MISSION GUEVAVI:
EXCAVATIONS IN THE CONVENTO

WILLIAM J. ROBINSON
The University of Arizona

with a section on artifacts by

Mark R. Barnes
National Park Service

ABSTRACT

Investigations at an 18th century Jesuit mission near Nogales, Arizona were undertaken in 1964-65 and 1965-66 by the Arizona Archaeological and Historical Society. Nine rooms in the living quarters were fully or partially excavated as well as some outlying structures. Material culture was sparse as the mission had evidently been intentionally stripped upon abandonment about 1773. Architectural remains were not sufficiently diagnostic to determine functions for individual rooms. After abandonment, the mission was re-occupied for local mining activities. Little information was obtained on the location or nature of the Indian village for which the mission was presumably built.

INTRODUCTION

At the outset, it might be helpful to explain the rationale behind the excavations that were undertaken at Mission Guevavi. In the spring of 1958, some of the members of a seminar class conducted by Emil W. Haury at the University of Arizona became interested in the continuity, or lack thereof, between the prehistoric cultures (as defined by archaeological research) in the southern part of Arizona and the ethnographic populations first documented by Father Kino in 1691. The traditional view (Haury 1950:18) terminated the prehistoric occupation around 1400 or 1450 and left the years between then and the arrival of Kino as a blank in the record (although Coronado and his party certainly record encountering "natives"). This period has been popularly referred to as the "gap" and was the period that drew the interest of the members of the seminar class. I should add, parenthetically, that we were neither the first nor surely the last to be caught up in this seeming paradox. If, indeed, no population could be documented after 1450, then the Piman-speaking peoples contacted by Kino seemed products of spontaneous creation shortly before the arrival of the Jesuit padre.

The first approach to this problem was also traditional. We attempted to locate archaeological sites (mainly on the Papago Indian Reservation) which would provide indications of early Spanish material goods and contemporary Papago ceramics. At the same time, we attempted to learn as much as possible
about the ceramic technology of Papago potters. This latter, as it turned out, may have been the most important portion of the study, as ceramic technology — at least in the aboriginal pattern — is in the terminal stages among the Papago. This study resulted in a publication (Fontana and others 1962), but failed to resolve the “gap” problem. We felt that the failure was due in large part to the surface nature of the sites and our consequent inability to relate aboriginal ceramic assemblages to the Spanish contact period material. To be sure, most of the sites with any vestige of Spanish material had little or no indication of stratigraphy, and the surface collections contained material possibly as old as 1700 to material from the 1930s such as glass and tin cans.

To resolve the weaknesses felt in the original study, we turned to excavation and chose visible remains close to the present San Xavier del Bac. Although the present structure at San Xavier postdates 1783 (Fontana 1963), earlier ruins and the knowledge that San Xavier had been originally founded by Father Kino tempted us to hope that the desired combination of early Spanish material and contemporary Papago ceramics would be located stratigraphically together. Excavations commenced in 1958 (Robinson 1963) and continued casually until 1963. The ideals that led us to excavate were not realized. First, none of the remains could be confidently said to predate 1750 and much of the material was later; second, the deposits were badly churned due to extensive use of the site and the constant rebuilding and remodeling of San Xavier; and finally, there was no evidence of aboriginal occupation *per se* — no architectural remains and no artifactual assemblages — although small amounts of Papago materials were found.

Ever optimistic, we turned to the mission at Guevavi. It is historically placed earlier than the extant structure at San Xavier; its history encompasses the years between 1691 and 1774 only (Kessell 1966, 1970). In addition, the site that the ruins of Guevavi occupy today is range land, and there was no evidence of later use or disturbance of the site, except by the hooves of numerous cattle, the customary ravages of time, and the ubiquitous work of the treasure-seeker. There seemed to be, also, more evidence on the surface of the site of materials of aboriginal manufacture. Thus Guevavi obviated, in our minds, many of the difficulties encountered at San Xavier.

We obtained permission to excavate Guevavi from the owners of the Rancho Guevavi, Mr. and Mrs. Ralph Wingfield, in a letter dated September 30, 1964. During the two years of operations, the Wingfields never failed to cheerfully tolerate our presence, even on those days when the site looked more like an office picnic than an archaeological excavation. They acceded to our request to install a gate in a drift fence separating site from the access road and even evidenced real interest in our esoteric vocation.

The excavations at Guevavi were not financially supported in any way, and the manpower problem was filled with volunteer labor by members of
the Arizona Archaeological and Historical Society and by students from the Department of Anthropology, The University of Arizona. Since many of the members of the Society were inexperienced in archaeological techniques, a training session was held a few weeks before excavation commenced to acquaint them with basic techniques and the fundamentals of recording and observation. In practice, however, nearly all of the recording during the two years of fieldwork was accomplished by the author and other supervisors. Most of the members of the Society who later participated in the excavation did, in fact, attend the training session. As manpower requirements became more stressed as excavation proceeded, this initial requirement was somewhat relaxed.

For the third time, the research effort failed to shed much light on the problems of immediate pre-Spanish cultural patterns. None of the reasons for selecting Guevavi in the first place proved to have much basis in the light of excavation. First, we were not able to identify, at the site of Guevavi or in the environs, the ranchería or rancherías that must have existed to provide souls for conversion. We are confident that Guevavi itself was not the site of a pre-mission village of any kind. An alternative would seem to be that Guevavi was simply centrally located by the padres in an area of occupation. Yet our survey failed to locate surface indications of much occupation, regardless of time assignment. There were numerous small sherd areas, with late-appearing red-on-brown pottery, both upstream and downstream from the mission. But no visible architecture or other remains were associated with the sherd areas. Some putative village sites recorded earlier by Danson (1946) had either fallen to the ravages of time, road-building, and ranch development, or were thought to be too early.

Second, the mission itself evidently is a structure that was built and occupied between 1746 and 1767, with a brief Franciscan re-occupation until 1773 or 1774. No architectural remains could be assigned to the period of Father Kino and Father San Martín around 1701, nor to the later period of sporadic Jesuit occupation between 1732 and 1746. That there was a church to serve the mission station between 1732 and the dedication of the visible structure in 1751 is a foregone conclusion. Where it stood is not known, although we did locate some structures that may predate the present building. These will be discussed later.

Thus in terms of the problems originally conceived, this report falls short. It is exclusively descriptive of the work done, to provide a record for the future.

Schedule and Participation

Excavations at Guevavi commenced on November 1st, 1964 and terminated on March 13th, 1966. Work was performed only on Sundays from
approximately 10 a.m. to about 4 p.m. A total of 30 days were used during the period, since excavation terminated seasonally about April 1st, and was suspended during Christmas and New Year holidays. Only a single day was lost to weather conditions.

Prior to actual excavation an arbitrary datum was established in the cloister area for both horizontal and vertical control. The site was staked in a metric grid oriented to magnetic north. The datum and two additional points on the east-west base line beyond the confines of the architecture were permanently set with metal rods and cement. In addition to the establishment of horizontal and vertical controls, a survey of the environs (about one mile on the right bank of the Santa Cruz) was begun. This survey was continued throughout the period of excavation at sporadic intervals.

Although some backfilling was accomplished by hand, a front-end loader was hired from a local sand and gravel operation to complete backfilling. This work consumed less than two and one-half hours and was done in early April, 1966. Most of the rock removed during excavation was thrown back into the major rooms, thus providing a layer immediately above floor in the excavated rooms. Unfortunately, none of the supervisory personnel were present during backfilling, but inspection about a week later indicated that a thorough job was performed and that no visible damage to the site had occurred.

More than 120 individuals volunteered their time for excavation at Guevavi. Although many people gave only a single day during the two seasons, many donated more days of time. The highest individual attendance, exclusive of the author and other supervisory personnel, was 19 days of the possible 30. A number of people spent an equivalent of one season, either all one year or all the other, or spread over both, in volunteer excavation.

The daily high in participation was reached on the first day of excavation when 64 people attended. This number soon leveled at an average of 20 the first season. The low was reached the midpoint and final day of the second season when only eight people, including two supervisors, attended. The average during the second season was also much lower, at approximately 12. The total effort expended in excavations at Guevavi based on five hours daily for 30 days and average work force of 16, is 320 man/days. Since many of the volunteers were inexperienced or on either side of the prime physical years, the production was less than might have been achieved with professional labor.

LOCATION AND ENVIRONMENT

Mission Guevavi (Arizona EE:9:1 in the Arizona State Museum survey system) is on the edge of the first terrace of the right bank of the Santa Cruz River in southern Arizona (Figure 1). The land today is grazing range of the Rancho Guevavi and specifically is in Section 22, Range 14 East, Township
23 South, Gila - Salt River Meridian. The river in this area, about six river miles north of the International Boundary, is confined to a narrow course between the mass of the Potrero Hills to the west and terraces averaging some 40 feet above floodplain on the east. The alluvial bottom land of perhaps one-eighth mile in width is barely sufficient to contain the channel of the Santa Cruz and a dirt ranch road on the west side. Both upstream and downstream, however, larger areas of alluvium are found. A small area north of the mission at the Rancho Guevavi is still used for forage crops and irrigated by an *acequia* whose intake is at the river below Guevavi. South of the site, a large section of bottomland is centered on the present highway.

*Figure 1. Location of Mission Guevavi.*
bridge over the Santa Cruz. This land has been long utilized by hacienda and ranch under the various names of María Santissima del Carmen, Buenavista (Mattison 1946:297), Yerba Buena, and now Kino Springs.

In the area of the mission, the valley floor is at an approximate elevation of 3600 feet. To the west, the Potrero Hills rise to the summit of Mt. Benedict at 4565 feet. To the east, the Patagonia Mountains attain elevations in excess of 6000 feet. Both of these masses are formed of granites of Precambrian age and, in the case of the Patagonia Mountains, later intrusives related to the Laramide orogeny and volcanics of middle Tertiary age. The valley fill has three components. Downcutting by the Santa Cruz has exposed a conglomerate from just south of the site for some miles downstream. It is this formation that sharply diverts the flow of the river westward south of the mission and into which the intake of the present acequia has been cut. The level outcrop above this intake has bedrock mortars of presumed prehistoric or early historic age cut into its surface. The conglomerate is weakly cemented and may equate with the Gila Conglomerate of Plio-Pleistocene age documented elsewhere in southern Arizona. Wide terraces of coarse gravels overlie the conglomerate and form the dominant feature of valley fill. At the mission, the first terraces are about 40 feet above present floodplain and are most noticeable on the right bank, where they are quite level and interrupted at intervals by minor drainages entering the Santa Cruz at right angles. The final component of valley fill is the alluvium of the floodplain — chiefly sands and silts of recent age. These are restricted in extent at Guevavi but fill old river meanders south and north of the mission and fill many embayments where the lateral drainages debouch into the main stream.

At an elevation of 3600 feet, the terraces bordering the river fall into the Desert Grassland classification. The level surfaces are covered by a variety of grasses, occasional mesquite and acacia, and, variably, ocotillo. The low alluvial flats at the mouths of the laterals are often dense mesquite thickets which extend to the edge of the present flood plain. The river supports a riparian community with cottonwood (Populus sp.) and hackberry (Celtis sp.) as visual dominants, and a variety of annuals and perennials. As elevations rise to the east and west, the Desert Grassland is replaced by Oak Woodland with many species of oak (Quercus spp.) as the major arboreal vegetation. For details of both vegetation types, the text and illustrations in Hastings and Turner (1965) are unsurpassed.

HISTORICAL BACKGROUND

Prehistory

The upper Santa Cruz, from its headwaters to Tubac, has never received overwhelming attention from archaeology. It remains, today, relatively unknown and poorly documented.
Danson (1946) conducted the only systematic survey of the prehistoric resources of the area in the summer of 1941. He identifies six kinds of prehistoric remains including camp sites, house ring sites, sherd areas, sherd and mound areas, and compound sites. The camp sites were found throughout the length of the drainage surveyed and exhibited lithic debitage and a few plainware sherds in the main. None had architecture, and temporal placement of this kind of site was, and remains, inexact.

House ring sites are self-explanatory. The circular structures of dry-laid masonry were located almost entirely in the Sonora section of the drainage and usually on the edge of the bluffs overlooking the stream. Trash was thin at all sites, but manos and metates as well as some pottery occur. Dating of the house ring sites is nearly as difficult as the camp sites, although Danson felt many of them to be early (Danson 1946:36).

Sites that appeared to have benefited from more intensive occupation and had burnt rock areas, hearths, or trash mounds as well as more pottery were classified as sherd areas. These sites were also distributed throughout the drainage and were fairly numerous. Danson separates the sherd areas into early and late groups based entirely on ceramic evidence. But only 30 percent of the sites had decorated wares present, creating some insecurity in the separation, a fact freely admitted by Danson. Most of the 70 percent of the sites with no decorated wares were called early. The later sherd areas evidently contained pottery types of the later Hohokam phases, Santa Cruz Polychrome and Tanque Verde Red-on-brown of late prehistory, a trace of Trincheras pottery, and a strange unique type, present only in the San Raphael portion of the valley that Danson named Canelo Brown-on-yellow (Danson 1946:29-30).

A small number of sites were classified as sherd and mound areas. These evidently were sites that indicated intensive and lengthy occupation, although most that could be placed ceramically could only be called late in the sequence. Only a few of these were in the Guevavi section of the river between the International Border and the Sonoita confluence.

The last significant group of sites were large compound villages, only two of which were located north of the International Border. The survey indicated that all of these sites were both long-lived and intensively occupied. They were also late in the ceramic sequence of the upper Santa Cruz.

Overall, the impression gained from the survey in the context of the archaeology of southern Arizona is that the upper Santa Cruz was rather sparsely and casually occupied during the long ceramic period preceding Spanish contact. Few, if any, sites were firmly placed in the hundred or so years before Father Kino arrived. The intensity of occupation of the Tucson area and the San Pedro River valley stand in contrast to the upper Santa Cruz, especially in view of the seeming greater desirability of the latter area at present.
Excavation in the upper Santa Cruz has been limited and restricted to two localities. Di Peso (1956) reported the excavation of a two component village on the west bank of the Santa Cruz between Tumacacori and Guevavi. The earliest component at Paloparado was a fairly typical expression of riverine Hohokam culture, dating between A.D. 700 and 1100. This village contained typical Hohokam house types, cremation burials, and a Hohokam ceramic assemblage that could be related closely to the ceramics of the Gila and Tucson basin Hohokam (Gladwin and others 1937). Superimposed on this Hohokam village was another village, obviously later in time, of less certain cultural affiliation. Much of the material from the later village is reminiscent of ethnographic Pima and Papago material and settlement. This fact, along with the presence of a small amount of Spanish material, led Di Peso to call the village San Cayetano del Tumacacori. San Cayetano was the village visited by Kino and Salvatierra in 1691 during the first entrada north of the present International Border. Other interpretations of the documented location of this village (Kessell 1970:25) cast some doubt on this identification of Paloparado as San Cayetano. In addition, other objections have been raised by Albert H. Schroeder in an unpublished manuscript which seem to have some validity. There seems to be little doubt that Paloparado was occupied when Coronado entered Arizona; its continued existence as late as A.D. 1691, and even 1751 as Di Peso suggests, is questionable.

Re-excavation of part of the lower terrace at Paloparado during road construction substantiated the nature of the early component of the village (Brown and Grebinger 1969).

The second excavation of record for the upper Santa Cruz was a village on Potrero Creek just north of Nogales which lay in the path of advancing road construction of Interstate 19. This village, while clearly prehistoric, was used to reconstruct a life-way (Grebinger 1971) which may have been typical of the adaptation of late prehistoric occupation of the upper Santa Cruz and could explain the lack of large, settled villages.

History

The history of Guevavi as an outpost of the Catholic Church in Pimería Alta spans only 80 short, but eventful, years. Since Guevavi was first and foremost a Kino locality, it shares in the rich and varied literature by and about Father Kino. However, the later years at Guevavi, although active, went undocumented and unresearched until the fundamental study by Kessell (1970). This study was being pursued at the same time as the excavations at Guevavi, so it is only fitting that I rely on Kessell (1970) for the history. Those who demand documentary sources and all published references are also directed to Kessell's excellent bibliography (Kessell 1970:207-15).

In the early days of January, in the year 1691, the locality of Guevavi and its inhabitants was visited by Fathers Kino and Salvatierra during an early
version of public relations work. Over the next decade, Kino visited Guevavi often as his exploration and conversion caravans investigated the outer limits of Pimería Alta (Kessell 1966). These trips permitted the inhabitants of Guevavi an easy, even beneficent, early acculturation to Spanish civilization, particularly new crops, domestic animals, and material goods. An abrupt change in the nature of Spanish influence on Guevavi occurred with the coming of a priest. Father San Martín arrived at Guevavi in the summer of 1701 to establish a church and administer the visitas of San Cayetano (Tumacacori), San Luís on the river just south of the International Border, and Los Reyes near Patagonia. Within a few months, San Martín had constructed a small but neat church and house, and laid foundations for a large church and house. By November 1701, however, San Martín was gone, a victim of Guevavi’s dolorous climate. The structures dating to San Martín’s tenure were not positively indentified during excavation.

Kino continued his efforts to staff Guevavi until his own death in 1711, but Guevavi was not so blessed and remained without resident priest until long after Father Kino. Between Kino’s death and 1732, the entire Pimería Alta frontier was served by Father Campos from San Ignacio, more than 60 miles south of Guevavi. It is doubtful that he visited Guevavi often.

In 1732, the Jesuits restaffed Pimería Alta with priests assigned to Guevavi, San Xavier, and Santa María. Father Grazhoffer, an Austrian, was escorted to Guevavi by a military squad captained by Juan Baptista de Anza, the elder. In late spring of 1732, Father Grazhoffer re-established direct Spanish contact with the inhabitants of Guevavi. I am not sure that the locality Grazhoffer chose for his mission is the same as the locality of Kino and San Martín. I am fairly sure, however, that Grazhoffer’s locality was the same as that on which the present and last church at Guevavi stands.

Whether or not the same place, Grazhoffer changed the patronage of Guevavi from San Gabriel to San Rafael and settled into the conversion. Captain de Anza and his men left Grazhoffer with a ramada church and a little house. Presumably he started construction of more spacious facilities, but little is known of his efforts in this direction. Father Grazhoffer lasted only a bit longer at his post than San Martín, as he died in May 1733 at Guevavi, attended by Father Segesser of San Xavier. Segesser replaced Grazhoffer at Guevavi and relinquished his post at San Xavier. Segesser’s building activities, if any, would have been interrupted by a five month absence due to illness. This event ultimately led Segesser to find a healthier post late in 1734, leaving Guevavi once again without a priest.

For several years, nearby priests administered the needs of Guevavi. First Father Stiger of San Xavier attempted to keep the faith alive until he replaced Campos in San Ignacio in 1736. Then Father Keller of Santa María preached to and baptised the people of the Guevavi area. Finally, on June 1, 1737, Alejandro Rapicani became the third resident priest and the first to last...
much more than a year. An inventory of the contents of house and church (Kessell 1970:195-97) suggests that the physical plant of Guevavi mission was still fairly humble. When Rapicani left in the fall of 1740, he evidently left the buildings much as he found them.

After a few months without a priest, Guevavi again was served by a resident. Father Torres Perea arrived to administer Guevavi and its visitas early in 1741. Torres Perea was evidently an active priest and ranged widely, administering San Xavier as well as Guevavi. But, again, whether he was involved in any construction is not known. His reports, like those of his predecessors, have in the main been lost or lie still buried in undiscovered archives. One report, his last, did survive, however, and it gives a picture of declining population at Guevavi. In the spring of 1744, Torres Perea, too, left Guevavi.

Finally, early in 1745, Father Joseph Garrucho, the man who changed the face of Guevavi, arrived at his post beside the Santa Cruz River. The physical mission that he inherited was still simple and humble. The priest’s house was probably the same that Captain de Anza had furnished for Grazhoffer in 1732. It may have been enlarged by any of the previous residents and surely some outbuildings must have been present. The church seemingly was still fundamentally a ramada, perhaps with adobe walls added. One of Garrucho’s first acts was to change the patronage once again; this time it was San Miguel who provided guidance for the inhabitants of Guevavi. For a few years, Garrucho led a life much like his predecessors, learning the Piman language, administering the rites of the Church, and improving the economic well-being of the mission. By 1751, there was evidently sufficient prosperity for construction of a proper church and convento. A master builder from Arispe, Joaquin de Casares, arrived in the late summer of 1751 to take charge of construction. On September 29th of that year, a fiesta honoring San Miguel was held at Guevavi. Many of the local Spanish citizenry attended as well as the long-suffering natives of Guevavi. It may be that this fiesta also marked dedication of the new church for San Miguel de Guevavi, although construction was far from finished.

In late November of 1751 an Indian uprising, the infamous Pima Revolt (Ewing 1938), changed the routine at Guevavi. Evidently the master builder was still in residence with construction not yet finished. The evidence all leads one to believe, however, that little remained to be done to the church or convento. The neophytes of Guevavi fled, either to join the rebellion or from fear, and Father Garrucho, abandoned to his own devices, knew the better part of valor and departed for the south. Evidently, he never returned. The church, the new one if the record is right, was ransacked but survived the revolt to be used until the last days of Guevavi. It is this church and convento that we excavated.
After the rebellion was over and peace restored to Pimería Alta, four Jesuits staffed Guevavi between 1753 and the final expulsion of the Jesuits from the New World in 1767. They, at least, had the nominal protection of the new presidio of Tubac, some miles to the north. Father Francisco Pauer arrived at Guevavi in December of 1753 to pick up the pieces and continue the conversion. He evidently had only minor renovating to do on the church and convento and the mission soon returned to normalcy. Father Pauer even found time and energy, and willing natives, to build churches at the visitas at Los Reyes (Patagonia) and Tumacacori. He served Guevavi longer than anyone except Garrucho and departed in January of 1760.

Fathers Gerstner, Pfefferkorn, and Ximeno, successively, resided at Guevavi during the period between 1760 and 1767. This period was marked by increasing Apache pressure on the upper Santa Cruz communities, despite the Tubac presidio and the presence of Juan Bautista de Anza, the younger. However, Gerstner was able to begin a church and house at the visita of Calabasas at the junction of the Santa Cruz and Sonoita Creek (Fontana 1971). An inventory of the property when Gerstner relinquished Guevavi to Father Pfefferkorn in 1761 mentions the visita properties as well as that of Guevavi (Kessell 1970:200-02). It is during this period that the records indicate a shift in population to the Tumacacori area at the expense of Guevavi (Dobyns 1963). The final years of Jesuit Guevavi under Pfefferkorn and Ximeno were spent attempting to reverse this population trend — at least a partial response to Apache raiding.

In July of 1767, Jesuits at all of the posts in Pimería Alta were gathered up and led to Matape where they learned of the royal decree of expulsion and began a long journey back to Spain. The Jesuit presence at Guevavi had finally ended.

The Franciscan priests replaced the Jesuits in the Pimería Alta mission in 1768. For a few years, Guevavi again had a resident. But it was too late. By 1773, the head church had been transferred to Tumacacori. By 1774, Guevavi lay abandoned and nearly forgotten.

ARCHITECTURE

Excavations at Guevavi concentrated on the convento, but included at least testing of all features visible on the surface. A fairly heavy cover of scrubby mesquite was removed from much of the surface to allow mapping as well as to aid in recognition of features. The basic strategy of excavation was to commence 1 m wide trenches outside the convento some distance and run them toward the convento until wall was encountered. Then the wall was exposed at sufficient points to allow accurate mapping. Simultaneously, a similar trench was begun inside the cloister to encounter the inside wall and
delineate the inside of the convento in the same fashion. Then, with the outside and inside walls known, we began to remove fill from selected rooms that appeared least disturbed. When the nature of the fill and the lack of floor features became known, we often left a balk in the room to conserve time and energy. Most of the artifactual material came from the exploratory trenches on the west and north sides and outside the convento where trash was encountered. The trenching was accomplished in the first year; most of the room excavation in the second.

Various anomalous features encountered during the excavations were identified as belonging to a probably brief re-occupation of the mission structures after church abandonment in A.D. 1774.

The Church

No excavations were attempted within the walls of the church at Guevavi, partly because local oral tradition records numerous events of pothunting in quest of the fabled Jesuit gold. A visual inspection of the fill of the church seems to substantiate the pothunting activity as both the altar (north) end and the front are badly disturbed. In fact, the front is so churned that it is impossible to tell if the church and the convento formed a continuous facade as shown by DeLong and Miller (1937) or not. Our excavation outside Room 4 of the convento (Figure 2), whose eastern wall is formed by the wall of the church, revealed that the church wall projected out from the convento facade, but we only followed the wall a very short distance.

At the time of our excavations, few features of the church were clear. There were two openings on the convento side. One was a door which entered at the approximate junction of the nave and the sanctuary (assuming a continuous nave church with the sacristy located behind the altar). The other opening was a high window, now partially destroyed, above the sanctuary. Both of these features show in the Roskruge photo of 1889 (Figure 3).

Within the church, wall features that might be interpreted as niches appear at the fill line. If the floor of the church is at the same approximate level as the convento, the niches would be about 1.3 to 1.5 m high.

The Convento

As mentioned earlier, the second year of excavation concentrated on the convento. Rooms 3, 4, and 5 (Figure 2) were completely excavated, although some balk was left in Room 4 as a trade-off between time and information return. Rooms 6 through 11 were tested to varying degrees. Some were trenched to floor around the perimeter of the interior and others were just tested enough to locate all corners for mapping.
The construction within the convento was remarkably uniform. *Foundations*, where located, were made of large, somewhat tabular, pieces of the local conglomerate. This material would have been available within a few meters of the site and was certainly the only substantial rock available. *Floors* were exclusively formed with packed earth. The material is probably the same as that used to form the adobe bricks, since the floors are dark and thicker than the residual soils on the mesa and must have been imported. The *walls* are constructed of two parallel rows of adobe bricks. The bricks are sun-dried and reinforced with straw. They tend to light reddish or light brown in color.

*Figure 2. Plan of the Convento of Mission Guevavi.*
The bricks were set in a dark black mud mortar with a thickness that sometimes is nearly as great as the bricks. The phenomenon of rotating alternate courses of bricks 90° noted in the church walls was not employed in the convento. Possibly the height of the church required construction techniques that could be omitted for the simpler convento structure. The fill uniformly consisted of adobe wall collapse, occasionally intact but usually reworked to a structureless mass. Only two rooms revealed evidence of roofs. Room 5 had many fragments of small vigas lying on the floor. Although rotted, all appeared to be ponderosa pine with a diameter of less than 20 cm. Many fragments of pine planks were found in Room 8. These appeared to be sawn to an average size of 4 cm in thickness and 15 cm wide.

With the exception of Room 3, few floor features or artifacts were related to the mission occupation. It is difficult, therefore, to assign a specific function to any room. It is obvious that cooking, eating, and sleeping space must have been available for the resident priest and his European visitors. And perhaps some rooms were set aside for storage, for instruction of the neophytes, and for a private chapel. The location of the sacristy may have been behind the altar; none was identified by excavation. Nor was a baptistry located.

Figure 3. Guevavi in 1889 (Courtesy of Arizona Historical Society).
Early in the excavation, we became aware that the convento rooms and the general area had been re-occupied after the abandonment as a mission. This later occupation appears to be related to mining activities, but the ethnic identity of the practitioners is in doubt.

In the descriptions that follow, cardinal directions are used as if the convento were oriented north and south. That is, as if the entrance and the facade of the church face south. Toward the river is west. As Figure 2 clearly indicates, this convention departs from reality by nearly 45°, but simplifies the descriptions.

**Room 3.** This was the only room in the convento with features suggestive of use. It was a fairly large room, measuring about 4.20 m by 7.60 m. The standing walls ranged from 1.30 m in the southeast corner to 0.80 m along the west. Construction was typical of the convento. Two pilasters were located. One was placed about midway along the east wall and the other in the southeast corner. Patches of white plaster remained on the latter, particularly near floor level. Doors were located midway in the west wall, opening to Room 6, and at the south end of the east wall, stepping up to Room 5. This latter door had been closed with a single-row adobe wall. Evidently Room 3 never had direct connection to the cloister and, so far as the height of walls allowed us to ascertain, no windows.

The most unique feature in the room was a beehive fireplace (Figure 4) in the southwest corner. The sides of the fireplace were formed by upright slabs of conglomerate which may have supported a wooden lintel. The sides remaining below the height of the slabs were formed by adobe bricks. The interior was full of ash and extended about 0.15 m below floor level. Details of the upper portion of the fireplace were not determined since everything above the height of the slabs (0.70 m) had collapsed.

Two conglomerate slabs were set flush with the earthen floor in the east central part of the room. Each slab was approximately 0.80 m by 0.70 m, thereby forming a paved area 0.80 m by 1.40 m. There were no associated artifacts or other features, thus rendering interpretation of the function of this paving impossible.

Four burials were intruded through the floor of Room 3. The only adult burial, a male, was placed in a pit, fully extended on his back with head to the south. The pit was somewhat central in the room and was partially covered by the conglomerate slab paving. Two young infants were placed in small pits just south of the paving. Both heads were to the north. The last burial, another infant, was placed along the northern part of the west wall. This burial was very fragmentary and was recognized by the presence of beads (Types 1,2,3) and an extremely fragile crucifix apparently made by wrapping fine metal wire around a perishable core.

The subfloor burials and the homogeneous nature of the fill suggest that Room 3 was intact and utilized during the re-occupation by mining activities. It is extremely unlikely that the burials date from the mission occupation, and in other rooms of the convento (notably Room 6 and 7) a layer of highly vitrified slag was located about halfway in the fill sequence. No such layer was located in Room 3, reinforcing probable post-mission use of the room.

**Room 4.** This room lay between the gateway and the church. Its walls are abutted to the church and it measures 7.20 m by 3.20 m. The standing walls varied from 1.30 m in the northeast corner to only 0.60 m in the northwest corner. There were traces of two coats of plaster on the walls. The first a brownish sandy coat and the second a thin white coat. Two doors were located in the north wall. The western door had been filled with rocks and adobe of a color and texture that was recognizable as relating to post-mission construction. The only floor feature was a single posthole in the northeast corner, although other features may have been present under a central balk left in this room. A
shallow basin metate lay on the floor in the southwest corner, but no other artifacts were clearly associated with the room.

The filled door and metate on the floor suggest that Room 4, as Room 3, was re-occupied during mining activities. However, a use level was detected in the fill about 0.30 m above floor level.

Room 5. Room 5 lay between Room 3 and the gateway to the interior of the convento. In addition, it provided the only access from the exterior to Rooms 3 and 6. The room measures 3.10 m by 5.80 m and had traces of plaster on all walls. A door in the west wall stepped down to Room 3 and was filled with a single row of adobe brick. Another in the north wall provided access to the exterior. This latter door had remnants of a wooden threshold. A large number of rotted pine beams lay on the floor in the western half of the room, providing some evidence for roofing. Two postholes were located. One was directly inside the north door and slightly to the west of the entry. The other lay south of the door in the approximate center of the room. An adobe partition wall ran from the east edge of the exterior door at an angle to near the midpoint of the south wall. This wall was only a few bricks high and we could not determine whether it ever attained much height.

All the artifacts on the floor appear to relate to the post-mission occupation. Pitted stones were found in the southeast and the southwest corners of the room. These stones are large river cobbles with shallow artificial concavities on opposing sides. They were found with greatest concentration in the gateway area of the convento and, again, seem to have been used in the mining and smelting operation. An iron gouge bit was located on the floor near the west door. This item may belong to either occupation, but its presence on the floor would suggest abandonment at the time of the last use of the room.

Figure 4. Corner fireplace in Room 3. Divisions on scale are 0.25 m.
Room 6. The size and shape of Room 6 were determined from excavation on the outside of the convento walls and from excavation in the adjoining rooms. A single test to floor was excavated in the northwest corner which revealed approximately 0.50 m of adobe wall fall above the floor, followed by a dense 0.20 m level of ash and vitrified slag, and finally fill of undifferentiated adobe melt. Apparently the room served as a dump area for the mining operations of the post-mission period.

On the floor in this single test was the most unusual artifact found during excavation. This was the crown of a brass bell which had failed during casting when the mold collapsed. The stratigraphic position of this item makes it fairly certain to belong to the mission period.

Room 7. Room 7 is unusual for the convento in its size and length. It measures approximately 4.40 m by 9.20 m. Ash and slag were present about midway in the fill sequence, indicating the use of this room as a dump during post-mission mining operations.

A door was centrally located in the eastern wall and gave access directly to the cloister. A second door led through the north wall to Room 9. This door was slightly east of center in the wall. Plaster adhered to the wall in many places and the east wall particularly was finished with a hematite red coat. No floor features or artifacts were located during excavation, which left a sizable central balk in the room.

Room 8. Since the entire northwest section of the convento had suffered badly from previous digging activities, our excavations shifted to the rooms behind the church. Room 8 lay directly north of the sanctuary and measured 4.60 m by 5.00 m. As the room was never finished, no floor features were discovered. The west wall at the south end had pulled away from the church and collapsed. The east wall was heavily buttressed, probably because it stood at the edge of the mesa.

A door entered the room from the cloister at the north end of the west wall. This door had been filled with crude adobe laid on water-sorted fill. A narrow opening (0.60 m) in the north wall led to Room 11. This opening was also filled with crude adobe on water-laid sediments. Pilasters flanked the opening in the north wall and many pine planks littered the floor in the southwest quadrant of the room. These probably formed part of the roof.

Room 9. Connected to the large Room 7 by a door in the shared wall, Room 9 measured 4.40 m by 4.40 m and only the east, north, and south walls were trenched on the interior, no floor features were found.

A window (Figure 5) constructed toward the south end of the east wall overlooked the cloister. The sill was 0.60 m above floor level and the height could not be determined due to upper wall collapse.

Room 10. This room was perhaps the most disturbed area in which excavation was attempted. As a consequence, little can be said concerning its features. The room was about 4.00 m wide and the length was never determined. Pilasters stood in both the northeast and southeast corners and a bench or banquette was located along the north wall. This bench was built of cobbles and adobe and stood 0.45 m high with a depth of 0.70 m.

A compact use surface appeared in the fill at the approximate level of the bench (0.50 m). Below the level the fill was typical adobe. Above the surface, sparse trash occurred, including a restorable basket-impressed ceramic comal or plate. This item is rare in the literature of historic Indian ceramics of southern Arizona but a few pieces were found at Quiburi (Di Peso 1953:151-53) and in the Colonial Spanish levels of the Tucson Presidio. It was not clear if this material in Room 10 related to the post-mission mining period or a distinct re-use of the mission buildings.

Room 11. Room 11 was outlined by adjoining room excavations and an exterior test in the northeast corner of the convento. A single test was placed centrally to locate
floor and any cross-wall. Floor was located but no walls, so the possibility remains that Room 11 may be one large room or two somewhat smaller, but unequal, ones.

Gateway. The only entrance to the convento interior, other than through the church, was a gateway or portal that lay between Rooms 4 and 5. The opening was about 4.0 m wide and may have been at least partially paved in its original form. There was no evidence that allowed determination of the presence of a roof or any device to close the opening. The latter, however, seems most probable.

After some 0.50 m of fill had accumulated in the gateway area, a wall was constructed to close off the opening at the outer edge and a compact use surface developed in the area. Eleven pitted stones associated with the mining operation were found on this surface as well as a crucifix and a musket ball. Two postholes were found at the inner corners of the gateway area. These seemed to be dug from the upper occupation level, but may in fact belong to the mission level as well.

Cloister. The inner courtyard of the convento was considerably disturbed during the mining operations that post-dated the mission. A test near the center of the cloister revealed a 0.15 m stratum of pink sandy material directly below a shallow surface fill. This material is undoubtedly related to the mining operation and may be a smelting by-product. Below it was a level (also approximately 0.15 m) of light tan colored fill. At a depth of 0.35 m was an intentionally prepared surface of dark black mud which is interpreted as the original cloister surface. This test, however, presented a rather ideal profile, as many parts of the cloister were disturbed by pits, piles of pink material, anomalous walls and bricks, and numerous boulders.

Outlining of the cloister was confined to the southern and western margins. The southern edge was especially disturbed but mission features were located at the western edge outside Rooms 6 and 7. A bench or banquette had been built north of the door to Room 7 and running north for an undetermined distance, but at least as far as the north wall of Room 9. The bench was 0.60 m wide and 0.50 m high. As it passed the window in Room 9, the bench was reduced in height to only 0.20 m, creating the effect of a step in front of the window (Figure 5). The surface of the bench in the vicinity of the window contained four postholes which could not be interpreted.

South of the door to Room 7 a short segment of the bench was flanked by postholes at cloister floor level. This segment was only 1.30 m long and appeared to be complete. In the fill around this area were fragments of plaster with designs in yellow and black painted on a white finish coat. A 1771 silver half real coin was found on the floor of the trench excavated to uncover this bench segment.

Trash. The trenches which were used to approach the convento from the exterior revealed that trash had accumulated against the exterior walls of the convento, particularly around the southwest corner and up the west wall to the north. The trash was composed of ash and domestic animal bone with a small amount of lithic material, mainly broken and discarded, some scraps of metal, and ceramics. Most of the non-Indian ceramics came from these deposits.

The trash along the exterior of the north wall was composed of an unidentified organic material that appeared dry and “punky” with insignificant amounts of ceramics or metal. A field guess placed the material in the animal manure category, but which animal, if any, was not specified.

The Plaza

A number of low mounds south of the convento enclosed a large plaza area. The mounds were most prominent on the west side, at the edge of the mesa overlooking the river, and on the south side. Excavations the first year began with 1.0 m wide trenches in the plaza area running generally northward to the convento and with testing the low mounds.
As a word of caution, the plaza area contains numerous burials from its use as a ranch cemetery. Some burials are reported to be as recent as 1930. Needless to say, we avoided these.

Rooms 1 and 2. The test begun in a low mound at the southwest corner of the plaza revealed a large room that was subsequently found to be two rooms. The original room trended north-south and measured 3.45 m in width and 8.40 m long. It was single brick construction with an average depth of 0.60 m. The walls were constructed of distinctly different materials than the convento. The bricks were smaller and brown to tan in color. The mortar was hard, creamy in color and calcareous. Some traces of mud plaster remained on the walls. The foundations were river cobbles rather than the conglomerate usual in the convento. Patches of lime plaster survived on the floor; again in contradistinction to the convento. A single door provided access to the structure. It was located about midway in the west wall and had an interior step since the floor was 0.30 m lower than exterior ground surface.

Few features were located. The southern wall had a recess, 1.4 m wide by 0.25 m deep, asymmetrically placed toward the west. There was a posthole next to and at the midpoint of the north wall; another was located in approximate center of the room.

At some later date, the room was divided just south of the door into two rooms. The dividing wall, which had a connecting door toward the west side, was built of distinctive materials. The bricks were soft and pinkish in color and the mortar was equally poor. A fire area was evident on the south side of the wall but no formal fireplace was defined.

The construction of both the original room and the dividing wall was quite different from any used in the church and convento, thus providing no clue on time of construction or purpose. Nor were there any distinctive artifacts to help. It is tempting, however, to speculate that these simple buildings were constructed either by Father San Martín in 1701 or by the returning Jesuits in 1732.
Foundations. The wide shallow trenches in the plaza disclosed a massive L-shaped foundation of cobbles and lime mortar. There was no evidence that any wall ever stood on this foundation, unless it was completely robbed. It was 0.50 wide on the average and the north-south leg was 15.0 m long, whereas the east-west leg was over 20.0 m. Although the foundation generally enclosed an area south of the convento, it was oriented a few degrees west of the convento alignment. The foundation was laid directly on the rocky mesa and was barely covered since the soil mantle on the natural mesa is extremely thin.

It is tempting to view these foundations as part of San Martín’s “large church” but there is no direct evidence one way or the other.

Miscellaneous Structures

In the course of investigations in and around Guevavi, we looked at three structures that may or may not relate to occupations at the mission site.

At the extreme northwestern tip of the mesa on which Guevavi stands is a small two room adobe structure. It measures overall 4.40 m by 10.6 m with the long axis east-west. At best only five courses of adobe brick remained, and toward the mesa edge the structure was completely gone. The only artifact within the structure was a shallow basin metate. The use of adobe bricks argues for post-contact construction, but there is nothing in the technique or artifact inventory to specify the precise time.

The second structure was located on the mesa just east of Guevavi and separated from it by a short drainageway. This became known as a corral, but its precise function was never really determined. It was basically a low cobbles and adobe mortar wall enclosing an area 16.0 m long and 9.2 m wide. It too was oriented east-west. The wall varied, but was approximately 0.40 m wide and 0.45 m high. There was not enough material in the fill to suggest that the stone wall was ever higher, although it may have had a superstructure of perishable material. The inner fill was dark heavy soil with a moderate domestic bone content and only about 0.25 m thickness.

Finally, about one-quarter mile north of Guevavi below the mesas and at the south edge of a tributary was an arrastra and possible crude furnace. The arrastra is a crude circular stone floor with a center post and a coping around the periphery. Using animal power, ore was crushed on the floor by a large drag stone and the crushed material was fired to further reduce the ore. There was practically no material culture around the arrastra area, not even metal cans or bottles, but there was slag and a level of the pink material so common in the cloister.

Again, it is tempting to believe that this was the locus of the post-mission smelting operation, but there is certainly no proof. One puzzle is why the pink material and slag should have been hauled to the mission area if smelting was done here. Yet we found no crushing equipment or smelting equipment at the mission.

MATERIAL CULTURE

Indian Material

The native artifact inventory from Guevavi was quite meager. It must be remembered, however, that few, if any, Indians actually resided in the convento during the mission period. The mission establishment probably used some Indian manufactures in circumstances where they would be better or easier to obtain. I suspect that Indian earthenware pots were used for cooking and for water storage, and perhaps for other uses. Actual cooking may have been performed by domestics who would naturally prefer material with
Mission Guevavi

which they were familiar. Additionally, some of the pottery and lithics as well may relate to the post-mission mining operation.

Ceramics. Slightly over 5,000 sherds were collected from all excavations at Guevavi. These were roughly sorted — plainware, polished plainware, redware, and decorated — partially analyzed and, over the intervening years, lost. Thus detailed descriptions are not possible. Having looked at most of the material originally, I am not sure that great detail would profit understanding of Indian acculturation at any rate.

Since we have no evidence for aboriginal utilization of the Guevavi mesa, it is probably safe to assume that all the pottery post-dates 1701, and probably most post-dates 1750.

The plainware accounted for 3928 sherds or 78 percent of the total recovered. Nearly half of this total came from the shallow exploratory trenches in the plaza area and the excavations in the trash around the exterior of the southwest corner of the convento. Descriptively, the plainware can be referred to previous work on late desert plainwares (Haury 1950:343-46; Fontana and others 1962:105). The surface treatment and color are variable. Many sherds were heavily coated with soot on the exterior. Rim coils were present and most sherds were relatively thick and coarsely tempered, with some carbon streak. Both jar and bowl forms were present, but my impression is that bowls were preponderant, especially the form similar to the Papago bean pot (Fontana and others 1962:42, Figure 31). Perhaps the next most frequent form was a medium-sized olla or wide mouth jar. This form has been and is used for water storage among the Papago.

There were 902 sherds of polished plainware or 18 percent of the total recovered. I am not sure that this category is a valid distinction, and perhaps it should be lumped into the regular plainware category. However, in addition to a higher polish, this category seemed thinner than the plainware, it lacked rim coils, and rarely exhibited a carbon streak. Nearly the same proportion (one-half) of this category was excavated from the same provenience units as the regular plainware. There appears, therefore, to be no spatial or temporal difference between polished plainware and regular plainware at Guevavi. Far more bowls than jars were noted in the rims of this category.

Redware accounted for a small 4 percent of the sample or 195 sherds. Both bowls and jars were represented and both appear to be very similar to the plainware in terms of paste and temper. In fact, the only distinguishing feature of the redware is the red slip applied to the surface. Again, the description of Fontana and others (1962:104-05) seems adequate for the Guevavi redware.

Finally, there were 34 sherds with painted decoration. More than half of the painted sherds belonged to a single jar which was located in the plaza area excavations south of the convento. The jar had a rim coil and the decoration appeared to be limited to the neck area. The red paint was applied to a smooth brown surface of the jar which had a narrow mouth when compared to the usual water olla. It would fit comfortably in the Papago period 1 ceramic complex (Fontana and others 1962:103).

The rest of the decorated sherds were red-on-brown or black-on-brown. Most of these could be confidently placed in the historic period; eight were clearly prehistoric and accidental on the site.

A single sherd of Papago Glaze (Fontana and others 1962:103-04) was found in the fill of Room 5. Since this room was used by the post-mission occupation, it was deposited after 1774 and perhaps as late as the first half of the 19th century.

Ceramic Artifacts. Two ceramic discs, one molded and the other formed from a large potsherd, were found. These may have been counters or gaming pieces. The latter was similar to those at Quiburi (Di Peso 1953:146-47).

A single perforated sherd spindle whorl was also located during excavation. Examples of this fairly common artifact also come from Quiburi (Di Peso 1953:145-46).

Finally, a small molded ceramic object came from the general fill of the cloister area. It was formed in the shape of a miniature bell and was fitted with hole for attachment at the top. This artifact may have served as an ornament, possibly a tinkler.
**Shell.** Twenty-one pieces of shell were recovered by excavation at Guevavi. All but two had been modified into beads, tinklers, or bracelets. In all, 13 beads, five tinklers, and one bracelet were made from shells of Agaronia testace, Conus sp., and Glycymeris maculatus.

**Lithics.** Generally, the lithic assemblage from Guevavi lacked chipped stone artifacts or debitage, except for a surprising number of projectile points, and featured worn-out ground stone manos and rubbing stones. The few metates were either a crude slab or a shallow basin type. None were carefully made, and it appeared as if any stone would suffice.

The ground stone, except as noted in the architectural description, came from room fill, plaza trenches, and trash areas. Like so much of the material found, the ground stone mainly appeared to have come to the end of its usefulness.

The number of projectile points was remarkable; perhaps even more so for a site of the nature of Guevavi. In all, 17 points were found of which 11 were essentially intact (Figure 6). These were found in widely separated proveniences although only four were found within the walls of the convento. Three were located in Rooms 1 and 2 and the southwest corner of the plaza. Typologically, the points were equally diverse, ranging from simple triangular, to tanged, to lanceolate with side notches, to side notched. Materials were quartz, rhyolite, basalt, and chert.

With little evidence for hunting of wild animals, the unusual number of projectile points may, instead, relate to the Apache pressure that caused ultimate abandonment of the mission at Guevavi.

---

**Non-Indian Material**

by Mark R. Barnes

**Ceramics**

*Majolica* according to Goggin (1968:3) "... is an earthenware, a porous pottery of soft paste with a hard surface covering of vitreous material. This enamel ... is opaque ... is ... produced by adding tin oxide to a lead glaze that distinguishes majolica from other wares ..."

To aid in the understanding of the place of majolica at a mission like Guevavi, a brief chronicle of the development of the Mexican potteries is presented. A somewhat more extended treatment can be found in Barnes (1972). An excellent overview of majolica in the New World is presented in Lister and Lister (1975).

The main center for making majolica today, as it was in the 17th and 18th centuries, is at Puebla de los Angeles east of Mexico City. Documents of the early 16th century mention the immigration of “Dominican friars familiar with the clay-working process in use at Talavera (Spain)” to teach Indian novices majolica potting and the presence of early private Spanish potters who made small fortunes by producing glazed wares for the use of Spaniards (Barber 1911:4-5; Frothingham 1944:21-22). But a specific date for the beginning of the manufacture of majolica at Puebla would be mere speculation.

Suffice it to say that during the 16th century the Puebla potters maintained businesses along very loose lines. However, by the mid-part of the
Figure 6. Projectile points and drill (upper right) from Guevavi. Length of point at left center is 5.2 cm.
next century they had established a guild incorporating by-laws governing
who could be a potter, what one could make, and how one could become a
potter. It was also at this time that the potters began to move away from
Spanish designs and create what is called the Puebla Tradition.

Throughout the 1700's though, the guild ceased to function as a
powerful force because of the demands of the consumers for imported
European wares. People who could afford majolica demanded wares that
followed fashion trends. Hence, the first half of the 18th century saw
Mexican majolica copies of Chinese blue-on-white porcelains, while the
second half reflected “the steady impact of European artistic ideas . . . such
as the blue feather-edged design of English chinaware” (Goggin 1968:191).
The Puebla potters attempted to make good copies but, “during the last
years of the 18th century several million pesos worth of contraband entered
Mexico through the ports of Vera Cruz and Campeche and ... the
competition offered by the cheap European ‘porcelena’ was so severe that the
number of earthenware manufacturers in Puebla decreased from 46 in 1793
to 16 in 1802” (Gerald 1968:54).

Finally, in 1824, with the signing of the Anglo-Mexican trade treaty,
English wares could be imported directly into Mexico, which caused the
Puebla wares to be relegated to the status of a folk art.

During the 18th century, when Guevavi had either a resident priest or
was visited by a traveling father, majolica was being sent in the baggage of
every priest that went to settle on the northern frontier of New Spain. Today
the finding of majolica sherds is one of the main criteria for establishing the
identity of a Spanish colonial church or town site.

In all, Guevavi produced the following eight distinct styles of majolica,
whose dates of manufacture, derived from other contemporary Spanish
colonial sites, overlap the occupation of the church.

San Luis Polychrome. Only five pieces were found of this style, all of them
represented by plate fragments. Decoration of these white glazed plates consisted of
green floral patterns on the interior basal and rim areas with these areas delineated by
thin brown lines. Goggin (1968:169) has dated this style, on the basis of length of
occupation at a number of sites, at 1660-1720.

Puebla Polychrome. Some nine pieces of this style, representing at least seven plate
and two bowl fragments were found. Decoration on this white glazed ware is confined to
the outside on bowls and the inside on plates. The colors used are curvilinear blue areas
joined together by “close, fine, black-line reticulated designs. These are often detailed
and complex and some resemble lace” (Goggin 1968:174). The dating on this style is set
at about 1650-1700 (Goggin 1968:180).

San Augustine Blue-on-white. Two plate fragments and one bowl fragment were
recovered of this style. The main criteria for distinguishing plates of this style is the use
of overlapping light blue arches on the white glaze on the exterior rim. The interiors of
the plates are covered with light and dark blue designs over a white glaze (Goggin
1968:188; Tunnell 1967:30). Most authorities agree on a 1700 date for the start of San
Augustine Blue-on-white and either 1730 or 1750 as an end date (Goggin 1968:189;
Smith 1965:85).
**Mission Guevavi**

**Puebla Blue-on-white.** Puebla Blue-on-white fragments recovered represent about two plates (formed from eight sherds), about seven bowls (formed by 14 sherds) and one sherd of an *arbello* or apothecary jar. All of these forms are white glazed with blue decoration.

On the interior rim of the plates are two wide dark blue bands, from which are suspended small blue dots, interspaced with dark blue blossoms (Tunnell 1966:7; Goggin 1968:191). The bowls and the *arbello* have “light and dark blue on white (decoration) . . . on the exterior only with narrow light blue lines below the lip and occasional rows of dark blue dots between or suspended below the lines” (Tunnell 1966:8).

Goggin (1968:191) and Smith (1965:85) both date this style with blue lines and blue dots at 1750-1850.

**San Elizario Polychrome.** Four plate fragments (represented by six sherds) were found at the site. Decoration of this white glazed plate form consists of a broad blue band running around the interior of the plate near the rim, accented with thin black lines. Below this band are suspended blue dots and blossoms, sometimes these are also accented in thin black lines.

The San Elizario Polychrome plates also have a central interior motif of a deer or bird in blue, usually accented in black (Goggin 1968:191; Tunnell 1966:7). The dating for this style is variously cited as 1750-1830 or 1850 (Goggin 1968:191; Smith 1965:85; Gerald 1968:44; Snow 1965:26; Greenwood 1975:186).

**Huejotzingo Blue-on-white.** About four bowls of this style (represented by seven sherds) were found at Guevavi. The decoration of this style consists of a blue strip of color around the rim of a white glazed bowl which overlaps both the interior and exterior edge. Sometime after about 1790 this ware appeared with a green or yellow rim strip. This style dates from about 1700-1850 (Gerald 1968:43; Goggin 1968:195; Greenwood 1975:185-86).

**Aranama Polychrome.** One bowl and one plate each are represented by three sherds. The bowls of this style are decorated on the outside only while the plates of this style are only interiorly decorated. The main characteristic for Aranama plates is an orange-yellow band running around the interior rim accented with thin black lines on a white glaze. Below the decorated rim of the Guevavi plate fragment is a floral element also outlined with thin black lines. According to Goggin (1968:197) this style could have these floral elements covering the entire interior plate surface or they could cover only the interior plate rim area with the basal part decorated with a fat human figure wearing a turban and Zouave trousers. Aranama bowls have the former style of decoration, but only on the outside.

My initial research into this style of Aranama Polychrome fails to reveal any similar material in the collections of majolica found at other Spanish colonial sites in Arizona. However, similar sherds recovered from a church site in Texas date from 1746 to 1755 (Gilmore 1969:92). Goggin (1968:198) dates this style at 1750-1800.

**Plain White Forms.** There are approximately 16 plates (represented by 22 sherds), four bowls (represented by six sherds) and one basal portion of a cup in the Guevavi collection. No dating is yet possible for plain white forms at this time.

In addition, some 22 unidentified blue-on-white, one unidentified green-on-white, two unidentified yellow and brown-on-white sherds were recovered.

The Spanish conquest of Mexico brought a second ceramic tradition to the New World. **Mexican Lead-Glazed Earthenwares** were produced at “numerous centers of (Spanish) ‘folk’ pottery making, where utilitarian objects were turned out on the wheel, sometimes glazed or slipped and fired in simple kilns” (Foster 1955:1).

The history and development of Mexican Lead-Glazed Earthenware is even less well documented than that of Puebla majolica. However, it may be
surmised that the Guevavi lead-glazed material produced on the pottery wheel came from factories in large cities. According to George Foster (1948:367)

Most (but not all) of the pottery of Mexico made exclusively on the wheel is the product of small factories or workshops in which there is a fair degree of specialization of work. Puebla and Dolores Hidalgo are typical. These centers make and export immense quantities of pottery to all parts of the country.

The following is an attempt to categorize, describe, date, and establish a point of origin for the Mexican Glazed and Slipped Wares recovered at Guevavi.

**Guanajuato Green Glaze.** Very little has been written on this particular ware. Basically it is an earthenware with a deep green glaze and tile red paste that shows evidence of having been made on a potters wheel (Caywood 1950:86; Di Peso 1953:225). It is quite probable that archaeologists have lumped green glazed wares produced in other parts of Mexico under the heading of Guanajuato. The major problem in tracking down the origins of this and other green glazed wares is the general scarcity of pieces fitting the above description found at Spanish colonial sites. For example, only two small plate sherds of this style, both showing parallel striations on their interiors, indicative of wheel made vessels, were found at Guevavi.

Dating for this ware is also uncertain. Caywood (1950:86) dates examples of this ware found at San Jose del Tumacacori as post-1780. However, Di Peso (1953:225) found Guanajuato Green Glaze sherds at Santa Ana del Quiburi Mission which dates from 1704-1763. He feels that the coming of the German Jesuits to the Arizona area in the period of 1750-1757 may have introduced the ware into Arizona. Gerald (1968:53), who has also written on this ware, dates it from 1680-1840, which is a rather long period of time for a single ware to be made.

**Miscellaneous Mexican Wares.** Three other types of Mexican Glazed or Slipped Wares were found at Guevavi and appear to be unique in that they have not appeared in the literature pertaining to Spanish colonial archaeology.

The first is a bowl constructed of a gray paste with a cream-colored slip inside and out and decorated with a red painted decoration on the outside. Three pieces of this bowl, which fit together, were found in context with Spanish colonial period majolica and Chinese porcelain. It would therefore seem probable to assume a Spanish colonial date for this ware. What is interesting about this bowl is that it apparently was not wheel turned and that the outside slip was polished or burnished, which would tend to indicate that it was produced by Indians, possibly in Mexico.

The second type is a very small fragment of a bowl with a green glaze on the interior only and a paste that is reddish in color. Mexican Lead-Glazed Earthenware recovered from excavations in Tucson and at San Xavier del Bac do not contain similar material.

The third type has a gray colored paste and a salmon colored exterior slip. The exterior is decorated with what appear to be purple floral elements. The decoration is similar to those 18th century design elements pictured on slipped pottery from Jalisco (De Paalen n.d.:24-25).

All the sherds are so small that accurate assessment is very difficult, especially with the lack of comparative material and references on these wares.

**Olive jar sherds** found at Guevavi can trace their origins back to Greek and Roman amphoras that became the model for Iberian potters when making a storage jar (Goggin 1960:5). Goggin, who has made the most comprehensive study so far of Olive Jars, established a chronology for these wares covering the period of 1500-1840, which he divided into three time
periods on the basis of differences of body shape, glazing, mouth design, and paste.

Of the eight pieces of Olive Jars found at Guevavi (seven body and one neck sherds), all have green glazed interiors and cream colored slips on the exteriors. The sherds are too small to attempt reconstruction or estimate how many vessels are represented. There are no good body or neck shapes available from our sample, but I would venture the opinion that they were made in Spain at the tail end of the Middle Style period (1580-1780) and used at Guevavi sometime during the 18th century.

All of the Chinese porcelain pieces recovered during excavations are typical of 18th century export porcelain produced at factories at Ching-techen, China. Descriptions by a Jesuit priest at Chingtechen during the first half of the 18th century tell of over one million people being engaged in the manufacture of porcelain for the Western World (Phillips 1956:4-5).

The history of the Spanish trading for Chinese goods dates back to 1571 and the Spanish conquest of the Philippine Islands. Although Spain had footholds in Macao and Formosa, Portuguese and Dutch traders had forced them out (Buerdeley 1962:84). Thus, unlike other European powers, Spain did not have a trading station on Chinese soil, but rather Chinese junks would sail to Manila. After 1699, when Canton became a free trading port, “an occasional Spanish ship . . . appeared at Canton, destined for Manila” (Phillips 1956:29). From Manila Chinese goods were trans-shipped across the Pacific to Acapulco and then sold in Mexico or freighted to Vera Cruz and sent on to Spain.

Ten fragments of Chinese porcelain were recovered at Guevavi representing three types of decoration.

*Type 1.* Seven fragments representing five bowls with underglazed blue-on-white decoration, consisting of blue bands of color on the inside and on the outside of the bowl with crosshatching and curvilinear designs in blue. Similar decorated fragments have been recovered from English and French sites of the 1725-1775 period in the eastern United States (Watkins 1968:142-44; Miller and Stone 1970:82-83) and from Spanish sites in Florida which date from the K’ang Hsi reign (1662-1722) of the Ch’ing Dynasty (1662-1912) (Aga-Oglu 1955:96-97).

*Type 2.* Two fragments of probably just one bowl decorated in underglaze blue and overglaze red on a white bowl. The decoration on the body consists of a flowery motif on the outside with an interior rim band in blue and red. On the very edge of the bowl is an overglaze brown band. Cox (1970:544) says that these were added to protect the rim from chipping or scaling during shipping and handling, sometime after the reign of K’ang Hsi (post-1722).

*Type 3.* One piece of a white plate decorated in overglazed red decoration. Most authorities agree that this style, sometimes called ‘Iron Red,’ begins after the K’ang Hsi reign (1662-1722) and continues in production as a minor ware until the reign of Chia Ch’ing (1796-1821), when it becomes a dominant style of the 19th century (Cox 1970:558; Jenyns 1951:72).

One piece of *English Creamware* was recovered from Guevavi. This was found in the fill of Room 4 of the convento (identification by William
Liesenbein, 1972). The Creamware fragment had been shaped into a disk or counter after the vessel had been broken. Then the disk or counter was itself later broken and deposited in the convento room.

Creamware was first developed by Josiah Wedgewood in the 1760's and enjoyed widespread popularity until the 1820's (Noël Hume 1972:350-5). Creamware and other English ceramics were smuggled illegally during the Spanish colonial period, but probably did not reach this part of New Spain in quantity until after the 1824 Anglo-Mexican Trade Treaty. This piece was probably deposited by someone, whether Indian, Mexican, or Anglo, who was using the ruins of Guevavi during the first half of the 19th century.

Glass

**Bottle Glass.** Six pieces of bottle glass were recovered at Guevavi, representing perhaps five bottles. Three pieces are probably Spanish colonial in origin as they show the characteristics of variation in wall width and bubbles within the glass from being hand-blown, which is typical of glass from this period. They also exhibit a deep green color like most of the Spanish Colonial glass fragments recovered from Quiburi Presidio (Di Peso 1953:230).

One piece of thin light blue colored glass appears to come from the body of a patent medicine bottle common during the late 19th century. It is also extensively patinated.

The final two pieces are from 20th century soft drink bottle bases.

**Glass Beads.** The bulk of all glass beads found at sites in the New World were produced at the factories on the island of Murano, which was controlled by the city-state of Venice. It is thought that Venice first began to make glass products in the ninth century A.D. (Sleen 1967:113). In 1291, by decree of the Grand Council of Venice, all glass making was removed to Murano because of the danger of fire to the city of Venice (Woodward 1965:6). Until the mid-19th century Murano was the glass bead making capital of the Western World due to an exclusive monopoly policy that prevented bead makers from leaving Murano on penalty of having their families imprisoned and losing their lives (Woodward 1965:6).

In 1613 some Venetian glass makers were smuggled out of Murano by the Dutch and set up a business that turned out beads that were identical to those exported by Venice, except that those produced in Amsterdam contained "more than 20% of potash, designated as K\(_2\)O" (Sleen 1967:108). Quite probably these Dutch factories did not turn out nearly the volume of beads that the Murano factories did, so most of the beads found at New World sites like Guevavi probably came from Venice.

The most common type of bead manufactured is called a drawn bead. These are formed by a bead maker gathering a lump of molten glass on the end of a hollow metal pipe, into which he would blow to create a ball of glass with a hollow center. Then another workman would lay a metal bar on the other side of the molten glass ball. At a given signal the two workmen would pull away from each other stretching the glass ball into a long thin tube. This was then rolled on the ground until it cooled and broken into short hollow canes or cut into smaller bead segments. To remove any sharp edges on the beads they were placed in a metal drum which contained charcoal or fine ash and sand and rotated over a very hot flame. In this way the beads were kept plastic while the tumbling action rounded off the sharp edges and the ash and sand kept the beads from fusing together (Kidd and Kidd 1970:48-49; Sleen 1967:23-26; Woodward 1965:7-8). At Guevavi, 56 beads, representing seven styles, were made in this manner (Types 1-3, 7-10).

The next most common method of manufacture was that known as the wound bead. This method involved a workman wrapping molten glass around a metal wire. Then
the glass, wrapped around the wire, was heated to give the bead a rounded shape and to expand the metal wire, so that when the wire cooled and contracted the completed glass bead simply fell off (Kidd and Kidd 1970:49; Sleen 1967:23). Six beads from Guevavi were made in this manner. They represent two styles (Types 5 and 6).

The last method of bead manufacture produces what are known as faceted beads. Very simply these are drawn or wound beads that were patted with a stick or pressed into a mold while they were still in plastic state to give them a faceted surface (Kidd and Kidd 1970:50; Sleen 1967:26). Only one example, Style 4, was found.

The following type description of the ten types of beads found at Guevavi includes color, measurement, shape, quantity found and, when available, the dates of other sites where similar types have been found.

**Type 1.** Transparent blue in color. Length, 6 mm; diameter, 3 mm; perforation, 1 mm. The shape is a four-sided bead. Only one was found.

**Type 2.** Transparent clear in color. Length, 3 mm; diameter, 4 mm; perforation, 1 mm. The shape is that of a small round ‘seed’ bead. Some beads found at the Colfax

---

*Figure 7.* Glass beads. *a,* Type 7 from Burial 3; *b,* Types 8-10 from miscellaneous proveniences; *c,* Types 1-3 from Burial 4; *d,* Types 4-5 from Burial 3.
site in Louisiana, dating about 1780 to 1820, are similar (Gregory and Webb 1965:38). Two were found.

Type 3. White and opaque in color. Length, 3 mm; diameter, 3 mm; perforation, 1 mm. Irregularly shaped 'seed' beads. Twenty-four were found.

Type 4. Black and opaque in color. Length, 14 mm; width, 12 mm; height, 8 mm; perforation, 2 mm. This square-shaped bead has seven facets on its top, a flat bottom and four holes, one on each side. A similar example was found at Los Ades Presidio in Louisiana, 1700 to 1765 (Gregory and Webb 1965:30). Only one was found (Figure 7, d).

Type 5. Transparent green bead with white applied glass decoration. Length, 7 mm; diameter, 7 mm; perforation, 1.5 mm. Oval shape. Five were found (Figure 7, d).

Type 6. Transparent red bead with white applied glass decoration. Length, 7 mm; diameter, 7 mm; perforation, 1.5 mm. Oval shape. One was found. Dated into the early 1800s and found rarely in most western states (Sorensen and LeRoy 1968:47-48).

Type 7. Opaque light turquoise in color. Length, 10 mm; diameter, 6 mm; perforation, 1.5 mm. Oval or ellipsoid in shape. Twenty-six were found (Figure 7, a). Dated into the early 1800s and found rather commonly in the western states (Sorensen and LeRoy 1968:48).

Type 8. Opaque brown in color. Length, 2 mm; diameter, 3 mm; perforation, 1 mm. 'Seed' bead in shape. One was found.

Type 9. Transparent blue in color. Length, 2 mm; diameter, 2.5 mm; perforation, 1 mm. 'Seed' bead shape. Two were found.

Type 10. Opaque red in color. Length, 2 mm; diameter, 3 mm; perforation, 1 mm. Irregular 'seed' bead shape. One was found.

Types 1 to 3 (Figure 7, c) were part of a string of beads recovered from Burial 4. It is not known how they were strung.

Types 4 to 7 were found in an infant burial (No. 3) at Guevavi. There is not much doubt that these represent a rosary of the early 19th century. A person saying the rosary begins at a large bead (Type 5) next to a crucifix by saying the Our Father. This is followed by three smaller beads (Type 7) where a Hail Mary is said for each one. The last Hail Mary bead connects to a large bead (Type 4) where one repeats the Our Father. This large bead is sometimes called the Creed Bead. The bead begins a series of prayers corresponding to ten Hail Mary beads (Type 7) and an Our Father bead (Type 5) which is repeated in this sequence five times and brings the worshiper back to the Creed Bead (Type 4), where an Apostle’s Creed is said which ends the rosary (Thomas Ledford, personal communication).

In all there should be one Creed Bead, five Our Father beads and 53 Hail Mary beads. The Creed Bead is the one called Type 4 and the five called Type 5 are Our Father beads. The Hail Mary beads are those called Type 7 but only 26 of the regulation 53 beads were recovered. The Type 6 bead may have been an extra Our Father or an ornamental spacer bead.

All of Types 8 to 10 (Figure 7, b) were scattered finds around and in the convento. Although Type 8 was not noted in any site or bead reports, Woodward stated (personal communication) that beads like Types 9 and 10 were found at Quiburi Presidio and Church in the San Pedro River Valley which is to the north and east of Guevavi by about 50 miles. Di Peso (1953:207) described them as being of the “small seed variety, red and blue, typical of the beads distributed by the Spanish explorers and missionaries. Beads of this type have been found around the missions of California (founded 1769) . . . ”
Religious Paraphernalia

Only four artifacts from Guevavi, besides the rosary, could be classified as relating to the religious mission of the church, and the first two can be discussed only tentatively.

The first is a small mid-section fragment of a brass candlestick (Figure 8, b). A close examination of the piece indicates that it was poorly cast, as part of the molten metal did not take to the mold during casting, leaving an area of small gas holes. This piece does not appear to have been turned on a lathe as were those recovered from Quiburi Presidio, because this piece is not truly rounded. While this fragment could have been part of the altar setting for the church, it could also have served the priest in his quarters (Di Peso 1953:207).

The second item is even more problematical than the first item. Arthur Woodward (personal communication), who examined this piece, felt that it could have served as a top to some religious article such as a cruet dish. The piece is made of a heavy metal (possibly bronze), two inches in diameter, with a folded edge along its rim (Figure 8, c). Two bands of lines were scribed into the top of the disk by some sort of cutting instrument that clamped the disk's center leaving a slight depression as the disk was rotated to scribe the lines. On the back side of the disk two small bands of lines were cut into the metal in the same manner described above. Then six holes (two large, four small), were punched into the disk. The two large ones, directly opposite each other, probably were for a handle, while the four smaller holes appear to have held some sort of ornamentation riveted to the top of the disk.

On the front is a touchmark of a maker I have not been able to identify. The mark is a small depressed square with a raised bull or lion, with the letters S X L or S X R above.

In conclusion, one could probably say that this piece was part of something fairly ornate. Otherwise there would not have been a manufacturer's touchmark.

The brass crucifix (Figure 8, a) found within the convento at Guevavi is exactly like the two examples found at Quiburi church "in the sub-floor of the church in association with burials" (Di Peso 1953:210) and examples from Mission San Buenaventura in California (Greenwood 1975:88-90).

The crucifix bore on one side the body of Christ crucified with INRI over His head. On the other side was represented the Holy Mother standing with hands clasped in an attitude of prayer; above her was the inscription 'VIR. IMM.'; to her left was the 'VITAM'; to her right, the word 'PREST'; while at her feet was the abbreviation 'PVRAM'" (Di Peso 1953:210).

Since Quiburi presidio and Mission San Buenaventura were both after A.D. 1767, it is probable that the Guevavi crucifix was lost during the brief time that the Franciscans occupied Guevavi.

The most unexpected find from Guevavi was undoubtedly the top part of a large cast bell recovered from the floor of Room 6. This bell fragment (Figure 9) consists of the complete crown, a small part of the head and two casting sprues coming out of the top of the crown. These sprues are channels through which the molten metal was poured into the mold and which were later to be cut off when the bell had cooled and the excess metal trimmed off. The presence of the sprues indicates that the mold had collapsed as the metal was being poured.

Perhaps the Fathers brought this piece to Guevavi to be used as scrap metal, or the bell represents an attempt to cast bells at the site. This second possibility is not quite so far fetched as it may seem. Ronald Ives (1963:19-20) tells of a brass foundry in the Altar Valley to the southwest of Guevavi in Sonora that operated from 1790 to 1850.
Miscellaneous Metal

_Gouge bits_ such as the one from Room 5 were used as augers to drill holes in small pieces of wood (Mercer 1960:181). The specimen recovered at Guevavi (Figure 10, a) was identified by Ernest E. Leavitt (personal communication), who said the sharpened

![Figure 8. Religious paraphernalia. a, obverse and reverse of crucifix; b, candlestick fragment; c, possible top to cruet dish.](image-url)
tang to the rear of the gouge bit fit into a piece of wood that served as an attachment to a wooden brace for drilling holes. The first known pictures of a brace and bit are found in early 15th century paintings. Beyond that their history in detail is unknown. The problem with this particular bit is that its end will not allow for the extracting of shavings while the bit is turned, so it had to be used “for the quick perforation of thin boards” (Mercer 1960:182). This particular specimen was used for drilling holes 1.4 cm or 7/10 of an inch in diameter. Probably this bit was used for furniture making (Leavitt, personal communication). Carpenters usually had a set of these bits for drilling various sized holes.

Leavitt also noted that this piece had a thin coating of steel which was produced by the 'blister steel' method. The gouge bit, first cast in iron, was wrapped in iron rods and heated for some days over a hot charcoal fire to give the bit a tough outer shell of steel.

A silver half real coin minted in Mexico City in 1771 during the reign of Carlos III (1760-1789) was found in the cloister. This style coin is often called a columnar real because of the picture of two columns on its reverse side, representing the Pillars of Hercules (Figure 11). The obverse side contains the seal of the Spanish crown and the date 1771. Originally designed to replace the irregularly shaped 'cob' coinage, the

Figure 9. Miscast bell crown with casting sprues attached.
Figure 10. Miscellaneous metal. *a*, gouge bit; *b*, *c*, *d*, nails; *e*, *f*, musket balls.

Figure 11. 1771 half real silver coin.
columnar real was itself replaced by silver coins bearing the likenesses of the kings of Spain beginning in 1772. This coin was probably deposited at the site of Guevavi during the short tenure of the Franciscans in the first half of the 1770’s.

One of the few pieces of horse equipment found was a Spanish colonial period horseshoe nail. The identification of this small nail (Figure 10, d) with a large bulbous square head comes from Arthur Woodward’s section on the Spanish trade goods recovered by Di Peso (1953:194) at Quiburi Presidio in the San Pedro River Valley.

Woodward also quotes Father Pfefferkorn, who was a priest at Guevavi from May 1761 to May 1763, on the subject of horseshoes and horseshoe nails:

Horseshoes were made in Mexico, where all labor was very expensive, and are brought to Sonora where four horseshoes together with the necessary nails cost three pesos (10 florins, 14 stuivers). The smith must be paid another peso for the shoeing (3 florins, 18 stuivers) (Di Peso 1953:213).

Five whole and six fragmentary nails were recovered from the plaza, within the convento rooms, and from one burial. All are hand wrought nails and all probably date to the Spanish colonial period. The three main characteristics of wrought nails are as follows (Fontana and Greenleaf 1962:52):

1. Wrought nails taper on all four sides of the shank toward the point rather than on two opposite sides as in the case of square cut nails.
2. Wrought nails vary in thickness throughout the length of the shank because of their having been hand forged. In contrast, square cut nails exhibit uniform thickness because of their having been cut from a plate of uniform thickness.
3. Striation, minute parallel shear marks resulting from the smear of the cutting blade used to make square cut nails, are absent on shanks of wrought nails.

While these nails could have been imported from Mexico, as was the horseshoe nail, any blacksmith could have turned out wrought nails on the frontier. Woodward (in Di Peso 1953:213) stated that “nails were fashioned out of all sorts of scrap iron.”

The eleven nails from Guevavi fall into two size categories; first, four whole nails (2.5-4 cm in length) probably “used in making furniture, boxes, and other small household objects” (Di Peso 1953:213). And second, seven nails (5.5-10 cm in length) probably used for holding together the wooden construction members for the church buildings. It might be worth noting that some of the larger nails appear to have been hammered out of scrap iron and that it is only the larger ones which are broken, possibly due to their heavy use.

Two lead musket balls were found during excavations. One of them is 1.4 cm in diameter and like the musket balls found at Quiburi Presidio (Di Peso 1953:200). It shows a slight ridge around its circumference from the bullet mold and a slight depression where the excess lead was broken off (Figure 10, e). This piece does not appear to have been fired. The second example is a badly battered and corroded ball with the mold sprue still attached, meaning it had never been fired (Figure 10, f). While these lead balls are probably both Spanish colonial, it is impossible to determine the type of musket they were intended for.

Two pieces of scrap lead were also found. While it is impossible to determine their age, two points should be made about lead scrap and musket balls found in Arizona. First, lead scrap or balls found at a Spanish colonial site usually indicate melting of lead to make ammunition. At a church like Guevavi, where troops may have been occasionally stationed, it would not be surprising to find this. And second, if these lead fragments date from the Spanish colonial period it is quite possible that Guevavi, like Quiburi, obtained lead from mines in the Tombstone area (Di Peso 1953:199). At the same time, all of the lead artifacts could be representative of the mining activity carried on at the site in the first half of the 19th century.

A small, flat, rolled piece of copper was recovered from a trench outside of the church. Similar pieces from 18th century ring bits, such as some acquired by Robert Torrance at Terranate Presidio in Sonora, Mexico, show them to be jingling ornaments
which went around the straight side bars that projected downward from the mouth bit to which the reins were attached.

This piece of copper, however, may have originally or secondarily served some Indian as a shiny bead ornament.

In trenching operations around the outside of the church a square fragment of flat copper (4½ inches square) was found. Arthur Woodward (personal communication) suggested that the Guevavi fragment might well be a copper chocolate pot or cooking vessel.

I tend to favor the cooking vessel theory, as upon cleaning it was found that its interior had been tin plated. The tin plating of cooking vessels, which dates back to Roman times, was designed "to prevent the oxidation of copper, which is quite poisonous" (Gould 1967:9).

Woodward (in Di Peso 1953:183-87) described present day hand copper working methods of Santa Clara de Cobre, Michoacan, which consisted of repeated hammering of heated copper lumps into thin disks. This was followed by the final shaping of the vessel using small hammers to "tap the vessels into the required shapes" (Di Peso 1953:186). The Guevavi fragment shows numerous small bumps, the result of this last stage of vessel shaping.

Many of these vessels had handles of copper or iron riveted to them which probably accounts for the presence of a hole near the rim of the Guevavi fragment.

Finally, a number of miscellaneous metal fragments were located during excavation.

1. An iron fragment curved and flattened on one end and pointed on the other. It looks very much like a link hinge recovered from Quiburi (DiPeso 1953:215) used for cupboards and boxes.
2. A thin piece of metal (iron?) that looks like it came from a 19th or 20th century tin can.
3. A small piece of copper wire badly corroded and curved on one end.
4. A small flat trapezoidal piece of tin whose edges had been cut with shears.

No really accurate dates or information can be given to these items, but a study of their association and position might help more precise placement.

**BURIALS**

The following technical description of the four burials encountered during excavations at Guevavi was supplied by Walter H. Birkby of the Arizona State Museum. All burials were located beneath the floor of Room 3 and most likely relate to post-mission occupation.

**Burial 1.** The poorly preserved but nearly complete skeletal remains of an infant 3 to 6 months old. Age is based on the fusion and development of the tympanic ring (Scammon 1953) and on the diaphyseal lengths of the long bones (Johnston 1962).

None of the deciduous dentition had erupted. However, the deciduous buds for the maxillary central and lateral incisors were "shoveled" which indicates a basically Mongoloid racial affinity for this individual.

No osseous anomalies or pathologies were observed on macroscopic examination.

**Burial 2.** A poorly preserved, fragmentary and incomplete skeleton of an infant aged birth to 4 months. None of the long bones of the lower extremities were present, but diaphyseal lengths could be taken on the extant left humerus and right ulna for purposes of age estimation.

The deciduous dentition had not erupted, but "shoveling" was observed on the maxillary incisor buds which suggests a basically Mongoloid individual. No skeletal anomalies or pathologies were observed.

**Burial 3.** The moderately well preserved but grossly incomplete skeletal remains of an old adult male. The sex was based on the robust and somewhat massive bones of the
hands and feet. The age of "old adult" was given because of observed fragments of ossified larynx – a condition which one would not expect to see in the male much before the fifth decade.

Post-cranially, one cervical vertebra (C-3, 4, or 5) and elements of both hands and both feet were present. In addition, the xyphoid sternum (with foramen) and a greater horn of the hyoid were observed. Cranially, only three loose teeth were found. These teeth (left maxillary central and lateral incisors, and the mandibular right lateral incisor), although worn, were clearly "shovel-shaped."

Osseous pathologies were limited to: hypertrophic changes on the superior and inferior articular facets of the one recovered vertebra; hypertrophy of the proximal articular surfaces of two medial phalanges of the foot; and fusion of two terminal phalanges with their medial phalanges (foot?).

Burial 4. The very fragmentary and incomplete osseous remains of an infant aged 1 - 2 years. The age was based on the erupted deciduous left maxillary lateral incisor (which was "shovel-shaped") and a non-erupted mandibular deciduous first molar. None of the long bones were complete enough for measurement. No osseous anomalies or pathologies were observed.

**SUMMARY**

The mission of Guevavi revealed, in both architecture and material culture, its true nature as an abandoned church and convento, vacated by the Church and ravaged by time. When the church headquarters was moved about 1773, every useful item was apparently moved to Tumacacori, only 15 miles downstream, a short distance when compared to the supply route to Mexico, and probably poorly equipped compared to Guevavi. Only broken, worn, or lost items remained to survive until our excavations. The items on the 1737 and 1761 inventories are gone.

Rooms, and presumably the church, were stripped bare and left available to any who wished to use the site. Some did; as the evidence of mining operations testifies. The evidence is not clear on the identity, time, or exact nature of the mining operation. Logic suggests that the most likely time would be the period of Mexican hegemony between 1821 and 1854 when supervision of activities on the frontier was at a minimum. If this is the case, the miners were probably Mexican and the activity involved either silver or gold. Much of the material culture in room fill, on the floor of re-occupied rooms, and loose on the surface may belong to this activity. The burials in Room 3 certainly do. The evidence of mining or smelting such as slag, pink sandy material, and pitted stones as well as some ore is spread widely throughout the convento.

Although Guevavi appears as a place name during Kino's first trip to the upper Santa Cruz, we have no evidence that the precise locus that we excavated is the same that Kino visited and which briefly had a resident priest and small church in 1701. No building can be assigned to that period and very little in the material culture can be precisely placed to the period. The only possible exception might be the few pieces of San Luis and Puebla Polychrome, but use in such a remote area could continue long after manufacture.
It is likely that the ambiguous remains of the foundations in the plaza and the other low mounds such as Rooms 1 and 2 represent structures that were in use sometime between the return of the Jesuits in 1732 and the construction of the still-standing church in 1751. Certainly it can be argued that a church, priest's house, and possible outbuildings must have existed during the period and may have been intentionally destroyed on completion of the new church and convento. Again, however, we are not certain if the buildings of this period were in the same locus as Kino's church, the present church, or neither. Some of the material culture could relate to these years, but temporal placement is simply not exact enough to be sure. Obviously, all the material culture in rooms, piled against walls stratigraphically above the convento foundations, and in the cloister must belong to the final Jesuit years, the brief Franciscan years, or even later.

We went to Guevavi to study, through material culture, the impact of Spanish culture on traditional Indian life. Since we did not approach the problem at the time with any specific model in mind, it seems unnecessary to discuss the problem in terms of a model.

It is obvious to me now that the locus of the 1751 mission was not shared by the native population. Nor were there sufficient remains of buildings to suggest that the mission provided housing for the local Indians. A few, perhaps, were "live-in" domestic help, but even this is speculative. The location of the local inhabitants remains the most puzzling aspect of the work at Guevavi. It makes some sense that no large population was concentrated near the church, since agricultural land was actually scarcer in this small stretch of river than a mile or so upstream or downstream. However, no real village-like surface remains were located, either by our crew or by Danson (1946). I remain convinced that the population of the upper Santa Cruz, despite the appellation "Pima," which often connotes a riverine, village settlement pattern, were practicing a more Papago-like ranchería adaptation.

ACKNOWLEDGEMENTS

Nearly as much time has passed between excavation and publication as passed between Guevavi's abandonment by the Franciscans and excavation. However, I must begin my acknowledgements with my original co-conspirators, Bernard L. Fontana and J. Cameron Greenleaf. In the field, James E. Ayres was faithful and generous in his help as a supervisor. Our faithful shovel-bums were Geoffrey Clark, Valerie Jackson, Betty Lee, Joyce Rinehart, Boyd and Jeanne Rasmussen, Ray Sommers, Darrell Clark, and Aileen Carpenter. Many others helped, but shall remain nameless as the list would go on and on. I am grateful to each and every one.

After excavation, Candace Lane washed and sorted the pottery, catalogued the stone, and performed many menial tasks. Walter H. Birkby was kind enough to examine the scant burial remains. Mark R. Barnes has perhaps made the greatest contribution in his analysis of the non-Indian material culture.

The line drawings and site photographs are by the author; the artifact plates were prepared by Helga French for the Arizona State Museum.

Finally, I am grateful to Mr. and Mrs. Ralph Wingfield of Rancho Guevavi who gave us permission to excavate and tolerated two years of our activities.
REFERENCES

Agu-Oglu, Kamer
1955 Late Ming and early Ch’ing porcelain fragments from archaeological sites in Florida. *Florida Anthropologist* 8(4)90-110.

Barber, Edwin

Barnes, Mark R.

Beurdeley, Michael

Brown, Jeffrey L. and Paul F. Grebinger

Caywood, Louis R.

Cox, Warren E.

Danson, Edward B.
1946 An archaeological survey of the Santa Cruz River Valley from the headwaters to the town of Tubac in Arizona. MS, Arizona State Museum, University of Arizona, Tucson.

DeLong, Scofield and Leffler B. Miller

De Paalen, Isabel Marin

De Peso, Charles C.


Dobyns, Henry F.
1963 Indian extinction in the middle Santa Cruz River Valley, Arizona. *New Mexico Historical Review* 38(2)163-81.

Ewing, Russel C.

Fontana, Bernard L.

Fontana, Bernard L. and J. Cameron Greenleaf


Foster, George M.
Frothingham, Alice Wilson  
1944 *Talavera pottery with a catalogue of the collection of the Hispanic Society of America*. Hispanic Society of America, New York.

Gerald, Rex E.  

Gilmore, Kathleen K.  

Gladwin, Harold S., Emil W. Haury, E.B. Sayles, and Nora Gladwin  

Goggin, John M.  

1968 *Spanish majolica in the New World: Types of the sixteenth to eighteenth centuries*. *Yale University Publications in Anthropology* 72.

Gould, May Earle  

Grebing, Paul F.  
1971 *The Pottro Creek site: Activity structure*. *The Kiva* 37(1)30-52.

Greenwood, Roberta S.  

Gregory, Hiram and Clarence H. Webb  

Ives, Ronald L.  

Jenyns, Soame  

Johnston, F. E.  

Kessell, John L.  


Kidd, Kenneth E. and Martha Ann Kidd  

Lister, Florence C. and Robert H. Lister  

Mattison, Ray H.  
1946 *Early Spanish and Mexican settlements in Arizona*. *New Mexico Historical Review* 21(4)273-327.
Mercer, Henry C.  

Miller, J. Jefferson and Lyle M. Stone  

Noël Hume, Ivor  
1972 *The what, who, and when of English creamware plate design.* *Antiques* 101(2)350-55.

Phillips, John G.  

Robinson, William J.  
1963 *Excavations at San Xavier del Bac, 1958.* *The Kiva* 29(2)35-57.

Scammon, R.E.  

Sleen, W.G.N, van der  

Sorensen, Cloyd, Jr., and C. Richard LeRoy  

Smith, Hale G.  
1965 Archaeological excavations at Santa Rosa, Florida. *Florida State University, Department of Anthropology, Notes in Anthropology* 10.

Snow, David H.  
1965 *The chronological position of Mexican majolica in the Southwest.* *El Palacio* 72(1)25-35.

Tunnell, Curtis  


Watkins, Malcolm C.  

Woodward, Arthur  