

**DRAFT**



# MEMORANDUM

Date: April 26, 2000

To: The Honorable Chair and Members  
Pima County Board of Supervisors

From: C.H. Huckelberry  
County Administrator 

Re: **History of Archaeological, Historical, and Ethnographic Research**

Attached is a copy of a report on the history of archaeological, historical, and ethnographic research in southern Arizona. This is the first in a series of installments in a regional synthesis of cultural and historical resources that will be produced to develop the Sonoran Desert Conservation Plan.

In the next few weeks, reports will be issued on these topics: (1) Prehistoric, Historic, and Ethnographic Peoples of Southern Arizona; (2) The Cultural Landscapes Approach in Archaeology and History; (3) Overview of Traditional Cultural Places in Pima County; (4) Overview of Cultural Landscapes in Southern Arizona Prehistory; and (5) Overview of Cultural Landscapes in Southern Arizona History.

The purpose of this research is to document the nature and extent of cultural and historical resource assets in Pima County to assist in the planning process. These assets include archaeological sites, historic buildings and structures, cultural and historical landscapes, and places of traditional cultural value that collectively represent 12,000 years of human history in southern Arizona.

*History of Archaeological, Historical, and Ethnographic Research* condenses the history of archaeological, historical, and ethnographic research from the 1880s to the present day. The material covers each discipline within three general time periods, 1880-1937, 1937-1965, 1965-1990, and includes an update on research conducted since 1990. Within these broad time periods, the influence of regional and national developments in the fields of archaeology, history, ethnography, and the natural sciences are traced to explain how research in these areas has evolved over time here in southern Arizona, and Pima County in particular.

The result is a comprehensive overview of the contributions made by dozens of individuals who committed themselves to unlocking the secrets of the sonoran desert and the people who have lived here for thousands of years. The report follows the influence of ideas, institutions, and changes in law that together have laid the foundation for the modern studies of anthropological archaeology, historic archaeology, the history of the borderlands, and the ethnology of indigenous peoples in southern Arizona. This work sets the stage for subsequent discussions of Pima County's rich cultural and historical resources that ultimately will contribute to the cultural and historical resources element of the Sonoran Desert Conservation Plan.

## History of Archaeological, Historical, and Ethnographic Research

By Stephanie Whittlesey and Scott O'Mack  
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## History of Archaeological, Historical, And Ethnographic Research

Stephanie M. Whittlesey and Scott O'Mack

### Introduction

The Southwest has long been viewed as a fascinating "natural laboratory" for archaeology and ethnography, and the Sonoran Desert of southern Arizona is no exception. The rich archaeological record and diverse material culture, a documentary history extending back to the 1600s, and living indigenous peoples with a history hundreds if not thousands of years old all make the Southwest a rich storehouse of anthropological, archaeological, and historical data. No better place exists for studying the unique environment of the Southwest and the diverse peoples who have made it their home for 12,000 years.

But the land, particularly the desert environment of southern Arizona, also introduced obstacles into the study of past and present peoples. As George Gumerman (1991:3) wrote, "The Lower Sonoran environment. . . has had a profound effect on how archaeologists view the Hohokam." He pointed to the absence of trees with annual growth patterns suitable for tree-ring dating, which has created confusion about the Hohokam chronology and culture sequence that persists to this day; the intense summer heat that forced academic archaeologists to seek cooler mountain climates for their research; and the character of Hohokam sites, which tend to lack surface architecture.

These obstacles apply to the study of the Sonoran Desert in general—its landforms, plants, and animals—as well as its peoples and its prehistory. The Sonoran Desert is certainly not an easy land to study. It is not have the rich, humid climate of the East Coast. Its plants and its animals sting; the furnace air of summer dries the skin, paper, bread. Unwrap a sandwich in the field, and you must eat it quickly. Before the reclamation of the West, the daily lives and prayers of desert peoples were focused on rain. Yet the prayed-for rain can fail people, too. Its thunderstorms and hail can flatten crops and flood fields. Wagons and trucks get stuck in the mud and sand, and the careless can be swept away or trapped in quicksand. In spite of, or perhaps because of, these obstacles, the desert environment also produced a distinct breed of anthropologist, archaeologist, historian, geographer, and natural scientist—men (and a few women) who took pride in their ability to withstand the rigors of desert research, tough "desert rats" whose love for this land and its people equaled their energy and endurance.

This history of anthropological and historical research in southern Arizona focuses on three major periods that generally also characterize the Southwest as a whole: the early years, when private institutions carried out most research; academic research at the University of Arizona and other institutions beginning in the 1930s; and the rise of cultural resource management or contract archaeology in the 1970s. We also discuss the trends of the 1990s and ongoing research. Our review emphasizes prehistory and archaeology, particularly the Hohokam, although we include ethnography, historical archaeology, and historical research. We should note that many natural scientists have carried out research alongside the social scientists, establishing the baseline information about the unique Sonoran Desert environment that we call home. Without their efforts, we would know much less about the land and about the ways people have wrested a living from it. Space precludes us from presenting a detailed history of their important contributions here, although we touch on some of the most important institutions and people.

It is important to remember that southern Arizona and Pima County did not develop in isolation. To understand what happened here in the past, we also need to understand the larger context of Arizona history and that of the Southwest as a whole. And in historical times, we need to expand our context to discuss national and global concerns. Therefore our review often moves beyond Pima County to consider events, milestones, and processes in archaeology and history on a larger scale.

### **Exploring and Defining Cultures of Southern Arizona 1880–1937**

Early explorations of the West in the post-Civil War years were expeditions seeking to identify its topography, geography, and hydrology when these characteristics were essentially unknown. Military and civilian explorers sought to identify wagon and railroad routes to connect the United States with California and other territories west. John Wesley Powell, the indefatigable, one-armed Civil War veteran whose explorations of the Colorado River paved the way for the reclamation of the arid West, perhaps represents this era best. Powell was one of the first recorders of the Southwest's native peoples and an observant commentator on human-land relationships. He helped to establish the U.S. Geological Survey and the Bureau of American Ethnology, and his ideas were instrumental in helping to develop what would become the U.S. Bureau of Reclamation. Powell's travels bypassed southern Arizona, however.

Professional archaeological, historical, and ethnographic exploration of the Southwest began as early as the 1880s, coincident with the westward expansion that gripped the nation in the wake of pacification of indigenous peoples and their relocation to reservations and with the opening of travel via the transcontinental railroad. The archaeology, history, and ethnography of this period can be described largely as exploration and discovery. In the beginning, there was an undeniable "expedition" tradition—academic institutions based in the East came to the savage West to explore its cultures and bring back archaeological and ethnographic treasures to fill museums. Reaction to this tradition was one factor prompting the establishment of local museums and research institutions in Arizona. There was also a sense of the unknown, and the need to chart the character of ancient and living peoples while it was still possible to do so. Even then, when the West was pristine compared to its human and technological burden of today, there was a sense of "salvaging" information about the past and the living present.

The first university-sponsored and private expeditions focused primarily on the Four Corners region, with its spectacular masonry pueblos and cliff dwellings, leaving southern Arizona untouched. This emphasis fostered the view of a uniform, pueblo culture across the Southwest, into which the prehistoric ruins of southern Arizona and its living peoples did not fit. There were a few exceptions, such as the Hemenway Southwestern Archaeological Expedition. Sponsored by Mrs. Mary Hemenway and led by famous pioneer anthropologist Frank Hamilton Cushing, the expedition undertook intensive excavations between 1887 and 1888 at Los Muertos, a large, Classic period Hohokam site on the Salt River, and at several other Hohokam sites in the Phoenix area. Jesse Walter Fewkes succeeded Cushing as director of the Hemenway Expedition in 1889. Fewkes, who became director of the newly created Bureau of Ethnology, named in 1894 the Bureau of American Ethnology (BAE), later excavated at Casa Grande between 1906 and 1908 (Reid and Whittlesey 1997).

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Many of the explorers of this early era were genuinely interested in discovery and less so in collections. Among the pioneer surveyors and explorers in the expedition tradition were Adolph Bandelier and Cosmos and Victor Mindeleff. Bandelier was a naturalized Swiss citizen who surveyed large tracts of Arizona country for the Archaeological Institute of America (Reid and Whittlesey 1997:13). The Mindeleffs surveyed and studied Puebloan architecture for the BAE (Longacre 1999). Bandelier only touched upon the Phoenix area, and the Mindeleffs did not venture into southern Arizona at all.

Largely because of the bias toward the Colorado Plateau and Anasazi archaeology, the earliest years of archaeological research in southern Arizona focused on exploring the region broadly and on identifying and defining its cultures. The bias also meant that the initial definitions of southern Arizona prehistoric cultures, particularly the Hohokam, met with considerable skepticism among the professional community.

In the early years of the 1900s, Arizona museums and private institutions began to replace the older, eastern-based institutions in the wake of negative response to what was perceived as the theft of local treasures, and Arizona's academic foundation flourished. A number of these institutions would impact the archaeology of southern Arizona. In 1916, the Museum of Man was founded in San Diego, and instituted a research program in California and Arizona (Rogers 1941). In 1928, the Phoenix Daughters of the American Revolution established the Arizona Museum—not to be confused with the Arizona State Museum (ASM)—in Phoenix (Oldaker 1928). In the 1920s, two privately endowed research institutions were founded. One would have a tremendous impact on the course of cultural research in the Arizona deserts, and the other would impact research largely by its absence. These were Gila Pueblo Archaeological Foundation (Gila Pueblo) and the Museum of Northern Arizona (MNA).

The University of Arizona in Tucson was founded in 1891, and two years later the Arizona Territorial Museum, which would become ASM, was established. The archaeological bias of the university is clear—until 1937, when Emil W. Haury took over from Byron Cummings as head, it was the Department of Archaeology, not Anthropology. The early emphasis on prehistoric archaeology no doubt was one factor producing the lag in historical and ethnographic research in southern Arizona.

Apart from early work at several important Santa Cruz River sites—all of which were located outside of Pima County—historical archaeology in southern Arizona also had a relatively late start, especially when compared with the development of the field in the eastern United States. As elsewhere in the West, this was largely because of a relative scarcity of historical-period sites, at least of the kinds of sites in which historical archaeology was at that time interested. In addition to its early role as a tool of preservation, historical archaeology began as an adjunct to history, a way of addressing questions posed by traditional historical research.

This dual role of preservation tool and adjunct to history prompted an early emphasis on the major sites of traditional narrative history—colonial-period missions, town sites, forts, battlefields, and the like—the kinds of sites the East had in abundance but which were few and widely scattered in the West. In southern Arizona, the Spanish Colonial presence was especially ephemeral, limited to a handful of major sites, and two of these—the mission and the presidio at Tucson—were largely destroyed in the nineteenth and early twentieth centuries by the growth of the region's single urban center.

Dobyns (1976:vii) has suggested that historical research in southern Arizona has lagged behind that of other states and regions, despite a rich documentary history extending back to the chronicles of Franciscan priest and explorer Eusebio Kino and his military companion Captain Juan Manje. Dobyns suggested that this may be because historians have long devoted attention to the Spanish colonial settlement of New Mexico, which was colonized earlier than Arizona and which retains considerable pride in its Spanish heritage. In part because of the American public's fascination with indigenous peoples and in part because of the factors of its own development as a discipline, history and historical archaeology concerned with Spanish Colonial, Euroamerican, and other non-native peoples has taken a backseat to the more popular prehistoric archaeology of Native Americans.

Historic preservation also had its start in these early years. The Federal Antiquities Act, passed in 1906, was the first legislation designed to protect archaeological sites on federal lands. As Reid and Whittlesey (1997:13) have noted, it is to the lasting credit of the early explorers of the Southwest that they saw an immediate need to protect its prehistoric ruins through the legal process. The 1906 Antiquities Act was the foundation for all succeeding historic-preservation legislation.

### Prehistoric Archaeology

#### University of Arizona

In 1915, Byron Cummings was made head of the Department of Archaeology at the University of Arizona and director of ASM (Reid and Whittlesey 1997:14). Cummings was a scholar trained in classics who had previously taught at the University of Utah, where he served as professor of classics and dean of the College of Arts and Sciences. Cummings was appointed Dean of the College of Liberal Arts at the University of Arizona in 1918, and thereafter was known affectionately as "The Dean" to all who knew him. Cummings also briefly served as president of the university.

Cummings is best known for establishing the first of the University of Arizona archaeological field schools in 1919 and for his archaeological fieldwork in east-central Arizona at the Kinishba Ruin, but he explored central and southern Arizona widely with his students and was involved in several controversial projects while at the University of Arizona. One of these was focused on the Double Adobe site. This tiny town between Bisbee and Douglas became the center of attention when its schoolteacher informed the university that elephant bones were washing out of an arroyo bank there. This discovery might have eclipsed George McJunkin's finding of spear points associated with the bones of now-extinct bison the same year—the

famous Folsom discovery—except that the Double Adobe mammoth bones were associated with grinding tools, not spear points, and Cummings was embroiled in another controversy (Reid and Whittlesey 1997:29–30). The Double Adobe site remains controversial to this day (see Haury [1983] and discussion in Waters [1986]).

The second controversy was that of the so-called Silverbell crosses. Along Silverbell Road, then on the outskirts of Tucson, a startling discovery was made: crosses, spear points, and swords made of lead and inscribed with Latin and Hebrew and dates in the ninth century (Reid and Whittlesey 1997). Cummings believed that the artifacts were genuine and was prepared to purchase them from their discoverers for \$16,000, a not-insignificant sum in 1927. Accusations of a hoax—that the artifacts were planted—flew fast and furious. Cummings later withdrew his support and the university's purchase offer. The artifacts remain a mystery to this day. Few still believe that the objects are genuine, but who created them, and why, remains unknown.

Cummings's students conducted several important investigations and many of them went on to become prominent archaeologists. Perhaps the best-known of these students is Emil W. Haury, who also served as Cummings's chauffeur. Cummings directed investigations of an important late Classic period site, Martinez Hill, by Norman Gabel, who is better known for his later physical anthropological studies. Gabel undertook excavation at Martinez Hill, which is located in southwest Tucson not far from Mission San Xavier del Bac, from 1929 to 1931 for a master's thesis project. At least 26 rooms were excavated at the large, complicated site with adobe architecture, compound walls, and a platform mound. Gabel's (1931) master's thesis contains virtually all we know about this site (Ravesloot 1987).

Cummings was instrumental in establishing the Arizona Archaeological and Historical Society (AAHS) to foster public and professional interest in archaeology and in organizing its journal, *The Kiva*. This society emphasized cooperation between avocational and professional archaeologists and was established as an affiliate of ASM. Father Victor Stoner, a historian and avocational archaeologist, was one of the founders of the AAHS journal, *The Kiva*, in 1935 and its first editor (Smith 1957). *Kiva* remains one of the premier regional journals of the Southwest and has traditionally been a publication outlet for avocationalists as well as professionals.

A cynical, modern profession views Cummings's contributions to understanding the prehistory of the Southwest as minor. Certainly Cummings was part of an older, bygone tradition. Jefferson Reid has described him as the consummate Victorian humanist and gentleman, who had the misfortune of working in an era that no longer appreciated such virtues. His training in classics and the emphasis on archaeology were two factors that certainly constrained social sciences research at the University of Arizona in its early years, but his contributions must be viewed in the context of the times, and in this milieu they were remarkable. Cummings's kindness and selfless service to students and the academic community are as impressive as his academic achievements.

### Gila Pueblo Archaeological Foundation

Gila Pueblo Archaeological Foundation was the life work of the unconventional and iconoclastic Harold S. Gladwin. Gladwin held a seat on the New York Stock Exchange, which he sold in 1922 to pursue his dream of archaeology. A. V. Kidder, who was the most learned and influential scholar of the time as well as Gladwin's friend, urged Gladwin to pursue the archaeology of the Arizona deserts. Working for the Southwest Museum in Los Angeles, Gladwin made an expedition to the Classic period site of Casa Grande in 1927, located near the town of the same name not far from the Gila River, where he undertook stratigraphic excavations. The discovery of distinct and superimposed kinds of pottery, one red-on-buff and one polychrome, led him to postulate the existence of two cultures. This was the kernel of the "Salado invasion" model that would dominate Hohokam archaeology for many years.

In 1928 Gladwin founded Gila Pueblo with Mrs. Winifred Macurdy, who later became his wife. Gila Pueblo was built on the ruins of a Salado pueblo in Globe, Arizona. Although the staff of Gila Pueblo would pursue and define many archaeological cultures throughout the exciting course of their history, it was the Hohokam on which they concentrated. For many years, all that was known of the Hohokam was the product of Gila Pueblo's work.

First they instituted a series of broadly based surveys of the Southwest. In a specially outfitted Pierce Arrow touring car, the staff traced the spoor of the "red-on-buff culture," as it was then known, from Texas to California and from Utah to Mexico. These surveys were the first to recognize a boundary between the Hohokam and Patayan cultures. The "red-on-buff" culture was replaced by the "Yuman root" west of the Growler Valley. Haury, who joined the staff in 1930, excavated a Colonial period Hohokam site in the Tonto Basin, which permitted the definition of the Hohokam culture.

But it was the immense site of Snaketown that drew the attention of Gila Pueblo. Located along the Gila River not far from the O'odham community of Sacaton, Snaketown was huge, covering more than a square mile, and included the entire sequence of Hohokam history from the Pioneer through the Sedentary periods. Snaketown was excavated between 1934 and 1935 under Haury's direction. The report (Gladwin et al. 1937) was a landmark in southwestern archaeology and remained virtually the only source of information on the Hohokam for many years.

Gila Pueblo archaeologists also were among the first to investigate and report on the Archaic cultures of southern Arizona. Surveying in southeastern Arizona along the San Pedro River valley in the 1930s, E. B. "Ted" Sayles found sites of an evidently early culture that did not hunt big game, but which was unlike the later pottery-producing cultures such as Hohokam and Anasazi. Gila Pueblo excavated a number of these sites and would report on them in 1941.

As part of their search for the red-on-buff culture, Gila Pueblo sponsored surveys in southern Arizona that documented sites in the Tucson area, Sonora, and southwestern Arizona. To organize their data, they developed a regional system for spatial location, later modified by ASM into the current site designation system, and a taxonomy for pottery classification. Among those surveying in southern Arizona for Gila Pueblo was Frank Midvale (Mittvalsky), one of the Southwest's most indefatigable, nondegreed archaeologists (Whittlesey 1998a; Wilcox 1987a). Midvale systematically recorded many of the large sites in the Tucson area, which helped to focus Gila Pueblo's attention on this important Hohokam region.

### Museum of Northern Arizona

The second private research foundation of Arizona that was established in the 1920s had little impact on southern Arizona archaeology, to its detriment. MNA was founded by Harold S. and Mary-Russell Ferrell Colton in Flagstaff in 1928, the same year that Gila Pueblo Archaeological Foundation was established. MNA was a private institution devoted to the sciences and art of northern Arizona, not solely to its archaeology. In part, the museum was established because the local community was incensed at excavation of archaeological sites by easterners who removed the specimens from the state. MNA was an institution that attempted to investigate human-land relationships from its inception, and the collaboration among its natural and social scientists to investigate the impact of the eruption of Sunset Crater Volcano on the prehistoric peoples of the Flagstaff area was remarkably successful.

Harold Colton was a biologist by training, and applied principles of biological systematics to the ceramics of the region. Colton's classification developed with his colleague Lyndon Hargrave (Colton and Hargrave 1937) was a thoughtful and reasoned approach to investigate problems of culture taxonomy and culture history. The ware-type system they developed remains the standard classification system for prehistoric ceramics of northern and central Arizona. MNA was interested in the archaeology of northern Arizona, of course, and did not venture into south-central or southern Arizona where Gila Pueblo concentrated its efforts. Only in later years when the declining health of his wife introduced confusion into his classificatory efforts did Colton tackle the ceramics of southern Arizona. The absence of the Colton-Hargrave taxonomic framework in this area has been sorely missed.

### Exploring the Deserts of Arizona and Sonora

Among the staff who worked at Snaketown were Irwin Hayden and his son Julian. Julian Hayden was a nondegreed, nonacademic archaeologist who would become one of those "desert rats" whose unabashed enthusiasm for the desert land and people produced a basic understanding of the Papaguería, the far western deserts, and Sonora. Hayden worked at many famous archaeological sites, often with his father Irwin, and his excavation history reads like an archaeologist's dream resume. The Haydens worked at Casa Grande National Monument on a project sponsored by the Los Angeles County Museum in 1930 and at the Grewe site near Casa Grande in the same year (Hackbarth 1998). While working at Snaketown, Hayden found time to record the Akimel O'odham (Gila River Pima) creation

narrative as told by one of the elderly workmen, published more than half a century later by Bahr et al. (1994). Another important project was his work at Pueblo Grande, a Classic period Hohokam site in Phoenix that is now a city park. He supervised intensive excavations there, including the platform mound, between 1936 and 1940. This work has only recently been published by Pueblo Grande Museum (Bostwick and Downum 1994; Downum 1998; Downum and Bostwick 1993, 1994). Hayden is best known for his independent research in the Sierra Pinacate, a forbidding but fascinating region of volcanic mountains and sand dunes in Sonora. This work, which would begin in 1958, is discussed in a following section.

Hayden's life-long friendship with Malcolm Rogers was a syncretistic collaboration between two like minds. Hayden met Malcolm Rogers in 1930, and they excavated a site near San Diego together in 1938. They were close friends and collaborators until Rogers's untimely death in a car accident in 1960, and Rogers's notions certainly influenced how Hayden viewed the archaeology and prehistory of the desert. Malcolm Rogers was a geological engineer by training. When he returned to San Diego after World War I to farm with his father, he became interested in the lithic scatters that covered the hills around his home, spurring a long-term interest in the desert cultures of California and western Arizona.

On his own, Rogers began surveying the deserts and in 1928 was briefly associated with the Arizona Museum in Phoenix. He presented the virtually unknown area of the western Arizona desert as a research challenge. Although the Arizona Museum never took up this challenge, Rogers made it his life work. He joined the San Diego Museum of Man in 1928, but by the 1940s had become essentially independent. His work remained the only source of information on the Patayan culture for many years.

Work on the poorly known Trincheras culture of Sonora and the enigmatic, terraced constructions of the same name began in the 1930s. Carl Sauer and Donald Brand of the University of California carried out a survey of northern Sonora in 1928 and 1930, recording village sites and *cerros de trincheras*, or terraced hillside sites. They were among the first to note the occurrence of *trincheras* sites in two nonoverlapping culture areas, Hohokam and northern Sonora (Sauer and Brand 1931). A number of avocational and professional archaeologists conducted limited excavations and surveys of *trincheras* sites at this time. The cultural geographer J. W. Hoover also reported on *trincheras* in 1941.

### History and Historical Archaeology

#### History

The professional study of southern Arizona history had its beginnings in the monumental synthesis of Western history produced by the American historian Hubert Howe Bancroft in the 1880s (Barnes 1984), and many of the publications resulting from this early research continue to be used today. A Californian interested primarily in the broad sweep of events that shaped California history, Bancroft compiled a large amount of primary source material on the greater Southwest, emphasizing Spanish colonization, and dedicated one volume of his seven-volume

magnum opus to the history of Arizona and New Mexico (Bancroft 1889). Bancroft's massive tomes have the Anglocentric shortcomings of most historical work of his era—Weber (1992:341) calls his treatment of the Hispanic *californios* "fictive, condescending. . . and profoundly racist"—but his work was an important predecessor to later historical work on the Southwest.

The tireless Herbert Eugene Bolton was the primary historian of the Spanish Colonial Southwest and California. The first historian to take the formerly Spanish and Mexican territories of the United States as his particular subject, Bolton was for most of his career a professor at the University of California at Berkeley. During the first half of the twentieth century, Bolton first invented and then dominated historical study of the region he dubbed the "Spanish Borderlands." Technically, the Borderlands included a broad band of the United States extending from ocean to ocean, and Bolton's work occasionally addressed the region in its entirety, but his most important work focused on the Southwest, especially on the early years of Spanish exploration and settlement in Arizona, California, and New Mexico. An early essay on the importance of Spanish missions as frontier institutions (Bolton 1964 [1917]) was the beginning of a focus on interactions between Spanish and indigenous peoples that remains important in today's studies of the Spanish Colonial period.

Bolton was particularly fascinated by the experiences of prominent individual explorers. His monumental studies of the Coronado expedition (Bolton 1990 [1949]) and the Jesuit priest Francisco Eusebio Kino (Bolton 1984 [1936]) remain standard works on their subjects. Among the important monographs he authored at this time were *Spanish Exploration in the Southwest, 1542–1706* (1916); *Kino's Historical Memoir of Pimeria Alta*, Kino's original journals translated and annotated by Bolton (first published in 1919); and *The Rim of Christendom*, Bolton's biography of Kino (first published in 1936). In 1907, Bolton also discovered Captain Juan Manje's journals in a Mexican archive. The manuscripts were translated in 1933 and subsequently published in 1954 by Harry J. Karns.

Apart from the work of compiling sources and writing syntheses, Bolton's single most important contribution to the field was to shift the emphasis in Western history from a perception that the Spanish and Mexican presence was a minor hindrance to westward Anglo expansion to one in which the Spanish presence was viewed as fundamental in determining the subsequent character of the region (on Bolton's contributions and those of his many students, see Bannon 1964, 1978; Weber 1988a, 1991).

Histories of the state of Arizona as a whole naturally devoted considerable attention to southern Arizona, the portion of the state with the longest continuous historical-period occupation. An important synthesis of Arizona history published during this period is that of Farish (1915–1918).

### Historical Archaeology

As elsewhere in the United States, the archaeology of historical-period sites in southern Arizona got its start as a tool of historic preservation. In the early 1900s, a federal program to protect and preserve important ruins was established in response to national concern for the loss of major historical sites, and in 1908 the ruins of the Franciscan mission at San José de Tumacácori, on the west bank of the Santa Cruz River about 40 miles south of Tucson, was designated a national monument. By 1920, Tumacácori was the focus of excavations aimed at identifying and reconstructing features that would help to stabilize the crumbling church (Pinkley 1936). Limited excavations of a similar nature followed in the 1920s and 1930s before a major excavation in 1934 and 1935 by Paul Beaubien (Beaubien 1937).

Beaubien's purpose was to provide a detailed map of the mission by tracing wall lines through excavation. The results of his efforts, which included a detailed map of the 79-plus rooms of the complex, served as a guide to subsequent reconstruction and landscaping at the monument. Unfortunately, his original site records have been lost, and most of the artifacts he recovered were from contexts disturbed by the extensive looting that plagued the site prior to its designation as a monument.

In addition to this work, the modest ruins of the mission church at Guevavi, another Spanish mission located along the Santa Cruz River upstream from Tumacácori, were documented as part of a larger architectural study in 1917.

### Ethnography

Ethnographic research began around the turn of the twentieth century. It is important to understand that by the time professional anthropologists began to work among the Southwest's indigenous peoples, they had already influenced for almost four centuries by European customs, religion, cultivated plants and livestock, and diseases. Yet the first ethnographers seemed unaware or uninterested in the impacts of Euroamerican influences upon native peoples, rather than seeing these impacts as topics for study. For this reason, anthropologists and archaeologists are often cautioned to accept ethnographic descriptions with caution.

W. J. McGee led the first ethnographic research party into the Papaguería in 1894 for the BAE. He prepared a monograph on the Seri Indians and was among the first to note the great *trincheras* constructions of Sonora and Arizona. Frank Russell, a Harvard-trained anthropologist also working for the BAE, spent about a year researching the Akimel O'odham between 1901 and 1902, unfortunately a time when their culture and economy had begun to disintegrate from Euroamerican impacts. His ethnography (Russell 1975), originally published in 1908, remains the major source of ethnographic information about the Akimel O'odham.

Ruth Murray Underhill, a young student of pioneer anthropologist Franz Boas, conducted fieldwork among the Tohono O'odham (then called the Papago Indians) from 1931 to 1935 under the auspices of Columbia University. Her reports (e.g., Underhill 1939, 1946) remain basic ethnographic reference works. Important ethnobiological work among the Akimel O'odham and Tohono O'odham was carried out by Edward F. Castetter, a biologist with the University of New Mexico, and Willis H. Bell (Castetter and Bell 1942; Castetter and Underhill 1935).

### Natural Science

In 1903, the Desert Botanical Laboratory was established as a research facility of the Carnegie Institution of Washington. The Carnegie Institution supported an active research program in botanical sciences at the facility for more than three decades, funding a large number of prominent arid-lands botanists in research central to the development of the field in the early twentieth century (McGinnies 1981:5-14; Wilder 1967:185-194). The Desert Botanical Laboratory was the inspiration of two prominent American botanists, Frederick Coville, then curator of the U.S. National Herbarium, and Daniel MacDougal, then assistant director of the New York Botanical Garden. As the two members of the Carnegie Institution's Advisory Committee on Botany, Coville and MacDougal recommended that funding be provided for the establishment of a facility dedicated to the study of plants in arid environments. The facility would be constructed at a site somewhere in the western desert.

To select the site, Coville and MacDougal made a tour in early 1903 of various desert locations in west Texas, New Mexico, Arizona, California, and Sonora, finally settling on Tumamoc Hill, located a few miles west of what were then the limits of urban Tucson. The selection of Tumamoc Hill was based on a number of factors, but the principal ones were the wide variety of desert vegetation in the area, proximity to the University of Arizona and its agricultural school, the location of Tucson along the Southern Pacific Railroad (important for accessibility from academic institutions in the East), and, notably, a rich local history that included the prehistoric and modern indigenous practice of agriculture (Coville 1903:12-17). The same year, a large building was erected as a laboratory, and the facility's first resident investigator was appointed— William A. Cannon, a botanist and recent Ph.D. from Columbia University (Coville 1903:1-2; Wilder 1967:179-185).

Other important research in the natural sciences was undertaken by the U.S. Bureau of Biological Survey. Under the direction of C. Hart Merriam, the bureau conducted surveys in Mexico, Canada, and the United States. The objective was to understand the continent-wide biological system and to collect plants and animals throughout North America. Among those recruited for the survey was Charles Sheldon. His journals recording his expeditions in Cataract Canyon, home of the Havasupai Indians, in 1912, and to the Sierra Pinacate, far western Arizona, and Seri country in search of bighorn sheep between 1913 and 1922 have recently been published.

### **Expanding Southern Arizona History and Prehistory: Culture History and Culture Process 1937-1965**

This was a time of maturity for social science in southern Arizona. The early work of the preceding period produced the broad outlines of cultural development in southern Arizona, but the details, the nature of relationships among cultures, and the processes of culture change remained poorly understood. Gila Pueblo would continue to publish important works that outlined the broad history of regional cultural developments. Two other institutions, however, each with their own distinct research programs, would begin to investigate the more detailed issues of prehistory. These were the Amerind Foundation and the University of Arizona. And although history and historical archaeology may have lagged somewhat behind prehistoric archaeology, these disciplines also matured, expanded, and developed during this time.

We take 1937 as the benchmark year for beginning this second period in the history of southern Arizona social sciences research for three reasons. First, the year marked Emil W. Haury's assumption of the headship of the Department of Anthropology at the University of Arizona. With its new name and new head, and the establishment of a coherent and comprehensive program of social research in the Papaguería under Haury's direction, the Department of Anthropology would become the Southwest's premier research institution. No longer was it archaeology alone that was pursued. Instead, archaeologists mixed with ethnographers, physical anthropologists, and natural scientists to investigate the 12,000-year human history of the desert west of Tucson.

Second, this was the year in which Gila Pueblo's remarkable report on its excavations at Snaketown was published. The Snaketown report was a monumental synthesis of what was at that time the only excavated Hohokam site in southern Arizona, and it would influence archaeological perceptions of the Hohokam for nearly half a century. This "one site, one culture" view of the Hohokam profoundly affected our understanding of Hohokam history, particularly in presenting the notion of a central core from which Hohokam culture spread to peripheral regions. Whereas archaeologists working in the Anasazi regions defined this culture in terms of several different branches, Hohokam culture was viewed as uniform. Laboring under the heavy weight of the Colorado Plateau-Pueblo culture bias, many archaeologists also refused to accept the Hohokam as a legitimate culture in its own right. A legendary, probably apocryphal, story has it that one scholar dismissed the culture as a "bunch of hokum." Much of Haury's research at the University of Arizona was directed toward dispelling this idea and establishing the legitimacy of the Hohokam.

And third, 1937 was the year that the Amerind Foundation in Dragoon, Arizona, was incorporated. The Amerind Foundation would pursue history and prehistory in southeastern Arizona under the direction of the energetic and iconoclastic Charles C. Di Peso, who would join the Amerind Foundation in 1948. From the Amerind Foundation investigations emerged several concepts that would profoundly change our understanding of southeastern Arizona prehistory, including notions of the "O'otam culture" and the relationship between Hohokam and O'otam, the Sobápurí culture, and distinctive ideas concerning the development of the

Salado culture (Whittlesey et al. 1994:27). The Amerind Foundation remains a vital force in southern Arizona archaeology and prehistory today.

### Prehistoric Archaeology

Historians of southwestern archaeology have often observed that the years between 1930 and 1965 were decades of merely "filling in the gaps," attempting to find out about relatively unknown regions of the Southwest and place them into broad culture-historical sequences. This is not strictly true. Although concerned with culture history, the archaeologists working in southern Arizona during this time were equally concerned with processes of change. We see this highlighted in the regional research programs of the Amerind Foundation and the University of Arizona.

### University of Arizona and the Arizona State Museum

Emil W. Haury was appointed as head of the Department of Archaeology at the University of Arizona in 1937 and director of ASM in 1938, replacing Byron Cummings who had retired. Haury dramatically altered the direction of anthropological research in southern Arizona. As head of both institutions, he was able to foster a spirit of cooperation, employ graduate students in museum projects, and create an overarching research framework to direct work. Haury instituted the archaeological site survey, emphasizing preservation and systematic recording (Brace and Parezo 1984:27). He began a program of highway salvage archaeology under the direction of William W. Wasley. Most important, he instituted a program of directed anthropological research. In 1938, Haury established the Papaguería project to provide a focus for long-term, intensive, and multidisciplinary studies. From this project came important descriptions of Tohono O'odham culture, ceramics, and physical anthropology as well as archaeological research.

Haury was particularly interested in filling in the blank period between A.D. 1400 and 1700 and in understanding the relationship between the modern and ancient inhabitants of the Papaguería. The objective, Haury wrote (1950:18), was "to connect, if possible, the Papago Indians with the inhabitants of the ruins known to exist in their territory." Using the direct historical approach, Haury decided to investigate Batki, a Tohono O'odham village near Sells that was visited by Padre Kino in 1698. Excavations began in 1941, but were almost immediately halted because of O'odham concerns.

Haury selected an alternative locale, but while en route to inspect the site, a cave was noted. The discovery of Ventana Cave was "an answer to a prayer" (Haury 1950:21) and proved to be an immeasurably important, lucky accident. The cave produced a series of stratigraphic deposits spanning the Paleoindian through the historical periods. The excavations, which were directed by Julian Hayden, documented continuity between the Archaic and Hohokam cultures, suggesting that the Hohokam developed from an indigenous Archaic base and supporting the antiquity of the Hohokam culture. (Haury would later modify his position to accept the possibility that the Hohokam were migrants from Mexico.)

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As one of the initial research projects to study a "peripheral" Hohokam region, Ventana Cave was also among the first to challenge the uniformity of Hohokam culture. Recognizing the variability revealed at Ventana Cave, Haury proposed a division of the Hohokam culture into two groups. The People of the River Branch occupied the river valleys of southern Arizona, whereas the Desert Branch people lived in the nonriverine, desert areas of the Papaguería and were limited by the harsher environment to a "lower level of cultural attainment than the River Hohokam" (Haury 1950:537). Haury's dichotomy was essentially based on many of the same traits that Di Peso would use in contrasting his Hohokam and O'otam cultures. Although the dichotomy has come under scrutiny (e.g., Masse 1980), it remains a useful, environmentally based explanation for variability in Hohokam culture.

Other research supported by this project included excavations at Valshni Village (not published until much later [Withers 1973]) and Jackrabbit Ruin (Scantling 1940), which described variability in prehistoric cultures and developed a chronology for the region; survey and recording of historical-period mines and other sites in the Papaguería; a physical anthropology study by Norman Gabel; and studies in linguistics and ethnography (Haury 1950:2).

In 1941, the university gave Haury some time off to revise his dissertation, written in 1934 as a Ph.D. candidate at Harvard University, and in 1945, the dissertation was published. The monograph was the report of excavations at Los Muertos on the Salt River, conducted by the Hemenway Expedition under Frank Hamilton Cushing's direction in 1887-1888. Haury described several Classic and pre-Classic period sites, including Los Muertos, Las Acequias, and Pueblo del Patricio. He presented descriptions of pottery and other material culture.

The report was most significant for Haury's treatment of the Salado invasion hypothesis first articulated by Gladwin. The Salado were thought to be a people ethnically separable from the Hohokam who had emerged from a combined Mogollon-Anasazi background in the area below the Mogollon Rim (Haury 1945:205). They advanced deeply into Hohokam territory, building villages at Los Muertos and other locales. Apparently, Haury believed that the contact between Hohokam and Salado was more or less amicable. The Salado invasion hypothesis would hold sway in southern Arizona archaeology for many years.

Salado notions melded with Haury's Papaguería project well, providing an opportunity to investigate the nature of Salado-Hohokam interaction in the area. Haury noted in a footnote to the Los Muertos report (Haury 1945:209) that "Many of the fortified hills of Papaguería date from about the time of the Salado thrust and it is quite possible that they were built as a protective measure against the Salado."

The Great Depression did not leave professional archaeology untouched, but its effects were more or less positive. The Civilian Conservation Corps (CCC) employed many unskilled and out-of-work men in excavating and reconstructing what came to be Arizona's national monuments representing prehistoric ruins. University Indian Ruin was one CCC project that never achieved such status. This large, late Classic period Hohokam site with a platform mound is located in the eastern Tucson Basin. The site and surrounding land are owned by the

University of Arizona and administered by the Department of Anthropology, hence the name. Beginning in 1940, Julian Hayden supervised excavations by CCC workers at the site. The project was funded by the National Park Service (NPS) and published in 1957 through the Southwestern Monuments Association, NPS's local publications arm (Hayden 1957). University Indian Ruin was notable for its post-reinforced, adobe-wall construction, compound walls, and massive platform mound with adobe piers or support columns. Painted pottery suggests that it was built sometime after A.D. 1300. The detailed excavation report seems dated by today's standards, but remains one of the few intensive investigations of a platform mound, particularly one dating to the Tucson phase.

An important contribution of the Department of Anthropology was the publication of Isabel Kelly's investigations at the Hodges Ruin, sponsored by Gila Pueblo (see below). Gila Pueblo had abandoned the work at Hodges, and Kelley moved on to research elsewhere. According to Hartmann (1978:vii), "Dr. Kelly's appointment with Gila Pueblo expired before she could complete her report and late in 1938 she turned to other research." Kelley's manuscript had languished, first at Gila Pueblo and then at ASM after Gila Pueblo had been dissolved. In 1955, Haury asked James E. Officer, then a graduate student at the University of Arizona, if he would undertake to complete and publish Kelly's manuscript. Officer analyzed mortuary practices and several classes of material culture, but the project also was never completed. Largely because of the support of AAHS, the Kelly-Officer manuscripts were compiled and edited by Gayle Hartmann and would finally be published in 1978 (Kelly et al. 1978).

Possibly because of the years that had elapsed between fieldwork and publication, possibly for other reasons, many of Kelly's original inferences about the Tucson Basin Hohokam at Hodges Ruin have largely been forgotten or ignored. For example, Kelly stressed the influence of the Mogollon on the Tucson Basin Hohokam, particularly on ceramics. "Tucson pottery appears to be intermediate between Hohokam red-on-buff and Mogollon red-on-brown," she wrote (Kelly et al. 1978:3). This combination of characteristics was underplayed in subsequent descriptions of Tucson Basin pottery (e.g., Wallace 1986) in favor of strong Gila Basin Hohokam parallels.

Students at the Department of Anthropology carried out research projects that took them into the margins of the Tucson Basin and further afield. Understanding of the Trincheras culture was augmented with excavations by Alfred Johnson at La Playa, a huge, multicomponent Archaic-Formative site located not far from the Las Trincheras site in Sonora. This remained the only reported excavation of a Trincheras site in Sonora until recently. Johnson (1960b:197) concluded that, although there were "interesting parallels with the Mogollon culture," there was a closer relationship between Trincheras and Hohokam. Johnson also suggested a western Mexican origin for the Trincheras culture. Paul S. Frick undertook a survey of the Santa Cruz Valley south of Tucson, which until recently was one of the only studies of the area (Frick 1954). Haury, with his own strong publication record, was instrumental in creating outlets for professional publications. In 1959, he established the *Anthropological Papers of the University of Arizona* series. This monograph series has largely been dedicated to local and regional southwestern archaeology, history, and ethnography.

### Gila Pueblo Archaeological Foundation

Gila Pueblo continued to publish their research establishing the broad outlines of southern Arizona prehistory even as other institutions turned to investigate more specific topics. In 1941, Sayles and geologist Ernst Antevs produced a report of their work at preceramic sites in southeastern Arizona. This report defining the Cochise culture (Sayles and Antevs 1941) would stand as the model of the Archaic culture of southern Arizona for many decades. Sayles and Antevs identified three stages of development they called Sulphur Spring, Chiricahua, and San Pedro Cochise. Later research would relabel these as Early, Middle, and Late Archaic. Predating the appearance of ceramic containers, the Cochise culture was a hunting-and-gathering complex that followed the big-game-hunting Clovis culture in southeastern Arizona around 8,500 years ago.

Haury had excavated two sites in western New Mexico for Gila Pueblo in the 1930s and produced a definitive and controversial monograph on the Mogollon culture (Haury 1936). In 1939 and 1940, Sayles returned to southeastern Arizona to investigate two sites in the San Simon valley. As Gladwin (1945:iv) told it, the impetus for this work was to find the source of the well-made, polished red pottery of the early Pioneer period Vahki phase at Snaketown that also occurred in the early Mogollon ceramic assemblages of New Mexico. Sayles's report (1945) described a culture whose material expression differed little from that discussed by Haury (1936).

Although Gila Pueblo declined to call it Mogollon, preferring the less controversial label "San Simon Branch," there was little doubt that the culture described by Sayles was Mogollon. Sayles's work was the first to describe what would later be labeled as Early Formative period or Plain Ware and Red Ware horizon sites and to establish continuity between the Cochise and San Simon cultures.

Gila Pueblo also turned its attention to Hohokam sites in the Tucson area. Among these was the Hodges Ruin, a large, multicomponent village located near the confluence of the Rillito and Santa Cruz Rivers. Carl Miller had begun excavations at the Hodges Ruin in 1936, with the assistance and financial support of Mr. and Mrs. Wetmore Hodges, who purchased land on which the site was located. Digging continued during 1937 and 1938 under the auspices of Gila Pueblo.

Gila Pueblo's influence on Tucson Basin archaeology, particularly Gladwin's structuring of Isabel Kelly's archaeological and ceramic research at Hodges, was immeasurably important. Kelly applied stratigraphic and excavation methods used at Snaketown directly to Hodges, and organized the ceramic taxonomy parallel to the one Gila Pueblo had employed for Hohokam Buff Ware at Snaketown. Perhaps most significant, however, was the fact that the Hodges report was not published until 1978, so that Kelly's methods, ceramic systematics, and conclusions could not be adequately evaluated.

### The Amerind Foundation

The Amerind Foundation was incorporated by William Shirley Fulton and Rose Hayden Fulton in 1937. It was the last of the three major private archaeological institutions to impact southwestern archaeology, but with possibly the strongest impact upon southeastern Arizona research. Like Harold Gladwin, William Shirley Fulton was not a professional archaeologist but a businessman, who became entranced by the romance of archaeology while operating a copper mine in the Verde Valley. He decided to retire in order to pursue that archaeological dream (Di Peso 1967). The Amerind Foundation was established at the unlikely outpost of Dripping Springs, Arizona, near the spectacular boulder-strewn Texas Canyon. The aims of the Amerind Foundation as expressed in its charter were "to increase the world's knowledge of ancient man by excavation and collection, by study and analysis, and to display and publish the resultant artifacts and data for public enlightenment" (Di Peso 1967).

The Fultons began constructing the museum and laboratory buildings on their ranch in Texas Canyon. They had begun to investigate archaeological sites there in 1933. Fulton (1934) introduced the term "Dripping Springs" to refer to the culture and pottery uncovered in Texas Canyon. Fulton hired Carr Tuthill, a University of Arizona student, to supervise excavations. Work began on the Gleason site, establishing the research problem that would occupy the Amerind Foundation for many years—who were the people of southeastern Arizona? (Di Peso 1981:47).

This question was part of a larger controversy then raging in the wake of Haury's 1936 publication on the Mogollon culture (Fenner 1977:318). Was the Mogollon culture a legitimate entity, or simply a variant of Anasazi? Were the inhabitants of southeastern Arizona to be considered Mogollon, Hohokam, or something else? Gila Pueblo had said that the cultures of southeastern Arizona, the Tucson Basin, and the earliest occupations of the Gila River valley were Mogollon; Fulton would state that the culture of southeastern Arizona was "basically Hohokam with little Mogollon influence" (Fulton 1940:63; Tuthill 1947:83). Charles C. Di Peso would provide yet a third opinion—southeastern Arizona was occupied by a distinct, local, indigenous people that he would label O'tam.

In 1948, Fulton hired Charles C. Di Peso, who was then a graduate student at the University of Arizona, to replace Tuthill, who had left Amerind to take a position at the San Diego Museum of Man (Whittlesey et al. 1994:27). As director of the Amerind Foundation, Di Peso was to change the direction of its research in profound ways. Di Peso developed a model he called "archaeohistory," which combined archaeological, ethnographic, and historical data to decipher prehistory (Bronitsky and Merritt 1986:52; Di Peso 1981:48; Fenner 1977:324). Di Peso used this approach in the excavations he undertook for the Amerind Foundation along the Santa Cruz and San Pedro Rivers and in Chihuahua (Di Peso 1953, 1956; Di Peso et al. 1974). One problem with the Amerind Foundation's work, particularly Fulton and Tuthill's early studies at the Gleason, Tres Alamos, and Texas Canyon sites, was that their ceramic classification system was developed in isolation, independently of the scheme framed by Gila Pueblo, and different criteria were used.

The definitive Hohokam ceramic typology published in the Snaketown report (Haury 1937) did not appear until after the initial excavations at Texas Canyon; although excavations began at the Hodges Ruin in the Tucson Basin in the 1930s, Isabel Kelly's report with its description of the Tucson Basin ceramic types would not appear until 1978, and the precise, biologically based ceramic taxonomy of the MNA had not been applied to ceramics of central and southern Arizona. Tuthill (1947:83-84) believed that the highly similar ceramic sequences of the San Simon Valley and Dragoon areas were distinctive because they were geographically separated. The existence of essentially independent and contradictory research is one factor that has led to much of the confusion we now experience in attempting to describe and compare culture-historical sequences of southeastern Arizona.

Di Peso's research program began with the Babocomari site along the Babocomari River near its juncture with the San Pedro River. Comparing the material culture inventories of Babocomari and other sites led Di Peso (1951:231-233, 238) to conclude that the culture was not Salado, but was rather peripheral Hohokam influenced by contacts with Chihuahuan culture. Amerind then decided to excavate a site that would bridge the gap between prehistory and history, choosing the Spanish Colonial presidio Santa Cruz de Terrenate near modern Fairbank, which Di Peso believed to be the Sobaipuri site of Quiburi. Di Peso concluded at the end of this research that the indigenous culture of the San Pedro River valley was a local development out of an Archaic (Cochise culture) base, with influences from Hohokam and Mogollon. After A.D. 1300, these local people came into contact with a so-called puebloan group—either Sinagua, Sinagua, or both—and took on the traits that came to be recognized as Sobaipuri (Di Peso 1953:265).

Next, Di Peso turned to the Santa Cruz drainage to excavate the Paloparado ruin, which he interpreted as the site of the *visita* San Cayetano del Tumacácori established by Padre Kino. From this study, Di Peso developed the concept of the O'otam culture for the indigenous, prehistoric inhabitants of southern Arizona. O'otam, meaning "the people," is an O'odham word for their own culture (for example, "Tohono O'odham" means "desert people"). The O'otam culture was a mixture of traits from many different cultures, ranging from Hohokam to Anasazi. Di Peso (1958:12; Fenner 1977:324) labeled the San Simon Valley culture, the Dragoon culture, and the culture of the people living in the desert regions of Arizona far from the rivers as O'otam. By contrast, the Hohokam—by which Di Peso meant primarily the large villages along the Gila River in the Phoenix area—were a migrant, nonlocal Mexican people who moved into southern Arizona, bringing new lifeways and material traits. When they were forced to leave southern Arizona, the O'otam "reasserted" themselves, bringing about the Classic period (Di Peso 1956). Few scholars concur with Di Peso's interpretations of the Paloparado site, however (see discussion in Whittlesey et al. [1994:241-242]).

The Amerind also extended survey into Sonora in an attempt to trace connections with the Paloparado site, where they had found Trincheras pottery (Hinton 1955). Hinton documented village sites with Trincheras purple-painted pottery and *cerros de trincheras* as well as Spanish mission sites. The Amerind Foundation's historical-period investigations are discussed in a following section.

### New Light on the Western Desert

Malcolm Rogers had been virtually the only researcher to investigate the cultures of the Papaguería up to the 1930s. In 1939, he published the report of his survey work in California and Arizona that focused on the early, stone-tool-making cultures that preceded the ceramic cultures of the area. In 1945, he left the San Diego Museum of Man to work as an independent scholar. This was also the year when he published an outline of Yuman prehistory, which provided all that was known for many years about Patayan (Yuman) ceramics and cultures.

The story of Rogers's leaving the San Diego Museum of Man is a sad episode in southwestern archaeology. As Julian Hayden told the story (Reid and Whittlesey 1997:120), Rogers returned to the museum after World War II, during which it had been converted into a wartime hospital, to find his field notes and draft reports missing and his pottery collections completely scrambled. Among the manuscripts lost were his synthesis of culture history and his final report on Patayan ceramics. Albert Schroeder subsequently stepped in and tried to make sense of the ceramics, apparently unaware that the collections had been mixed and their provenience lost, making them essentially useless. The classification of Patayan ceramics remained for many years hopelessly confused because of this situation. As Reid and Whittlesey (1997:118) wrote, "We can only speculate how different the record of Patayan prehistory would be if Rogers had been able to publish his syntheses." His 1945 report on Yuman prehistory remains a classic study of the western desert cultures.

In the 1950s, work intensified along the lower Colorado and Gila Rivers in response to management concerns. Working for the NPS, Albert Schroeder carried out surveys of the lower Colorado River in 1952 and Painted Rock Reservoir in 1957. In the report of the latter work, Schroeder (1961) attempted the first scholarly inferences about the Gila Bend region (McGuire 1982b:447-448). Schroeder developed his own scheme for the definition and description of the local pottery, labeled Lower Colorado Buff Ware. This classificatory system was completely different from the one that Rogers had developed, however. An ethnohistorical study was also carried out for this project (Ezell 1963). Ezell attempted to identify the Maricopa from various documentary sources, seeking to determine when these people moved up the Gila River from their original homes along the lower Colorado River.

Paul Ezell, who was a U.S. Border patrolman turned anthropologist, surveyed in scattered locations throughout the Papaguería in 1947 and more intensively in Organ Pipe National Monument in 1951 and 1952. His survey of northwestern Papaguería was a cooperative project between the NPS and ASM. His research objectives were determining how people were able to make a living in the inhospitable desert environment and identifying the cultural affiliation of the people who lived there (Ezell 1954, 1955). Another survey of the lower Gila River was undertaken by R. Gwinn Vivian for NPS in 1964. In this work, Vivian (1965) was among the first to suggest that people living along the river were linked to settlements in the interior desert region. He also presented useful ethnohistorical information concerning Hia-Ced O'odham, Yuman, and Yavapai settlements.

Julian Hayden began his independent research in the Sierra Pinacate during this time. It was Paul Ezell who introduced Hayden to the Pinacates in 1956 (Fontana 1998). Hayden began surveying in the Sierra Pinacate in 1958 and eventually made more than 150 trips. He believed that humans had occupied the region far earlier than most archaeologists thought, perhaps as long as 70,000 years ago. Hayden developed a culture history for the inhabitants of the region, whom he called Amargosans, and he believed that today's O'odham inhabitants are descendants of the ancient Amargosans. These controversial notions are among those discussed in the recent, posthumous publication *The Sierra Pinacate* (Hayden 1998). Julian Hayden died on March 6, 1998, at the age of 87 (see *Kiva*, Vol. 64, No. 2, a special issue devoted to Hayden).

Among the intrepid explorers of the western deserts was geographer Ronald Ives, who worked closely with Malcolm Rogers and Julian Hayden. In addition to reporting on *trincheras* sites, Ives attempted to estimate the early-historical-period population of the Sierra Pinacate in 1965.

#### Beginning the Transition to Contract Archaeology

The character of research in southern Arizona began to change subtly after the Ventana Cave report was published in 1950. Federal monies began to be available for salvage work through the Interagency Salvage Program of the NPS, and the legal framework was provided by the Reservoir Salvage Act of 1960 (King et al. 1977).

Among early, federally sponsored projects was Ezell's survey of the northwestern Papaguería discussed above. The Arizona Highway Salvage program was an outgrowth of the national salvage movement of the 1950s (Wasley 1957). Begun in 1955, it operated out of ASM until 1981, when it was moved to the Arizona Department of Transportation (ADOT) (McGuire 1982a:127). More than 2,000 linear miles of right-of-way were surveyed and hundreds of sites recorded, although only a relatively small number were excavated. Many of the reports were published as short articles in *The Kiva* and some, unfortunately, never saw print.

Important work was conducted by ASM for the U.S. Army Corps of Engineers under the mandate of the Reservoir Salvage Act. Linear surveys were carried out in the lower Gila region, and survey and excavations were conducted at Painted Rock Reservoir. The directors of this work, William Wasley and Alfred Johnson, produced a report detailing the Gila Bend region as a distinctive variant of Hohokam culture (Wasley and Johnson 1965). The Fortified Hill Site near Gila Bend, one of the first *trincheras* sites to be investigated, was excavated with NPS funding in 1964. The report was not published until 1976 (Greenleaf 1976).

## History and Historical Archaeology

### History

The interest in Spanish Colonial period historical research begun by Bancroft and Bolton continued during this period. Bolton had a prominent successor in Spanish borderlands history in John Francis Bannon, who dominated the field from the 1950s into the 1970s. Like Bolton before him, Bannon emphasized the Spanish role in the history of the region, partly as a foil to the continuing Anglocentrism of mainstream American history. Also like Bolton, Bannon wrote important syntheses of borderlands history (e.g., Bannon 1955, 1970), trained many doctoral students in the field, and otherwise avidly promoted professional study of the region.

The one shortcoming of Bannon's work, also in common with the work of Bolton, was a kind of overcorrection inherent in its sometimes romanticized Hispanic emphasis. Bannon and Bolton, and many students of both, brought Spanish involvement in the history of the region to the fore, and in so doing became largely unintentional apologists for Spanish misdeeds. Subsequent historical work on the Spanish borderlands, including important work on southern Arizona, has helped to provide a more balanced view of the Spanish presence in the region, a view that does not neglect, for example, the Spanish role in the devastating decline of native populations (Weber 1988b).

Several publications produced during this period contained valuable data about native lifeways and continue to serve as important sources of information for archaeologists and ethnographers as well as historians. These include Karns's publication of Manje's journals (1954) and Treutlein's (1989) description of Sonora by Father Ignaz Pfefferkorn, first published in 1949. In 1955, Dunne published a biography of Jacobo Sedelmayr, a German Jesuit priest who served at the Mission in Tubutama, Sonora in the 1700s. The *Rudo Ensayo*, an account of life in southern Arizona by the priest Juan Nentwig, a Jesuit contemporary of Father Sedelmayr, was first published in 1951. Ernest J. Burrus published several works concerning Kino and his correspondence in the 1950s and 1960s. Dobyns (1959) was responsible for an enormous unpublished compilation of sources and writings on the presidio at Tubac, the center of Hispanic settlement in the region during two decades of the eighteenth century. Another synthesis of Arizona history was produced by Lamar (1966).

### Historical Archaeology

Historical archaeology was carried out by the Amerind Foundation and the University of Arizona during this period. Much of the historical archaeology carried out in Tucson and its vicinity conforms to a pattern established by many of the studies during this era. It has often been done in association with construction projects, and it has usually been done by archaeologists trained first as prehistorians, not historical archaeologists, whose primary interest was in tracing connections among historical period and prehistoric peoples. The Amerind Foundation investigations were unique in that they were the product of an ongoing research effort by a private institution, not carried out as salvage work. And although the

Amerind's research involved sites that were not located in Pima County, like Gila Pueblo's excavations at Snaketown, this work has profoundly influenced our understanding of Pima County prehistory.

Although Di Peso's first investigations were at a prehistoric site, Babocomari Village, the work left Di Peso uncertain as to the age and affiliation of its inhabitants. Peach pits and bones tentatively identified as bison or cow suggested that the site may have been occupied during the historical-contact period (Di Peso 1951:7, 1956:1-2). Di Peso therefore turned to a site in the San Pedro River valley that he believed to be the historic Sobaipuri settlement of Quiburi, where the Spanish built the presidio of Santa Cruz de Terrenate in the late 1700s. The presidio was occupied for only four years and was subject to constant and fierce Apache raids during this time. Di Peso excavated portions of the presidio, church, and gatehouse as well as number of rooms he considered to be native dwellings. He recognized two phases representing native culture that were stratigraphically superimposed. Di Peso also excavated a site he believed to be a Sobaipuri village visited by Kino and Manje in 1697.

Few archaeologists agree with Di Peso's interpretations. Terrenate probably was not the location of the Sobaipuri *ranchería* of Quiburi. The structures he interpreted as Sobaipuri houses apparently were actually temporary quarters built and occupied by the Spanish soldiers while the permanent presidio quarters were being built (Gerald 1968; Seymour 1989; Williams 1986a). Although this scenario is more probable than the one Di Peso presented, it nevertheless leaves many questions unanswered. The two phases representing native dwellings are different architecturally and in material culture, and both sets of houses burned. The temporary quarters must have been burned and razed twice and subsequently rebuilt prior to the erection of the permanent buildings. This is not impossible, but the Spanish occupation of the presidio lasted only between 1776 and 1780 (Williams 1986a). More research is necessary.

Di Peso's investigations at Terrenate recovered a valuable and substantial collection of Spanish Colonial-period artifacts, ceramics of possible Native American manufacture (although there is even some question about this—Whittlesey [1994] thinks that the beleaguered soldiers may actually have made some of the pots), and many details about presidio construction and lifeways of the soldiers. The excavations at the undisputed Sobaipuri site, now believed to represent the Sobaipuri *ranchería* of Santa Cruz de Gaybanipitea (Masse 1981; Seymour 1989), provided the only existing excavated material from such a site in the San Pedro drainage and are therefore extremely important. These artifacts are used as a benchmark to describe Sobaipuri material culture (e.g., Masse 1981).

Next, Di Peso excavated between 1953 and 1954 at the Paloparado Ruin, which he interpreted as the location of the Jesuit *visita* of San Cayetano del Tumacácori, a substantial O'odham village. The site has a complex occupational history. Di Peso identified two prehistoric occupations that he assigned to the Hohokam and the O'otam. Houses assigned to the latter occupation burned, and Di Peso (1956:63) attributed this catastrophe to the Pima Revolt of 1751. As with Quiburi-Terrenate, few archaeologists concur with Di Peso's

interpretations (Bronitsky and Merritt 1986:248–249; Doyel 1977b:135; Fritz 1977:19; Wilcox 1987b). There are ambiguities in the documentary record concerning the location of San Cayetano. The historical-period architecture is probably much later than the late 1700s, and there is some confusion about the artifact provenience and identifications. Some pottery may have been misidentified, for example, and the association of Spanish material culture with prehistoric inhumations has been disputed. The Paloparado Ruin was evidently not what Di Peso thought, but instead was a Classic period Hohokam village.

Within the city of Tucson, the first professional recognition that the archaeology of nonindigenous peoples was not only possible, but could contribute significantly to the history of the region (Barnes 1984:213), came in 1954, when Emil Haury and Ned Danson excavated a small area near the presumed northeastern corner of the Presidio San Agustín de Tucson (Chambers 1955; Olson 1985). The project was prompted by the demolition of a building to make way for a parking lot. In addition to apparent remnants of the presidio wall, Haury and Danson documented the remains of an American period house that stood on the site, and below the level of the presidio, a Hohokam pit house. To the credit of Haury the prehistorian, he recognized the importance of the presidio find and presented it with as much enthusiasm as the pit house (Haury and Fathauer 1974).

Fort Lowell, the single U.S.-period fort within Pima County, saw limited archaeological work 40 years ago (Johnson 1960a) but has yet to see an in-depth study. Another early project was carried out during the salvage investigations at Painted Rock Reservoir. Excavations were conducted at the Gila Bend Stage Station (Berge 1968). Although outside of Pima County, this work was important in concentrating on a transportation-related site and was one of the first historical-period investigations to be carried out in southern Arizona. At about the same time, investigations at the historic Punta de Agua Ranch south of Tucson were carried out by James Sciscenti as part of ASM's Highway Salvage Program.

As early as 1918, restoration and excavation efforts had begun at Tumacacori National Monument south of Tucson. Three other nearby Spanish Colonial-period sites—Guevavi, Calabazas, and Tubac, each associated with different parts of Tumacacori's history—did not see professional archaeological work until much later, when stabilization and interpretation were again the motives. No other historical-period site in southern Arizona has received the sustained attention paid to Tumacacori, although Tumacacori itself still awaits a comprehensive archaeological study (for summary comments on Spanish Colonial-period archaeology in southern Arizona as a whole, see Majewski and Ayres [1997]).

NPS undertook a series of excavations between 1955 and 1971 for restoration and stabilization and to develop interpretive exhibits. The stabilization and reconstruction efforts also resulted in the identification of the earlier Jesuit mission there. The project lacked anthropological research direction and, according to Fratt (1986:54), the reports were incomplete (see Shenk [1976] for a summary of work at Tumacacori, much of it unpublished).

The Sobáipuri *ranchería* of Guevavi was located six leagues south of San Cayetano, according to Di Peso (1956:44), but Kino's maps are contradictory concerning its location. Kessell (1970:143–144) argues that the name and patronage of San Cayetano, formerly associated with the village of Tumacácori on the east bank of the Santa Cruz River, was transferred to Calabazas, which was a *visita* (dependent mission settlement) of Mission Guevavi by 1756 (Fontana 1971:69). Haury recorded the mission at Guevavi as an archaeological site in 1937, but Guevavi was not formally excavated until 1964 (Robinson 1976). As Robinson described it, Haury's 1958 seminar was the impetus for undertaking investigations at Mission Guevavi. The studies by Fontana et al. (1962) and by Robinson (1963) at Mission San Xavier del Bac having proved less than satisfactory, the anthropologists turned to Guevavi to resolve the weaknesses of previous work (Robinson 1976:136). The report was published in 1976 in *The Kiva*. Members of AAHS and volunteers from the Department of Anthropology excavated at Guevavi in 1964–1965 and 1965–1966. Nine rooms in the living quarters and some outlying structures were excavated. Unfortunately, "For the third time, the research effort failed to shed much light on the problems of immediate pre-Spanish cultural patterns" (Robinson 1976:137). The archaeologists were unable to identify the Sobáipuri *ranchería*, which apparently was located elsewhere, and no architectural remains of the Jesuit-era mission were found.

Mission San Xavier del Bac, the best preserved Spanish Colonial period site in Pima County, has been subject to surprisingly little archaeological work. The University of Arizona Department of Anthropology worked there in the late 1950s (the second unsatisfying project to which Robinson [1976] alluded). The first excavations began in 1958 (Robinson 1963) and continued casually until 1963. A group of University of Arizona students led by Bernard Fontana and William Robinson dug in two areas near the extant mission church (Robinson 1963). The results were similar to those later obtained for Mission Guevavi; little evidence for O'odham occupation and no evidence for the Jesuit-era mission was found (Robinson 1976:136; Whittlesey et al. 1994:344). Moreover, the deposits were badly disturbed. The most important find was an architectural complex initially thought to be a series of workshops associated with construction of the 1797 church.

A more satisfying project was carried out between 1959 and 1960 by AAHS members, who excavated the ruins of a Euroamerican ranch house dating between 1859 and 1903 and eventually home to Mexican- and Chinese-Americans. Although located just south of Pima County in Santa Cruz County near Patagonia, this project was important for several reasons. Johnny Ward's Ranch was one of the first intensive historical archaeological projects undertaken in southern Arizona. It was also the first to be excavated under permit according to the Arizona Antiquities Act of 1960 (Fontana and Greenleaf 1962:5). The use of volunteer labor by avocational archaeologists and the style of the report, directed toward nonprofessional audiences, make this project all the more remarkable. The project was supervised by Bernard L. Fontana, then ethnologist at ASM, and the excavations were directed by J. Cameron Greenleaf, a graduate student in the Department of Anthropology. Although the report (Fontana and Greenleaf 1962) is highly descriptive and lacking in theoretical focus, it remains a landmark in southern Arizona historical archaeology.

### Ethnography

The investigations of Tohono O'odham (then called Papago) culture by Haury's Papaguería project included, as we have seen, physical anthropology and ethnography. Perhaps inspired by this project, students in Haury's graduate seminar at the University of Arizona in 1958 developed an idea for documenting Tohono O'odham pottery. The resulting monograph (Fontana et al. 1962) described this indigenous ceramic tradition just before it succumbed almost completely to commercial development and modern container technology. It is, therefore, a most significant study for archaeologists as well as anthropologists. This fascinating material-culture ethnography presented pottery-making techniques, described the containers and their functions, discussed pottery design, and presented what was known of the history of Tohono O'odham ceramics. An important development at the University of Arizona was the establishment of the Bureau of Ethnic Research, directed by William H. Kelly and under the general supervision of Emil Haury, in 1952 (Kelly 1952). This research center was founded with three goals, including meeting the needs of Native American and non-Indian administration, public education, and training students in ethnology and applied anthropology. Early research focused on the Tohono O'odham. Interdisciplinary studies for a land claims case yielded several dissertations as well as published syntheses (e.g., Hackenberg 1974). Now renamed, the Bureau of Applied Research in Anthropology continues in operation in the Department of Anthropology today, although its research interests have expanded far beyond the Papaguería on national and international levels.

### Natural Science

In 1937, following financial difficulties, the Carnegie Institution ceased funding research at the Desert Botanical Laboratory and closed the facility, which was soon offered to the University of Arizona for the price of one dollar. The university declined the offer, and the facility was instead bought by the U.S. Forest Service for the same price. Tumamoc Hill was a Forest Service property for the next 20 years, serving as part of the Southwestern Forest and Range Experiment Station. The facility again hosted plant-related research, although much of the fieldwork took place away from Tumamoc Hill, often in locations in the Coronado National Forest. In 1960, the facility was finally bought by the University of Arizona—for a more sizeable sum than its original one-dollar price—and became the home of the University's multidisciplinary program in geochronology. Paul S. Martin, a young palynologist from Michigan, was hired to broaden the scope of research to include the history of desert environments (Betancourt 1996). He went on to make major contributions to the study of past environments and ecology. Since that time, the Tumamoc Hill Desert Laboratory has come to focus primarily on paleoecological studies of the greater Southwest and has hosted researchers in a variety of disciplines, including palynologists, paleobotanists, paleontologists, and a variety of specialists in the geosciences (Elkins et al. 1982:1–2; McGinnies 1981:15–16; Wilder 1967:194–199). Because of its importance as an early research facility and its generally well-preserved architecture, the Desert Laboratory was designated a National Historic Landmark in 1965.

### **Revolutions And New Paradigms: Anthropological and Historical Research 1965-1990**

This was an era of dramatic change in archaeology and historical archaeology, but less so for history and ethnography. Legislation was passed in the 1960s that profoundly altered the funding and the institutional basis of Arizona archaeology, as it did in the nation as a whole. Although the framework for historic preservation legislation had been in place since passage of the Reservoir Salvage Act, it was the National Historic Preservation Act of 1966 that transformed the face of American archaeology. It established, among other actions, the National Register of Historic Places (NRHP) and the requirement for federal agencies to consult before undertaking action that would adversely affect an NRHP property. In 1969, Congress enacted the National Environmental Policy Act (NEPA). NEPA required archaeological consultation to take place before an undertaking began, rather than afterward as hurried salvage work. These two laws forever changed the practice of archaeology in the United States.

Subsequent legislation provided the basis for modern contract archaeology. Among the most important were Executive Order 11593 of 1971 directing federal agencies to inventory the historic properties under their jurisdiction and designate those eligible for the NRHP and the Archaeological and Historic Preservation Act of 1974, which authorized federal agencies to expend funds for preserving and recovering archaeological materials (McGimsey and Davis 1977). In 1979, the Archaeological Resources Protection Act (ARPA) expanded the Federal Antiquities Act of 1906 and strengthened the protection of cultural resources on federal lands. As a result of this legislation, federal agencies were directed to inventory, manage, and preserve the cultural resources on lands under their control. So was "cultural resource management" (CRM) archaeology born.

The changes to the conduct of archaeology created by historic-preservation legislation were enormous and enduring. Most important were changes to the institutional basis of archaeology, a vast increase in funding, a shift in research orientation, and extensive impacts to notions of sampling. Whereas much research prior to this time had been conducted by private research foundations as well as academic institutions, the growth of contract archaeology with its business and well as research concerns opened the doors to the private sector and boosted research in academic institutions. CRM departments were opened at ASM, MNA, and Arizona State University, introducing a profit incentive into institutions traditionally concerned with educational, public-outreach, and collections-management issues. Private, for-profit companies emerged as a streamlined approach to contract archaeology unencumbered with such traditional concerns. Archaeologists were hired by federal agencies such as the Forest Service, Bureau of Land Management (BLM), and Bureau of Indian Affairs to control the cultural resources on their lands. An enormous boost to funding archaeological research resulted from the legislation designed to protect and preserve cultural resources.

At the same time, it was necessary to shift research orientation and sampling strategies radically. Whereas archaeologists had traditionally developed problem-oriented research designs before seeking archaeological sites best suited to answer their questions, in contract

archaeology the process was reversed. The archaeologist was presented with the project area and archaeological sites first, and was required to develop research questions that would fit the archaeological context. Instead of being able to prepare a sampling design that would collect data necessary to answer the questions, regardless of location, archaeologists were often required to excavate only those portions of sites that would be impacted by the proposed undertaking. Sometimes large and important sites could be investigated extensively, but sometimes the sponsor would support excavation of only pieces of sites, and often these were small and those not best suited to provide the necessary data.

Not to be dismissed is the fact that the legislative mandates forced archaeologists to work outside their preferred locales. For example, one impact of the desert's heat and aridity was to force the University of Arizona to conduct its field schools in the cool mountains of east-central Arizona at places such as Forestdale and Point of Pines. Much research and many scholarly theses and dissertations resulted from field-school work, but the Sonoran Desert remained the purview of few and dedicated researchers. Historic-preservation legislation changed all this. No longer could such archaeologically and culturally important areas as the Papaguería and the Tucson Basin be ignored—summer's heat notwithstanding.

Perhaps the most significant product of contract work at this time was to completely change the face of Hohokam archaeology. Whereas Snaketown was almost the only site known prior to the contract revolution, and there were only two major models of Hohokam culture history (the Gladwin-Haury model derived from Gila Pueblo's work and Di Peso's O'tam-Hohokam model), contract research yielded hundreds of sites and an immense quantity of new data. The initial response to this massive information overload was confusion. Although it was clear that Snaketown could no longer serve as the standard for Hohokam culture, no new conception to satisfactorily explain temporal and spatial variability throughout the Hohokam region had yet emerged.

The 1960s and 1970s brought a second remarkable change. A paper entitled "Archaeology as Anthropology" by Lewis R. Binford was the white paper that set forth the major tenets of what would come to be called "processual" or "new" archaeology. Processual archaeology was a revolution in archaeological science that sought to go beyond simple description of material remains to reconstruct and explain nonmaterial behavior, particularly the processes of adaptation—hence the label.

Processual archaeology urged the use of deductive reasoning, and processualists were concerned with testing hypotheses about past behavior. Processual archaeology was largely driven by theoretical models derived from cultural ecology (the view that culture was a human adaptive system) and environmental determinism (the notion that the environment shaped cultural adaptation). An important part of the processual package was an emphasis on systems theory, particularly the idea that cultures could be broken down into different organizational and adaptive systems. Cultures were viewed as kinds of permeable membranes for exchanging matter and energy with the environment (e.g., Flannery 1972[a]).

In the 1960s, similar radical changes in the profession brought about a great expansion in the amount of historical archaeology carried out in southern Arizona and a shift in the kinds of sites studied by historical archaeologists. Historical archaeology was affected by the sudden increase in the amount and effectiveness of historic preservation law at the federal, state, and local levels, just as was prehistoric archaeology. Another important change was the growing influence of the loosely defined "history from below" paradigm (Radding 1997:xvi). As with prehistoric archaeology, the new historic-preservation laws required archaeological research at whatever site happened to be physically in the way of a development project. Working with a very liberal definition of historical significance (any site at least 50 years old is potentially significant), contract archaeologists since the 1960s have been busy recording and evaluating everything from urban outhouses to abandoned mine shafts to farmstead artifact scatters. Playing off this sudden increase in mundane historical-period sites, and prompting further interest in them, was the growing perception that it is precisely such sites that can contribute to a fuller understanding of the social, cultural, and economic life of a period and place—in other words, history from below.

The increasing recognition in historical archaeology that small, peripheral, mundane, and rural sites were potentially important sources of historical or anthropological information was also partly a product of the rise of processual archaeology in the 1960s. This approach led historical archaeologists to consider not simply what their data told them about a specific time and place, but also the broader anthropological implications of their data for other times and places. Processual archaeology never became the force in historical archaeology that it did in prehistoric archaeology, but aspects of the processual approach made their way into the practice of historical archaeology throughout the United States at about the same time that a whole variety of previously ignored historical-period sites were being recorded by contract archaeologists. Historical archaeologists continued to search for and excavate the sites prominent in traditional historical narratives, but even at these sites, research became structured around processual concerns.

### **Prehistoric Archaeology**

Together, the revolutions of contract archaeology and processual archaeology fundamentally changed the way archaeology was carried out in Arizona. Numerous surveys and excavations were conducted during the 1970s and 1980s as CRM projects, and many of these were broad in scope and produced sweeping conclusions. The first projects to be carried out represented an uneasy balance between the goals of academic research and those of "salvage" archaeology. As the pace of urban development expanded in Phoenix and Tucson, contract archaeology grew ever more important, and research began to be emphasized over compliance and became increasingly sophisticated. Fundamental changes resulted in the way Hohokam culture was conceptualized.

Another important event of this time was not part of the contract revolution. This was Haury's return to Snaketown in 1964 and 1965, published in 1976. While the new legislation that would drastically change the face of American archaeology was being written, Haury

returned to Snaketown with National Science Foundation funding. In the 1940s, Gladwin had written a series of papers that were highly critical of Haury's stratigraphic interpretations, chronology, and ceramic sequence. To address this critique, Haury responded as he had always done—with the shovel. The report of the second investigations of Snaketown (Haury 1976) essentially supported the original chronology and culture sequence, and also provided a wealth of data collected by methods not yet developed during the original work. Haury also reversed his opinion on the origin of Hohokam culture expressed in the Ventana Cave report. He was convinced that the Hohokam were an immigrant group who had come from what is today Mexico.

Although published in 1976, the report seems anachronistic to modern eyes. The fieldwork was carried out before the twin revolutions in American archaeology took place, and the report reflects little of the new notions that were sweeping the nation. There was little of cultural ecology and nothing of the hypotheco-deductive method in Haury's report. Instead, the report presents the kind of carefully reasoned and meticulously crafted archaeology that Haury had always carried out, and it is firmly within the traditional culture-history school. It remains, however, an extremely important reference despite the fact that modern analyses of chronometric dates have considerably shortened the Hohokam cultural sequence as Haury presented it.

#### Central Arizona Project Archaeology

Some of the largest and most important projects were funded by the U.S. Bureau of Reclamation as part of the archaeology carried out for the Central Arizona Project (CAP). This undertaking was designed to bring water from the Colorado River across the state to the urban Phoenix and Tucson areas through a series of aqueducts, pipelines, canals, and delivery systems. The archaeology included large areal surveys, testing, and intensive excavation projects throughout central Arizona that were conducted by several institutions. Significantly, CAP archaeology included many of the so-called "peripheral" regions, including nonriverine zones west of Phoenix and between Phoenix and Tucson.

Important CAP projects were Phases A and B of the Tucson Aqueduct, which included excavations in the Santa Cruz Flats and near the Picacho Mountains northwest of Tucson (Bayham et al. 1986; Ciolek-Torrello 1987; Ciolek-Torrello et al. 1988; Wallace and Holmlund 1986); in the Avra Valley to the west of Tucson (Czaplicki and Ravesloot 1988, 1989a, 1989b, 1989c); and at Marana (Rice 1987). Northland Research (NRI) conducted excavations at two specialized, shell-ornament manufacturing settlements for the Distribution Division of CAP (Marmaduke and Martynec 1993). Northland also carried out excavations at a wide series of different sites in the Santa Cruz Flats area northwest of Tucson for the Central Arizona Irrigation and Drainage District, part of the CAP Distribution Division. These included several Classic period sites (Henderson and Martynec 1993) and Archaic sites dating to the Middle and Late Archaic periods (Halbirt and Henderson 1993). Together, CAP projects investigated virtually the complete range of prehistoric settlements dating from the Middle Archaic through the Classic periods, representing an enormously broad range of site types—from petroglyph

sites to prehistoric reservoirs, from habitations small and large to special resource-procurement sites.

Although located north of Pima County, the Salt-Gila Aqueduct (SGA) project (Teague and Crown 1984) was instrumental in defining adaptation to a nonriverine area outside the Phoenix Basin core. The CAP aqueduct extended from the Salt-Gila pumping station along the Salt River east of Phoenix nearly to Casa Grande, crossing Queen Creek and the Gila River near the town of Florence. The project, reported in nine volumes in multiple parts, investigated diverse kinds of sites ranging from farmsteads to villages and encompassing the pre-Classic through the post-Classic periods. SGA documented diversified farming techniques, including dry farming by means of extensive rock-pile fields; reservoirs; and irrigation systems along Queen Creek. Important information deriving from the project included the definition of the Polvorón phase, the last phase in the Hohokam sequence postdating A.D. 1350 (Sires 1983). Reclamation also provided partial funding for the Northern Tucson Basin Survey. This work was published in the 1990s (see below).

#### Other Contract Archaeological Research

Among its positive effects, CRM archaeology in the late 1970s and 1980s was valuable in extending research into poorly known regions. In the Papaguería, for example, CRM studies expanded knowledge of the region, directed attention to the interaction of Hohokam and Patayan, and generally relied on cultural-ecological models of prehistory (e.g., Goodyear 1975; Huckell 1979; Masse 1980; McGuire and Mayro 1978; Raab 1976; Rosenthal et al. 1978; Stewart and Teague 1974). A study by Doelle (1980) was important in developing models of nonriverine settlement and subsistence. An early overview of the Barry M. Goldwater Range was produced by McClellan and Vogler (1977). Later, McGuire and Schiffer (1982) produced an overview of the western Arizona deserts that was a significant contribution to method and theory as well as a synthesis of previous research and culture history. Schiffer (1982) reviewed chronometric dates of the Hohokam culture sequence and his revision of the Hohokam chronology was among the first to propose that it be considerably shortened. The report also contained a refinement of the Lower Colorado Buff Ware typology by Waters (1982).

Some of the earliest CRM projects in the Tucson area were surveys, which helped to expand regional coverage before the exponential expansion of the late 1980s and 1990s (Betancourt 1978b; Hartmann 1981, Simpson and Wells 1983, 1984). In the Tucson area, important excavations were undertaken by ASM at the Hodges Ruin (Layhe 1986) and at the San Xavier Bridge site (Ravesloot, ed. 1987). Survey and excavation of numerous sites was carried out for the Corona de Tucson project (Huckell et al. 1987) and for the ANAMAX-Rosemont project, both located in the foothills of the Santa Rita Mountains. The Rosemont project, carried out by ASM for the ANAMAX mining company, was particularly important for the time range represented by the sites that were excavated. In addition to several Hohokam sites and a ball court (Ferg et al. 1984) and turn-of-the-century historical sites at Rosemont, discussed below (Ayres 1984b), the project investigated Archaic sites (Huckell 1984a) and sites thought

to represent protohistoric Sobaipuri settlements (Tagg et al. 1984). Huckell's synthesis of the Rosemont Archaic period sites was the first reconfiguration of the Archaic period concept for southern Arizona. Huckell (1984a:209) proposed to replace "Cochise culture" with a wider, more encompassing culture-historical scheme he named the Southwestern Archaic and divided into Early, Middle, and Late Archaic periods.

The Institute for American Research (IAR, now Desert Archaeology) conducted investigations at the West Branch site (Huntington 1986), the Tanque Verde Wash site (Eelson 1986), and the Valencia site (Doelle 1985). IAR's research established two ceramic research foci that continue to direct work by DAI today—ceramic seriation and sourcing prehistoric pottery using petrographic analysis of paste inclusions.

One of the most important developments of the 1980s was archaeomagnetic dating. This technique, which uses the known shifts in the earth's magnetic field to date the aligned ferrous particles in fired clay from prehistoric houses, such as firepits or burned floors, solved one of Hohokam archaeology's most basic problems. For years, archaeologists had relied on relative dating techniques, primarily ceramic dating, because radiocarbon dating had proved problematic in the dry desert context (Schiffer 1982) and tree-ring dating was typically not possible because of the lack of datable conifer wood in Hohokam sites. Archaeomagnetic dating provided an absolute dating technique that was not subject to these problems and could be undertaken at almost any Hohokam site.

The wealth of new information produced by CRM research spurred two conferences designed to synthesize the current state of knowledge about Tucson Basin archaeology, history, and prehistory. The first was held in 1982 and sponsored jointly by AAHS and ASM. Several of the papers were published in a volume of *The Kiva* in 1984 (Jacobs and Hartmann 1984). Ambitiously titled *From Prehistory to History: The Archaeology of the Tucson Basin*, the volume included synthetic papers on the Paleoindian and Archaic, pre-Classic, Classic, protohistoric, and historical-period occupations.

A second conference was held in 1986 in conjunction with the fall meeting of the Arizona Archaeological Council in Tucson because of the rapid pace and intensity of archaeological work in Tucson since the last conference (Doelle and Fish 1988:1). Cosponsors were ASM and AAHS. Selected papers were published by IAR (Doelle and Fish, eds. 1988). Unlike the previous conference, the papers in the second volume included those dealing with specific research topics and sites as well as several designed to review existing information (e.g., Huckell 1988; Szuter 1988).

#### Explanatory Shifts and New Conceptions

The contract research of the 1970s and 1980s put to rest forever the notion that the Hohokam represented a single, uniform culture. CAP archaeology focused on regions that were by definition peripheral to the Hohokam core area along the Gila and Salt River valleys in the Phoenix area. The work demonstrated the regional variability in Hohokam culture as well

as Hohokam fluency and flexibility in adapting to marginal, nonriverine environments. Perhaps most important was the wealth of chronometric dates, paleobotanical data, and other detailed data that these projects yielded (Whittlesey et al. 1994:43-44).

Two shifts in the way Hohokam culture was conceptualized were most important. There was a shift in the way archaeologists approached regional, geographic variability in Hohokam culture. There was also a radical change in explanations for the Classic period.

### *Geographic Variability in Hohokam Culture*

One of first important shifts to emerge from CRM studies was the rethinking of the old Gladwin-Haury model of regional variability in Hohokam culture. This research demonstrated significant variability in Hohokam culture, such that the old model of a single, uniform culture was no longer workable, and new models began to replace the old. ASM conducted research at Casa Grande National Monument, and a notion developed in this report (Wilcox and Shenk 1977) began to take hold. This was the core-periphery model of Hohokam culture. Derived from Wallerstein's (1974) study of the emergence of the modern, capitalist world economy, the core-periphery model was proposed as a means of explaining variability in Hohokam culture in terms of geographic location with reference to the Phoenix Basin core. Although phrased in terms with a more contemporary ring, the core-periphery model is simply the old Gladwin-Haury model in new clothes (Whittlesey 1998b). The core-periphery model was immediately used widely in Hohokam archaeology (e.g., Doyel and Plog 1980), and outlying regions began to be labeled as the "northern Hohokam periphery," "northeastern Hohokam periphery," and so on (e.g., Lerner 1984).

Yet almost immediately this conception began to be revised. In 1979, Wilcox proposed a revamped and remodeled notion, which was labeled the "Hohokam regional system." The work grew out of a CRM testing project in the Gila Butte-Santan region. Wilcox (1979) noted dissatisfactions with the Gila Pueblo and core-periphery models, and suggested that it was time for a new idea. "An alternative point of view in keeping with modern trends in archaeological thinking (Clarke 1968; Flannery 1972[a])," he wrote (Wilcox 1979:78), "is to redefine the Hohokam as a regional system. Research emphasis should then shift from efforts to decide 'who are the Hohokam' to attempts to identify the systemic relations and interactions of the Hohokam." The influence of systems theory, one of the important components of the processual paradigm, is apparent here. The idea of regional differentiation so clearly developed in the core-periphery model was retained in the regional system model, but phrased in the jargon of systems theory.

Later, Wilcox and Sternberg (1983) would attempt a synthesis of the core-periphery and regional system models in their monograph on Hohokam ball courts. Regions were classified based on their distance from the core and the distribution of ball courts. The inner periphery included the Queen Creek, New River, and lower Agua Fria drainages; the drainages of the Papaguería closest to the core; and possibly other areas. The intermediate periphery was composed of the river valleys surrounding the Phoenix Basin—the Gila Bend region, the middle

Verde and middle San Pedro River valleys, and the Tucson Basin. The far periphery represented the outer fringes of ball-court distribution and represented such far-flung regions as Flagstaff and northern Sonora (Wilcox and Sternberg 1983:219–220).

The core-periphery model today seems outdated and less than useful (see critique in Whittlesey [1998b]). The regional system model remains perhaps the most widely used conception of Hohokam culture. Unfortunately, these models have served to mask the significant cultural, social, and economic bases for variability in Hohokam culture and in particular have retarded our ability to study the Tucson Basin as a unique regional variant (see also Doelle and Wallace 1991).

### Classic Period Change

The second striking shift was in notions of Classic period change and explanations for these changes. As noted by Gladwin, Haury, and others, the Classic period beginning around A.D. 1200 was a time of great change in Hohokam material culture, architecture, settlement, and subsistence practices. Gila Pueblo archaeologists had attributed this to a migration by a Puebloan people they called the Salado, who settled alongside the Hohokam in the Phoenix area and elsewhere. Processual archaeology urged archaeologists to go beyond traditional explanatory models such as migration and diffusion to seek processes of change. It was contract archaeologists who took up this challenge for the Hohokam, and it was contract archaeology that provided the database to explore these processes.

Emerging in the 1970s was a new conception of the Classic period as internal change, not the product of external forces, and archaeologists who developed this conception sought the roots of the sweeping changes of the Classic period in the earlier Sedentary period (e.g., Doyel 1977a, 1981; Wasley 1966; Wasley and Doyel 1980). This explanatory model was not successful in explaining change—simply stating that it began earlier in pre-Classic times was not sufficient to explain *why* it happened—and some archaeologists have recently returned to the original Gladwin-Haury model. Cultural ecological models focused on the environmental parameters of Hohokam culture, fueling the notion that Hohokam culture was similar across the entire Sonoran Desert environment.

### History and Historical Archaeology

The advent of “history from below” in the United States, a process that began at least as early as the 1960s, corresponded closely with the emergence of processual or anthropological historical archaeology, an archaeology focused less on major historical sites and events and more on the daily lives of ordinary people in ordinary times and places. Part of this shift in historical archaeology can be attributed to the rise of compliance-driven, CRM archaeology, but the recognition of the potential importance of historical sites once dismissed as mundane and uninteresting—from abandoned rural shacks to urban tenements—is in great part an extension of the “history from below” paradigm.

## History

Since the emergence of the Borderlands school, and often not in direct association with it, the history of southern Arizona has benefited from the work of numerous historians who have addressed the region in studies of the greater Southwest, of the state as a whole, and of specific places within southern Arizona. Because southern Arizona is one of the few places in the United States with a lengthy Spanish Colonial occupation, an important Mexican-period occupation, and a continuing, substantial Mexican-American population (Ayres 1984a), many works dealing with southern Arizona history are devoted to aspects of the Hispanic presence in the region. David Weber, in a series of major works on Southwest history (1979, 1982, 1992), included southern Arizona as an important, and in many ways unique, region during the Spanish Colonial and Mexican periods. James Officer (1987) provided a detailed synthesis of the Spanish Colonial and Mexican periods in what he called "Hispanic Arizona," basically the part of Arizona sold by Mexico to the United States in 1854. Because Hispanic Arizona was largely south of the Gila River, Officer's review of Hispanic history, culture, and people during the Spanish and Mexican periods is focused on southern Arizona.

The 1970s witnessed publication of several excellent reviews of southern Arizona history and more detailed studies. Dobyns (1976) explored Spanish Colonial period Tucson from the late 1600s to 1821 when Spanish rule ended. Dobyns documented the role of the missions, and the Spanish presence more generally, in the decline of native populations in southern Arizona. John L. Kessell, who served as historian at Tumacacori National Monument, published the fascinating and heartbreaking history of the Spanish mission at Guevavi along the Santa Cruz River south of Tucson in 1970. Kessell's book provided one of the few detailed studies ever made of a single mission in what was once northern New Spain. Elsewhere, Kessell (1976) redressed the longstanding neglect of the Franciscan presence in southern Arizona—fostered by an enduring fascination with the earlier Jesuit presence in the region, partly attributable to Bolton—with a discussion of the Spanish mission frontier. This work is also a fundamental source on many other aspects of the later Spanish Colonial and Mexican periods in southern Arizona.

In 1971, Charles W. Polzer, a Jesuit historian and at that time director of the Southwestern Mission Research Center in Tucson, published a translation of Kino's biography of Francisco Javier Saeta, a Jesuit missionary assigned to Nuestra Señora de la Concepción del Caborca in Sonora and killed by O'odham in 1695. In the same year, Burrus published *Kino and Manje: Explorers of Sonora and Arizona*. Other important sources on the missions of northern New Spain include Burrus (1971), McCarty (1976, 1981), and Polzer (1976). Wagoner produced two monographs dealing with Arizona history. In 1970, he discussed the Arizona Territorial period from 1863 to 1912. In 1975, he undertook a study of Arizona's earlier history, from prehistory to the Civil War. The latter book includes important details about southern Arizona prehistory.

An important institutional resource for the history of northern New Spain is the Documentary Relations of the Southwest (DRSW). Created in the 1970s, this research division of ASMA at the University of Arizona in Tucson is devoted to translation of and research on Spanish Colonial period documents. DRSW has worked to collect, catalog, transcribe, translate, analyze, and publish primary source materials on northern New Spain preserved in Mexican, U.S., and European archives. This ongoing effort has resulted in the publication of major individual documents, collections of documents, and research guides, including Barnes et al. (1981), Naylor and Polzer (1986), and Polzer (1976), as well as the production of indexes to document collections and microfilm copies of important documents and collections. Polzer reminded professionals in the 1984 Tucson Basin Conference volume that documentary history was a valuable source of information akin to the archaeologist's potsherds that should not be neglected.

There were additional, excellent overviews of Arizona history published in the 1980s. Tucson became the social and economic center of southern Arizona during the latter half of the nineteenth century, and historical research on the century following the Gadsden Purchase reflects this status. Two works on the history of Tucson bear particular mention. The first is C. L. Sonnichsen's (1982) *Tucson: The Life and Times of an American City*; the second is Thomas Sheridan's (1986) *Los Tucsonenses: The Mexican Community in Tucson, 1854-1941*. Together, the two works illustrate the diversity of subject matter presented by Tucson's history and the differences in research emphasis that such diversity requires. Sonnichsen's (1982:xiii) book aimed to present "a coherent picture of the development of a great southwestern city from its beginning as a mud village in northern Mexico two centuries ago to its emergence as an American metropolis." *Tucson* is a fairly conventional (but nonetheless entertaining) history of political events and social change in the city, basically since the Gadsden Purchase, with a heavy emphasis on the dominant Anglo-American society.

Sheridan's *Los Tucsonenses* also begins with the Gadsden Purchase, but his focus is the "other Tucson," the Mexican-American community that formed the majority of the city's population until the first decade of the twentieth century. The Mexican-American community had deep roots in the pre-U.S. period, enduring connections with the Mexican state of Sonora, and an important but often undervalued role in the political and economic life of the city. Sonnichsen's and Sheridan's works are valuable in their own ways, but *Los Tucsonenses* is an important reminder of how much of southern Arizona's history would escape a purely Anglocentric approach. Sheridan's book was the product of the Mexican Heritage project, which was supported by the Arizona Historical Society and many other individuals and institutions.

### Historical Archaeology

To a greater degree than in most parts of the United States, historical archaeology in southern Arizona has often been practiced by archaeologists trained in prehistoric rather than historical archaeology (see especially Ayres [1991] on this tendency in the Southwest and its associated problems). One important reason for this is the nature of the earliest historical-

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period sites in the region. The missions and presidios of the eighteenth and early nineteenth centuries were never exclusively nonindigenous settlements, and indeed were intended as the places where the Spanish missionary and military enterprise would strive to incorporate indigenous people into greater Spanish society. Thus, early Spanish Colonial sites and the documentary records associated with them have always been viewed by prehistorically oriented archaeologists as important sources of information on indigenous culture. This means that a primary interest in the most recent version of Prehispanic indigenous culture—or to put it another way, in indigenous culture least impacted by historical-period change—has been the motivation for a significant amount of historical and historical-archaeological research in southern Arizona. Much of this research is best characterized as protohistoric in focus, beginning with the Amerind Foundation's studies discussed previously (e.g., Di Peso 1948, 1951, 1953, 1956) and continuing with research by Doelle (1984), Huckell (1984b), and Riley (1975, 1976, 1985, 1987), among others. Indigenous peoples of limited or no direct experience with Europeans were often the primary subjects of interest, but the accompanying historical reconstructions of the earliest Hispanic presence, and the nonindigenous material culture recovered at protohistoric sites, can be important sources of information for later Euroamerican history and archaeology.

Contract archaeology in greater Pima County witnessed an explosion in the number of projects devoted to recording, testing, and excavating historical archaeological sites, parallel to the vast increase in prehistoric archaeology. In most cases, historical archaeology has been only a part, and often a small part, of the overall focus of such projects, in which prehistoric archaeology continues to be the chief concern. Nonetheless, there is a growing baseline of information on the historical archaeology of Pima County resulting in large part from the efforts of contract archaeologists. The projects carried out during this period ranged from small (e.g., Huntington's [1982] study at historic Fort Lowell, including the band quarters kitchen and a corral; Slawson et al. 1987) to large projects (e.g., Ayres 1984b; Ayres and Stone 1983; Betancourt 1978a, 1978b; Dart 1989; Fontana 1965; Gregonis and Huckell 1979; Simpson and Wells 1983, 1984). Historical archaeology was one component of the survey and assessment undertaken for the TAP Phase B of the CAP (Ayres and Stone 1983).

Because many of these projects have been outside of the historical, urban core of Tucson, most of the historical-archaeological sites they have recorded have been rural in nature, such as ranches, homesteads, mines, and dumps. Individual ranch sites in Pima County that have been the topic of significant archaeological study include two nineteenth-century ranches—Rancho Punta de Agua, an early Anglo-American ranch located just south of San Xavier mission and adjacent to Interstate 19 (McGuire 1979, 1983), and Romero Ranch, an early Mexican-American ranch forming part of the Romero Ruin archaeological site at Catalina State Park (Elson and Doelle 1987b; Huckell 1980; Roubicek et al. 1973). In 1979, the Punta de Agua report was published almost 15 years after the project had been undertaken (McGuire 1979). The first post-1900 homestead to be intensively studied in Pima County (and one of the few post-1900 sites of any kind to be studied intensively) was the Lewis-Weber homestead, located on the site of NPS's Western Archeological and Conservation Center in Tucson (Curriden 1981).

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In Pima County, the first time that historic-preservation law and the processual variety of historical archaeology converged in a significant way was in the excavations carried out in the Tucson Urban Renewal project (TUR), which began in 1968 and continued intermittently until 1974 (Ayres 1968, 1970b). Sponsored by the City of Tucson and funded by the U.S. Department of Housing and Urban Development, the project's goal was to discover information about the development of historic Tucson from Spanish Colonial to modern times. The project included historical research, architectural inventories, and archaeological excavations in anticipation of the complete razing of a large area in downtown Tucson. Although it was hindered by inconsistent funding and has never been completely reported, the project yielded a number of interesting studies of the Spanish Colonial, Mexican, and U.S.-period occupations in downtown Tucson, most showing the influence of the processual concerns newly current in archaeology (Anderson 1968, 1970; Ayres 1969, 1971, 1978, 1979, 1980; Clonts 1983; Lister and Lister 1989; Olsen 1978, 1983; Renk 1969; Roubicek 1969). As discussed in a following section, there have been numerous subsequent compliance-driven excavations of historical-period sites in downtown Tucson with a continued emphasis on processual interpretations, but none have addressed as large an area as the TUR project.

Other investigations at small parcels in downtown Tucson include Fortier (1980) and Mazany (1981). Additional archaeology at the Tucson Convention Center in downtown Tucson was carried out by ASM in 1988, although published in 1990 (Ayres 1990). Numerous features were excavated in historic Block 221 and Block 228, including privies, wells, and trash pits. Information was garnered on food choices, social and household composition, and changes in the residents of these city blocks that were occupied around the turn of the nineteenth century (Ayres 1990).

Despite its central role in the history of Tucson, the Tucson presidio has seen only limited archaeological work since Haury and Danson dug there, the primary reason being that it has been largely destroyed or obscured by modern downtown Tucson. Between 1967 and 1973, Ayres excavated in the Tucson Museum of Art block and the presidial cemetery during the TUR project of 1968-1974 (Ayres 1979; Barnes 1983). An excellent summary of the mission of San Agustín de Tucson and previous work there was provided by Hard and Doelle (1978). Elson and Doelle (1987a) also undertook limited work there.

The site of the former presidio at Tubac, just downstream from Tumacácori, was excavated in the 1970s as part of the U.S. Bicentennial celebration (Shenk and Teague 1975). A number of smaller-scale excavations were subsequently carried out at Tubac (Barton et al. 1981; Fratt 1981; Huckell and Huckell 1982). Work was undertaken at Mission San Xavier del Bac for the same event (Ciolek-Torrello and Brew 1976).

Excavations by Fontana there in the 1970s (unpublished) showed that the architectural remains were in fact part of the 1757 church, which had been subdivided into rooms (Majewski and Ayres 1997:72). Another small-scale excavation was carried out by Ayres (1970a). Other than analyses of animal bone (Olsen 1974) and artifacts (Barnes 1972, 1980;

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Cheek 1974), San Xavier has witnessed little study. Tumacacori was investigated by NPS, again in conjunction with stabilization efforts (Fratt 1981), producing information about changes in economy through time. The only archaeological work at nearby Calabazas was an evaluation of the ruins for a stabilization plan (Stone 1979).

Ayres's (1984b) Rosemont study for the ANAMAX company was one of the largest historical-archaeological projects conducted under the CRM umbrella. Rosemont was a mining community established in the late 1870s. Ayres presented the history and archaeology of 30 sites—two major mining camps, Old Rosemont (1894–1910) and New Rosemont (1915–1921); several ranches; the U.S. Forest Service facility at Old Rosemont; Rosemont public school sites; and several miscellaneous historical-period sites. The project provided information to assess settlement, interaction, demography, and economy for this little-known area south of Tucson.

Historical-period research also took place in the Papaguería. NPS investigated the Reward Mine in 1979 (Teague 1980). This turn-of-the-nineteenth-century mining site included a Tohono O'odham camp, permitting Teague to discuss Native American economy, social organization, and relations with non-Indians. IAR investigated historical Tohono O'odham homesteads at the village of Nolic on the Tohono O'odham (then Papago) reservation (Doelle 1983). Occupied from 1890 to 1930, these households provided excellent data on traditional material culture, particularly pottery; household organization; and details of daily life.

### Development of Local Historic Preservation Programs

At the same time that intensive archaeological work was being conducted, local ordinances and policies protecting cultural resources were put into place. Pima County adopted a policy defining the county's responsibilities toward cultural resources affected by its own projects, sponsoring numerous survey, testing, and data recovery projects. In 1985, Pima County extended this policy to development in the private sector by amending its zoning code. The City of Tucson also developed a Historic Preservation Ordinance, which was amended in 1989 to meet the state's requirements for membership into the NPS's Certified Local Government program.

Correlating with this drive to develop and protect cultural resources in Pima County was an inventory of archaeological sites and survey data undertaken by IAR (Dart and Doelle 1988). The Pima County Archaeological Inventory project was carried out for the Arizona State Historic Preservation Office (SHPO) to meet three major goals: compile existing site data using the ASM site inventory system (AZSITE), assess existing data for the Tucson Basin region, including priorities for NRHP nominations, and prepare a report. A major component was to identify historic contexts for the Tucson Basin that could be used in significance evaluations.

### Natural Science

The Desert Botanical Laboratory research facility was listed in the NRHP in 1975. In 1976, Tumamoc Hill was designated a National Environmental Study Area, in recognition of its role in ecological research and education, and in 1981, the property was designated a State Natural Area by the Arizona State Parks Board (Ash et al. 1981:7; Elkins et al. 1982:2). A study of the standing architecture at the site appeared in 1981 (Ash et al. 1981), and an overall plan for preservation of the cultural and natural resources of the hill was developed in 1982 (Elkins et al. 1982). Raymond Turner, a botanist with the U.S. Geological Survey, moved his office to the Desert Laboratory in 1976. His studies in the distribution of desert plants and habitats remain standard references. Turner and Paul S. Martin retired in 1989, leaving a rich paleobotanical archive now being exploited for geochemical, anatomic, and genetic studies; a digitized plant-distribution database for the Sonoran Desert; and a collection of 3,000 historical photographs of western landscapes matched to vantage point (Betancourt 1996).

### **New Directions in the 1990s**

The last decade of the 1990s was the heyday of archaeology in southern Arizona. The increased pace of development and a new public awareness of the importance of historic preservation, combined with additional historic-preservation legislation and an infusion of funds from contract archaeology, created an expanded archaeology that developed in new directions. New legislation strengthened laws protecting cultural resources on state and private lands, including two Arizona State laws enacted in 1990 that protect human burials and associated artifacts. There were significant theoretical changes in historiography and a welcome increase in historical archaeology.

Perhaps one of the most significant changes of the 1990s was the growing voice of Native American peoples in issues concerning their own history (Reid and Whittlesey 1997:21). Legislation on the national level, specifically the Native American Graves Protection and Repatriation Act of 1990, specified procedures for reburying human remains and repatriating sacred objects to the tribes. The 500th anniversary of the second discovery of the New World provided an occasion to reflect upon the significance of this event to all Americans. There was also a movement toward development of tribal CRM programs. In general, there was a welcome spirit of increased cooperation between Native Americans and archaeologists and greater consultation among concerned tribal groups.

Last, prehistoric archaeology expanded into previously unknown or poorly known areas, and intensive excavation was undertaken in the Tucson Basin. This research has altered our conceptions of the past and how we as its stewards articulate with and understand it.

## Prehistoric Archaeology

### Tucson Area

Some of the new directions in the 1990s included an expansion of regional survey coverage and intensive excavation of prehistoric sites, some of them large and important villages. This work has altered in fundamental ways our understanding of Tucson's ancient past, and many of the most significant shifts concern the earlier portions of the occupational sequence. The Northern Tucson Basin survey area included a large *bajada* area north and west of the Tucson Basin. Total-coverage survey was undertaken in a zone defined by the slopes of the Tortolita and Tucson Mountains and the Santa Cruz River around Marana (Fish et al. 1992:Figure 1.8). The Marana Platform Mound community (Fish et al. 1992) was defined by this work. Total-coverage survey was undertaken in the Picacho Mountains and along the slopes of the Silverbell Mountains; transect surveys were carried out in a large zone surrounding the areas that had been surveyed completely (see Fish et al. 1992:Figure 1.8; Downum 1993; Madsen et al. 1993). In addition to survey and test excavations, the Northern Tucson Basin survey was important for investigating a large *trincheras* site, Cerro Prieto, in the Los Robles project area (Downum 1993).

Excavation projects undertaken in the Tucson area ranged the gamut of small testing projects to large-scale excavations involving multiple sites. Space precludes listing all of these projects, but many of the most important, some as yet unpublished, include investigations that have changed our understanding of Hohokam lifeways in significant ways and we list them below.

Excavations were carried out at the Julian Wash site by Statistical Research (SRI) (Whittlesey 1999) and DAI (Mabry 1996). Julian Wash is a large, multiple-component Hohokam village located at the intersection of Interstates 10 and 19. It is important because it has an early Colonial period occupation, and few sites representing this time have been investigated.

Gibbon Springs, a Tanque Verde phase compound in the eastern Tucson Basin, was excavated by SWCA (Ahlstrom and Slaughter 1996). Gibbon Springs provided a significant milestone in desert archaeology—the first successful tree-ring dating. One of the houses yielded five tree-ring dates from piñon pine (Ahlstrom and Slaughter 1996). This discovery holds the potential for developing and refining a dendrochronological sequence for the Tucson area.

New information on the Trincheras culture was obtained when SRI excavated a small site near Arivaca, one of the few excavated sites north of the international border with an inferred Trincheras component (Whittlesey and Ciolek-Torrello 1992). A single surface structure and several extramural features were found at the site, which was occupied between A.D. 850 and 950. There was evidence for local manufacture of Trincheras pottery and distinctively non-Hohokam subsistence emphasizing acorns, agave, cactus, and various wild plant seeds along with modest evidence for corn agriculture.

Los Morteros is a large, ball-court village located near the northern end of the Tucson Mountains. Although excavations were carried out there in 1987 and 1988, the work was not published until the 1990s (Wallace 1995). This work focused on intensively investigating the history of a multiple-component settlement through time. In addition to components representing several periods of the Hohokam sequence, there were also historical-period remains including the Point of the Mountains stage stop and a historical-period homestead. SRI also conducted test excavations at one portion of the site (Vanderpot et al. 1993).

SRI returned to excavate the West Branch site, in an opportunity that is rare in contract archaeology—a chance to build on previous research (Altschul et al. 1996). These investigations found additional evidence for pottery manufacture and established the importance of a local clay source in attracting pottery-makers to that locale.

Many of the most important shifts in our understanding of southern Arizona prehistory to grow out of the research of the 1990s concerned the earlier portions of the cultural sequence. Intensive excavations by DAI along the Interstate 10 corridor yielded new information about Archaic period occupation, including recognition of Middle Archaic occupation and the presence of large and substantial settlements, such as the Santa Cruz Bend and Los Pozos sites (Gregory 1999; Mabry, ed. 1998.; Mabry et al. 1997). Although archaeologists had long been aware of Archaic occupation in southern Arizona, it was not until the 1990s that we discovered dense, concentrated Late Archaic period settlements buried in the floodplain of the Santa Cruz River. Prior to that time, most studies had involved short-term camps, specialized resource-extraction and processing loci, lithic quarry sites, and smaller habitations.

Evidence for cultivation of corn was common at these large and substantial sites. These investigations spurred a reconfiguration of the Archaic concept and revisions of the cultural sequence (see Huckell 1995; Mabry 1998b). Huckell (1995), for example, proposed that "Early Agricultural period" encompassing San Pedro stage Cochise should replace Archaic as a label. Archaeologists have yet to reach consensus over the different terminologies and conceptions of the Late Archaic period.

The presence of an early ceramic period occupation in the Tucson area was also recognized. As part of the Corona de Tucson project, Huckell (1987) had investigated an early site that predated the appearance of the Hohokam and lacked painted pottery. In recognition of so many elements of material culture that strongly resembled early Mogollon patterns, Huckell assigned this site to the Early Pit House period Mogollon (Huckell 1987). In the 1990s, investigations at several sites demonstrated the presence of an early occupation that was similar to others elsewhere in the Southwest, including the Early Pit House period Mogollon. Among these were the Houghton Road site excavated by SRI (Ciolek-Torrello 1998), one component of the Rabid Ruin (Slawson 1990), the Lonetree site (Bernard-Shaw 1990), a component at the Valencia site (Huckell 1993), and sites excavated by DAI during the I-10 project, including the Square Hearth and Stone Pipe sites (Mabry et al. 1997). This occupation has been labeled the Early Formative or Early Ceramic period.

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The Early Formative period dates from approximately A.D. 1 to about A.D. 650 (Deaver and Ciolek-Torello 1995) and represents the transition from a preceramic, highly mobile Late Archaic lifestyle to a ceramic-producing, more sedentary village lifestyle. Although the presence of such a widespread, early ceramic period occupation was certainly not unexpected given the density of the Late Archaic occupation in the Tucson Basin, it was virtually unknown prior to the investigations of the 1990s.

A third change was in our understanding of early farming technology. It has typically been assumed that canal irrigation was introduced by the Hohokam. Prior to that time, it was thought, the farmers of the Sonoran Desert grew corn and other cultigens with simple techniques using rainwater and floodwater. In 1995, SRI undertook excavations at the Costello-King site (AZ AA:12:503 [ASM]) along Ina Road in northwestern Tucson (Ezzo and Deaver 1998) that changed these notions. Although lacking houses, this Archaic period site proved to have two irrigation ditches associated with deposits containing corn. Dated between 2,800 and 3,000 years ago, these irrigation features were the earliest yet dated in the American Southwest. Not only does this discovery change our ideas about Archaic period farming technology, it has implications for our understanding of the Archaic-Hohokam transition.

### Papaguería

The Papaguería began to be investigated more intensively, largely because of CRM needs of the Barry M. Goldwater Range (BMGR). This bombing and gunnery range under the primary control of Luke Air Force Base in Phoenix encompasses a huge area of desert land to the west of Tucson. It extends south of Interstate 8 and Gila Bend from a point just west of the Maricopa County line south to the international border and west to Yuma, and includes the Cabeza Prieta National Wildlife Refuge. This region is important, not only because it overlaps the western edge of Pima County, but because of its strategic positioning between the Patayan and Hohokam culture areas. A number of surveys, overviews, and other studies were undertaken in the 1990s, largely in response to the need for legislative renewal of the range.

SRI conducted surveys in the northeastern portion of the BMGR and developed an overview of the San Pedro Valley, the Tucson Basin, and the Papaguería in advance of proposed helicopter gunnery stations for the Western Army National Guard Aviation Training Site. The work was sponsored by the U.S. Army Corps of Engineers, Los Angeles District (Homburg et al. 1993; Whittlesey et al. 1994). The overview was at the time of publication the most comprehensive synthesis of archaeological, ethnographic, and environmental information from southern Arizona.

SWCA prepared a Class I overview for the BMGR (Ahlstrom 1998) that included collections analysis and compilation of an archaeological site database in addition to a literature review. Dames & Moore prepared a cultural resources assessment for the Yuma Aviation Training Range on the Goldwater Range for the Marine Corps Air Station, Yuma (Bruder et al. 1996). Twenty-seven sites were relocated and reevaluated. SWCA in cooperation with ARCADIS

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Geraghty & Miller conducted a series of surveys on the East Tactical Range portion of the BMGR, which is located between the Sand Tank and Saucedo Mountains, including a 7,792-acre survey (Roberts et al. 1999), a 14,390-acre survey (Lyon 1998), and a 7,880-acre survey (Lyon 1999). On the South Tactical Range, an 8,065-acre survey was carried out (Ahlstrom and Lyon 1998).

Dames & Moore conducted several projects within the boundaries of the BMGR, including several surveys each covering more than 2,000 acres in the North and South Tactical Ranges and other areas (Bauer et al. 1996; Olszewski et al. 1995, 1996; Rogge et al. 1995). The majority of sites recorded during these surveys were prehistoric Hohokam in affiliation, along with some Patayan, historical-period O'odham, and a few historical-period Euroamerican military and other kinds of sites. The distribution of Hohokam and Patayan sites appears to be distinct, however, correlating with environmental and topographic features (Chenault et al. 1998:4-25).

ARCADIS Geraghty & Miller and SWCA surveyed additional areas on the East Tactical Range, in the vicinity of Tinajas Altas, and on the North Tactical Range in 1997 and 1998. These reports are currently in preparation. Dames & Moore is currently completing an Integrated Cultural Resource Management Plan for the BMGR and an associated study of traditional cultural places and sacred sites. SRI is now carrying out an oral history project for the BMGR that includes interviews of individuals who have information about the prehistory and history of the area and documentation of existing private collections.

The Schuk Toak project conducted by DAI was an important CRM study because it was one of the first excavation projects carried out for the Tohono O'odham Nation, the project investigated late, possibly ancestral Tohono O'odham sites, and the report attempted to reach general readers in addition to professional archaeologists (Dart 1994). A small habitation site with a single surface house produced dates in the A.D. 1520s, postdating Hohokam occupation of the area. Several Hohokam sites also were excavated during the project.

### Sonora

Promising to shed light on relationships between southern Arizona and Sonora are recent, joint American-Sonoran research projects in the San Pedro River valley and at La Playa and Las Trincheras, Sonora (Altschul et al. 1999; McGuire and Villalpando C. 1993; Sanchez et al. 1996; Villalpando and McGuire 1995). These projects have included mapping, survey, and excavations, of which little has been done to date in Sonora. McGuire and Villalpando C.'s report of survey undertaken in the Altar Valley includes a preliminary phase sequence for the area.

### History and Historical Archaeology

The enormous increase in archaeological attention paid to "everyday" sites in the last few decades has generated a great deal of locally focused historical research. Today, in southern Arizona as elsewhere in the United States, much of the historical research on the typical subjects of "history from below"—ordinary people in ordinary times and places—is carried out by historical archaeologists, or by historians working in conjunction with archaeologists.

### History

The use of "borderlands" as Bolton's employed the term has not died out entirely, but in recent years the historiography of the region has undergone a significant shift in perspective away from an emphasis on its status as an outpost first of Spanish, then Anglo civilization. The shift corresponds with a major change in Latin American and western American history in the last few decades away from an elitist, event-oriented historiography and toward a "history from below" (Radding 1997:xvi). This perspective focuses on the broader implications of the often-mundane aspects of everyday social and economic life, including such previously neglected groups as ethnic minorities and women.

The "New Western History" (Limerick 1987; Limerick et al. 1991), for example, eschews an earlier emphasis on the western American frontier as simply an instrument in the inevitable expansion of U.S. agriculture and industry, and devotes itself to reconstructing the lives of all people living under, affected by, or simply bypassed by that expansion. Similar emphases are evident in recent Latin American history as a whole, and in borderlands history more particularly. Weber (1992) is a turning point in this regard for the history of the borderlands, a term he generally avoids (on other aspects of the evolving historiography of the borderlands, see the essays in Weber [1988c]).

A recent book by Cynthia Radding (1997) takes up the typically borderlands topic of colonial society in northwestern Mexico, but instead of focusing on the successes and failures of the Spanish empire in the region, she looks at how the convergence of Spanish and Indian cultures, and of different classes of people within Spanish colonial society, shaped the history and environment of the region. Jackson (1998) gathers essays of a similar bent by several authors dealing with various parts of the borderlands.

Another aspect of the shift is a greater emphasis on comparative studies. In a series of essays, a volume edited by Guy and Sheridan (1998) compares the impacts of Spanish colonialism on northern New Spain and northern Argentina, the two most peripheral portions of Spain's American colonies. The impact of Spanish colonialism on native demography in northern New Spain is also the focus of recent books by Jackson (1994) and Reff (1990).

DRSW continued to publish in the 1990s, including works by Polzer and Sheridan (1997) and Hadley et al. (1997). Sheridan et al. (1991) compiled scattered scholarly articles on the Franciscan period in part to balance the emphasis that has been placed on the Jesuits in New

Spain. Of related significance is a detailed study by Gerhard (1993) of territorial and administrative units in northern New Spain, based on a comprehensive review of sources in Mexican and Spanish archives. Gerhard's book is an important guide to the amount and kinds of primary source material available for specific areas in northern New Spain.

Sheridan's (1995) survey of Arizona history has quickly become the standard introduction to the subject and is an enjoyable read. Taking a somewhat unique regional perspective is Wilson (1995), who surveyed the history of southeastern Arizona with a special emphasis on the role played by its many island-like mountain ranges.

The study of the Spanish Colonial and Mexican periods in southern Arizona does not, of course, end at the current international border. Once a part of the vast colony of New Spain and subsequently of the Mexican state of Sonora, southern Arizona must ultimately be understood with reference to the greater history of those political entities. In this regard, it is important to note that a substantial body of relevant historical literature on northern New Spain and Sonora exists only in Spanish, produced primarily by Mexican scholars. An introduction to this literature, and an important resource to all historians of the region, is the six-volume *Historia General de Sonora*, recently released in a second edition (Gobierno del Estado de Sonora 1997).

### Historical Archaeology

The number of historical-period sites investigated in the 1990s increased along with the rapid expansion of contract archaeology in Pima County and related areas. Recent investigations have focused particularly upon the city of Tucson itself, a welcome change from the emphasis on rural sites. The largest projects have been devoted to individual city blocks or portions of blocks (Ayres 1990; Ciolek-Torrello and Swanson 1997; Eppley and Mabry 1991; Mabry 1991a; Mabry et al. 1994; Sterner 1997; Thiel 1993, 1995c; Thiel et al. 1993, 1995). Smaller projects have addressed individual or multiple small parcels and linear utility corridors (Dutt and Thiel 1999; Gilman 1997; Gilman and Swartz 1998; Levi 1996; Noll and Euler 1996; Thiel 1995a, 1996; 1998b; Thiel and Desruisseaux 1993).

Among the larger projects was SRI's intensive excavation of historic Block 180 of the City of Tucson for Pima County (Ciolek-Torrello and Swanson 1997). The investigated area was adjacent to the site of the historic presidio of San Agustín, separated from it only by Church Avenue. In addition to the historical-period remains, the project also investigated a prehistoric Hohokam occupation. The project was significant for its contributions to understanding our city during the Territorial period and the early twentieth century, particularly its multiethnic character. Hispanic traditions and use of Native American ceramics persisted into the twentieth century. Whether this was because of Tucson's relative isolation or the product of other factors is an important issue for further study.

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DAI also investigated downtown Tucson. In 1990, historic remains of Block 83 were investigated for the city of Tucson at the site of the proposed Ronstadt Transit Center (Mabry et al. 1994). Thirteen features, mostly dating to the turn of the twentieth century, were investigated. Subsequently, they carried out additional projects in the city of Tucson Block 192 area, including a search for the original walls of Presidio San Agustín de Tucson, established in 1775 by Hugo O'Connor (Thiel 1998a, 1998d; Thiel et al. 1995).

The remains of Tucson's other major Spanish Colonial period site, Mission San Agustín de Tucson, lie across the river from downtown Tucson, at the foot of Sentinel Peak ("A" Mountain). Like the Presidio, the mission site has been heavily disturbed by modern development, and it has seen even less archaeological work than the presidio. Summaries of the history of the site and of limited (and unpublished) archaeological investigations there are provided by Doelle (1997); earlier summaries were written by Smiley et al. (1953), Wasley (1956), and Williams (1986b). In recent years, a series of surveys and test excavations have been carried out in the vicinity of the mission (Diehl 1996; Diehl and Diehl 1996a, 1996b; Freeman et al. 1996; Mabry and Thiel 1995; Thiel 1995b, 1995d, 1997, 1998c), confirming the generally disturbed nature of the area but also documenting features associated with the mission and later periods. Further testing and possibly data-recovery excavation may be scheduled for the mission site and the presidio as part of the recently approved Río Nuevo project, which will include reconstructions of portions of both sites.

Further excavation took place at Spanish period sites south of Tucson, including at Guevavi in 1991 (Burton 1992a), and documentation of surface features was undertaken at Guevavi and Calabazas in 1992 (Burton 1992b). Excavations at the site of Tubac are still not reported in full (Williams 1992). Surface remains at the presidio of Terrenate on the San Pedro River were studied for the BLM by Sugnet and Reid (1994) and Waugh (1995).

Contract archaeology projects in greater Pima County focusing on historical-period sites include some relatively large, predominantly survey projects (Jones and Dart 1997; Seymour et al. 1997; Slawson and Ayres 1992, 1993, 1994; Stein 1993; Wellman 1994; Wells and Reuter 1997). Stein's (1993) work focused on a series of ranch and homestead sites in the northern Tucson Basin. There also were a variety of smaller survey, testing, and excavation projects (e.g., Baar 1996; Chavarria 1996; Diehl et al. 1996; Doak et al. 1995; Faught 1995; Harry and Ciolek-Torrello 1992; Jones 1995a, 1995b, 1996, 1997, 1999; Kaldahl 1999a, 1999b; Mabry 1991b; 1998a; Slaughter et al. 1993; Slawson et al. 1987; Sterner 1996, 1999; Tucker 1997; Vanderpot et al. 1993; Wallace 1996, 1998; Yoder, Holloway, Myers, and Slaughter 1996; Yoder, Myers, and Slaughter 1996). Investigations were conducted at the Romero Ruin by DAI (Swartz 1991, 1993). Another notable ranch site that has begun to receive archaeological attention is Agua Caliente Ranch, located in the northeastern corner of the Tucson Basin (Slaughter et al. 1995).

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Just east of Pima County, at Fort Huachuca in Cochise County, Sterner and Majewski (1998) conducted historical-archaeological investigations of the Slash Z ranch and three other early-twentieth-century sites. Kentucky Camp, a small, early-twentieth-century gold-mining camp in the Santa Rita Mountains south of Tucson, has been the focus of historical investigations and an ongoing restoration project by the U.S. Forest Service. The project has included limited excavations associated with the restoration efforts (Farrell 1993, 1995).

### Natural Science

The new director of the Desert Laboratory on Tumamoc Hill, hired in 1990, is Jay Quade. The laboratory's current mission includes a long-term commitment to developing a coherent framework for the study of surface processes in deserts. Cooperation among geologists, hydrologist, ecologists, botanists, and geochemists will result in a collaborative reconstruction of desert landscape history. The study areas have expanded globally to embrace North and South America, Asia, and Australia (Betancourt 1996).

### **Current Research in Pima County**

Archaeological research in Pima County continues to expand, largely as a part of compliance-driven CRM projects. We briefly describe some of the recent and ongoing research by Tucson-based consulting.

DAI is continuing their analysis of the Late Archaic occupation at the Los Pozos site and publication is expected in 2000. They continue to survey the lower San Pedro River valley as part of an ongoing volunteer effort. Excavations for ADOT at the Julian Wash site are also anticipated in 2000. Several ongoing projects involve the historical archaeology of Tucson. One is an effort to trace the extent of the walls of the Tucson presidio (Thiel 1998a).

A report on excavations in 1998 and 1999 in areas thought to correspond to the presidio wall will appear later this year. Excavations were also conducted in 1999 within historic Block 139 of the Barrio Libre, a traditional Mexican-American neighborhood just south of downtown, with occupation extending from the 1880s to the present. A variety of trash-filled features, including several outhouse pits, were excavated, yielding thousands of late-nineteenth- and early-twentieth-century artifacts. This is the first substantial data-recovery excavation in the Barrio Libre; a report on the project is in preparation. Also in 1999, excavations were carried out at the site of the Francisco Solano León farmstead on the west side of downtown, between the site of the presidio and the Santa Cruz River. León, originally a soldier in the Mexican presidio, occupied the farmstead with his family from the 1840s until the early 1920s. Features excavated in 1999 include house foundations, a well, an *acequia* (canal), a large trash-filled borrow pit, and an outhouse pit. A report on the project is in preparation, and an exhibit on the history of the León family, the excavations, and the many recovered artifacts is scheduled for April through June of this year at the Sosa-Carrillo-Fremont Museum in Tucson.

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In 1999, Old Pueblo Archaeology conducted data-recovery excavations at the Bojórquez Ranch in Marana, one of the few remaining, well-preserved Mexican-American ranch sites in the Tucson Basin (Jones and Dart 1999). Juan and María Bojórquez first built a house on the ranch around 1878, then sold the property in 1895. A subsequent owner homesteaded the adjacent property and abandoned the original house around 1900. Old Pueblo's excavations concentrated on the 1870s house foundations and associated features. The excavations revealed a five-room adobe residence and numerous associated artifacts, as well as an apparent outdoor barbecue pit and a trash feature. Analysis of the features and artifacts at the site and historical research on the Bojórquez family are underway, and a report will appear later this year.

SWCA archaeologists have recently studied portions of western Pima County during a series of extensive surveys on the BMGR. Their findings are being published in 2000 in a series of 13 volumes, available through Luke Air Force Base. In addition to information about the ceramic-producing cultures, such as Patayan, Hohokam, and Trincheras, important evidence of Paleoindian and Archaic peoples was discovered. Also found were traces of historical-period Native American and Euroamerican occupations.

The results of partial excavation by SWCA of prehistoric and historical-period remains associated with Agua Caliente Park in northeast Tucson will also be published in 2000. The work focused on Whiptail Ruin, a prehistoric Hohokam site, and the historical-period Agua Caliente Ranch. In addition to data-recovery excavations, SWCA staff members conducted oral-history interviews and archival research to tell the story of the nineteenth-century Pima County ranch.

In March 2000, SWCA archaeologists completed data-recovery excavations at Sleeping Snake Village, a large pre-Classic Hohokam settlement in Oro Valley. Creating a map of the entire village revealed approximately 150 pit houses and a central ball court. Results of the work will be combined with the results of several other, smaller data-recovery projects in the vicinity in a synthesis volume tentatively scheduled to appear in 2001.

A data-recovery project for ADOT at the intersection of I-10 and Cortaro Road unearthed remnants of a long history at the Valley Farms site, occupied from Archaic times to the historical period. Situated on the well-watered portion of the Santa Cruz River floodplain, the site yielded artifacts dating to the San Pedro phase of the Archaic period. Findings are scheduled to be published by SWCA in 2000.

At the site of a new water-pollution control facility just south of the intersection of I-10 and Ina Road, an extensive data-recovery project conducted for Pima County in 1999 produced a large quantity of artifactual and architectural information. The site, known as Las Capas, extended east at least as far as a similar data-recovery effort by DAI. In addition to a wealth of projectile points, extramural pits, and pit houses, the early San Pedro phase settlement provided evidence for some of the earliest farming in the Southwest in the form of charred corn specimens. The final report on the excavation is due to be published by SWCA in 2000.

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As part of an archaeological survey of the former Rancho del Lago property near Vail, the Tucson office of Lone Mountain Archaeological Services recently recorded two homestead sites dating to the late-nineteenth and early-twentieth centuries. Both are located on low terraces overlooking Pantano Wash and probably represent residences associated with small farming or ranching operations. Preliminary archival research on one of the homesteads indicated an 1895 homestead patent for the property. Testing at the same site has revealed an intact wooden foundation, probable water-control features, and scattered household trash (Gallison et al. 1999). Both homestead sites will be subject to data-recovery excavations and further archival research in the near future. The data-recovery project will also include two Archaic sites and eight Hohokam sites dating to the Rincon, Rillito, and Tanque Verde phases, all on terraces along Pantano Wash and on the former Rancho del Lago property.

Later this year, Lone Mountain will begin data-recovery excavation at two historical-period sites in the Altar Valley of southern Pima County, within the Buenos Aires National Wildlife Refuge. One site is a small, historical-period Tohono O'odham settlement, and the other is a small, Euroamerican settlement associated with nearby mining claims. A prehistoric Hohokam site in the vicinity will also be tested and excavated.

Beginning later this year, SRI will conduct archaeological and historical research at Badger Hole Ranch, located northwest of Tucson along Cañada del Oro Wash. The project, prompted by county plans to widen adjacent Thornydale Road, will include excavations at the prehistoric Badger Hole Ranch site, AZ AA:12:40 (ASM). A historical-period ranch, once the locale of the guest ranch and resort Rancho Toda la Vista, was previously tested and recorded (Whittlesey et al. 1998).

Also later in 2000, SRI will conduct data-recovery excavations for ADOT at the Mescal Wash site, AZ EE:2:51 (ASM), along Cienega Creek in eastern Pima County. The large, multiple-component site includes Archaic, prehistoric, and possible historical-period occupations. The location of the site at the junction of Mescal Wash and Cienega Creek makes it the most likely location of a reported Spanish Colonial-period bivouac for military units moving from the Tucson presidio to Apachería (Altschul et al. 2000:8). The SRI project will include investigation of this potentially important component of the site.

One of the most important projects now being carried out by SRI is an on-call contract for Luke Air Force Base involving research on the BMGR. In addition to surveying large areas of the range, SRI is expecting to carry out excavations at rockshelter sites and recover information from imperiled features. The report of SRI's oral-history project on the range is slated to be published in 2000.

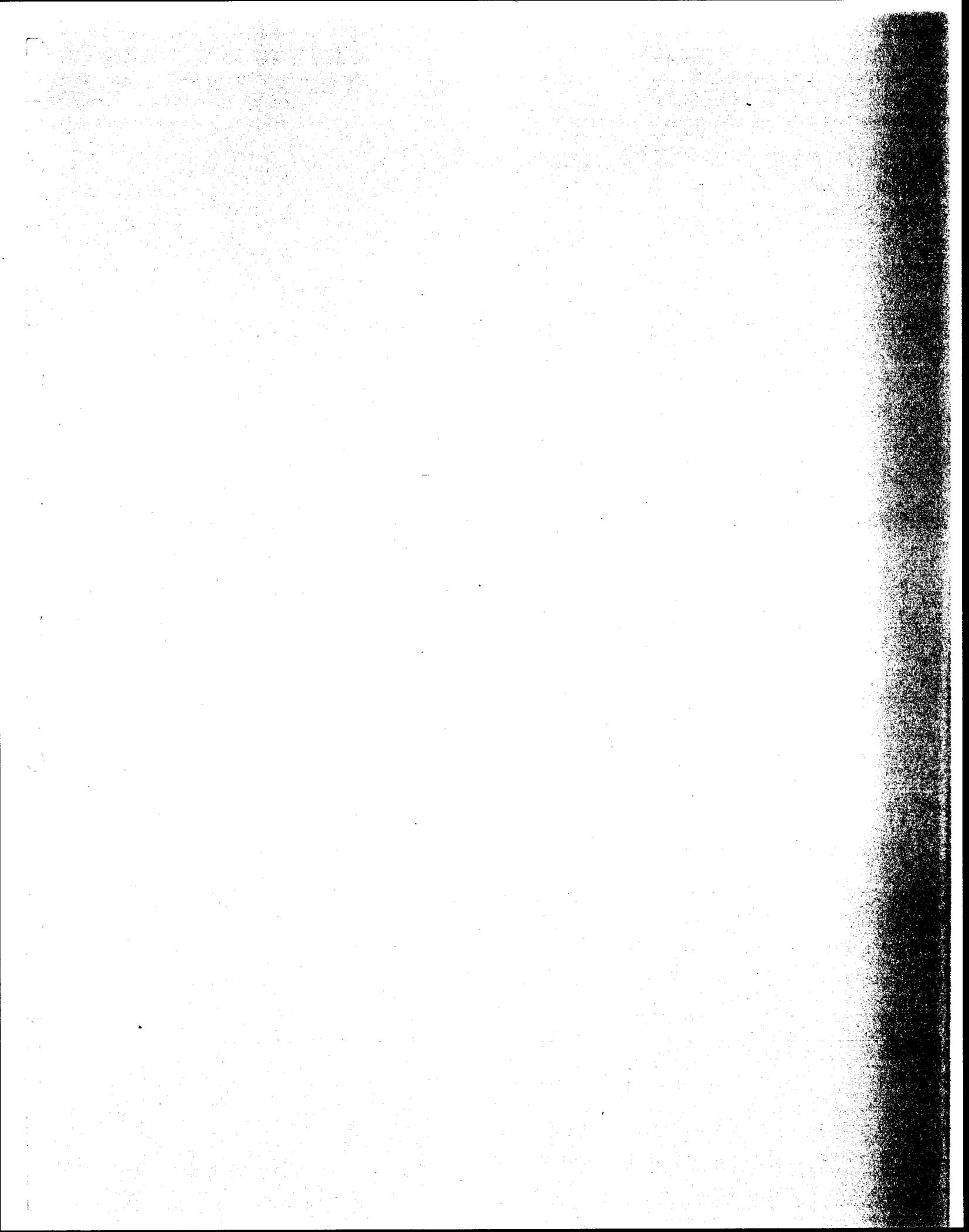
### **Summary and Conclusion**

The study of past and present peoples—their history, archaeology, and ethnography—has had a long and rich record in Pima County. Beginning in the 1880s and continuing to the present day, many dedicated researchers have devoted their careers to investigating the complicated ways that people interact with their environment and with each other. It is important to remember that the study of history and prehistory cannot be taken out of context. To understand what happened in the past in Pima County, we need also to understand what happened in southern Arizona, the rest of the state, and in the Southwest. During historical times, we also need to place Arizona's history in a larger national and global context. Arizona's history did not develop in isolation, as Sheridan (1995) reminds us.

Among the more important milestones in Arizona archaeology are the founding of private institutions for archaeological research, the development of the University of Arizona as a research institution, and the revolution of the new or processual archaeology. Most significant by far is the development of modern contract archaeology with its legislative backing and its expanded funding base. In the 1990s, legislative and ethical concerns have promoted increased cooperation between Native Americans and archaeologists and tribes have made great strides in taking control of the study of their own history.

As we move into the new century and millennium, the future remains bright for the study of southern Arizona's past and present peoples. Today's archaeology cannot be carried out by lone scholars in isolation, as it was around the turn of the nineteenth century when archaeologists first ventured to study the wild West. Instead, today's archaeology is a complex activity with many players—the public; professional archaeologists; interested avocational archaeologists; Native Americans; legislators; agencies on local, state, and federal levels; academic institutions; and CRM concerns in the public and private sectors. With a legal mandate to protect, study, and cherish our nation's cultural heritage, we can go forward with the knowledge that all of us working together can accomplish great things for the public good.

*For further information on the history of archaeological, historical, and ethnographic research, the reader is urged to consult the following works: Reid and Whittlesey (1997), particularly the chapters on the history of research and the Hohokam and Patayan chapters; McGuire (1982a); and Sheridan (1995).*



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