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a quarterly publication of The Archaeological Conservancy

Vol.1 No.1

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CHACO

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Vol. 1 No. 1

Cover Feature

NOT ALL ROADS LEAD TO CHACO

BY DAVID GRANT NOBLE

Ancient roads in the Southwest's San Juan Basin have baffled researchers for years. David Noble introduces readers to these mysterious, monumental etchings on the land.



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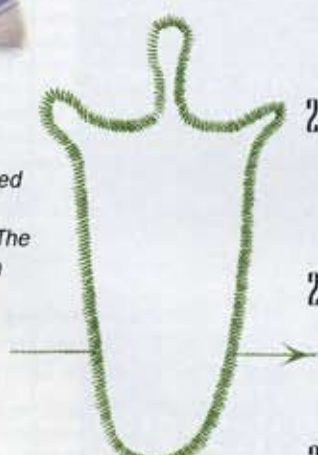
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COVER: Pueblo Bonito in Chaco Canyon is the focus of several roads. Photo by William Stone.

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How to Say Hello: by mail: The Archaeological Conservancy, 5301 Central Avenue NE, Suite 1218, Albuquerque, NM 87108-1517; by phone: (505) 266-1540; by e-mail: 104017.3526@compuserve.com



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PUBLISHER: Mark Michel

EDITOR: Rob Crisell

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The Lay of the Land

An Archaeology Magazine for the Americas

Welcome to your first issue of *American Archaeology*. This magazine is for members of the Conservancy and for all those who appreciate and want to learn more about America's archaeological heritage. For those of us who have long been frustrated in our search for news of North American archaeology, this magazine should be a welcome sight. We will report on a variety of topics, from the latest developments in technology to the newest archaeological finds. In each issue, we will bring you the most interesting, the least known, and the most up-to-date happenings in American archaeology. We will also inform you of upcoming conferences, exhibits, and archaeological events, and introduce you

to the latest in publications for informed amateurs.

Since *American Archaeology* will take the place of our newsletter, it will continue to detail the activities of the Conservancy. In fact, you will now have more extensive reports on our acquisition projects, tours, and other activities, including efforts around the nation to

preserve our cultural heritage. Please write us with your suggestions and ideas. Together we can make this a great publication.

Sincerely,

Mark Michel

Mark Michel
President



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Archeology, Photography, & Writing 6/20-23

ANASAZI SANDALS Martha Stanley 6/24-28

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TRADITIONAL PUEBLO POTTERY

Sharon Dryflower Reyna / Soje Track 7/28-8/2 ; 9/15-20

PETROGLYPHS & ROCK ART Paul Williams 8/1-3 ; 9/19-21

PUEBLO MASKMAKING Bernadette Track TBA

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in the NEWS

Excavations Continue at Colonial Shipwreck in Texas



The crest from the bronze cannon recovered from the excavation of La Belle.

Archaeologists with the Texas Historical Commission are wrapping up a yearlong, \$4-million excavation of the wreck of the French ship La Belle in Matagorda Bay off the coast of Texas.

Discovered in the summer of 1995, the historic shipwreck of *La Belle* is one of the most significant underwater discoveries in this hemisphere. The preservation of *La Belle's* hull and cargo in 14 feet of water has been aided by a thin layer of silt that has covered the objects for more than 300 years. The excavation is being directed by James Bruseh of the Texas Historical Commission (THC) and is expected to continue through March.

La Belle was one of four ships that formed an expedition led by French explorer Rene-Robert Cavalier, Sieur de La Salle, who was commissioned by King Louis XIV in 1684 to locate the mouth of the Mississippi River from the Gulf of Mexico and start a permanent settlement. In 1686, as La Salle explored by land, *La Belle* wrecked in a storm and ran aground.

The search for the ship's remains has been ongoing since the late 1970s. Finally, in the summer of 1995, a large, ornate bronze cannon weighing 800 pounds, and several other artifacts, were discovered on the bay side of the Matagorda Peninsula. Last summer, archaeologists led by J. Barto Arnold, State Marine Archaeologist with the THC, erected a cofferdam around the 320-square-foot site, pumping water out to allow for dry-land excavation of the wreck. The rarely

used cofferdam method has been very successful.

One of the most significant finds was a well preserved, nearly complete skeleton of an adult male. Gentry Steele, a physical anthropologist with Texas A&M, is conducting analysis on the skeleton, as well as on several other skeletal fragments that were recovered from the site.

Preservation of the skeleton is so good that some soft tissue survived, allowing for DNA analysis and possible identification of the individual. Many other artifacts have been recovered, such as candlestick holders, pewter plates, pottery vessels, strings of glass, and munitions. Recent excavations have turned up several navigational instruments, an ornate sword hilt, and numerous elaborately decorated brass objects.

The shipwreck is the oldest French colonial vessel found in the New World, and provides valuable information regarding an important transitional period in naval architecture that is unavailable in written form. After the excavation is completed, artifacts will be analyzed and conserved at Texas A&M, and a permanent exhibit is planned.

Visit the Texas Historical Commission's web site to get the latest news on the excavation: <http://www.thc.state.tx.us/belle/index.htm>.

New Stela Discovered at Tikal

Last summer, Guatemalan archaeologists discovered a stela belonging to K'an Ak on the north side of Temple 1 in Tikal, Guatemala. Some researchers are calling the find the most significant since William Coe discovered Stela 31 in the 1960s. Stela 40 contains 92 glyphs, and epigraphers say it was dedicated in A.D. 478.



Maya emblem glyph for Tikal

The stela appears to have been deliberately broken during the Caracol conquest, and later reverentially reset inside a nearby temple. Juan Antonio Valdes, director of Guatemala's *Instituto de Antropología e Historia*, believes that Stela 31 and Stela 40 could be the work of the same sculptor. According to Federico Fahsen, a Guatemalan epigrapher working on the project, Stela 40 is somewhat eroded. Still, he says, "the quality of the carving is superb."

Alaska's Oldest Human Remains Found

a human jaw bone with most of its teeth in place, a pelvis fragment, and several vertebrae, recovered from a cave on Prince of Wales Island in southeast Alaska's Tongass National Forest on July 4, 1996, have been radiocarbon dated to approximately 9,000 years ago. The remains are believed to belong to the same individual, a male in his twenties.

The cave was discovered in 1993 by employees conducting resource inventory for Harza, Inc., who alerted the Tongass Cave Project. In 1996, Timothy Heaton, a paleontologist at the University of South Dakota, led a two-week-long excavation of the cave accompanied by Fred Grady, fossil preparator with the Smithsonian Institution, and several Alaskan cavers. Evidence of human presence in the cave was discovered when excavated cave sediments revealed several artifacts: a pointed bone tool found immediately adjacent to the human remains, and a stone projectile point and notched bone tool, which were found farther inside the cave. The human remains and artifacts are currently being studied at the Denver Museum of Natural History under the direction of James Dixon, curator of archaeology.

"These are the oldest human remains found in northwest North America," explains Heaton. "The remains, along with the presence of fossil mammals, suggest that this area was partly ice-free during this time and could have been the route by which humans first entered North America."



A spear point from Prince of Wales Island.

Bones of Civil War Soldier Found Near Gettysburg

Bones from a crudely buried Civil War soldier were washed out of a railroad cut near Gettysburg, Pennsylvania, by heavy rains last September. Smithsonian Institution forensic anthropologist Douglas Owsley, conducting analysis as a public service, and archaeologists working under a grant from the National Park Service, are trying to piece together what happened to the soldier 133 years ago. Researchers have learned that the 20- to 24-year-old soldier was killed by a gunshot wound to the head in a battle that took place July 1, 1863, that he

rode horses, and was likely a farmer.

Despite the rarity of Civil War burials, which are almost always accidental discoveries, Owsley emphasizes their great potential for information, given the combined application of historical records and modern forensic techniques, which in some cases enable identification of the individual.



Examining bone fragments of the Civil War soldier.

In the Wake of the Mesa Verde Fire

Last summer's fire at Mesa Verde National Park burned 5,000 acres, destroying nearly 1,500 acres of old piñon-juniper forest and one petroglyph panel, and affecting several other sites as well. While grass is already returning to the burn area, some archaeologists have been busy with a side effect of the fire.

For many years, researchers have known that sites relating to the Mesa Verde complex must be hidden underneath the trees, shrubs, and other vegetation in the park. Several hundred sites were known to archaeologists in the burn area. As the fires of August subsided, archaeologists discovered 100 new sites. Many more finds could be imminent. "We were surprised at the number of sites that had never been documented," says Sarah Craighead, the archaeologist in charge of the project. "We didn't expect to find the extensive, unrecorded complexes that are in the burn area."

Craighead heads a team of 21 archaeologists that has been working since last October to survey and catalog the new finds. New sites include a tower and kiva complex surrounded by room blocks, as well as several unrecorded cliff dwellings. Craighead estimates that there may be 300 undocumented sites in the area of the burn.

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NOT all roads



Pueblo Pintado is one of Chaco's most impressive outliers.



lead to... CHACO

The Navajos called them racetracks. Archaeologists once thought they were canals. What were the Chaco roads? People have speculated that the roads were pilgrim routes, highways for hauling logs, military thoroughfares, even spiritual power corridors. As the roads go, so go people's feelings about Chaco Canyon. Was it a despotic empire, an Anasazi Mecca, or a trade center? For many, the answers to these questions can be found somewhere down the roads . . .

Like the spokes of a wheel, Chaco's ancient roads seem to radiate out from the monumental Anasazi center in Chaco Canyon to distant satellites in New Mexico's San Juan Basin. But did these long, straight, often 30-foot-wide linearities really lead anywhere? After decades of research, archaeologists still vigorously debate the riddles of the roads: Where did they lead? What motivated their builders? How were they used?

Near the center of the San Juan Basin, far from most natural resources such as water and fuel, lie Chaco Canyon and the remains of a dozen once-magnificent pueblos. The jewel of these sites is Pueblo Bonito, a five-story, terraced structure of finely crafted masonry. Bonito's builders were the Anasazi, the likely ancestors of today's Pueblo Indians, whose farming culture thrived in the San Juan Basin between A.D. 1 and 1300. Bonito was the product of a cultural phenomenon that began around A.D. 900 and ended in the mid-1100s. It was also the starting point of several prehistoric roads.

When the extent of Chaco's roads was first realized from 1930s aerial photographs, archaeologists thought the faint linear traces across the landscape were canals. Beginning in the mid-1970s, a spate of intensive field surveys of Chacoan roads and outliers (Anasazi settlements related to Chaco Canyon) produced detailed new data. Still, after decades of research and analysis, the roads remain enigmas. Scholars even question the term *road*, with its connotations of travel and transportation.

The Chacoan roads weren't trails. Their straightness, width, and tendency to go over rather than around topographic obstacles, speak of engineering. Ancient road crews assiduously excavated segments in the earth, cleared away stones, cut out stairways, and built scaffolding and ramps. They carved linear grooves into bedrock and dug road cuts. They also constructed masonry walls, earthen berms, and curious crescent-shaped structures called *berraduras*, which are thought to be shrines.

Perhaps the most astonishing attribute of Chacoan roads is their relationship to many outlying Anasazi com-

By David Grant Noble

“Building roads for the Chacoans was similar to the Egyptians building pyramids.”

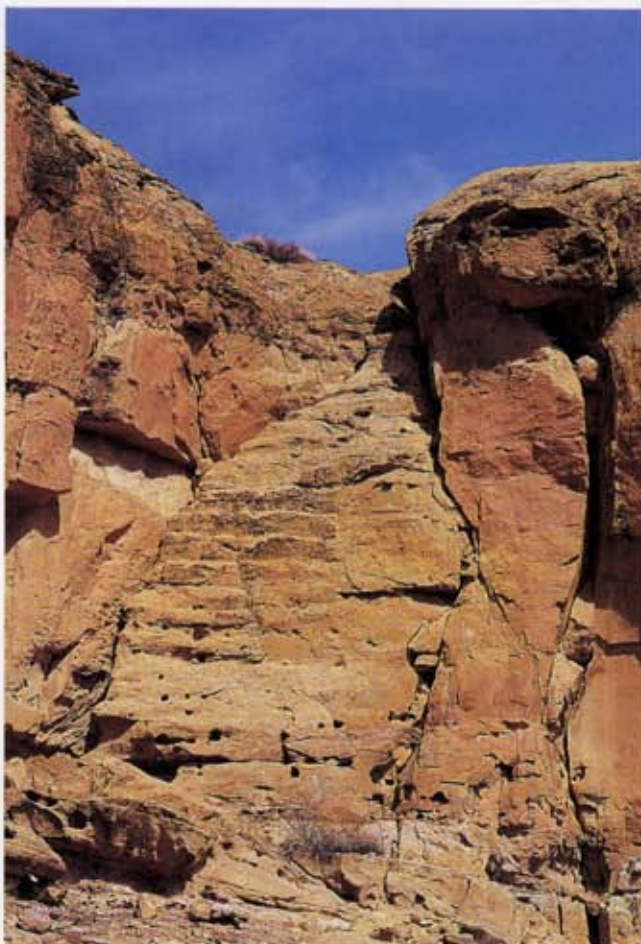
munities, some more than 100 miles from Chaco Canyon itself. Chaco's outliers have many unique characteristics, the most outstanding of which is the *great house*. Great houses were prominently situated, massively constructed, multi-storied buildings with fancy Chaco-style masonry, interior kivas, and enclosed plazas. In their resemblance to the canyon's great houses, outliers would have dominated the landscape and must have awed the Anasazi residents who lived nearby.

To enhance their visual aspect, some great houses were encircled by aureolas, excavated depressions within constructed earthen berms. Usually a great kiva, a large, circular subterranean structure used for community gatherings, was located nearby. Finally, roads converged upon the complex, most no more than a few hundred yards in length while others reached out for many miles.

Archaeological maps from the mid-1980s showed eight or nine major roads leading out of Chaco Canyon. A 1989 study estimated their total length at about 1,500 miles. John Roney, an archaeologist with the Bureau of Land Management in New Mexico, has ground-verified many fuzzy lines that show up on aerial photographs, and he questions the existence of some of these roads. He has identified more than 60 road segments [see road map on opposite page], many of which are very short or have no known destination.

“The Great North Road and the South Road are definitely there,” says Roney, naming two other, lesser roads as

well. “My special peeve, though, is the urge some people have to connect the isolated segments shown on maps and call them roads.” Roney's own ground-verified road segments total a mere 130 miles.



The Chacoans cut stairs into stone cliffs in order to keep roads straight. These stairs are near Hungo Pavi.

Preserving Chaco for the Future

If archaeologists ever hope to unravel the riddle of Chaco Canyon and its outliers, all of us must work to preserve endangered sites. For decades, the National Park Service has carefully managed the famous monuments within Chaco Canyon. Chaco's many outlying communities, however, have often been left unprotected. In 1980, Congress established a Chaco Outlier Protection System that seeks to preserve 33 of the most outstanding outliers. Amendments passed in 1995 raised the number of safeguarded outliers to 39 and strengthened management through aid to the Navajo Nation, which owns most

of them. Having preserved the Candelaria and Andrews Ranch outliers, The Archaeological Conservancy, in cooperation with the Bureau of Land Management, is seeking to acquire other privately owned outliers.

Chacoan roads are a different story. The roads remain at risk primarily because most people don't know they exist. Also, the development of coal, oil, and natural gas in the San Juan Basin is a constant threat to road preservation. We can only hope that as public awareness about the roads increases, road-preservation efforts of regional land managers will become easier.

Chaco as a Working Cooperative

Early archaeologists viewed Chaco Canyon as an isolated phenomenon. Since the 1980s surveys, though, most scholars agree that the definition of *Chacoan*—great houses, great kivas, distinctive architectural design and ceramic styles, and roads—describes some kind of integrated system within the greater Southwest. According to W. James Judge, professor of anthropology at Fort Lewis College in Durango, Colorado, and former director of the Chaco Center, it is this regional perspective “that will reveal the true nature of the thing we call Chaco.”

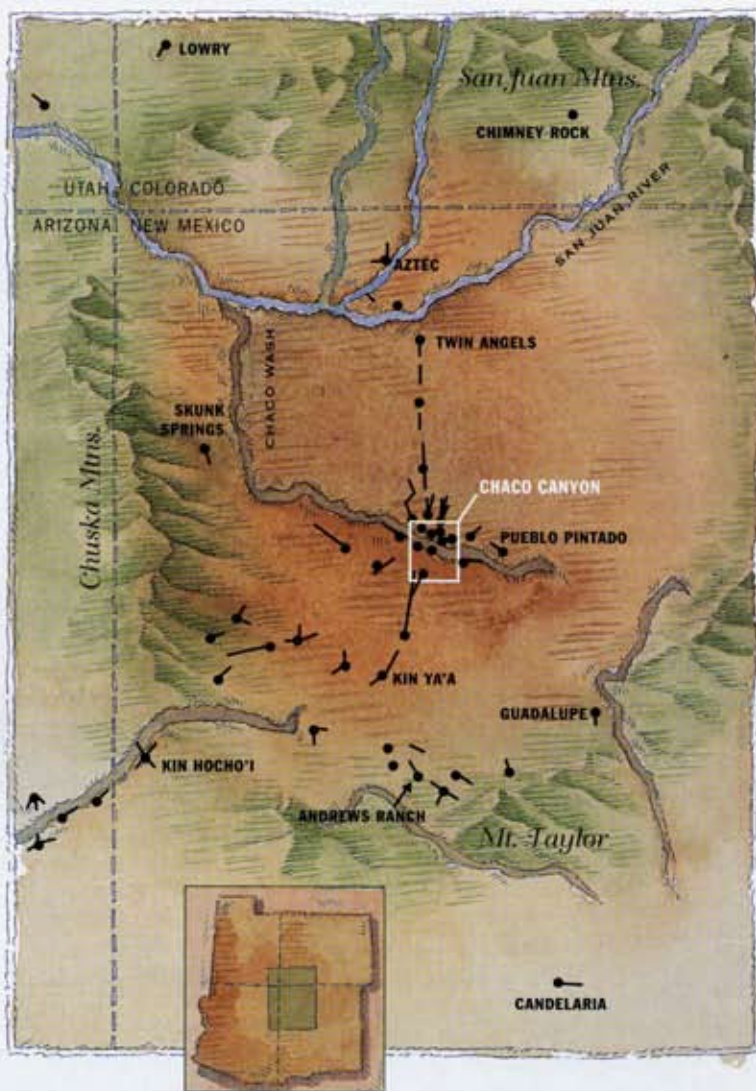
One of the most obvious links in the system is Chaco’s network of roads. Judge thinks that the San Juan Basin’s harsh climate (average annual rainfall is only nine inches) was a key factor in determining the behavior of pueblo farmers. In order to endure the region’s unpredictable climate and erratic summer rains, and to equalize food stores, scattered Anasazi settlements formed mutually beneficial alliances. Groups within the network exchanged corn and other staples when a crisis arose. According to Judge, a formalized exchange system developed, monitored by the center, Chaco Canyon.

Judge envisions a scenario in which processions of Anasazi from the hinterlands traveled the roads to gather in Chaco Canyon for periodic scheduled festivals. Here they participated in dances designed to bring rain and fertility, and in ceremonies involving food, pottery, and turquoise, to confirm their place in the Chacoan ritual system. For Judge, Chaco’s spectacular buildings were home to a privileged group whose members possessed esoteric knowledge regarding the all-important ritual calendar.

Chacoan Armies on the Move?

Other Chacoists take exception to any idea of a system of economic cooperation. Lynne Sebastian,

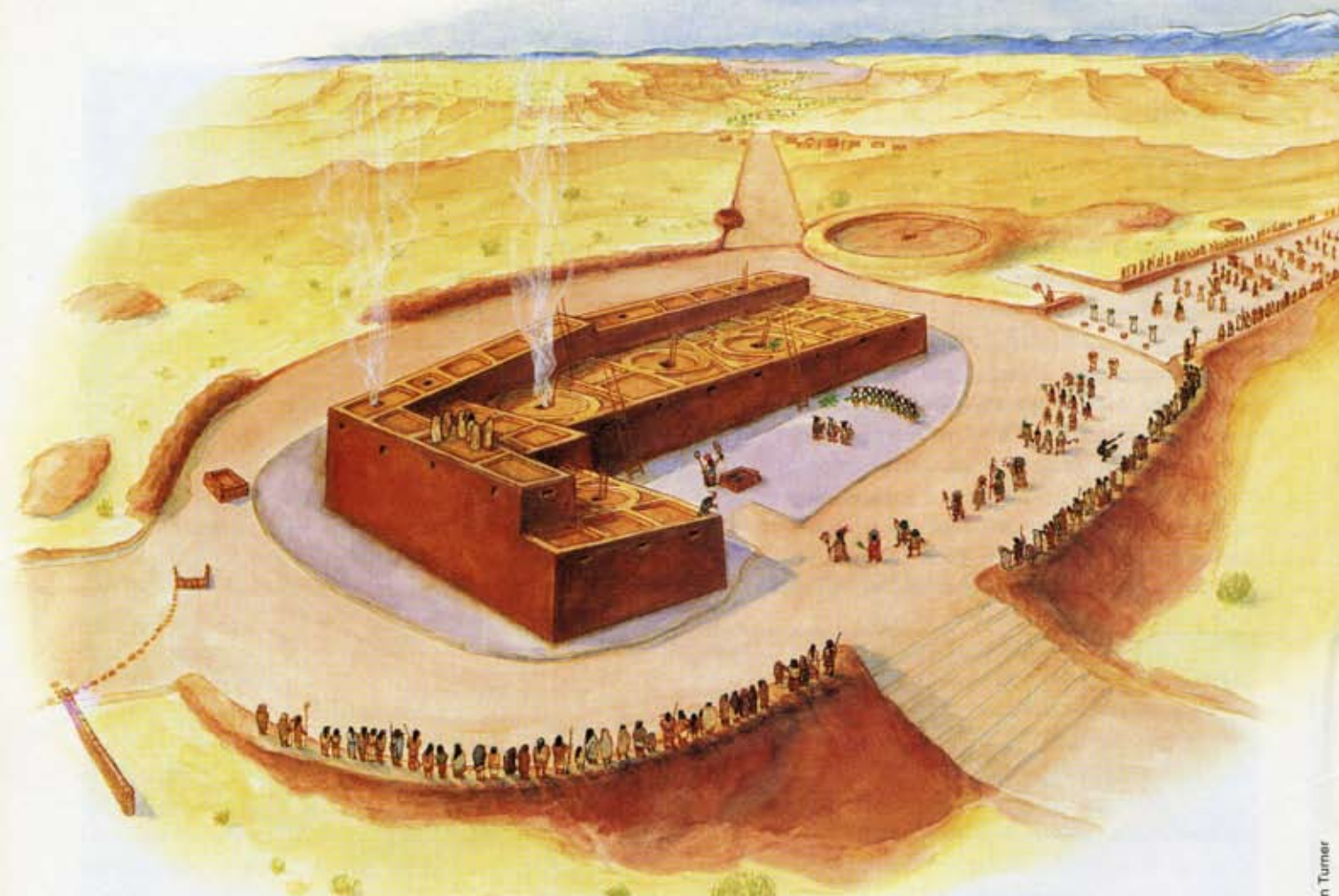
Turquoise, pottery, food, and other goods may have been traded using the roads. This turquoise-covered vase was found at Pueblo Bonito.



New Mexico's State Archaeologist, thinks it's unlikely that hard-up communities would have shared their already depleted food stores. Instead, she believes such conditions would have produced social tensions, giving rise to differences in political and social power within the entire society.

Several years ago, senior research archaeologist David R. Wilcox at the Museum of Northern Arizona, listened to Sebastian's opinion and, as he puts it, “The light bulb went on.” Wilcox suggests that 11th-century Chacoans may have evolved into a two-class state. In his model, elite families residing in Pueblo Bonito and Chetro Kettle ruled over distant great-house communities. From the canyon, the Chacoan juggernaut could have advanced against its agriculturally successful neighbors, demanding

There are at least 40 outliers in and around the San Juan Basin associated with roads or road segments. This map, based on the research of archaeologist John Roney, shows that most roads didn't link outliers together.



PROCESSION INTO THE VILLAGE • *Some researchers think the short road segments associated with many outliers were used in religious ceremonies. In the artist's rendering, a religious procession enters the aureola surrounding the great house of Kin Hocho'i as villagers look on. Besides the great house with its tower kivas and Chacoan masonry, other aspects of an outlier are a great kiva and roads.*

tribute in the form of food and labor. "Pueblo Bonito and Chetro Keti could have served as a royal palace," says Wilcox. "Or they could have been the capital of a simple state, with the Chacoan outliers serving as the seats of tributary, territorial chiefs of the ruling families in the Canyon."

Wilcox recognizes the religious and ritual importance of Chaco Canyon, but suspects it was the power of Chaco's elite over its outliers that drove the system. Recruited laborers would have constructed the roads and the great houses, including defenses to protect the elite rulers, and barracks to house military forces. The roads would have facilitated the rapid transit of Chacoan warriors bent on pillage and tribute in much the same fashion as did Roman roads, a continent and a millennium removed from the San Juan Basin.

Wilcox thinks Chaco's system adapted to changing historical conditions and relationships. "Judge's model is too static," he says. "We have to come to grips with changes through time." By A.D. 1100, Wilcox thinks, the power of Chaco's ruling class had diminished, allowing outlying communities to challenge the old order. Now, instead of bringing tribute over the roads, Chaco's warriors marched

south to communities like Kin Ya'a to build defensive fortifications, or tried to check Aztec's growing independence in the north.

Wilcox's militaristic model of Chacoan society is not widely accepted by his peers. John Roney, for instance, who has worn out many pairs of boots trekking Chacoan roads, points out that virtually no evidence exists that roads were used in a traditional way. "You just don't find litter or campsites along them," says Roney. He and others believe the roads were monuments. "Building them was similar to the Egyptians building pyramids. The point was *building* the roads, not *using* them."

The Cosmology of the Roads

From Bonito and Chetro Keti, several roads ascend Chaco Canyon's north cliff to converge on Pueblo Alto. From Alto, the Great North Road heads 13 degrees east of north for a couple of miles, then due north for 30 miles across vacant sagebrush country and badlands to Kutz Canyon.



Beyond that, no trace has been found.

The North Road has been of special interest to Michael Marshall, the director of Cibola Research Consultants. Marshall thinks that it's only our contemporary, cultural bias that makes us want to have a road lead to a destination. In his search outside of traditional archaeological data, he has found two concepts in Pueblo Indian cosmology that may shed light on the significance of the North Road: Middle Place and the direction north. Middle Place represents the convergence of the four cardinal directions, plus the nadir and the zenith. In the Chacoan world, Pueblo Bonito, with its cardinally oriented layout, was the Middle Place, says Marshall.

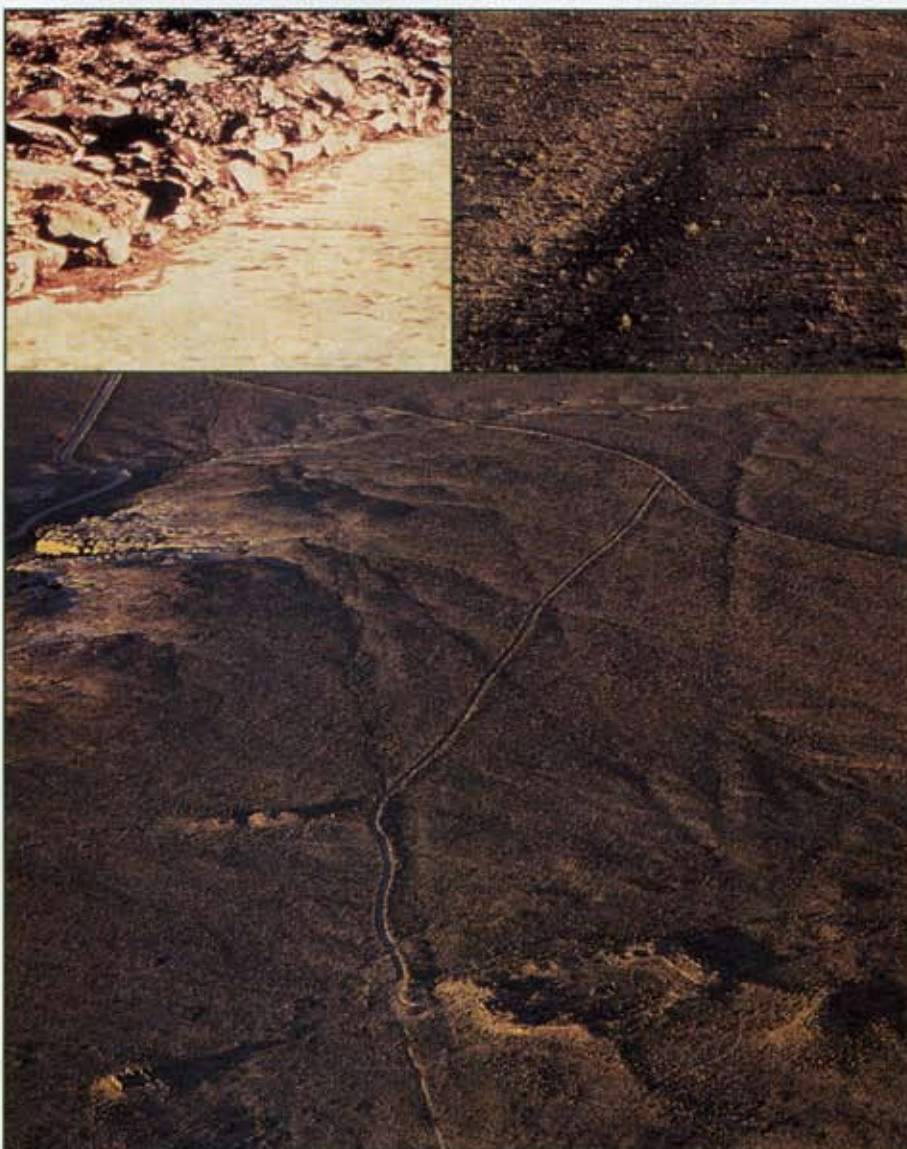
North is the primary direction in the mythology of the Keresan-speaking Pueblo Indians, believed by many people to have Chacoan roots. "North leads to the place of origin," explains Marshall, "the place where the spirits of the dead go." The North Road could have been the umbilicus to the underworld and a funnel of spiritual power. "It's a road to a direction," he says. "It's a metaphor—it existed before it was ever built."

John Stein, an archaeologist with the Navajo Nation's Historic Preservation Program, also sees the road's possible metaphorical importance. "I don't work in the ethnographic domain," says Stein,

"but the orientation is real, and cardinality is at the root of many meanings. Kutz Canyon could be the Anasazi Hades." Like Marshall, Stein finds

no trace of the North Road beyond Kutz Canyon.

Recently, Stein has been investigating a complex of Chacoan sites in Manuelito Canyon, located 70 miles southwest of Chaco Canyon. These sites span a period of 600 years, from A.D. 700 to 1300. The earliest, Kin Hocho'i, was occupied during the classic Chacoan era



From top left to bottom: A Chacoan road segment excavated in 1974 by the Chaco Center Project; close-up of a road segment near Crownpoint, NM; view showing prehistoric roads heading north from Pueblo Alto.

from A.D. 700 to 1150. When it was abandoned, its occupants probably built Ats'ee Nitsaa where they lived for another century. Stein was amazed to discover that these non-contemporaneous sites were connected by a road. He calls roads like these, which link the old with the new, time bridges or umbilicals. "The spiritual essence of the great houses," he explains, "was being moved through time down the roads."

Stein, with Stephen Lekson of the University of Colorado, notes that political power is legitimized by religion in most societies. The built environment of Chaco, from great houses to roads, may have been a symbolic stage on which the Anasazi enacted their beliefs.

The Future of Road Research

What does the future hold for road research? John Roney thinks new insights might come from ethnographic studies of other cultures. "Social complexity leads to the construction of monumental works," he says. "This is a phenomenon we've seen over and over again in human history."

John Stein sees much future research potential in new technologies. He and Richard Friedman, director of

Geographic Information Systems in Gallup, New Mexico, are taking high-tech multispectrum imagery obtained from NASA, color infra-red photographs, and 1930s black-and-white aerial pictures, and converting them into digital information. By enhancing different conditions such as light, heat, and vegetation, they are able to spot previously invisible road features. Stein says archaeologists are now able to situate themselves precisely on the real landscape using the new Global Positioning System. "Before that," Stein recalls, "we were lost all the time."

Jim Judge is still optimistic about solving the mystery of the roads. He believes archaeologists can learn much more about the Chacoan puzzle if outliers and roads can be safeguarded. "Our efforts now should be directed toward preservation," he says. He also believes that Chacoan research could prove valuable for today's society. "Technology won't always be available to solve our problems," he warns. "When that happens, we will be able to learn from Chaco."

DAVID GRANT NOBLE is a freelance writer and photographer who lives in Santa Fe, New Mexico. He is the author of several books, including *Ancient Ruins of the Southwest*.



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FRANCE'S GREAT AMERICAN EXPERIMENT

Old Mobile



In the humid swamps of southern Alabama, archaeologist Greg Waselkov is finding new clues on how Native Americans influenced the early 18th-century settlement of Old Mobile, the first capital of French Louisiana. Substantially untouched by development or looters, Old Mobile and its fort serve as time capsules of French colonial life as it appeared nearly three centuries ago. **by Renee Paul**

GREG WASELKOV SURVEYS HIS SWAMP.

The archaeologist with the University of South Alabama (USA) has devoted the better part of eight years to studying the site of Old Mobile, the first French settlement on the Gulf Coast after La Salle's disastrous Texas-coast colonial venture in the 1680s. Waselkov and his team at USA have uncovered eight structures at Old Mobile since 1989, but he believes there could be as many as 55 structures in all. Work has sometimes been very slow. Oddly, the forces that hinder this archaeological work are probably the same ones that caused 250 people to abandon a town and move elsewhere, as the colonists of Old Mobile did nearly 300 years ago.



IN 1702, THE GOAL IN THE NEW world for King Louis XIV was simple: halt British expansion from the east. The entire hemisphere was the scene of a worldwide power struggle. While the Spanish controlled most of Central and South America and Florida, and the British laid claim to nearly all of the eastern North American seaboard, Old Mobile's placement near the mouth of the Mississippi River gave France command over much of the continent's interior. By dominating the Mississippi drainage, the French hoped to stop the westward migration of their British rivals.

However, the French were outnumbered by the British in North America ten to one. They had to adopt

Old Mobile was a long way from the courts of Versailles, but it was a start. So why did French settlers abandon it after only a decade?

"It's impossible to enjoy this site in the summer because of the deerflies," explains Waselkov, glancing at one of the 15,000 little yellow flags that mark the locations of shovel tests on the site. "One of my staff, Jody Badillo, was out here during the summer. There were hundreds of flies swarming around everyone all day long. Jody had a lot of energy; every once in a while he'd run down the path with the flies following him and duck under a big spider web, and they'd get caught in there. That would give him two minutes of relief."

Despite the annoyances of working in a swamp, the 73-acre Old Mobile site—located in an industrial park owned by E. I. duPont de Nemours, Akzo, Courtaulds Fibers, and Alabama Power, all of whom protect the site and support Waselkov's research—is starting to produce. Some of the most interesting insights gained from the archaeologist's work at Old Mobile involve the blending of cultures that came as a result of French contact with the Indians.

a different frontier diplomacy from their aggressive counterparts. While the British sought to divide and conquer the Indians, the French tried to create allies, using them as buffers against attack as well as sources of trade. This tactic had worked well enough for the French in their colonization of French Canada; they were confident the same approach could work in the South. It was Canadian war hero Pierre Le Moyne d'Iberville whom Louis XIV called upon to establish his namesake colony on the Gulf Coast. Iberville situated the first capital of Louisiana on a bluff 27 miles up the Mobile River, next to Fort Louis. He named the new colony Mobile after one of the town's most important tribal neighbors, the Mobilians. It was a long way from the opulent courts of Versailles, but it was a start.



Kreb's House, built around 1780 in Pascagoula, Mississippi, includes this room built in the French style with bousillage walls. Most of Old Mobile's structures were built using this method.

ON GREG WASELKOV'S FIRST excavation of Old Mobile in 1989, he uncovered the clay floor of a typical, half-timbered, 1702 house. Except for the floor, all



that remained were small trenches in the soil, some brick rubble, and dark stains in the earth where walls once stood. These were the last signs of the kind of Old Mobile house that soldiers built for the colony's 27 families. The house's pine-beam skeletons were sturdy but no match for the Gulf Coast rains and microorganisms that quickly rotted them. The walls, made out of *bousillage* (a mixture of clay and Spanish moss) fared even worse.

Even though Old Mobile's architecture has disappeared, the three-room house Waselkov and his team first excavated yielded some of the site's most important

artifacts—tiny lead seals from bolts of cloth shipped to Louisiana from France. The seals, clipped to the ends of the bolts, were designed to prevent pilferage on the voyage over to the New World. "What we wanted to find was something that would definitively identify the site as Old Mobile," remembers Waselkov. "There was hardly

any question in our minds, but we were really looking for something that would clinch it. About midway through the excavation we started finding these little lead seals. It took us a while to find one with a legible inscription on it, but finally we came up with one that had the 1701 date."

ONE OF IBERVILLE'S MAIN GOALS IN SETTLING Old Mobile was to establish a working relationship with the region's Indians. As he had seen in Canada, such a relationship could both fatten the French treasury and secure an important North American region against British incursion. Unfortunately for the French, Louisiana was never a very profitable colony. With their

country fighting its own battles in the War of Spanish Succession back home, French settlers in the New World were increasingly ignored. When shipments of provisions from France grew less and less frequent, the relationships that Iberville, his brother Jean-Baptiste Le Moyne de Bienville, and the small Mobile community had cultivated with local natives and European neighbors became crucial.

France and Spain were usually allies against the British in the early 18th century, and the colonists at Old Mobile often traded with Spaniards at nearby Pensacola.

Counterclockwise from top: Colono vessel probably made by an Apalachee potter; Calumet tobacco pipe made of catlinite; French lead fabric-seal with 1701 date; Chinese porcelain plate with dragon design.

Waselkov has found a number of artifacts at Old Mobile that are Spanish colonial in origin, including large quantities of Mexican majolica pottery, and irregularly shaped silver coins called cobs. Historical records from Old Mobile also reveal that settlers took periodic voyages to Havana and Veracruz in search of food and munitions.

Waselkov and his team have also discovered archaeological evidence of large-scale smuggling in Old Mobile. The team found a plate ornamented with dragons, and a *blanc de Chine* tea cup—Chinese porcelain probably acquired through private trade. "It's kind of amazing," said Bonnie Gums, an archaeologist with Waselkov's team. "Here they are out in the woods and they have these beautiful little household items. We don't really know what conditions were like at Old Mobile, but people had a lot of nice things."



Pieces of unique Indian-made pottery found at Old Mobile even show that a mixture of the two cultures had formed. Apalachee Colono ware uncovered at the Mobile site blends traditional Indian pottery-making techniques with European forms. A ceramic Colono pitcher Waselkov found at the site has European features, such as a handle, spout, and flat-bottomed foot-ring base. The rest of the pot, though, is an excellent example of traditional Apalachee unglazed earthenware, decorated characteristically with red-painted grooves.

A STRANGE MARRIAGE OF FRENCH AND INDIAN architecture might also be in evidence at Old Mobile, though it's not clear who influenced whom. According to Waselkov, half-timbered French bousillage houses at Old Mobile closely resemble an Indian house that Diane Silvia Mueller, another member of Waselkov's team, excavated near the site. The town paralleled the Mobile River, and several swamps on its west side formed a natural boundary for the French community.

A string of Indian houses was located just across from the colony, on the other side of the swamp. The remains of one of the excavated Indian houses,

made by a process called wattle-and-daub, is quite similar to houses built by the French. Like the construction of the French house, the Indian house had clay walls and floor. But instead of using wooden sills and bousillage, the natives wove ("wattled") vines and cane around small upright wall posts, filling in the meshed framework with clay ("daub").

Waselkov thinks the French may have adopted this wattle-and-daub method as a means of repairing rotting walls in their own homes. "I don't know that it was any big improvement," observes Waselkov. "But it's a change we've noticed in architecture, and the end result does resemble the Indian house."

Side-by-side reconstructions of a French and an Indian house wouldn't seem starkly different to a casual observer. In fact, only a few significant differences are apparent to archaeologists today. For example, Indian houses were ten feet square, much smaller than the typical French house, which was at least 13 feet wide and 20 feet long. Also, Indian houses contained no fire-



Waselkov hopes that historic maps of Old Mobile, such as this map from 1702, will help him locate the colony's missing sites.

places—archaeologists typically find a burned area in the middle of the clay floor.

Old Mobile's decay has been least kind to the colony's most impressive and earliest structure, Fort Louis. Archaeologists have even suggested that years of erosion caused the fort to slip into the Mobile River long ago, a theory once held by Waselkov. However, after comparing historical maps with archaeological maps of the site, Waselkov thinks that the fort, or at least part of it, might still exist. Waselkov hopes to search for the fort soon, but first he



Top: Archaeologists uncover a Spanish-colonial ceramic dish. Bottom: Researchers work on the foundation of an Indian house near Old Mobile.

Side-by-side reconstructions
of a French and Indian
house at Old Mobile
wouldn't seem starkly different
to a casual observer.

and his team will orient themselves by locating the cemetery. He believes it is located on an archaeological easement donated by the DuPont Company to The Archaeological Conservancy in 1994.

THE DEMISE OF OLD MOBILE WAS SUDDEN, BUT not mysterious. In 1711, suffering under the effects of severe storms, flooding, food shortages, and financial despair, the colonists of Old Mobile decided to move their town downriver more than 25 miles to the site of present-day Mobile, Alabama. Approximately 250 colonists abandoned their home of nearly a decade, taking with them everything of value—even bricks from the fireplaces. Buried charcoal, ash, and burned pieces of the houses' clay walls show that Old Mobile was destroyed by fire. Since settlers cleared all their belongings out of the structures, it's not likely that the town burned accidentally. But Old Mobile's fiery finish doesn't mean the end of Greg Waselkov's investigations.

"There are some historians who say there's nothing really important about the colonial period because there were so few people here then," says Waselkov. "I've always felt that the importance of the site was just in being the earliest substantial European settlement in the area. It was the place where Europeans figured out how to live in this environment: how to speak the language, what kind of wood was best for building, what type of architecture could withstand the climate, what kind of crops would grow. Dealing with the Indians was the major accomplishment. A lot of European colonies foundered on that obstacle. The French did pretty well."

RENEE PAUL works at the University of South Alabama. Her writing has been published in numerous magazines and newspapers.

american archaeology

Henri de Tonti & the Arkansas Post

French infantry captain Henri de Tonti was a legend among North American Indians, partly because of his metal hand. Tonti's popularity helped the French establish the *Poste de Arkansa* in 1686, the first European settlement west of the Mississippi and one of the first French attempts to wrest the interior of North America away from British and Spanish occupation.

Like the later colony at Old Mobile, the French moved the Arkansas Post from its original site—in fact, the post was relocated seven times during the course of its history. The



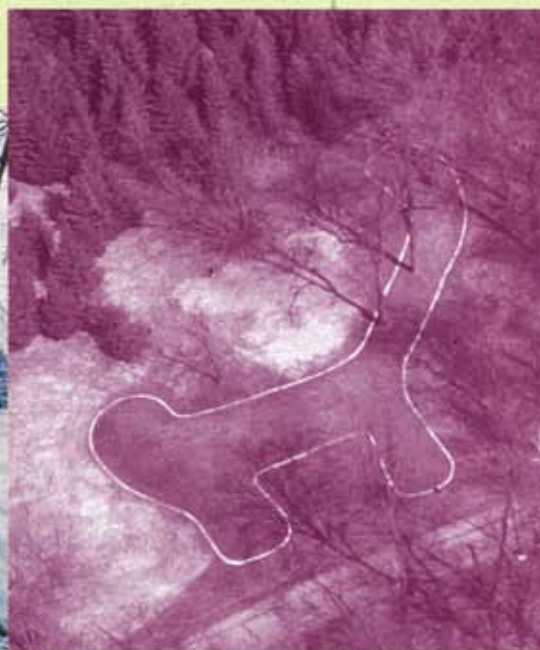
*Portrait of Henri de Tonti
(attributed to Nicholas Maes)*

Menard-Hodges Mounds, situated near the Quapaw village of Osotouy, Arkansas, six miles from the Arkansas Post National Memorial, is likely the site of Tonti's first post. "Many early colonial trade items, including glass beads and objects of brass, have been found at the site," says John House, station archaeologist for the Arkansas Archaeological Survey at the University of Arkansas at Pine Bluff. "This archaeological evidence, together with the site's distinctive geographical location, makes a strong case for

the Menard-Hodges site corresponding to 17th-century Quapaw Osotouy."

But archaeologists might not have seen the end of Tonti himself. After founding the Arkansas Post the Frenchman came to Old Mobile, where he promptly caught yellow fever and died. If historical records are correct Tonti is buried in Old Mobile's cemetery, which Greg Waselkov hopes to locate this spring.

Effigy Mounds • of the • Upper Midwest



Various mounds at Effigy Mound National Monument.

Animals inside

INDIAN MOUNDS COUNTY PARK lies dim and reflective beneath the shade of an oak and shagbark hickory grove near Wisconsin's Lake Koshkonong. The park's 11 animal-shaped mounds, or effigies, are similar to others scattered around southern Wisconsin, as well as parts of Iowa, Minnesota, and Illinois. Wisconsin has fewer than 1,000 preserved effigy mounds, but archaeologists believe there were at least 10,000 prior to white settlement. Inside Indian Mounds County Park, 72 mounds dating from A.D. 650 to 1200 once dotted the lakeshore.

The shapes of effigies are difficult to make out at ground level, especially to the untrained eye. From above or from a distance, though, the designs become clearer. Centuries ago, the landscape around the existing animal shapes would have been cleared of trees and underbrush. Back then, effigy mounds may have been outlined in lime or shells, making them easily recognizable from the ground.

Today, some mounds have partially settled into the ground, while others remain as high as they were when the ancient architects first created them using simple digging tools. Even now, you can see ponderous bears lumbering along bluff tops, birds soaring in forest glades, and great turtles hugging the riverbanks.

Finding the Moundbuilders

From the first post-Ice Age Indians 12,000 years ago, until the arrival of the Europeans, a succession of cultures has occupied North America. Some of the more recent residents were the Woodland peoples, presumed to be indigenous to the Midwest. Archaeologists trace early moundbuilding peoples in the Midwest as far back as 800 B.C. and believe they lasted until at least A.D.

1200. As these Indians ceased their roaming, their rites became more elaborate and they created the first mounds.

One group within the Woodland were called the Effigy Mounds people. For unknown reasons, Wisconsin became the heartland of the Effigy Mounds culture, which reached its peak between A.D. 800 and 1000.

Bob Birmingham, Wisconsin's State Archaeologist, speculates that effigy mounds might have been markers along the frontier of a Woodland territory. "We have evidence that the Late Woodland period was marked by great change and conflict," explains Birmingham. "It may be that effigy mounds were built as symbolic territory markers to ideological and physical threats—sort of a 'this is my land' statement."

Effigy Mounds people typically built on plateaus or cliffs overlooking water, near sites with plenty of food.

Effigy mounds

may have

been symbolic

territory

markers



Throughout the Upper
Mississippi Basin, there
are animals that rise
up out of the ground
and out of the past.
Crouched beneath the
leaf-carpeted soil, these
earthen animals—
mounds constructed by
the prehistoric people
who once called this
area their home—still
mystify archaeologists.

ANCIENT MONUMENTS
EV. MOUNDS EAST OF THE BL. MOUNDS
DADE CO. WISCONSIN
R.C. Taylor & Son, Inc. 1900

the earth

By Martin Hintz

Most mounds were from two to three feet high and 100 to 200 feet long; others were even larger: a linear mound in the Madison area was more than 700 feet long, and a bird effigy on the Mendota State Hospital grounds has a 624-foot wingspan.

The Mystery of the Mounds

Effigy mounds figured heavily into the Woodland's ceremonial mix. Most mounds contained graves, though they probably weren't built as tombs. Some mounds were possibly clan symbols; others delineated territorial boundaries or served some other mysterious function beyond the reach of today's science. Some researchers who have studied them think effigy mounds might represent not real animals, but spirit beings of another realm.

Archaeologists have found many different types of

artifacts in the mounds, including bundles of bones, awls, spear points, and pottery. Most mounds, though, contain few artifacts. In fact, looters rarely disturb effigy mounds because they know they won't find much worth selling. Nevertheless, concern for effigy mounds in Wisconsin is so great that there are special laws that prohibit the destruction of mounds, even those on private land.

"The mounds themselves are artifacts," notes Lynne Goldstein, chairman of the Michigan State University Anthropology Department and an expert on Wisconsin's effigy mounds. "We have to look at the whole structure, not just what is found inside them. Their construction took planning, time, and energy. The mounds represent these people, their view of themselves, and where they live. They might even be maps. Perhaps they were sending a message to other people or to the gods—who knows?"

Simple mounds shaped like cones, ovals, and platforms can be found throughout the eastern half of the United States. Archaeologists have counted more than 10,000 in the Ohio River Valley alone. However, few of these mounds can match the grace and artistry of the effigy figures of the Upper Mississippi.

"We clearly know the mounds are symbols," says Goldstein. "But it's like having something in hand and not being able to talk to the builders about it. We can never be quite sure what it means because all we have are bits and pieces of the puzzle."

Not everyone agrees on why the Effigy Mound people built their creations, but the

mystery keeps everyone motivated. When archaeologists seem to have answered one set of questions, they set it aside and start on the next.

First Report and Early Controversy

The first known report of Wisconsin and Iowa mounds appears in journals kept by Jonathan Carver, a trader hotly pursuing new markets in which to obtain furs. His *Travels Through the Interior Parts of North America in the Years 1766, 1767, and 1768* briefly mentioned finding oddly-shaped earthen structures along the way.

"LOST" MOUNDS ARE THE CONSERVANCY'S GAIN

Bryce Tollackson (pictured right) and University of Wisconsin archaeologist Jim Theler step out of the van into knee-deep snow. The van had reached its limit. Too much ice. Too much snow. Too much hill. But not too much for Tollackson. His 81 years only means that he moves a bit more cautiously than when he ran coonhounds through these same coulees as a boy. Tollackson hurries up the hill to show off his effigy mounds.

Even from 200 feet away, it's difficult to see Tollackson's effigy mounds. Without the undergrowth currently sprouting over the hillside, though, the various shapes would be readily evident to anyone traveling along the valley. The Tollackson site consists of 13 large effigy mounds; one of the most complete clusters of undamaged burial units in Wisconsin.

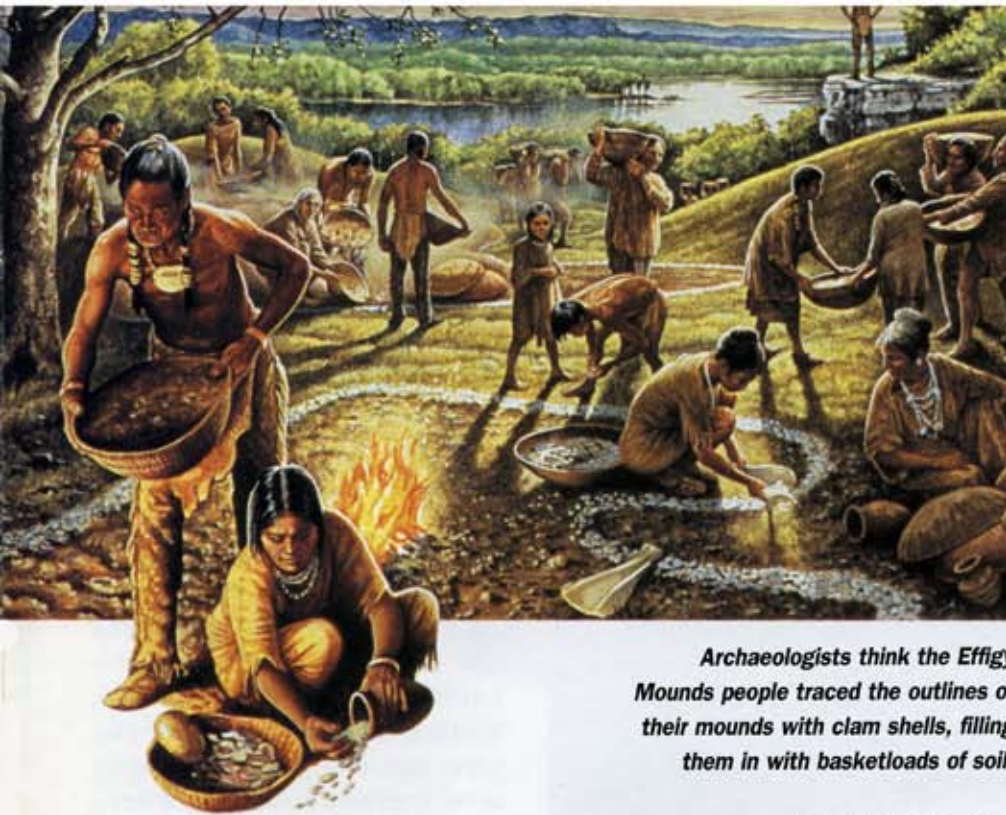
In 1996, The Archaeological Conservancy purchased 40 acres on the Tollackson farm, located 90 miles west of Madison, preserving what the farmer calls his "graves." The effigies date from A.D. 650 to 1000, with a nearby campsite dating around 3000 B.C.

One of the most interesting facts about the Tollackson mounds is that the site was "lost" for more than 100 years. In 1884, Theodore Lewis mapped and sketched the mounds as part of a survey for a philanthropist in St. Paul, Minnesota. Unfortunately, Lewis placed the mounds in the wrong surveying section and no one was able to locate them for another century. It wasn't until 1993 that one of Theler's students with the Mississippi Valley Archaeology Center (MVAC) at University of Wisconsin-LaCrosse found the mounds.

Tollackson himself, who was born and reared on the property, admitted he never knew the mounds existed. Even his father, who had purchased the 280 acres around the turn of the century, never mentioned them.

"I'm glad they aren't my responsibility any more," says Tollackson. "I won't be here forever. Now I know they will be protected."





Archaeologists think the Effigy Mounds people traced the outlines of their mounds with clam shells, filling them in with basketloads of soil.

Unfortunately, Carver didn't choose to elaborate on his tantalizing observations.

Beginning in the late 18th century, the mounds of the Upper Mississippi began to intrigue observers who were studying them in more detail. These first students entertained dozens of ideas about the mysterious structures, but were united in their prejudice that the ancestors of Wisconsin's contemporary Indians couldn't have built them. As these early scholars struggled to identify the moundbuilders, a myth of the mounds developed. Some chroniclers attributed the mounds to the Biblical Joshua. Others identified them as the work of a wandering tribe of Irishmen, whose fairy mounds were well known. Some even attributed the mounds to the survivors of Atlantis.

One of the first scholars to write seriously about the mounds was Benjamin Smith Barton, in the 1780s. Barton surmised that since Viking warriors had been buried in mounds similar to those found in the Upper Mississippi region, perhaps there was a connection. Barton theorized that after the moundbuilders abandoned their works, they moved on to Mexico where they became known as the Toltecs.

Ephraim G. Squier and E. H. Davis published *Ancient Monuments of the Mississippi Valley* in 1848. The project, a study of Ohio and Wisconsin mounds, was one of the first undertaken by the fledgling Smithsonian Institution. It, too, concluded that a lost race had built the mounds.

Finally, in 1894, Cyrus Thomas, of the Smithson-



ian's Bureau of Ethnology, wrote a 730-page report exploding these mound myths. His exhaustive study indicated that successive Indian cultures had built the mounds at different times, a theory to which today's archaeologists ascribe.

The End of Effigies

Archaeologists believe that effigy mound construction ended around A.D. 1200. In many areas a gap in history followed, as later Native American cultures moved into areas once occupied by the Effigy Mound people. Initially, there seemed to be scant evidence that contemporary Indians built mounds. However, recent historical and archaeological evidence, in addition to tribal stories, seems to suggest that Ho-Chunk (Winnebago) and other nations frequently used mounds as burial sites, even into the 19th century. According to Birmingham, the building of conical mounds in remote northern Wisconsin and parts of Minnesota might have continued until European contact in the 17th century.

"There is no mystery about who built these mounds," says Anna Funmaker, an anthropologist with the Ho-Chunk Historic Preservation Department in Black River Falls, Wisconsin. "We did it, we built them.

But we have no way of proving it because we come from an oral tradition." Many archaeologists agree that there are similarities between contemporary Native American belief systems and the symbolism of the effigy mounds. However, they say there isn't enough evidence at the moment to be certain one way or the other.

Whether they are burial sites or not, effigy mounds are sacred to many of the American Indian nations in the area. Bill Fratzke, a ranger with the Effigy Mounds National Monument in eastern Iowa, says that he occasionally finds bundles of gifts placed on top of park mounds. "Tribal members are always welcome to perform whatever ceremonies are appropriate," he says. "The spirit is still there. This is a special place."

And perhaps that isn't so mysterious after all.

MARTIN HINTZ is a freelance writer and a long-time resident of Wisconsin. He is the author of several travel books and numerous articles.

In the of the

It's usually pretty quiet nowadays at Creswell Ranch. If you're lucky you might see a cowboy riding along the Little Colorado River or a hawk gliding overhead. A thousand years ago, though, archaeologists think Creswell's sites might have been part of a flourishing proto-Hopi community.

The Archaeological Conservancy has entered into an agreement to buy Creswell Ranch, the former homestead of Rufus Creswell and his family. The property, a 480-acre in-holding within Homolovi Ruins State Park, three miles from Winslow, Arizona, contains eight archaeological sites, including petroglyphs, ancient water-control devices, and the ruins of an adobe pueblo. Artifacts associated with the sites suggest they were occupied between A.D. 1250 and 1400. Researchers hope Creswell can help reveal the nature of the movement and arrival of groups in the area during the latter part of the 13th century. The Conservancy has acquired a dozen properties in Arizona since 1985, but Creswell Ranch is the first Homolovi site.

In the A.D. 600s, people moved into the Homolovi area from time to time and built pit houses there. However, it wasn't until the 1200s that a true building boom occurred. Bands of people from the north and south moved into the region, constructing the masonry pueblo

The Conservancy
seeks to purchase
Creswell Ranch, near
Homolovi Ruins State
Park in Arizona

Structures at Homolovi Ruins State Park (above) are closely related to Creswell's unexcavated ruins, which are located within park boundaries.

Creswell Ranch

Visiting Homolovi Ruins State Park: The park is approximately three miles northeast of Winslow, Arizona. Take Interstate 40 to Exit 257; then go 1½ miles north on Highway 87. Several hiking trails wind through pueblo ruins and petroglyphs. Entrance fee is \$3 per vehicle. Campground is available. For more information, call (520) 289-4106.

Footsteps Ancient Hopi

settlements that comprise most of Homolovi's well-known sites (Homolovi I, II, IV, Jack Rabbit, Chevelon, and the Creswell pueblo). Around A.D. 1330, a huge group of people from the north (researchers believe they were ancestors of modern Hopi clans) descended upon the warmer desert plains alongside the middle Little Colorado River to take advantage of the floodplain farmland and permanent water. There they built the pueblo of Homolovi II. Between A.D. 1380 and 1400, the residents of Homolovi II and the other pueblos moved, probably to the locations of present-day Hopi villages.

"Much of the Creswell property is at the eastern edge of the floodplain of the Little Colorado River," says Rich Lange, associate director of the Homolovi Research Program at Arizona State Museum. "Given the recent and historic flooding of the river, it's a miracle that some of the archaeological resources on the property even remain."

Lange and Chuck Adams, director of the Homolovi Research Program, have been studying the Homolovi sites near Winslow since 1984. Lange directed the Homolovi Survey from 1985 through 1989, examining more than 20 square miles in and around the state park. Excavations have now been conducted at Homolovi I, II, III, and IV; at several field houses and a pit house village in the park; and at the



Adobe Pueblo near Homolovi I, perhaps the closest comparison to the Creswell pueblo.

Unfortunately, the adobe pueblo was almost destroyed by a dirt road before it was discovered.

For Adams and Lange, the most exciting things about the Creswell Ranch sites are the answers they might hold regarding how the

structure. "A small pueblo on the Creswell property that contains about ten surface rooms might have been constructed of adobe brick," Lange explains. "This pueblo could yield important information about the movement and arrival of groups into this area in the late 1200s."

Many researchers believe the Hopi who live in villages at the Hopi Mesas 60 miles north of Homolovi are related to the ancient peoples who built the extensive Homolovi villages. Even today, clan elders from the Hopi villages periodically take pilgrimages to Homolovi to visit their ancestral homeland.

According to Hopi lore, the *Hisatsinom* ("ancient people") left behind ruins, potsherds, and grinding stones as payment to the Earth. Like other Homolovi sites, the Creswell resources verify clan histories and religious beliefs. The Conservancy plans to make the

preserve available for Hopi religious ceremonies, and has received a letter of endorsement from the Hopi for the project.

The Conservancy was awarded a \$60,000 Arizona Heritage Fund grant to assist in Creswell's acquisition and management. To match the Heritage Fund grant and acquire the site, the Conservancy needs to raise \$40,000 by December 1997.

—Jim Walker



One of the many petroglyphs at Creswell Ranch. Certain rock art at the site is considered sacred by the Hopi people.

ancient Homolovi people lived, how they interacted with the river, and where they came from. "We are increasingly fascinated by the combination of adobe brick and earthen architecture with the more typical stone masonry," says Lange.

Adobe brick is relatively rare in Southwestern pueblo sites before contact with Europeans, but the Little Colorado River valley holds a concentration of this type of archi-

DOWN BY THE RIVER

The Conservancy's newest site in California highlights Mojave peoples

In San Bernardino County, California, at the edge of a planned industrial park called "Workplace on the Mojave," the desert suddenly drops off into an oasis. Cottonwoods arch over the river and migratory birds startle into flight. In 1997, Southdown, Inc., the developer of the Workplace project, donated four significant sites to The Archaeological Conservancy that preserve a record of how people lived in the area.

Approximately 10,000 years ago, water became one of the most important factors to influence human settlement in Southern California. The region was a verdant savannah during the Pleistocene, but gradually lakes and grasslands yielded to time and the sun, creat-



With its lush environment, it's little wonder that ancient peoples settled in the region around the Mojave River where the Workplace site is located.

ing the Mojave Desert. Today, the San Bernardino, San Gabriel, and the Tehachapi Mountains embrace each infrequent cloud, and cast a rain shadow over the arid Mojave Desert below. Mountain streams are the source of the Mojave River, which flows 145 miles to the north and east, before disappearing into Death Valley.

Locals refer to the Mojave as an "upside-down" river because it disappears underground in many places. In prehistoric times there were only a few places in the southern

desert where people could live near a dependable source of surface water in all seasons. One such place is the Mojave Narrows, where the river is lifted by bedrock and walled in by natural stone buttresses, forming an underground channel that forces water to the surface even during driest years. Where geology holds the river hostage, archaeologists have found sites that have consistently provided people with fresh water for thousands of years.

"It's likely that archaeologists will find very old artifacts here," predicts CRM TECH's Bruce Love, the archaeologist who recommended the site to the Conservancy. "Farther out in the desert, and before the change in climate, the river once

Workplace at the Mojave

To learn more about Mojave prehistory, visit the San Bernardino County Museum, 2024 Orange Tree Lane, Redlands, CA. The museum

is open from Tuesday through Sunday, 9 a.m. to 5 p.m.

Admission is \$7 adults;

\$6 students;

\$5 kids ages 2-12.

(909) 798-8570

spilled into a system of lakes that nurtured some of the oldest culture in North America."

Not much is known about the Vanyume (van-u-MEH) people, who lived along the banks of the Mojave at the time of contact with Europeans. Anthropologists believe they lived in villages based on lineage and clans, and that women as well as men served as chiefs. Domed houses offered protection in a climate where temperatures fluctuate as much as 40 degrees in a single day. Both the Serrano and Vanyume hunted small game; gathered grasses and seeds; and crushed and boiled mesquite beans, turning the paste into soup and bread.

At two Workplace sites, archaeologists found an unusual number of seed-processing tools, including stone manos, metates, and pestles,

Above: Stone mano and metates such as these were found at the Workplace site. Right: An atlatl used by early peoples to throw darts (see top and opposite page).

contains many flaked tools. The Archaeological Research Unit at the University of California at Riverside discovered a rock hearth with ash and charcoal, radiocarbon-dated to approximately A.D. 540.

The Mojave River provided a clear route from the Great Basin through the deserts to the Pacific Ocean. Prehistoric sites along the river contain shell beads from both the Pacific and the Gulf of Mexico, turquoise from the eastern Mojave, obsidian from the north, and steatite (soapstone) from the Channel Islands. Missionaries, military expeditions, trappers, traders, and others all followed the river's winding path through the desert. It became a mail and stagecoach route, and finally a thoroughfare for railroads and freeways.

Joan Schneider, research anthropologist at University of California at Riverside, conducted the original survey of more than 1,000 acres at the Workplace and has a good sense of the preservation status of prehistoric sites in the region.

"Agriculture, flooding, looting, and development have taken their toll," says Schneider. "We need to

save and study the remaining sites because subsistence along the river was different. Abundant fresh water allowed for year-round occupation by people who could seasonally exploit the surrounding desert and nearby mountains."


—Lynn Dunbar



Artifacts often found at Serrano and Vanyume sites such as the Workplace include (from left to right) bone awl; Serrano basket; shell beads used in Serrano jewelry; Clovis spear-point.

as well as bedrock milling stations. Scholars don't know yet what was processed with these tools.

Archaeologist Adella Schroth, who conducted test excavations at the Workplace in 1991, identified another site as a hunting camp. The site overlooks the floodplain and



PLAN AHEAD FOR Planned Giving

Planned giving offers individuals a variety of opportunities to help the Conservancy in its efforts to preserve America's cultural heritage, while providing such benefits as:

- Secure income for life
- Substantial tax deductions
- A variety of beneficiary possibilities

For example, many people consider the Conservancy when making their wills. During the past year, we have received several generous bequests from members that total more than half a million dollars. These gifts not only strengthen the Conservancy's ability to save endangered archaeological sites today, but establish a strong financial base for our work in the years ahead.

For information about what type of planned giving might be right for you, contact Mark Michel at (505) 266-1540.

PYRAMIDS IN THE MIDWEST

THE CONSERVANCY
SEEKS TO ACQUIRE AN
ENDANGERED
PLATFORM MOUND IN
WISCONSIN

When Europeans arrived in the New World there were many thousands of mounds throughout the Upper Mississippian region. Today, at least 80 percent of them have been destroyed by time or humans. Thankfully, we can cross the Telfer Mound in southwestern Wisconsin off the endangered list.

The Archaeological Conservancy has agreed to purchase the Telfer Mound, located in Jefferson County, Wisconsin, about 25 miles east of Madison. Telfer contains a pyramidal platform mound that is roughly eight feet high and 40 feet square at the base, as well as a small effigy mound.

Archaeologists consider pyramidal platform mounds to be one of the defining traits of the Mississippian Culture, the richest and most elaborate prehistoric culture in eastern North America. The culture flourished between A.D. 900 and

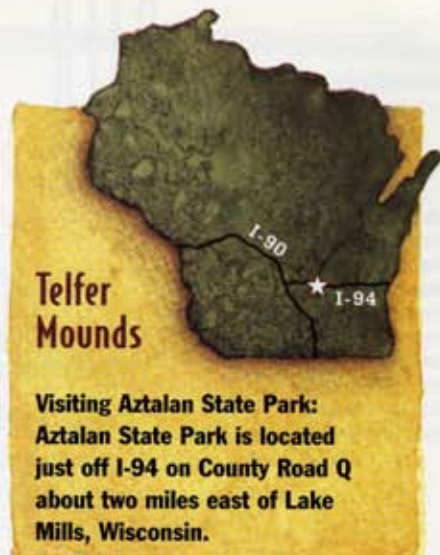
1500 and depended on floodplain agriculture of corn and other crops. The prehistoric towns in the area commonly feature a central plaza with a pyramidal platform mounds around it. Council houses, elite residences, and temples

often sat on top of these mounds. Characteristic artifacts at Mississippian sites include finely made shell-tempered pottery and objects of copper and shell.

Mississippian sites with platform mounds like Telfer's are relatively common in Illinois and across the Southeast, but there are only three in Wisconsin: one in Trempealeau in the far western part of the state, the Telfer site, and the famous Aztalan site about two miles south of Telfer. Of the three, only Aztalan, which dates to the A.D. 1000–1300 period, has been thoroughly studied. Since its original description in 1837, Aztalan has been the subject of much conjecture and speculation.

Archaeologist Lynne Goldstein of Michigan State University has been involved in a multi-year investigation of Aztalan and its environs.

"The Telfer site is very unusual," says Goldstein. "Not only are pyramidal mounds quite rare in Wisconsin, but it is the only site that we know of that is linked to Aztalan." The Telfer mound's location on a hilltop suggests to Goldstein that it had some kind of signaling function, since it is possible to see Aztalan from Telfer's summit.



Telfer Mounds

Visiting Aztalan State Park:
Aztalan State Park is located just off I-94 on County Road Q about two miles east of Lake Mills, Wisconsin.

No professional archaeological work has been done at the Telfer site. In the 1930s, two local brothers excavated one of Telfer's effigy mounds located 200 feet north of the platform mound, uncovering a single flexed burial. The effigy mound was originally about two feet high and 40 feet long and has been variously described as representing a man, a hand, or a bird. Unfortunately, the shape is barely discernible today due to erosion. Archaeologists say the effigy mound seems to have belonged to the Effigy Mound Culture and probably predates the site's Mississippian pyramidal mound.

For the past 50 years, the hilltop with the two mounds has been owned by Robert and Harriet Telfer, who have always recognized the importance of protecting their mounds from development and looting. In order to ensure its continued preservation, the Telfer family agreed to sell the property to the Conservancy as a bargain sale to charity, and allowed the Conservancy until January 1998 to raise the needed funds. The Conservancy's fundraising goal for this project is \$27,000.

—Paul Gardner

Pyramidal mound at Aztalan State Park, a few miles from a similar mound at Telfer.

Museum exhibits • Tours • Festivals
Meetings • Education • Conferences

Events

■ NEW EXHIBITS

University of Pennsylvania Museum

Philadelphia, PA—"Time and Rulers at Tikal: Architectural Sculpture of the Maya" highlights drawings and large-scale photographs of the University of Pennsylvania's famous excavations at Tikal in Guatemala between 1956 and 1970. (215) 898-4000.

(Through Fall 1997)

Mint Museum of Art

Charlotte, NC—"The Ceramic Art of North Carolina" features clay pottery production in North Carolina since the 18th century. (704) 333-6468.

(Through August 28)

Mission San Luis de Talimali

Tallahassee, FL—The Florida State Division of Historical Resources is reopening Mission San Luis de Talimali, the 17th-century capital of the western mission chain in Spanish Florida. The site, which has been the focus of research for more than ten years, has new interpretive media, including a living-history program and tour at a reconstructed Spanish residence on the site. (904) 487-3711.

(Opens March 1997)

University of Alabama Museum of Natural History

Bay Minette, AL—"The Indians of Mound Island: Archaeology in the Mobile-Tensaw Delta" examines how archaeologists study the Indians of Mound Island, builders of the prehistoric mound center of Bottle Creek. Learn about the historical figures who explored the region, and the native peoples who lived there. (205) 348-9758. *(Through May)*

■ CONFERENCES & LECTURES

State Historic Preservation Weeks

held across the U.S., generally in March or May. Archaeology week activities include lectures and events designed to encourage public interest in archaeology. For more information, contact your State Historic Preservation office.

Annual Meeting of the Society for California Archaeology (SCA)

March 26-30, Rohnert Park, Sonoma County, CA. Includes workshop on archaeology in the classroom, and more. (707) 938-9572

Annual Meeting of the Society for American Archaeology (SAA)

"Celebrating National Commitments to Archaeology," April 2-6, Nashville, TN. Call SAA for more information at (202) 789-8200.

15th Annual Maya Weekend

"Pilgrimage, Migration, and Trade," April 12-13, University of Pennsylvania Museum, Philadelphia, PA. This event is devoted to Maya archaeology and culture. (215) 989-4890

Rock Art of Baja California

April 12, Los Angeles, CA. Seminar sponsored by Rock Art Archive, Institute of Archaeology at UCLA. (310) 206-8934

Early Woodland and Adena Prehistory of the Ohio Area

May 9-10, Chillicothe, OH. Sponsored by the Ohio Archaeological Council (OAC), conference will synthesize research on Early Woodland and Adena cultures in Ohio and surrounding areas. Call the OAC Conference Coordinator at (614) 297-2641.



Portland Art Museum

Portland, OR—"Gold, Jade, and Forests: Pre-Columbian Treasures of Costa Rica" features pre-Columbian artifacts recovered from tombs and archaeological sites, including exquisitely crafted and decorated objects in gold, jade, stone, and ceramic. (503) 226-2811. *(April 5-June 1)*



Hopi Kachina Dolls

"Following the Sun and Moon: Hopi Kachina Dolls" displays more than 300 Hopi Kachina dolls dating from the early 1900s to the 1970s from the Heard Museum's permanent collection. Also see the museum's award-winning exhibit "Native Peoples of the Southwest," which includes thousands of Native American objects and an extensive collection of Kachina dolls.

Heard Museum

Phoenix, Arizona
(602) 252-8840
Through January 1998

CONSERVANCY Field Notes

SITE ACQUISITIONS

Cahawba Acquisition Completed

SOUTHEAST: The Archaeological Conservancy has completed the final phase of the yearlong Cahawba acquisition



Archaeologists screen for antebellum artifacts at the Cahawba site near Selma, Alabama.

near Selma, Alabama. The project preserves 184 acres of Alabama's first state capital, comprising the northern part of the former town. The Cahawba project protects ruins of the antebellum town and numerous prehistoric Indian sites from encroaching development. The Conservancy has already transferred most of its holdings to Old Cahawba State Park for public interpretation. To visit Old Cahawba from downtown Selma, take Highway 22 eight miles west. Turn left on County Road 9 and travel another five miles to Cahawba. For details, call (334) 872-8058.

Conservancy Purchases Southwest Florida Site

SOUTHEAST: After months of intense negotiations, the Conservancy and the state of Florida have completed the acquisition of two critical components of the Pineland site in southwest Florida near Fort Myers. In the spring of 1996, the Conservancy and State Archaeologist James Miller saved the 20-foot-high Randell Mound after construction had already begun on top of it. With the help of Lee County, the state purchased the mound, while the Conservancy has purchased the plaza area. Both parcels will become part of the new Randell Research Center, which will be devoted to public archaeology and the study of southwest Florida's environment.

The Pineland site comprises what was once one of the principal towns of the Calusa kingdom that ruled southern Florida at the time of Spanish contact in 1566. The archaeological record shows that human occupation began at Pineland around A.D. 50. Today, Pineland is being preserved as the state's largest example of a Calusa town.

A worker digs footings on Pineland's Randell Mound before construction was stopped.

SITE UPDATE Conservancy Preserve to Become Historical Park

MIDWEST: The town of Capon Bridge, West Virginia, was awarded a Federal ISTEIA grant to acquire the Conservancy's Fort Edward's Archaeological Preserve. The funds will also sponsor archaeological and historical research projects designed to allow the interpretation of the site for the public. The ISTEIA grant, combined with \$250,000 of state funding, will ultimately finance a public historic park and interpretive center at the French and Indian War fort. The town of Capon Bridge plans to buy the site from the Conservancy early in 1997.

SITE UPDATES

Umpqua Eden Achieves National Register Status

WEST: The Umpqua Eden site was listed in the National Register of Historic Places in 1996. The Conservancy acquired this southern Oregon coastal site, thought to be the Umpqua Indian village of Takimiya, from Bill and Sheila Julian in 1994. Oregon State University excavated portions of Umpqua Eden between 1978 and 1980.

In 1994, Heritage Research Associates' Rick Minor conducted research to determine the site's National Register eligibility under a grant from the Oregon State Historic Preservation Office. He found that Umpqua Eden is nearly twice



as large and deep as previously believed. Nearby, Minor discovered a new site at a lower elevation along the river bank. The so-called Julian site, radiocarbon dated to A.D. 1032 \pm 70, was occupied at roughly the same time as Umpqua Eden.

Lamb Spring Research

SOUTHWEST: Researchers from the Denver Museum of Natural History and the Smithsonian Institution in Washington, D.C., conducted a geological coring program at the Lamb Spring Archaeological Preserve near Denver this summer. Previous excavations in the 1960s and 1980s had located a Pleistocene-age bone bed containing at least 24 mammoths, along with many other species of extinct fauna. Researchers James Dixon of the Denver Museum of Natural History, Dennis Stanford of the Smithsonian Institution, and Thomas Stafford of the University of Colorado at Boulder have extracted a series of core samples from across the 35-acre site. The project was funded in part by a \$100,000 grant from the Colorado Historical Fund.

Spear point recovered at Lamb Spring.



Tsama Mapping Program

SOUTHWEST: University of New Mexico archaeologist Ann Ramenofsky, assisted by graduate students, has created the first professional map of Tsama Pueblo, a 14th- and 15th-century Biscuitware pueblo north of Santa Fe. Using a total data station, the crew mapped the limits of the room blocks, and noted surface disturbances, some of which were the results of field-school excavations in the 1960s. The map will be used to plan a stabilization program for the pueblo that will repair the surface damage. The Conservancy received 24 acres containing most of Tsama Pueblo pueblo as a gift from Jere Willis, Juliana Simpson,



Volunteers on a recent Crow Canyon Center dig at Yellow Jacket.

and Prado Verde Ranch in 1995. In December 1996, Willis, and Gerald and Marilou Boies, donated an additional seven-acre tract containing the balance of the pueblo.

Archaeological Research Continues at Hopewell Site

MIDWEST: Ohio State University archaeologist William Dancey, with funding from the National Park Service, has begun an archaeological survey of the area surrounding the famous Hopewell Mound Group near Chillicothe, Ohio. Dancey's primary goal is to define the extent of prehistoric occupation near the earthworks. The National Park Service will use this information to set the boundaries of the Hopewell Mounds site to be incorporated into the new Hopewell Culture National Historical Park. To date, the survey has located one probable burial mound and eight habitation sites probably associated with the earthworks. The National Park Service plans to open Hopewell to the public. The Conservancy began purchasing the Hopewell site in 1980.

FIELDWORK OPPORTUNITIES

Excavations Planned at Yellow Jacket

Crow Canyon Archaeological Center returns for a third season at the Conservancy's Yellow Jacket Preserve in southwest Colorado. During one-week sessions beginning May 25, June 1, June 8, and June 15, volunteers can join in archaeological excavations at one of the largest and most significant sites in the American Southwest. Participants learn about Southwestern pottery, spend a day in the lab, excavate in the field with professional archaeologists, and tour nearby Mesa Verde National Park. For more information, contact Crow Canyon Archaeological Center at (800) 422-8975.

Menard-Hodges Dig Scheduled

This summer, John House of the Arkansas Archeological Survey, along with the Arkansas Archeological Society (AAS), will conduct an archaeological survey and test-excavations at the Conservancy's Menard-Hodges Preserve. Menard-Hodges is believed to be a Quapaw village as well as the site of Henri de Tonti's first Arkansas Post—the first European settlement west of the Mississippi River. The work will focus on surface collection of artifacts, and test excavations will attempt to determine the plaza's true function. If you want to participate in the dig, contact AAS, P.O. Box 1249, Fayetteville, AR 72702.

There are so many excavations available to the public, it is impossible to list them all on this page. An excellent resource is the Archaeological Institute of America's Archaeological Fieldwork Opportunities Bulletin (Kendall Hunt Publishing Company, Dubuque, IA, 1996, \$11). Call (800) 228-0810 to order the latest edition.

EXPEDITIONS

Down a River Through History

San Juan River Tour

When: September 13–20

Where: Southeastern Utah

How Much: \$1,495 (\$45 single supplement)

■ The San Juan River winds through some of the most breathtaking sights in the heartland of the Anasazi world. Towering sandstone canyon walls shelter centuries-old Anasazi cliff dwellings and extensive rock art. Navigating the occasional rapids, your boat floats through the “goosenecks” of the San Juan, from Bluff to Lake Powell in southeastern Utah. Spend your days exploring ancient ruins and admiring the region’s world-renowned geological formations, and your nights under the Southwestern sky. Highlights of the trip include tours of River House—

the largest cliff dwelling on the San Juan—and Chinle Wash, a remote and seldom-visited ruin. At Lower Butler Wash, considered to be one of the most beautiful early Anasazi rock-art sites, you can view a 200-yard-long panel with petroglyphs dating from A.D. 100 to 400. Writer and photographer David Grant Noble, author of *Ancient Ruins of the Southwest*, will lead this extraordinary journey into the past.

Inside the Minds of the Moundbuilders

Ohio Moundbuilders Tour

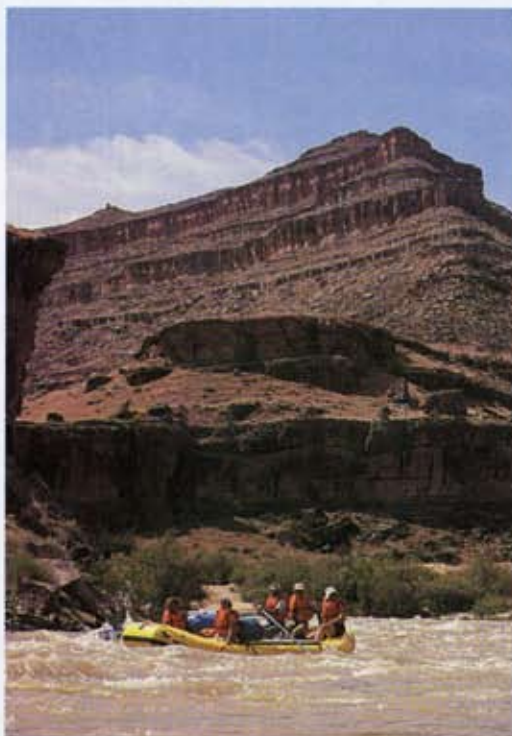
When: September 27–October 1

Where: Southern Ohio

Price: \$699 (\$150 single supplement)

■ The Hopewell and Adena peoples dominated the eastern United States from about 800 B.C. to A.D. 400. Extensive mounds and earthworks in Ohio, some nearly 70 feet tall and others covering hundreds of acres, are the moundbuilders’ special legacy. At many mound sites, archaeologists have found mica and copper ornaments, burials, and the remains of wooden structures and stone walls. Some mounds have animal forms, others are geometric. Archaeologists today can only speculate on the meaning behind the mounds and the reasons for the moundbuilders’ disappearance.

The Conservancy’s tour offers an opportunity for people to discover more about the Hopewell and Adena by visiting some of their most



Left: Rafters float through San Juan River Canyon. **Above:** Basketmaker petroglyphs at Lower Butler Wash, along the San Juan River.



Serpent Mound in Ohio is one of the most famous Adena Mounds seen on the Ohio Moundbuilders Tour.

remarkable mounds. The tour begins in Columbus, Ohio, with a private showing of the Hopewell collections at the Ohio Historical Center. From the Newark Site—a magnificent Hopewell mound complex that once spread more than seven miles—the tour heads to Chillicothe, considered by many to be the center of Hopewell culture. Other sites include Mound City at the Hopewell Culture National Historical Park, and Serpent Mound, an effigy mound that stretches more than 1,000 feet. Throughout the tour, expert archaeologists give their insights into the mysterious world of the moundbuilders.

Exploring the Sonoran Desert

Sonoran Desert Tour

When: October 11–19

Where: Southern Arizona and Mexico

How Much: \$1,795 (\$300 single supplement)

■ This tour explores the Sonoran Desert of southern Arizona and northern Mexico, introducing you to the people who settled this harsh yet beautiful land. Accompanied by leading archaeologists, you'll discover the various cultures that inhabited the region, including the Hohokam, who made the Sonoran desert their home about 1,000 years ago. At Park of Canals, you can see the remains of hundreds of miles of irrigation canals that testify to the Hohokam's sophisticated ability to tame the desert landscape. You'll also tour early Spanish settlements and missions, and visit frontier towns such as Tombstone. Finally, the tour dips south of the border to Casas Grandes—a huge commercial and trading center that dominated the Southwest from A.D. 1060 to 1340.

For more information on Conservancy tours, visit our Web site: <http://www.gorp.com/archcons/> or call (505) 266-1540

Tour Celebrates Day of the Dead in Oaxaca

The 20 people who took the Conservancy trip to Oaxaca last fall experienced a memorable tour. In Mexico's majestic colonial city, they took part in the festival of *El Día de los Muertos* (The Day of the Dead)—a tribute to the departed and a celebration of life. The tour also included visits to some of the most spectacular Mixtec and Zapotec sites, including Mitla, Zaachila, and Monte Albán. They explored several of the nearby crafts villages that specialize in weaving, pottery making, and wood carving.

"Oaxaca is quite different from the rest of Mexico," explains Jane Heinz, whose trip with the Conservancy last fall was her first to Oaxaca. "There's more of a combination of the different peoples. While you're looking at the ruins of Monte Albán, you can still feel the strength of the living cultures around you."

The Conservancy's next tour to Oaxaca is scheduled for October 31 to November 9, 1997.



Visitors explore the Zapotec ruins of Monte Albán.



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Zapotec Civilization

The Life and Adventures of Adolph Bandelier

The Hopewell Mound Group



The Hopewell Mound Group: Its People and Their Legacy

CD-ROM presented by the Ohio Historical Society (Microsoft Windows version only, 1995, \$49.95)

A new CD-ROM by the Ohio Historical Society is the first of its kind to highlight the famous Hopewell Mound Group. Photos of artifacts will appeal to everyone, while contemporary and historical resources, such as the hard-to-find *Ancient Monuments of the Mississippi Valley* by E. G. Squier and E. H. Davis, make the disk useful for research. Yet for all its valuable material, the CD fails to cover present-day activities at Hopewell, including current research, the site's protection as a Conservancy archaeological preserve, or that it will soon open to the public as part of the new Hopewell Culture National Historical Park. To order call (614) 297-2619.

Zapotec Civilization: How Urban Society Evolved in Mexico's Oaxaca Valley

By Joyce Marcus and Kent V. Flannery
(Thames & Hudson, New York, 1996,
256 pages, 302 illus., \$60)

In the remote Valley of Oaxaca in southern Mexico, Monte Albán—the first city of Mesoamerica—and a great Zapotec civilization evolved, flourished, and declined. Renowned archaeologists Joyce Marcus and Kent Flannery, curators at the University of Michigan's Museum of Anthropology, and their colleagues have spent more than two decades studying the Zapotecs and their ancestors. Their *Zapotec Civilization* traces 10,000 years in the isolated Valley of Eternal Spring. Less studied than the Maya or Aztecs, the Zapotecs developed one of the first civilizations of ancient Mexico. Their capital at Monte Albán, with its once magnificent temples, tombs, ball courts, and hieroglyphic writing, was founded around 500 B.C. After A.D. 700, the Zapotec empire went into a long decline, and by the 10th century its great plaza and temples were abandoned.

Marcus and Flannery demonstrate how the Zapotecs reached civilization via a series of individual human actions ("action theory" to anthropologists) rather than by ecological determinism. The Zapotecs embraced major elements of Mesoamerican civilization—urban centers, astronomy, hieroglyphic writing, and a pantheon of terrible gods hungry for human sacrifices. Mayas to the east and Teotihuacáns to the north developed similar institutions, but Marcus and Flannery's book gives us few hints of the exchange of ideas that must have taken place. Still, *Zapotec Civilization* is a highly readable case study of the development of one of America's greatest cultures. Its 302 illustrations

and maps help convey the genius of Zapotec art and architecture to the reader. This book will be the standard general work on the Zapotecs for years to come.

Bandelier: The Life and Adventures of Adolph Bandelier

By Charles H. Lange and Carroll L. Riley
(University of Utah Press, Salt Lake City,
1996, 237 pages, illus., \$34.95)

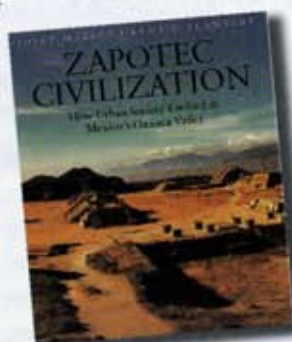
A great American scholar. Nowhere is Adolph Bandelier so aptly described as on the small plaque in the patio of the visitors' center at Bandelier National Monument in northern New Mexico. With almost no formal education, Bandelier pioneered the study of archaeology and ethnology in the American Southwest and beyond.

Authors Charles Lange and Carroll Riley taught anthropology at Southern Illinois University and have spent much of the past 30 years studying Adolph Bandelier. Their first work, published as four volumes between 1966 and 1984, was Bandelier's voluminous Southwestern journals. Building on this early research, Lange and

Riley have published the first English biography of the legendary anthropologist.

In 1880, 40-year-old Adolph Bandelier was in the family banking business in a small town near St. Louis. Over the next 34 years, Bandelier traveled throughout the Southwest, Mexico, and South America, compiling volumes of information on the native and Spanish cultures of the New World. He has been called an anthropologist, archaeologist, archivist, ethnographer, explorer, geographer, artist, historian, and scientist. He learned as he explored, having no manuals to guide his way. His is an adventure Lange and Riley enjoy sharing with their readers.

—Mark Michel



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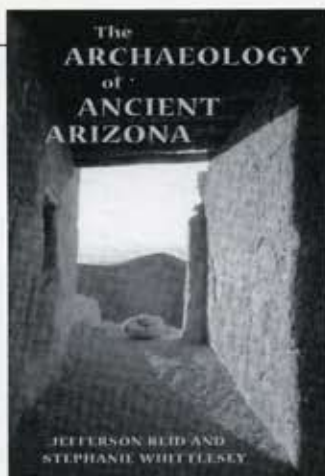
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310 pages, illustrated, \$40.00 cloth, \$17.95 paper

The Archaeology of Ancient Arizona by Jefferson Reid & Stephanie Whittlesey



The Southwest in the American Imagination
The Writings of Sylvester Baxter, 1881-1889
Curtis M. Hinsley & David R. Wilcox, eds.

A new look at Frank Hamilton Cushing and the Hemenway Southwestern Archaeological Expedition, revealing how the "invention of the Southwest" in American consciousness was central to the development of southwestern archaeology. 270 pp., \$40.00 cloth, \$16.95 paper.



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Archaeological Conservancy Reaps Benefits

Old Mobile Settlement Donated through DuPont Land Legacy Program

In the nearly two centuries since its inception along the Brandywine River in northern Delaware, DuPont has acquired substantial real estate holdings. While it currently operates more than 200 plants in some 70 countries, the company also owns properties for which it has no industrial or commercial plans.

"What a company does with the land in its care reveals its values and how it perceives its responsibility to society," says John A. Krol, DuPont's President and CEO. Krol, also known as the Chief Environmental Officer, adds: "We believe that we have an obligation to factor the ecological value of our land into decisions we make about corporate properties. Where the ecological or cultural value of a property is significant, we often choose to conserve that land."

The recognition of this special management responsibility

led to the formal creation in 1994 of the DuPont Land Legacy Program. During the 10 years prior to that, DuPont had already donated 44,700 acres valued at \$47,421,389.

Building on that noteworthy record, the DuPont Land Legacy Program is a proactive effort "to assess the biological and cultural significance of the undeveloped properties and to move them into protected status where appropriate and economically justifiable."

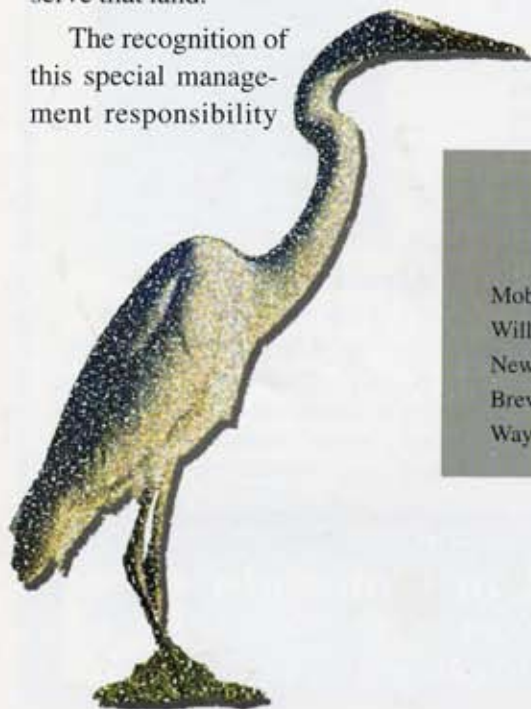
"What a company does with the land in its care reveals its values and how it perceives its responsibility to society"

John A. Krol, President and CEO

The first such property identified was an archaeological site near DuPont's Mobile plant in Ala-

bama. In 1994, DuPont conveyed an easement on the 31-acre site to The Archaeological Conservancy to permit the excavation of the original town of Old Mobile, the first French settlement on the Gulf Coast that was occupied from 1702 to 1711.

Land Legacy fits with DuPont's three-part strategy for land conservation. In addition to placing undeveloped property into protected status, the company's strategy also includes managing as much company property as possible for wildlife habitat and lending support to activities in local communities aimed at preserving green space.



DuPont Donates 9,000 Acres Over Three Years

Location	Acreage	Recipient	Year
Mobile, AL	31	Archaeological Conservancy	1994
Willow Grove Lake, NJ	1,000	Nature Conservancy of NJ	1994
Newark, DE	383	State of Delaware	1995
Brevard, NC	7,700	The Conservation Fund	1996
Waynesboro, VA	4	Wildlife Center of Virginia	1996



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