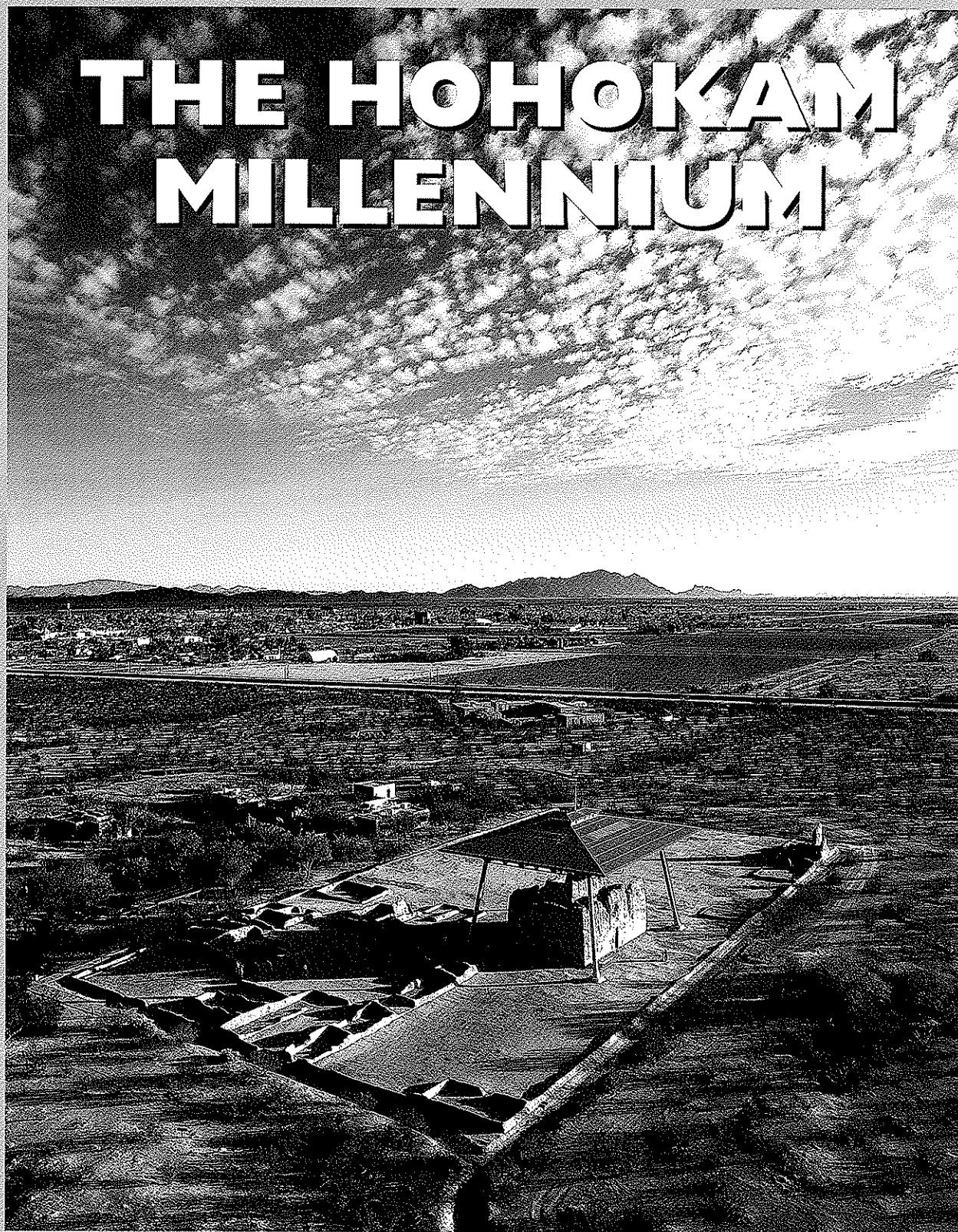


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THE HOHOKAM MILLENNIUM



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Cover photograph (front): Casa Grande Ruins National Monument © Adriel Heisey.
Cover photograph (back): Excavated room blocks at the Pueblo Grande Museum © Adriel Heisey.

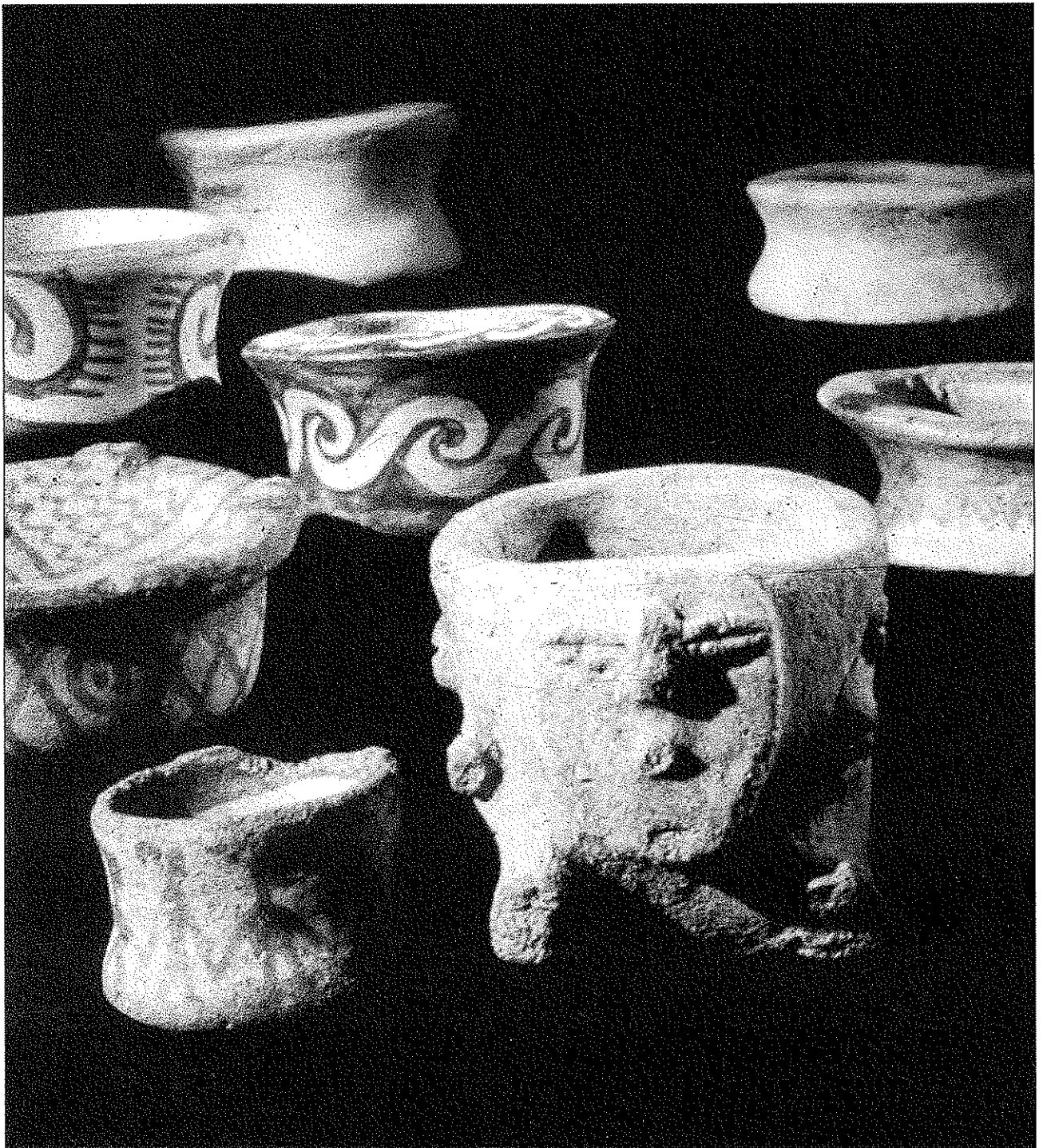


Figure 1.1. Thick-walled Hohokam censors made of pottery and stone during the Preclassic period resemble pre-Hispanic Mexican vessels used to burn aromatic substances as incense.

The Hohokam Millennium

Suzanne K. Fish and Paul R. Fish

Hot, dry regions of the world have produced some of the most memorable preindustrial civilizations, and the southern deserts of Arizona are no exception. The aptly named modern Phoenix, now the fifth largest city in the United States, arose not from the ashes but from the ruins of what was the most populous and agriculturally productive valley in the West before 1500 CE. When the early Southwestern archaeologist Frank Hamilton Cushing entered this Salt River valley in 1892, he climbed atop an earthen monument in what would become urban Phoenix and exclaimed at the discovery of “one of the most

extensive ancient settlements we had yet seen.... Before us, toward the north, east, and south, a long series of...house mounds, lay stretched out in seemingly endless succession” (fig. 1.2). Entrepreneurs arriving from the eastern United States a few decades earlier had, like Cushing, seen not only house mounds but also the former courses of the most massive canals ever built in the pre-Columbian Americas north of Peru (fig. 1.2; plate 20). They soon reestablished large-scale irrigation by laying out new canals virtually in the footprints of the prehistoric ones, triggering the growth of the future city.

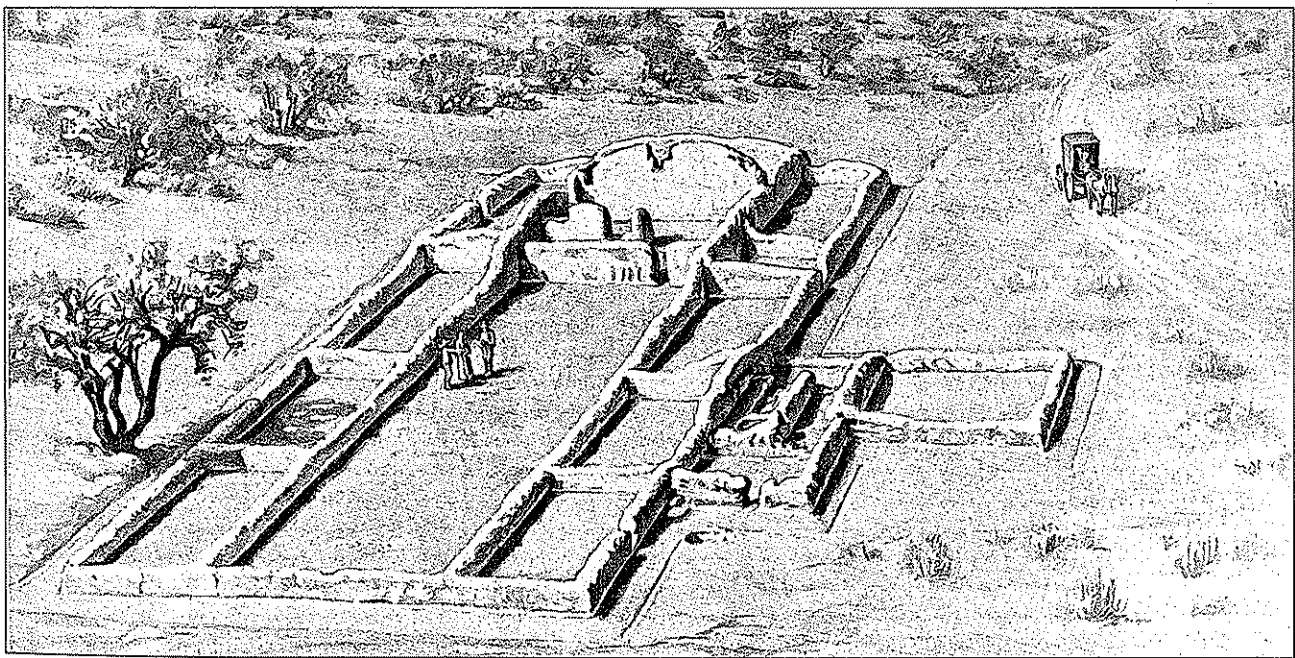


Figure 1.2. Centuries of weathering reduced Hohokam adobe buildings to low “house mounds” of earth. When excavated, the mounds often reveal well-preserved outlines of walls, as in this compound at Casa Grande National Monument excavated in 1908.

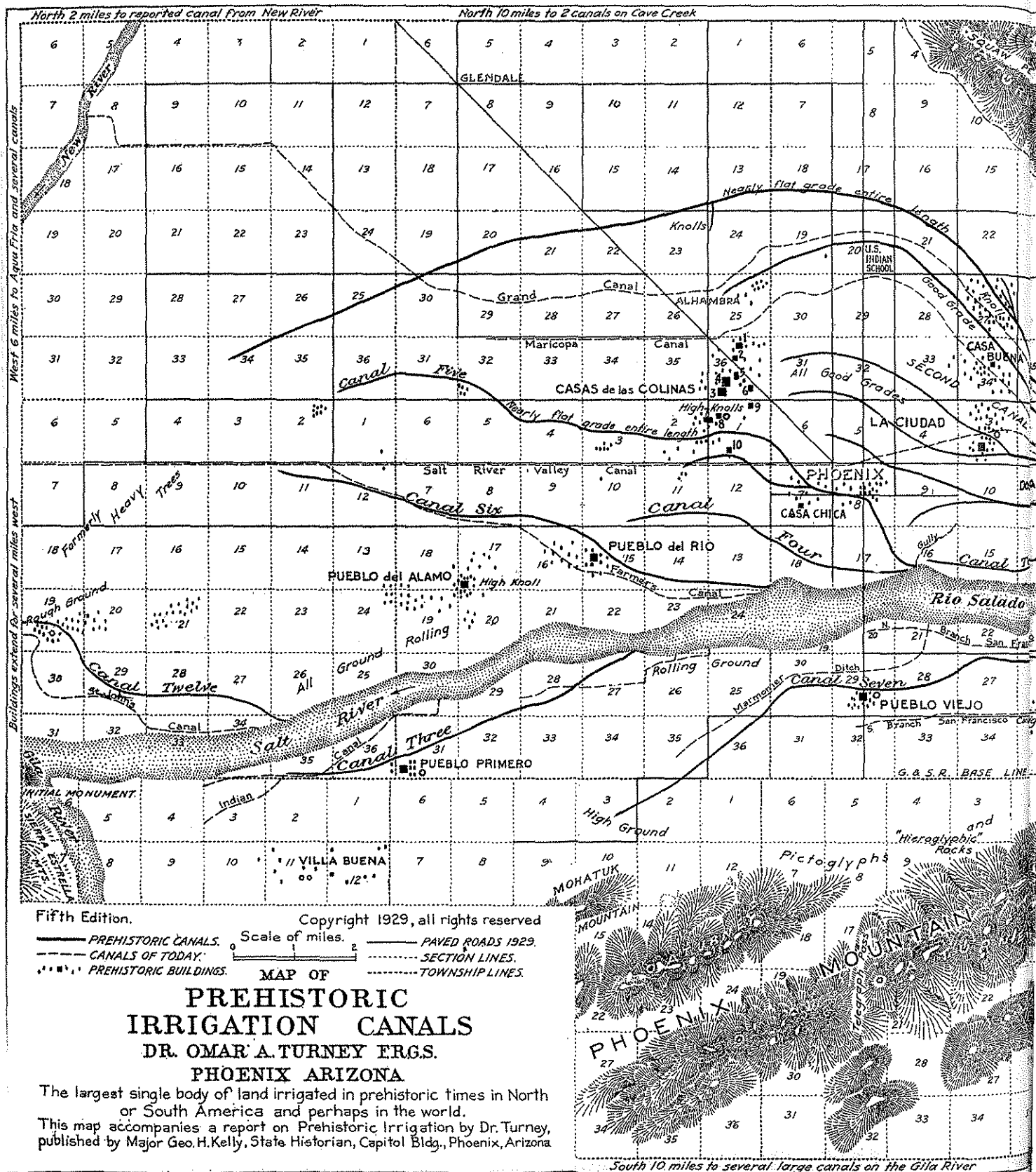
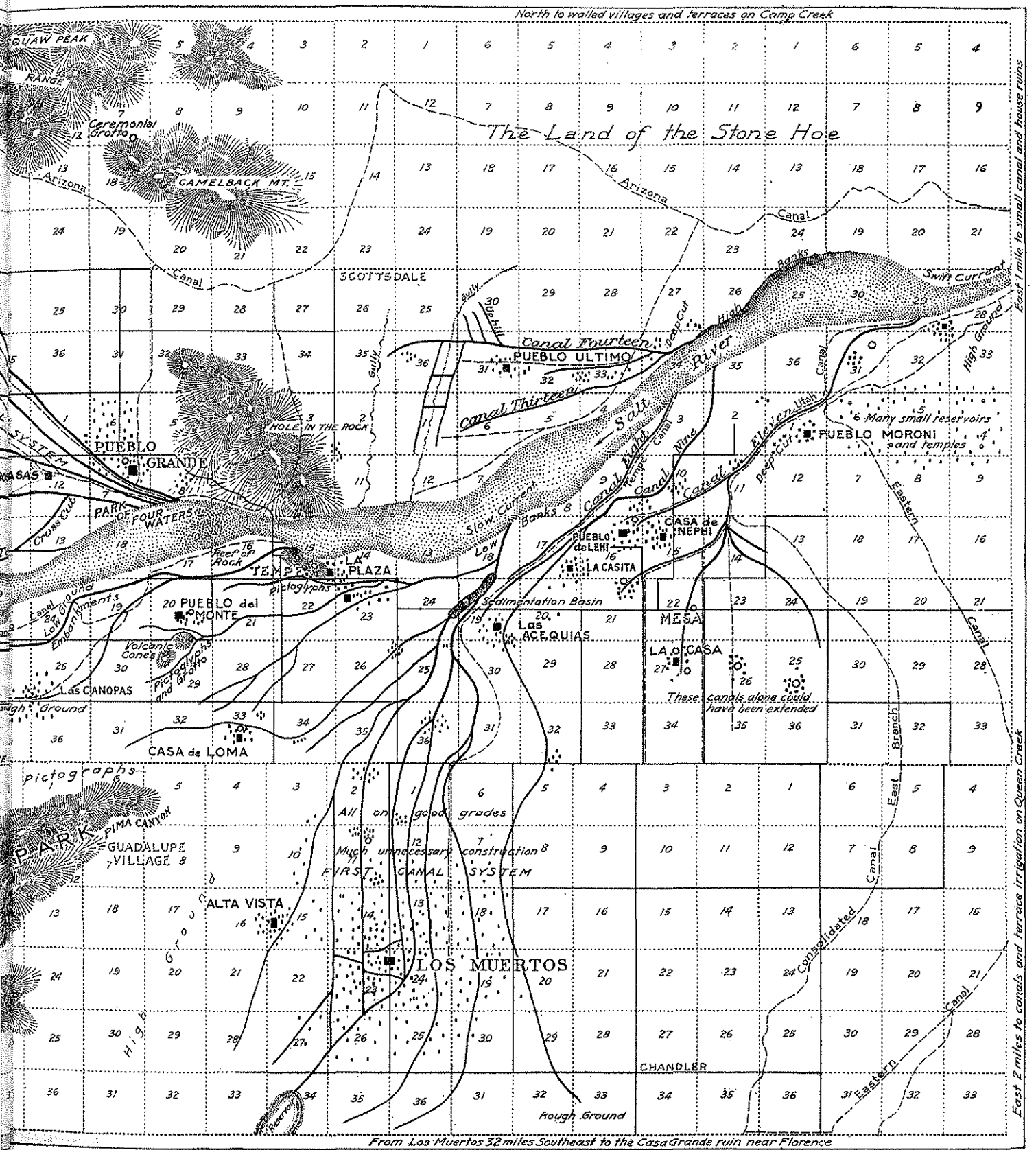


Figure 1.3. Omar Turney, engineer for the city of Phoenix, compiled this map of major Hohokam sites and canal systems in the



East 1 mile to small canal and house ruins

East 2 miles to canals and terrace irrigation on Queen Creek

1920s, on the basis of earlier records and remains still visible at the time.

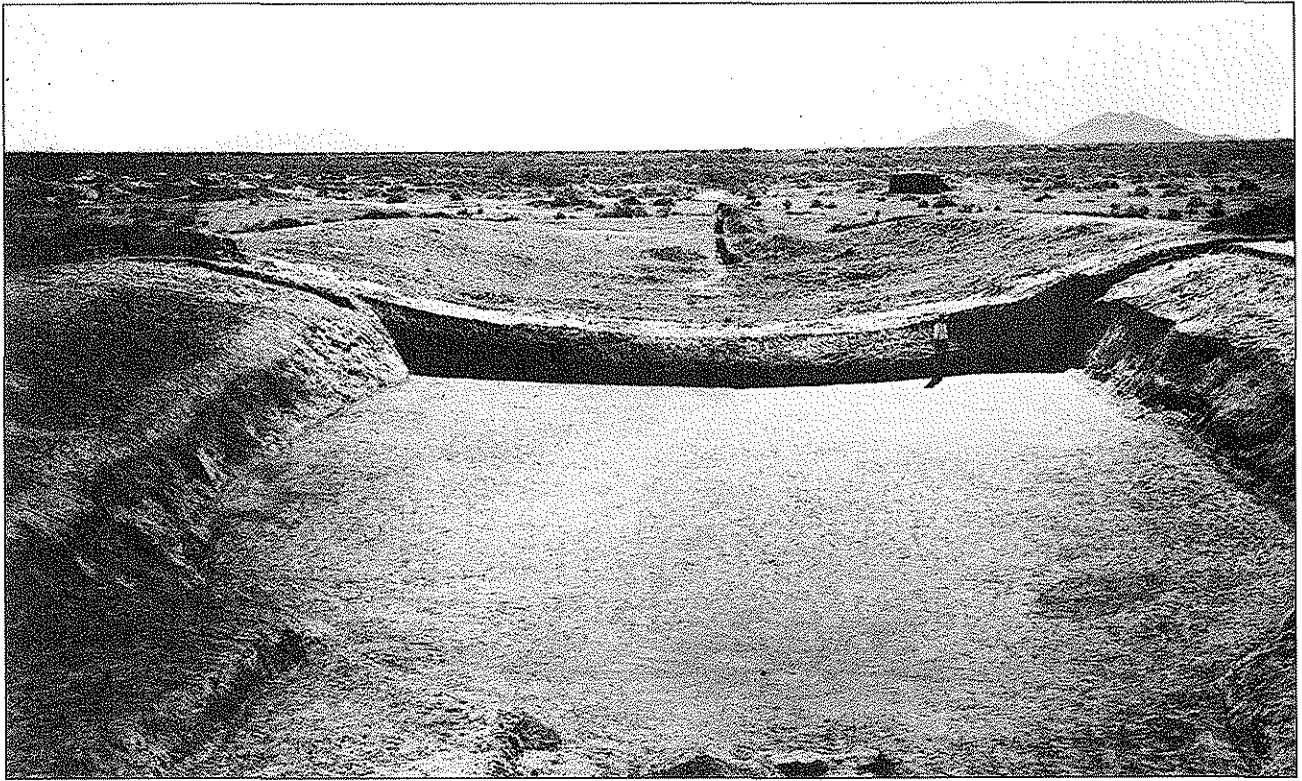


Figure 1.4. Partially excavated ball court at Snaketown. The earthen banks of ball courts enclosed the playing field and provided a vantage for spectators during ball games or other public events.

The remarkable people whom archaeologists call the Hohokam were the builders of the earthen monuments, adobe houses in profusion, and huge canals that so impressed later visitors to the Salt River Valley. From 450 to 1450 CE—the “Hohokam millennium”—the basin at the confluence of the Salt and Gila Rivers formed the core of their geographic and cultural domain. For 1,000 years the Hohokam maintained a recognizable cultural identity among the diverse peoples who inhabited other parts of the prehistoric Southwest and adjacent northwestern Mexico.

Who Were the Hohokam?

The fragments of buff to brown pottery with red painted designs (plate 5) that litter the low-lying basin floors of southern Arizona are the most distinctive and abundant material remains of former Hohokam residents. Ingenious farmers who employed an assortment of agricultural strategies to grow crops in arid terrain, they ultimately engineered irrigation networks surpassed in length and

size only by the canals of Andean empires. In addition to creating unique artifact styles, the Hohokam set themselves apart from the ancestral Pueblo, Mogollon, and other archaeological cultures of the Southwest by the forms of the public buildings in their largest villages. These ball courts (fig. 1.4) and platform mounds (plate 9) reflect the characteristic beliefs and community rituals of the Hohokam.

What might it have meant to individuals, household members, and villagers to have been participants in the Hohokam cultural sphere? It is difficult to answer this question from the fragments that have survived for archaeologists to examine. Yet the fact that they shared the same ways of making and decorating pottery, as well as other canons of style and utilitarian design, tells us that they were in close communication with one another and held common understandings about such matters. That they shared crops and farming technologies shows that they turned to the same solutions to meet the challenges of desert cropping. That they built the same sorts of structures for communal rituals

implies that a shared set of beliefs guided them. But archaeologists cannot determine whether all the ancient Arizonans they classify as Hohokam spoke the same language, or whether they considered themselves to be members of the same ethnic group or culture.

Why these uncertainties over the meaning of being Hohokam? First, the distinctive archaeological remains that identify the Hohokam heartland are spread over an expanse of almost 30,000 square miles in the southern half of Arizona, an area larger than the state of South Carolina. The hallmarks of Hohokam culture are generally bounded by the upper reaches of the Agua Fria and Verde Rivers to the north, the Mogollon Rim to the northeast, the Dragoon Mountains to the southeast, the Mexican border to the south, and the Growler Mountains to the west (see map 1).

Within this far-flung territory, archaeological remains have much in common, but they also vary in important ways. Inhabitants of some sectors chose only parts of the overall cultural package to incorporate into their lives. For example, in the Tonto Basin, on the northeastern edges of the Hohokam domain, local people using red-on-buff pottery never built ball courts, although they eventually erected platform mounds. Migrations of Hohokam and non-Hohokam groups into the Tonto Basin contributed to the mixing of cultural practices. Where local groups shifted between full and incidental participation in Hohokam cultural traditions at different times, the archaeological boundaries for the Hohokam shift accordingly (see chapter 12).

A second reason for our uncertainties is the area's historic ethnic diversity. When Spanish explorers arrived in the late seventeenth century, they found Native Americans with diverse languages and life-styles all living in the former Hohokam domain. They included groups speaking primarily Piman languages (O'odham dialects) in the central portion, people speaking Yuman languages (Colorado River Yuman to the west and Yavapai to the north), and groups speaking Athabascan languages (Western Apache) in the northern and eastern reaches (see map 2). The diversity of the postcontact era suggests that the

Hohokam, too, might not have been homogeneous in all respects. It also complicates the question of how the prehistoric Hohokam are related to the succeeding native occupants of the same region (see chapter 15).

How Are the Hohokam Remarkable?

Among preindustrial societies throughout the world, the Hohokam hold the distinction of having constructed massive canal networks (up to 22 miles in length) and irrigated extensive tracts of land (up to 70,000 acres) in the absence of state-level government and a corresponding level of societal complexity. Archaeologists have not yet identified the graves or dwellings of rulers with such obvious high status and power that they could have imperiously resolved the inevitable disputes that arise among multitudes of water users or regulated the huge labor force needed to build and maintain the canals. Nor have archaeologists found evidence of a developed Hohokam bureaucracy that could have provisioned and organized workers. Yet the canal systems alone clearly required a tremendous amount of coordinated labor. Jerry Howard, an expert on Hohokam irrigation, estimates that it would have taken nearly a million person-days of labor to construct the trunk-lines of just one of the Phoenix Basin canal systems (see fig. 1.3). That figure does not include the additional effort needed to build secondary lines out to fields, clean out annual buildups of canal sediments, and make repairs after storms and floods.

The Hohokam also constructed earthen ball courts and platform mounds of modestly monumental size relative to those found elsewhere in the ancient world, again without all-powerful rulers or an established bureaucracy. The placement of these monuments imparted a unique pattern to Hohokam landscapes. Large villages with ball courts or platform mounds appear about every three miles along major canal lines in the Phoenix Basin and at greater intervals among surrounding settlements. The largest villages stood at the centers of clusters of smaller settlements, each cluster forming an organizational unit of population and territory that Hohokam archaeologists call a "community." The monuments in the centers served as

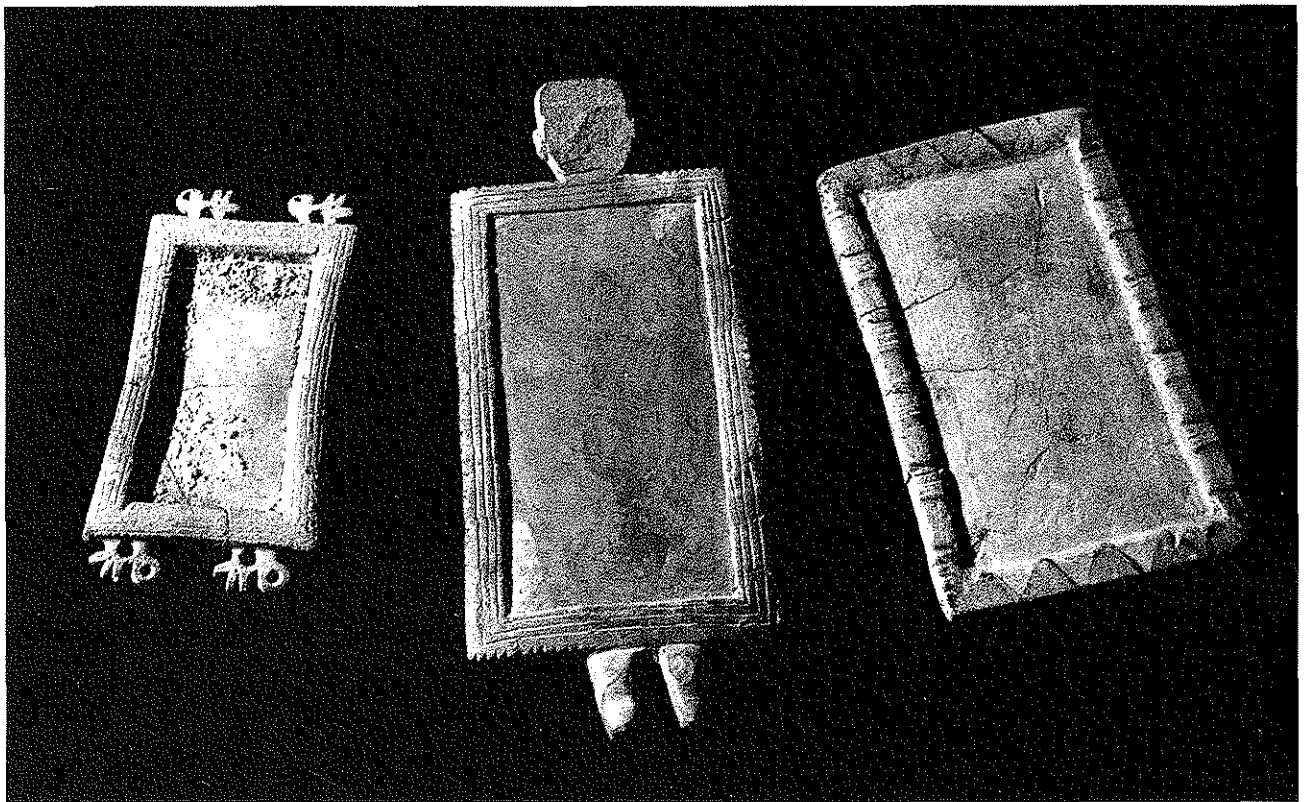


Figure 1.5. The Hohokam of the Preclassic period used carved stone palettes in household and public rituals.

staging areas for communal events unduplicated in outlying settlement zones. This characteristic mode of community organization both accommodated and shaped Hohokam economic, political, and ritual life (see chapter 5).

Ball courts and platform mounds are unusual in the US Southwest in their resemblance to the monumental forms of Mesoamerica, the heartland of the Toltec, Aztec, Maya, and other high cultures centered in what today is Mexico. Hohokam stylistic motifs and artifacts that are related to ritual and ideology, such as figurines, palettes, and censers, also show a pronounced Mesoamerican inspiration (figs. 1.1, 1.5). Many questions about the nature of this cultural connection linger unanswered because archaeologists until recently have mostly neglected the 400 miles of northwestern Mexico separating the Hohokam from the most likely west Mexican sources of such Mesoamerican traditions. (As chapter 7 shows, this situation is beginning to change.) A stronger Mexican connection than is seen elsewhere in the Southwest is further apparent in the

Hohokam trade for copper bells, iron pyrite mirrors, marine shells to make into jewelry, and a few other items that originated south of today's border.

The Hohokam are especially notable for the long-term continuity of their lifeways. In comparison with peoples in other parts of the Southwest, the Hohokam tended toward unusually prolonged residence in place. Once established, some clusters of dwellings in the largest settlements persisted—renovated, extended, and rebuilt—up to several hundred years. Central plazas in these foremost settlements remained the heart of village life from beginning to end. Successive generations lived in many of the largest settlements, amid irrigated land, for more than half the Hohokam millennium, and farming families returned again and again to outlying settlements where crops could be watered by alternative means. Settlement stability was an outcome of the productivity and sustainability of Hohokam agriculture. Sustainable production in turn was closely tied to places where enough water could be predictably captured and delivered to crops.



Figure 1.6. Saguaro, cholla, prickly pear, and small trees with edible beans supplied the Hohokam with important foods in the Sonoran Desert.

The Sonoran Desert Environment of the Hohokam

The great majority of Hohokam people lived within the outlines of the Sonoran Desert in southern Arizona and within the range of the towering saguaro cactus, one of its distinguishing species (fig. 1.6). Sonoran Desert vegetation differs from that of the Chihuahuan Desert to the east and the Mohave Desert to the west, thanks to rainfall that arrives in both winter and summer rather than mostly at one time of year. The two seasons of rainfall allow the Sonoran Desert to support large cacti such as saguaro and cholla and dryland trees such as mesquite, ironwood, and paloverde, in addition to the shrubs common to all three deserts. The fruits and buds of the cacti and the beanlike pods of the trees provided plentiful and reliable

wild staples in the Hohokam diet. Groves of mesquites and plants with edible small seeds, including saltbush, grasses, pigweed, and goose-foot, flourish along Sonoran Desert watercourses. For most of the meat they consumed, the Hohokam hunted jackrabbits, cottontails, and other small animals on land surrounding their homes and fields. As the human population increased, hunters had to go farther afield for large game, pursuing deer and bighorn sheep at higher elevations. The wild resources of the Sonoran Desert added variety, nutritional balance, and back-up supplies in times of poor harvests.

Hohokam everywhere experienced the risks and opportunities of their Basin-and-Range environment. They focused their day-to-day lives as farmers on land in the basin interiors. They seldom



Figure 1.7. A street vendor in Guaymas, Sonora, sells sweet slices of baked agave hearts.

lived in the mountains at basin edges and only occasionally sought out upland resources. Temperatures typically topped 100° F on 90 days or more per year, and annual rainfall varied from 7 to 15 inches. The vast highland watersheds of the Salt and Gila Rivers allowed the Phoenix Basin Hohokam to fill miles of canals. Farmers in other basins used floodwaters in tributary streams after heavy summer rains, along with smaller-scale canals, to water their crops. The Hohokam raised corn, beans, squash, and cotton in irrigated and floodwater fields. They also trapped surface runoff in stone grids, on low terraces, behind checkdams, and under mulches of piled rock on dry slopes to grow smaller amounts of these crops and to raise agaves for food and fiber (fig. 1.7).

Hohokam Historical Trajectories

The beginnings of agriculture in Hohokam country

at about 2000 BCE kicked off a rise in population and an increase in societal complexity that would span the Hohokam millennium. The arrival of domesticated corn, or maize, from Mexico curtailed the seasonal movements of the hunters and gatherers who had populated the Sonoran Desert before this time. By 1500 BCE, early cultivators in the Tucson Basin were constructing irrigation ditches in small settlements along the Santa Cruz River. Archaeologists find many large food-storage pits in and around the small, circular houses of these early farmers. Along with the substantial labor invested in building canals and maintaining fields, stored harvests suggest that people stayed in their settlements for much of the year.

An important transition in the organizational scale of society about 450 CE coincided with the consolidation of patterns in artifact styles, architecture, and economics that archaeologists define as

Hohokam culture. People came together in more permanent settlements with well-built pithouses. Homes surrounded central plazas in the largest villages. Soon, Hohokam people in the Phoenix Basin began to construct the massive irrigation systems for which they are famous. Hallmarks of Hohokam culture such as ball courts, red-on-buff pottery, palettes, and censers made their first appearances, and people began to cremate their dead, a practice common among the Hohokam. Ritual objects and ball courts signaling participation in Hohokam ideology reached their greatest regional extent between 700 and 1150 CE, a time span that archaeologists call the Hohokam Preclassic period. During the same interval, cultural developments in Chaco Canyon peaked, and Chacoan-style "outlier" settlements proliferated across the Puebloan Southwest to the north of the Hohokam.

The transition to the Classic period after 1150 CE marked a watershed in Hohokam culture. Phoenix Basin potters produced less and less of the trademark red-on-buff pottery and eventually stopped making it entirely in favor of pan-Southwestern styles. Rather than continue to arrange pithouses in small groups around a shared courtyard, villagers began to build larger groups of adobe rooms inside walled compounds. Toward the end of the Preclassic period, the Hohokam stopped building and using ball courts. Instead, as the Classic period opened, they began erecting platform mounds with rooms on top. Like the new adobe houses, the mounds were enclosed within a wall. They reflected a new set of rituals and beliefs that included the acceptance of a growing hierarchy among social groups. Local inhabitants built platform mounds in an area smaller than that over which ball courts had once been distributed. Canal systems in the Phoenix Basin, in contrast, reached their greatest extent, and cultivation away from the rivers increased. Most Hohokam subareas reached their maximum populations during the Classic period, while population densities increased at the largest centers. Puebloan people migrated from the north into the Hohokam basins, heightening the diversity of the occupants.

Sometime between 1400 and 1550 CE, Hohokam society collapsed, and the Hohokam disappeared as

a coherent archaeological culture. Because archaeologists have found so little evidence for what really happened at the end, they hold conflicting opinions and promote different scenarios. The long record of large and sustained agricultural settlements within Hohokam boundaries ends without any clear transition to groups with new cultures. We have little information about the people of the Phoenix Basin until the Spanish Jesuit missionary Father Kino visited the area more than a century later, in the 1680s. By that time, indigenous peoples did not closely resemble the Hohokam.

One current scenario, based on reconstructions of annual Salt River stream flow from tree-ring data, sees disastrous fourteenth-century floods leading to unpredictable harvests, hunger, and disease, forcing many people to leave the region. According to another view, an increasingly hierarchical and demanding leadership fostered political instability and was overthrown from within. O'odham oral traditions describe events of this sort (see chapter 15). Other archaeologists propose that the deadly new diseases introduced into central Mexico by the Spaniards traveled rapidly along the trade routes, dealing a devastating final blow to the Hohokam.

Hohokam Archaeology and Archaeologists

A few pioneering Southwestern archaeologists came to Arizona in the late 1800s and early 1900s to excavate at major Hohokam sites for patrons and institutions in the East, but they did not maintain these interests throughout their careers. The first person to dedicate himself to studying the ancient people of southern Arizona was Harold Gladwin, who established his own research station, called Gila Pueblo, and went about defining the extent of the "Red-on-Buff culture" in the early 1930s. Lacking professional training as an archaeologist, he hired a young scholar named Emil W. Haury to assist in his excavations at Snaketown on the Gila River, the most influential of all Hohokam sites (map 2). The central importance of Emil Haury and his work to Hohokam archaeology cannot be overstated. During his long and distinguished career at the University of Arizona, Haury returned to Snaketown in the 1960s and later published a



Figure 1.8. Emil Haury looks down an excavated canal at Snaketown in 1964.

report that remains the classic reference for Hohokam studies (fig. 1.8).

A relatively small number of publications on the Hohokam appeared before the early 1980s, when a rapid change in the structure and personnel of Hohokam scholarship was just getting under way. A complex of new federal and state laws mandated that archaeological remains be inventoried and investigated before land could be developed (see chapter 13). University faculty and students were joined by archaeologists in growing numbers of private companies that formed to meet the demands of Arizona's dramatic urban growth and large-scale federal land and water projects. Federal, state, county, and city agencies and, finally, tribal

governments hired archaeologists and established programs to oversee threatened archaeological resources. In Arizona, the Bureau of Reclamation and the Arizona Department of Transportation were major funders of Hohokam research, sponsoring large projects and a continuing series of smaller efforts. An explosion of publications resulted in the following decades. In just 25 years, the Hohokam domain became one of the most intensively studied regions in the world, and scholars now must scramble to absorb the exponentially expanding archaeological data.

The contributors to this book represent the dynamic mix of researchers and scholars that marks today's Hohokam archaeology. They speak to

readers “from the trenches” as the archaeologists who have designed and directed some of the most innovative and insightful research of recent years. Chapter authors include university faculty, owners and principal investigators of archaeological companies, and scholars at nonprofit archaeological centers. They also are federal agency archaeologists, tribal archaeologists, tribal cultural resource managers, and tribal elders. Together, they represent a diversity of expertise, experience, and viewpoints that hardly could have been envisioned a few decades ago.

Suzanne K. Fish and Paul R. Fish are both curators of archaeology at the Arizona State Museum and professors of anthropology at the University of Arizona. Suzanne Fish’s research in the Arizona-Sonora borderlands involves ethnobotany, traditional farming, archaeological settlement patterns, and Hohokam social and political organization. Paul Fish’s Hohokam research emphasizes settlement patterns, farming systems, and the emergence of complexity.