

ARCHAEOLOGY SOUTHWEST

SUMMER 2016

magazine

A QUARTERLY PUBLICATION OF ARCHAEOLOGY SOUTHWEST

VOLUME 30 | NUMBER 3

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Sonora

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Cover image: A monsoon rainshower descends on Cerro de Trincheras as evening sunlight floods in from the west. In this low oblique aerial view to the southeast, no modern structures are visible, yet the ancient stone terraces visibly striate the flanks of the main hill. © Adriel Heisey

*Established by William H. Doelle in memory of his mother, the **June Harper Doelle Endowment fund** supports the publication of Archaeology Southwest Magazine and other public outreach programs.*

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Archaeology Southwest

Archaeology Southwest Magazine (ISSN 1523-0546) is a quarterly publication of Archaeology Southwest. Emilee Mead, Publications Director. Kate Sarther Gann (kate@archaeologysouthwest.org), Content Editor. Kathleen Bader, Design Production.

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The Archaeology of Sonora

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¡Bienvenidos! Welcome to the first edition of *Archaeology Northwest Magazine*. The culture area that archaeologists commonly define as the Southwest stretches from Durango, Colorado, on the north, to Durango, México, on the south. This includes northwest México, specifically the states of Chihuahua and Sonora. For three decades, we—Randy and Elisa—have worked together to transcend national borders and understand the indigenous history of Sonora as a dynamic phenomenon. Still, we recognize that this archaeology exists in a frontier between two nations with markedly different approaches to the past.

Prehispanic and Novohispanic peoples (those who lived in the region before and during the arrival of Europeans, respectively) moved back and forth across the modern international border as if it were not there—because it was not. Modern archaeologists have not been so fortunate. American and Canadian archaeologists have, for the most part, been unwilling to work in Sonora because of the difficulties of doing research in a different country, in a different language. Mexican archaeologists have traditionally worked in the Mesoamerican culture area to the south, with its impressive pyramids and great cities. So although Sonora lies between two of the most intensively archaeologically researched regions in the world, it has not itself inspired a large body of research—for example, experts have recorded more than 100,000 archaeological sites in Arizona, but fewer than 5,000 in Sonora.

Conventionally, archaeologists have interpreted Sonora as an in-between space, explaining cultural developments therein as the southern fringes of Hohokam or Mogollon traditions, or

as the result of intrusion by Mesoamerican peoples or agents from the south. Toward the end of the twentieth century, archaeologists began to study the deep history of Sonora in its own right. In the early 1970s, the Instituto Nacional de Antropología e Historia (INAH) established the Centro Regional del Noroeste in Hermosillo, and the number of U.S.-



Archaeological cultures of northwestern México and the southern U.S. Southwest. MAP: CATHERINE GILMAN



Above: Alejandra Abrego (left) and Tanya Chiykowski (right) at Átil, Sonora, in 2014. IMAGE: RANDALL MCGUIRE **Below:** Student John McGregor draws trincheras walls to scale using field notes, March 1996. IMAGE: © ADRIEL HEISEY



based researchers working in Sonora increased. Mexican and American archaeologists have since established exceptional collaborations that have resulted in shared approaches and an international understanding of Sonoran archaeology.

Sonora and Its Indigenous Peoples

Sonora is the second-largest state in México, about two-thirds the size of Arizona. Geographers divide its environment into three vast zones running north–south. The *Sierra Madre Occidental* (“western mother-mountains”) rises in the eastern portion of the state, and the Continental Divide marks the boundary with Chihuahua. At higher elevations, pine forests cover these rugged mountains. The *Serrana* (or foothills) flank the Sierra Madre on the west. These are rolling hills covered primarily in grasslands and cut by several major river systems, including the Sonora, Yaqui, and Mayo Rivers. These rivers flow onto the coastal plain and into the Gulf of California. Distances of 100 to 200 kilometers (60–125 miles) separate these rivers, and little potable water occurs between them. The *Coastal Plain* exhibits a basin-and-range topography with dramatic mountains, flat plains, and volcanic hills. The Sonoran Desert of the Coastal Plain is the most diverse desert in the world, and home to many species of cactus.

Descendants of Sonora’s archaeological traditions still live there. The Seri, or Comcaac (pages 24–25), flourished in some of the driest regions of the Coastal Plain, along the Central Gulf Coast. They were hunters and gatherers dependent on marine resources. Other Sonoran peoples practiced agriculture primarily along the major rivers. They lived year-round in *ranchería* settlements that consisted of scattered ephemeral *jacales* (wattle-and-daub dwellings). Today, the Yoreme (Mayo) and Yoeme (Yaqui) live along their namesake rivers, and a linguistically related group, the Guarijío, lives in the Sierra Madre. Piman (O’odham) speakers include the Lower Pima (O’ob), who



Places mentioned in this issue. MAPS: CATHERINE GILMAN

live in the Sierra Madre just north of the Guarijío, and the Upper Pima, who live in the Sonoran Desert on both sides of the Sonora–Arizona border. The Ópata lived in the *Serrana* between these two groups of Pima.

Sonora’s indigenous peoples continue a 400-year-long struggle to maintain their land, culture, and water rights. Spanish missionaries entered Sonora in 1610, and by the end of that century, missions stretched north to San Xavier del Bac, Arizona. Armed resistance to Spanish and Mexican domination persisted until the last battle between Mexican troops and Yaqui warriors in the 1920s. The Spanish conquest and modern economic development have greatly reduced the territories and populations of indigenous groups. With the exception of the



Ópata, all these people still reside on a small portion of their aboriginal territory, and many still speak their native languages.

Sonora’s Deep Past

The turn of the twenty-first century has witnessed a dramatic increase in archaeological knowledge about the state. Articles in this issue summarize what we know about Sonora—not as a space in between, but as a space of distinctive local developments and interconnected processes that transcended the Southwest, Northwest, and Mesoamérica.

Hunters and gatherers had a long and enduring presence in Sonora. The state has become a hotbed for Paleoindian research, with numerous Clovis era sites yielding artifacts and extinct fauna (page 7). Early, Middle, and Late Archaic sites occur in Sonora, including coastal shell mounds (pages 8–9). In the Costa Central region, ancestors of the Comcaac maintained this way of life until the 1950s, when they began to practice agriculture and settle in permanent villages. Sonora’s La Playa (pages 9–10) is one of the largest and most complex early agricultural sites revealing changes from hunting and gathering to farming.

In the first centuries A.D., many communities adopted intensive agriculture, growing corn, beans, and squash. Permanent villages proliferated along the region’s major rivers. These villages participated in larger communities that shared territory, world view, technology, and language. Within this common culture pattern, archaeologists identify six distinct traditions: Trincheras, Costa Central, Casas Grandes, Río Sonora, Huatabampo, and Serrana (see map on page 3).

Todos Juntos

American and Mexican scholars have held very different perspectives on Sonora. American archaeological scholarship tends to stop at the international border, or focus on the aboriginal history of Mesoamérica. Mexican scholars, on the other hand, easily and effortlessly connect developments in the Northwest and Southwest to Mesoamérica.



Elisa Villalpando and Randy McGuire discuss pottery sherds from their excavations at Cerro de Trincheras. IMAGE: © ADRIEL HEISEY

Sonora is where these two traditions of scholarship meet, and where archaeologists have built true international collaboration in their fieldwork. Scholars have embraced common goals and interpretations that go beyond the old divide. We hope that researchers begin to extend such collaboration beyond Sonora, break down the effects of boundaries, and build collaborative knowledge of the entire Southwest/Northwest. □



México's National Institute of Anthropology and History

Instituto Nacional de Antropología e Historia (INAH) is the federal institution, now under the newly created Secretaría de Cultura, that conducts the vast majority of archaeological research in México. The Mexican nation claims archaeological remains as national patrimony: archaeological sites belong to the nation, not to private land owners. Federal law charges INAH with the protection, investigation, and interpretation of archaeological sites. Thus, there is a uniform national patrimony law; individual states, communities, and cities do not have separate regulations. The powers and responsibilities conferred upon INAH are contained in the Federal Act on Archaeological, Artistic and Historic Zones and Monuments, as well as in various conventions.

Adrian Lopez at La Hormiga, a Trincheras site in Sonora. IMAGE: RANDALL MCGUIRE

—*Elisa Villalpando*

First Sonorans

GUADALUPE SÁNCHEZ, INSTITUTO DE GEOLOGÍA, ERNO-UNAM
VANCE T. HOLLIDAY, UNIVERSITY OF ARIZONA

Sonora's first inhabitants lived on the coastal plain in the northern and central portions of the state about 13,500 years ago, during the end of the last glacial age (the Late Pleistocene). They were groups of hunters and gatherers who used a distinctive fluted stone dart or spear point known today as a Clovis point. This tool technology was widespread in North America, and even into Central and South America. Archaeologists know of at least 114 Clovis points from Sonora, and they have investigated a dozen Clovis sites.

At present, the most important of these sites is El Fin del Mundo (The End of the Earth), located at about 650 meters (2,130 feet) above sea level in a small intermountain valley (see map on pages 4–5). Over the course of five field seasons, we have determined that the site contains at least 10 significant localities (distinct places) where people engaged in a variety of activities.

Locus 1, the most important area of the site, encompasses an eroded area with bones and artifacts exposed in a profile. Here, we found a hunting feature buried under about a meter (just over three feet) of silty diatomaceous earth, probably representing an ancient lake bed. The feature consisted of bones from two juvenile gomphotheres—*Cuvieronius*, a distant cousin of the mastodon—as well as 31 directly associated stone and bone artifacts, including four Clovis points. One stone flake (resulting from tool manufacture or sharpening) was associated with a charcoal fragment that dated to about 13,340 years ago. Although the feature itself represents a short-term event, the extensive and varied stone-tool inventory on adjacent uplands indicates longer-term use of the site.

Different types of Clovis sites and localities have been recorded over the last 15 years in and around the Llanos

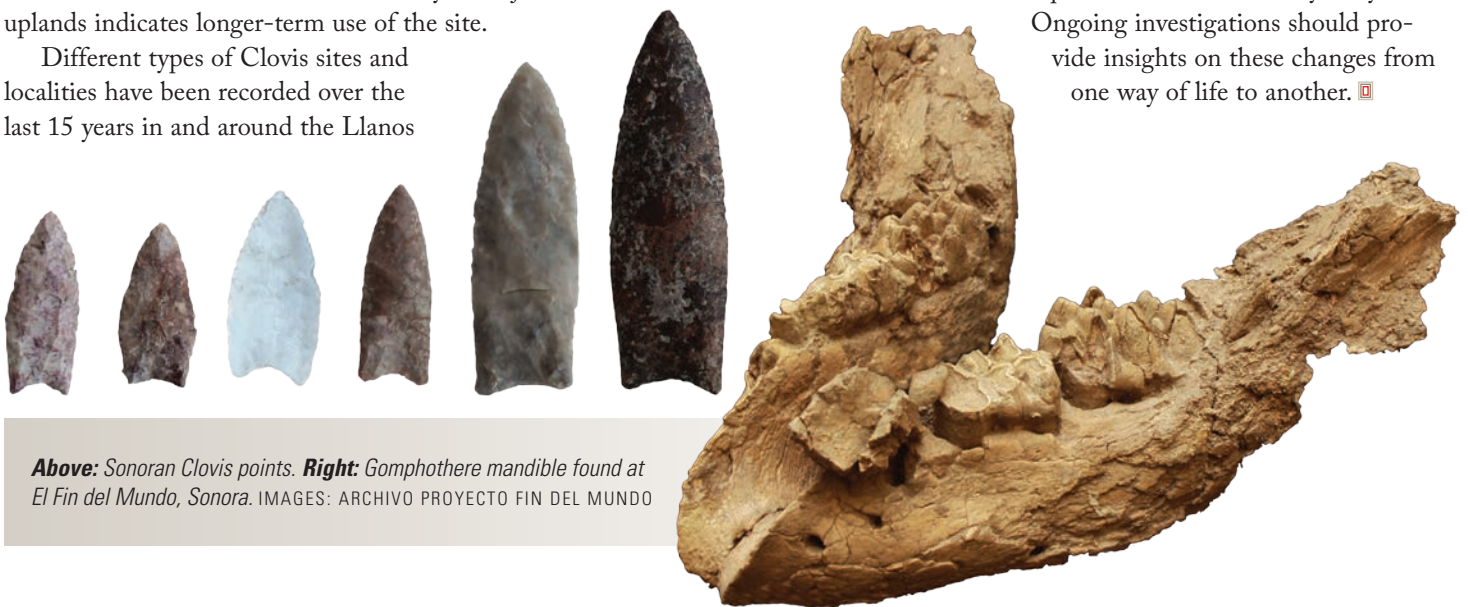
(plains) de Hermosillo. These represent activities such as hunting, foraging, procuring stone and other raw materials, and accessing water. The site pattern reflects an adaptive land-use strategy based upon great mobility within a large territory, as is typical of Clovis sites in other regions of North America.

The age of the hunting feature found at El Fin del Mundo is at the oldest end of the known age range for Clovis in North America. The Aubrey Clovis site in north Texas yielded two similar dates. Though only from two sites, these dates raise the possibility that the Clovis technological complex originated in southern North America, rather than the northern part of the continent as long hypothesized.

Unfortunately, we do not know much about what happened after Clovis artifacts cease to appear in the archaeological record of Sonora. In other regions, people seem to have stopped using Clovis points and related tools and begun making Folsom points (another style of spear or dart point) and other late Paleoindian artifact styles documented in North America.

Scholars offer two explanations for the lack of late Paleoindian projectile points in Sonora. One, proposed by archaeologist Jesse Ballenger and colleagues, is that people left the area about 12,900 years ago, at the onset of a cooler period known as the Younger Dryas. Another possibility is that people in this region began to shift toward a Desert Archaic adaptation—processing certain plants and seeds, for example—that required different tools very early on.

Ongoing investigations should provide insights on these changes from one way of life to another. □



Above: Sonoran Clovis points. **Right:** Gomphothere mandible found at El Fin del Mundo, Sonora. IMAGES: ARCHIVO PROYECTO FIN DEL MUNDO

Archaic Sonora

JOHN CARPENTER, CENTRO INAH SONORA
GUADALUPE SÁNCHEZ, INSTITUTO DE GEOLOGÍA, ERNO-UNAM
ISMAEL SÁNCHEZ-MORALES, UNIVERSITY OF ARIZONA

Understanding the origins of Archaic period hunting and gathering groups and the ways they used the land is fundamental for understanding the emergence of agriculture-based lifeways in the Sonoran Desert.

At present, the Archaic period (about 8,500–2,500 years ago) is poorly known in northwest México, but our recent investigations provide some information about this period in Sonora. By looking at different styles of stone projectile points (dart and spear points) and where they are found on the landscape, we can make inferences about chronology, land use, and regional interaction. Our sample comprises 499 projectile points collected from eight sites and 25 radiocarbon dates from six archaeological sites dating to the Early and Middle Holocene. (Holocene is the geological epoch following the Pleistocene, the last glacial epoch or “ice age.” A period of relatively warm, stable climate, the Holocene began about 11,700 years ago and continues to the present.)

We currently believe that Early Archaic subsistence strategies—how people fed themselves and made a living—emerged in concert with the Sonoran Desert biome. This occurred after Clovis groups left the area (or after inhabitants ceased making and using such points) and after the extinction of very large game (megafauna) at the end of the late Pleistocene (page 7). The paucity of diagnostic late Paleoindian artifacts and the co-occurrence of Clovis and Archaic materials in the same locations suggest that the Early Archaic follows Clovis, and that early Holocene hunter-gatherers used the same water and lithic raw material sources as Clovis groups.

The newly defined Placencia point type (see images at right), found in at least four sites in the region, might be part of the Early Archaic tool

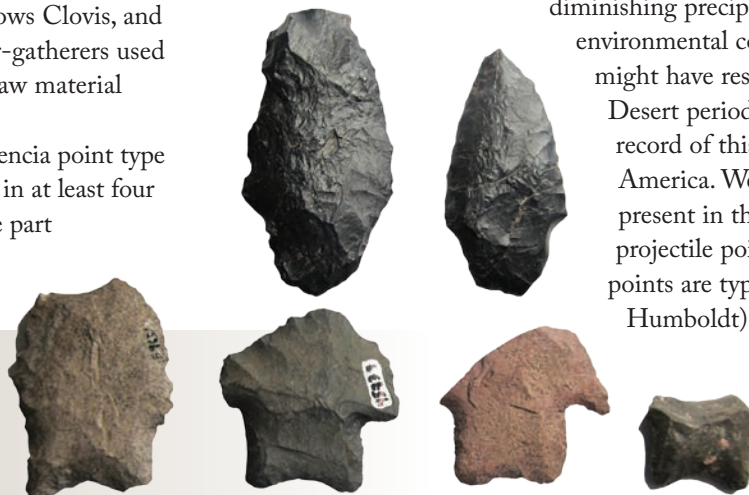


View of SON:N:11:20, an Archaic period site on the Hermosillo Plains. IMAGE: ARCHIVO PROYECTO ADAPTACIONES HUMANAS Y CAMBIOS CLIMÁTICOS

kit. A dozen tapering-stem points are known from five sites in Sonora; when found in the Great Basin of the U.S., these are considered to be late Paleoindian or Early Archaic style (or both).

Considerable climatic changes occurred during the Middle Holocene, or Altithermal period (7,500 to 4,500 years ago), which was characterized by increasing temperatures and diminishing precipitation—presumably inhospitable environmental conditions. These harsh conditions might have resulted in groups leaving the Sonoran Desert periodically, as seen in the archaeological record of this period from other regions in North America. We have evidence that groups were present in the region, however, in the form of 86 projectile points from eight sites in Sonora. These points are types (e.g., Bajada, Pinto, San Jose, and Humboldt) that archaeologists working in the Mojave Desert and U.S. Southwest identify as Middle Archaic.


The beginning of the Late Holocene, around 4,500 years ago, marked a period of



Top row: Tapering-stem points. **Bottom row:** Placencia points recovered from El Fin del Mundo.

improved environmental conditions in the Sonoran Desert. The depositional record of the Late Holocene at several sites indicates that the end of the Altithermal was characterized by a wet period with copious amounts of annual precipitation that recharged aquifers and created ciénegas (springs and wetlands). Incipient maize cultivators who had adopted maize near the end of the Altithermal or in the initial stages of the Late Holocene rapidly moved into the region. These people were probably

groups from the foothills of the Sierra Madre Occidental, and the first norteños to grow and eat maize.

It is likely these groups dispersed quickly from their presumed heartland, recolonizing the Sonoran Desert and contributing to the great diversification of this language family at that time. Groups developed a new way of life dependent upon rivers and agricultural practices that ultimately led to the establishment of farming villages throughout Sonora. 

Sonora's Early Farmers

JOHN CARPENTER, CENTRO INAH SONORA
ELISA VILLALPANDO, CENTRO INAH SONORA
GUADALUPE SÁNCHEZ, INSTITUTO DE GEOLOGÍA, ERNO-UNAM

People have been part of La Playa's landscape more or less continuously since Paleoindian times (about 13,000 years ago), and their most intensive use was during the Early Agricultural period (2100 B.C.–A.D. 150). Afterward, habitation in the surrounding Boquillas valley greatly diminished, yet La Playa was continuously inhabited—by people of the Trincheras tradition, by Piman groups, even by French goat herders—and there was a hotel and restaurant operating there in the 1950s!

During the Early Agricultural period, groups developed and implemented a sustainable farming model that led to significant population growth and cultural development in the Trincheras region. People began to manipulate their environment in significant ways to realize agricultural yields. La Playa contains a substantial record of past climate and the remains of extensive ancient irrigation systems. Ongoing geoarchaeological investigations at the site help us understand how farmers were operating on the landscape and responding to changes in climate.



Low oblique aerial view of the floodplain of Río Boquillas, the location of the archaeological site known as La Playa. Note the heavy erosion at lower right. This morning view is to the southwest, with constructed mound features in the foreground, and Cerro de Trincheras in the background behind the three low hills in the middle distance. IMAGE: © ADRIEL HEISEY

La Playa and Las Capas

Relationships between northern Sonora and southern Arizona are millennia deep. Archaeological evidence shows that people were moving between the sites of La Playa (Sonora) and Las Capas (Arizona).

During the early San Pedro phase (1200–800 B.C.), people living in most of the settlements along the Santa Cruz River in the Tucson Basin exclusively used indigenous San Pedro points. Their neighbors at Las Capas, however, primarily used Empire points, which were a common style of point at La Playa. There are a few examples of Empire points at Las Capas that had been modified with copied San Pedro details, but their neighbors showed no interest in adopting Empire designs.

Multiple lines of biological and material culture evidence suggest that these early Las Capas residents traveled to the Tucson Basin from the vicinity of La Playa. They probably interacted with local populations, but do not appear to have shared their neighbors' natal projectile technology or adopted indigenous designs beyond experimental levels. After a flood disrupted agricultural systems at Las Capas in roughly 1000 B.C., the site was abandoned for generations, and ultimately resettled by an indigenous Tucson Basin group practicing San Pedro technological traditions.

Empire points largely disappeared from southern Arizona.

—R. Jane Sliva

Left: San Pedro point.
Right: Empire point.

IMAGES: R. JANE SLIVA



Burial of two dogs at La Playa. IMAGE: ARCHIVO PROYECTO LA PLAYA

At La Playa, the earliest dated cultural feature is a burial of an adult female, 25–35 years old, dated to about 2000 B.C. Evidence of the Early Agricultural period includes a burned pithouse, countless thousands of hornos (roasting features), several hundred human inhumation and cremation burials, numerous dog burials (as inhumations and cremations), shell ornament production, stone tool-making, caches of manos and tabular “lap stone” slabs, and a schist quarry. To date, we have investigated a total of 620 archaeological features. Maize kernels and cupules (the parts of the cob that hold the kernels) are present in about half of the roasting features we have analyzed. Artifacts dating to the San Pedro phase (1200–800 B.C.) are similar to those found at Las Capas in the Tucson Basin, suggesting that residents of each community shared social or trade networks, or perhaps migrated from one to another, or even all three possibilities (see discussion at left).

We have also identified intriguing evidence of agricultural fields with canals covering some 35 hectares (about 90 acres). Several alignments of contiguous roasting pits, each ranging from 50 to 150 meters in length (about 165 to 500 feet), are oriented parallel to the canals and at right angles to widely spaced (approximately 10 meters, or just over 30 feet apart) furrows or feeder canals. Radiocarbon dates from adjacent features suggest these horno alignments probably date to the Cienega phase (800 B.C. to A.D. 150). Additionally, the highly fractured condition of fire-cracked rock within roasting features suggests that people drew water from the canals and used it during the roasting process. □

Sierra Alta Communities

JÚPITER MARTÍNEZ RAMÍREZ
CENTRO INAH SONORA

In the 1800s, Sonora's population was so low that explorers and scientists interpreted the rough, isolated terrain of the Sierra Madre Occidental as an Apache refuge. Similarly, scholars later



interpreted evidence of Casas Grandes-related groups living in the Sierra Alta de Sonora (the local name for the Sierra Madre Occidental)—as flight from Paquimé's destruction. Paquimé (another name for the site of Casas Grandes) was a vast and complex settlement in what is now northwestern Chihuahua that had far-reaching influence from the 1250s through the early 1400s (see *Archaeology Southwest Magazine* Vol. 17, No. 2).

In the 1950s, archaeologist Robert H. Lister excavated some cliff dwellings in the Sierra Alta, finding some similarities with the Casas Grandes tradition and dating the sites to the “Mogollon phase.” Fifty years later, our Mexican team, the Sierra Alta de Sonora Archaeological Project, has returned to the region, seeking to understand whether the mountain villages were refuges or evidence of communities with ties to Paquimé.

Due to the difficulties of working in such isolated terrain, our research is proceeding slowly. Still, we have learned that the region contains many sites dating to the Viejo (A.D. 700–1250) and Medio (A.D. 1250–1450) periods. These communities had complex internal interactions, and their relationship to Paquimé

Left: Excavation unit at a site in the Sierra Alta known as Puerto el Gato. Note the hearth, metate, and pots on the floor. **Below:** Collapsed rooms at Cueva de Ochoa. IMAGES: JÚPITER MARTÍNEZ



remains unclear at present (for example, we have not found characteristic marine shell beads or turquoise). It is unlikely that these highland communities were isolated from the Casa Grandes world, however.

Knowing that there were far fewer cliff dwellings than surface sites, we divided the region into zones for survey and excavation. In the first zone, in the municipality of Bavispe, we found nine sites in an area of 2 square kilometers (about three-quarters of one square mile): two cliff dwellings, two sites with adobe architecture, and five jacal rooms, as well as more than 400 agricultural terraces. I interpret these sites as having ties to Paquimé.

People built some rooms in the larger cliff dwelling, Cueva de Ochoa, around A.D. 900, and there is some pottery at the site dating to the Viejo period. Prior to that, there is no evidence that people used the rockshelter. Most evidence at the site dates to the Medio period. Food remains (maize, squash, and chewed bundles of agave fiber known as quids) and human coprolites (desiccated feces) recovered from the excavated rooms led us to interpret the site as a habitation. We were surprised to find the carefully positioned remains of a woman on top of wall fall in one room, with a Viejo period pot and the rib of a newborn. The rib dated to about A.D. 1000. I suspect that this is an important Ópata woman, interred in the seventeenth or eighteenth century, in an ancestral place with materials collected at the site.

In another stage of the project, we worked in the municipality of Bacerac, where La Cueva, a large but largely destroyed cliff dwelling, is located. Through intensive survey, we located an extensive site with adobe architecture, two more cliff dwellings, a small adobe mound site, two jacal rooms, and one rock art site, again in an area of 2

square kilometers. We found a similar settlement pattern to that of Bavispe, and concluded that these sites comprised another community with ties to Paquimé.

We have been excavating at La Cueva for two years. We have not found much evidence of food disposal, other than agave-fiber quids and leaves. There is an internal patio marked with petroglyphs and a macaw and a snake painted in white. The team has found three round rooms, one of which is being excavated. On and immediately below the surface of the site, we found a mix of protohistoric arrow points, cow dung, and cowboy magazines—evidence that people continued to use the place long after the Casas Grandes world collapsed. ■



Above right: Granary pedestal and agave leaves at La Cueva. **Right:** South component and seasonal waterfall, La Cueva. IMAGES: JÚPITER MARTÍNEZ

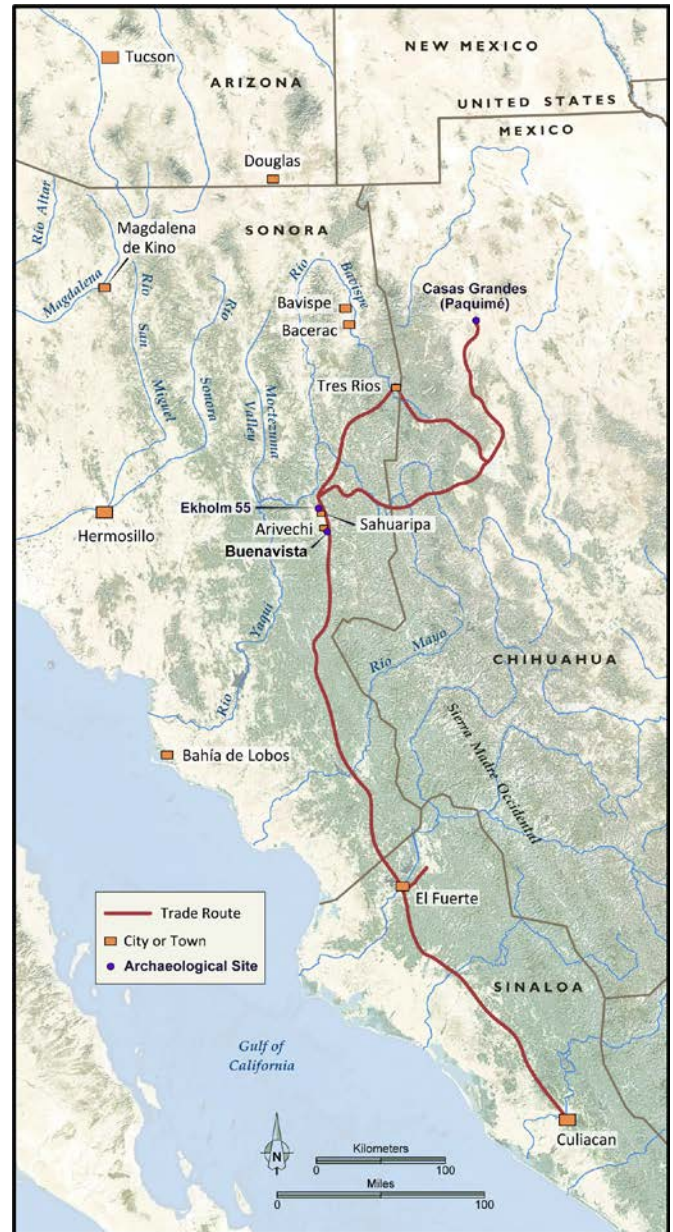
The Sahuaripa Valley

JOHN CARPENTER, CENTRO INAH SONORA
 GUADALUPE SÁNCHEZ, INSTITUTO DE GEOLOGÍA, ERNO, UNAM

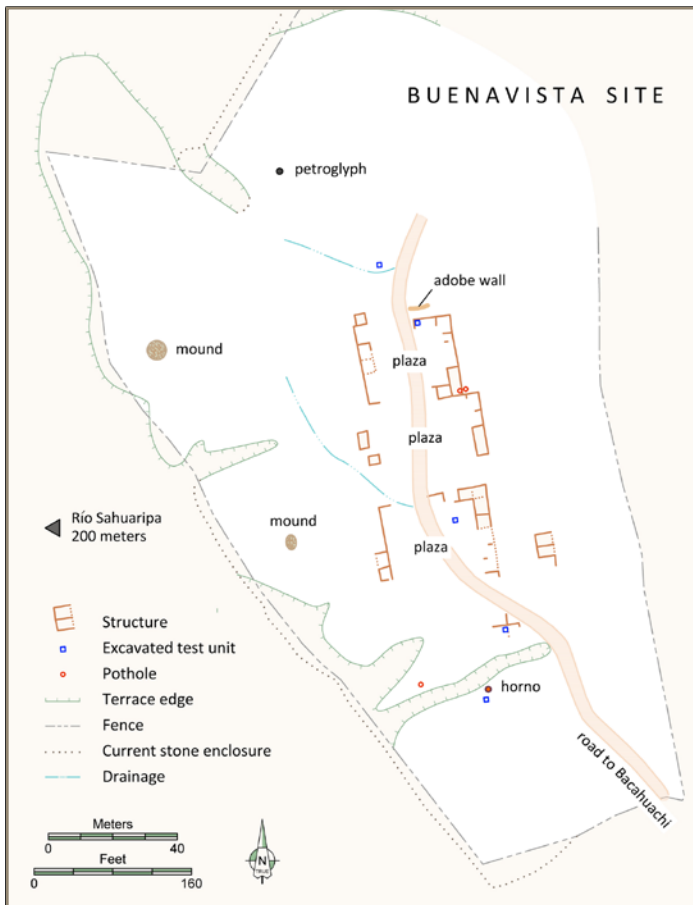
The Sahuaripa River valley is located about 230 kilometers (140 miles) southeast of Douglas, Arizona. The region's archaeology is little known; the only excavation prior to our project was carried out in 1937 by Gordon Ekholm. During the first two field seasons of the Proyecto Arqueológico Río Sahuaripa y la Sierra Central, we have documented 60 sites and conducted test excavations at seven. From this, we know that people have lived in the region since the Archaic period. Two sites are particularly notable: the Buenavista site and Ekholm 55.

The Buenavista site (SON P:4:2), located near the town of Arivechi, is a large settlement located on the second terrace of the Sahuaripa River. This site consists of an architectural arrangement of room blocks around at least three plazas. The quantity of surface artifacts and the multiple living floors found in the excavations indicate that a dense population inhabited the site. A range of artifacts shows that Buenavista played an important role in Sonoran exchange networks from the 1200s to the 1400s: at least 40 sherds from polychrome vessels affiliated with the Paquimé region (page 11) dating to the Medio period (A.D. 1250–1450); 36 marine shell ornaments, including bracelets, tinklers, beads, and pendants; at least one Hohokam red-on-buff sherd; and 42 obsidian flakes and projectile points presumably from a source near the Bavispe valley to the north.

Another large and complex site is represented by Ekholm 55 (SON L:16:10), located 3 kilometers (just under 2 miles) north of the town of Sahuaripa. This site also presents an architectural pattern of room blocks situated around plazas. On the summit of the hill, in a clearly defensible location, people built a large plaza with massive room blocks on three sides and a retaining wall in the cliff. On the lower terrace there are at least two plazas surrounded by room blocks. The amount of artifacts we observed on the surface and during excavations, as well as the



Far left: Shell pendant found at the Buenavista site. **Left:** Chihuahua Polychrome sherd recovered at the Buenavista site represents ties to the northeast. IMAGES: ARCHIVO PROYECTO ARQUEOLÓGICO RÍO SAHUARIPA Y LA SIERRA CENTRAL **Above:** The likely route taken by several colonial explorers reflected a trade network of deeper antiquity. MAP: CATHERINE GILMAN, ADAPTED FROM DI PESO ET AL. (1974)



Plan view of the Buenavista site, which played an important role in regional trade networks of the 1200s through 1400s. The community had at least three plazas. MAP: CATHERINE GILMAN, BASED ON DATA PROVIDED BY THE AUTHORS

multiple living floors we found, indicate people resided there for a long time. We believe this is the “Zaguaripa” described by Baltasar de Obregón in his chronicle of Francisco de Ibarra’s expedition, where Ibarra’s group engaged in a fierce battle in 1564.

In 1974, Charles Di Peso noted the importance of Sahuaripa with respect to the long-distance exchange network between West México/Aztlán tradition and Paquimé. According to Di Peso’s reconstruction, this same route later served Cabeza de Vaca, Marcos de Niza, Francisco Vázquez de Coronado, and Francisco de Ibarra. This route enters the Río Sahuaripa basin from the headwaters of the Arroyo de los Cedros to the south.

Our work continues. We hope that future fieldwork, artifact analyses, and study of the inhumations will provide more information about historically documented ethnolinguistic groups that are no longer present—the Jovas, Eudeves, and Nebomes populations—and their interaction with other regions of Sonora. □

The Moctezuma Valley

MATTHEW PAILES
UNIVERSITY OF OKLAHOMA

The Moctezuma valley is located in eastern Sonora, in the Río Sonora archaeological culture area (see map on page 5). Archaeology in this river valley provides a rare glimpse into local politics in the centuries before Europeans arrived (1200–1500). Trade goods show that the valley’s residents—archaeologically revealed to be akin to elites and commoners—had very different objectives.

Early missionaries described the valley’s inhabitants as Ópata. They used this label for diverse groups who spoke related languages. Explorers repeatedly noted two things about the Ópata: they frequently fought small wars, and they maintained

long-distance trade networks. For decades, archaeologists focused on verifying and mapping these trade routes.

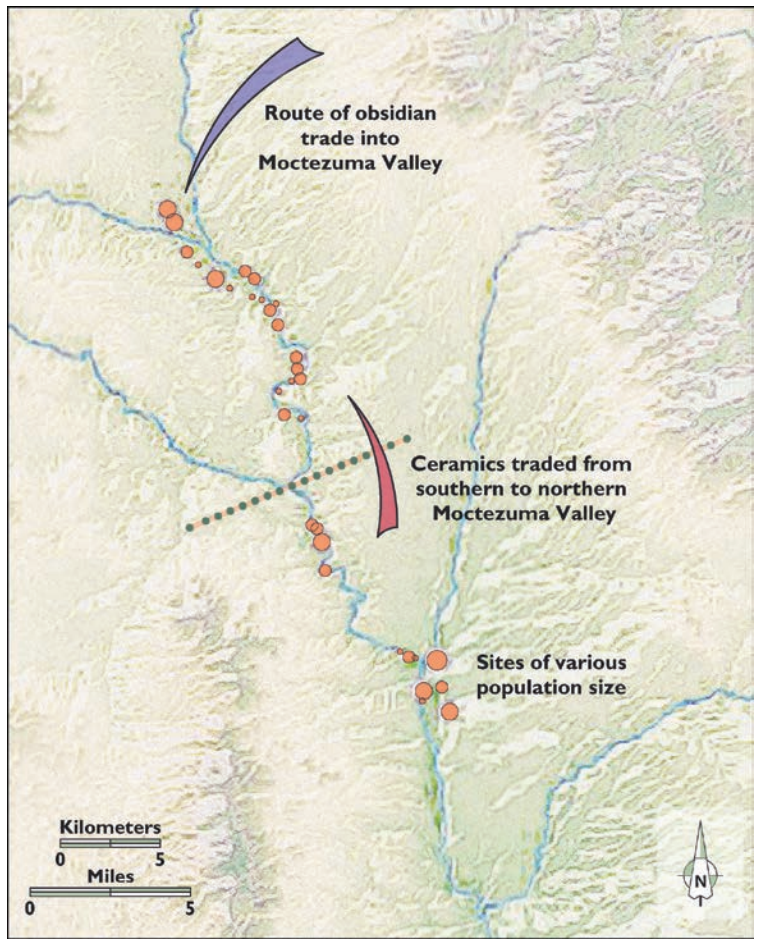
Most researchers believe elites, or wealthy leaders, controlled this trade. Archaeologists have differing views on how organizing trade might have helped those elites gain and maintain power. For example, exchange items might have been necessary for certain important events, such as marriages. If elites alone could provide the necessary items, then they would hold influence over other people’s lives. Another view is that rare goods might have circulated only among elites. Such objects would have served as symbols of authority that reinforced their status.

We were surprised by how few exchange items we found during our work at residential sites in the valley. The total list of exotic items includes only a handful of shell and a few turquoise beads. We also found painted pottery and obsidian tools at a few sites. Obsidian (volcanic glass) artifacts are very useful for reconstructing exchange routes because we can determine where people obtained it on the landscape. The closest obsidian came from a neighboring valley 70 kilometers (45 miles) to the northeast. Our excavation results show that only a few large sites acquired obsidian, and they did not trade it with other distant large sites or nearby small sites.

This pattern tells us two things. One, exchange routes did not cross all political boundaries. These observations give us an idea of local alliance patterns. Two, it suggests elites did not use exchange to manipulate the local population—in other words, we did not find evidence that elites controlled rare items needed by most people for important events.

We also looked at common items. Because everyone made these items, we expected they would not travel far. We were again surprised to learn that plain pottery actually traveled at least the distance of our survey area (see map at right). It was even more astonishing to discover these items crossed boundaries *not* crossed by obsidian exchange.

What does this all mean? Currently, our best interpretation is that the Spaniards were correct in their assessments of the frequency of local conflict and the use of warfare to gain prestige and authority. This created an unstable environment for commoners. Individual commoner households might have developed strategic relationships with individual households in other communities, people they could rely upon in times of upheaval. We see this reflected in their exchange of common items, but their relationships probably involved connections of many kinds. □



Groups living in the Moctezuma valley did not trade most goods across the dotted line; yet they regularly traded common goods, such as pottery, across this line. GRAPHIC: CATHERINE GILMAN, ADAPTED FROM PAILES'S ORIGINAL



A portion of the Moctezuma valley. IMAGE: MATTHEW PAILES

The Ónavas Valley

CRISTINA GARCÍA-MORENO, ARIZONA STATE UNIVERSITY
JAMES T. WATSON, ARIZONA STATE MUSEUM, UNIVERSITY OF ARIZONA

One of the most important and flowing rivers of the state of Sonora, the Río Yaqui, begins at the confluence of the Papigochi and Bavispe Rivers in the foothills of the Sierra Madre Occidental (see map on page 5). It empties into the Gulf of California near the town of San Ignacio Río Muerto, in the Yaqui valley. In the middle of its length lies the Ónavas valley, composed of hills and intermountain valleys with deciduous forests.

Recent research by Arizona State University's Proyecto Arqueológico Sur de Sonora shows that the valley was home

to many people over a long period of time prior to the arrival of Europeans. For the past five years, the project has focused on two of the more than 100 existing sites in the valley, many of which are endangered by expanding open air-mining activities. One site is the funerary mound of El Cementerio (SON:P:10:8), and the second is a habitation site known as Casa Pima (SON:P:6:5).

Evidence at both sites demonstrates that people of the middle Río Yaqui developed a long-lasting local cultural tradition in which they incorporated specific traditions of influential groups to the south. Locally made items at El Cementerio include red and brown plainware pottery (with a low percentage of decorated variants purple-on-red and purple-on-brown), and flaked stone tools and objects made from cobblestones of the Río Yaqui. Nonlocal materials principally comprise finished shell jewelry from the Pacific Ocean, and pendants and beads of green stone that—alone or together with shell—have been found as personal adornment in many of the 115 human burials we have thus far documented. These burials date from about A.D. 900 to 1635.

In addition, most individuals from El Cementerio exhibit an elongated form of tabular oblique cranial modification, and some of them also show dental modification. The modifications include filing at the cor-



Above left: Shell bracelets that adorned human burials. **Left:** Necklace beads found with burials reflect ties to distant regions. **Below:** Nose pins. IMAGES: ARCHIVO PROYECTO ARQUEOLÓGICO SUR DE SONORA



ners of all four upper incisors and often the mesial canines, and two females exhibit dental ablation of the upper central incisors. Such body modifications were common among contemporaneous West Mexican and Mesoamerican groups.

Material and skeletal evidence at El Cementerio connects this population with powerful groups on Mexico’s west coast. People in the Ónavas valley participated, though peripherally, in an extensive prestige-goods economy, perhaps as part of a more segmented system of trade networks—and maybe only within their own settlement system. As the northernmost people to embrace these body modifications, residents of El Cementerio

clearly linked their identity to those more prominent groups in order to support status and wealth within the Ónavas valley.

Residents continued to use the burial mound until 1635, when they began using sites on mesas, including Casa Pima. This was one of many sites from which the river was visible, and such locations might have been chosen for defensibility. At Casa Pima, people built a residential unit of at least 11 rooms with rock and adobe foundations, arranged in a “U” form around an open space. We expect to find a specific burial area in future fieldwork. When Spaniards first arrived in the valley, around 1620, they found people living in these mesa-top sites. ■



Artist's visualization of outward appearance of deliberate cranial modification observed among the remains of Ónavas residents. The backdrop shows the setting of the valley. IMAGE: ROBERT B. CIACCIO, IN CONSULTATION WITH THE AUTHORS

The Trincheras Tradition

RANDALL H. MCGUIRE, BINGHAMTON UNIVERSITY

ELISA VILLALPANDO, INSTITUTO NACIONAL DE ANTROPOLOGÍA E HISTORIA, CENTRO INAH SONORA

The earlier Snaketown instances hint at a possible purple-on-red tradition, somewhere in northern Mexico, which has a long history but has gone unrecognized. — Emil Haury, 1974

A decade later, in 1984, we took up archaeologist Emil Haury’s call to research this poorly understood archaeological tradition. Haury had speculated that the Trincheras people (whom we call Trinchereños) were the southernmost extension of the Hohokam—country bumpkins to their more sophisticated northern relatives. Our research has shown that, to the contrary, the Trincheras tradition was a distinct archaeological tradition, and its people were even, for a time, in conflict with Hohokam groups.

“Trincheras” refers to an archaeological tradition, to pottery types (Trincheras Polychrome, Trincheras Purple-on-red, Trincheras Lisa), and to a site type, *cerros de trincheras*. Trincheras tradition sites extend from the Gulf of California on the west to the Río San Miguel on the east. At the north, they begin around the international border, extending as far south as Desemboque on the gulf coast. Archaeologists have divided this tradition into four phases.

In the Atil phase (A.D. 700–1000), artisans transformed the plain brown pottery of the Early Agricultural period by applying a reddish slip and purple paint. Trinchereños began to build walled enclosures on the crests of isolated volcanic hills. Following local terminology, archaeologists call these enclosures “corrals,” even though Trinchereños did not keep domestic animals, other than dogs and perhaps turkeys.



Left: Close aerial view of Cerro de Trincheras from the north in morning light, 1996. Note the then-active excavations in the foreground. IMAGE: © ADRIEL HEISEY

Above: Trincheras Purple-on-red bowl recovered from the site. IMAGE: ARCHIVO PROYECTO INSTITUCIONAL TRINCHERAS



By the Altar phase (1000–1300), people built terraces on hills with “corrals” and located their homes on these terraces. This created *cerros de trincheras*, a site type also found in the Hohokam, Río Sonora, and Casas Grandes regions. In the middle Magdalena valley and in the lower Altar valley, we and other archaeologists defined a settlement pattern with evenly spaced *cerros de trincheras* on the isolated hills and pithouse villages along the floodplain. This pattern might have resulted from pithouse villagers using the *cerros de trincheras* for seasonal and life-cycle rituals.

In the lower Altar valley, we investigated two Altar phase *cerros de trincheras*, Tío Benino and La Hormiga. Tío Benino was a terraced village with a population of several hundred people. La Hormiga had a much smaller population of 30–40 people, and walls surrounding ceremonial and storage structures on the crest of the hill. We argue that Trinchiereños built these *cerros de trincheras* to defend the residents of Tío Benino, and to defend the ritual and storage space on La Hormiga.

Cerro de Trincheras in the middle Magdalena valley is the largest and best-studied site of the Trincheras tradition. This isolated volcanic hill covers a square kilometer (less than half a square mile), and archaeologists have found no evidence people lived on the hill before El Cerro phase (1300–1450). Around 1300, Trinchiereños built more than 900 terraces on the hill to create a town of 1,000 to 2,000 people. By 1450, people no longer lived on the hill.

Cerro de Trincheras is ten times larger than the next largest *cerro de trincheras* in the Southwest/Northwest. Construction of the site signaled a massive population increase in the valley. The migrants were most likely Trinchiereños from the surrounding area who had been displaced by Hohokam people from the Papaguera (the area generally corresponding with today’s Tohono O’odham Nation).

This major center dominated the region as the most visibly impressive town in Sonora and as the home of elites who

controlled the region’s agriculture, craft production, and ritual activities. The lower three-quarters of the terraces on the hill supported homesteads, and the elite built their homes at the highest habitation levels. Households of the latter are characterized by a suite of special objects, including parrots, turtle shell, cloud-blower pipes, and polychrome pottery imported from Chihuahua.

At the base of the habitation area, the Trinchiereños farmed agave, and just above this they built a large public ceremonial terrace we have called La Cancha (the Court). Weavers and toolmakers had special workshops above La Cancha. Higher and to the west, artisans who made jewelry from marine shell built their homes and workspaces. Much of this jewelry was for local use, but Trinchiereños also traded some to populations in the Sierra Madre to the east.

Walls and terraces surrounding the upper quarter of the hill create a continuous barrier pierced by three gates. These works protect the large ceremonial and storage precinct on the crest



Low steep oblique aerial view of then-active excavation of La Cancha (“the Court”) at Cerro de Trincheras in morning light, 1996. IMAGE: © ADRIEL HEISEY

Women on the Move

In the centuries before the Spaniards arrived, Sonora was a dynamic landscape of warfare, mass migration, and trade networks spanning modern international borders. Around 1300, Hohokam populations moved from southern Arizona to Sonora's Altar valley, displacing indigenous Trincheras populations. In response, Trincheras groups built the fortified site of Cerro de Trincheras.

Despite this physical and social distance, a third of the pottery sherds at Cerro de Trincheras were Sells Plain, a Hohokam ware. This suggests that Trincheras and Hohokam groups interacted, but not how or why that occurred. In my dissertation research, I found that the pottery provides a window on women's experiences.

Based on cross-cultural ethnographic evidence, it is likely that potters of both traditions were women. We can track these potters because they made ceramics very differently. Hohokam potters thinned vessels by beating the clay into their desired shape (the paddle-and-anvil method), producing Sells Plain. Trincheras potters thinned their pots by scraping away excess clay (the coil-and-scrape method), making a type we call Lisa 3.

Using this evidence of manufacturing methods, geological sourcing of the pottery's "ingredients," and stylistic analysis, I examined trade, community migration, and the movement of women among Hohokam and Trincheras villages. From the patterns I observed, I inferred that Hohokam women came to Cerro de Trincheras—and given apparent conflict between the two populations, this was probably under duress.

Geological sourcing shows that potters at Cerro de Trincheras produced Sells Plain pottery with materials in and around the site. Yet no one was producing Trincheras pottery at Hohokam villages in the Altar valley. This suggests that Trincheras did not end up at Hohokam villages in that region, even though Hohokam women ended up at Cerro de Trincheras—movement was one way.

At Cerro de Trincheras, some potters made Lisa 3A, a new, hybrid plainware type that employed paddle-and-anvil and coil-and-scrape techniques in the same vessel. The short, overlapping, and chaotic scrape marks contrast with the long, regular scrape marks seen inside Trincheras tradition plainwares. These blended vessels are evidence that Hohokam women were attempting to imitate Trincheras technological styles. Conscious of their marginal status, these captive Hohokam women might have been attempting to fit in—they certainly ceased making the decorated ceramics with red slips and painted designs of their homelands.

—Tanya Chiykowski,
Binghamton University



Glycymeris shell manufacture from Cerro de Trincheras. IMAGE: ARCHIVO PROYECTO INSTITUCIONAL TRINCHERAS

of the hill. Archaeologists call the most prominent ritual feature El Caracol (the Snail). This structure's plan view is a spiral, like a snail shell cut in half—a symbol of water and wind. On the highest peak of the hill are rock walls that form two "V"s. One "V" aims at the rising sun during summer solstice, and the other points to the sun on winter solstice.

The latest research at Cerro de Trincheras mainly contributes to our knowledge of funerary practices (pages 22–23 and 23–24). INAH archaeologists completed excavations in the modern town of Trincheras, which lies just below the north slope of the hill. In one cemetery at the east end of the hill, they documented 138 secondary urn cremations. An area of crematoria with 43 features lies half a kilometer (a third of a mile) west of the cemetery.

Trincheras separated the living and the dead by placing the cemetery off the hill and apart from dwellings. People living on the hill could easily see the cemetery and the crematoria. This created a commemorative landscape reinforced not only in daily life, but also on those occasions when the entire town could witness the cremation and burial of an individual. This association of ancestors with the landscape may have legitimated Trincheras' claim to the fertile Magdalena valley during the conflict and upheaval of the final centuries before Europeans came. □



Trincheras Lisa jar. IMAGE: ARCHIVO PROYECTO INSTITUCIONAL TRINCHERAS



Low steep oblique aerial view of El Caracol ("the Snail"), a prominent ritual feature near the summit of Cerro de Trincheras, 1996. IMAGE: © ADRIEL HEISEY

Transformation by Fire

JESSICA I. CEREZO-ROMÁN
CAL POLY POMONA

Cemeteries are active spaces where dead and living interact. The urn-field cemetery at the base of Cerro de Trincheras enables us to explore the strategies Trinchereños used to remember their loved ones and affirm their sense of place.

The cemetery contains 138 urns with fragments of burned human remains and three historical infant burials. Clearly, cremation was the predominant funerary custom in Cerro de Trincheras; infants, children, and adults of both sexes were cremated. Unlike an inhumation, in which a complete body is buried, cremation results in many small bone fragments that may be treated in a variety of ways. But how were the remains cremated, and why?

Trinchereños burned one individual at a time. Following burning, they carefully gathered the bone fragments, placed them inside an urn, and later placed the urn in the cemetery. Analysis of these human remains and associated objects allows

us to reconstruct how people prepared and burned their dead. Objects found inside the urns revealed that bodies were dressed or decorated (or both) before being burned on a pyre. We have, for example, found burned bracelets and beads that might have adorned the deceased during cremation.

People sometimes also placed animal bone, shell, awls, and pottery in the pyre with the body as offerings. Survivors also placed unburned copper bells with the remains after the bodies had burned. Interestingly, the age, sex, or apparent gender of the deceased does not seem to be an important factor in determining what objects were placed with the individual.

Unlike today, when cremations take place away from the public eye, Trinchereño cremation pyres were visible from the *cerro*. Cremation would have been a spectacular event evoking many sensory experiences. Fire transformed the physical, recognizable body into fragments, which probably conferred a new

social persona and a new materiality (state of physical being). The living might have used the bone fragments, burned objects, and animal bones to construct the deceased's new social persona and to commemorate the person's life. Urns served as the "new body" for bone fragments, and burial objects, as well as the urn's shape, maintained the individuality and personhood of the deceased.

People placed a vessel in the cemetery and put rocks around to stabilize it, to delimit its space, to serve as grave marker, or to achieve a combination thereof. It is possible that a complex sequence of performances concerned with transforming and reconstituting the dead into a new materiality served as mediations of remembrance. This burial treatment was relatively similar among individuals, possibly emphasizing notions of collective memory.



Excavations in the urn-field cemetery at Cerro de Trincheras. IMAGE: ARCHIVO PROYECTO INSTITUCIONAL TRINCHERAS



for the afterlife. The practice, which continued across succeeding centuries, typically involved intensive processing of remains in a funerary pyre, which reduced the body to small fragments of bone. Once cooled, these were usually collected and placed in a small prepared pit or, as at Cerro de Trincheras (SON:F:10:2), in small jars and bowls and set among the cremated remains of fellow community members in an urn-field cemetery (pages 22–23). Several generations of deceased—138 individuals—were placed in the urn-field at Cerro de Trincheras. They were interred adjacent to, and on top of, each other with very little distinguishing individuals' social ranks.

A few more than a dozen burials link this northern portion of the state to another large burial assemblage of inhumations—111 individuals—at El Cementerio (SON:P:10:8) along the Río Yaqui in south-central Sonora (pages 16–17). These include remains, dating anywhere from A.D. 500 to 1500, that have been recovered from Desemboque, La Pintada, Batacosa, and a pair of sites on the central coast (see map on page 5).

It is interesting to note that a form of cradleboard cranial modification similar to that seen among Mogollon groups of the Southwest was observed in remains from Los Crematorios (SON:F:10:151) and at Batacosa (SON:S:7:12). This form of cranial modification stands in stark contrast to the intentionally practiced and visually stunning elongation of the head at El Cementerio, which is much more similar to that observed at sites in Sinaloa and along Mexico's west coast. In addition, individuals at El Cementerio are far more likely to have been buried with jewelry—mostly shell ornaments—and a few exhibit dental filing.

Few burials have been recovered or studied from the historic period in Sonora, but the remains of its (perhaps) most famous resident, Padre Francisco Eusebio Kino, are displayed in the central plaza of Magdalena de Kino, the town that bears his name. Finally, stylized memorial structures erected for the recently deceased along the major roads, *descansos*, show a dynamic continuity for memorializing the dead today. □

Comcaac Anthropology of Meaningful Places

NATALIA MARTÍNEZ TAGÜEÑA
INSTITUTO POTOSINO DE INVESTIGACIÓN CIENTÍFICA Y TECNOLÓGICA, A. C.

The Comcaac (Seri) indigenous community is located in the beautiful desert and sea of the Sonoran coast (see map on page 5). Today they live in two villages, Haxöl Iihom (Desemboque) and Socaix (Punta Chueca), and they continue to visit certain traditional camps during hunting, fishing, or gathering expeditions.

Human presence in their ancestral territory dates back to the Clovis era (page 7). Archaic period inhabitants shared Cochise Tradition lifeways with contemporaneous Sonorans and groups living in what is now south-central Arizona. Although archaeologists have described later pot-



Carolina Felix and Angelita Torres roasting mussels on the beach. IMAGE: NATALIA MARTÍNEZ TAGÜEÑA

tery-making villagers as part of the Costa Central Tradition (see map on page 3), I prefer to describe these groups and their homeland, which is defined by the presence of a thin, light, well-fired ware known as Tiburón Plain, as Ancestral Comcaac.

Even though contemporary Comcaac have lost much of their homeland, they relate to the ancestral landscape through long-term continuity. They have retained knowledge of their cultural landscape and a deep connection with the archaeological record of their ancestors. They also possess a rich oral tradition and complex views of the natural order as expressed in stories, poetry, and songs.

In collaboration with members of the community, it has been possible to link oral tradition (alongside linguistic information), documentary history, and archaeological and ethnographic data to reconstruct a past that is relevant to their present. This collaborative research project has developed innovative ways of integrating a variety of historical narratives while responding to Comcaac perspectives and desires.

Collaborators have been involved in all stages of research—not only in the development of research objectives, but also in the conception of methodologies for creatively documenting places and objects. Obviously, their sociocultural interpretation is an important aspect of the project, as well. Additionally, several elders and some members of younger generations perceived this project as an opportunity to educate and learn, respectively, oral traditions and other social practices that are waning in this time of escalating change.

This research has documented—formally, spatially, and temporally—a vast range of social practices that constructed, and continue to construct, part of the Comcaac cultural landscape. Mapping of the landscape was accomplished through a number of methods. Several workshops were developed for the re-creation of diverse traditional practices, such as the making of pottery, mesquite-root cordage, roasted mussels, organic pigment, and roasted and ground mesquite beans, among other activities.

In addition, many young people (especially two who were consistently involved) participated in an archaeological survey of about 400 square kilometers (150 square miles). We covered 14% of the total area delimited by the Ejido boundaries (today's Comcaac legally owned communal land). Our survey occurred over land that legally belongs to the community today, though their traditional lands are, of course, much larger. We mapped more than 200 concentrations of cultural remains, more than 450 features, and around 1,000 diagnostic or isolated objects.



Angelita Torres gathering mesquite roots to make into cords. IMAGE: NATALIA MARTÍNEZ TAGÜEÑA

With the input of the community, we selected additional archaeological survey transects, ultimately developing a new survey methodology in which we simultaneously recorded oral histories, traditions, and ethnographic information about landscape segments.

Among the many important and diverse outcomes, this comprehensive collaboration with the Comcaac on their landscape perspective has provided information about subsistence (ways of making a living) and mobility. We have also established new ways to explore how exchange might have been embedded in the social practices and daily lives of the Comcaac and their neighbors. Furthermore, because this project promotes the integration of indigenous voices in discussions of history, it allows us to explore different perceptions of the past held by the Comcaac and colonial Spaniards. Previously, historians and anthropologists largely relied upon archival documents written by representatives of the Spanish empire, in addition to information from historical archaeology.

With a foundation for collaboration established, we hope to continue this effort to preserve and protect Comcaac cultural heritage and natural resources. We will consider the future of the Comcaac community even as we seek a broader understanding of their past. □

PRESERVATION SPOTLIGHT

THIS PLACE IS PROTECTED

Sonora's La Pintada site showcases approximately 2,000 designs dating from the prehispanic period to the Spanish colonial period. In 2007, the Instituto Nacional de Antropología e Historia (INAH) initiated a multidisciplinary conservation project at La Pintada (see map on page 5) through the Coordinación Nacional de Conservación del Patrimonio Cultural and Centro INAH Sonora. Conservation efforts face numerous challenges, including the canyon's extent and complex topography, the mixed composition of the paintings, and their continuing interaction with the surrounding environment.

First, conservators and an advisory team of geologists from UNISON (Universidad de Sonora) conducted a thorough evaluation of the site, which provided a big-picture understanding of the formation and evolution of the canyon, as well as the site's environmental setting. All these factors impact the paintings. Our survey demonstrated that varying levels of damage are the result of daily, seasonal, and annual cycles of temperature, relative humidity, wind, and insolation (solar radiation)—and drastic fluctuations in each of these—as well as distinct physical-mechanical and chemical properties of the pigments and underlying rock.

Next, we diagnosed individual panels. We documented damage and undertook a variety of specialized analyses—petrography, X-ray diffraction, digital microscopy, point load tests, porosity, density, permeability, durability, salt detection, and pH. Then we defined the condition of the paintings, the majority of which were composed using pigments made of iron oxides with divergent hydration levels on three specific substrates: rhyolitic lava flows, rhyolite, and ignimbrite tuff.

Importantly, our analysis provided insight into the kinds and degrees of damage. Paint layers revealed disintegration due to binder depolymerization and loss of cohesion between pigment particles. Rock substrates exposed the transformation of feldspars into hygroscopic clays (“hygroscopic” meaning that they readily take up and retain moisture), as well as the degradation of other mineral compounds. These changes provoke exfoliation, disintegration, cracking, and the release of material, resulting in instability and potential loss.

With this information, we established conservation priorities for the site and developed optimal treatment procedures. For the latter, we had to determine the solubility of all graffiti substances that damaged the paintings and, with the assistance of chemists, undertake research on consolidation and patching materials.

We have since undertaken nine consecutive seasons of fieldwork in which we successfully removed graffiti and related vandalism through use of chemical, mechanical, and dry processes. More importantly, we performed direct intervention to stop and reverse alterations to the underlying rock that compromise stability and permanence. Our efforts have been directed at panels on the southern tip of the canyon, the northern rock face of the site (Element R), and the second canyon segment, particularly the main panel (Element G), which has the richest pictorial representation and the most severe degradation in its ignimbritic tuff support. Employing materials compatible with the rock paintings, we have undertaken surface cleaning, consolidation of rock supports with alkoxyxilanes, and patching based on colloidal silica. As a result, we are stabilizing the paintings.



Conducting material stabilization of the tuff support of the rock paintings at La Pintada. IMAGE: SANDRA CRUZ, COURTESY OF CNCPC-INAH

This endeavor to restore dignity to the site is being conducted by professional conservators from INAH supported by a team of trained volunteers. Working with volunteers promotes understanding of cultural heritage as represented at the site and helps generate a sense of shared responsibility among specialists and the public. Simultaneously, we are developing a general conservation program as part of the management plan for opening La Pintada to the public.

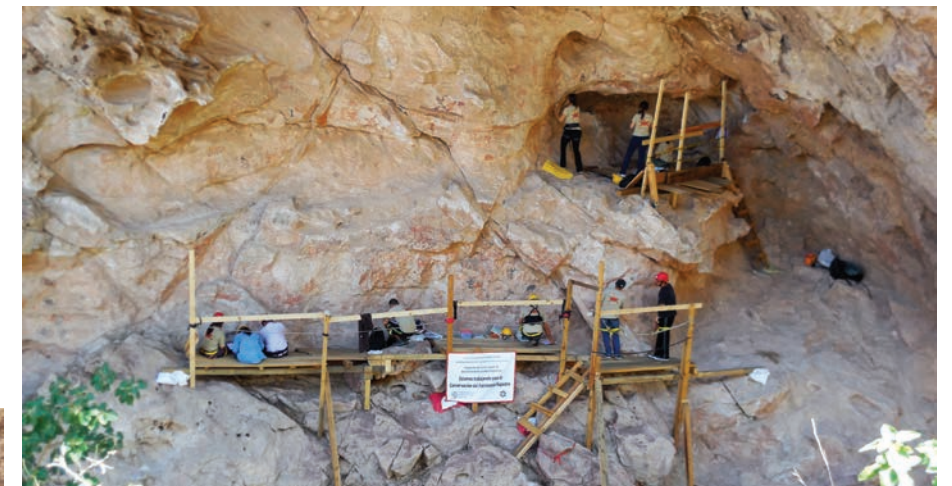
—Sandra Cruz Flores,
Instituto Nacional de Antropología e Historia, México



Above: A view of La Pintada canyon and its surroundings in the desert region of Sonora. **Below:** A detail of the damage on the rock paintings in the second segment of the canyon due to exfoliation, cracking, and disgregation of the rock support. IMAGES: SANDRA CRUZ, COURTESY OF CNCPC-INAH



Recording the rock painting damage at Element G through in-situ digital microscopy. IMAGE: ADRIANA CASTILLO, COURTESY OF CNCPC-INAH



Above: A general view of the conservation fieldwork of the main panel with rock paintings at La Pintada. IMAGE: SANDRA CRUZ, COURTESY OF CNCPC-INAH **Left:** Recording surface temperature values on a second segment panel at La Pintada as part of the survey pertaining to the impact of the environmental conditions on rock painting conservation. IMAGE: DELIA APODACA, COURTESY OF CNCPC-INAH



back sight

Issue editors Elisa Villalpando and Randy McGuire are the “poster children” for cross-border collaboration. They have been at it for decades, done it devotedly and well, and made a real impact. I am fortunate to call them old friends.

Much of the monumental archaeological expression of Mexico’s deep and renowned cultural heritage is relatively close to the national capital, Mexico City. By the time one reaches Sonora, the archaeology has become subtle, even invisible. Cerro de Trincheras is a bold exception. Though people had long known about the site’s existence, it was Elisa and Randy who took on the herculean effort of mapping, testing, and interpreting the community complex (pages 18–20). These additions to the archaeological knowledge base have been tremendous.

Of parallel importance is the fact that the results of their work have inspired INAH to establish a visitor center there and to develop a trail to the top of the magnificent hill complex. About 20 years ago, I got to tour “CDT” while Elisa and Randy were working there and exploring initial ideas about the place and the people who lived there. This past spring, I had the opportunity to tour the visitor center and make a rapid ascent of the trail with a young guide who was in great condition. We beat the rain, and it was well worth the breathless—and ultimately breathtaking—climb to the summit.

As I stood there looking out over this remarkable place—which represents a singular social, political, and likely religious florescence—I marveled that it is open to the public. I urge you to visit the contemporary community of Trincheras and explore the Cerro de Trincheras.

Not too far away, but not yet a place for tourists, is the site of La Playa (pages 9–10). There, the monumental scale of recent erosion has laid bare much buried archaeology, and INAH archaeologists and their northern partners have spent decades revealing the story of early agriculture in North America. Jane Sliva’s study of stone dart points makes a strong case that La Playa’s farmers ultimately moved north to the Tucson Basin.

The stories of past peoples and their lives in this far southwest/northwest region are far from the only positive outcomes of crossing the border—physically or intellectually. But they are timely reminders of constancy and change, and of humanity. □



Elisa and Randy in their field lab with Cerro de Trincheras in the background, 1996. Their collaboration began in 1984. IMAGE: © ADRIEL HEISEY

back sight (bāk sīt)
n. 1. a reading used by surveyors to check the accuracy of their work. 2. an opportunity to reflect on and evaluate Archaeology Southwest’s mission.

William F. Doelle

