

# ARCHAEOLOGY SOUTHWEST *magazine*

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# Archaeology Southwest™

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Henry D. Wallace

## Tucson Underground: The Archaeology of a Desert Community

William H. Doelle, Center for Desert Archaeology

**T**UCSON IS A PLACE OF GREAT ANTIQUITY that has been transformed in dramatic ways over the past century. For more than sixty years, archaeologists working in and around the city's downtown area have documented at least 4,000 years of changing lifeways. This double issue of *Archaeology Southwest* explores what has been found underground and what it means.

The recent aerial photograph shown above encompasses the heart of Tucson's downtown area. It is intentionally a near-opposite of a photograph taken by Carleton Watkins (page 2) from atop Sentinel Peak (also known as A Mountain) in 1880, when the portion of the railroad line that ran through the city had just been completed. Although Tucson was about to be transformed by its new connection to the national economy, the Watkins image shows the community's

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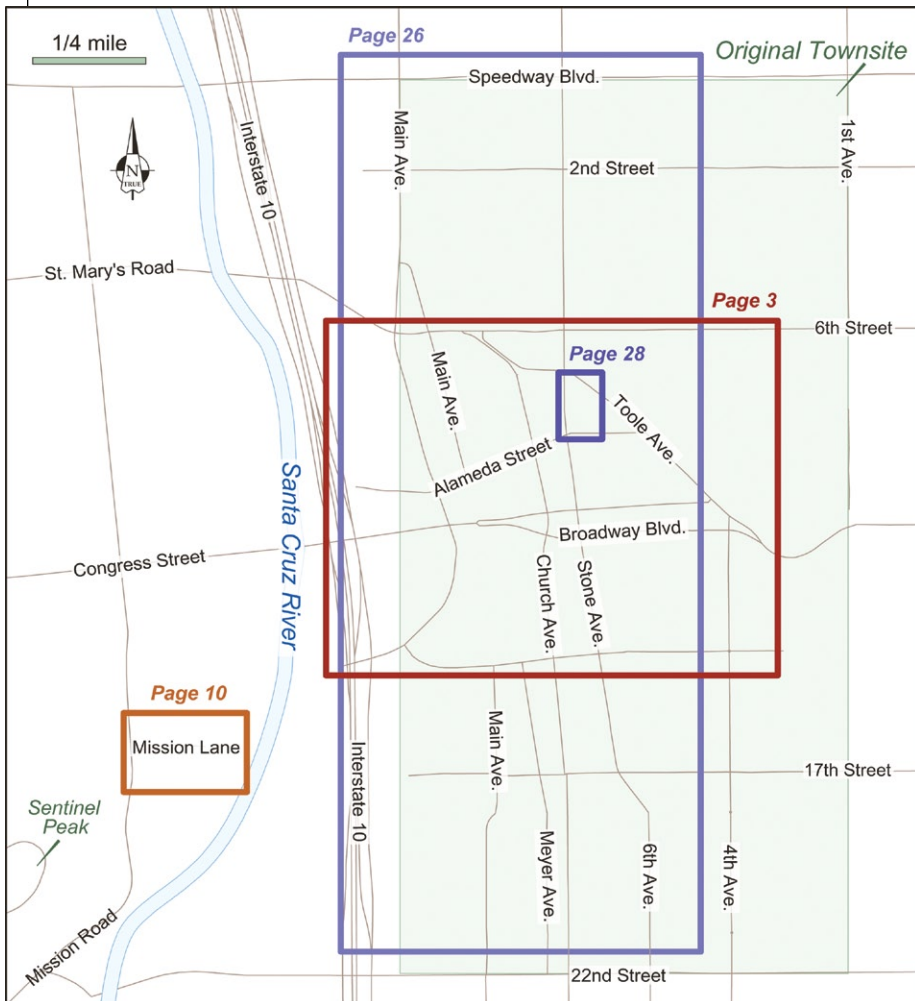
strong agrarian roots.

In the foreground of Henry Wallace’s modern image are the railroad tracks and a few of the remaining warehouses that once lined them (now part of the Tucson Warehouse National Register District). The bare earth beyond the warehouses was the site of a major archaeological excavation that recovered the remains of 1,386 persons buried in Tucson’s community cemetery between 1862 and 1881. This and several other cemeteries are discussed in some detail in a separate section at the end of this issue. The center of this image is dominated by high-rise buildings—the tallest is twenty-three stories—surrounding a central public space. This space, once the plaza of Tucson’s Spanish and Mexican period presidio, was very likely a village plaza during the prehistoric Hohokam era. Beyond this downtown core runs the light-colored line of Interstate 10 that divides Tucson’s east and west sides. Still farther in the distance is another extensive area of bare ground just at the base of Sentinel Peak. This area—planned as a place of museums, reconstructions of key historical features from the Spanish and Mexican periods, and mixed-use facilities—was intended to be one of the centerpieces of Tucson’s Rio Nuevo project, but is on hold for now. The Rio Nuevo project remains a source of local controversy. However, it has served as a major catalyst for the new insights into Tucson’s past that are highlighted throughout this issue.



View from Sentinel Peak taken by Carleton Watkins in 1880. The broad agricultural floodplain of the Santa Cruz River dominates this image. At the base of Sentinel Peak is Solomon Warner’s Mill and, at the left edge, his residence. Just to the right of Warner’s Mill is the garden associated with Mission San Agustín and, next to that, the mission itself. Tucson is evident along the far side of the floodplain (Accession No. 18233).

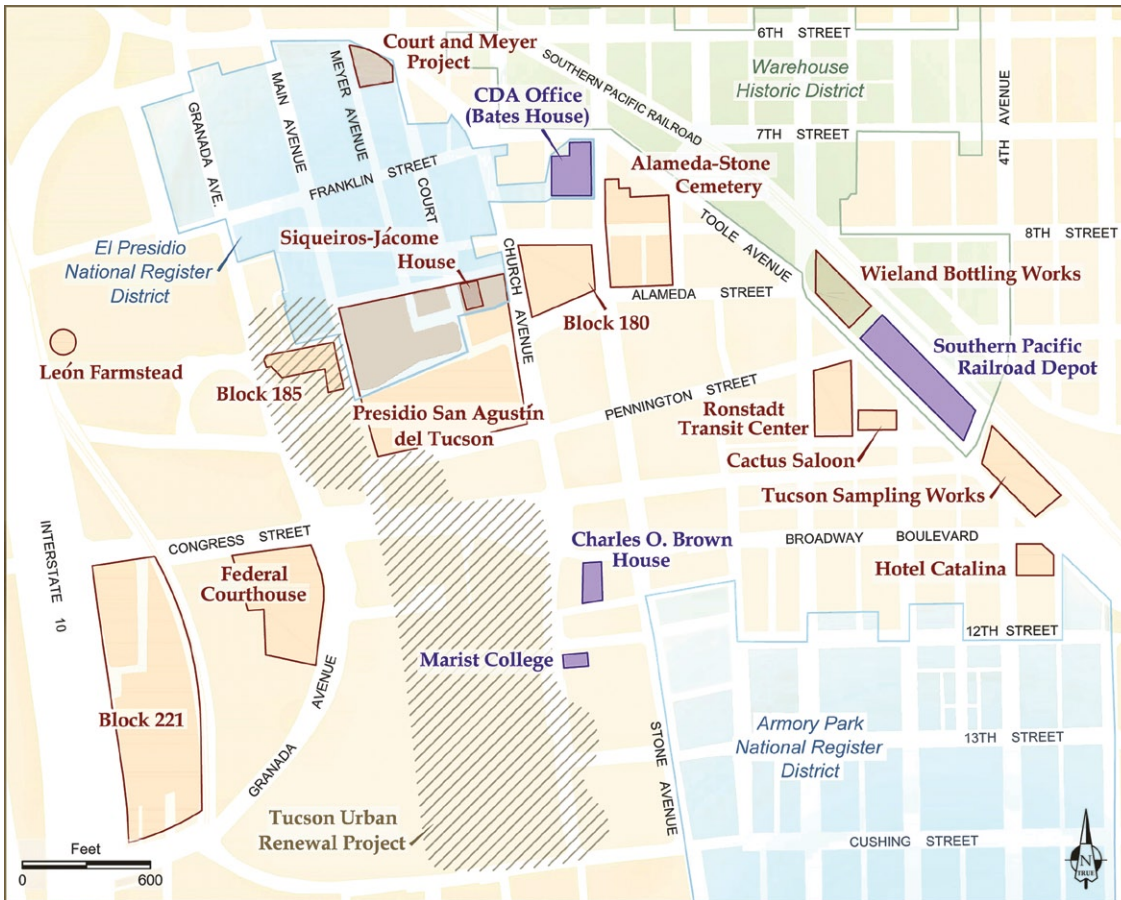
Catherine Gilman



Key to locational maps in this issue. Note the two-square-mile original townsite.

Although the stories featured herein are unique to the Tucson area, the resources and methods that revealed this community’s past can be applied to any modern city. Cities are layered landscapes, and archaeologists can help reveal the deeper layers of community history. However, there are often subtle clues to the buried history, which are accessible to the careful observer: the layout of the streets, the style and details of the buildings, and the names given to streets and places.

Population growth has been rapid in the desert Southwest, especially since World War II. Since 1900, Arizona’s population has increased from a mere 123,000



Map of downtown Tucson showing major archaeological projects along with National Register Districts and some standing architecture discussed in this issue. This map (available as a PDF in a page-sized format) and descriptions of all archaeological projects shown on this map are available at: [www.cdarc.org/asw-24-1](http://www.cdarc.org/asw-24-1).

to some six million residents in 2010. During the same interval, Tucson's metropolitan area burgeoned from 15,000 to a million residents, and its downtown transitioned from a vital community center to an area occupied by government and professional offices that was largely vacant after 5 p.m. on weekdays as well as on weekends. Much of the archaeological work done in Tucson's historic core—funded mainly by the city, county, and federal

Act of 1966. This law is the cornerstone of the historic preservation movement in this country.

Much of Tucson's historic core was demolished in the 1960s to make way for government offices, a convention center, and performance venues. Forty-odd years later, there is still resentment among many community members about this destruction. There was a significant archaeological project administered by the city and

governments—has been connected to efforts to revitalize the downtown.

Two very large archaeological projects have taken place in the downtown area: the Rio Nuevo project, noted above, and the much earlier Tucson Urban Renewal project. In the 1960s, urban renewal programs and interstate highway construction projects were undertaken across the nation. These projects were intended to rejuvenate cities, but they often resulted in great damage to the historic fabric of communities, which gave momentum to the passage of the National Historic Preservation

## Transportation and Community History

**T**HE PORTION OF WHAT is now known as Interstate 10 that runs through Tucson began as a local divided highway in the mid-1950s and was upgraded to a limited-access freeway in the 1960s. Interstate 10 runs along the east margin of the Santa Cruz River. Historically, a *camino real*, or royal road, ran north from San Xavier Mission, past Mission San Agustín at the base of Sentinel Peak, across the Santa Cruz, and north to the gates of the Tucson Presidio. Mission Road still preserves much of that route. During Spanish and Mexican times, the native and religious community was based at San Agustín, and the military and civil community lived at the presidio, on the other side of the river. Occasionally, the river flooded, and east and west were temporarily isolated—but the river of concrete known as Interstate 10 was a much more intimidating dividing line through the community than the river had ever been.

Although some options for reducing the impact of the physical barrier of the interstate through the downtown area were considered, they proved economically infeasible. A modern streetcar project partly funded by a large federal grant will connect both sides of the Santa Cruz River and has the potential to enhance the local economy and to stimulate private sector investment.

## Place and History

A SENSE OF PLACE takes time to develop. Growing up in a place is probably the best way to cultivate that deep inner awareness of the seasons, the architecture, the vegetation, the smells, the foods, the stories, and the myriad other details that integrate in complex ways to create a special feeling and awareness that we refer to as a “sense of place.” The historical associations with places are not always positive or innocent, though the youthful learning process often does not incorporate that larger context. An extended quotation from Chip Colwell-Chanthaphonh’s book *Massacre at Camp Grant* (University of Arizona Press) describes how knowledge gained as an adult gave him an awareness that the layers of history were more complex than he had realized as a child who was raised in Tucson:

*On the morning of April 30, 1871, a group of Tucsonans and their Tohono O’odham allies killed upwards of a hundred Apaches and stole some thirty Apache children. The Apaches, predominantly of the Aravaipa and Pinal bands, were living as prisoners of war along Aravaipa Creek five miles east of Camp Grant under the protection of the United States Army... Few if any have denied this basic sketch.*

*Growing up in Tucson, I failed to realize that the history of the Camp Grant Massacre was all around me. I was oblivious to the subtle markers that revealed the origins of my home. As a child my school bus drove by Sam Hughes Elementary School, while I attended Carrillo Elementary downtown, just around the corner from Elias Street, Oury Street, and DeLong Street. In the summer, I went to Romero Ruins in Catalina State Park and walked to Romero Pools, where small ponds offered relief from the searing heat. My father and I took an annual pilgrimage to Apache Lake, sometimes taking Highway 77 as it meanders through the San Pedro Valley. Although our car sped by the ruins of Camp Grant, I thought of that drive as passing through just a monotonous, desolate desert. In the quiet afternoons of autumn, I loved to hike Wasson Peak.*

*These places and place-names were merely the backdrop to my daily experiences. They meant little to me then, but in 2001 I started conducting research on the San Pedro Valley’s cultural history and soon learned of the chilling events of the Camp Grant Massacre. My impressions of the familiar names—Carrillo, Hughes, Oury, Wasson, Romero—were transformed as I came to understand the role these men played in the murder and enslavement of scores of Apaches in 1871.*

implemented by the Arizona State Museum. Newspaper articles, journal publications, and a major exhibit at the Arizona State Museum contributed to a broader understanding of community history, but given the scale of the affected area, the level of effort expended was rather limited.

Tucson’s generous legacy from the natural environment has made it attractive to settlers for thousands of years. The broad floodplain of the Santa Cruz River—

roughly a mile wide—once held water nearly year round. The large volcanic hills near San Xavier del Bac and at Sentinel Peak forced the river’s underground flow to the surface, where it was diverted into canals for watering crops and for human consumption. Rich desert resources, such as mesquite, saguaro, cholla, agave, amaranth, and annual greens, supplemented crops and provided fiber and construction materials.

After the arrival of maize, a wild grass that was domesticated farther south in Mexico, Tucson became an ideal place for farming. Radiocarbon dating consistently shows that the earliest maize in the valley was cultivated 4,100 years ago. By 1500 B.C. there was evidence for irrigation canals, and by 1200 B.C. farmers built sophisticated systems of canals and fields. Tucson’s agrarian history covers 3,800 years of successful cultivation of New World crops, followed by the addition of Old World crops, and then commercial production of cotton and citrus. Today, there is renewed interest in farms producing local foods.

In this issue of *Archaeology Southwest*, life in Tucson is divided into four time periods: Early Agricultural, Early Ceramic and Hohokam, Spanish and Mexican, and American.

In the Early Agricultural period (2100 B.C.–A.D. 50), maize moved northward from Mexico, was experimented with, and was gradually incorporated into new subsistence strategies. Tucson is one of the best documented places in the entire Southwest for this early phase of prehistory. This important time period was the focus of a recent issue of *Archaeology Southwest* (Vol. 23, No. 1), and is covered here in an article by J. Homer Thiel (pages 6–7) and in a review by Jenny Adams of the role of pipes and tobacco in these early settlements (pages 7–8).

The next few articles reflect Tucson’s occupation during the Early Ceramic and Hohokam eras (A.D. 50–1450). The earliest ceramics appear to have been used for storage of agricultural products, but with increasing settlement size and sedentism, the development of containers for water, cooking, and serving soon followed. Villages consisted of brush-and-earth pithouses that were arranged around a central open plaza. Ballcourts were constructed in nearly all villages by roughly 800 and continued to be used in the Tucson area until 1050 or so. The Salt and Gila rivers were the areas of Hohokam cultural innovation and greatest population density. Residents of the Tucson area emulated most of the cultural practices found in the Salt and Gila core area and produced a distinctive variant of painted pottery.

Unfortunately, large-scale construction in central

Tucson has greatly diminished the archaeological evidence for this time period. It is clear that there was a large settlement—probably a ballcourt village—in Tucson’s downtown area. This issue includes an overview of this

that their routes were east of Tucson. The first documented visits by a European to Tucson were made in the 1690s by Father Eusebio Francisco Kino, who introduced various crops and livestock to the area.

Tucson was at the far northern extent of the Spanish empire. Attacks by Apaches became more of a threat to the Spanish-dominated mission communities and the military systems at an extensive line of presidios. During this time, the seat of power was well to the south—in Mexico City and in northwestern New Spain. After the Mexican revolution of 1810 and Mexican independence in 1821, the missions went into a decline. The presidio in Tucson, located in the current downtown area, was dependent on financial support from Mexico City. Payrolls moved northward from Arizpe in Sonora. In 1848, after the treaty of Guadalupe Hidalgo ended the Mexican-American War, the area south of the Gila River—including Tucson—remained part of Mexico until the Gadsden Purchase in 1854. Two years later, the U.S. military arrived in Tucson to take over from the Mexican presidial soldiers.

The first article in this section focuses on the native O’odham village of S-cuk Son and Mission San Agustín, which was established because of this native presence (pages 10–11). Thiel also summarizes two decades of archaeological work at the presidio (pages 12–14). Next, using *cuartilla* coins, Alan Ferg provides insight into border issues that date back to Mexican times (page 15).

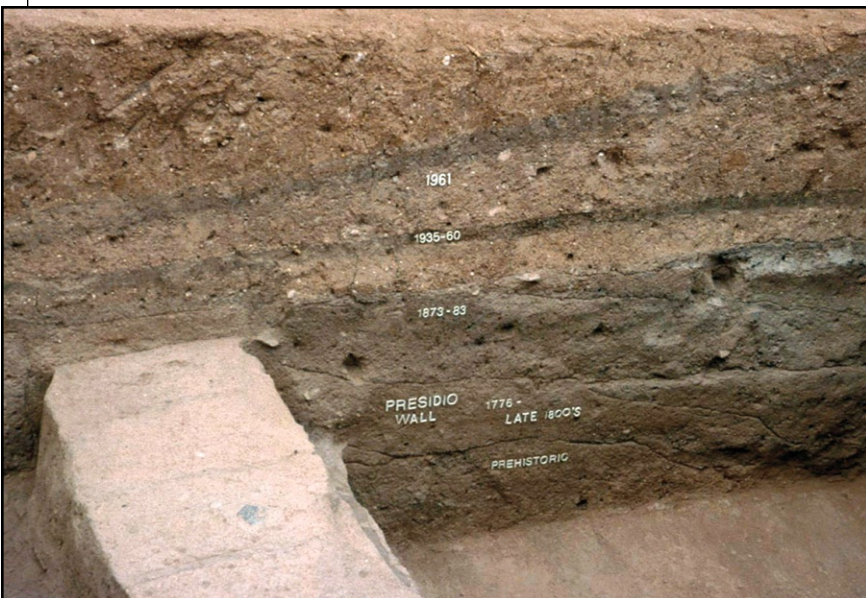
The American period spans the interval from 1856 to the present. Until the arrival of the railroad in 1880, Tucson was predominantly a Hispanic community. Of the earliest Anglo arrivals, many were single males, who often married Hispanic women. The railroad brought a large influx of new settlers from the eastern United States. In addition, Chinese railroad workers settled in Tucson, opening small businesses or farming along the Santa Cruz. Post-railroad Tucson rapidly became

dominated economically by the new Anglo population. Through time, Tucson’s city limits gradually expanded from the town center, where the presidio had been. After the downcutting of the Santa Cruz River in the 1890s, farming became increasingly dependent on pumped groundwater. Although Tucson’s agrarian roots may be hard to fathom today, a 1914 brochure promoting

Desert Archaeology, Inc.



J. Homer Thiel



Top: The adobe foundations of the residence of Tucson’s first mayor, Sidney DeLong, were found beneath the sidewalk at the corner of Church and Alameda streets. Bottom: The surprising complexity of urban stratigraphy is illustrated by the accumulation of many layers during the American period. The adobe wall is a short segment of the Tucson Presidio wall on the west side of City Hall.

time period by Thiel (pages 8–9) and an article on a unique set of possible gaming pieces from the Early Ceramic period by Ralph Koziarski (page 9).

Next, our authors discuss the Spanish and Mexican periods (A.D. 1540–1856). Although Fray Marcos de Niza and the subsequent Coronado expeditions did travel through what is now Arizona in 1539–1540, it is likely

Tucson (pages 16–17) features a colorized photograph of the Santa Cruz bottomland and notes that the image depicts Tucson’s “extensive highways.” Thiel (pages 16–17) provides an overview of historic-era farming.

The American period in Tucson is well represented in the archaeological record. In this section, Thiel’s article on two Mexican families spans both the Mexican period and the subsequent American period (pages 18–20). He also combines archaeological and documentary evidence to research Sister Amelia’s crucifix (pages 20–21), and James Heidke discusses the important role of O’odham pottery (page 21) in early Tucson. Some archaeological sites are known only from the surface and from documents, as illustrated by Thiel’s article on Warner’s Mill (page 22). And recent work along the railroad tracks has yielded insights into the production and consumption of alcoholic beverages (see Thiel, pages 23–24, and Jones

and Hushour, pages 24–25).

There has been a great deal of archaeological work done in Tucson’s cemeteries—in both formal and informal burial areas. As a result, this issue features a special section (pages 26–30) on burial practices in Tucson over the past four millennia that follows the general temporal presentation of the rest of this issue.

Finally, when considering downtown Tucson, it is evident that some very important historic architecture could soon become archaeological ruins without community intervention. We focus on two threatened places: the Charles O. Brown house (page 30), from the 1840s, and the Marist College, from the early 1900s (page 31).

In Back Sight, William Doelle recounts the Center’s history of preservation activities in Tucson and celebrates the Center’s new home in the historic Bates Mansion, a National Register property in downtown Tucson.

## Early Farming Settlements along the Santa Cruz River

J. Homer Thiel, Desert Archaeology, Inc.

**S**INCE 1994, a series of construction projects in the Tucson Basin have resulted in the discovery of several settlements, dating between 2100 B.C. and A.D. 50, that made use of the Santa Cruz’s reliable streamflow, the

arable land adjacent to it, and the abundant wild plants in the area. Studied together, these sites have allowed us to better understand early agricultural practices in the Tucson Basin, including the cultivation of maize beginning

Henry D. Wallace



*Aerial view of recently documented fields from 1200 B.C. at the site of Las Capas on Tucson’s north side. The main canal tapped the Santa Cruz River, and secondary ditches diverged from the main canal and then delivered water to tertiary ditches that watered individual bordered fields. Secondary ditches are visible at the bottom and close to the top of this photograph. They carried water from the right toward the left side of the image, and water was then diverted into the tertiary ditches (oriented from bottom to top in this image). Distance across this image is approximately 240 feet.*

around 2100 B.C. and the use of irrigation canals by at least 1500 B.C.

Due to unique geological conditions, the floodplain of the Santa Cruz has preserved one of the most extensive records of continuous human occupation in the United States. For example, the Clearwater site, excavated by Desert Archaeology, Inc., as part of the Rio Nuevo project, contained pithouses that were 4,100 years old—perhaps the oldest structures in the Tucson Basin—as well as irrigation canals, possible ceramic figurines, and the oldest fired pottery yet found in the American Southwest.

A number of sites from this time period contain predominantly small, round or oval pit structures. At some sites, a larger structure was found that may have been used for ritual or communal purposes. Unusual architectural attributes such as stone columns were found along the east side of the large structures at the Mission Garden locus at Clearwater (see photo below) and Tumamoc Hill. The function of these columns remains unknown. Special artifacts include elaborate figurines, some of which feature women with braided hair, and finely shaped stone trays.

The canals at the base of Sentinel Peak show long-term use and are currently the oldest known canals in the southwestern United States. Fields discovered recently at the site of Las Capas, on the north side of the Tucson Basin, were in continuous use between 1200 and 1000 B.C. The flooding of the Santa Cruz during that time was fairly gentle in most years, but there were at least three major episodes of rebuilding ditches and fields after larger-than-normal floods covered them with sediment. Desert Archaeology's research team is currently assessing the full implications of such an intensive and long-term investment in these field systems.

*Top: The larger highlighted circles in this aerial image are 4,100-year-old pithouses at the Clearwater site, located just south of Congress Street on the west side of the Santa Cruz River. They are the oldest structures currently known in the Tucson Basin. Bottom: A large pit structure at the Mission Garden locus of the Clearwater site. The stone column visible on the left side of the structure extended twenty inches above the floor and had been shaped along its top side.*



© Adriel Heisey



J. Homer Thiel

## Blowing Smoke

Jenny L. Adams, Desert Archaeology, Inc.

**STONE AND FIRED-CLAY PIPES** were among the exciting finds from recent excavations by Desert Archaeology, Inc., at the 3,000-year-old Las Capas site in Tucson. Pipes were also found during previous excavations at Las Capas by Desert Archaeology, Inc., and SWCA, Inc., bringing the total recovered to sixteen stone pipes and three fired-clay pipes. Three other contemporaneous sites—the Clearwater, Stone Pipe, and Wetlands

sites—each contained one stone pipe. The latter two sites also produced a few tobacco seeds (*Nicotiana* sp.).

There appear to be three basic types of stone pipes: pipes that have cylindrical bowls made from vesicular basalt, some with bone tube stems; pipes with conical stems and sharp shoulders, made from very fine-grained rocks, like steatite and lamprophyre; and simple conical pipes made from fine-grained rocks, including varieties of



granite and siltstone.

Stone pipes that broke during manufacture show that the central opening was drilled from both ends of the pipe, creating an hourglass-shaped hole. This design holds the burning plant material away from the smoker's lips. Some pipes have use-wear on the mouthpiece. Others have no evidence of burning or use-wear and may have been lost or discarded before they could be smoked.

The fired-clay pipes have bulbous bowls with long or short stems; one clay stem had a bone-tube insert. Archaeologist Allen Denoyer prepared a replica of a fired-clay pipe by molding clay around a stick, shaped and smoothed with a stone blade. This replica successfully reproduced the imprints of two fired-clay pipes from Las



Robert B. Clacchio

*These three pipes from the Las Capas site were made of vesicular basalt (left), fine-grained granite (middle), and fired clay (right).*

Capas. There is clear evidence that pipe smoking was more common prior to A.D. 500 than during later periods: pipes are rarely found in Hohokam settlements and were not used by historic-era O'odham. Pipe smoking also began very early in other parts of the Southwest. Today, Hopis and Zunis use pipes to generate smoke for the transport of prayers, to bless

people and objects, and to create rain clouds. Pipe smoke is disseminated in two ways: by inhaling through the pipe and exhaling the smoke into the air, or by blowing through the pipe and sending the smoke directly into the air. The discovery that Tucson's early inhabitants smoked pipes may indicate that rituals like these began long ago in this part of North America.

## Early Ceramic and Hohokam Periods in Downtown Tucson

J. Homer Thiel, Desert Archaeology, Inc.

**F**OR THE FIRST two millennia that maize was grown in the Tucson area, pottery was extremely rare. Small bowls were made of local clays throughout the time period, but the vessels were most likely used for special, perhaps ceremonial, purposes. In the first century A.D., at the beginning of the Early Ceramic period (A.D. 50–500), many changes took place. Circular pit structures were superseded by more-permanent square, subrectangular, or oval houses. In addition, large ceramic jars for seed storage were manufactured. Prior to this time, residents generally stored food in underground pits, but fired-clay vessels with narrow openings that could be sealed would have provided greater protection from rodents, insects, and flooding. Soon, many vessel forms were being produced, and pottery took on additional important roles in cooking and serving food, as well as water transport and storage. As people became more sedentary, they accumulated more mate-



Henry D. Wallace

*J. Homer Thiel sits among a cluster of Early Ceramic period pit structures in the Mission Garden locus. The round Early Agricultural period structure predates the other houses by several hundred years.*

rial items, and over time, various decorated forms of ceramics began to be produced and traded. Thus, by the start of the Hohokam era (A.D. 500–1450), the economy was becoming more diverse, the population was growing regionally, and the pace of cultural change seems to have increased as well.

At an Early Ceramic settlement in the Mission Garden portion of the Clearwater site, at least ten houses were found, and likely many more were present. Artifacts were scattered across the floors of several houses. One small structure contained sherds from five large jars that once held seeds for the next season’s crops or food for later consumption. Another structure yielded seven bone and two ceramic gaming pieces (see article below).

The surviving portions of the Hohokam settlements at the Clearwater site indicate an intermittent occupation between 850 and 1300. More than a dozen irrigation canals brought water to the fields around the houses. One canal, close to the base of Sentinel Peak, was the largest



*Seed jars were the dominant vessel form when ceramic production began in earnest in the first century A.D. This one had a capacity of about five gallons. When sealed with a layer of mud and a sherd disk, it would have provided very secure food storage.*

Desert Archaeology, Inc.

found to date in the Tucson Basin. Some of the excavated structures may have been field houses, built so that residents could be close to their extensive agricultural fields.

On the eastern side of the Santa Cruz, evidence for Hohokam occupation has been found underlying all of the excavations related to the Tucson Presidio. Because of the intensive urban development of this area, however, it has not been possible to adequately understand the Hohokam settlement under downtown. It is clear, however, that the Hohokam were present in the area by 650

to 750, and that occupation continued at least into the 1200s. Based on a much better understanding of other villages in the Tucson area, it seems likely that the traces that have been found indicate the presence of a village site. Furthermore, every other known village site from this interval that has not been damaged by development has had a ballcourt. Thus, it seems very likely that downtown Tucson was once the site of a ballcourt village as well.

## Gaming Pieces from the Clearwater Site

Ralph Koziarski, Drayton Archaeological Research

**SEVERAL THOUSAND** animal bone fragments were found at the Clearwater site, seven of which have been identified as gaming pieces. All of these artifacts were found in the fill of a burned pit structure occupied sometime between A.D. 50 and 500.

The largest of these pieces is about three-quarters of an inch wide and about an eighth of an inch thick. All were likely fashioned from dog- to deer-sized mammal long bones that were cut and ground into shape and then polished. Four are wedge or “fish scale” shaped, two are square, and one resembles the letter H. The H-shaped piece features three diagonal lines across its center, whereas one of the wedge-shaped pieces has two incised parallel lines bordered by five dots drilled on each side. Also found were two circular sherds that could have served as gaming pieces.

These artifacts, which resemble gaming pieces associated with betting games played by historic Native American groups, may provide insight into the recreational activities of the Tucson Basin’s early inhabitants. If the incised decorations denote pieces of different value, and more decorated examples are found, they may also help shed light on the counting systems used by early Tucsonans.



*Four Early Ceramic period gaming pieces found in the Mission Garden locus.*

Robert B. Ciaccio

# The Village of S-cuk Son and Mission San Agustín

J. Homer Thiel, Desert Archaeology, Inc.

A SMALL VILLAGE situated between the Santa Cruz River and a nearby black mountain was visited several times in the 1690s and early 1700s by Father Eusebio Francisco Kino. Much smaller than San Xavier del Bac, where Kino laid the foundations for a church in the early 1700s, this place was called S-cuk Son by the O'odham. The O'odham residents of the village we now know as Tucson were growing maize in fields irrigated by small canals. Kino was impressed by the productivity of the Santa Cruz floodplain, and over the years, he brought the O'odham cattle, horses, and sheep, as well as



Courtesy of Arizona Historical Society

A detail of the April 1880 photograph by Carleton Watkins showing the ruins of the chapel, two-story convento, and the late 1860s Carrillo house (Accession No. 18233).

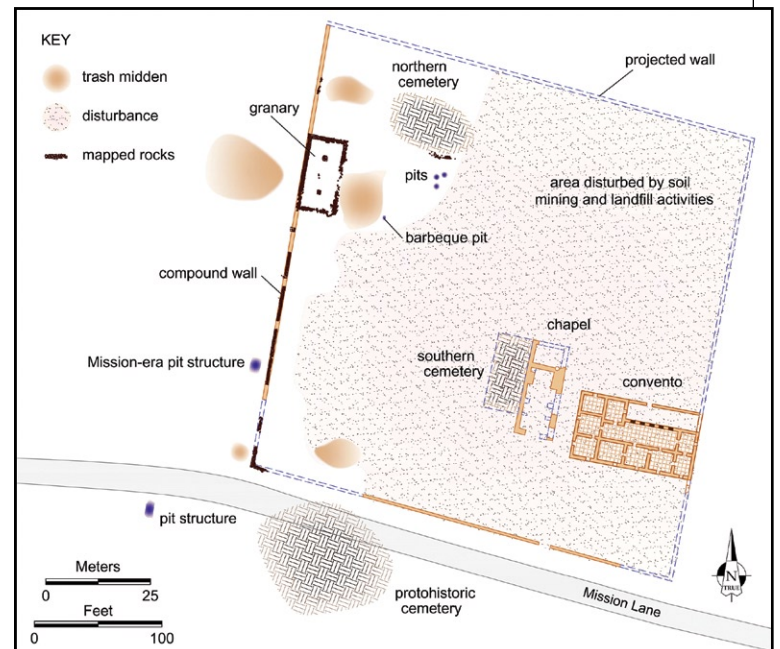
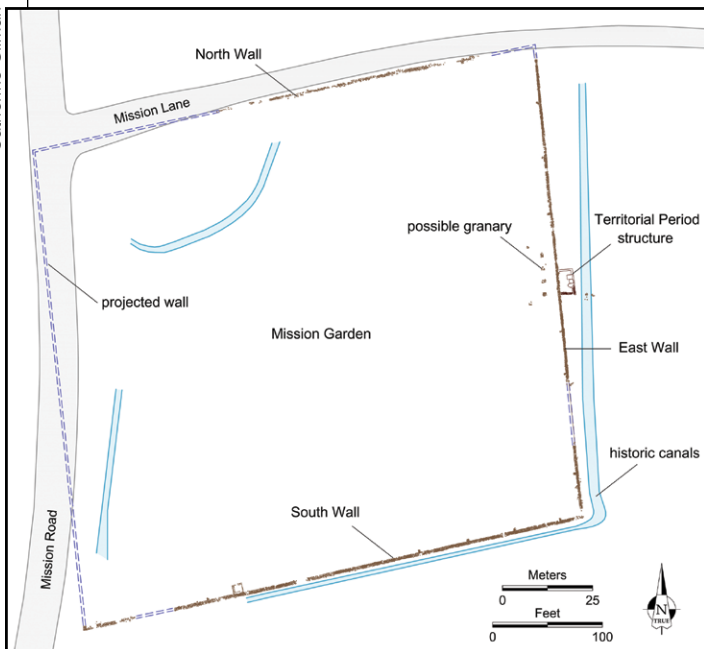
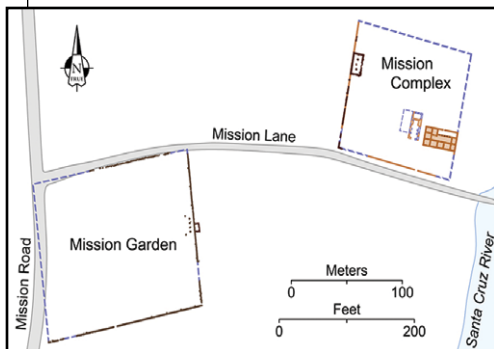
lives of the O'odham, as did the arrival of European items, such as metal tools, and Old World diseases, including malaria and smallpox.

Later, Tucson became a *visita*, or visiting station, of San Xavier del Bac. A priest occasionally traveled north to officiate at masses, baptisms, marriages, and burials. A chapel was constructed in 1751, and new buildings, including a two-story *convento*

(residence and administrative center), were built in the late 1790s. A census taken in 1801 reveals that the village included O'odham residents from south of Tucson, from the desert to the west, and from the Gila River area. However, as European diseases took their toll on the native residents, the mission was abandoned by the 1840s. The chapel, which was depicted in a drawing made in July 1852, collapsed in the 1860s.

European crops like wheat and peaches. These dramatically changed the

Despite plowing and other historic-era disturbances, the walls of the mission garden (below left) were found to be quite well preserved and may extend beneath modern streets in areas that were not accessible to excavators. Unfortunately, only the far western extent of the Mission San Agustín complex (below right) was preserved. Both brick-making operations and a city landfill destroyed the chapel and convento.



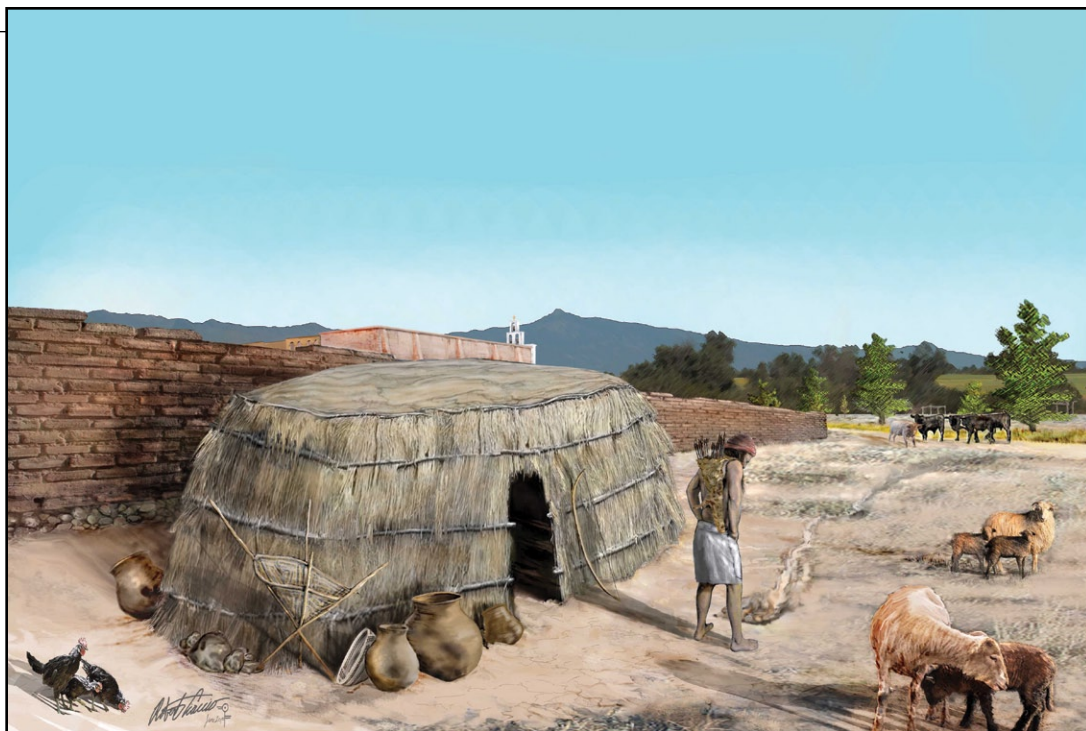
Catherine Gilman

After the Union Army retook Tucson from Confederate forces in Spring 1862, Captain David Fergusson of the California Volunteers directed surveyor John J. Mills to create two maps—the oldest surviving detailed maps of Tucson—as a way to document which properties were to be confiscated from Confederate sympathizers. One of the maps depicts the mission complex surrounded by fields.

The decline of the two-story adobe *convento* was accelerated when rancher and businessman Leopoldo Carrillo removed beams to roof his nearby house in the late 1860s or early 1870s. The adobe arches of the *convento*'s second floor gradually collapsed, and by the 1920s only stubs of the massive walls remained. Clay and soil mining by the Tucson Pressed Brick Company also destroyed portions of the mission, and the City of Tucson used much of the area for a landfill. By the 1990s, only a handful of rocks from a wall foundation were visible on the ground surface.

In 1999, Tucson initiated the Rio Nuevo project, which included plans for reconstruction of the mission complex, the nearby walled mission garden, and a village with Native American dwellings. Desert Archaeology, Inc., conducted fieldwork revealing that, although about two-thirds of the mission complex had been destroyed by mining and the landfill, surviving portions included the foundations of the western compound wall, the granary, and the northern Native American cemetery (whose burials the archaeologists did not excavate). Exploration of the mission garden revealed long stretches of the surrounding wall foundations, as well as the bases of pillars for a granary building that may not have been completed.

Although little remained of the Native American village of S-cuk Son, archaeologists located several Mission-era pit structures, four trash middens, two trash-filled pits, and a large cooking pit. The best-preserved pit structure was shallow and about twelve feet long by eight feet wide. It would have been covered with a pole-and-grass superstructure and used for only a few years. The middens contained garbage discarded by the mission's



*Artist's reconstruction of daily life around Mission San Agustín (top) based on the location and size of archaeological features like the Mission-era dwelling at right.*

occupants. O'dham pottery, used for storage, cooking, or serving foods, was plentiful. Only a handful of Mexican majolica sherds were found, suggesting that the O'dham residents had little access to this brightly decorated pottery. Excavations revealed that the villagers ate beef, mutton, and pork. Most of the cattle bones had been smashed into small pieces, probably because residents were boiling the bones to collect fat for cooking purposes or for making soap. One surprising find was a bone from a javelina, the earliest known example of this Central American animal found in Arizona.

After completion of archaeological fieldwork, crews prepared the mission site for construction. Large portions of the 1950s landfill were removed, and fill dirt was brought in to preserve the intact area of the site. The walls of the mission garden were constructed and adjacent areas landscaped. Unfortunately, because of the faltering economy and the changing political climate, the Rio Nuevo project—including reconstruction of the mission and associated features—has been put on hold for now.



# Twenty Years of Archaeology at the Tucson Presidio

J. Homer Thiel, Desert Archaeology, Inc.

**I**N THE 1700s, the northern line of Spanish presidios stretched from what is now Louisiana to California. Captain Hugo O'Connor—an Irishman known as *El Capitán Colorado* (The Red Captain) for his red hair—was unimpressed with the location and construction of the existing fort at Tubac. On August 20, 1775, he decided that the soldiers stationed there should relocate to a site on the terrace along the east side of the Santa Cruz River. Under his direction, Spanish soldiers trekked north and began to build a new fort, Presidio San Agustín de Tucson.

The presidio consisted of a few buildings constructed inside a wooden palisade. The foundation of a 700-foot-long adobe wall was begun, but financial mismanagement stalled the wall's completion. A nearly disastrous attack by Apache warriors ended with the firing of a cannon, and the Spaniards hurriedly completed the presidio's ten-foot-tall walls and two-story towers at two corners. Buildings lined the interior of the fort, with the *comandante's* house close to the center and a church and cemeteries along the east wall, opposite the main gate.

For nearly ninety years, the fort protected residents from raids by Apaches. When a sentry on nearby Sentinel Peak called out, residents would rush to herd their livestock inside, while soldiers stood guard in the towers or atop buildings lining the walls. At any one time, some 100 soldiers and approximately 300 to 400 other people—mainly retired soldiers and their families—occupied the presidio.

Mexico gained independence from Spain in 1821, and in March 1856, the Mexican military turned over the fort to American soldiers. By then, Apache raids had subsided, so people began to dismantle the walls to construct buildings for the rapidly growing community. An 1862 map of Tucson still shows the basic outline of the fort, but within a few years little remained. The last standing Presidio-era building was torn down in 1911, and the last section of the wall was demolished in 1918.

Although the presidio's physical remains had been destroyed, it lived on in the memories of some Tucsonans who were interviewed in the 1920s and 1930s. A few written records survived, but none of them provided detailed descriptions of the presidio. In 1929, a portion of the fort's east wall was located during construction of the Pima County Courthouse. City Engineer Donald Page collected many bricks for a display on the south side of the building (removed in 1955 and now in an exhibit in the Assessor's Office) and directed the excavation of trenches to look for other portions of the wall.

In 1954, archaeologists from the University of Arizona located wide adobe walls at the northeast corner of the fort, but their attention was soon diverted by the discovery of an underlying Hohokam pithouse. In 1969 and 1970, archaeologist



*Well-preserved adobe walls from the Spanish and Mexican periods were discovered just inches below the brick walkway at the west entrance of the Tucson Museum of Art.*

Aaron J. Latham, Arizona Daily Star



An illustration from John W. Barber's *The Loyal West in the Times of the Rebellion* (1865), captioned in the original as "Church at Tucson. On San Antonio's Day, 1860." The priest is standing in the doorway of the dilapidated church, preaching to his congregation gathered outside. All three of the bells depicted here are still in the Tucson area 150 years later.

James Ayres excavated a portion of the presidio cemetery beneath Alameda Street and found a trash midden and an earth oven nearby. Three decades passed before the next exploration of the area.

Local architect Lewis Hall founded two nonprofit groups to raise awareness of Tucson's Spanish heritage, Los Descendientes del Presidio de Tucson and the Tucson Presidio Trust for Historic Preservation. In 1990, the Presidio Trust organized a ground-penetrating radar study of the perimeter of the fort, searching in lawns, driveways, and parking lots where buildings were not in the way. The study identified several areas where adobe walls might remain underground.

Before these walls could be investigated, a gas line replacement trench was excavated in 1992 along the south side of Alameda Street west of Church Avenue. Human remains were found, and archaeologists from Desert Archaeology, Inc., exca-

Robert B. Ciaccio



vated twenty complete burials and recovered fragmentary remains from more than eighty other individuals.

Later that year, the Center for Desert Archaeology spent two field sessions in the courtyard of the Pima County Courthouse searching for the east wall of the presidio. The first two weeks of excavation revealed the presence of very deep deposits, but no adobe wall. A radar signature in the area turned out to be from a large iron pipe. During the second session of fieldwork, the wall remained elusive until a map created by Page in 1929 was found at the Arizona Historical Society. Using the map, the presidio wall was located under the central sidewalk. The wall consisted of twenty-two-inch-wide adobe bricks resting on a stone foundation. The fort's eastern gate was also located, as was the adobe wall of a small building depicted on the 1862 map.

However, some skepticism remained about the authenticity of the east wall. In 1998 and 1999, fieldwork to locate other portions of the wall was conducted by the Center for Desert Archaeology. The west wall of the fort, consisting of adobe bricks resting directly on the ground, was found under the lawn of City Hall. An interior structure was identified as the presidio blacksmith shop, where a meteorite anvil was once used by Ramon Pacheco to make horse gear and repair weapons. Pacheco also used prehistoric ground stone artifacts in his shop: three of them, each with copper pounded into its surface, lay on the small portion of floor uncovered by archaeologists.



J. Homer Thiel

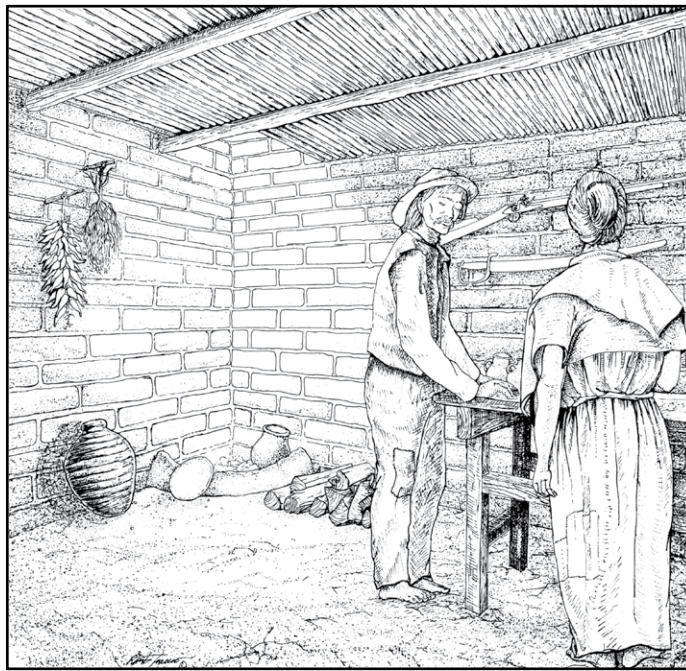
Left: Glass beads and a religious medal, "CORAZON DE JESUS Y DE MARIA." The Heart of Jesus and Mary congregation was formed in the 1600s. Above: Blue-on-white Mexican majolica sherds.

The urban revitalization program known as Rio Nuevo, which passed in 1999, led to more excavations at the presidio. A short trench between the historic Fish and Stevens houses along Main Street revealed a portion of a house, with a corner fireplace, inside the presidio. Ashes within the fireplace contained charred wheat and a saguaro seed.

Excavations at the southwestern corner of Church Avenue and Washington Street occurred in several phases between 2000 and 2006. The adobe walls found in 1954 were discovered to be the foundations of a tower at the northeast corner of the fort. Nearby was a compacted ground surface where a ramada once stood. A number of trash-filled pits yielded Native American ceramics, animal bones, majolica pottery, and a ramrod holder for a musket.

Another excavation in 2005 on the floodplain adjacent to the presidio located large pits where soil had been mined for adobe bricks to make the fort. Trash discarded into the pit included a *Corazón de Jesús y de María* (heart of Jesus and Mary) religious medal and forty-four small glass beads from a rosary, a valued possession lost by one of the parishioners of the presidio chapel.

Following fieldwork at Church and Washington streets, Means Design and Building Corporation was hired to construct a living history park featuring a portion of the presidio and the restored Territorial-era Siqueiros-



Artist's depiction of the interior of a Mexican-era presidio dwelling.

Robert B. Clacico

Jácome House. The foundations of the new tower were offset from their original location to preserve the adobe bricks from the 1780s. The re-created Presidio San Agustín del Tucson features a tower, a dwelling, a powder magazine, a warehouse, an Early Agricultural period pit structure, and the restored Siqueiros-Jácome House, dating to the 1860s and 1870s. More than 20,000 people a year visit the presidio, where volunteers from the Tucson Presidio Trust present living

history demonstrations. The park is open Wednesdays through Sundays from 9 a.m. to 4:30 p.m., and admission is free.



Paul Hintze



Top: Detail of a mural depicting Spanish-era Presidial soldiers and daily activities in the reconstructed northeast corner of the Tucson Presidio. Left: Members of the Tucson Presidio Trust conduct a living history program at the new Presidio San Agustín del Tucson Park on weekends from October through April. Visitors can watch soldiers train, a cannon being fired, cloth woven, and food being prepared on a griddle or in an earth oven. (Photographs by Paul Hintze.)

# Cuartillas and Counterfeiters in the Borderlands

Alan Ferg, Arizona State Museum

**COPPER COINS** known as *cuartillas* were the most commonly used currency along the United States–Mexico border between 1832 and 1861. A glut of counterfeit *cuartillas* led to the official devaluation of these quarter-real coins, which was not good for Mexico’s economy, but which did support a cottage industry of illegal die-makers and copper workers, as well as government officials charged first with counter stamping all *cuartillas*, and then with destroying them.

*Cuartillas* have been found in archaeological sites throughout southern Arizona and Sonora. Specimens in the Arizona State Museum and the Arizona Historical Society came from downtown Tucson, the León homestead (pages 18–20), San Xavier del Bac, Rancho Punta de Agua, Tubac, Tumacacori, Calabasas, Santa Cruz de Terrenate, Caborca, Tubutama, and Alamito.

*Cuartillas* were struck in Hermosillo, Sonora, from 1832 to 1836. Because the coins were punched and stamped by hand, they varied in thickness and were often only shallowly stamped and off-center. When the iron dies used to stamp the coins wore out, they were replaced or reworked locally, creating enormous variation in the placement and spelling of the legends and designs. This provided an unparalleled opportunity for counterfeiters.

Estimates of the number of legitimate *cuartillas* produced by the Hermosillo mint range from around 500,000 to nearly two million. However, there may have been between three and four million copper coins (genuine and forged) circulating in Sonora.

With so many *cuartillas* in use, people began to either refuse them or charge higher prices to compensate for the coins’ limited value. Perceived irregularities in the operation of the Hermosillo mint resulted in its closure in 1836. In an attempt to stabilize the local economy, the Sonora legislature enacted a law later that year decreeing that *all* copper coins had to be accepted as legal tender. This actually increased the counterfeiting of *cuar-*

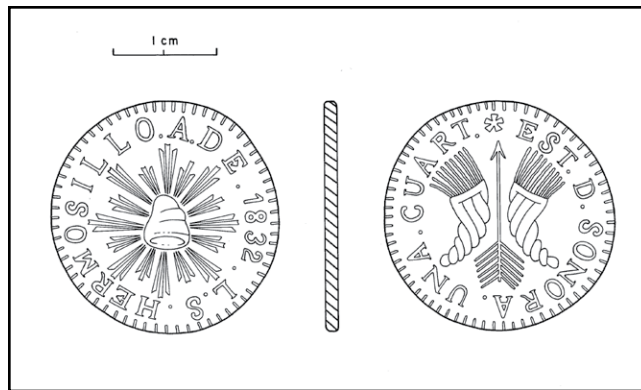
*tillas*, because merchants then had to accept any and all copper coins. By this time, *cuartillas* were no longer accepted at face value, but instead by their weight in kilograms. When the Hermosillo mint finally reopened in 1861, old coins could be turned in at an amortized value, and were then melted down; the vast majority of these were *cuartillas*.

A 1928 article in the Tucson *Arizona Daily Star* newspaper reported that “nearly 100 pounds” of what must have been eighth- and quarter-reals were found at the site of San Agustín de Tucson and that a ruined adobe near

Sentinel Peak known to local Hispanics as *La Casa de Cobreros* (The House of the Copper Workers) was believed to have been used by counterfeiters in the 1800s. Probable counterfeiting workshops have been found in Sonora, including several caves containing copper sheets with *cuartilla*-sized disks punched out, iron dies, and wood anvils. If *La Casa de Cobreros* was not used for counterfeiting *cuartillas*, it may have been related to smuggling them. In an 1856 letter, the Prefect of the Villa del Altar informed the Governor of Sonora that counterfeit copper coins were being made where the Colorado River enters Sonora, and that these were being smuggled through Tucson. Clearly, economic uncertainties, smuggling, and money laundering are nothing new to the borderlands.



In 1837, *cuartillas* were counter stamped with a punch that read “1/16” (top), or struck with a circular punch that either deeply dimpled the coin (lower left) or put a hole through it (lower right).



A new *cuartilla* was about the thickness and diameter of a nickel. On one face is a centered vertical arrow, flanked by curved, twisted cornucopias. On the other face is a liberty cap or Phrygian cap, with a halo of rays denoting light as well as enlightenment. The Spanish abbreviations encircling one side stand for “State of Sonora One Quarter [Real].” The inscription on the other stands for “Year of 1832 L[eonardo] S[antoyo].” These initials were traditionally those of the mint assayer, but the engraver for these coins was Mariano Santoyo, who instead put the initials of his father Leonardo, the director of the Hermosillo mint.

Ron Beckwith

Jannelle Weakly, Arizona State Museum





*This panoramic view of the rich fields of the Santa Cruz River floodplain appeared in a brochure printed by the Tucson Chamber of Commerce in June 1914. Cong... second largest irrigation canal in Tucson. Chinese gardeners (see below) lived in a compound next to the newly plowed field on the right side of the photograph. Th...*

## Historic-Era Farming

J. Homer Thiel, Desert Archaeology, Inc.

**T**HE IRRIGATED AGRICULTURAL FIELDS in the Santa Cruz River floodplain were an impressive sight to Father Kino when he visited Tucson in the

1690s and early 1700s. Spanish soldiers arrived at the presidio in 1776 and began to farm the areas north and east of the O’odham village at Mission San Agustín. Eventually, conflicts over land and water developed between the soldiers and Native Americans, and the Catholic Church occasionally had to intervene. By the 1840s, the population of Tucson had increased so much that some farmers had to plant and harvest their crops many miles east of the city, in the San Pedro Valley, to feed Tucson’s residents.

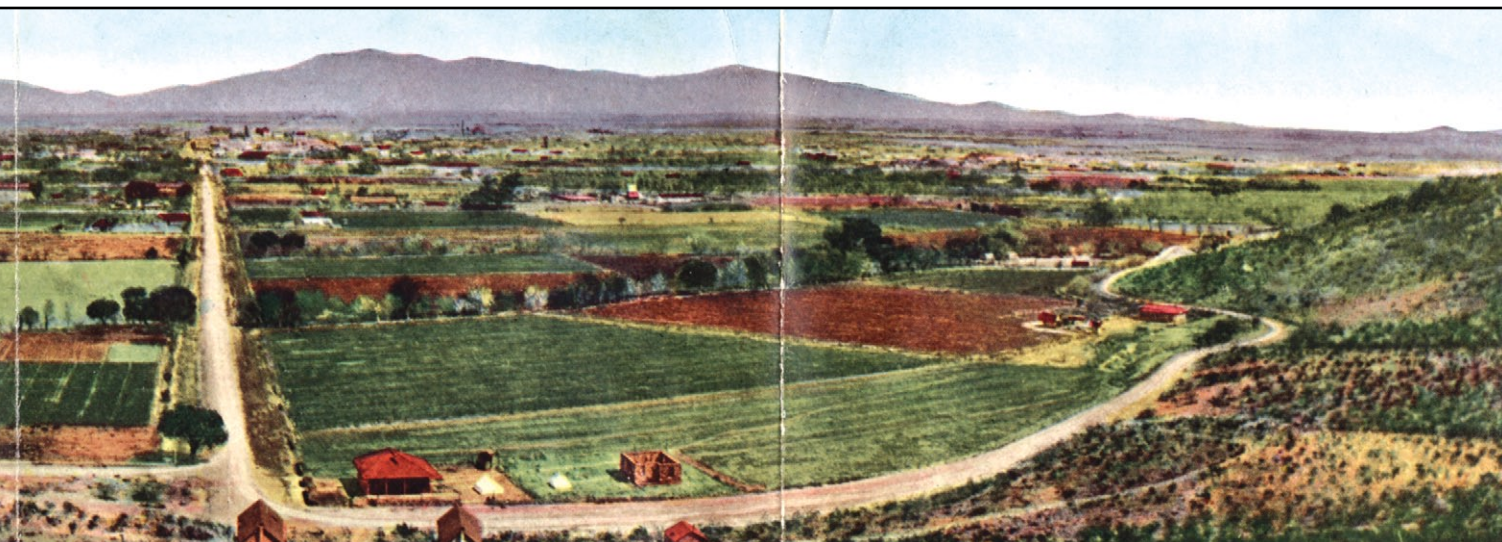
Beginning in the 1840s, the Mormon Battalion and many Forty-niners, headed for gold in California, passed through Tucson. Based on these travelers’ written accounts, we know that a variety of crops were being grown in the fields, including wheat, corn, beans, squash, chiles, and several kinds of fruit.

In the mid-1850s, as Americans took up residence in Tucson, freight companies began to bring in foodstuffs overland, including citrus fruits from Hermosillo, Sonora, bottled and canned foods from St. Louis, Missouri, and San Diego, California, and even seafood, packed in barrels of ice, from the Pacific Ocean.



*The foundations of a Chinese gardener’s house lay hidden beneath the asphalt of Spruce Street, just north of Sentinel Peak. Archaeologists found artifacts and food remains in nearby pits, revealing that the gardeners maintained Chinese culinary traditions, eating foods flavored with imported sauces off dishes made in China. The Chinese gardeners specialized in table produce, which they loaded onto wagons and sold door-to-door to Tucson residents. Their fields were the last in the Santa Cruz floodplain adjacent to downtown Tucson. Residents of Menlo Park remembered them working in the fields in the 1930s.*

J. Homer Thiel



Congress Street is just to the right of the center of the colorized photograph, with a line of trees crossing the street marking the location of the Acequia Madre Segunda, the picture was taken from Tumamoc Hill. The brochure also called attention to Tucson's "extensive highways."

The arrival of the railroad allowed large amounts of food to be imported into Tucson. Fields were often owned by local businessmen, like Leopoldo Carrillo, and rented to Chinese immigrants. Conflicts arose again, since their crops—which included watermelon, cabbage, lettuce, and other produce—required much more water than the crops grown by the Mexican farmers, whose fields were to the north.

In 1885, this conflict went to trial. The case highlights differences between United States water law and Tucson's traditional practices under Mexican law. In the past, "whenever there was a quarrel about the water, there is a custom to appoint a commission, and they would go out and see whose grain needed the water the most." The farmer in greatest need received the water. Under the new legal system, the landowner with the earliest claim to water had priority rights over more recent claimants. Access to water was an individual property right, not a community-based resource.

By the late 1880s, the combination of drought, groundwater pumping, overcutting of mesquite trees, and digging



Henry D. Wallace

The walls of the recently re-created mission garden were offset from the original stone foundations, which were largely preserved in place. In September 2009, the Center for Desert Archaeology sponsored an Archaeology Café titled "Rio Nuevo Sin Dinero," where members of the public discussed the lack of money to complete the project. While audience support for a public-private partnership is high, modern economic realities are a challenge. The Friends of Tucson's Birthplace have begun fundraising efforts to finish the garden, including installation of interpretive signs and the planting of trees and historic crops.

a deeper canal led to the degradation of the river and disrupted traditional farming. Pumping groundwater into concrete-lined canals sustained farming for a while. However, by the 1930s, large-scale farming had ceased, and most food was imported into Tucson via trucks and the railroad (page 23).

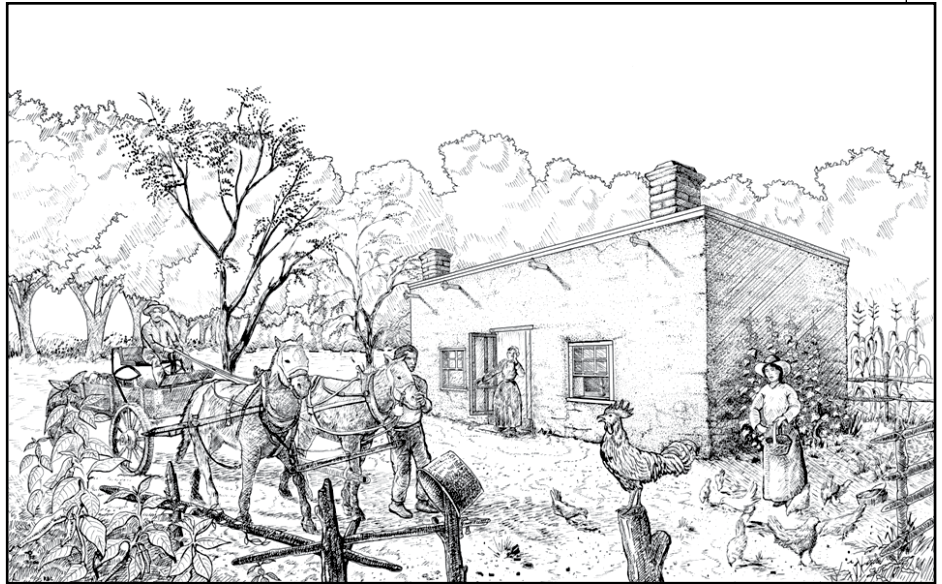
# The Archaeology of Two Mexican Families

J. Homer Thiel, Desert Archaeology, Inc.

**T**HE LEÓN AND Siqueiros-Jácome families lived in Tucson in the 1800s and early 1900s. They undoubtedly knew each other, because Tucson was a relatively small community even into the late 1800s, and both families attended services at the nearby St. Augustine Cathedral. However, it seems likely that they did not socialize, since the families were at opposite ends of the socioeconomic scale. Francisco Solano León was a wealthy farmer, rancher, and storekeeper, whereas Soledad Jácome was a poor seamstress struggling to raise four daughters.

The lives of Tucson's Territorial-era Mexican-Americans are recorded in only a small number of documents. Aspects of their daily lives—what foods they ate or what items were found in their homes—were usually not written down. However, by carefully searching the surviving documents, talking with descendants, and examining artifacts found during archaeological excavations, we were able to put together a portrait of these two families.

The León family has roots in the Tucson Presidio. The 1797 census of Tucson lists soldier Cornelio Elías and his wife Concepción Apodoca. This couple's youngest daughter Ramona, born in 1823, married Francisco Solano León in the early 1840s. Francisco, the son of a soldier, was born in 1819 in Tucson, and was himself in



Artist's reconstruction of the León house, circa 1880.

the Mexican military. The couple had twelve children, eight of whom survived childhood. They built a walled compound outside the presidio in the 1840s, living there until a flood in the mid-1860s destroyed their home. For a while they lived in downtown Tucson, but in 1873, Meyer Avenue was extended through their home, and they built a new house near the remains of their old one. Francisco farmed, raised cattle, and operated a store in the 1860s. Until his death in 1893, he frequently served as an intermediary between the Mexican and American residents of Tucson. His wife Ramona, who died in 1904, lived long

enough to see Tucson evolve from a walled fortress of 500 residents to a town of 17,000 with automobiles running through its dusty streets.

The archaeological excavations by Desert Archaeology, Inc., at the León farmstead uncovered the foundation of their home, a nearby well filled in the 1860s flood, and a large soil-mining pit that contained a great deal of trash. Among the thousands of artifacts found at the site was a trigger guard from a Brown Bess, a type of musket made in England and used by the Mexican military after Mexico gained independence in 1821 and trade with Spain was curtailed.



León family house, 1937 (photograph by Frederick A. Eastman, Historic American Buildings Survey collection).

Robert B. Ciaccio

Courtesy of Library of Congress

The opening of trade with Spain's former enemy England also allowed for transfer-print ceramics to be sent to Mexico. A few of these vessels were brought to Tucson and used by the León family in the 1840s and 1850s. At the time, little information about the distant outside world reached Tucson; no newspapers, magazines, or illustrated books were available. Instead, the Leóns and their friends caught a glimpse of European architecture, fashionable clothing, and exotic animals on the brightly colored English ceramics.

Documents relating to the settlement of Ramona Elías de León's estate revealed that all eight of the León children were literate. At a time when the children of other community leaders received little education, Francisco León sent his son Cirilo to the University of Wisconsin. Upon his return, Cirilo worked for the *Arizona Citizen* newspaper, and several pieces of lead printing type were found discarded at the farmstead. One daughter, Cleofa, became a nun (pages 20–21); two other daughters were sent to colleges in St. Louis and California to learn to play music. School slates found at the site with five parallel scratched lines were probably used for musical notation.

Most archaeological excavations, like that at the León farmstead, take place in the open air, often in fields or along busy roads. In contrast, plans to restore the Siqueiros-Jácome house for the new Presidio San Agustín del Tucson Park required work on the foundation and the removal of dirt beneath the floors of the historic house to create a crawlspace. Work inside the house uncovered a Hohokam pithouse and storage pits, as well as Presidiorera trash-filled pits. Work in the backyard of the house revealed a variety of features, including privy pits and a large soil-mining pit filled with trash discarded by members of the Siqueiros-Jácome family, who lived at the house from the 1860s to 1911.

Juan Siqueiros was born in Tucson around

1840 and entered into a domestic relationship with Soledad Jácome around 1857; they apparently never married. This was not uncommon in Tucson at that time, because the town did not have a priest in residence to formally marry couples. Soledad was born sometime in the 1840s, perhaps in Arizona. Juan worked as a freight wagon driver, hauling consumer goods overland in large wagons pulled by oxen or mules. Soledad was the mother of six daughters, two of whom died in infancy, including Petra, who perished during a smallpox epidemic in 1870.

The couple built an adobe brick house on Court Street in the mid-1860s. The original one-room house utilized saguaro ribs for the ceiling, covered with a thick layer of earth. Two other rooms were added in the late 1870s, and employed packing crates for the ceiling, likely hidden beneath a *manta*, a piece of muslin cloth tacked to the ceiling to keep dirt from trickling down into the rooms. The house had other typically Sonoran features, including a corner fireplace, high ceilings, and doors placed opposite each other to enhance air circulation.

Juan either died or left the family in the mid-1870s, and Soledad had to raise four daughters by herself. As a single mother, she had few options in territorial Tucson. A single woman could work as a personal servant, cook, waitress, prostitute, laundress, or seamstress. Soledad chose the last option, and supplemented her income by renting out rooms of her home to tenants, including at least one Chinese man.

Artifacts found in the backyard of the house provide clues about the lives of Soledad and her daughters. Numerous buttons, straight and safety pins, scissors, a folding measuring stick, and a bone pin holder were discarded during the course of Soledad's seamstress work. Most common were small white glass buttons, suitable for undergarments or shirts. While Soledad probably spent most of her time making or repairing inexpensive, ordinary garments, she also occasionally worked on more



*Left: A porcelain Frozen Charlotte doll, once played with by one of the Siqueiros girls. Middle: Leftover buttons discarded by Soledad Jácome during her years as a seamstress. Right: Transfer-print ceramics from the León farmstead, dating to the 1840s, were decorated with scenes of forests, castles, and cathedrals. (All photographs by J. Homer Thiel.)*



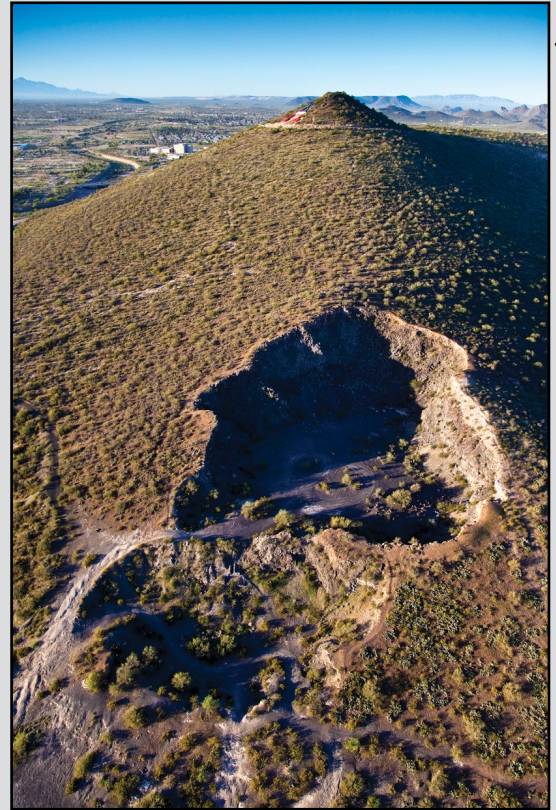
elaborate items, as suggested by the fancy dress and coat buttons, made from glass or hard rubber, that were found in several pits. Soledad's daughter Isadora was later known for her prowess at making Mexican wedding dresses, and was likely taught by her mother.

Census records indicate that Soledad was illiterate, but that her daughters attended school. Stoneware and glass ink bottles, pen nibs, slate pencils, and fragments of school slates were common in the backyard. Although most of the dishes found in the backyard were inexpensive, plain whiteware vessels, a handful of delicately painted porcelain pieces were found. These may have been given to Soledad by appreciative customers.

Soledad suffered from heart problems for two years prior to her death in January 1911. It is not surprising that among the medicine bottles found in the backyard was one labeled "Dr. Miles New Heart Cure," a liquid that contained eleven percent alcohol, five percent glycerin, and some sugar. Many such "cures" were available in Tucson prior to the regulation of the drug industry.

Soledad Jácome's life is chronicled in only a handful of records. Other aspects of her life are illuminated by the artifacts discarded in her backyard. Combining the two provides a detailed perspective on the life of a single mother in turn-of-the-twentieth-century Tucson. Similarly, while there are many more records about the León family, the artifacts found at their farmstead provide information about aspects of their lives that were never written down.

*Malapai Quarry: Historical excavations on both sides of the Santa Cruz River often encounter foundation stones, porch pillars, walls along lot lines, and even complete houses that were built of stone obtained from Sentinel Peak. The quarried stone is a volcanic vesicular basalt called "malapai." During construction of the Mission San Agustín complex and the mission garden, workers collected loose rocks from the slopes of Sentinel Peak for foundations. During the Territorial era, the supply of loose rock was exhausted, and as new, larger buildings were constructed, plans were made to dig into the side of the mountain to retrieve a greater amount of stone. The large holes visible on the side of Sentinel Peak are the remains of an extensive stone quarry that was opened in 1879 to provide building material for nearby St. Mary's Hospital. The quarry closed after the City of Tucson acquired Sentinel Peak as a city park in the mid-1930s.*



Henry D. Wallace

## Sister Amelia's Crucifix

J. Homer Thiel, Desert Archaeology, Inc.

**R**ELIGIOUS ARTIFACTS are rare at Territorial-era residential sites in Tucson. However, during Desert Archaeology's excavations at the León homestead, three crucifixes were found, including one made of brass and wood. Although this latter crucifix was missing the body of Christ, a brass crown of thorns was still attached. That crucifix was identified as a nun's cross by Sister Alberta Cammack, the archivist at St. Mary's Hospital, at an exhibit featuring artifacts from the León homestead. How it was lost or discarded is unknown, but archaeological and documentary research suggests that this was a crucifix belonging to Sister Amelia (born Cleofa León; see page 18).

The Leóns were a very religious family. Francisco Solano León had donated a portion of his land that was

just inside the main gate of the presidio on which the chapel of Our Lady of Guadalupe was built in the 1850s. The chapel became too small to hold Tucson's congregation, so construction of a larger church was begun around 1862. A friend of the Leóns recalled, "The adobes were made on the property of [Francisco] Solano León...When services were over every morning, Father Donato would tell the congregation not to leave until he had changed his robes. Then he would instruct them to follow him and they would go to the place of So-



Sister Amelia's crucifix.

J. Homer Thiel

lano León and each woman would return with one brick in her arms. Father Donato would carry one brick also. The entire church was built by the people of the parish.”

About her father, one of Francisco’s daughters recalled that, “Every evening, no matter how tired he was, or we were, he had us all together, and we knelt down and said our rosary. I think he instilled a sense of spirituality into all the family, because [our grandfather], as long as he lived, used to gather his family together in family prayers. We were all more religious in earlier times. When you woke up you could hear everyone singing ‘Praise the Lord, Bless the Lord for giving us the light of day, Oh my God, I give you my heart, soul, and body. Vouchsafe to accept in order that Thou, my most sweet and meek Jesus, may possess it.”



Sister Amelia (Cleofa León).

Courtesy of Andrew Romo

Francisco’s daughter Cleofa attended a school for girls founded by the Sisters of Saint Joseph and later became a nun. Known as Sister Amelia, she taught at numerous schools, including the Sacred Heart school in Yuma, Arizona, Our Lady of Peace in San Diego, San Xavier del Bac, south of Tucson, and Saint Boniface Indian Mission School in Banning, California, where she died in 1916.

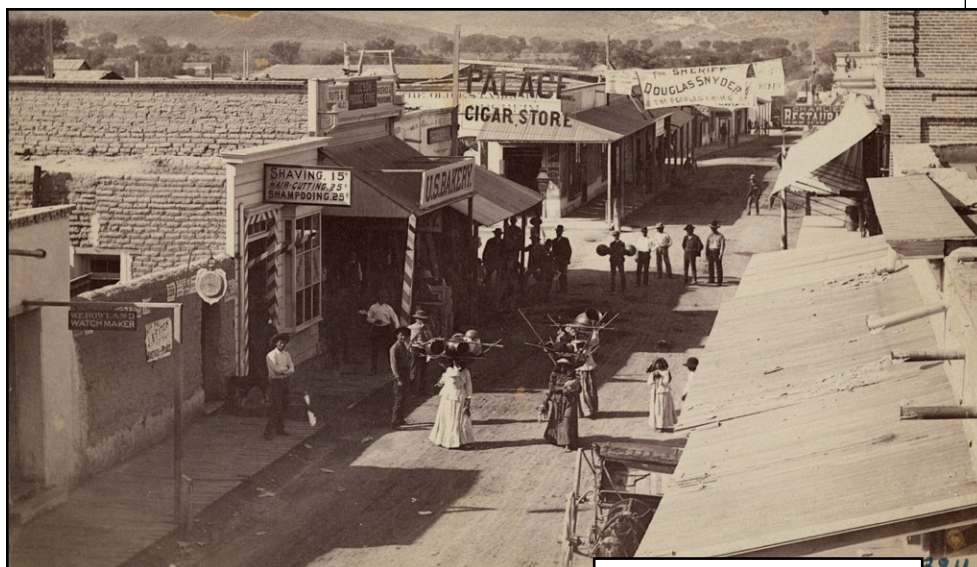
A portion of her obituary read: “The life of this dear Sister was one of uncomplaining suffering which she bore with loving resignation. Her last days among us were marked by excruciating pain, and yet complaint never hovered on her lips. Love for the poor and afflicted seemed to be her characteristic virtue, and labor and sacrifice seemed light, if only relief could be brought to them.”

## Historic Tohono O’odham Pottery

James M. Heidke, Desert Archaeology, Inc.

**P**LAIN, RED-SLIPPED, and decorated Tohono O’odham pottery was used extensively in the 1700s and 1800s by Tucson’s residents. Vessels were utilized for many tasks, including meal preparation and serving, water transport, and storage. Deposits dating to the Spanish and Mexican periods typically contain a range of vessel forms absent later in time. Among these were deep bowls and plates with wide rims (consistent with a cuisine that featured soups and stews), large, shallow bowls (likely used as griddles, or *comales*, for cooking tortillas), and *chocolateros* (for preparing and serving hot chocolate).

The arrival of the railroad in 1880 is clearly reflected in the decline in the amount of Tohono O’odham pottery found by archaeologists in Tucson sites. As Euro-American vessels and metal containers became widely available to Tucsonans, fewer Tohono O’odham pots were used, and most of these vessels sold after 1880 were used for water storage and cooling. These jars typically held five gallons of water, and cost anywhere from 25 cents to \$2.50. The need for these water jars ended when municipal water became available throughout the city and ice-manufacturing plants began operating.



Top: Tohono O’odham women laden with large pottery vessels on Tucson’s Congress Street in the 1880s (Accession No. 2911). Right: Papago Black-on-red chocolatero.



Robert B. Ciaccio

Courtesy of Arizona Historical Society

# Warner's Mill

J. Homer Thiel, Desert Archaeology, Inc.

**A** STONE AND MORTAR foundation is all that remains of a mill near Sentinel Peak operated by Solomon Warner from the mid-1870s to the 1890s. Warner, who was born in 1811 in Schoharie County, New York, learned to operate a mill while still a young man.

In 1856, he was hired to take a load of goods via mule train from Yuma to Tucson. Warner soon transitioned from being a freighter to a store-keeper and saloon owner. In 1870, he was in a party of men who were attacked by Apaches while traveling near Crittenden, Arizona. Warner received wounds from four bullets and an arrow that left him with only limited use of his arms.

In early 1871, Warner purchased a partially constructed mill located on the east slope of Sentinel Peak from William Tonge, in addition to some nearby land. He began work on the mill in October 1874, hiring Alexander McKey to dig the mill race (water channel) before heading to San Francisco to purchase machinery. Over the next year, Warner bought materials to complete the structure, which opened in October 1875.

The two-story building had a first floor made of stone and a second floor of adobe. A canal brought water from springs located to the south to power the machinery that turned a pair of giant millstones. Warner hired a miller, and in the first four months of operation, the mill ground more than 180,000 pounds of locally grown wheat into flour. Later, Warner added a stamp mill to break up ore rock. The first silver ore from the famous Tombstone mines was processed at the mill in 1879.

In 1877, Warner built an adobe house, which is still in use. In 1883, he constructed a dam to store water for the mill, resulting in a feud with nearby farmers. After this was resolved, Warner's Lake became a popular destination for bathers, duck hunters, and fishermen. Warner lived next to the mill until 1886, when he sold it. He then moved to downtown Tucson, and spent his last years tinkering with a perpetual motion machine. Around the time that Warner died, in 1899, the mill fell into disuse, as less wheat was being grown in Tucson. Eventually the mill's machinery was sold, and in the 1930s, the building was dynamited. Today, its ruined foundation is a reminder of Tucson's agricultural heritage.



Henry D. Wallace



Courtesy of Arizona Historical Society

*Top: Recent aerial view of Warner's Mill, where only the substantial stone foundation is now preserved. Bottom: This historical view shows the mill's adobe upper floor (Accession No. 99701).*

# Archaeology along the Train Tracks

J. Homer Thiel, Desert Archaeology, Inc.

**C**HINESE IMMIGRANT workers laid the Southern Pacific Railroad track through Tucson in early March 1880. For several months, the workers had been steadily leveling land, building bridges and berms, and laying track eastward from Yuma, Arizona. The first train pulled into Tucson on March 20 amid a huge celebration. Soon Tucson was linked to the rest of the country, and new people and goods poured into town. Several recent archaeological projects at city blocks next to the tracks have revealed the close relationship between the arrival of the railroad and the growth of Tucson.

While excavating a portion of Historic Block 83 downtown, located across the street from the Southern Pacific train depot, archaeologists encountered an outhouse pit with refuse from the Cactus Saloon, which opened around October 1889. An advertisement reads: “At the Cactus Saloon, near the Depot, you can always get sandwiches of all kinds, fresh made ham, cheese, sardines and sausages.” Johnny Hart, the saloon’s manager, also sold wine, liquor, cigars, keg beer, canned fruit, and coffee. The saloon’s location across from the depot was convenient for travelers.

A photograph of the interior (above right) reveals a well-stocked bar decorated with a jaguar pelt draped over a mirror. The same photograph also shows only male customers. It is unlikely that, at the time, women patronized Tucson saloons. Newspaper articles reveal that the combination of all-male clientele and alcohol led to problems: the saloon was robbed several times, and two men were fatally shot there, one in 1898 and another in 1901.

Artifacts found in the saloon’s privy included fragments of an Anheuser-Busch advertising mirror decorated with birds, pieces of a large glass window

with hand-painted red and gold letters (including “FOO” for “FOOD”), numerous liquor bottles, tumblers, and pieces of stemware, and many shoe polish bottles, indi-



Patrons enjoying beverages at the Cactus Saloon (Accession No. 19020).

cating that patrons could have their shoes polished while having a drink.

The land immediately adjacent to the railroad tracks was used to build warehouses to store the goods being carried in by boxcars. William B. Hooper & Company constructed a liquor warehouse of adobe east of the railroad depot in September 1880. Next door, the Southern Pacific Railroad built an icehouse for the company’s passenger service.

In 1887, Charles R. Wores moved his ore-assaying business—the Tucson Sampling Works—to the liquor warehouse. Wores, a San Francisco native, arrived in southern Arizona in 1880 and soon built up a remarkable mineral collection. His assay office took in gold, silver, copper, and lead ore, which was piled in the former warehouse building for sampling and processing. Small amounts



Stemware, alcoholic beverage bottles, and shoe polish bottles found in an outhouse associated with the Cactus Saloon.

Courtesy of Arizona Historical Society

J. Homer Thiel



of ore were treated with chemicals and heated in kilns to extract metals and to determine their value. Wores acted as a middleman, purchasing the ore after determining its metal content, and then sending it on to smelters in California and New Mexico. He traveled throughout southern Arizona, visiting miners to buy raw ore. He had a reputation for being a fair businessman, and operated the sampling works until 1901.

Some years later, the warehouse was torn down, and in 1906, Southern Pacific began constructing an employee clubhouse in its place. The brick building soon housed a well-stocked library, a billiards room, and a shower room. By offering such amenities, the railroad encouraged employees to spend their time at the clubhouse rather than at the nearby Cactus Saloon. Southern Pacific used the building



Robert B. Ciaccio



Robert B. Ciaccio

*Top: Three views of a decorative Mexican duck. Bottom: A pair of cupels, used by the Tucson Sampling Works to assay ores, marked in pencil with sample numbers "2" and "10."*

as a club until 1922, when it was converted to a superintendent's office. The building was torn down around 1964.

The adobe foundations of the warehouse/sampling works and an adjacent house were encountered during the Block 83 excavations. Nearby, archaeologists found three outhouse pits filled with trash discarded by residents and workers. Among the finds were Mexican medicine bottles and a ceramic duck, also made in Mexico. Large numbers of containers used in assaying work—crucibles, cupels, and scorifiers—were also found at the site. Archaeologists were surprised to find the intact brick foundations

of the Southern Pacific clubhouse overlying the earlier warehouse foundations, a reminder that it is often difficult or impossible to predict what lies underground.

## The Wieland Bottling Works

Jeffrey T. Jones and Jennifer Hushour, Tierra Right of Way Services, Ltd.

**PRIOR TO FRENCH SCIENTIST** Louis Pasteur's development of pasteurization in the 1870s, bottled beers and ales either were not carbonated or were prepared for immediate consumption. Bottled carbonated beers were unstable and spoiled quickly. As a result, beer was largely a local industry, with carbonated beer available only in kegs and barrels. The pasteurization process killed off unwanted bacteria, leaving the beer stable and of high quality over long periods. American brewers quickly adopted the process and began bottling and shipping lager-style beers. Among the earliest bottling plants in Tucson was the Wieland Bottling Works, located at 275 Toole Avenue, next to the Southern Pacific Depot. In 2006, Tierra Right of Way Services, Ltd., conducted excavations for the City of Tucson at a complex of buildings associated with the bottling and distribution of Wieland Beer.

John Wieland was a German immigrant who went to work in the California gold fields in 1851. His successful mining operations allowed him to move to San Francisco, where he bought the Philadelphia Brewery, changed

its name to the John Wieland Brewery, and built it into a hugely profitable business. He died in a house fire in 1885, and his sons took over the brewery. In 1890, they sold it to San Francisco Breweries, Ltd., an English syndicate. The first mention of the Wieland Beer Depot and Bottling Works in Tucson is on the 1893 Roskrug map, suggesting that San Francisco Breweries initiated the expansion into Tucson.

The same building is labeled Wieland Bottling Works on the 1896 Sanborn Insurance map. The 1901 Sanborn map shows that the footprint of the warehouse complex had changed, and was simply labeled "Bottling Works"; a new stable, cold storage facility and the Bail and Company Warehouse were depicted. The 1897–1898 *Tucson City Directory* indicates that Bail and Company was an agent for Wieland Beer. By 1904, the warehouse complex was renamed the Bail-Heineman Company, with Adolf Bail as president and treasurer and Samuel Heineman as vice-president and secretary. The Bail-Heineman Company was in business until at least the early 1920s, but by

1908, it had relocated to 424 North Stone Avenue.

The bottling plant and warehouse complex was demolished by 1909, and the area was developed as a park. Excavations revealed some interesting details about the complex. The bottling works and cold storage facility had native welded tuff stone foundations quarried from the east side of Sentinel Peak (page 20). The foundation blocks were faced and squared before being set with lime mortar, and the fired-brick superstructure of the cold storage facility contained two separate areas: one for the compressor engine and one probably for cold storage. Round holes in the concrete floor indicated that pillars, either wooden or metal, helped to support a rooftop ammonia compressor above the engine room. Evidence for the Bail warehouse was limited to a double row of unfired adobe bricks laid in a footer trench. Portions of a herringbone-patterned fired-clay brick floor were found southwest of the cold storage facility between the bottling works and the warehouse. The 1901 Sanborn map of this area indicates there was a structure with a canvas roof in this area, perhaps a courtyard.



*Wieland Beer was brewed in both California and Tucson. This label is from the California brewery.*

Artifacts associated with the operation of the bottling plant were found in a large, rectangular pit visible on the 1901 Sanborn map. It was almost two-and-a-half feet deep and contained hundreds of brown glass beer bottles, most of which were broken, either at the basal seam or at the finish. This suggests that there were some problems with the bottle-manufacturing process or, more likely, that many bottles were broken by the bottling machinery.

## Tucson Origins: Digital Resources

**INTERNET-BASED RESOURCES** are becoming increasingly important as a means of sharing information about the past. For more than a decade, Douglas Gann, of the Center for Desert Archaeology, has been developing models that help us to visualize the places of Tucson's past. This view of the San Agustín chapel and *convento* that once stood at the base of Sentinel Peak combines archaeological, photographic, and documentary information. To see clearly the relationship of the Tucson Presidio to modern buildings, visit Doug's on-line model and watch today's buildings fade away to reveal the former presidio. Although only a small portion of the presidio could be reconstructed at actual size in downtown Tucson, a digital model allows a full reconstruction, in addition to many alternative reconstructions where the evidence is less clear.

This digital model, as well as web content that complements many of the articles in this issue of *Archaeology Southwest*, can be found at: <http://www.cdarc.org/asw-24-1>.



*Digital models of the San Agustín chapel and convento have been refined over the past decade as new information has become available and as new digital tools have been developed. This is the thirteenth such model of the Mission San Agustín complex.*

# The End of Life in Tucson

William H. Doelle, Center for Desert Archaeology

OVER THE COURSE OF four millennia, Tucson's residents have treated their deceased family members in diverse ways. In the Early Agricultural and Early Ceramic periods, bodies were placed into roughly circular pits in tightly flexed positions. Although offerings were few, the bodies were often partly coated with hematite (red ochre) pigment. Among the Hohokam, cremation, which had occurred rarely in earlier times, became the norm. Cemeteries were located on the margins of open plazas near village centers and contained individual deposits of bone, ash, and offerings that had been burned elsewhere, called secondary cremations. Later in Hohokam times, bodies were treated in a number of ways, including inhumation, cremation on a pyre built over a body-sized pit, and secondary cremation. In the Protohistoric period—that is, between about 1450 and the arrival of Father Kino in the 1690s—O'odham groups buried their dead in flexed positions in oval or circular pits. These burial patterns, greatly oversimplified in this brief review, are known from Tucson-area archaeological sites.

Two Protohistoric cemeteries have been found in Tucson. One of them, near south Ninth Avenue, contained as many as seventeen bodies that were interred in a flexed position; some were painted with hematite pigment. The other Protohistoric cemetery is located near Mission San Agustín (page 10).

With the arrival of European missionaries and establishment of a presidio, Catholic burial practices were generally followed. Deceased Spanish citizens and Native Americans were generally buried in cemeteries associated with churches. This was evident at Mission San Agustín and at the Tucson Presidio. Although the record book listing burials of presi-

dio soldiers and civilians was lost in the 1850s, it is likely that several thousand people were interred there between 1776 and the 1860s. A 1992 archaeological excavation in

a small portion of this cemetery uncovered evidence for the extensive reuse of burial plots. When a new burial pit disturbed an earlier one, the long bones and skull of the previous burial were generally placed alongside the legs of the newly interred individual. Because their clothing was too valuable to be buried with them, the dead were wrapped in shrouds. The only other possessions that were found with them were a few rosary beads, buttons, and pins.

Several isolated burials from the Historic era have been found in the downtown area. A burial dating to the 1800s, found near the downtown YMCA, contained two adult Hispanic men. One man had an arrow point embedded in his rib cage, and his arms were in unusual positions, suggesting that he had been killed and that rigor mortis had set in prior to burial. Perhaps the men were buried outside of the Presidio Cemetery because they could not be identified. Another burial, dating to the later 1800s, was found beneath a modern sidewalk next to south Seventh Avenue. The body was that of a man, perhaps a cowboy, wearing a shirt, suspenders, jeans, and cowboy boots. It is unclear why this man was not buried in a cemetery.

In 1872, when the Tucson townsite was laid out, it encompassed two square miles and included a large area designated for a cemetery. The Alameda-Stone Cemetery (pages 27–28), in use by 1862, replaced the Presidio Cemetery. As Tucson grew, and the arrival of the railroad was anticipated, the Alameda-Stone Cemetery was closed, but only a small



Catherine Gilman

Historic-era cemeteries and burials around downtown Tucson: (1) Court Street Cemetery (1875–1909); (2) Alameda-Stone Cemetery (1862–1881); (3) Block 180 burials (1800s); (4) Presidio Cemetery (1776–1860s); (5) Barrio Libre burials (circa 1600–1800?); (6) Cowboy burial (1800s).

proportion of the bodies were moved to the far north edge of the Tucson townsite. This second city cemetery, the Court Street Cemetery, opened in 1875 but was soon in the path of growth and was closed in 1909 (pages 29–30).

It is clear that both economic and cultural factors played roles in the abandonment of these cemeteries. Today, there are legal requirements to treat burials with

greater respect, and the cost of such large-scale treatment of entire cemeteries—as shown by the Alameda-Stone example—is quite high. As redevelopment or even limited below-ground disturbance is considered for either the Presidio or Court Street Cemetery areas, avoidance should be explored as the most appropriate option.

## The Alameda–Stone Cemetery

Michael Heilen and Marlesa A. Gray, Statistical Research, Inc.

**TUCSON'S FIRST CEMETERY** from the American period had two sections: one for military personnel and one for civilians. The military section was used from 1862 to 1881. It is unclear when the first civilians were buried at the cemetery, but we do know that the civilian section was closed by the City of Tucson in 1875. About 2,000 individuals

were buried in the cemetery, of which roughly 100 were placed in the military section.

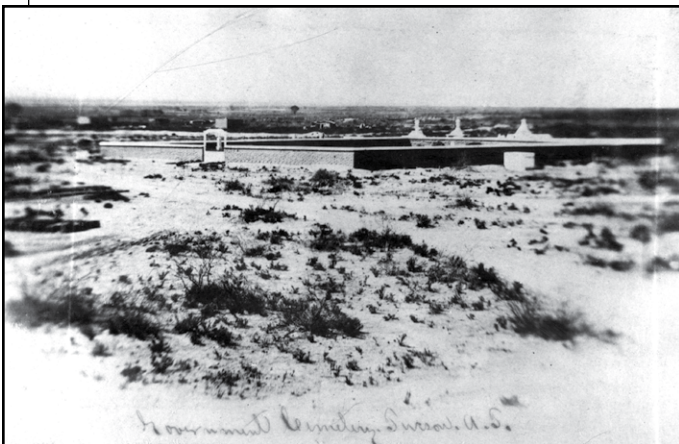
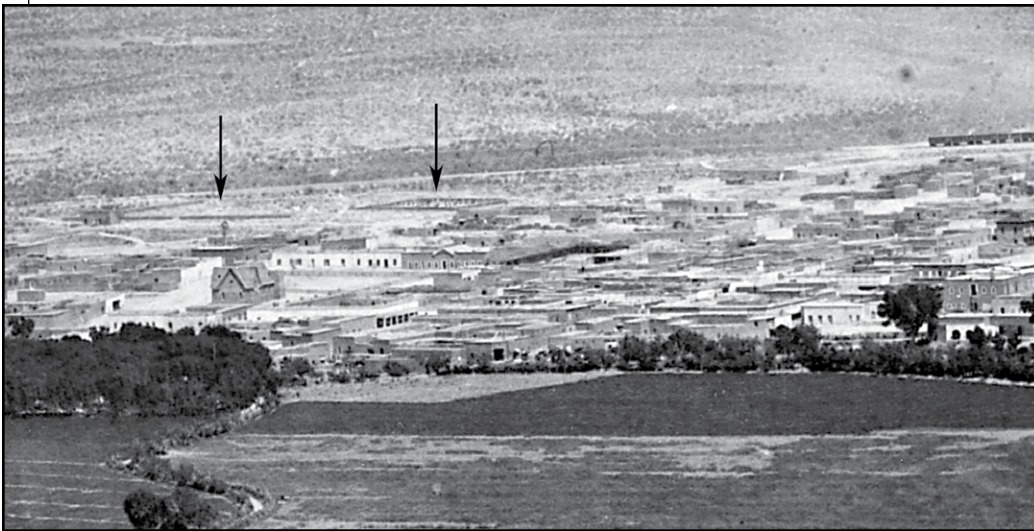
Beginning in 2006, Statistical Research, Inc. (SRI), was contracted by Pima County to excavate this historic cemetery in preparation for construction of a City-County Joint Court facility at the northeast corner of Stone Avenue and Alameda Street. Excavations in the roughly four-acre parcel also uncovered prehistoric archaeological features, as well as the complete remains of a post-cemetery neighborhood. Remarkably, even though the cemetery area had been disturbed by urban development over the last hundred years, a large percentage of the graves remained intact.

Military personnel buried at the cemetery were exhumed in 1884 and moved to a new cemetery at Fort Lowell, northeast of downtown Tucson. (In 1891, they were moved from

Fort Lowell to the San Francisco National Cemetery in California.) The Tucson City Council gave notice in 1882 for individuals buried in the civilian section to be exhumed and reburied at the new Court Street Cemetery (pages 29–30), but how many burials were actually removed was not recorded.

Because it was the only cemetery in Tucson at the time, the Alameda-Stone facility was likely used by the entire community. Although the Gadsden Purchase of 1854 made southern Arizona a part of the United States, Tucson in the 1860s and early 1870s remained a largely Mexican-American Catholic community. However, the population also included a growing number of people from other ethnic groups and religious faiths.

Courtesy of Arizona Historical Society



Top: Detail from the 1880 Carleton Watkins photograph of Tucson. The unfinished Alameda–Stone Cemetery wall (left arrow) and the enclosed military section (right arrow) can be seen in the background (Accession No. 18233). Left: The “Government,” or Military Cemetery at Tucson, 1870. Photograph by John Vance Lauderdale (John Vance Lauderdale Papers, Yale Collection of Western Americana, Beinecke Rare Book and Manuscript Library, Yale University).

Our excavations revealed that the majority of burials in the civilian section had been left in the ground. Several hundred burials were destroyed by construction of the Tucson Newspapers building in 1940 and 1953. Most burials in the military section had been removed in 1884, but their exhumation was incomplete: portions of skeletons, items of clothing, and other materials that had been left behind in military grave pits were recovered during the SRI excavations.

The remains of 1,386 individuals were recovered. Some of the 1,083 grave pits contained no remains. Thus, evidence of 1,044 individuals came from grave pits, and remains from several hundred individuals were found in disturbed, non-burial contexts. Evidence from excavations and from photographs (page 27) provides the approximate location of the wall that enclosed the military cemetery (see map). The majority of the non-military burials were members of the local Hispanic Catholic community. Also notable on this map is a very dense concentration of graves. In this area, burials frequently intruded into earlier interments, a pattern that was also noted in the Presidio Cemetery (page 26). The section immediately east of the military section appeared to contain the remains of people who had recently moved to the Tucson area, many of whom were non-Hispanic, non-Catholic Euro-American males.

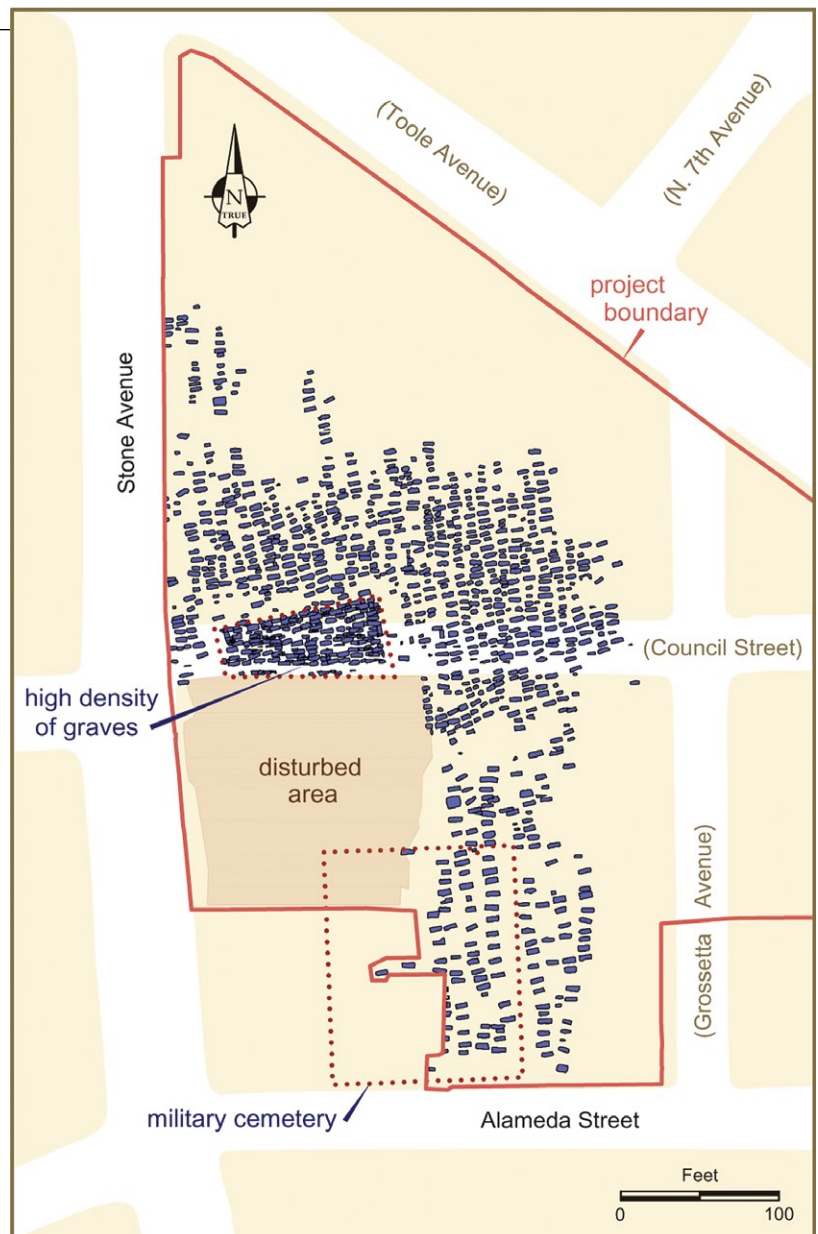
Since the conclusion of the SRI excavations, human remains and associated objects have been repatriated or reburied based on a cultural affinity study. Repatriations have been made to the Arizona Department of Veterans' Services, the Tohono O'odham Nation, the Pascua Yaqui Tribe, and Los Descendientes del Presidio de Tucson. Those remains that were not repatriated were reburied at All Faiths Cemeteries in Tucson.

One of the questions most often asked about the abandonment of the Alameda-Stone Cemetery is "Why did people build their homes on top of the cemetery and why didn't Tucsonans complain?"

The answer is complicated and relates to both historical events that occurred in Tucson at the end of the 1800s and contemporary religious beliefs about death. Completion of the railroad through Tucson in 1880 brought new settlers to Tucson who had no connection with individuals buried in the cemetery. The cemetery was considered to be located on prime land for development.

Excavations confirmed that the newcomers who built homes in the project area knew that they were building atop a cemetery. However, there also appears to have been little protest from the community about development of the former cemetery. This may in part be explained by a net loss of Tucson inhabitants between 1880 and 1890. A drought, mine closures, and economic depression forced many Hispanic residents of Tucson to move to Mexico during this decade, leaving their relatives buried in a cemetery that later became vulnerable to development.

Also complicating the situation were nineteenth-century Catholic beliefs that placed the immortality of the soul over the sanctity of physical human remains. Apparent local disinterest in the physical preservation of the cemetery, combined with an influx of persons totally unconnected to the established community, led to the inevitable development of the former cemetery lands as a residential neighborhood.



*Alameda-Stone Cemetery map, showing all excavated graves. Streets indicated with parentheses were built after the cemetery was abandoned.*

## Los Angelitos

Michael Heilen and Kristin Sewell, Statistical Research, Inc.

**B**ECAUSE OF DISEASE and unsanitary conditions, child mortality was much higher in the 1800s than it is today. When the Alameda-Stone Cemetery was in use, several epidemics swept through the Tucson area, including a smallpox epidemic in the winter of 1870 that killed many more Mexican-American children and infants than adults. Because Tucson at that time was a mostly Mexican-American town, many children who died were given Catholic burials.

One tradition among Hispanic Catholics and some Native Americans was to bury children and unmarried younger adults with floral crowns placed on the head and in clothes to resemble angels. Remnants of crowns—made of wire wrapped with paper or ribbon, and adorned with paper or fabric flowers as well as beads—were found in the burials of more than 100 children as well as some young adults in the Alameda-Stone Cemetery. Pins that could have been used to fasten burial garments, such as shrouds, and artifacts corresponding to other floral arrangements were also found with some of these individuals. These clues suggest that individuals interred with floral crowns could have been buried as *Los Angelitos* (“the little angels”), according to the Hispanic Catholic tradition of emphasizing the innocence of children, whose souls in death would bypass purgatory and go directly to heaven.



*This photograph, from around 1916, shows a mother holding her deceased child, who is wearing a floral crown.*

## The Forgotten Court Street Cemetery

J. Homer Thiel, Desert Archaeology, Inc.

**T**HE SECOND City of Tucson cemetery, established in June 1875, was known as the Court Street Cemetery, and it occupied eight city blocks on the northern edge of Tucson. The east half was reserved for Catholics, and the west half for Protestants, Jews, military veterans, and members of various fraternal organizations.

From the start, residents complained about the cemetery’s appearance. The *Arizona Weekly Citizen* reported that “The present cemetery is a dreary bleak desolate place and I deem it cruelty in the highest degree to compel parents, kindred and friends to entomb and take final leave of their departed ones in so drear and desolate a place.”

In addition, burials were placed haphazardly and sometimes were dug so shallowly into the hard ground that coyotes burrowed into them. However, conditions gradually improved: trees were planted, fences

were erected, and the entrance featured a decorative arched gate. By the early 1900s, as many as 6,000 people had been interred in the cemetery.

In 1906, the City Council, encouraged by some prominent businessmen, decided that the cemetery should be moved farther north, away from the expanding edge of the city. They saw the need for a larger cemetery, but also thought that the land could be used for other purposes.

The businessmen saw an opportunity to make money in two ways: from future burials and by selling plots to people moving loved ones from the Court Street Cemetery to the new Evergreen and Holy Hope Cemeteries. Despite the protests of citizens and fraternal groups, the Court Street Cemetery was closed in July 1909. Over the next few years, many of the bodies were moved to the new cemeteries, but those in unmarked graves or unclaimed by

**NOTICE**  
**TO KNIGHTS OF PYTHIAS**  
 All bodies buried in the old cemetery will have to be removed from our plot there by July 1. Those having relatives or friends buried there should arrange for their removal at once.  
**THE CEMETERY COMMITTEE.**  
 of Tucson' Lodge No. 3, Knights of Pythias.

*This advertisement, first published in the Tucson Citizen on May 28, 1915, notified members of the Knights of Pythias that the remains of any friends or relatives buried in the Court Street Cemetery needed to be removed by July 1 of that year.*

relatives or friends were left in place. By the late 1910s, the land was sold for housing development.

Over the years, residents of the Dunbar Springs neighborhood have occasionally located graves while planting trees or doing yardwork. Other burials have been encountered during city utility projects and, in one case, by someone replacing a mailbox.

As recently as October 2007, after heavy rainfall, a homeowner found a sinkhole that contained bones and coffin hardware. Archaeologists were called in to excavate the burial, which was probably that of a three- to four-year-

old girl who had been interred in a dress. Her Douglas fir casket was decorated with diamond-shaped appliques as well as a crucifix with a lamb. Several pieces of clothing had been stuffed into the foot of her casket. A second burial found beneath the first one was that of a twenty-five- to thirty-five-year-old man in a casket with identical hardware and decorations. He had been buried with a coin purse and jackknife in his left pocket, and a comb



*The Court Street Cemetery, whose boundaries are highlighted above, was used by Tucsonans between 1875 and 1909. An unknown number of burials were not moved before the property was divided into lots for housing and other uses. The lower right corner of this image presents a view west down Speedway Boulevard, where it intersects Stone Avenue.*

and three coins (including coins dated 1877 and 1886) in his right pocket.

During this time period in Tucson, it was unusual for the dead to be interred with personal effects. The presence of such items with both burials and the matching coffins suggest that the two may have been buried as rapidly as possible, perhaps because they died from a contagious disease, like smallpox.

## Endangered: Charles O. Brown House

**T**HE PROPRIETOR OF THE Congress Hall saloon, Charles O. Brown, lived with his family in a house at 40 West Broadway Street in downtown Tucson, from 1868 to the early 1900s. In 1989, staff from the University of Arizona's Tree-Ring Lab sampled more than half of the roof beams from the house. They concluded that the wood had been cut in the northern end of the Santa Rita Mountains, south of Tucson. Furthermore, archaeologist Bill Robinson of the Tree-Ring Lab concluded: "If we put historical records together with the tree-ring evidence, I would guess that Mr. Brown bought a property that had an existing four (or more) room structure originally built in the late 1840s. In 1879, or thereabouts, the original building was reroofed and two additional rooms added to the east end." Today, the building suffers from rising dampness, with moisture causing adobe bricks at the

base of the walls to exfoliate and weaken. Unless drainage problems are corrected and damaged adobes are repaired, Tucson is in danger of losing one of its oldest homes.

*Left: View from interior courtyard. Right: Protective intervention, in the form of steel shoring funded by the City of Tucson, ensures that the roof remains intact and protects this traditional corner fireplace.*

Jonathan Mabry



William H. Doelle

# Endangered: The Marist College

Jennifer Levstik, Tucson Historic Preservation Foundation

**B**UILT IN 1915, the Marist College is a physical expression of the influential role played by the Catholic Church in shaping the spiritual and educational lives of Tucson's early population. The school was built for four Marist brothers from Mexico and Texas, members of a Catholic religious order founded in France whose purpose is to provide education for needy populations throughout the world. In 1915, few schools, public or parochial, existed in Tucson. With the support and architectural designs of Tucson's third bishop, Henri Granjon, and local master builder, Manuel Flores, the Marist College became Tucson's first parochial school for boys. Even after the Marist brothers left the school, the school continued the Marian tradition of offering education and housing to minority populations. While Arizona's public schools remained segregated until 1953, the Marist College educated needy students from Mexican-American, African-American, and Anglo-American households until it closed in 1968. Today, the school is one of only three unmodified historic buildings of the original downtown headquarters of Tucson's Roman Catholic Diocese. It is also considered the tallest extant adobe building in Arizona.

After the school closed, the Marist College building was used as offices for the archdiocese until 2002. Since that time, the building has been unoccupied—and rapidly deteriorating. The deterioration is largely the result of water damage. It has resulted in the partial collapse of two corners of the building and has greatly compromised the roof's structural integrity. Small grants from the Tucson-Pima County Historical Commission, National Trust for Historic Preservation, and City of Tucson support current efforts by Means Design and Building Corporation to prevent further destabilization of the exterior walls.



Courtesy of Roman Catholic Diocese of Tucson



Courtesy of Roman Catholic Diocese of Tucson

Top: Marist College and part of the West Ochoa streetscape, circa 1919. Bottom: Schoolchildren at the back of the building in the 1950s.

See the Center for Desert Archaeology website for more information: <<http://www.cdarc.org>>

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## Back Sight

**PRESERVING TUCSON'S PAST** is how the Center for Desert Archaeology got started. In the early 1980s, I prepared a nomination form that resulted in the listing of the Valencia site, a Hohokam ballcourt village, on the National Register of Historic Places. Since then, the City of Tucson, Pima County, and the San Xavier District of the Tohono O'odham Nation have all worked toward long-term protection of this site. In November 2009, Pima County successfully negotiated the purchase of sixty-seven acres of the Valencia site, ensuring that this important village site will be preserved for the future.

The Center has played key roles in many projects related to downtown Tucson. We were a partner with the Tucson Presidio Trust, the City of Tucson, and Pima County in the search for surviving remnants of the Tucson Presidio. When the community was debating the issues related to reconstruction of the Tucson Presidio and Mission San Agustín, Center Preservation Archaeologist Douglas Gann made extensive use of his computer modeling skills. His research, based on historic photographs, produced a more-accurate depiction of the chapel and the *convento* at San Agustín than had been possible using the fragmentary archaeological evidence. The resulting computer models also provided visualizations of how reconstructions could honestly convey what was known and what was based on inference. Tucson's past has a broad regional context, which is why we are strong advocates for the Santa Cruz Valley National Heritage Area (see [www.santacruzheritage.org](http://www.santacruzheritage.org)).

Most recently, the Center has demonstrated its commitment to preserving Tucson's past by joining partners Seth Schindler and Diane Dittmore to create Prudent Preservation Partners, LLC (PPP), and purchasing the historic Bates Mansion. The property, part of the El Presidio National Register District, is located at the north edge of downtown, just west of the Alameda-Stone Cemetery and just south of the railroad tracks. PPP has spent nearly a year upgrading many portions of the Bates property and now has high-quality office space to rent. We view this as a commitment to preserving one of the important historic properties that make Tucson unique. It is also a wise investment that will help the Center achieve financial sustainability.

The Center has moved into its new home—an urban oasis located off Ash Alley. To settle into an office space that



*The Center's new offices—a measure of our commitment to downtown Tucson—feature this tranquil courtyard. Other private sector redevelopment is now underway in the adjacent Warehouse District.*

is more than a century old feels good. Living our preservation values feels even better.

**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 the Center for Desert Archaeology's mission.

*William H. Doelle, President & CEO  
Center for Desert Archaeology*