the same family,” said Patricia McWorter, a fifth-generation descendant of Frank and a retired social worker, in a speech to the National Historic Landmarks committee. In 2009, the town was designated a National Historic Landmark; the highest recognition given to a cultural resource by the federal government.

New Philadelphia can help archaeologists explore the dietary contrasts between different households, understand the usage of space in town lots based on ethnicity, and reveal the lifestyles of groups who lived in bi-racial communities. The Conservancy’s acquisition “will greatly assist in conserving this exceptional historical resource and further facilitating future development of New Philadelphia,” Fennell said.

The NPA would like to see the town site developed as a public park that interprets the history and significance of the site, and the Conservancy is safeguarding the land until they have support and partners to make it happen. In the meantime, archaeological research that is being carried out with National Science Foundation funding will continue. —Iris Picat
The MacHaffie site has yielded evidence of Paleo-Indian occupation dating back to the Folsom period more than 12,000 years ago. It contains a Scottsbluff component dating to approximately 10,000 years ago, and it was also used off and on by Middle and Late Archaic hunter-gatherers dating from 7,000 to about 2,000 years ago. MacHaffie became the Conservancy’s first preserve in Montana last June, when Pamela Bompart, who has owned the site since 1975, donated it to the Conservancy.

MacHaffie is located a few miles south of Helena in the Prickly Pear Valley, at an elevation of about 4,200 feet. An amateur mineralogist found the site in the 1940s and mentioned it to Edmund MacHaffie, the owner and editor of the newspaper the Helena Independent, and from whom the site derived its name. MacHaffie’s wife later found a Folsom point there that had been exposed by erosion.

Archaeologists working with the River Basin Survey (RBS) visited the MacHaffie site in 1947 and recognized its scientific potential. The RBS program was organized in 1946 in response to concerns that post World War II public works programs, especially the construction of dams and reservoirs, might threaten cultural resources. The program, a collaboration between the National Park Service, Smithsonian Institution, and the Bureau of American Ethnology, located and performed salvage archaeology on sites in major river basins in the U.S. between 1946 and 1969.

In 1949, Carling I. Malouf was engaged by the RBS to conduct an archaeological survey at MacHaffie in advance of the development of Canyon Ferry Reservoir. Malouf, an archaeologist at Montana State University, Missoula, explored the site in the autumn of 1950. Later, Richard G. Forbis, an anthropology graduate student at Montana State, was encouraged by Malouf to investigate MacHaffie for his doctoral dissertation research project. In April of 1951, Forbis obtained permission from then property owner, James Bompart, Pamela’s father, to conduct excavations. In the summer of that year, Forbis and his small crew uncovered the artifact-rich Scottsbluff layer.

Forbis’ discoveries were trumpeted by newspaper articles and word of mouth, and the publicity attracted hundreds of looters who ravaged the Middle and Late Archaic cultural deposits and threatened the integrity of the underlying Paleo-Indian strata in some areas.

Pamela, then a young girl, witnessed the Forbis’ excavations, recalling the great white canvas wall tent and the crew members talking excitedly about artifacts spread out on a blanket illuminated by a kerosene lamp. Those memories inspired her to acquire the site and protect it from looters and development. She worked with the State Historic Preservation Office to list the MacHaffie site in the National Register of Historic Places in 1986.

A second doctoral dissertation focusing on the Forbis’ collection—a ground-breaking analysis of the Scottsbluff artifacts—was completed in 1973 by Ruthann Knudson, a graduate student at Washington State University.

In 1989, with Pamela’s permission, I began an investigation of the MacHaffie site as part of a broader study of Paleo-Indian sites in Montana. My research was supported by Montana State University and the Kokopelli Archaeological Research Fund.
An artist’s depiction of ancient people hunting bison with atlatls. Scenes like this may have taken place at MacHaffie.

Over the course of four seasons, I uncovered traces of Paleo-Indian deposits buried beneath the Folsom level. An examination of the tools recovered from these sub-Folsom deposits indicates that the stone selected by the Paleo-Indians of this time was markedly more coarse-grained than the high-quality cherts and quartzites quarried locally and selected for use by later Paleo-Indians. The deep deposits also included scattered fragments of carbonized, worked mammal bone. The bone couldn’t be radiocarbon dated because it’s been leached of collagen, possibly due to periodic submergence in groundwater. My work at MacHaffie resulted in my co-authoring two papers that were published in *Current Research in the Pleistocene*.

The artifacts recovered from my excavations include Folsom channel flakes, bifacial preforms, waste flakes from tool production, Scottsbluff points, and hafted end scrapers. Pamela has bequeathed the collection to the Montana Historical Society Museum.

—Les Davis is the director of Paleo-Mountain Archaeological Research.

### Conservancy Plan of Action

**SITE:** MacHaffie  
**CULTURE AND TIME PERIOD:** Folsom, Scottsbluff, Middle and Late Archaic (10000 B.C. to A.D. 1)  
**STATUS:** The site is threatened by rural residential development.  
**ACQUISITION:** Recently donated to the Conservancy by Pamela Bompart. Closing costs and the cost of developing a Management Plan are $9,850.  
**HOW YOU CAN HELP:** Please send contributions to The Archaeological Conservancy, attn: MacHaffie, 5301 Central Ave. NE, Suite 902, Albuquerque, NM 87108-1517.
The Frazier site is located southwest of the South Platte River in north-central Colorado. It was discovered in 1965 by geologist Frank Frazier, who told the late Marie Wormington, an archaeologist at the Denver Museum of Natural History, about it. In 1965-67, Wormington directed the Denver Museum of Natural History's excavation of the site. The excavators found over 40 partial bison remains, projectile points, scrapers, bifacial knives, gravers, and debitage. They also discovered a number of Agate Basin points associated with the bones.

“The site was definitely not a kill site. Based on our excavation, it seems more like a camping area in which bison were cut up and eaten,” said archaeologist Ruthann Knudson, who worked with Wormington. This was clear from the bison remains, which primarily consisted of the edible portions. The kill and primary butchering areas haven’t been found, but are assumed to have been nearby.

Frazier is distinctive in that it may be the only Agate Basin site in the Western United States that has no older or younger components. Carbon dating of the organic material in the soil directly above the cultural remains dates the Frazier site to around 9000 B.C. “This is an important area for recovering Paleo-Indian materials, which are still today relatively rare—particularly a definable site, not just surface materials,” said Knudson.

Frazier is the only Agate Basin site that’s been excavated in Colorado. Overall, 1,161 lithic artifacts and 20,012 pieces of bone were collected. But Knudson believes the site still has significant research potential, saying that they “didn’t attempt to take out every possible bit of material from the site—we excavated what we thought was a central point of site occupation within Wormington’s budget and schedule limits.”

The company that owned the land, Journey Ventures, L.L.C., planned to develop an open-pit gravel mining and materials processing operation that would have affected part of the site. Journey Ventures’ mining permit application was reviewed by the Colorado Historical Society, which informed the company that the Frazier site was located along the southern boundary of the proposed mining area. The Conservancy was also informed of the situation. After considering their options, Journey Ventures agreed to sell the 1.6-acre area containing the site to the Conservancy for a price less than market value in a bargain sale to charity. The combined efforts of Journey Ventures, L.L.C., the Colorado Historical Society, and the Conservancy have resulted in the preservation of Frazier. This is another example of the preservation and development communities joining forces to protect an important site. —Iris Picat

**Conservancy Plan of Action**

**SITE:** Frazier  
**CULTURE AND TIME PERIOD:** Paleo-Indian–Agate Basin Complex, 9000 B.C.  
**STATUS:** The site is located in a rapidly developing rural area adjacent to a new open-pit gravel mining and materials processing operation.  
**ACQUISITION:** The Conservancy has an option to purchase the site from the owners of the nearby mining operation in a bargain-sale-to-charity transaction. The purchase price and additional costs for developing management and public educational programs will be $52,600.  
**HOW YOU CAN HELP:** Please send contributions to The Archaeological Conservancy, Attn: Frazier Archaeological Site, 5301 Central Ave. NE, Suite 902, Albuquerque, NM 87108-1530
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5301 Central Avenue NE, Suite 902
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Investigating Poverty Point Culture

SOUTHEAST—The Poverty Point culture flourished in portions of the Lower Mississippi Valley—primarily Louisiana, Mississippi, and Arkansas—and it’s generally believed to date to approximately 1700-1000 B.C. It’s characterized by monumental architecture such as mounds and embankments, extensive long distance trade networks of raw materials, and the impressive lapidary works fashioned from these raw materials, such as highly polished jasper stone beads and ornaments.

The culture was named after its largest site, the Poverty Point State Historic Site, located in northeastern Louisiana. The second largest Poverty Point site is the Conservancy’s 70-acre Jaketown site in Mississippi. In addition to its Poverty Point occupation, Jaketown also has subsequent Woodland (A.D. 600) and Mississippian (after A.D. 1000) occupations, and several mounds and mound remnants from the Poverty Point and Mississippian periods.

While much research has been done at the type-site in Louisiana, no major excavations have taken place at Jaketown since the 1950s, when work was done on a borrow pit during highway construction. In June of this year, T. R. Kidder and Lee Arco of Washington University and Anthony Ortmann of Murray State University directed a joint field school at the site with the objectives of defining its chronology, examining its mound construction history, and analyzing soil sediments to determine how frequent flooding from the Mississippi River and its tributaries affected its occupations.

Centuries of flooding have deposited a large amount of soil over Jaketown, burying its earliest occupations deep below the surface. After digging approximately 12 feet down, the crew reached the dark soil that characterized the rich Poverty Point occupation zone. At this depth, they found what appeared to be a mound or some other type of earthwork.

The researchers also relocated a trench that was excavated during the 1950s as well as postmolds in the Poverty Point occupation zone that are indications of some type of structure. Almost nothing is known about the types of structures the Poverty Point people built. Samples for radiocarbon dating were collected to determine when the Poverty Point people lived at Jaketown, and how the subsequent Woodland and Mississippian
occupations evolved at the site.

“Washington University and Murray State University have begun one of the most interesting and exciting research projects in this region,” said Jessica Crawford, the Conservancy’s Southeast Regional Director, “and we are looking forward to future field seasons.”

Studying Population Change

SOUTHWEST—Samuel Duwe, a graduate student at the University of Arizona, recently mapped two Conservancy sites, Leafwater-Kap and Tsama, found along two branches of the Rio Chama in Northern New Mexico. The Leafwater-Kap and Tsama sites were inhabited by the Ancestral Tewa people after they coalesced into larger and fewer villages in the Rio Grande Classic Period (A.D. 1325-1600).

Duwe is examining the effects on the social and cosmological systems after the move. There were no inhabitants in the Tewa Basin until the Coalition Period (A.D. 1250-1325), when a wave of immigration, presumably from the Four Corners area, took place. But in the Classic Period, immigration was for the most part replaced by internal population growth. Leafwater-Kap is a Coalition period site and Tsama has a Coalition-Classic component. This provides tools “to see the change through time,” Duwe said.

Duwe mapped the sites, and he identified roomblocks, kivas, plazas, and rock alignments. Harry P. Mera, with the Laboratory of Anthropology in Santa Fe, mapped these sites in the early 1930s. Duwe compared his maps to Mera’s and found that they were very similar. However, there were a few discrepancies in the Tsama maps, most notably that Duwe noted five kivas and Mera only two.

Duwe has worked at nine other sites in the Tewa Basin and is currently analyzing data from those sites. “Simply put, I am doing this mapping to build a thorough cultural history of the region where I can see when smaller sites were abandoned and other sites grew in size,” he said.

Geophysical Survey at Barton

NORTHEAST—A recent geophysical survey of the Barton site has revealed new information about this important multi-component site. Barton forms part of a cluster of archaeological sites that are situated on two river terraces on the North Branch of the Potomac River in Western Maryland. Over the last 20 years, excavations led by Bob Wall of Towson University have shown that it spans 12,000 years from Paleo-Indian to early Historic times.

This spring, Tim Horsley from the University of Michigan’s Museum of Anthropology conducted a magnetometer survey of this 37-acre site owned by the Conservancy. A magnetometer can locate buried archaeological features such as pits, palisade trenches, and hearths by detecting subtle distortions in the earth’s magnetic field.

The survey results have changed the interpretation of the site. In addition to mapping the extent of Late Woodland occupation areas (ca. A.D. 900 to 1400), at least three new villages enclosed by palisades have been discovered. Two of these villages are situated adjacent to a previously known Keyser village (ca. A.D. 1400). Horsley thinks these villages could also date to the Late Woodland period, but until they are excavated he can only speculate.

These new results will now be used to guide future excavations at the Barton site to answer questions about their relative chronology and internal structure.

The research was sponsored by the Maryland Historical Trust and Towson State University, and the geophysical survey was assisted by members of the Western Chapter of the Maryland Archaeological Society and students from Frostburg State University.

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Chaco and After in the Northern San Juan: Excavations at the Bluff Great House
By Catherine M. Cameron
(University of Arizona Press, 2009; 280 pgs., illus., $75 cloth; www.uapress.arizona.edu)

Chaco Canyon in northwestern New Mexico was the center of a large and very complex culture that flourished in the 11th and 12th centuries before suddenly collapsing. Characterized by impressive architecture and multifaceted organization, the Chaco culture remains an enigma to archaeologists after more than a century of excavations and study.

In the early 1980s, archaeologists realized that there was more to the Chaco culture than the community in Chaco Canyon itself. Dozens of Chaco-style settlements were scattered across the San Juan Basin. Long, straight roads emanating from the canyon may have connected them into a regional polity, making the Chaco Phenomenon even more complex than anything anyone had imagined—certainly more sophisticated than any civilization north of Mexico.

The outlying settlements may well be the key for understanding the Chaco Phenomenon, yet they remain little studied. University of Colorado archaeologist Catherine Cameron has made a major contribution to Chaco knowledge in this volume. She and her team spent six years excavating a Chaco outlier in Bluff, Utah, some 75 air miles from Chaco Canyon. Cameron quickly determined that the large Bluff ruin (reduced to a large rubble pile over the centuries) was indeed constructed in the Chaco style, consisting of a massive, multi-storied Great House similar to the large buildings in Chaco Canyon, a great kiva, Chaco-style roads, and other diagnostic features. With the collapse of the regional Chaco system around A.D. 1130, the Bluff Great House was abandoned, and Cameron found a marked population decline in the entire northern San Juan region.

Cameron reports on her findings at Bluff and vicinity in a concise and readable report. It is richly illustrated with maps, drawings, and photographs that greatly enhance the text. Co-authors who worked at the site fill in many of the details. Yet this volume is much more than a report on the Bluff Great House. It is a fascinating study of how the Chaco system worked at its furthest distance from the center.

The Neighbors of Casas Grandes: Excavating Medio Period Communities of Northwest Chihuahua, Mexico
By Michael E. Whalen and Paul E. Minnis
(University of Arizona Press, 2009; 464 pgs., illus., $60 cloth; www.uapress.arizona.edu)

After the collapse of Chaco Canyon and Mesa Verde, a complex culture flourished in and around Casas Grandes (or Paquimé) in northern Mexico, with its peak dating from about A.D. 1300 to 1450. Unlike its northern neighbors, Casas Grandes is relatively little excavated and studied. Even so, it is widely recognized as a major regional system.

Archaeologists Michael Whalen and Paul Minnis are leading a new generation of scholars who are probing this culture. In The Neighbors of Casas Grandes they present findings that suggest a much earlier development—perhaps as early as A.D. 1180. They focus on the complex relationship between the central city and the surrounding communities as the civilization grew in numbers and power. Prior to 1300, the level of regional organization remained low, but a well-organized polity formed in the later years. The influence of the central city is evident from the large number of ritual and architectural features, most notably ball courts, found at the surrounding communities.

This is an outstanding contribution to the understanding of a great culture of the Southwest that has suffered in obscurity for too long.
Gold Rush Port: The Maritime Archaeology of San Francisco’s Waterfront
By James P. Delgado
(University of California Press, 2009; 256 pgs., illus., $45 cloth; www.ucpress.edu)

Who would guess that underneath the Financial District in downtown San Francisco lie the remains of the original port complete with ships, wharves and buildings? Between 1849 and 1851, the Gold Rush waterfront exploded with commerce from around the world as the city grew from a few hundred to many thousands of people. Described as a “forest of masts,” hundreds of ships created a floating economy where a dazzling array of goods was traded. On May 4, 1851, a major fire destroyed much of the waterfront and some 22 million cubic yards of fill gradually buried the charred remains as the waterfront shifted eastward.

As the area developed and redeveloped, much of the archaeological site was destroyed. Collectors salvaged what turned up in construction projects. By the 1980s, however, city and state officials, prompted by the requirements of the Historic Preservation Act took renewed interest in preserving and studying the old waterfront. To date, at least seven sites have been professionally studied, most recently the General Harrison, a storeship that burned in the 1851 fire.

In this volume author James Delgado, a maritime archaeologist, presents a vivid picture of the city’s early maritime history, including the economy and world trade that nourished the city’s growth. Archaeology contributes material culture to the story as preservation in burned structures is uncommonly good. Bottles of preserves and liquor, leather boots and jackets, even crocks of butter have been recovered intact. Hulls of the ships provide a snapshot of maritime architecture. Gold Rush Port is a fantastic tale of maritime history on the Pacific frontier. —Mark Michel

Remembering Awatovi: The Story of Archaeological Expedition in Northern Arizona 1935-1939
By Hester A. Davis
(Peabody Museum Press, 2008; 216 pgs., illus., $35 cloth, $19 paper; www.peabody.harvard.edu/publications)

Hester Davis writes: “When the food is good, the research interesting, and the weather fine, when the accommodations are adequate, the people compatible, and the diversions enjoyable, then living in an archaeological camp is an experience worth treasuring. And so it was at Awatovi.” And so it is in Remembering Awatovi, a nostalgic look back at the camp culture surrounding the Awatovi excavations of the 1930s.

Awatovi is one of the earliest villages along the Antelope Mesa on what are today Hopi lands. Occupied between A.D. 700 and 1700, the village went through numerous changes, integrating Keresan, Hopi, and katsina cultures around 1000 and suffering through the Spanish conquest during the 1600s. In 1700 the village was permanently abandoned, a casualty of the splintering effect that the Spanish missionary movement had upon the Hopi.

Remembering Awatovi focuses upon the people who participated in this remarkable archaeological expedition, and the important contributions this project made to the field of archaeology. Jam-packed with photographs, maps, and serigraphs, it is a visual delight, and the winner of the 2009 Independent Publisher Gold Award for Best Regional Non-Fiction.

—Cynthia Martin
Guatemala Highlands and Copán

When: January 7–17, 2010
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Rain forests, snow-capped volcanoes, and magnificent lakes make up the landscape of the ancient Maya in the highlands of Guatemala. On our tour you’ll experience a complete spectrum of history—from ancient Maya ruins to modern-day Maya cities. Our travels will take us from beautiful Lake Atitlán to the Honduran rain forest, where we will visit Copán, considered to be the crown jewel of the southern Maya cities. John Henderson, one of the nation’s leading Maya scholars, will accompany us on the tour.

This stele depicts 18 Rabbit, one of Copán’s greatest rulers.
The spectacular pyramid El Castillo is one of the main attractions at Chichén Itzá.

Maya of Yucatán and Calakmul

**When:** February 11–21, 2010  
**Where:** Mexico  
**How Much:** $2,695 per person ($325 single supplement)

From A.D. 300 to 900, a brilliant culture flourished in the Yucatán Peninsula of Mexico—the Classic Maya. We’ll visit some of their most splendid sites including Dzibilchaltún, Balankanche Cave, Mayapán and Chichén Itzá. We’ll also drive deep into the forest to visit Calakmul, which has been undergoing significant excavations in recent years. Calakmul is believed to be the largest of all the Maya cities. More than 100 steles and 6,500 structures have been discovered so far. During the Late Classic it dominated the entire southern Yucatán. Accompanying us will be Maya expert John Henderson.
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